IMPORTANT NOTICE

THIS DOCUMENT IS AVAILABLE ONLY TO INVESTORS WHO ARE EITHER (1) QIBs (AS DEFINED BELOW) UNDER RULE 144A OR (2) NON-U.S. PERSONS WITH ADDRESSEES OUTSIDE OF THE U.S.

IMPORTANT: You must read the following before continuing. If you are not the intended recipient of this message, please do not distribute or copy the information contained in this e-mail, but instead, delete and destroy all copies of this e-mail including all attachments. The following applies to the offering circular following this page, and you are therefore advised to read this carefully before reading, accessing or making any other use of the offering circular. In accessing the offering circular, you agree to be bound by the following terms and conditions, including any modifications to them any time you receive any information from us as a result of such access.

NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF SECURITIES FOR SALE IN ANY JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE SECURITIES HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR THE SECURITIES LAWS OF ANY STATE OF THE U.S. OR OTHER JURISDICTION AND THE SECURITIES MAY NOT BE OFFERED OR SOLD WITHIN THE U.S. OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS.

THE FOLLOWING OFFERING CIRCULAR MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER. ANY FORWARDING, DISTRIBUTION OR REPRODUCTION OF THIS DOCUMENT IN WHOLE OR IN PART IS UNAUTHORIZED. FAILURE TO COMPLY WITH THIS DIRECTIVE MAY RESULT IN A VIOLATION OF THE SECURITIES ACT OR THE APPLICABLE LAWS OF OTHER JURISDICTIONS. ANY INVESTMENT DECISION SHOULD BE MADE ON THE BASIS OF THE FINAL TERMS AND CONDITIONS OF THE RELEVANT SECURITIES. IF YOU HAVE GAINED ACCESS TO THIS TRANSMISSION CONTRARY TO ANY OF THE FOREGOING RESTRICTIONS, YOU ARE NOT AUTHORIZED AND WILL NOT BE ABLE TO PURCHASE ANY OF THE SECURITIES DESCRIBED THEREIN.

Confirmation of your Representation: In order to be eligible to view the following offering circular or make an investment decision with respect to the securities, investors must be either (I) qualified institutional buyers ("QIBs") (within the meaning of Rule 144A under the Securities Act) or (II) non-U.S. persons (within the meaning of Regulation S under the Securities Act) outside the United States. By accepting the e-mail and accessing the following offering circular, you shall be deemed to have represented to us that (1) you and any customers you represent are either (a) QIBs or (b) non-U.S. persons and that the electronic mail address that you gave us and to which this e-mail has been delivered is not located in the United States, its territories or possessions and (2) you consent to the delivery of such offering circular by electronic transmission.

You are reminded that the following offering circular has been delivered to you on the basis that you are a person into whose possession the following offering circular may be lawfully delivered in accordance with the laws of jurisdiction in which you are located and you may not, nor are you authorized to, deliver or disclose the contents of the following offering circular to any other person. If this is not the case, you must return this offering circular to us immediately.

The materials relating to the offering do not constitute, and may not be used in connection with, an offer or solicitation in any place where offers or solicitations are not permitted by law. If a jurisdiction requires that the offering be made by a licensed broker or dealer and the initial purchasers or any affiliate of the initial purchasers is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by the initial purchasers or such affiliate on behalf of the issuer in such jurisdiction.

The following offering circular has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of electronic transmission and consequently, none of Citigroup Global Markets Inc., Crédit Agricole Corporate and Investment Bank, J.P. Morgan Securities plc, Merrill Lynch International, Standard Chartered Bank and UBS AG Hong Kong Branch (collectively, the "Joint Lead Managers") nor any person who controls any of them nor any director, officer, employee nor agent of any of them or affiliate of any such person accepts any liability or responsibility whatsoever in respect of any difference between the offering circular distributed to you in electronic format and the hard copy version available to you on request from the Joint Lead Managers.

You should not reply by e-mail to this announcement, and you may not purchase any securities by doing so. Any reply e-mail communications, including those you generate by using the "Reply" function on your e-mail software, will be ignored or rejected. You are responsible for protecting against viruses and other destructive items. Your use of this e-mail is at your own risk and it is your responsibility to take precautions to ensure that it is free from viruses and other items of a destructive nature.

PRELIMINARY PRICING SUPPLEMENT DATED JULY 20, 2022

PRICING SUPPLEMENT



KOREA HYDRO & NUCLEAR POWER CO., LTD.

(incorporated with limited liability under the laws of the Republic of Korea)

| Issue of US\$[|] [|]% Notes due 20[|] | |
|---------------------------------|-----|------------------|---|--|
| Issue of US\$[|] [|]% Notes due 20[|] | |
| under the US\$5,000,000,000 | | | | |
| Global Medium Term Note Program | | | | |

THE NOTES TO WHICH THIS PRICING SUPPLEMENT RELATES (THE "NOTES") HAVE NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR WITH ANY SECURITIES REGULATORY AUTHORITY OF ANY STATE OR OTHER JURISDICTION OF THE UNITED STATES AND, UNLESS SO REGISTERED, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS. ACCORDINGLY, THE NOTES WILL BE OFFERED AND SOLD ONLY (I) OUTSIDE THE UNITED STATES TO NON-U.S. PERSONS IN RELIANCE ON REGULATION S AND (II) WITH RESPECT TO NOTES IN REGISTERED FORM ONLY, WITHIN THE UNITED STATES IN RELIANCE ON RULE 144A UNDER THE SECURITIES ACT ("RULE 144A") TO QUALIFIED INSTITUTIONAL BUYERS (AS DEFINED UNDER RULE 144A).

IN CONNECTION WITH THIS ISSUE, THE STABILIZING MANAGERS (OR ANY PERSON ACTING ON BEHALF OF ANY STABILIZING MANAGER) MAY OVER-ALLOT OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE NOTES AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL FOR A LIMITED PERIOD AFTER THE ISSUE DATE. HOWEVER, THERE MAY BE NO OBLIGATION ON THE STABILIZING MANAGERS (OR ANY PERSON ACTING ON BEHALF OF ANY STABILIZING MANAGER) TO UNDERTAKE STABILIZATION ACTION. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME, AND MUST BE BROUGHT TO AN END AFTER A LIMITED PERIOD. SUCH STABILIZING SHALL BE IN COMPLIANCE WITH ALL APPLICABLE LAWS, REGULATIONS AND RULES.

Joint Bookrunners and Joint Lead Managers

| BofA Merrill Lynch | Citigroup | Crédit Agricole CIB |
|--------------------|-------------------------|---------------------|
| J.P. Morgan | Standard Chartered Bank | UBS |
| | | |

MiFID II PRODUCT GOVERNANCE – Solely for the purposes of each manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "MiFID II"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration each manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining each manufacturer's target market assessment) and determining the appropriate distribution channels.

UK MiFIR PRODUCT GOVERNANCE – Solely for the purposes of each UK MiFIR manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook ("COBS") and professional clients, as defined in Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("UK MiFIR"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration each UK MiFIR manufacturer's target market assessment; however subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

The Notes have not been registered with the Financial Services Commission of Korea under the Financial Investment Services and Capital Markets Act of Korea. Accordingly, the Notes may not be offered delivered, or sold directly or indirectly in the Republic of Korea ("Korea") or to any resident of Korea (as defined in the Foreign Exchange Transaction Act of Korea and the rules and regulations promulgated thereunder) or to others for reoffering or resale directly or indirectly in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. Further, during the first year after the issuance of the Notes, the Notes may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as defined under the Foreign Exchange Transactions Act of Korea and the rules and regulations promulgated thereunder) other than a "qualified institutional buyer" (a "Korean QIB," as defined in the Regulations on Securities Issuance, Public Disclosure, Etc. of Korea) who is registered with the Korea Financial Investment Association as a Korean QIB, provided that the amount of the Notes acquired by such Korean QIBs in the primary market is limited to no more than 20% of the aggregate issue amount of the Notes.

Korea Hydro & Nuclear Power Co., Ltd.

Issue of US\$[] []% Notes due 20[] under the US\$5,000,000,000
Global Medium Term Note Program

This document constitutes the Pricing Supplement relating to the issue of Notes described herein. Terms used herein shall be deemed to be defined as such for the purposes of the Terms and Conditions of the Notes (the "Conditions") set forth in the Offering Circular dated July 15, 2022. This Pricing Supplement is supplemental to and must be read in conjunction with such Offering Circular.

| 1. | Issuer: | Korea Hydro & Nuclear Power Co., Ltd. |
|-----|--|---|
| 2. | (i) Series Number: | 16 |
| | (ii) Tranche Number: | 1 |
| | (iii) Reopening: | Not Applicable |
| 3. | Specified Currency or Currencies: | United States dollars ("US\$") |
| 4. | Aggregate Nominal Amount: | |
| | (i) Series: | US\$[] |
| | (ii) Tranche: | US\$[] |
| 5. | (i) Issue Price of Tranche: | []% of the Aggregate Nominal Amount |
| | (ii) Net Proceeds (after deducting a combined management and underwriting commission but not estimated expenses): | US\$[] |
| | (iii) Use of Proceeds: | General corporate purposes |
| 6. | (i) Specified Denominations: | US\$200,000 and integral multiples of US\$1,000 in excess thereof |
| | (ii) Calculation Amount | US\$1,000 |
| 7. | (i) Issue Date: | [], 2022 |
| | (ii) Interest Commencement Date: | [], 2022 |
| 8. | Maturity Date: | [], 20[] |
| 9. | Interest Basis: | []% Fixed Rate (further particulars specified below) |
| 10. | Redemption/Payment Basis: | Redemption at par |

| 11. | Change of Interest Basis or Redemption/Payment Basis: | Not Applicable |
|-----|--|--|
| 12. | Put/Call Options: | Not Applicable |
| 13. | Status of the Notes: | Senior, unsecured (as per Condition 3) |
| 14. | Listing: | Frankfurt Stock Exchange Open Market |
| 15. | Method of Distribution: | Syndicated |
| PRO | VISIONS RELATING TO INTEREST | T (IF ANY) PAYABLE |
| 16. | Fixed Rate Note Provisions | Applicable |
| | (i) Rate(s) of Interest: | []% per annum payable semi-annually in arrears |
| | (ii) Interest Payment Date(s): | ([] and [] in each year up to and including the Maturity Date) |
| | (iii) Fixed Coupon Amount(s): | US\$[] per Calculation Amount |
| | (iv) Broken Amount(s): | Not Applicable |
| | (v) Day Count Fraction: | 30/360 (unadjusted) |
| | (vi) Determination Date(s): | Not Applicable |
| | (vii) Other terms relating to the method of calculating interest for Fixed Rate Notes: | None |
| 17. | Floating Rate Note Provisions | Not Applicable |
| 18. | Zero Coupon Note Provisions | Not Applicable |
| 19. | Index Linked Interest Note Provisions | Not Applicable |
| 20. | Dual Currency Note Provisions | Not Applicable |
| PRO | VISIONS RELATING TO REDEMPT | TION |
| 21. | Issuer Call: | Not Applicable |
| 22. | Investor Put: | Not Applicable |

GENERAL PROVISIONS APPLICABLE TO THE NOTES

23. Form of Notes: Registered Notes 24. Additional Financial Center(s) or New York City, London, Seoul other special provisions relating to Payment Dates: 25. Talons for future Coupons or Not Applicable Receipts to be attached to Definitive Bearer Notes: 26. Details relating to Partly Paid Not Applicable Notes: amount of each payment comprising the Issue Price and date on which each payment is to be made and consequences of failure to pay, including any right of the Issuer to forfeit the Notes and interest due on late payment: 27. Details relating to Installment Notes: Installment Amount(s): Not Applicable (ii) Installment Date(s): Not Applicable 28. Redenomination applicable: Not Applicable 29. Other terms or special conditions: Not Applicable DISTRIBUTION 30. If syndicated, names of Citigroup Global Markets Inc. Managers: Crédit Agricole Corporate and Investment Bank J.P. Morgan Securities plc Merrill Lynch International Standard Chartered Bank UBS AG Hong Kong Branch (ii) Stabilizing Manager (if any): Each of the Managers 31. If non-syndicated, name of relevant Not Applicable Dealer:

| 32. | Whether TEFRA D or TEFRA C rules applicable or TEFRA rules not applicable: | Not Applicable |
|------|--|--|
| 33. | U.S. Selling Restrictions: | Regulation S Category 2/Rule 144A |
| 34. | Additional selling restrictions: | Not Applicable |
| 35. | Prohibition of Sales to EEA Retail Investors: | Not Applicable |
| 36. | Prohibition of Sales to UK Retail Investors: | Not Applicable |
| OPER | RATIONAL INFORMATION | |
| 37. | Any clearing system(s) other than Euroclear and Clearstream and the relevant identification number(s): | The Depository Trust Company |
| 38. | Delivery: | Delivery free of payment |
| 39. | In the case of Registered Notes, specify the location of the office of the Registrar if other than New York: | Citibank, N.A., London Branch, 1 North Wall Quay, Dublin 1, Ireland |
| 40. | Additional Paying Agent(s) (if any): | None |
| ISIN | ·: | Rule 144A Notes: [] Regulation S Notes: [] |
| CUS | IP: | Rule 144A Notes: [] Regulation S Notes: [] |
| Com | mon Codes: | Rule 144A Notes: [] Regulation S Notes: [] |

RESPONSIBILITY

The Issuer accepts responsibility for the information contained in this Pricing Supplement.

MiFID II PRODUCT GOVERNANCE – Solely for the purposes of each manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "MiFID II"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration each manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining each manufacturer's target market assessment) and determining the appropriate distribution channels.

UK MiFIR PRODUCT GOVERNANCE – Solely for the purposes of each UK MiFIR manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook ("COBS") and professional clients, as defined in Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("UK MiFIR"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration each UK MiFIR manufacturer's target market assessment; however subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

The Notes have not been registered with the Financial Services Commission of Korea under the Financial Investment Services and Capital Markets Act of Korea. Accordingly, the Notes may not be offered delivered, or sold directly or indirectly in the Republic of Korea ("Korea") or to any resident of Korea (as defined in the Foreign Exchange Transaction Act of Korea and the rules and regulations promulgated thereunder) or to others for reoffering or resale directly or indirectly in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. Further, during the first year after the issuance of the Notes, the Notes may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as defined under the Foreign Exchange Transactions Act of Korea and the rules and regulations promulgated thereunder) other than a "qualified institutional buyer" (a "Korean QIB," as defined in the Regulations on Securities Issuance, Public Disclosure, Etc. of Korea) who is registered with the Korea Financial Investment Association as a Korean QIB, provided that the amount of the Notes acquired by such Korean QIBs in the primary market is limited to no more than 20% of the aggregate issue amount of the Notes.

Korea Hydro & Nuclear Power Co., Ltd.

Issue of US\$[] []% Notes due 20[] under the US\$5,000,000,000
Global Medium Term Note Program

This document constitutes the Pricing Supplement relating to the issue of Notes described herein. Terms used herein shall be deemed to be defined as such for the purposes of the Terms and Conditions of the Notes (the "Conditions") set forth in the Offering Circular dated July 15, 2022. This Pricing Supplement is supplemental to and must be read in conjunction with such Offering Circular.

| 1. | Issuer: | Korea Hydro & Nuclear Power Co., Ltd. |
|-----|--|---|
| 2. | (i) Series Number: | 17 |
| | (ii) Tranche Number: | 1 |
| | (iii) Reopening: | Not Applicable |
| 3. | Specified Currency or Currencies: | United States dollars ("US\$") |
| 4. | Aggregate Nominal Amount: | |
| | (i) Series: | US\$[] |
| | (ii) Tranche: | US\$[] |
| 5. | (i) Issue Price of Tranche: | []% of the Aggregate Nominal Amount |
| | (ii) Net Proceeds (after deducting a combined management and underwriting commission but not estimated expenses): | US\$[] |
| | (iii) Use of Proceeds: | General corporate purposes |
| 6. | (i) Specified Denominations: | US\$200,000 and integral multiples of US\$1,000 in excess thereof |
| | (ii) Calculation Amount | US\$1,000 |
| 7. | (i) Issue Date: | [], 2022 |
| | (ii) Interest Commencement Date: | [], 2022 |
| 8. | Maturity Date: | [], 20[] |
| 9. | Interest Basis: | []% Fixed Rate (further particulars specified below) |
| 10. | Redemption/Payment Basis: | Redemption at par |

| 11. | Change of Interest Basis or Redemption/Payment Basis: | Not Applicable |
|-----|--|--|
| 12. | Put/Call Options: | Not Applicable |
| 13. | Status of the Notes: | Senior, unsecured (as per Condition 3) |
| 14. | Listing: | Frankfurt Stock Exchange Open Market |
| 15. | Method of Distribution: | Syndicated |
| PRO | VISIONS RELATING TO INTEREST | (IF ANY) PAYABLE |
| 16. | Fixed Rate Note Provisions | Applicable |
| | (i) Rate(s) of Interest: | []% per annum payable semi-annually in arrears |
| | (ii) Interest Payment Date(s): | ([] and [] in each year up to and including the Maturity Date) |
| | (iii) Fixed Coupon Amount(s): | US\$[] per Calculation Amount |
| | (iv) Broken Amount(s): | Not Applicable |
| | (v) Day Count Fraction: | 30/360 (unadjusted) |
| | (vi) Determination Date(s): | Not Applicable |
| | (vii) Other terms relating to the method of calculating interest for Fixed Rate Notes: | None |
| 17. | Floating Rate Note Provisions | Not Applicable |
| 18. | Zero Coupon Note Provisions | Not Applicable |
| 19. | Index Linked Interest Note Provisions | Not Applicable |
| 20. | Dual Currency Note Provisions | Not Applicable |
| PRO | VISIONS RELATING TO REDEMPT | TION |
| 21. | Issuer Call: | Not Applicable |
| 22. | Investor Put: | Not Applicable |

GENERAL PROVISIONS APPLICABLE TO THE NOTES

23. Form of Notes: Registered Notes 24. Additional Financial Center(s) or New York City, London, Seoul other special provisions relating to Payment Dates: 25. Talons for future Coupons or Not Applicable Receipts to be attached to Definitive Bearer Notes: 26. Details relating to Partly Paid Not Applicable Notes: amount of each payment comprising the Issue Price and date on which each payment is to be made and consequences of failure to pay, including any right of the Issuer to forfeit the Notes and interest due on late payment: 27. Details relating to Installment Notes: Installment Amount(s): Not Applicable (ii) Installment Date(s): Not Applicable 28. Redenomination applicable: Not Applicable 29. Other terms or special conditions: Not Applicable DISTRIBUTION 30. If syndicated, names of Citigroup Global Markets Inc. Managers: Crédit Agricole Corporate and Investment Bank J.P. Morgan Securities plc Merrill Lynch International Standard Chartered Bank UBS AG Hong Kong Branch (ii) Stabilizing Manager (if any): Each of the Managers 31. If non-syndicated, name of relevant Not Applicable Dealer:

| 32. | Whether TEFRA D or TEFRA C rules applicable or TEFRA rules not applicable: | Not Applicable |
|------|--|---|
| 33. | U.S. Selling Restrictions: | Regulation S Category 2/Rule 144A |
| 34. | Additional selling restrictions: | Not Applicable |
| 35. | Prohibition of Sales to EEA Retail Investors: | Not Applicable |
| 36. | Prohibition of Sales to UK Retail Investors: | Not Applicable |
| OPER | ATIONAL INFORMATION | |
| 37. | Any clearing system(s) other than Euroclear and Clearstream and the relevant identification number(s): | The Depository Trust Company |
| 38. | Delivery: | Delivery free of payment |
| 39. | In the case of Registered Notes, specify the location of the office of the Registrar if other than New York: | Citibank, N.A., London Branch, 1 North Wall Quay, Dublin 1, Ireland |
| 40. | Additional Paying Agent(s) (if any): | None |
| ISIN | : | Rule 144A Notes: [] Regulation S Notes: [] |
| CUS | IP: | Rule 144A Notes: [] Regulation S Notes: [] |
| Com | mon Codes: | Rule 144A Notes: [] |

RESPONSIBILITY

The Issuer accepts responsibility for the information contained in this Pricing Supplement.



KOREA HYDRO & NUCLEAR POWER CO., LTD.

(incorporated with limited liability under the laws of the Republic of Korea)

Global Medium Term Note Program

This offering circular (the "Offering Circular") replaces and supersedes in its entirety the previous offering circular dated April 15, 2021 describing the US\$5,000,000,000 Global Medium Term Note Program (the "Program", as amended, supplemented or restated) of Korea Hydro & Nuclear Power Co., Ltd. (the "Issuer" or the "Company"). Any Notes (as defined below) issued under the Program on or after the date of this Offering Circular are issued subject to the provisions described herein. Under the Program, the Company may from time to time issue notes (the "Notes") denominated in any currency agreed between the Issuer and the relevant Dealer (as defined below).

The Notes may be issued in bearer or registered form (respectively "Bearer Notes" and "Registered Notes"). The maximum aggregate nominal amount of all Notes from time to time outstanding under the Program will not exceed US\$5,000,000,000 (or its equivalent in other currencies calculated as described herein), subject to increase as described herein.

The Notes may be issued on a continuing basis to one or more of the Dealers specified under "Summary" and any additional Dealer appointed under the Program from time to time by the Issuer (each a "Dealer" and together the "Dealers"), which appointment may be for a specific issue or on an ongoing basis. References in this Offering Circular to the "relevant Dealer" shall, in the case of an issue of Notes being (or intended to be) subscribed by more than one Dealer, be to all Dealers agreeing to purchase such Notes.

Approval in-principle has been received from the Singapore Exchange Securities Trading Limited (the "SGX-ST") in connection with the Program and application will be made for the listing and quotation of Notes that may be issued under the Program, which Notes are agreed, at or prior to the time of issue thereof, to be so listed on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained in this Offering Circular. Approval in-principle from, admission to the Official List of, and the listing and quotation of any Notes on, the SGX-ST are not to be taken as an indication of the merits of the Issuer, the Program or the Notes.

Notice of the aggregate nominal amount of Notes, interest (if any) payable in respect of Notes, the issue price of Notes and any other terms and conditions not contained herein which are applicable to each Tranche (as defined under "Terms and Conditions of the Notes") of Notes will be set out in a pricing supplement (the "Pricing Supplement") which, with respect to Notes to be listed on the SGX-ST, will be submitted to the SGX-ST before the date of listing of the Notes of such Tranche.

The Program provides that Notes may be listed on such other or further stock exchange(s) as may be agreed between the Issuer and the relevant Dealer. The Issuer may also issue unlisted Notes.

Investing in the Notes involves certain risks that are described in the "Risk Factors" section beginning on page 70 of this Offering Circular.

The Notes of each Series will be in either bearer form, with or without interest coupons attached, or registered form, without interest coupons attached. Bearer Notes will be issued only outside the United States to non-U.S. persons in reliance on the exemption from registration provided by Regulation S under the U.S. Securities Act of 1933, as amended (the "Securities Act") and Registered Notes may be issued both outside the United States to non-U.S. persons in reliance on the exemption from registration provided by Regulation S and within the United States or to U.S. persons in private transactions (i) to "qualified institutional buyers" within the meaning of Rule 144A under the Securities Act "QIBs") or (ii) to "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act) that are institutions ("Institutional Accredited Investors") who agree to purchase the Notes for their own account and not with a view to the distribution thereof. Bearer Notes are subject to U.S. tax law requirements. Subject to certain exceptions, the Notes may not be offered or sold, or in the case of Bearer Notes delivered, in the United States or its possessions or to, or for the benefit of, U.S. persons (as defined in Regulation S under the Securities Act or, in the case of Bearer Notes, the U.S. Internal Revenue Code of 1986, as amended (the "Code")). See "Form of the Notes" for more description of the manner in which Notes will be issued. Notes are subject to certain restrictions on transfer. See "Subscription and Sale and Transfer and Selling Restrictions."

The Issuer may agree with any Dealer that Notes may be issued in a form not contemplated by the Terms and Conditions of the Notes herein, in which event (in the case of Notes intended to be listed on the SGX-ST) a supplementary Offering Circular, if appropriate, will be submitted to the SGX-ST and made available which will describe the effect of the agreement reached in relation to such Notes.

Arranger Citigroup

Dealers

BofA Merrill Lynch Crédit Agricole CIB J.P. Morgan UBS

Citigroup HSBC Standard Chartered Bank

The date of this Offering Circular is July 15, 2022.

The Issuer, having made all reasonable enquiries, confirms that this Offering Circular contains or incorporates all information which is material in the context of the issue and offering of Notes, that the information contained or incorporated by reference in this Offering Circular is true and accurate in all material respects and is not misleading in any material respect, that the opinions and intentions expressed in this Offering Circular are honestly held and have been reached after considering all relevant circumstances and are based on reasonable assumptions and that there are no other facts whose omission would, in the context of the issue and offering of the Notes, make this Offering Circular as a whole or any information or the expression of any opinions or intentions in this Offering Circular misleading in any material respect. The Issuer accepts responsibility accordingly.

This Offering Circular is to be read in conjunction with all documents which are deemed to be incorporated herein by reference. See "Documents Incorporated by Reference." This Offering Circular should be read and construed on the basis that such documents are incorporated in and form part of this Offering Circular.

This Offering Circular is based on information provided by the Issuer and by other sources that the Issuer believes are reasonable. No representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by the Dealers as to the authenticity, origin, validity, accuracy or completeness of the information contained or incorporated by reference in this Offering Circular or any supplement hereto or any other information provided by the Issuer in connection with the Program or any other statement, made or purported to be made by any Dealer or on its behalf in connection with the Issuer, the Program or the issue and offering of the Notes. To the fullest extent permitted by law, no Dealer accepts any liability (and accordingly disclaims all liability whether arising in tort or contract or otherwise) in relation to the information contained or incorporated by reference in this Offering Circular, or any other information provided by the Issuer in connection with the Program or any other statement, made or purported to be made by any Dealer or on its behalf in connection with the Issuer, the Program or the issue and offering of the Notes. Each Dealer and its affiliates accordingly disclaims all and any liability whether arising in tort or contract or otherwise which it might otherwise have in respect of this Offering Circular or any such information.

No person is or has been authorized by the Issuer to give any information or to make any representation which is not contained in or which is not consistent with this Offering Circular or any other information supplied by or on behalf of the Issuer in connection with the Program or the Notes, and if given or made, such information or representation must not be relied upon as having been authorized by the Issuer or any of the Dealers.

Neither this Offering Circular nor any other information supplied in connection with the Program or any Notes (i) is intended to provide the basis of any credit, taxation or other evaluation or (ii) should be considered as a recommendation or to constitute an invitation or offer by the Issuer or any of the Dealers to any of its recipient to purchase any Notes. Each investor contemplating purchasing any Notes should make its own independent investigation of the financial condition and affairs, and its own appraisal of the creditworthiness, of the Issuer. Neither this Offering Circular nor any other information supplied in connection with the Program or the issue of any Notes constitutes an offer or invitation by or on behalf of the Issuer or any of the Dealers to any person to subscribe for or to purchase any Notes.

Neither the delivery of this Offering Circular nor the offering, sale or delivery of any Notes shall in any circumstances imply that the information contained herein concerning the Issuer is correct at any time subsequent to the date hereof or that any other information supplied in connection with the Program is correct as of any time subsequent to the date indicated in the document containing the same. The Dealers expressly do not undertake to review the financial condition or affairs of the Issuer during the life of the Program or to advise any investor in the Notes of any information coming to their attention. Investors should review the most recently published documents incorporated by reference in this Offering Circular when deciding whether or not to purchase any Notes.

The Notes in bearer form are subject to U.S. tax law requirements and may not be offered, sold or delivered within the United States or its possessions or to United States persons, except in certain transactions permitted by U.S. tax regulations. Terms used in this paragraph have the meanings given to them by the Code and the regulations promulgated thereunder.

This Offering Circular does not constitute an offer to sell or the solicitation of an offer to buy any Notes in any jurisdiction to any person to whom it is unlawful to make the offer or solicitation in such jurisdiction. The distribution of this Offering Circular and the offer or sale of Notes may be restricted by law in certain jurisdictions. Neither the Issuer nor any of the Dealers represent that this Offering Circular may be lawfully distributed, or that any Notes may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by the Issuer or the Dealers which would permit a public offering of any Notes or distribution of this document in any jurisdiction where action for that purpose is required. Accordingly, no Notes may be offered or sold, directly or indirectly, and neither this Offering Circular nor any advertisement or other offering material may be distributed or published in any jurisdiction, except under circumstances that will result in compliance with any applicable laws and regulations. Persons into whose possession this Offering Circular or any Notes come must inform themselves about, and observe, any such restrictions on the distribution of this Offering Circular and the offering and sale of Notes. In particular, there are restrictions on the distribution of this Offering Circular and the offer or sale of Notes in the United States, the European Economic Area (the "EEA"), the United Kingdom (the "UK"), Japan, Korea, Singapore and Hong Kong. See "Subscription and Sale and Transfer and Selling Restrictions."

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series (as defined under "Terms and Conditions of the Notes") of Notes may include information entitled "MiFID II Product Governance," which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the target market assessment; however, a distributor subject to Directive 2014/65/EU (as amended, "MiFID II") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the MiFID Product Governance rules under EU Delegated Directive 2017/593 (the "MiFID Product Governance Rules"), each of the Arranger and Dealers subscribing for any Notes is a manufacturer in respect of such notes, but otherwise neither the Arranger nor the Dealer nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series (as defined under "Terms and Conditions of the Notes") of Notes may include information entitled "UK MiFIR Product Governance" which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration the target market assessment; however, a UK MiFIR distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the UK MiFIR Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a UK MiFIR manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a UK MiFIR manufacturer for the purpose of the UK MiFIR Product Governance Rules.

IMPORTANT - EEA RETAIL INVESTORS - If the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes includes a legend entitled "Prohibition of Sales to EEA Retail Investors," the Notes of any such Series are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the EEA. For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in the Prospectus Regulation (as defined below); and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by Regulation (EU) No 1286/2014 (the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA will be prepared and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

For the purposes of the foregoing paragraph, the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

IMPORTANT – UK RETAIL INVESTORS – If the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes includes a legend entitled "Prohibition of Sales to UK Retail Investors," the Notes of any such Series are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the UK. For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act ("FSMA") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the

EUWA; or (iii) not a qualified investor as defined in Article 2 of the Prospectus Regulation as it forms part of domestic law by virtue of the EUWA; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by the PRIIPs Regulation as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

This Offering Circular is only being distributed to and is only directed at (i) persons who are outside the UK or (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order") or (iii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). The Notes will only be available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such Notes will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this Offering Circular or any of its contents.

In making an investment decision, investors must rely on their own examination of the Issuer and the terms of the Notes being offered, including the merits and risks involved. The Notes have not been approved or disapproved by the U.S. Securities and Exchange Commission or any other securities commission or other regulatory authority in the United States, nor have the foregoing authorities approved this Offering Circular or confirmed the accuracy or determined the adequacy of the information contained in this Offering Circular. Any representation to the contrary is unlawful.

None of the Dealers or the Issuer makes any representation to any investor in the Notes regarding the legality of its investment under any applicable laws. Any investor in the Notes should be able to bear the economic risk of an investment in the Notes for an indefinite period of time.

U.S. INFORMATION

This Offering Circular is being submitted on a confidential basis in the United States to a limited number of QIBs or Institutional Accredited Investors (each as defined under "Form of the Notes") for informational use solely in connection with the consideration of the purchase of the Notes being offered hereby. Its use for any other purpose in the United States is not authorized. It may not be copied or reproduced in whole or in part nor may it be distributed or any of its contents disclosed to anyone other than the prospective investors to whom it is originally submitted.

The Notes may be offered and sold outside the United States to non-U.S. persons pursuant to Regulation S under the Securities Act ("Regulation S"). Registered Notes may be offered or sold within the United States only to QIBs or to Institutional Accredited Investors, in either case in transactions exempt from registration under the Securities Act. Each U.S. purchaser of Registered Notes is hereby notified that the offer and sale of any Registered Notes to it may be being made in reliance upon the exemption from the registration requirements of the Securities Act provided by Rule 144A under the Securities Act ("Rule 144A").

Purchasers of Definitive IAI Registered Notes (as defined under "Form of the Notes") will be required to execute and deliver an IAI Investment Letter (as defined under "Terms and Conditions of the Notes"). Each purchaser or holder of Definitive IAI Registered Notes, Notes represented by a Rule 144A Global Note or any Notes issued in registered form in exchange or substitution therefor (together "Legended Notes") will be deemed, by its acceptance or purchase of any such Legended Notes, to have made certain representations and agreements intended to restrict the resale or other transfer of such Notes as set out in "Subscription and Sale and Transfer and Selling Restrictions." Unless otherwise stated, terms used in this paragraph have the meanings given to them in "Form of the Notes."

The distribution of this Offering Circular and the offer, sale or delivery of Notes may be restricted by law in certain jurisdictions. Persons into whose possession this Offering Circular or any Notes come must inform themselves about, and observe, any such restrictions. The Notes have not been and will not be registered under the Securities Act, and may include Notes that are in bearer form that are subject to U.S. tax law requirements and limitations. Subject to certain exceptions, the Notes may not be offered, sold or delivered within the United States or to U.S. persons. For a description of certain restrictions on offers and sales of Notes and on distribution of this Offering Circular, see "Subscription and Sale and Transfer and Selling Restrictions."

SINGAPORE INFORMATION

Notification under Section 309B(1)(c) of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA") – Unless otherwise stated in the Pricing Supplement in respect of any Notes, the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Notes to be issued under the Program shall be prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

CERTAIN DEFINED TERMS AND CONVENTIONS

The Issuer has prepared this Offering Circular using a number of conventions that should be considered when reading the information contained in this Offering Circular. References to the "Company", "KHNP" or the "Issuer" are to Korea Hydro & Nuclear Power Co., Ltd. References to "we", "us", "our" and "ourselves" are to our Company and where the context requires, our Company and our subsidiaries.

References herein to "Korea" are to the Republic of Korea, and references to the "Government" or "government" are to the Government of Korea. The Issuer's consolidated financial statements as of and for the years ended December 31, 2019, 2020 and 2021 have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of Korean International Financial Reporting Standards ("K-IFRS") where specific accounting treatments are not prescribed. The Issuer's unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of K-IFRS where specific accounting treatments are not prescribed.

All references in this Offering Circular to "U.S. dollars", "dollars", "US\$" and "\$" refer to the currency of the United States of America, all references to "Won" and "W" refer to the currency of Korea, all references to "Yen" and "¥" refer to the currency of Japan, all references to "C\$" refer to the currency of Canada and all references to "€", "Euro" and "euro" refer to the currency introduced at the start of the third stage of European economic and monetary union pursuant to the Treaty establishing the European Community, as amended. All references in this Offering Circular to "KW" refer to kilowatt, "MW" to megawatt, "GW" to gigawatt and "kWh" to kilowatt hour.

Any discrepancies in any table between totals and sums of the amounts listed are due to rounding. The Company maintains its accounts in Won. Unless otherwise indicated, all translations from Won to U.S. dollars herein indicated as of or for the three months ended March 31, 2022 were made at the rate of Won 1,210.8 to US\$1.00, the exchange rate based on the basic rate under the market average exchange rate system, provided by Seoul Money Brokerage Services, Ltd. between Won and U.S. dollars (the "Market Average Exchange Rate") and in effect on March 31, 2022. These translations were made solely for the convenience of the reader. No representation is made that the Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all. See "Exchange Rates."

FORWARD-LOOKING STATEMENTS

Certain statements in this Offering Circular constitute "forward-looking statements", including statements regarding the Issuer's expectations and projections for future operating performance and business prospects. The words "believe", "expect", "anticipate", "estimate", "project", "will", "aim", "will likely result", "will continue", "intend", "plan", "contemplate", "seek to", "future", "objective", "goal", "should", "will pursue" and similar expressions or variations of these expressions identify forward-looking statements. In addition, all statements other than statements of historical facts included in this Offering Circular, including, without limitation, those regarding the Issuer's financial position and results, business strategy, plans and objectives of management for future operations, including development plans and objectives relating to the Issuer's products and services, are forward-looking statements. Such forward-looking statements and any other projections contained in this Offering Circular (whether made by the Issuer or any third party) involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from the future results, performance or achievements expressed or implied by forward-looking statements. Such forward-looking statements are based on current beliefs, assumptions, expectations, estimates and projections regarding the Issuer's present and future business strategies and the environment in which the Issuer will operate in the future. Among the important factors that could cause some or all of those assumptions not to occur or cause the Issuer's actual results, performance or achievements to differ materially from those in the forward-looking statements include, among other things, the Issuer's ability to successfully implement its business strategy and its safety policies, the condition of and changes in the Korean, Asian or global economies, the Issuer's growth and expansion, including whether the Issuer succeeds in its capital investment program to increase its installed capacity, changes in interest rates and changes in government regulation and licensing of its businesses in Korea and in other jurisdictions where the Issuer may operate, and the change in the price of electricity sold by the Issuer. Additional factors that could cause the Issuer's actual results, performance or achievements to differ materially include, but are not limited to, those discussed under "Risk Factors." Any forward-looking statements contained in this Offering Circular speak only as of the date of this Offering Circular. Each of the Issuer and the Dealers expressly disclaims any obligation or undertaking to release, publicly or otherwise, any updates or revisions to any forward-looking statement contained herein to reflect any change in the Issuer's expectations with regard thereto or any change in events, conditions, assumptions or circumstances on which any such statement was based.

ENFORCEMENT OF CIVIL LIABILITIES

The Issuer is a corporation organized under the laws of Korea. All of the officers and directors named herein reside outside the United States and all or a substantial portion of the assets of the Issuer and its officers and directors are located outside the United States. As a result, it may not be possible for investors to effect service of process outside Korea upon the Issuer or such persons, or to enforce judgments against them obtained in courts outside Korea predicated upon civil liabilities of the Issuer or its directors and officers under laws other than Korean law, including any judgment predicated upon United States federal securities laws. The Issuer has been advised by Lee & Ko, its counsel, that as a matter of Korean law there would be certain conditions to be met under Korean law regarding the enforceability in Korea, either in original actions or in actions for the enforcement of U.S.-court judgments, of civil liabilities based on the U.S. federal securities laws.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents published or issued from time to time after the date hereof shall be deemed to be incorporated in, and to form part of, this Offering Circular:

- (a) the publicly available audited consolidated financial statements and the unaudited interim consolidated financial statements (if any) of the Issuer for the most recent financial period; see "General Information" for a description of the consolidated financial statements currently regularly published by the Issuer; and
- (b) all supplements or amendments to this Offering Circular circulated by the Issuer from time to time,

except that any statement contained herein or in a document which is deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purpose of this Offering Circular to the extent that a statement contained in any such subsequent document which is deemed to be incorporated by reference herein modifies or supersedes such earlier statement (whether expressly, by implication or otherwise). Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Offering Circular.

The Issuer will provide, without charge, to each person to whom a copy of this Offering Circular has been delivered, upon the request of such person, a copy of any or all of the documents deemed to be incorporated herein by reference unless such documents have been modified or superseded as specified above. Requests for such documents should be directed to the Issuer at its registered offices set out at the end of this Offering Circular.

If the terms of the Program are modified or amended in a manner which would make this Offering Circular, as so modified or amended, inaccurate or misleading, a new offering circular will be prepared.

AVAILABLE INFORMATION

To permit compliance with Rule 144A in connection with any resales or other transfers of Notes that are "restricted securities" within the meaning of the Securities Act, the Issuer has undertaken in the Program Agreement to furnish, upon the request of a holder of such Notes or any beneficial interest therein, to such holder or to a prospective purchaser designated by him or her, the information required to be delivered under Rule 144A(d)(4) under the Securities Act if, at the time of the request, the Issuer is neither a reporting company under Section 13 or Section 15(d) of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"), nor exempt from reporting pursuant to Rule 12g3-2(b) thereunder.

GENERAL DESCRIPTION OF THE PROGRAM

Under the Program, the Issuer may from time to time issue Notes denominated in any currency, subject as set out herein. A summary of the terms and conditions of the Program and the Notes appears below. The applicable terms of any Notes will be agreed upon between the Issuer and the relevant Dealer prior to the issue of the Notes and will be set out in the Terms and Conditions of the Notes endorsed on, or incorporated by reference into, the Notes, as modified and supplemented by the applicable Pricing Supplement attached to, or endorsed on, such Notes, as more fully described under "Form of the Notes" below.

This Offering Circular and any supplement will only be valid for the offering of Notes in an aggregate nominal amount which, when added to the aggregate nominal amount then outstanding of all Notes previously or simultaneously issued under the Program, does not exceed US\$5,000,000,000 or its equivalent in other currencies. For the purpose of calculating the U.S. dollar equivalent of the aggregate nominal amount of Notes issued under the Program from time to time:

- (a) the U.S. dollar equivalent of Notes denominated in another Specified Currency (as specified in the applicable Pricing Supplement in relation to the Notes, described under "Form of the Notes") shall be determined, at the discretion of the Issuer, either as of the date on which agreement is reached for the issue of Notes or on the preceding day on which commercial banks and foreign exchange markets are open for business in London, in each case on the basis of the spot rate for the sale of the U.S. dollar against the purchase of such Specified Currency in the London foreign exchange market quoted by any leading international bank selected by the Issuer on the relevant day of calculation;
- (b) the U.S. dollar equivalent of Dual Currency Notes, Index Linked Notes and Partly Paid Notes (each as specified in the applicable Pricing Supplement in relation to the Notes, described under "Form of the Notes") shall be calculated in the manner specified above by reference to the original nominal amount on issue of such Notes (in the case of Partly Paid Notes regardless of the subscription price paid); and
- (c) the U.S. dollar equivalent of Zero Coupon Notes (as specified in the applicable Pricing Supplement in relation to the Notes, described under "Form of the Notes") and other Notes issued at a discount or premium shall be calculated in the manner specified above by reference to the net proceeds received by the Issuer for the relevant issue.

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In connection with the issue of any Tranche of Notes, the Dealer or Dealers (if any) named as the Stabilization Manager(s) (or persons acting on behalf of any Stabilization Manager(s)) in the applicable Pricing Supplement may over-allot Notes or effect transactions with a view to supporting the market price of the Notes at a level higher than that which might otherwise prevail. However, there is no assurance that the Stabilization Manager(s) (or persons acting on behalf of a Stabilization Manager) will undertake stabilization action. Any stabilization action may begin on or after the date on which adequate public disclosure of the terms of the offer of the relevant Tranche of Notes is made and, if begun, may be ended at any time, but it must end (unless otherwise indicated in the applicable Pricing Supplement) no later than the earlier of 30 days after the issue date of the relevant Tranche of Notes and 60 days after the date of the allotment of the relevant Tranche of Notes. Any stabilization action or over-allotment must be conducted by the relevant Stabilization Manager(s) (or person(s) acting on behalf of any Stabilization Manager(s)) in accordance with all applicable laws and rules.

SUMMARY

We were established on April 2, 2001 as a result of a corporate split from Korea Electric Power Corporation ("KEPCO"), pursuant to which KEPCO transferred all of its nuclear and hydroelectric power generation assets and related liabilities to us in accordance with the Act on the Promotion of Restructuring the Electric Power Industry and the Restructuring Plan for the electricity industry in Korea announced by the Ministry of Trade, Industry and Energy (the "MOTIE"). See "The Korean Electricity Industry – Restructuring of the Electricity Industry in Korea." Pursuant to Article 2 of our Articles of Association, we engage in nuclear and hydroelectric power generation and sell all of our generated electricity to KEPCO through the Korea Power Exchange ("KPX") in accordance with Article 31 of the Electricity Business Act of Korea. We are wholly owned by KEPCO and are the only nuclear power generation company in Korea.

Our vision is to become a trusted leader in the global energy industry. Our key strategic priorities are in the following four areas: substantialize our core businesses, diversify our growing businesses, achieve social value and promote continuous innovation. We maintain a "safety first, corruption free" principle for all our operating systems and comprehensively improve our business through technological innovation. We plan to continue to focus on winning mandates for engineering, procurement and construction ("EPC") projects as well as explore opportunities to expand into the "build, operate and own" business. We also strive to explore new business areas, such as decommissioning and renewable energy optimization, with a view of exporting such services in the future.

As of March 31, 2022, we owned and operated 24 nuclear power generation units with aggregate installed capacities of 23,250 MW, 53 hydroelectric power generation units (which includes pumped-storage hydro power generation units) with aggregate installed capacities of 5,307 MW, 46 solar generation units with aggregate installed capacities of 62 MW and one wind power generation unit with installed capacity of 0.75 MW. All of our nuclear power plants supply base load power, and hydroelectric power plants supply electricity during peak hours.

Nuclear power is one of the largest electricity supply sources in Korea. As of March 31, 2022, we owned approximately 21.4% of the total electricity generation capacity in Korea (excluding plants generating electricity primarily for private or emergency use). In 2021 and for the three months ended March 31, 2022, we sold 154,843 GW hours and 42,983 GW hours of electricity, respectively, to KEPCO. Nuclear power, all of which is generated by us, accounted for 28.0% and 29.3% of total electricity sold in Korea in 2021 and for the three months ended March 31, 2022, respectively, in terms of sales volume. In 2021 and for the three months ended March 31, 2022, nuclear power generation accounted for 97.1% and 97.4%, respectively, of the electricity generated by us.

In 2019, 2020, 2021 and for the three months ended March 31, 2022, our sales were Won 8,983 billion, Won 10,000 billion Won 9,469 billion and Won 3,050 billion, respectively. We recorded profit for the year of Won 247 billion in 2019, Won 618 billion in 2020, Won 287 billion in 2021 and profit for the period of Won 334 billion for the three months ended March 31, 2022. As of March 31, 2022, our total assets amounted to Won 65,661 billion.

We are a corporation of unlimited duration incorporated with limited liability under the laws of Korea. Our registered office is located at 1655 Bulguk-ro, Munmudaewang-myeon, Gyeongju-si, Gyeongsangbuk-do 38120, Republic of Korea. Our corporate registration number in the commercial registry office in Korea is 120-86-18943.

The Program

The following summary does not purport to be complete and is taken from, and is qualified in its entirety by, the remainder of this Offering Circular and, in relation to the terms and conditions of any particular Tranche of Notes, the applicable Pricing Supplement. Capitalized terms and expressions defined in "Form of the Notes" and "Terms and Conditions of the Notes" below shall have the same meanings in this summary.

Issuer..... Korea Hydro & Nuclear Power Co., Ltd.

(Legal Entity Identifier: 9884008CRY5MLCN8OQ43)

Description Global Medium Term Note Program

Arranger Citigroup Global Markets Inc.

Dealers Citigroup Global Markets Inc., Crédit Agricole Corporate and

Investment Bank, The Hongkong and Shanghai Banking Corporation Limited, J.P. Morgan Securities plc, Merrill Lynch International, Standard Chartered Bank, UBS AG Hong Kong Branch and any other Dealers appointed in accordance with the

Program Agreement.

Certain Restrictions Each issue of Notes denominated in a currency in respect of

which particular laws, guidelines, regulations, restrictions or reporting requirements apply will only be issued in circumstances which comply with such laws, guidelines, regulations, restrictions or reporting requirements from time to time (see "Subscription and Sale and Transfer and Selling Restrictions") including the following restrictions applicable at

the date of this Offering Circular.

Notes with a maturity of less than one year:

Notes having a maturity of less than one year from the date of issue will, if the proceeds of the issue are accepted in the United Kingdom, constitute deposits for the purposes of the prohibition on accepting deposits contained in section 19 of the Financial Services and Markets Act 2000 unless they are issued to a limited class of professional investors and have a denomination of at least £100,000 or its equivalent. See "Subscription and"

Sale and Transfer and Selling Restrictions."

Fiscal Agent..... Citicorp International Limited

Principal Paying Agent Citibank, N.A., London Branch

Registrar Citibank, N.A., London Branch

Up to US\$5,000,000,000 (or its equivalent in other currencies calculated as described under "General Description of the Program") outstanding at any time. The Issuer may increase the amount of the Program in accordance with the terms of the Program Agreement. Notes may be distributed by way of private or public placement and in each case on a syndicated or non-syndicated basis. Subject to any applicable legal or regulatory restrictions, any currency agreed between the Issuer and the relevant Dealer. Redenomination The applicable Pricing Supplement may provide that certain Notes may be redenominated in Euro (to the extent permitted under the applicable Korean laws and regulations). The relevant provisions applicable to any such redenomination are contained in Condition 5 (Redenomination). Such maturities as may be agreed between the Issuer and the relevant Dealer, subject to such minimum or maximum maturities as may be allowed or required from time to time by the relevant central bank (or equivalent body) or any laws or regulations applicable to the Issuer or the relevant Specified Currency. Issue Price..... The Notes may be issued on a fully paid or a partly paid basis and at an issue price which is at par or at a discount to, or premium over, par. The Notes will be issued in bearer or registered form as described in "Form of the Notes." Registered Notes will not be exchangeable for Bearer Notes and vice versa. Fixed Rate Notes..... Fixed Rate Notes will bear fixed interest payable on such date or dates as may be agreed between the Issuer and the relevant Dealer and on redemption and will be calculated on the basis of such Day Count Fraction as may be agreed between the Issuer and the relevant Dealer. Floating Rate Notes..... Floating Rate Notes will bear interest at a rate determined: on the same basis as the floating rate under a notional interest rate swap transaction in the relevant Specified Currency governed by an agreement incorporating the 2006 ISDA Definitions (as published by the International Swaps and Derivatives Association, Inc., and as amended and updated as at the Issue Date of the first Tranche of the Notes of the relevant Series); or on the basis of a reference rate appearing on the agreed screen page of a commercial quotation service; or on such other basis as may be agreed between the Issuer

> The margin (if any) relating to such floating rate will be agreed between the Issuer and the relevant Dealer for each Series of Floating Rate Notes.

and the relevant Dealer.

Index Linked Notes

Payments of interest in respect of Index Linked Interest Notes will be calculated by reference to such index and/or formula or to changes in the prices of securities or commodities or to such other factors as the Issuer and the relevant Dealer may agree.

Other provisions in relation to Floating Rate Notes and Index Linked Interest Notes......

Floating Rate Notes and Index Linked Interest Notes may also have a maximum interest rate, a minimum interest rate or both.

Interest on Floating Rate Notes and Index Linked Interest Notes in respect of each Interest Period, as agreed prior to issue by the Issuer and the relevant Dealer, will be payable on such Interest Payment Dates, and will be calculated on the basis of such Day Count Fraction, as may be agreed between the Issuer and the relevant Dealer.

Dual Currency Notes

Payments (whether in respect of principal or interest and whether at maturity or otherwise) in respect of Dual Currency Notes will be made in such currencies, and based on such rates of exchange, as the Issuer and the relevant Dealer may agree.

Zero Coupon Notes

Zero Coupon Notes will be offered and sold at a discount to their nominal amount and will not bear interest other than in the case of late payment.

The applicable Pricing Supplement will indicate either that the relevant Notes cannot be redeemed prior to their stated maturity (other than in specified installments, if applicable, or for taxation reasons or following an Event of Default) or that such Notes will be redeemable at the option of the Issuer and/or the Noteholders upon giving notice to the Noteholders or the Issuer, as the case may be, on a date or dates specified prior to such stated maturity and at a price or prices and on such other terms as set forth in the applicable Pricing Supplement.

The applicable Pricing Supplement may provide that Notes may be redeemable in two or more installments of such amounts and on such dates as are indicated in the applicable Pricing Supplement.

Denomination of Notes

Notes will be issued in such denominations as may be agreed between the Issuer and the relevant Dealer except that the minimum denomination of each Note will be such as may be allowed or required from time to time by the relevant central bank (or equivalent body) or any laws or regulations applicable to the relevant Specified Currency.

Unless otherwise stated in the applicable Pricing Supplement, the minimum denomination of each Definitive IAI Registered Note (as defined under "*Terms and Conditions of the Notes*") will be US\$500,000 or its approximate equivalent in other Specified Currencies.

Withholding Taxes.....

All payments in respect of the Notes will be made without deduction for or on account of withholding taxes imposed by any Tax Jurisdiction (as defined in Condition 10 (Taxation)), subject to exceptions as provided in Condition 10 (Taxation). In the event that any such deduction is made, the Issuer will, except in certain limited circumstances provided in Condition 10 (Taxation), be required to pay additional amounts to cover the amounts so deducted.

The terms of the Notes will contain limitations on liens, and sale and leaseback transactions, consolidation, merger and sale of assets and certain other covenants, as further described in Condition 4 (Certain Covenants).

Cross Acceleration.....

The terms of the Notes will contain a cross acceleration provision as further described in Condition 12 (Events of Default).

Status of the Notes

The Notes will constitute direct, unconditional, unsubordinated and, subject to the provisions of Condition 4 (Certain Covenants), unsecured obligations of the Issuer and will rank pari passu among themselves and (except for certain obligations required to be preferred by law) equally with all other unsecured obligations (other than subordinated obligations, if any) of the Issuer, from time to time outstanding.

Listing.....

Approval in-principle has been received from the SGX-ST in connection with the Program and application will be made for the listing and quotation of Notes that may be issued under the Program, which Notes are agreed, at or prior to the time of issue thereof, to be so listed on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, such Notes, if traded on the SGX-ST, will be traded in a minimum board lot size of \$\$200,000 (or its equivalent in foreign currencies). The Notes may also be listed on such other or further stock exchange(s) as may be agreed between the Issuer and the relevant Dealer in relation to each Series or Tranche. Unlisted Notes may also be issued. The applicable Pricing Supplement will state whether or not the relevant Notes are to be listed and, if so, on which stock exchange(s).

Governing Law

The Notes will be governed by, and construed in accordance with the laws of the state of New York.

Selling Restrictions

There are restrictions on the offer, sale and transfer of the Notes in the United States, the EEA, the UK, Korea, Japan, Singapore, Hong Kong and such other restrictions as may be required in connection with the offering and sale of a particular Tranche of Notes. See "Subscription and Sale and Transfer and Selling Restrictions."

Bearer Notes will be issued in compliance with U.S. Treasury Regulation $\S1.163-5(c)(2)(i)(D)$ (the "D Rules") unless the relevant Pricing Supplement states that (i) the Notes are issued compliance with U.S. Treasury Regulation in $\S1.163-5(c)(2)(i)(C)$ (the "C Rules") or (ii) the Notes are issued other than in compliance with the D Rules or the C Rules; Notes with a maturity of 365 days or less (taking into account unilateral extensions and rollovers) will be issued other than in compliance with the D Rules or the C Rules and will be referred to in the relevant Pricing Supplement as a transaction to which the United States Tax Equity and Fiscal Responsibility Act of 1982 ("TEFRA") is not applicable.

FORM OF THE NOTES

Certain capitalized terms used herein are defined in the "Terms and Conditions of the Notes." Any reference herein to Euroclear and/or Clearstream and/or DTC shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement.

The Notes of each Series will be in either bearer form, with or without interest coupons attached, or registered form, without interest coupons attached. Bearer Notes will be issued outside the United States in reliance on Regulation S and Registered Notes will be issued both outside the United States in reliance on the exemption from registration provided by Regulation S and within the United States in reliance on Rule 144A or another available exemption from the registration requirements of the Securities Act. Bearer Notes will also be subject to U.S. tax restrictions described below.

BEARER NOTES

Each Tranche of Bearer Notes will be initially issued in the form of either a temporary bearer global note ("Temporary Bearer Global Note") or a permanent bearer global note ("Permanent Bearer Global Note" and, together with Temporary Bearer Global Note, the "Bearer Global Notes") as indicated in the applicable Pricing Supplement, which, in either case, will be delivered on or prior to the original issue date of the Tranche to a common depositary (the "Common Depositary") for Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking S.A. ("Clearstream"). Bearer Notes issued under the D Rules will be initially issued in the form of Temporary Bearer Global Note. While any Bearer Note is represented by a Temporary Bearer Global Note, payments of principal, interest (if any) and any other amount payable in respect of the Notes due prior to the Exchange Date (as defined below) will be made against presentation of the Temporary Bearer Global Note only to the extent that certification (in a form annexed to the Agency Agreement) has been received by Euroclear and/or Clearstream and Euroclear and/or Clearstream, as applicable, has given a similar certification (based on the certifications it has received) to the Principal Paying Agent, as required by U.S. Treasury Regulations. Such certification shall state that on the Exchange Date, the Bearer Notes are (i) owned by persons that are not United States persons, (ii) owned by United States persons that (a) are foreign branches of the United States financial institutions (as defined in United States Treasury Regulations Section 1.165-12(c)(1)(iv)) ("financial institutions") purchasing for their own account or for resale, or (b) acquire the Bearer Notes through foreign branches of United States financial institutions and that hold the Bearer Notes through such financial institutions through such date (and in either case (a) or (b), each such United States financial institution has agreed, on its own behalf or through its agent, that the Issuer has been advised that such United States financial institutions will comply with the requirements of Section 165(j)(3)(A), (B) or (C) of the Code and the regulations thereunder), or (iii) owned by United States or foreign financial institutions for the purposes of resale during the restricted period (as defined in United States Treasury Regulations Section 1.163-5(c)(2)(i)(D)(7)) and such financial institutions certify that they have not acquired the Bearer Notes for purposes of resale directly or indirectly to a United States person or to a person within the United States or its possessions.

From the date (the "Exchange Date") which is 40 days after a Temporary Bearer Global Note is issued, interests in such Temporary Bearer Global Note will be exchangeable (free of charge) by the Noteholder either for (i) interests in a Permanent Bearer Global Note of the same Series or (ii) definitive Bearer Notes of the same Series with, where applicable, receipts, interest coupons and talons attached (as indicated in the applicable Pricing Supplement), in each case against certification of beneficial ownership as described above unless such certification has already been given. Definitive Bearer Notes will only be delivered outside the United States. The holder of an interest in a Temporary Bearer Global Note will not be entitled to collect any payment of interest, principal or other amount due on or after the Exchange Date unless, upon due certification, exchange of the interest in the Temporary Bearer Global Note for an interest in a Permanent Bearer Global Note or for definitive Bearer Notes is improperly withheld or refused.

Payments of principal, interest (if any) or any other amounts on a Permanent Bearer Global Note will be made through Euroclear and/or Clearstream against presentation or surrender (as the case may be) of the Permanent Bearer Global Note without any requirement for certification.

The applicable Pricing Supplement will specify that a Permanent Bearer Global Note will be exchangeable (free of charge), in whole but not in part, for definitive Bearer Notes with, where applicable, receipts, interest coupons and talons attached upon either (i) not less than 60 days' written notice from Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Permanent Bearer Global Note) to the Principal Paying Agent as described therein or (ii) only upon the occurrence of an Exchange Event. For these purposes, "Exchange Event" means that (i) an Event of Default (as defined in Condition 12 (Events of Default)) has occurred and is continuing, (ii) the Issuer has been notified that both Euroclear and Clearstream have been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory or otherwise) or have announced an intention permanently to cease business or have in fact done so and no successor clearing system is available or (iii) the Issuer has or will become subject to adverse tax consequences which would not be suffered were the Notes represented by the Permanent Bearer Global Note in definitive form. For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Bearer Global Note is exchanged for definitive Bearer Notes, the Issuer will appoint and maintain a Paying Agent in Singapore, where the Notes may be presented or surrendered for payment or redemption. In addition, in the event that a Bearer Global Note is exchanged for definitive Bearer Notes, an announcement of such exchange shall be made by or on behalf of the Issuer through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Bearer Notes, including details of the Paying Agent in Singapore. In the event of the occurrence of an Exchange Event, Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Permanent Bearer Global Note) may give notice to the Principal Paying Agent requesting exchange and, in the event of the occurrence of an Exchange Event as described in (iii) above, the Issuer may also give notice to the Principal Paying Agent requesting exchange. Any such exchange shall occur not later than 45 days after the date of receipt of the first relevant notice by the Principal Paying Agent.

The following legend will appear on all Bearer Notes which have a maturity of more than 365 days (including unilateral rollovers and extensions) and on all talons, receipts and interest coupons relating to such Notes:

"ANY UNITED STATES PERSON WHO HOLDS THIS OBLIGATION WILL BE SUBJECT TO LIMITATIONS UNDER THE UNITED STATES INCOME TAX LAWS, INCLUDING THE LIMITATIONS PROVIDED IN SECTIONS 165(j) AND 1287(a) OF THE INTERNAL REVENUE CODE."

The sections referred to provide that United States holders, with certain exceptions, will not be entitled to deduct any loss on Bearer Notes, receipts or interest coupons and will not be entitled to capital gains treatment of any gain on any sale, disposition, redemption or payment of principal in respect of such Notes, receipts or interest coupons.

Notes which are represented by a Bearer Global Note will only be transferable in accordance with the rules and procedures for the time being of Euroclear or Clearstream, as the case may be.

REGISTERED NOTES

The Registered Notes of each Tranche offered and sold in reliance on Regulation S, which will be sold to non-U.S. persons outside the United States, will initially be represented by a global note in registered form (a "Regulation S Global Note"). Prior to expiry of the distribution compliance period (as defined in Regulation S) applicable to each Tranche of Notes, beneficial interests in a Regulation S Global Note may not be offered or sold to, or for the account or benefit of, a U.S. person except as otherwise provided in Condition 2 (*Transfers of Registered Notes*) and may not be held otherwise than through Euroclear or Clearstream and such Regulation S Global Note will bear a legend regarding such restrictions on transfer.

The Registered Notes of each Tranche may only be offered and sold in the United States or to U.S. persons in private transactions (i) to "qualified institutional buyers" within the meaning of Rule 144A under the Securities Act ("QIBs") or (ii) to "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act) that are institutions ("Institutional Accredited Investors") who agree to purchase the Notes for their own account and not with a view to the distribution thereof. The Registered Notes of each Tranche sold to QIBs will be represented by a global note in registered form (a "Rule 144A Global Note" and, together with a Regulation S Global Note, the "Registered Global Notes").

Registered Global Notes will either (i) be deposited with a custodian for, and registered in the name of a nominee of, DTC for the accounts of its participants, including Euroclear and Clearstream or (ii) be deposited with a common depositary for, and registered in the name of a common nominee of, Euroclear and Clearstream, as specified in the applicable Pricing Supplement. Persons holding beneficial interests in Registered Global Notes will be entitled or required, as the case may be, under the circumstances described below, to receive physical delivery of definitive Notes in fully registered form. Unless otherwise stated in the applicable Pricing Supplement, the minimum denomination of each Global Note shall be €100,000 or its approximate equivalent in other Specified Currencies.

The Registered Notes of each Tranche sold to Institutional Accredited Investors will be in definitive form, registered in the name of the holder thereof ("Definitive IAI Registered Notes"). Unless otherwise set forth in the applicable Pricing Supplement, Definitive IAI Registered Notes will be issued only in minimum denominations of US\$500,000 and integral multiples of US\$1,000 in excess thereof (or the approximate equivalents in the applicable Specified Currency). Definitive IAI Registered Notes will be subject to the restrictions on transfer set forth therein and will bear the restrictive legend described under "Subscription and Sale and Transfer and Selling Restrictions." Institutional Accredited Investors that hold Definitive IAI Registered Notes may elect to hold such Notes through DTC, but transferees acquiring the Notes in transactions exempt from Securities Act registration pursuant to Regulation S or Rule 144 under the Securities Act (if available) may do so upon satisfaction of the requirements applicable to such transfer as described under "Subscription and Sale and Transfer and Selling Restrictions." The Rule 144A Global Note and the Definitive IAI Registered Notes will be subject to certain restrictions on transfer set forth therein and will bear a legend regarding such restrictions.

Payments of principal, interest and any other amount in respect of the Registered Global Notes will, in the absence of provisions to the contrary, be made to the person shown on the Register (as defined in Condition 8(d) (*Payments – Payments in Respect of Registered Notes*)) as the registered holder of the Registered Global Notes. None of the Issuer, any Paying Agent or the Registrar will have any responsibility or liability for any aspect of the records relating to or payments or deliveries made on account of beneficial ownership interests in the Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

Payments of principal, interest or any other amount in respect of the Registered Notes in definitive form will, in the absence of provision to the contrary, be made to the persons shown on the Register on the relevant Record Date (as defined in Condition 8(d) (*Payments – Payments in Respect of Registered Notes*)) immediately preceding the due date for payment in the manner provided in that Condition.

Interests in a Registered Global Note will be exchangeable (free of charge), in whole but not in part, for definitive Registered Notes only upon the occurrence of an Exchange Event. For these purposes, "Exchange Event" means that (i) an Event of Default has occurred and is continuing, (ii) in the case of Notes registered in the name of a nominee for DTC, either DTC has notified the Issuer that it is unwilling or unable to continue to act as depository for the Notes and no alternative clearing system is available or DTC has ceased to constitute a clearing agency registered under the Exchange Act, (iii) in the case of Notes registered in the name of a nominee for a common depositary for Euroclear and Clearstream, the Issuer has been notified that both Euroclear and Clearstream have been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory or otherwise) or have announced an intention permanently to cease business or have in fact done so and, in any such case, no successor clearing system is available or (iv) the Issuer has or will become subject to adverse tax consequences which would not be suffered were the Notes represented by the Registered Global Note in definitive form. For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Registered Global Note is exchanged for definitive Registered Notes, the Issuer will appoint and maintain a Paying Agent in Singapore, where the Notes may be presented or surrendered for payment or redemption. In addition, in the event that a Registered Global Note is exchanged for definitive Registered Notes, an announcement of such exchange shall be made by or on behalf of the Issuer through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Registered Notes, including details of the Paying Agent in Singapore. In the event of the occurrence of an Exchange Event, DTC, Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Registered Global Note) may give notice to the Registrar requesting exchange and, in the event of the occurrence of an Exchange Event as described in (iv) above, the Issuer may also give notice to the Registrar requesting exchange. Any such exchange shall occur not later than 10 days after the date of receipt of the first relevant notice by the Registrar.

TRANSFER OF INTERESTS

Interests in a Registered Global Note may, subject to compliance with all applicable restrictions, be transferred to a person who wishes to hold such interest in another Registered Global Note or in the form of a Definitive IAI Registered Note and Definitive IAI Registered Notes may, subject to compliance with all applicable restrictions, be transferred to a person who wishes to hold such Notes in the form of an interest in a Registered Global Note. No beneficial owner of an interest in a Registered Global Note will be able to transfer such interest, except in accordance with the applicable procedures of DTC, Euroclear and Clearstream, in each case to the extent applicable. Registered Notes are also subject to the restrictions on transfer set forth therein and will bear a legend regarding such restrictions. See "Subscription and Sale and Transfer and Selling Restrictions."

GENERAL

Pursuant to the Agency Agreement, the Principal Paying Agent or the Registrar, as the case may be, shall arrange that, where a further Tranche of Notes is issued which is intended to form a single Series with an existing Tranche of Notes, the Notes of such further Tranche shall be assigned a Common Code and ISIN and, where applicable, a CUSIP and CINS number which are different from the Common Code, ISIN, CUSIP and CINS assigned to Notes of any other Tranche of the same Series until at least the expiry of the distribution compliance period applicable to the Notes of such Tranche and, for Bearer Notes subject to the certification requirements under U.S. Treasury regulations, until at least the Notes represented by interests in a temporary Global Note are exchanged for Notes represented by an interest in a permanent Global Note or for definitive Bearer Notes; provided that any further Tranche of Notes consisting of Registered Notes shall be issued under a separate Common Code, ISIN, CUSIP or CINS unless the Additional Notes are issued pursuant to a "qualified reopening" of the original series, are otherwise treated as part of the same "issue" of debt instruments as the original series or are issued with no more than a *de minimis* amount of original discount, in each case for U.S. federal income tax purposes.

For so long as any of the Notes is represented by a Global Note held on behalf of Euroclear and/or Clearstream, each person (other than Euroclear or Clearstream) who is for the time being shown in the records of Euroclear or of Clearstream as the holder of a particular nominal amount of such Notes (in which regard any certificate or other document issued by Euroclear or Clearstream as to the nominal amount of such Notes standing to the account of any person shall be conclusive and binding for all purposes except in the case of manifest error) shall be treated by the Issuer and its agents as the holder of such nominal amount of such Notes for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes, for which purpose the bearer of the relevant Bearer Global Note or the registered holder of the relevant Registered Global Note shall be treated by the Issuer and its agents as the holder of such nominal amount of such Notes in accordance with and subject to the terms of the relevant Global Note and the expressions "Noteholder" and "holder of Notes" and related expressions shall be construed accordingly.

So long as DTC or its nominee is the registered owner or holder of a Registered Global Note, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the Notes represented by such Registered Global Note for all purposes under the Agency Agreement and such Notes except to the extent that in accordance with DTC's published rules and procedures any ownership rights may be exercised by its participants or beneficial owners through participants.

Any reference herein to Euroclear and/or Clearstream and/or DTC shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement.

A Note may be accelerated by the holder thereof in certain circumstances described in Condition 12 (*Events of Default*). In such circumstances, where any Registered Note is still represented by a Global Note and the Global Note (or any part thereof) has become due and repayable in accordance with the Terms and Conditions of such Notes and payment in full of the amount due has not been made in accordance with the provisions of the Global Note, then holders of interests in such Global Note credited to their accounts with DTC may require DTC to deliver Definitive Notes in registered form in exchange for their interest in such Global Note in accordance with DTC's standard operating procedures.

For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Global Note is exchanged for definitive Notes, the Issuer will appoint and maintain a Paying Agent in Singapore, where the definitive Notes may be presented or surrendered for payment or redemption. In addition, in the event that a Global Note is exchanged for definitive Notes, an announcement of such exchange shall be made by or on behalf of the Issuer through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Notes, including details of the Paying Agent in Singapore.

Form of Applicable Pricing Supplement

Set out below is the form of Pricing Supplement which will be completed for each Tranche of Notes issued under the Program.

[MiFID II PRODUCT GOVERNANCE – Solely for the purposes of each manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "MiFID II"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration each manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining each manufacturer's target market assessment) and determining the appropriate distribution channels.]

[UK MiFIR PRODUCT GOVERNANCE – Solely for the purposes of each UK MiFIR manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook ("COBS") and professional clients, as defined in Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("UK MiFIR"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration each UK MiFIR manufacturer's target market assessment; however subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.]

[PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (the "Prospectus Regulation"); and (b) the expression "offer" includes the communication in any form and by any means of sufficient

information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by Regulation (EU) No 1286/2014 (the "PRIIPs Regulation") for offering or selling the securities or otherwise making them available to retail investors in the EEA has been prepared and therefore, offering or selling the securities or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.]

[PROHIBITION OF SALES TO UK RETAIL INVESTORS - The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the UK. For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 ("FMSA") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of the Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA ("UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.]

[Date]

Korea Hydro & Nuclear Power Co., Ltd.

Issue of [Aggregate Nominal Amount of Tranche] [Title of Notes] under the US\$5,000,000,000
Global Medium Term Note Program

This document constitutes the Pricing Supplement relating to the issue of Notes described herein. Terms used herein shall be deemed to be defined as such for the purposes of the Terms and Conditions of the Notes (the "Conditions") set forth in the Offering Circular dated July 15, 2022. This Pricing Supplement is supplemental to and must be read in conjunction with such Offering Circular.

[The following alternative language applies if the first tranche of an issue which is being increased was issued under an Offering Circular with an earlier date.

Terms used herein shall be deemed to be defined as such for the purposes of the Terms and Conditions of the Notes (the "Conditions") set forth in the Offering Circular dated [original date]. The Pricing Supplement contains the final terms of the Notes and must be read in conjunction with the Offering Circular dated [current date], except in respect of the Conditions which are extracted from the Offering Circular dated [original date] and are attached hereto.]

[Include whichever of the following apply or specify as "Not Applicable" (N/A). Note that the numbering should remain as set out below, even if "Not Applicable" is indicated for individual paragraphs or subparagraphs.]

[If the Notes have a maturity of less than one year from the date of their issue, the minimum denomination may need to be £100,000 or its equivalent in any other currency]

| 1. | Issuer: | Korea Hydro & Nuclear Power Co., Ltd. |
|----|---|--|
| | | (Legal Entity Identifier: 9884008CRY5MLCN8OQ43) |
| 2. | (i) Series Number: | [●] |
| | (ii) Tranche Number: | [•] (if re-opening fungible with an existing Series, details of that Series, including the date on which the Notes become fungible) |
| | (iii) Reopening: | [Yes/No] [Specify terms of initial or eventual fungibility] |
| 3. | Specified Currency or Currencies: | [ullet] |
| 4. | Aggregate Nominal Amount: | |
| | (i) Series: | [ullet] |
| | (ii) Tranche: | [ullet] |
| 5. | (i) Issue Price of Tranche: | [•]% of the Aggregate Nominal Amount [plus accrued interest from [insert date] (in the case of fungible re-opening issues only, if applicable)]. |
| | (ii) Net Proceeds: | [●] |
| | (iii) Use of Proceeds: | [●] |
| 6. | (i) Specified Denominations: (in the case of Registered Notes, this means the minimum integral amount in which transfers can be made) | [•] (N.B. In the case of Registered Notes, this means the minimum integral amount in which transfers can be made. For Registered Global Notes, consider including language substantially to the following effect (however, appropriate amendments should be made for different currencies) "[€100,000] and integral multiples of [€1,000] in excess thereof") |

(N.B. For Bearer Notes with a Specified Denomination and higher integral multiples above the minimum denomination, consider including language substantially to the following effect (however, appropriate amendments should be made for different currencies):

"[US\$200,000] and integral multiples of [US\$1,000] in excess thereof, up to and including [US\$499,000] and, for so long as the Notes are represented by a Global Note (as defined below) and Euroclear and Clearstream so permit, the Notes shall be tradable only in the minimum authorized denomination of [US\$200,000] and higher integral multiples of [US\$1,000], notwithstanding that no definitive notes will be issued with a denomination above [US\$499,000].")

[(in the case of Registered Notes, this means the minimum integral amount in which transfers can be made)]

(ii) Calculation Amount:

(If there is only one Specified Denomination, insert the Specified Denomination. If there is more than one Specified Denomination, insert the highest common factor. N.B. there must be a common factor in the case of two or more Specified Denominations)

7. (i) Issue Date:

[ullet]

- (ii) Interest Commencement Date:

8. Maturity Date:

[Fixed rate – specify date/Floating rate – Interest Payment Date falling in or nearest to [specify month and year]]

9. Interest Basis:

[% Fixed Rate] [[EURIBOR] +/- % Floating Rate] [Zero Coupon] [Index Linked Interest] [Dual Currency Interest] [specify other]

(further particulars specified below)

10. Redemption/Payment Basis: Redemption at par

[Dual Currency Redemption]

[Partly Paid]
[Installment]
[specify other]

11. Change of Interest Basis or

Redemption/Payment Basis:

[Specify details of any provisions for change of Notes into another Interest Basis or

Redemption/Payment Basis]

12. Put/Call Options: [Investor Put]

[Issuer Call]

[(further particulars specified below)]

13. Status of the Notes: Senior

14. Listing: [Singapore Exchange Securities Trading

Limited/specify other/None]

15. Method of Distribution: [Syndicated/Non-syndicated]

PROVISIONS RELATING TO INTEREST (IF ANY) PAYABLE

16. Fixed Rate Note Provisions: [Applicable/Not Applicable] (If not

applicable, delete the remaining subparagraphs of this paragraph)

(i) Rate(s) of Interest: [●]% per annum [payable

[annually/semi-annually/quarterly] in arrears]

(If payable other than annually, consider

amending Condition 6 (Interest))

(ii) Interest Payment Date(s): ([[●] in each year up to and including the

Maturity Date]/)\[specify other])

(N.B.: This will need to be amended in the

case of long or short coupons)

(iii) Fixed Coupon Amount(s): (applicable to Notes in

definitive form)

[•] per Calculation Amount

(iv) Broken Amount(s): (applicable to Notes in

definitive form)

[•] per Calculation Amount payable on the Interest Payment Date falling [in/on] [Š] [Insert particulars of any initial or final broken interest amounts which do not correspond with the Fixed Coupon Amount]

(v) Day Count Fraction: [30/360 or Actual/Actual (ICMA) or specify

other]

(vi) Determination Date(s):

[•] in each year

[Insert regular interest payment dates, ignoring issue date or maturity date in the case of a long or short first or last coupon. N.B.: This will need to be amended in the case of regular interest payment dates which are not of equal duration. N.B.: Only relevant where Day Count Fraction is Actual/Actual (ICMA)]

(vii) Other terms relating to the method of calculating interest for Fixed Rate Notes:

[None/Give details]

17. Floating Rate Note Provisions:

[Applicable/Not Applicable] (If not applicable, delete the remaining subparagraphs of this paragraph)

(i) Specified period(s)/Specified Interest payment Dates:

[ullet]

(ii) Business Day Convention:

[Floating Rate Convention/Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/[specify other]]

(iii) Additional Business Center(s):

(Insert New York City for U.S. dollar denominated Notes to be held through DTC and for non-U.S. dollar denominated Notes where exchange into U.S. dollars is contemplated for DTC participants holding through Euroclear and Clearstream)

(iv) Manner in which the Rate of Interest and Interest Amount are to be determined: [Screen Rate Determination/ISDA Determination/specify other]

(v) Party responsible for calculating the Rate of Interest and Interest Amount (if not the Agent):

[ullet]

• Reference Rate:

(Either EURIBOR or other, although additional information is required if other – including fallback provisions in the Agency Agreement)

• Interest Determination Date(s):

(Second day on which the TARGET2 System is open prior to the start of each Interest Period if EURIBOR)

| | • Relevant Screen Page: | [•] (In the case of EURIBOR, if not Reuters Page EURIBOR 01 ensure it is a page which shows a composite rate or amend the fallback provisions appropriately) |
|-----|-------------------------------|---|
| | (vii) ISDA Determination: | |
| | Floating Rate Option: | (if not on the same basis as the floating rate under a notional interest rate swap transaction in the relevant Specified Currency governed by an agreement incorporating the 2006 ISDA Definitions, the Issuer shall describe the basis here) |
| | • Designated Maturity: | [●] |
| | • Reset Date: | [●] |
| | (viii) Margin(s): | [+/-] [●]% per annum |
| | (ix) Rate of Interest: | [+/-] [●]% per annum |
| | (x) Maximum Rate of Interest: | [●]% per annum |
| | (xi) Day Count Fraction: | [•] [Actual/Actual (ISDA) Actual/Actual Actual/365 Actual/365 (Fixed) Actual/365 (Sterling) Actual/360 30/360 30E/360 |
| | | 30E/360 [ISDA] Other] (See Condition 6 (Interest) for alternatives) |
| 18. | Zero Coupon Note Provisions: | [Applicable/Not Applicable] (If not applicable, delete the remaining subparagraphs of this paragraph) |
| | (i) Accrual Yield: | % per annum |

[ullet]

[ullet]

(ii) Reference Price:

(iii) Any other formula/basis of

determining amount payable:

(iv) Day Count Faction in relation [Conditions 9(e) (Redemption and Purchase to Early Redemption Amounts Early Redemption Amounts) - (iii) and and late payment: Condition 9(j) (Redemption and Purchase -Late Payment on Zero Coupon Notes)] (Consider applicable day count fraction if not *U.S. dollar denominated*) Index Linked Interest Note [Applicable/Not Applicable] (If not **Provisions:** applicable, delete the remaining subparagraphs of this paragraph) Index/Formula: [give or annex details] (i) (ii) Calculation Agent responsible for calculating the principal and/or interest due: (iii) Provisions for determining coupon where calculation by reference to Index and/or Formula is impossible or impracticable: (iv) Specified Period(s)/Specified Interest Payment Dates: (v) Business Day Convention: [Floating Rate Convention/Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/specify other] (vi) Additional Business Center(s): (vii) Minimum Rate of Interest: [•]% per annum (viii) Maximum Rate of Interest: [•]% per annum

(ix) Day Count Fraction: [●]

19.

20. Dual Currency Note Provisions: [Applicable/Not Applicable]

(If not applicable, delete the remaining subparagraphs of this paragraph)

(i) Rate of Exchange/method of calculating Rate of Exchange:

[give details]

(ii) Calculation Agent, if any, responsible for calculating the principal and/or interest payable:

[ullet]

- (iii) Provisions applicable where calculation by reference to Rate of Exchange impossible or impracticable:
- (iv) Person at whose option [●]Specified Currency(ies) is/are payable:

PROVISIONS RELATING TO REDEMPTION

- 21. Issuer Call: [Applicable]
 - (i) Optional Redemption Date(s): (If not applicable, delete the remaining subparagraphs of this paragraph)
 - (ii) Optional Redemption Amount of each Note and method, if any, of calculation of such amount(s):

[•]

- (iii) If redeemable in part:
 - (a) Minimum Redemption
 Amount:

[ullet]

(b) Maximum Redemption
Amount:

 $[\bullet]$

(iv) Notice period (if other than as set out in the Conditions):

(N.B. If setting notice periods which are different to those provided in the Conditions, the Issuer is advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer and the Agent)

22. Investor Put:

[Applicable/Not Applicable]

(If not applicable, delete the remaining subparagraphs of this paragraph)

(i) Optional Redemption Date(s):

- (ii) Optional Redemption Amount of each Note and method, if any, of calculation of such amount(s):
- [•] per Calculation Amount

(iii) Notice period (if other than as set out in the Conditions):

(N.B. If setting notice periods which are different from those provided in the Conditions, the Issuer is advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer and the Agent)

- 23. Final Redemption Amount of each Note:
- [•] [per Calculation Amount/specify other]
- 24. Early Redemption Amount of each Note payable on redemption for taxation reasons or on event of default and/or the method of calculating the same (if required or if different from that set out in Condition 9(e) (Redemption and Purchase Early Redemption Amounts)):

[•]

GENERAL PROVISIONS APPLICABLE TO THE NOTES

25. Form of Notes:

[Bearer Notes:

[Temporary Bearer Global Note exchangeable for a Permanent Bearer Global Note which is exchangeable for Definitive Notes [on 60 days' notice given at any time/only upon an Exchange Event]* FN]

[Temporary Bearer Global Note exchangeable for Definitive Notes on and after the Exchange Date* FN]

Noteholders will not have the right to exchange such Global Notes for Definitive Notes other than upon the occurrence of an Exchange Event.

N.B. – Regard should be given to the specific requirements of the relevant clearing system(s), if any.Ensure that this is consistent with the wording in the "Form of the Notes" section in the Offering Circular and the Notes themselves. The exchange upon notice/at any time options should not be expressed to the applicable if the Specified Denomination of the Notes in paragraph 6 includes language substantially to the following effect: "[US\$200,000] and integral multiples of [US\$1,000] in excess thereof up to and including [US\$499,000]."

[Permanent Bearer Global Note exchangeable for Definitive Notes [on 60 days' notice given at any time/only upon an Exchange Event]* FN]]** FN [Registered Notes:

Regulation S Global Note (US\$[●] nominal amount) registered in the name of a nominee for [DTC/a common depositary for Euroclear and Clearstream]/Rule 144A Global Note (US\$[●] nominal amount) registered in the name of a nominee for [DTC/a common depositary for Euroclear and Clearstream]/Definitive IAI Registered Notes (specify nominal amounts)]

26. Additional Financial Center(s) or other special provisions relating to Payment Dates:

[Not Applicable/give details]
(Note that this item relates to the place of payment and not Interest Period end dates to which items 17(iii) and 19(vi) relate; insert New York City for U.S. dollar denominated Notes to be held through DTC)

27. Talons for future Coupons or Receipts to be attached to Definitive Bearer Notes:

[Not Applicable/give details]

28. Details relating to Partly Paid
Notes: amount of each payment
comprising the Issue Price and date
on which each payment is to be
made and consequences of failure
to pay, including any right of the
Issuer to forfeit the Notes and
interest due on late payment:

[Not Applicable/give details. N.B.:] [new forms of Global Note may be required for Partly Paid issues]

29. Details relating to Installment Notes:

(i) Installment Amount(s): [Not Applicable/give details]

(ii) Installment Date(s): [Not Applicable/give details]

30. Redenomination applicable:

Redenomination [not] applicable [(If Redenomination is applicable, specify the applicable Day Count Fraction and any provisions necessary to deal with floating rate interest calculation (including alternative reference rates))]

31. Other terms or special conditions: [Not Applicable/give details]

Noteholders will not have the right to exchange such Global Notes for Definitive Notes other than upon the occurrence of an Exchange Event.

^{*} N.B. – Regard should be given to the specific requirements of the relevant clearing system(s), if any.Ensure that this is consistent with the wording in the "Form of the Notes" section in the Offering Circular and the Notes themselves. The exchange upon notice/at any time options should not be expressed to the applicable if the Specified Denomination of the Notes in paragraph 6 includes language substantially to the following effect: "[US\$200,000] and integral multiples of [US\$1,000] in excess thereof up to and including [US\$499,000]."

^{**} May not be used if TEFRA D applies.

DISTRIBUTION 32. If syndicated, names of [Not Applicable/give names] Managers: (ii) Stabilization Manager (if any): [Not Applicable/give name] 33. If non-syndicated, name of relevant Dealer: 34. Whether TEFRA D or TEFRA C [TEFRA D/TEFRA C/TEFRA not applicable rules applicable or TEFRA rules (for Bearer Notes with a maturity of one year not applicable: or less (including unilateral rollovers and extensions) or Registered Notes)]* 35. U.S. Selling Restrictions: [Regulation S Category 2] 36. Additional selling restrictions: [Not Applicable/give details] 37. Prohibition of Sales to EEA Retail [Applicable/Not Applicable] Investors: 38. Prohibition of Sales to UK Retail [Applicable/Not Applicable] Investors: **OPERATIONAL INFORMATION** 39. Any clearing system(s) other than [Not Applicable/give name(s) and number(s)] Euroclear and Clearstream and the relevant identification number(s): 40. Delivery: Delivery [against/free of] payment 41. In the case of Registered Notes, [Not applicable/Frankfurt] specify the location of the office of the Registrar if other than New York: 42. Additional Paying Agent(s) (if any):

 ISIN:
 [●]

 Common Code:
 [●]

 CUSIP:
 [●]

 CINS:
 [●]

(insert here any other relevant codes)

^{*} Where TEFRA D is applicable, a Note must be issued in the form of a Temporary Bearer Global Note exchangeable upon U.S. tax certification for a Permanent Bearer Global Note or for Definitive Notes.

[NOTIFICATION UNDER SECTION 309B(1)(C) OF THE SECURITIES AND FUTURES ACT, CHAPTER 289 OF SINGAPORE (THE "SFA")

The Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Notes are [prescribed capital markets products [OR] capital markets products other than prescribed capital markets products]* (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and [Excluded Investment Products [OR] Specified Investment Products]* (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).]

[If a private banking rebate is paid, please include the following: "We have agreed with the [Dealers/Managers] that we will pay a commission to certain private banks in connection with the distribution of the Notes to their clients. This commission will be based on the principal amount of the Notes so distributed, and may be deducted from the purchase price for the Notes payable by such private banks upon settlement."]

[LISTING APPLICATION

[Application will be made to/Application has been made to/Approval in-principle has been received from] the Singapore Exchange Securities Trading Limited (the "SGX-ST") for the listing and quotation of the Notes on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained in this Pricing Supplement. Approval in-principle from, admission to the Official List of, and the listing and quotation of the Notes on, the SGX-ST are not to be taken as an indication of the merits of the Issuer, the Program or the Notes.]

This Pricing Supplement comprises the details required to list the issue of Notes described herein pursuant to the listing of the US\$5,000,000,000 Global Medium Term Note Program of Korea Hydro & Nuclear Power Co., Ltd.

RESPONSIBILITY

| The Issuer accepts responsibility for the information contained in this Pricing Supplement. | | | |
|---|--|--|--|
| Signed on behalf of the Issuer: | | | |
| | | | |
| <i>By:</i> | | | |
| Duly authorized signatory | | | |
| Name: | | | |
| Title: | | | |

If the applicable Pricing Supplement specifies any modification to the Terms and Conditions of the Notes as described herein, it is envisaged that, to the extent that such modification relates only to Conditions 1 (Form, Denomination and Title), 5 (Redenomination), 6 (Interest), 8 (Payments), 9 (Redemption and Purchase (except Condition 9(b) (Redemption and Purchase – Redemption for tax reasons)), 13 (Replacement of Notes, Receipts, Coupons and Talons), 14 (Agents), 15 (Exchange of Talons), 16 (Notices) (insofar as such Notes are not listed or admitted to trade on any stock exchange) or 18 (Further Issues), they will not necessitate the preparation of a supplement to this Offering Circular. If the Terms and Conditions of the Notes of any Series are to be modified in any other respect, a supplement to this Offering Circular will be prepared, if appropriate.

TERMS AND CONDITIONS OF THE NOTES

The following are the Terms and Conditions of the Notes which will be incorporated by reference into each Global Note (as defined below) and each definitive Note, in the latter case only if permitted by the relevant stock exchange (if any) and agreed to by the Issuer and the relevant Dealer at the time of issue but, if not so permitted and agreed, such definitive Note will have endorsed thereon or attached thereto such Terms and Conditions. The applicable Pricing Supplement in relation to any Tranche of Notes may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the following Terms and Conditions, replace or modify the following Terms and Conditions for the purpose of such Notes. The applicable Pricing Supplement (or the relevant provisions thereof) will be endorsed upon, or attached to, each Global Note and definitive Note. Reference should be made to "Form of the Notes" for a description of the content of Pricing Supplements which will specify which of such terms are to apply in relation to the relevant Notes. Reference herein to "Condition" shall be to the Terms and Conditions set forth below.

This Note is one of a Series (as defined below) of Notes issued by Korea Hydro & Nuclear Power Co., Ltd. (the "Issuer") pursuant to the Agency Agreement (as defined below).

References herein to the "Notes" shall be references to the Notes of this Series and shall mean:

- (i) in relation to any Notes represented by a global Note ("Global Note"), units of the lowest Specified Denomination in the Specified Currency;
- (ii) any Global Note;
- (iii) any definitive Notes in bearer form ("Bearer Notes") issued in exchange for a Global Note in bearer form; and
- (iv) any definitive Notes in registered form ("Registered Notes") (whether or not issued in exchange for a Global Note in registered form).

The Notes, the Receipts (as defined below) and the Coupons (as defined below) have the benefit of an Agency Agreement dated September 30, 2008 (such Agency Agreement as amended and/or supplemented and/or restated from time to time, the "Agency Agreement"), made between the Issuer, Citicorp International Limited as fiscal agent, and Citibank, N.A., London Branch as principal paying agent and exchange agent (the "Agent", which expression shall include any successor agent) and the other paying agents named therein (together with the Agent, the "Paying Agents", which expression shall include any additional or successor paying agents), and Citibank, N.A., London Branch, as registrar (the "Registrar", which expression shall include any successor registrar) and a transfer agent and the other transfer agents named therein (together with the Registrar, the "Transfer Agents", which expression shall include any additional or successor transfer agents).

Interest-bearing definitive Bearer Notes have interest coupons ("Coupons") and, if indicated in the applicable Pricing Supplement, talons for further Coupons ("Talons") attached on issue. Any reference herein to Coupons or coupons shall, unless the context otherwise requires, be deemed to include a reference to Talons. Definitive Bearer Notes repayable in installments have receipts ("Receipts") for the payment of the installments of principal (other than the final installment) attached on issue. Registered Notes and Global Notes do not have Receipts, Coupons or Talons attached on issue.

The Pricing Supplement for this Note (or the relevant provisions thereof) is attached to or endorsed on this Note and supplements these Terms and Conditions and may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Terms and Conditions, replace or modify these Terms and Conditions for the purposes of this Note. References to the "applicable Pricing Supplement" are to the Pricing Supplement (or the relevant provisions thereof) attached to or endorsed on this Note.

Any reference to "Noteholders" or "holders" in relation to any Notes shall mean (in the case of Bearer Notes) the holders of the Notes and (in the case of Registered Notes) the persons in whose name the Notes are registered and shall, in relation to any Notes represented by a Global Note, be construed as provided below. Any reference herein to "Receiptholders" shall mean the holders of the Receipts and any reference herein to "Couponholders" shall mean the holders of the Coupons and shall, unless the context otherwise requires, include the holders of the Talons.

As used herein, "**Tranche**" means Notes which are identical in all respects (including as to listing) and "**Series**" means a Tranche of Notes together with any further Tranche or Tranches of Notes which are (i) expressed to be consolidated and form a single series and (ii) identical in all respects except for their respective Issue Dates, Interest Commencement Dates (if applicable) and/or Issue Prices (if applicable).

Copies of the Agency Agreement are available for inspection during normal business hours at the specified office of each of the Agent, the Registrar and the other Paying Agents and Transfer Agents (such Agents and the Registrar being together referred to as the "Agents"). Copies of the applicable Pricing Supplement are obtainable during normal business hours at the specified office of each of the Agents, except that, if this Note is an unlisted Note of any Series, the applicable Pricing Supplement will only be obtainable by a Noteholder holding one or more unlisted Notes of that Series and such Noteholder must produce evidence satisfactory to the Issuer and the relevant Agent as to its holding of such Notes and identity. The Noteholders, the Receiptholders and the Couponholders are deemed to have notice of, and are entitled to the benefit of, all the provisions of the Agency Agreement and the applicable Pricing Supplement which are applicable to them. The statements in these Terms and Conditions include summaries of, and are subject to, the detailed provisions of the Agency Agreement.

Words and expressions defined in the Agency Agreement or used in the applicable Pricing Supplement shall have the same meanings where used in these Terms and Conditions unless the context otherwise requires or unless otherwise stated and **provided that**, in the event of inconsistency between the Agency Agreement and the applicable Pricing Supplement or between the Terms and Conditions and the applicable Pricing Supplement, the applicable Pricing Supplement will prevail.

1. FORM, DENOMINATION AND TITLE

The Notes may be in bearer form or in registered form as specified in the applicable Pricing Supplement and, in the case of definitive Notes, will be serially numbered, in the Specified Currency and the Specified Denomination(s). Except as provided in Condition 2, Notes of one Specified Denomination may not be exchanged for Notes of another Specified Denomination and Bearer Notes may not be exchanged for Registered Notes and vice versa.

This Note may be a Fixed Rate Note, a Floating Rate Note, a Zero Coupon Note, an Index Linked Interest Note, a Dual Currency Interest Note or a combination of any of the foregoing, depending upon the Interest Basis shown in the applicable Pricing Supplement.

This Note may be an Installment Note, a Dual Currency Redemption Note, a Partly Paid Note or a combination of any of the foregoing, depending upon the Redemption/Payment Basis shown in the applicable Pricing Supplement.

This Note may also be a Limited Recourse Note, as indicated in the applicable Pricing Supplement.

Definitive Bearer Notes are issued with Coupons attached, unless they are Zero Coupon Notes in which case references to Coupons and Couponholders in these Terms and Conditions are not applicable.

Subject as set out below, title to the Bearer Notes, Receipts and Coupons will pass by delivery and title to the Registered Notes will pass upon registration of transfers in accordance with the provisions of the Agency Agreement. The Issuer and any Agent will (except as otherwise required by law) deem and treat the bearer of any Bearer Note, Receipt or Coupon and the registered holder of any Registered Note as the absolute owner thereof (whether or not overdue and notwithstanding any notice of ownership or writing thereon or notice of any previous loss or theft thereof) for all purposes but, in the case of any Global Note, without prejudice to the provisions set out in the next succeeding paragraph.

For so long as any of the Notes is represented by a Global Note held on behalf of Euroclear Bank SA/NV ("Euroclear") and/or Clearstream Banking S.A. ("Clearstream"), each person (other than Euroclear or Clearstream who is for the time being shown in the records of Euroclear or of Clearstream as the holder of a particular nominal amount of such Notes in which regard any certificate or other document issued by Euroclear or Clearstream as to the nominal amount of such Notes standing to the account of any person shall be conclusive and binding for all purposes except in the case of manifest error) shall be treated by the Issuer and the Agents as the holder of such nominal amount of such Notes for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes, for which purpose the bearer of the relevant Bearer Global Note or the registered holder of the relevant Registered Global Note shall be treated by the Issuer and any Agent as the holder of such nominal amount of such Notes in accordance with and subject to the terms of the relevant Global Note and the expressions "Noteholder" and "holder of Notes" and related expressions shall be construed accordingly.

For so long as The Depository Trust Company ("DTC") or its nominee is the registered owner or holder of a Registered Global Note, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the Notes represented by such Registered Global Note for all purposes under the Agency Agreement and the Notes except to the extent that in accordance with DTC's published rules and procedures any ownership rights may be exercised by its participants or beneficial owners through participants.

Notes which are represented by a Global Note will be transferable only in accordance with the rules and procedures for the time being of DTC, Euroclear and Clearstream, as the case may be. References to DTC, Euroclear and/or Clearstream shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement.

2. TRANSFERS OF REGISTERED NOTES

(a) Transfers of Interests in Registered Global Notes

Transfers of beneficial interests in Registered Global Notes will be effected by DTC, Euroclear or Clearstream, as the case may be, and, in turn, by other participants and, if appropriate, indirect participants in such clearing systems acting on behalf of beneficial transferors and transferees of such interests. A beneficial interest in a Registered Global Note will, subject to compliance with all applicable legal and regulatory restrictions, be transferable for Notes in definitive form or for a beneficial interest in another Registered Global Note only in the authorized denominations set out in the applicable Pricing Supplement and only in accordance with the rules and operating procedures for the time being of DTC, Euroclear or Clearstream, as the case may be, and in accordance with the terms and conditions specified in the Agency Agreement. Transfers of a Registered Global Note registered in the name of a nominee for DTC shall be limited to transfers of such Registered Global Note, in whole but not in part, to another nominee of DTC or to a successor of DTC or such successor's nominee.

(b) Transfers of Registered Notes in Definitive Form

Subject as provided in paragraphs (e), (f) and (g) below, upon the terms and subject to the conditions set forth in the Agency Agreement, a Registered Note in definitive form may be transferred in whole or in part, in the authorized denominations set out in the applicable Pricing Supplement. In order to effect any such transfer (i) the holder or holders must (A) surrender the Registered Note for registration of the transfer of the Registered Note, or the relevant part of the Registered Note, at the specified office of the Registrar or any Transfer Agent, with the form of transfer thereon duly executed by the holder or holders thereof or his or their attorney or attorneys duly authorized in writing and (B) complete and deposit such other certifications as may be required by the Registrar or, as the case may be, the relevant Transfer Agent and (ii) the Registrar or, as the case may be, the relevant Transfer Agent must, after due and careful enquiry, be satisfied with the documents of title and the identity of the person making the request. Any such transfer will be subject to such reasonable regulations as the Issuer and the Registrar may from time to time prescribe (the initial such regulations being set out in Schedule 10 to the Agency Agreement). Subject as provided above, the Registrar or, as the case may be, the relevant Transfer Agent will, within three business days (being for this purpose a day on which banks are open for business in the city where the specified office of the Registrar or, as the case may be, the relevant Transfer Agent is located) of the request (or such longer period as may be required to comply with any applicable fiscal or other laws or regulations), authenticate and deliver, or procure the authentication and delivery of, at its specified office to the transferee or (at the risk of the transferee) send by uninsured mail, to such address as the transferee may request, a new Registered Note in definitive form of a like aggregate nominal amount to the Registered Note (or the relevant part of the Registered Note) transferred. In the case of the transfer of part only of a Registered Note in definitive form, a new Registered Note in definitive form in respect of the balance of the Registered Note not transferred will be so authenticated and delivered or (at the risk of the transferor) sent to the transferor.

(c) Registration of Transfer upon Partial Redemption

In the event of a partial redemption of Notes under Condition 9 (Redemption and Purchase), the Issuer shall not be required to register the transfer of any Registered Note, or part of a Registered Note, called for partial redemption.

(d) Costs of Registration

Noteholders will not be required to bear the costs and expenses of effecting any registration of transfer as provided above, except for any costs or expenses of delivery other than by regular uninsured mail and except that the Issuer may require the payment of a sum sufficient to cover any stamp duty, tax or other governmental charge that may be imposed in relation to the registration.

(e) Transfers of Interests in Regulation S Global Notes

Prior to expiry of the Distribution Compliance Period (as defined below), transfers by the holder of, or of a beneficial interest in, a Regulation S Global Note to a transferee in the United States or who is a U.S. person will only be made:

- (i) upon receipt by the Registrar of a written certification substantially in the form set out in Schedule 5 of the Agency Agreement, amended as appropriate ("Transfer Certificate"), copies of which are available from the specified office of the Registrar or any Transfer Agent, from the transferor of the Note or beneficial interest therein to the effect that such transfer is being made:
 - (A) to a person whom the transferor reasonably believes is a QIB in a transaction meeting the requirements of Rule 144A; or
 - (B) to a person who is an Institutional Accredited Investor, in which case the Transfer Certificate must be accompanied by a duly executed investment letter from the relevant transferee substantially in the form set out in Schedule 6 of the Agency Agreement (an "IAI Investment Letter"); or
- (ii) otherwise pursuant to the Securities Act or an exemption therefrom, subject to receipt by the Issuer of such satisfactory evidence as the Issuer may reasonably require, which may include an opinion of U.S. counsel, that such transfer is in compliance with any applicable securities laws of any State of the United States, and, in each case, in accordance with any applicable securities laws of any State of the United States or any other jurisdiction.

In the case of (A) above, such transferee may take delivery through a Legended Note (as defined below) in global or definitive form and, in the case of (B) above, such transferee may take delivery only through a Legended Note in definitive form. After expiry of the applicable Distribution Compliance Period (i) beneficial interests in Regulation S Global Notes registered in the name of a nominee for DTC may be held through DTC directly, by a participant in DTC, or indirectly through a participant in DTC and (ii) such certification requirements will no longer apply to such transfers.

(f) Transfers of Interests in Legended Notes

Transfers of Legended Notes or beneficial interests therein may be made:

(i) to a transferee who takes delivery of such interest through a Regulation S Global Note, upon receipt by the Registrar of a duly completed Transfer Certificate from the transferor to the effect that such transfer is being made in accordance with Regulation S and that in the case of a Regulation S Global Note registered in the name of a nominee for DTC, if such transfer is being made prior to expiry of the applicable Distribution Compliance Period, the interests in the Notes being transferred will be held immediately thereafter through Euroclear and/or Clearstream; or

- (ii) to a transferee who takes delivery of such interest through a Legended Note:
 - (A) where the transferee is a person whom the transferor reasonably believes is a QIB in a transaction meeting the requirements of Rule 144A, without certification; or
 - (B) where the transferee is an Institutional Accredited Investor, subject to delivery to the Registrar of a Transfer Certificate from the transferor to the effect that such transfer is being made to an Institutional Accredited Investor, together with a duly executed IAI Investment Letter from the relevant transferee; or
- (iii) otherwise pursuant to the Securities Act or an exemption therefrom, subject to receipt by the Issuer of such satisfactory evidence as the Issuer may reasonably require, which may include an opinion of U.S. counsel, that such transfer is in compliance with any applicable securities laws of any State of the United States,

and, in each case, in accordance with any applicable securities laws of any State of the United States or any other jurisdiction.

Notes transferred by Institutional Accredited Investors to QIBs pursuant to Rule 144A or outside the United States pursuant to Regulation S will be eligible to be held by such QIBs or non-U.S. investors through DTC, Euroclear or Clearstream, as appropriate, and the Registrar will arrange for any Notes which are the subject of such a transfer to be represented by the appropriate Registered Global Note, where applicable.

Upon the transfer, exchange or replacement of Legended Notes, or upon specific request for removal of the Legend, the Registrar shall deliver only Legended Notes or refuse to remove the Legend, as the case may be, unless there is delivered to the Issuer such satisfactory evidence as may reasonably be required by the Issuer, which may include an opinion of U.S. counsel, that neither the Legend nor the restrictions on transfer set forth therein are required to ensure compliance with the provisions of the Securities Act.

(g) Exchanges and Transfers of Registered Notes Generally

Holders of Registered Notes in definitive form, other than Institutional Accredited Investors, may exchange such Notes for interests in a Registered Global Note of the same type at any time.

(h) Definitions

In this Condition, the following expressions shall have the following meanings:

"Distribution Compliance Period" means the period that ends 40 days after the completion of the distribution of each Tranche of Notes, as certified by the relevant Dealer (in the case of a non-syndicated issue) or the relevant Lead Manager (in the case of a syndicated issue);

"Institutional Accredited Investor" means "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act that are institutions;

"Legended Note" means Registered Notes in definitive form that are issued to Institutional Accredited Investors and Registered Notes (whether in definitive form or represented by a Registered Global Note) sold in private transactions to QIBs in accordance with the requirements of Rule 144A;

"QIB" means a "qualified institutional buyer" within the meaning of Rule 144A; "Regulation S" means Regulation S under the Securities Act;

"Regulation S Global Note" means a Registered Global Note representing Notes sold outside the United States in reliance on Regulation S;

"Rule 144A" means Rule 144A under the Securities Act;

"Rule 144A Global Note" means a Registered Global Note representing Notes sold in the United States or to QIBs; and "Securities Act" means the United States Securities Act of 1933, as amended.

3. STATUS OF NOTES

The Notes and any relative Receipts and Coupons are direct, unconditional, unsubordinated and (subject to the provisions of Condition 4 (*Certain Covenants*)) unsecured obligations of the Issuer and rank *pari passu* among themselves and (except for certain obligations required to be preferred by law) equally with all other unsecured obligations (other than subordinated obligations, if any) of the Issuer, from time to time outstanding.

4. CERTAIN COVENANTS

(a) Limitation on Liens

The Issuer will not itself, and will not permit any Restricted Subsidiary (as defined below) to, create, incur, issue or assume or guarantee any External Indebtedness (as defined below) secured by any mortgage, charge, pledge, encumbrance or other security interest (a "Lien") on any Restricted Property without in any such case effectively providing that the Notes (together with, if the Issuer shall so determine, any other indebtedness of the Issuer or such Restricted Subsidiary then existing or thereafter created) are secured equally and ratably with or prior to such secured External Indebtedness unless, after giving effect thereto, the aggregate principal amount of all such secured External Indebtedness, plus Attributable Debt (as defined below) of the Issuer and its Restricted Subsidiaries in respect of sale and leaseback transactions as described under "Limitation upon Sale and Leaseback Transactions" below, in each case entered into after the date of the issuance of the Notes, would not exceed 10% of Consolidated Net Tangible Assets (as defined below).

The foregoing restriction will not apply to External Indebtedness secured by:

- (i) any Lien existing on any Restricted Property prior to the acquisition thereof by the Issuer
 or any of its Restricted Subsidiaries or arising after such acquisition pursuant to
 contractual commitments entered into prior to and not in contemplation of such
 acquisition;
- (ii) any Lien on any Restricted Property securing External Indebtedness incurred or assumed for the purpose of financing the purchase price thereof or the cost of construction, improvement or repair of all or any part thereof, **provided that** such Lien attaches to such Restricted Property concurrently with or within 12 months after the acquisition thereof or completion or construction, improvement or repair thereof;

- (iii) any Lien existing on any Restricted Property of any Restricted Subsidiary prior to the time such Restricted Subsidiary becomes a Subsidiary of the Issuer or arising after such time pursuant to contractual commitments entered into prior to and not in contemplation thereof;
- (iv) any Lien securing External Indebtedness owing to the Issuer or to a Restricted Subsidiary;
- (v) any Lien arising out of the refinancing, extension, renewal or refunding of any External Indebtedness secured by any Lien permitted by any of the foregoing clauses or existing at the date of the issuance of the Notes, **provided that** such External Indebtedness is not increased and is not secured by any additional Restricted Property.

For the purposes of Conditions 4(a) and 4(b), the giving of a guarantee which is secured by a Lien on a Restricted Property, and the creation of a Lien on a Restricted Property to secure External Indebtedness which existed prior to the creation of such Lien, shall be deemed to involve the creation of indebtedness in an amount equal to the principal amount guaranteed or secured by such Lien; but the amount of indebtedness secured by Liens on Restricted Properties shall be computed without cumulating the underlying indebtedness with any guarantee thereof or Lien securing the same.

(b) Limitation upon Sale and Leaseback Transactions

The Issuer will not itself, and will not permit any Restricted Subsidiary to, enter into any arrangement, after the date of the issuance of the Note, with any person providing for the leasing by the Issuer or any Restricted Subsidiary of any Restricted Property which has been or is to be sold or transferred to such person or to any other person to whom funds are advanced by such person on the security of such Restricted Property (a "sale and leaseback transaction"), unless (a) the Attributable Debt of the Issuer and its Restricted Subsidiaries in respect thereof and in respect of all other sale and leaseback transactions entered into after the date of the issuance of the Notes (other than transactions permitted by clause (b) below) plus the aggregate principal amount of External Indebtedness secured by Liens on Restricted Property then outstanding (excluding any such External Indebtedness secured by Liens described in clause (i) through (v) under "Limitation on Liens" above) without equally and ratably securing the Notes, would not exceed 10% of Consolidated Net Tangible Assets or (b)the Issuer or a Restricted Subsidiary within 12 months after such sale and leaseback transactions, applies to the retirement of External Indebtedness, which is not subordinate to the Notes, of the Issuer or a Restricted Subsidiary an amount equal to the greater of (i) the net proceeds of the sale or transfer of the property or other assets which are the subject of such sale and leaseback transactions or (ii) the fair market value of the Restricted Property so leased (in each case as determined by the Issuer).

The foregoing restriction shall not apply to any transaction (x) between the Issuer and a Restricted Subsidiary or between Restricted Subsidiaries or (y) involving a lease for a temporary period not exceeding three years by the end of which it is intended that the use of such Restricted Property by the lessee will be discontinued.

(c) Consolidation, Merger and Sale of Assets

The Issuer will not consolidate with, merge or amalgamate into or transfer its assets substantially as an entirety to any corporation or convey or transfer its properties and assets substantially to any person, except as provided herein and in the Agency Agreement. The Issuer, without the consent of any Noteholder, may consolidate with, or merge into, or sell, transfer, lease or convey its assets substantially as an entirety (each a "transaction") to any corporation organized under the laws of Korea, provided that (a) any successor corporation expressly assumes the Issuer's obligations under the Notes and the Agency Agreement, (b) after giving effect to the transaction, no Event of Default and no event which, after notice or lapse of time or both, would become an Event of Default, shall have occurred and be continuing, (c) if, as a result of any such transaction, properties or assets of the Issuer or a Restricted Subsidiary would become subject to a Lien which would not be permitted under these Terms and Conditions, the Issuer or such successor corporation, as the case may be, shall take such steps as shall be necessary effectively to secure the Notes (together with, if the Issuer shall so determine, any other indebtedness of the Issuer or such Subsidiary then existing or thereafter created which is not subordinate to the notes) equally and ratably with (or prior to) all indebtedness secured thereby and (d) the Issuer has delivered to the Fiscal Agent a certificate executed by a duly authorized officer of the Issuer and an opinion of counsel as to matters of law stating that such consolidation, merger, sale, transfer, lease or conveyance and, if a supplemental agreement is required in connection with such transaction, such supplemental agreement comply with the Agency Agreement and the Notes and that all conditions precedent herein provided for relating to such transaction have been complied with.

(d) Certain Definitions

In these Conditions, the following expressions have the following meanings:

"Attributable Debt" means, as to any lease, at the date of determination, the total net amount of rent required to be paid under such lease during the remaining term thereof including renewal terms at the option of the lessor (excluding amounts on account of maintenance and repairs, insurance, taxes, assessments, water rates and similar charges and contingent rents), discounted from their respective due dates at the rate of interest borne by the Notes, at the date of determination, compounded annually.

"Consolidated Net Tangible Assets" means the total amount of assets of the Issuer and its consolidated Subsidiaries, including investments in unconsolidated Subsidiaries, after deducting therefrom (a) all current liabilities (excluding any current liabilities constituting Long term Debt by reason of their being renewable or extendible) and (b) all goodwill, trade names, trademarks, patents, unamortized debt discount and expense and other like intangible assets, all as set forth on the most recent audited annual balance sheet of the Issuer and its consolidated Subsidiaries and computed in accordance with K-IFRS.

"External Indebtedness" means any obligation for the payment or repayment of money borrowed which is denominated in a currency other than the currency of Korea and which has a final maturity of one year or more from its date of incurrence or issuance.

"Long-term Debt" means any note, bond, debenture or other similar evidence of indebtedness of money borrowed having a maturity of more than one year from the date such evidence of indebtedness was incurred or having a maturity of less than one year but by its terms being renewable or extendible, at the option of the borrower beyond one year from the date such evidence on indebtedness was incurred.

"person" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

"Restricted Property" means any generation facility located in Korea, whether at the date of the issuance of the Notes owned or thereafter acquired, including any land, buildings, structures or machinery and other fixtures that constitute any such facility, or portion thereof, other than any such facility, or portion thereof, reasonably determined by the Issuer's board of directors not to be of material importance to the total business conducted by the Issuer and its Subsidiaries as a whole.

"Restricted Subsidiary" means any Subsidiary that owns Restricted Property.

"Subsidiary" means any corporation or other entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at the time directly or indirectly owned by the Issuer.

5. REDENOMINATION

(a) Redenomination

Where redenomination is specified in the applicable Pricing Supplement as being applicable, the Issuer may, without the consent of the Noteholders, the Receiptholders and the Couponholders, on giving prior notice to the Agent, Euroclear and Clearstream and at least 30 days' prior notice to the Noteholders in accordance with Condition 16 (*Notices*), elect that, with effect from the Redenomination Date specified in the notice, the Notes shall be redenominated in euro.

The election will have effect as follows:

- (i) the Notes ad the Receipts shall be deemed to be redenominated into euro with a principal amount for each Note and Receipt equal to the principal amount of that Note or Receipt in the Specified Currency, converted into euro at the Established Rate (as defined below), rounded to the nearest euro 0.01 if the conversion results in an amount involving a fraction of euro 0.01, **provided that**, if the Issuer determines that the then market practice in respect of the redenomination into euro of internationally offered securities is different from the provisions specified above, such provisions shall be deemed to be amended so as to comply with such market practice and the Issuer shall promptly notify the Noteholders, the stock exchange (if any) on which the Notes may be listed and the Agents of such deemed amendments;
- (ii) except to the extent that an Exchange Notice has been given in accordance with paragraph below, the amount of interest due in respect of the Notes will be calculated by reference to the aggregate principal amount of Notes presented (or, as the case may be, in respect of which Coupons are presented) for payment by the relevant holder and the amount of such payment shall be rounded down to the nearest euro 0.01;
- (iii) if definitive Notes are required to be issued after the Redenomination Date (as defined below), they shall be issued at the expense of the Issuer in the denominations of euro 1,000, euro 10,000, euro 100,000 and (but only to the extent of any remaining amounts less than euro 1,000 or such smaller denominations as the Agent may approve) euro 0.01 and such other denominations as the Agent shall determine and notify to the Noteholders;

- (iv) if issued prior to the Redenomination Date, all unmatured Coupons denominated in the Specified Currency (whether or not attached to the Notes) will become void with effect from the date on which the Issuer gives notice (the "Exchange Notice") that replacement euro-denominated Notes, Receipts and Coupons are available for exchange (provided that such securities are so available) and no payments will be made in respect of them. The payment obligations contained in any Notes and Receipts so issued will also become void on that date although those Notes and Receipts will continue to constitute valid exchange obligations of the Issuer. New euro-denominated Notes, Receipts and Coupons will be issued in exchange for Notes, Receipts and Coupons denominated in the Specified Currency in such manner as the Agent may specify and as shall be notified to the Noteholders in the Exchange Notice. No Exchange Notice may be given less than 15 days prior to any date for payment of principal or interest on the Notes;
- (v) after the Redenomination Date, all payments in respect of the Notes, the Receipts and the Coupons, other than payments of interest in respect of periods commencing before the Redenomination Date, will be made solely in euro as though references in the Notes to the Specified Currency were to euro. Payments will be made in euro by credit or transfer to a euro account (or any other account to which euro may be credited or transferred) specified by the payee or, at the option of the payee, by a euro check;
- (vi) if the Notes are Fixed Rate Notes and interest for any period ending on or after the Redenomination Date is required to be calculated for a period ending other than on an Interest Payment Date (as specified in the applicable Pricing Supplement), it will be calculated by applying the Rate of Interest to each Specified Denomination, multiplying such sum by the applicable Day Count Fraction, and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention;
- (vii) if the Notes are Floating Rate Notes, the applicable Pricing Supplement will specify any relevant changes to the provisions relating to interest; and
- (viii) such other changes shall be made to this Condition as the Issuer may decide, after consultation with the Agent, and as may be specified in the notice, to conform it to conventions then applicable to instruments denominated in euro.

(b) Definitions

In these Conditions, the following expressions have the following meanings:

"Established Rate" means the rate for the conversion of the Specified Currency (including compliance with rules relating to roundings in accordance with applicable European Community regulations) into euro established by the Council of the European Union pursuant to Article 123 of the Treaty;

"euro" means the lawful currency of the Member States of the European Union that have adopted the single currency in accordance with the Treaty;

"Redenomination Date" means (in the case of interest bearing Notes) any date for payment of interest under the Notes or (in the case of Zero Coupon Notes) any date, in each case specified by the Issuer in the notice given to the Noteholders pursuant to paragraph (a) above, which falls on or after the date on which the country of the Specified Currency first participates in the third stage of European economic and monetary union; and

"**Treaty**" means the Treaty establishing the European Community (signed in Rome on 25 March 1957), as amended from time to time.

6. INTEREST

(a) Interest on Fixed Rate Notes

Each Fixed Rate Note bears interest on its outstanding nominal amount (or, if it is a Partly Paid Note, the amount paid up) from (and including) the Interest Commencement Date at the rate(s) per annum equal to the Rate(s) of Interest. Interest will be payable in arrears on the Interest Payment Date(s) in each year up to (and including) the Maturity Date.

Except as provided in the applicable Pricing Supplement, the amount of interest payable on each Interest Payment Date in respect of the Fixed Interest Period ending on (but excluding) such date will amount to the Fixed Coupon Amount. Payments of interest on any Interest Payment Date will, if so specified in the applicable Pricing Supplement, amount to the Broken Amount so specified.

As used in these Terms and Conditions, "Fixed Interest Period" means the period from (and including) an Interest Payment Date (or the Interest Commencement Date) to (but excluding) the next (or first) Interest Payment Date.

If interest is required to be calculated for a period other than a Fixed Interest Period, such interest shall be calculated by applying the Rate of Interest to each Specified Denomination, multiplying such sum by the applicable Day Count Fraction (as defined below), and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention.

In these Conditions:

"Day Count Fraction" means, in respect of the calculation of an amount of interest, in accordance with this Condition 6(a):

(i) if "Actual/Actual (ICMA)" is specified in the applicable Pricing Supplement:

(A) in the case of Notes where the number of days in the relevant period from (and including) the most recent Interest Payment Date (or, if none, the Interest Commencement Date) to (but excluding) the relevant payment date (the "Accrual Period") is equal to or shorter than the Determination Period during which the Accrual Period ends, the number of days in such Accrual Period divided by the product of (1) the number of days in such Determination Period and (2) the number of Determination Dates (as specified in the applicable Pricing Supplement) that would occur in one calendar year; or

- (B) in the case of Notes where the Accrual Period is longer than the Determination Period during which the Accrual Period ends, the sum of:
 - (1) the number of days in such Accrual Period falling in the Determination Period in which the Accrual Period begins divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year; and
 - (2) the number of days in such Accrual Period falling in the next Determination Period divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year; and
- (ii) if "30/360" is specified in the applicable Pricing Supplement, the number of days in the period from (and including) the most recent Interest Payment Date (or, if none, the Interest Commencement Date) to (but excluding) the relevant payment date (such number of days being calculated on the basis of a year of 360 days with 12 months of 30-day duration) divided by 360.

"Determination Period" means each period from (and including) a Determination Date to but excluding the next Determination Date (including, where either the Interest Commencement Date or the final Interest Payment Date is not a Determination Date, the period commencing on the first Determination Date prior to, and ending on the first Determination Date falling after, such date); and

"sub-unit" means, with respect to any currency other than euro, the lowest amount of such currency that is available as legal tender in the country of such currency and, with respect to euro, one cent.

(b) Interest on Floating Rate Notes and Index Linked Interest Notes

(i) Interest Payment Dates

Each Floating Rate Note and Index Linked Interest Note bears interest on its outstanding nominal amount (or, if it is a Partly Paid Note, the amount paid up) from (and including) the Interest Commencement Date and such interest will be payable in arrears on either:

- (A) the Specified Interest Payment Date(s) in each year specified in the applicable Pricing Supplement; or
- (B) if no Specified Interest Payment Date(s) is/are specified in the applicable Pricing Supplement, each date (each such date, together with each Specified Interest Payment Date, an "Interest Payment Date") which falls on the number of months or other period specified as the Specified Period in the applicable Pricing Supplement after the preceding Interest Payment Date or, in the case of the first Interest Payment Date, after the Interest Commencement Date.

Such interest will be payable in respect of each Interest Period (which expression shall, in these Terms and Conditions, mean the period from (and including) an Interest Payment Date (or the Interest Commencement Date) to (but excluding) the next (or first) Interest Payment Date).

If a Business Day Convention is specified in the applicable Pricing Supplement and (x) if there is no numerically corresponding day on the calendar month in which an Interest Payment Date should occur or (y) if any Interest Payment Date would otherwise fall on a day which is not a Business Day, then, if the Business Day Convention specified is:

- (1) in any case where Specified Periods are specified in accordance with Condition 6 (Interest (b)(i)(B)) above, the Floating Rate Convention, such Interest Payment Date (i) in the case of (x) above, shall be the last day that is a Business Day in the relevant month and the provisions of (B) below shall apply mutatis mutandis or (ii) in the case of (y) above, shall be postponed to the next day which is a Business Day unless it would thereby fall into the next calendar month, in which event (A) such Interest Payment Date shall be brought forward to the immediately preceding Business Day and (B) each subsequent Interest Payment Date shall be the last Business Day in the month which falls on the Specified Period after the preceding applicable Interest Payment Date occurred; or
- (2) the Following Business Day Convention, such Interest Payment Date shall be postponed to the next day which is a Business Day; or
- (3) the Modified Following Business Day Convention, such Interest Payment Date shall be postponed to the next day which is a Business Day unless it would thereby fall into the next calendar month, in which event such Interest Payment Date shall be brought forward to the immediately preceding Business Day; or
- (4) the Preceding Business Day Convention, such Interest Payment Date shall be brought forward to the immediately preceding Business Day.

In these Terms and Conditions, "Business Day" means a day which is both:

- (A) a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in London and any Additional Business Center specified in the applicable Pricing Supplement; and
- (B) either (1) in relation to any sum payable in a Specified Currency other than euro, a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in the principal financial center of the country of the relevant Specified Currency (if other than London and any Additional Business Center and which if the Specified Currency is Australian dollars or New Zealand dollars shall be Melbourne or Wellington, respectively) or (2) in relation to any sum payable in euro, a day on which the Trans European Automated Real-Time Gross Settlement Express Transfer (TARGET2) System (the "TARGET2 System") is open.

(ii) Rate of Interest

The Rate of Interest payable from time to time in respect of Floating Rate Notes and Index Linked Interest Notes will be determined in the manner specified in the applicable Pricing Supplement.

(A) ISDA Determination for Floating Rate Notes

Where ISDA Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Period will be the relevant ISDA Rate plus or minus (as indicated in the applicable Pricing Supplement) the Margin (if any). For the purposes of this sub paragraph (A), "ISDA Rate" for an Interest Period means a rate equal to the Floating Rate that would be determined by the Agent under an interest rate swap transaction if the Agent were acting as Calculation Agent for that swap transaction under the terms of an agreement incorporating the 2006 ISDA Definitions, as published by the International Swaps and Derivatives Association, Inc. and as amended and updated as at the Issue Date of the first Tranche of the Notes (the "ISDA Definitions") and under which:

- (1) the Floating Rate Option is as specified in the applicable Pricing Supplement;
- (2) the Designated Maturity is a period specified in the applicable Pricing Supplement; and
- (3) the relevant Reset Date is either (i) if the applicable Floating Rate Option is based on the Euro-zone inter-bank offered rate ("EURIBOR"), the first day of that Interest Period or (ii) in any other case, as specified in the applicable Pricing Supplement.

For the purposes of this sub-paragraph (A), the terms "Floating Rate", "Calculation Agent", "Floating Rate Option", "Designated Maturity" and "Reset Date" shall have the meanings given to those terms in the ISDA Definitions.

(B) Screen Rate Determination for Floating Rate Notes

Where Screen Rate Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Period will, subject as provided below, be either:

- (1) the offered quotation; or
- (2) the arithmetic mean (rounded if necessary to the fifth decimal place, with 0.000005 being rounded upwards) of the offered quotations,

(expressed as a percentage rate per annum) for the Reference Rate which appears or appear, as the case may be, on the Relevant Screen Page (as specified in the applicable Pricing Supplement) as at 11:00 a.m. (Brussels time, in the case of EURIBOR) on the Interest Determination Date in question plus or minus (as indicated in the applicable Pricing Supplement) the Margin (if any), all as determined by the Agent. If five or more of such offered quotations are available on the Relevant Screen Page, the highest (or, if there is more than one such highest quotation, one only of such quotations) and the lowest (or, if there is more than one such lowest quotation, one only of such quotations) shall be disregarded by the Agent for the purpose of determining the arithmetic mean (rounded as provided above) of such offered quotations.

The Agency Agreement contains provisions for determining the Rate of Interest in the event that the Relevant Screen Page is not available or if, in the case of (1) above, no such offered quotation appears or, in the case of (2) above, fewer than three such offered quotations appear, in each case as at the time specified in the preceding paragraph; provided, however, that Condition 6(b)(ii)(C) shall apply if a Benchmark Transition Event (as defined below) has occurred.

If the Reference Rate from time to time in respect of Floating Rate Notes is specified in the applicable Pricing Supplement as being other than EURIBOR, the Rate of Interest in respect of such Notes will be determined as provided in the applicable Pricing Supplement.

(C) Effect of Benchmark Transition Event

(i) Benchmark Replacement

If the Issuer or its designee determines that a Benchmark Transition Event (as defined below) and its related Benchmark Replacement Date (as defined below) have occurred prior to the Reference Time (as defined below) in respect of any determination of the Benchmark (as defined below) on any date, the Benchmark Replacement (as defined below) will replace the then-current Benchmark for all purposes relating to the applicable Notes in respect of such determination on such date and all determinations on all subsequent dates.

(ii) Benchmark Replacement Conforming Changes

In connection with the implementation of a Benchmark Replacement, the Issuer or its designee will have the right to make Benchmark Replacement Conforming Changes (as defined below) from time to time.

At the request of the Issuer, but subject to receipt by the Agents of a certificate signed by two duly authorized officers of the Issuer pursuant to Condition 6(b)(ii)(C)(iv) and at least five London banking days' prior notice thereof, the Agents shall (at the expense of the Issuer) be obliged to concur with the Issuer in using their reasonable endeavors to effect any Benchmark Replacement Conforming Changes (including, inter alia, by amending or supplementing the Agency Agreement) in the circumstances and as otherwise set out in this Condition 6(b)(ii)(C), without the consent of the Noteholders, Receiptholders and Couponholders, provided that the Agents shall not be obliged so to concur if, in the opinion of any of the Agents, doing so would impose more onerous obligations upon it or expose it to any additional duties, responsibilities or liabilities or reduce or amend the protective provisions afforded to the Agents in these Terms and Conditions or the Agency Agreement (including, for the avoidance of doubt, any supplements thereto) in any way.

In connection with any Benchmark Replacement Conforming Changes in accordance with this Condition 6(b)(ii)(C)(ii), the Issuer shall comply with the rules of any stock exchange on which the applicable Notes are for the time being listed or admitted to trading.

(iii) Decisions and Determinations

Any determination, decision or election that may be made by the Issuer or its designee pursuant to this Condition 6(b)(ii)(C), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error, may be made in the Issuer's or its designee's sole discretion, and, notwithstanding anything to the contrary in the these Terms and Conditions or the Agency Agreement, shall become effective with respect to the applicable Notes without consent from any other party.

(iv) Notices, etc.

Any Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes determined under this Condition 6(b)(ii)(C) will be notified promptly by the Issuer to the Agent and, in accordance with Condition 15, the Noteholders. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Replacement Conforming Changes, if any.

No later than notifying the Agent of the same, the Issuer shall deliver to the Agents a certificate signed by two duly authorized officers of the Issuer:

- (A) confirming (1) that a Benchmark Transition Event has occurred and (2) the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes, in each case as determined in accordance with the provisions of this Condition 6(b)(ii)(C); and
- (B) certifying that the Benchmark Replacement Conforming Changes are necessary to ensure the proper operation of the Benchmark Replacement.

The Agents shall be entitled to rely on such certificate (without liability to any person) as sufficient evidence thereof.

(v) Survival of Original Reference Rate

Without prejudice to the obligations of the Issuer under Condition 6(b)(ii)(C)(i), (ii), (iii) and (iv), the Benchmark and the fallback provisions provided for in Condition 6(b)(ii)(B) will continue to apply unless and until the Agent has been notified of the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes, in accordance with Condition 6(b)(ii)(C)(iv).

(vi) Certain Defined Terms

As used in this Condition 6(b)(ii)(C):

"Benchmark" means the applicable Benchmark Replacement.

"Benchmark Replacement" means the Interpolated Benchmark; provided that if the Issuer or its designee cannot determine the Interpolated Benchmark as of the Benchmark Replacement Date, then "Benchmark Replacement" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

- (i) the sum of: (1) Term SOFR and (2) the Benchmark Replacement Adjustment;
- (ii) the sum of: (1) Compounded SOFR and (b) the Benchmark Replacement Adjustment;
- (iii) the sum of: (1) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark for the applicable Corresponding Tenor and (2) the Benchmark Replacement Adjustment;
- (iv) the sum of: (1) the ISDA Fallback Rate and (2) the Benchmark Replacement Adjustment;
- (v) the sum of: (1) the alternate rate of interest that has been selected by the Issuer or its designee as the replacement for the then-current Benchmark for the applicable Corresponding Tenor giving due consideration to any industry-accepted rate of interest as a replacement for the then-current Benchmark for U.S. dollar-denominated floating rate notes at such time and (2) the Benchmark Replacement Adjustment.

"Benchmark Replacement Adjustment" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

- (i) the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;
- (ii) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, then the ISDA Fallback Adjustment;

(iii) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Issuer or its designee giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated floating rate notes at such time.

"Benchmark Replacement Conforming Changes" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "Interest Period," timing and frequency of determining rates and making payments of interest, changes to the definition of "Corresponding Tenor" solely when such tenor is longer than the Interest Period and other administrative matters) with respect to these Terms and Conditions or the Agency Agreement or otherwise that the Issuer or its designee decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Issuer or its designee decides that adoption of any portion of such market practice is not administratively feasible or if the Issuer or its designee determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Issuer or its designee determines is reasonably necessary).

"Benchmark Replacement Date" means the earliest to occur of the following events with respect to the then-current Benchmark:

- (i) in the case of clause (i) or (ii) of the definition of "Benchmark Transition Event," the later of (1) the date of the public statement or publication of information referenced therein and (2) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark; or
- (ii) in the case of clause (iii) of the definition of "Benchmark Transition Event," the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.

"Benchmark Transition Event" means the occurrence of one or more of the following events with respect to the then-current Benchmark:

 a public statement or publication of information by or on behalf of the administrator of the Benchmark announcing that such administrator has ceased or will cease to provide the Benchmark, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark;

- (ii) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark; or
- (iii) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative.

"Compounded SOFR" means the compounded average of SOFRs for the applicable Corresponding Tenor, with the rate, or methodology for this rate, and conventions for this rate (which will be compounded in arrears with a lookback and/or suspension period as a mechanism to determine the interest amount payable prior to the end of each Interest Period) being established by the Issuer or its designee in accordance with:

- (i) the rate, or methodology for this rate, and conventions for this rate selected or recommended by the Relevant Governmental Body for determining compounded SOFR; provided that:
- (ii) if, and to the extent that, the issuer or its designee determines that Compounded SOFR cannot be determined in accordance with clause (i) above, then the rate, or methodology for this rate, and conventions for this rate that have been selected by the issuer or its designee giving due consideration to any industry-accepted market practice for U.S. dollar-denominated floating rate notes at such time.

Notwithstanding the foregoing, Compounded SOFR will include a describe lookback and/or suspension period as a mechanism to determine the interest amount payable prior to the end of each Interest Period.

"Corresponding Tenor" with respect to a Benchmark Replacement means a tenor (including overnight) having approximately the same length (disregarding business day adjustment) as the applicable tenor for the then-current Benchmark.

"Federal Reserve Bank of New York's Website" means the website of the Federal Reserve Bank of New York at http://www.newyorkfed.org, or any successor source.

"Interpolated Benchmark" with respect to the Benchmark means the rate determined for the Corresponding Tenor by interpolating on a linear basis between: (i) the Benchmark for the longest period (for which the Benchmark is available) that is shorter than the Corresponding Tenor and (ii) the Benchmark for the shortest period (for which the Benchmark is available) that is longer than the Corresponding Tenor.

"ISDA Definitions" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

"ISDA Fallback Adjustment" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark for the applicable tenor.

"ISDA Fallback Rate" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

"Reference Time" with respect to any determination of the Benchmark means the time determined by the Issuer or its designee in accordance with the Benchmark Replacement Conforming Changes.

"Relevant Governmental Body" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"SOFR" with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark (or a successor administrator) on the Federal Reserve Bank of New York's Website.

"Term SOFR" means the forward-looking term rate for the applicable Corresponding Tenor based on SOFR that has been selected or recommended by the Relevant Governmental Body.

"Unadjusted Benchmark Replacement" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

(iii) Minimum Rate of Interest and/or Maximum Rate of Interest

If the applicable Pricing Supplement specifies a Minimum Rate of Interest for any Interest Period, then, in the event that the Rate of Interest in respect of such Interest Period determined in accordance with the provisions of paragraph (ii) above is less than such Minimum Rate of Interest, the Rate of Interest for such Interest Period shall be such Minimum Rate of Interest.

If the applicable Pricing Supplement specifies a Maximum Rate of Interest for any Interest Period, then, in the event that the Rate of Interest in respect of such Interest Period determined in accordance with the provisions of paragraph (ii) above is greater than such Maximum Rate of Interest, the Rate of Interest for such Interest Period shall be such Maximum Rate of Interest.

(iv) Determination of Rate of Interest and Calculation of Interest Amounts

The Agent, in the case of Floating Rate Notes, and the Calculation Agent, in the case of Index Linked Interest Notes, will at or as soon as practicable after each time at which the Rate of Interest is to be determined, determine the Rate of Interest for the relevant Interest Period. In the case of Index Linked Interest Notes, the Calculation Agent will notify the Agent of the Rate of Interest for the relevant Interest Period as soon as practicable after calculating the same.

The Agent will calculate the amount of interest (the "Interest Amount") payable on the Floating Rate Notes or Index Linked Interest Notes in respect of each Specified Denomination for the relevant Interest Period. Each Interest Amount shall be calculated by applying the Rate of Interest to each Specified Denomination, multiplying such sum by the applicable Day Count Fraction, and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention. For the avoidance of doubt, this Condition 6(b)(iv) shall not apply if a Benchmark Transition Event (as defined above) has occurred and Condition 6(b)(ii)(C) becomes effective.

"Day Count Fraction" means, in respect of the calculation of an amount of interest in accordance with this Condition 6(b):

- (1) if "Actual/Actual (ISDA)" or "Actual/Actual" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365 (or, if any portion of that Interest Period falls in a leap year, the sum of (A) the actual number of days in that portion of the Interest Period falling in a leap year divided by 366 and (B) the actual number of days in that portion of the Interest period falling in a non-leap year divided by 365);
- (2) if "Actual/365 (Fixed)" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365;
- (3) if "Actual/365 (Sterling)" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365, or in the case of an Interest Payment Date falling in a leap year, 366;
- (4) if "Actual/360" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 360;

(5) if "30/360", "360/360" or "Bond Basis" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

Day Count Fraction =
$$\frac{[360 \text{ x } (Y_2 - Y_1)] + [30 \text{ x } (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"Y₁" is the year, expressed as a number, in which the first day of the Interest Period falls;

"Y₂" is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{M}_1 " is the calendar month, expressed as a number, in which the first day of the Interest Period falls:

" \mathbf{M}_2 " is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{D}_1 " is the first calendar day, expressed as a number, of the Interest Period, unless such number is 31, in which case D_1 will be 30; and D_2 is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless such number would be 31 and D_1 is greater than 29, in which case D_2 will be 30;

(6) if "30E/360" or "Eurobond Basis" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

Day Count Fraction =
$$\frac{[360 \text{ x } (Y_2 - Y_1)] + [30 \text{ x } (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

" \mathbf{Y}_1 " is the year, expressed as a number, in which the first day of the Interest Period falls;

" \mathbf{Y}_2 " is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{M}_1 " is the calendar month, expressed as a number, in which the first day of the Interest Period falls;

" \mathbf{M}_2 " is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{D}_1 " is the first calendar day, expressed as a number, of the Interest Period, unless such number is 31, in which case D_1 will be 30; and D_2 is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless such number would be 31, in which case D_2 will be 30;

(7) if "30E/360 (ISDA)" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

Day Count Fraction =
$$\frac{[360 \text{ x } (Y_2 - Y_1)] + [30 \text{ x } (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

" \mathbf{Y}_1 " is the year, expressed as a number, in which the first day of the Interest Period falls;

" Y_2 " is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{M}_1 " is the calendar month, expressed as a number, in which the first day of the Interest Period falls;

" \mathbf{M}_2 " is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

" \mathbf{D}_1 " is the first calendar day, expressed as a number, of the Interest Period, unless that day is the last day of February or (ii) such number would be 31, in which case \mathbf{D}_1 will be 30; and

" \mathbf{D}_2 " is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless (i) that day is the last day of February but not the Maturity Date or (ii) such number would be 31, in either which case \mathbf{D}_2 will be 30.

(v) Notification of Rate of Interest and Interest Amounts

The Agent will cause the Rate of Interest and each Interest Amount for each Interest Period and the relevant Interest Payment Date to be notified to the Issuer and any stock exchange on which the relevant Floating Rate Notes or Index Linked Interest Notes are for the time being listed and notice thereof to be published in accordance with Condition 16 (Notices) as soon as practicable after their determination but in no event later than the fourth London Business Day thereafter. Each Interest Amount and Interest Payment Date so notified may subsequently be amended (or appropriate alternative arrangements made by way of adjustment) without prior notice in the event of an extension or shortening of the Interest Period. Any such amendment will be promptly notified to each stock exchange on which the relevant Floating Rate Notes or Index Linked Interest Notes are for the time being listed and to the Noteholders in accordance with Condition 16 (Notices). For the purposes of this paragraph, the expression "London Business Day" means a day (other than a Saturday or a Sunday) on which banks and foreign exchange markets are open for general business in London. For the avoidance of doubt, this Condition 6(b)(v) shall not apply if a Benchmark Transition Event (as defined above) has occurred and Condition 6(b)(ii)(C) becomes effective.

(vi) Certificates to be Final

All certificates, communications, opinions, determinations, calculations, quotations and decisions given, expressed, made or obtained for the purposes of the provisions of this Condition 6(b) (Interest – Interest on Floating Rate Notes and Index Linked Interest Notes), whether by the Agent or, if applicable, the Calculation Agent, shall (in the absence of willful default, bad faith or manifest error) be binding on the Issuer, the Agent, the Calculation Agent (if applicable), the other Agents and all Noteholders, Receiptholders and Couponholders and (in the absence as aforesaid) no liability to the Issuer, the Noteholders, the Receiptholders or the Couponholders shall attach to the Agent or the Calculation Agent (if applicable) in connection with the exercise or non-exercise by it of its powers, duties and discretions pursuant to such provisions.

(c) Interest on Dual Currency Interest Notes

The rate or amount of interest payable in respect of Dual Currency Interest Notes shall be determined in the manner specified in the applicable Pricing Supplement.

(d) Interest on Partly Paid Notes

In the case of Partly Paid Notes (other than Partly Paid Notes which are Zero Coupon Notes), interest will accrue as aforesaid on the paid-up nominal amount of such Notes and otherwise as specified in the applicable Pricing Supplement.

(e) Accrual of Interest

Each Note (or in the case of the redemption of only part of a Note, that part only of such Note) will cease to bear interest (if any) from the date for its redemption unless, upon due presentation thereof, payment of principal is improperly withheld or refused. In such event, interest will continue to accrue until whichever is the earlier of:

- (1) the date on which all amounts due in respect of such Note have been paid; and
- (2) five days after the date on which the full amount of the moneys payable in respect of such Note has been received by the Agent or the Registrar, as the case may be, and notice to that effect has been given to the Noteholders in accordance with Condition 16 (Notices).

7. LIMITED RECOURSE

The amounts payable in respect of the Limited Recourse Notes shall be determined in the manner specified in the applicable Pricing Supplement.

8. PAYMENTS

(a) Method of Payment

Subject as provided below:

- (i) payments in a Specified Currency other than euro will be made by credit or transfer to an account in the relevant Specified Currency (which, in the case of a payment in Japanese yen to a non-resident of Japan, shall be a non-resident account) maintained by the payee with, or, at the option of the payee, by a check in such Specified Currency drawn on, a bank in the principal financial center of the country of such Specified Currency (which, if the Specified Currency is Australian dollars or New Zealand dollars, shall be Melbourne or Wellington, respectively); and
- (ii) payments in euro will be made by credit or transfer to a euro account (or any other account to which euro may be credited or transferred) specified by the payee or, at the option of the payee, by a euro check.

Payments will be subject in all cases to any fiscal or other laws and regulations applicable thereto in the place of payment, but without prejudice to the provisions of Condition 10 (Taxation).

(b) Presentation of Definitive Bearer Notes, Receipts and Coupons

Payments of principal in respect of definitive Bearer Notes will (subject as provided below) be made in the manner provided in paragraph (a) above only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of definitive Bearer Notes, and payments of interest in respect of definitive Bearer Notes will (subject as provided below) be made as aforesaid only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of Coupons, in each case at the specified office of any Paying Agent outside the United States (which expression, as used herein, means the United States of America (including the States and the District of Columbia, its territories, its possessions and other areas subject to its jurisdiction)).

Payments of installments of principal (if any) in respect of definitive Bearer Notes, other than the final installment, will (subject as provided below) be made in the manner provided in paragraph (a) above against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the relevant Receipt in accordance with the preceding paragraph. Payment of the final installment will be made in the manner provided in paragraph (a) above only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the relevant Bearer Note in accordance with the preceding paragraph. Each Receipt must be presented for payment of the relevant installment together with the definitive Bearer Note to which it appertains. Receipts presented without the definitive Bearer Note to which they appertain do not constitute valid obligations of the Issuer. Upon the date on which any definitive Bearer Note becomes due and repayable, unmatured Receipts (if any) relating thereto (whether or not attached) shall become void and no payment shall be made in respect thereof.

Fixed Rate Notes in definitive bearer form (other than Dual Currency Notes, Index Linked Notes or Long Maturity Notes (as defined below)) should be presented for payment together with all unmatured Coupons appertaining thereto (which expression shall for this purpose include Coupons falling to be issued on exchange of matured Talons), failing which the amount of any missing unmatured Coupon (or, in the case of payment not being made in full, the same proportion of the amount of such missing unmatured Coupon as the sum so paid bears to the sum due) will be deducted from the sum due for payment. Each amount of principal so deducted will be paid in the manner mentioned above against surrender of the relative missing Coupon at any time before the expiry of six years after the Relevant Date (as defined in Condition 10 (*Taxation*)) in respect of such principal (whether or not such Coupon would otherwise have become void under Condition 11 (*Prescription*)) or, if later, six years from the date on which such Coupon would otherwise have become due, but in no event thereafter.

Upon any Fixed Rate Note in definitive bearer form becoming due and repayable prior to its Maturity Date, all unmatured Talons (if any) appertaining thereto will become void and no further Coupons will be issued in respect thereof. Upon the date on which any Floating Rate Note, Dual Currency Note, Index Linked Note or Long Maturity Note in definitive bearer form becomes due and repayable, unmatured Coupons and Talons (if any) relating thereto (whether or not attached) shall become void and no payment or, as the case may be, exchange for further Coupons shall be made in respect thereof. A "Long Maturity Note" is a Fixed Rate Note (other than a Fixed Rate Note which on issue had a Talon attached) whose nominal amount on issue is less than the aggregate interest payable thereon provided that such Note shall cease to be a Long Maturity Note on the Interest Payment Date on which the aggregate amount of interest remaining to be paid after that date is less than the nominal amount of such Note.

If the due date for redemption of any definitive Bearer Note is not an Interest Payment Date, interest (if any) accrued in respect of such Note from (and including) the preceding Interest Payment Date or, as the case may be, the Interest Commencement Date shall be payable only against surrender of the relevant definitive Bearer Note.

(c) Payments in Respect of Bearer Global Notes

Payments of principal and interest (if any) in respect of Notes represented by any Global Note in bearer form will (subject as provided below) be made in the manner specified above in relation to definitive Bearer Notes and otherwise in the manner specified in the relevant Global Note against presentation or surrender, as the case may be, of such Global Note at the specified office of any Paying Agent outside the United States. A record of each payment made against presentation or surrender of any Global Note in bearer form, distinguishing between any payment of principal and any payment of interest, will be made on such Global Note by the Paying Agent to which it was presented and such record shall be prima facie evidence that the payment in question has been made.

(d) Payments in Respect of Registered Notes

Payments of principal (other than installments of principal prior to the final installment) in respect of each Registered Note (whether or not in global form) will be made against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the Registered Note at the specified office of the Registrar or any of the Paying Agents. Such payments will be made by transfer to the Designated Account (as defined below) of the holder (or the first named of joint

holders) of the Registered Note appearing in the register of holders of the Registered Notes maintained by the Registrar (the "Register") at the close of business on the third business day (being for this purpose a day on which banks are open for business in the city where the specified office of the Registrar is located) before the relevant due date. Notwithstanding the previous sentence, if (i) a holder does not have a Designated Account or (ii) the principal amount of the Notes held by a holder is less than US\$250,000 (or its approximate equivalent in any other Specified Currency), payment will instead be made by a check in the Specified Currency drawn on a Designated Bank (as defined below). For these purposes, "Designated Account" means the account (which, in the case of a payment in Japanese yen to a non-resident of Japan, shall be a non-resident account) maintained by a holder with a Designated Bank and identified as such in the Register and "Designated Bank" means (in the case of payment in a Specified Currency other than euro) a bank in the principal financial center of the country of such Specified Currency (which, if the Specified Currency is Australian dollars or New Zealand dollars, shall be Melbourne or Wellington, respectively) and (in the case of a payment in euro) any bank which processes payments in euro.

Payments of interest and payments of installments of principal (other than the final installment) in respect of each Registered Note (whether or not in global form) will be made by a check in the Specified Currency drawn on a Designated Bank and mailed by uninsured mail on the business day in the city where the specified office of the Registrar is located immediately preceding the relevant due date to the holder (or the first named of joint holders) of the Registered Note appearing in the Register at the close of business on the day on which DTC, Euroclear and/or Clearstream, as applicable to the extent such Registered Note is cleared and settled through such facility, is open for business, immediately preceding the relevant due date (the "Record Date") at his address shown in the Register on the Record Date and at his risk. Upon application of the holder to the specified office of the Registrar not less than three business days in the city where the specified office of the Registrar is located before the due date for any payment of interest in respect of a Registered Note, the payment may be made by transfer on the due date in the manner provided in the preceding paragraph. Any such application for transfer shall be deemed to relate to all future payments of interest (other than interest due on redemption) and installments of principal (other than the final installment) in respect of the Registered Notes which become payable to the holder who has made the initial application until such time as the Registrar is notified in writing to the contrary by such holder. Payment of the interest due in respect of each Registered Note on redemption and the final installment of principal will be made in the same manner as payment of the principal amount of such Registered Note.

Holders of Registered Notes will not be entitled to any interest or other payment for any delay in receiving any amount due in respect of any Registered Note as a result of a check posted in accordance with this Condition arriving after the due date for payment or being lost in the post. No commissions or expenses shall be charged to such holders by the Registrar in respect of any payments of principal or interest in respect of the Registered Notes.

All amounts payable to DTC or its nominee as registered holder of a Registered Global Note in respect of Notes denominated in a Specified Currency other than U.S. dollars shall be paid by transfer by the Paying Agent to an account in the relevant Specified Currency of the Exchange Agent on behalf of DTC or its nominee for conversion into and payment in U.S. dollars in accordance with the provisions of the Agency Agreement.

None of the Issuer or the Agents will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

(e) General Provisions Applicable to Payments

The holder of a Global Note shall be the only person entitled to receive payments in respect of Notes represented by such Global Note and the Issuer will be discharged by payment to the holder of such Global Note in respect of each amount so paid. Each of the persons shown in the records of Euroclear, Clearstream or DTC as the beneficial holder of a particular nominal amount of Notes represented by such Global Note must look solely to Euroclear, Clearstream or DTC, as the case may be, for his share of each payment so made by the Issuer to the holder of such Global Note.

Notwithstanding the foregoing provisions of this Condition applicable to payments on Bearer Notes, if any amount of principal and/or interest in respect of Bearer Notes is payable in U.S. dollars, such U.S. dollar payments of principal and/or interest in respect of such Notes will be made at the specified office of a Paying Agent in the United States if:

- (i) the Issuer has appointed Paying Agents with specified offices outside the United States with the reasonable expectation that such Paying Agents would be able to make payment in U.S. dollars at such specified offices outside the United States of the full amount of principal and interest on the Bearer Notes in the manner provided above when due;
- (ii) payment of the full amount of such principal and interest at all such specified offices outside the United States is illegal or effectively precluded by exchange controls or other similar restrictions on the full payment or receipt of principal and interest in U.S. dollars; and
- (iii) such payment is then permitted under United States law without involving, in the opinion of the Issuer, adverse tax consequences to the Issuer.

(f) Payment Day

If the date for payment of any amount in respect of any Note, Receipt or Coupon is not a Payment Day, the holder thereof shall not be entitled to payment until the next following Payment Day in the relevant place and shall not be entitled to further interest or other payment in respect of such delay. For these purposes, "Payment Day" means any day which (subject to Condition 11 (*Prescription*)) is:

- a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in:
 - (A) the relevant place of presentation;
 - (B) London; or
 - (C) any Additional Financial Center specified in the applicable Pricing Supplement;

- (ii) either (1) in relation to any sum payable in a Specified Currency other than euro, a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in the principal financial center of the country of the relevant Specified Currency (if other than the place of presentation, London and any Additional Financial Center and which if the Specified Currency is Australian dollars or New Zealand dollars shall be Melbourne or Wellington, respectively) or (2) in relation to any sum payable in euro, a day on which the TARGET2 System is open; and
- (iii) in the case of any payment in respect of a Registered Global Note denominated in a Specified Currency other than U.S. dollars and registered in the name of DTC or its nominee and in respect of which an accountholder of DTC (with an interest in such Registered Global Note) has elected to receive any part of such payment in U.S. dollars, a day on which commercial banks are not authorized or required by law or regulation to be closed in New York City.

(g) Interpretation of Principal and Interest

Any reference in these Terms and Conditions to principal in respect of the Notes shall be deemed to include, as applicable:

- (i) any additional amounts which may be payable with respect to principal under Condition 10 (*Taxation*);
- (ii) the Final Redemption Amount of the Notes;
- (iii) the Early Redemption Amount of the Notes;
- (iv) the Optional Redemption Amount(s) (if any) of the Notes;
- (v) in relation to Notes redeemable in installments, the Installment Amounts;
- (vi) in relation to Zero Coupon Notes, the Amortized Face Amount (as defined in Condition 9(e) (Redemption and Purchase Early Redemption Amounts)); and
- (vii) any premium and any other amounts (other than interest) which may be payable by the Issuer under or in respect of the Notes.

Any reference in these Terms and Conditions to interest in respect of the Notes shall be deemed to include, as applicable, any additional amounts which may be payable with respect to interest under Condition 10 (Taxation).

9. REDEMPTION AND PURCHASE

(a) Redemption at Maturity

Unless previously redeemed or purchased and cancelled as specified below, each Note (including Dual Currency Redemption Notes) will be redeemed by the Issuer at its Final Redemption Amount specified in, or determined in the manner specified in, the applicable Pricing Supplement in the relevant Specified Currency on the Maturity Date.

(b) Redemption for Tax Reasons

The Notes may be redeemed at the option of the Issuer in whole, but not in part, at any time (if this Note is neither a Floating Rate Note, an Index Linked Interest Note nor a Dual Currency Interest Note) or on any Interest Payment Date (if this Note is either a Floating Rate Note, an Index Linked Interest Note or a Dual Currency Interest Note), on giving not less than 30 nor more than 60 days' notice to the Agent and, in accordance with Condition 16 (*Notices*), the Noteholders (which notice shall be irrevocable), if:

- (i) on the occasion of the next payment due under the Notes, the Issuer has or will become obliged to pay additional amounts as provided or referred to in Condition 10 (*Taxation*) as a result of any change in, or amendment to, the laws of a Tax Jurisdiction (as defined in Condition 10 (*Taxation*)) or any regulations or rulings promulgated thereunder or any change in the application or official interpretation of such laws or regulations or rulings, or any change in the application or official interpretation of, or any execution of or amendment to, any treaty or treaties affecting taxation to which the Tax Jurisdiction is a party, which change or amendment becomes effective on or after the date on which agreement is reached to issue the first Tranche of the Notes; and
- (ii) such obligation cannot be avoided by the Issuer taking reasonable measures available to it,

provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer would be obliged to pay such additional amounts were a payment in respect of the Notes then due.

Prior to the publication of any notice of redemption pursuant to this Condition, the Issuer shall deliver to the Agent a certificate signed by an authorized officer stating that the Issuer is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Issuer so to redeem have occurred, and an opinion of independent legal advisers of recognized standing to the effect that the Issuer has or will become obliged to pay such additional amounts as a result of such change or amendment.

Notes redeemed pursuant to this Condition 9(b) will be redeemed at their Early Redemption Amount referred to in paragraph (e) below together (if appropriate) with interest accrued to (but excluding) the date of redemption.

(c) Redemption at the Option of the Issuer (Issuer Call)

If Issuer Call is specified in the applicable Pricing Supplement, the Issuer may, having given:

- (i) not less than 15 nor more than 30 days' notice to the Noteholders in accordance with Condition 16 (Notices); and
- (ii) not less than 15 days before the giving of the notice referred to in (i), notice to the Agent and, in the case of a redemption of Registered Notes, the Registrar;

(which notices shall be irrevocable and shall specify the date fixed for redemption), redeem all or some only of the Notes then outstanding on any Optional Redemption Date and at the Optional Redemption Amount(s) specified in, or determined in the manner specified in, the applicable Pricing Supplement together, if appropriate, with interest accrued to (but excluding) the relevant Optional Redemption Date. Any such redemption must be of a nominal amount not less than the Minimum Redemption Amount and not more than the Maximum Redemption Amount in each case as may be specified in the applicable Pricing Supplement. In the case of a partial redemption of Notes, the Notes to be redeemed ("Redeemed Notes") will be selected individually by lot, in the case of Redeemed Notes represented by definitive Notes, and in accordance with the rules of Euroclear and/or Clearstream and/or DTC, in the case of Redeemed Notes represented by a Global Note, not more than 30 days prior to the date fixed for redemption (such date of selection being hereinafter called the "Selection Date"). In the case of Redeemed Notes represented by definitive Notes, a list of the serial numbers of such Redeemed Notes will be published in accordance with Condition 16 (Notices) not less than 15 days prior to the date fixed for redemption. The aggregate nominal amount of Redeemed Notes represented by definitive Notes shall bear the same proportion to the aggregate nominal amount of all Redeemed Notes as the aggregate nominal amount of definitive Notes outstanding bears to the aggregate nominal amount of the Notes outstanding, in each case on the Selection Date, provided that, such first mentioned nominal amount shall, if necessary, be rounded downwards to the nearest integral multiple of the Specified Denomination and the aggregate nominal amount of Redeemed Notes represented by a Global Note shall be equal to the balance of the Redeemed Notes. No exchange of the relevant Global Note will be permitted during the period from (and including) the Selection Date to (and including) the date fixed for redemption pursuant to this paragraph (c) and notice to that effect shall be given by the Issuer to the Noteholders in accordance with Condition 16 (Notices) at least five days prior to the Selection Date.

(d) Redemption at the Option of the Noteholders (Investor Put)

If Investor Put is specified in the applicable Pricing Supplement, upon the holder of any Note giving to the Issuer in accordance with Condition 16 (*Notices*) not less than 15 nor more than 30 days' notice the Issuer will, upon the expiry of such notice, redeem, subject to, and in accordance with, the terms specified in the applicable Pricing Supplement, such Note on the Optional Redemption Date and at the Optional Redemption Amount together, if appropriate, with interest accrued to (but excluding) the Optional Redemption Date. Registered Notes may be redeemed under this Condition 9(d) in any multiple of their lowest Specified Denomination.

To exercise the right to require redemption of this Note the holder of this Note must deliver, at the specified office of any Paying Agent (in the case of Bearer Notes) or the Registrar (in the case of Registered Notes) at any time during normal business hours of such Paying Agent or, as the case may be, the Registrar falling within the notice period, a duly completed and signed notice of exercise in the form (for the time being current) obtainable from any specified office of any Paying Agent or, as the case may be, the Registrar ("Put Notice") and in which the holder must specify a bank account (or, if payment is required to be made by check, an address) to which payment is to be made under this Condition and, in the case of Registered Notes, the nominal amount thereof to be redeemed and, if less than the full nominal amount of the Registered Notes so surrendered is to be redeemed, an address to which a new Registered Note in respect of the balance of such Registered Notes is to be sent subject to and in accordance with the provisions of Condition 2 (*Transfers of Registered Notes - Transfers of Registered Notes in Definitive Form*). If this Note is in definitive form, the Put Notice must be accompanied by this Note or evidence satisfactory to the Paying Agent concerned that this Note will, following delivery of the Put Notice, be held to its order or under its control.

Any Put Notice given by a holder of any Note pursuant to this paragraph shall be irrevocable except where prior to the due date of redemption an Event of Default shall have occurred and be continuing in which event such holder, at its option, may elect by notice to the Issuer to withdraw the notice given pursuant to this paragraph and instead to declare such Note forthwith due and payable pursuant to Condition 12 (*Events of Default*).

(e) Early Redemption Amounts

For the purpose of paragraphs (b) through (d) above and Condition 12 (*Events of Default*), each Note will be redeemed at its Early Redemption Amount calculated as follows:

- (i) in the case of a Note with a Final Redemption Amount equal to the Issue Price, at the Final Redemption Amount thereof;
- (ii) in the case of a Note (other than a Zero Coupon Note but including an Installment Note and a Partly Paid Note) with a Final Redemption Amount which is or may be less or greater than the Issue Price or which is payable in a Specified Currency other than that in which the Note is denominated, at the amount specified in, or determined in the manner specified in, the applicable Pricing Supplement or, if no such amount or manner is so specified in the applicable Pricing Supplement, at its nominal amount; or
- (iii) in the case of a Zero Coupon Note, at an amount (the "Amortized Face Amount") calculated in accordance with the following formula:

Early Redemption Amount = RP x $(1 + AY)^y$

where:

"RP" means the Reference Price; and

"AY" means the Accrual Yield expressed as a decimal; and

"y" is a fraction the numerator of which is equal to the number of days (calculated on the basis of a 360-day year consisting of 12 months of 30 days each) from (and including) the Issue Date of the first Tranche of the Notes to (but excluding) the date fixed for redemption or (as the case may be) the date upon which such Note becomes due and repayable and the denominator of which is 360, or on such other calculation basis as may be specified in the applicable Pricing Supplement.

(f) Installments

Installment Notes will be redeemed in the Installment Amounts and on the Installment Dates. In the case of early redemption, the Early Redemption Amount will be determined pursuant to paragraph (e) above.

(g) Partly Paid Notes

Partly Paid Notes will be redeemed, whether at maturity, early redemption or otherwise, in accordance with the provisions of this Condition and the applicable Pricing Supplement.

(h) Purchases

The Issuer or any Subsidiary of the Issuer may at any time purchase Notes (**provided that**, in the case of definitive Bearer Notes, all unmatured Receipts, Coupons and Talons appertaining thereto are purchased therewith) at any price in the open market or otherwise. If purchases are made by tender, tenders must be available to all Noteholders alike.

Notes held by the Issuer and its Subsidiaries are not "outstanding" for the purpose of Condition 17 (*Meetings of Noteholders and Modification*).

(i) Cancellation

All Notes which are redeemed will forthwith be cancelled (together with all unmatured Receipts, Coupons and Talons attached thereto or surrendered therewith at the time of redemption). All Notes so cancelled (together with all unmatured Receipts, Coupons and Talons cancelled therewith) shall be forwarded to the Agent and cannot be reissued or resold.

(j) Late Payment on Zero Coupon Notes

If the amount payable in respect of any Zero Coupon Note upon redemption of such Zero Coupon Note pursuant to paragraph (a), (b), (c) or (d) above or upon its becoming due and repayable as provided in Condition 12 (*Events of Default*) is improperly withheld or refused, the amount due and repayable in respect of such Zero Coupon Note shall be the amount calculated as provided in paragraph (e)(iii) above as though the references therein to the date fixed for the redemption or the date upon which such Zero Coupon Note becomes due and payable were replaced by references to the date which is the earlier of:

- (i) the date on which all amounts due in respect of such Zero Coupon Note have been paid; and
- (ii) five days after the date on which the full amount of the moneys payable in respect of such Zero Coupon Notes has been received by the Agent or the Registrar and notice to that effect has been given to the Noteholders in accordance with Condition 16 (*Notices*).

10. TAXATION

All payments of principal and interest by the Issuer in respect of the Notes, Receipts and Coupons will be made without withholding or deduction for or on account of any present or future taxes or duties of whatever nature imposed or levied by or on behalf of any Tax Jurisdiction unless such withholding or deduction is required by law. In such event, the Issuer will pay such additional amounts as shall be necessary in order that the net amounts received by the holders of the Notes, Receipts or Coupons after such withholding or deduction shall equal the respective amounts of principal, premium, if any, and interest which would otherwise have been receivable in respect of the Notes, Receipts or Coupons, as the case may be, in the absence of such withholding or deduction; **provided that** no such additional amounts shall be payable with respect to any Note, Receipt or Coupon:

(a) presented for payment (where presentation is required) in Korea (provided the Notes can also be presented at an office of a Paying Agent outside Korea); or

- (b) where such withholding or deduction is imposed on a payment to a holder who is liable for such taxes or duties in respect of such Note, Receipt or Coupon by reason of his having some connection with a Tax Jurisdiction other than the mere holding of such Note, Receipt or Coupon; or
- (c) presented for payment (where presentation is required) more than 30 days after the Relevant Date (as defined below) except to the extent that the holder thereof would have been entitled to an additional amount on presenting the same for payment on such 30th day assuming that day to have been a Payment Day (as defined in Condition 8(f) (Payments Payment Day)); or
- (d) where such withholding or deduction is imposed on a payment to a holder who would be able to avoid such withholding or deduction by either (i) presenting (where presentation is required) the relevant Note, Receipt or Coupon to another Paying Agent or (ii) by making a declaration of non-residence or other similar claim for exemption to the relevant tax authority if, after having been requested to make such a declaration or claim, such holder fails to do so; or
- (e) any combination of (a), (b), (c) or (d) above.

Nor will additional amounts be paid with respect to any payment on a Note, Receipt or Coupon to a holder who is a fiduciary, a partnership, a limited liability company or other than the sole beneficial owner of that payment to the extent that payment would be required by the laws of a Tax Jurisdiction (or any political subdivision thereof) to be included in the income, for tax purposes, of a beneficiary or settlor with respect to the fiduciary, a member of that partnership, an interest holder in a limited liability company or a beneficial owner who would not have been entitled to the additional amounts had that beneficiary, settlor, member or beneficial owner been the holder.

As used herein:

- (i) "Tax Jurisdiction" means Republic of Korea or any other jurisdiction in which the Issuer or a successor company is organized or within or through which payment is made or any political subdivision or any authority thereof or therein having power to tax; and
- (ii) the "Relevant Date" means the date on which such payment first becomes due, except that, if the full amount of the moneys payable has not been duly received by the Agent or the Registrar, as the case may be, on or prior to such due date, it means the date on which, the full amount of such moneys having been so received, notice to that effect is duly given to the Noteholders in accordance with Condition 16 (Notices).

The obligation to pay additional amounts shall not apply to (a) any estate, inheritance, gift, sales, transfer, personal property or any similar tax, assessment or other governmental charge or (b) any tax, assessment or other governmental charge which is payable otherwise than by deduction or withholding from payments of principal of, or interest or premium on, the Notes, Receipts or Coupons; **provided that**, except as otherwise set forth in these Terms and Conditions and in the Agency Agreement, the Issuer shall pay all stamp and other duties, if any, which may be imposed by Korea or the United Kingdom or any respective political subdivision thereof or any taxing authority of or in the foregoing, with respect to the Agency Agreement or as a consequence of the initial issuance of the Notes.

Whenever there is mentioned in any context the payment of principal of, and any premium or interest on, any Note, Receipt or Coupon, such mention shall be deemed to include payment of additional amounts to the extent that, in such context, additional amounts are, were or would be payable in respect thereof.

11. PRESCRIPTION

Claims for principal in respect of the Notes (whether in bearer or registered form) will become void unless presented for payment within a period of 10 years after the Relevant Date (as defined in Condition 10 (*Taxation*)) therefor. Claims for interest in respect of the Notes (including the Receipts and Coupons) shall become void unless claimed for payment within a period of five years after the Relevant Date.

There shall not be included in any Coupon sheet issued on exchange of a Talon any Coupon the claim for payment in respect of which would be void pursuant to this Condition or Condition 8(b) (Payments – Presentation of Definitive Bearer Notes, Receipts and Coupons) or any Talon which would be void pursuant to Condition 8(b) (Payments – Presentation of Definitive Bearer Notes, Receipts and Coupons).

12. EVENTS OF DEFAULT

The occurrence and continuance of the following events will constitute events of default ("Events of Default"):

- (a) default in the payment of any installment of interest upon any of the Notes, whether at maturity, upon redemption or otherwise, as and when the same shall become due and payable, and continuance of such default for a period of 30 days; or
- (b) default in the payment of all or any part of the principal of any of the Notes, whether at maturity, upon redemption or otherwise, as and when the same shall become due and payable, whether at maturity, upon acceleration or redemption or otherwise and continuance of such default for a period of seven days; or
- (c) failure on the part of the Issuer duly to observe or perform any other of the covenants or agreements on the part of the Issuer contained in these Terms and Conditions or in the Agency Agreement for a period of 60 days after the date on which written notice specifying such failure, stating that notice is a "Notice of Default" under these Terms and Conditions and demanding that the Issuer remedy the same, shall have been given by registered or certified mail, return receipt requested, to the Issuer or to Issuer at the office of the Agent by the holders of at least 10% in aggregate principal amount of the Notes at the time outstanding; or
- (d) any External Indebtedness of the Issuer in the aggregate principal amount of US\$15,000,000 or more either (i) becoming due and payable prior to the due date for payment thereof by reason of acceleration thereof following default by the Issuer or (ii) not being repaid at, and remaining unpaid after, maturity as extended by the period of grace, if any, applicable thereto, or any guarantee given by the Issuer in respect of External Indebtedness of any other Person in the aggregate principal amount of US\$15,000,000 or

more not being honored when, and remaining dishonored after becoming, due and called, provided that, if any such default under any such External Indebtedness shall be cured or waived, then the default under these Terms and Conditions by reason thereof shall be deemed to have been cured and waived; or

(e) certain events of bankruptcy, insolvency or reorganization with respect to the Issuer, or the Issuer ceasing to carry on the whole or substantially the whole of its business or make any general assignment for the benefit of creditors, or enter into any composition with its creditors, or take corporate action in furtherance of any such action (other than in furtherance of the Plan of Restructuring (as defined below)).

If any one or more of the above Events of Default shall occur and be continuing then any holder of a Note may, by written notice to the Issuer at the specified office of the Agent, effective upon the date of receipt thereof by the Agent, declare any Notes held by the holder to be forthwith due and payable whereupon the same shall become forthwith due and payable at the Early Redemption Amount (as described in Condition 9(e) (*Redemption and Purchase* – Early Redemption Amounts)), together with accrued interest (if any) to the date of repayment, without presentment, demand, protest or other notice of any kind.

"Plan of Restructuring" means the Plan for Restructuring the Electricity Industry in Korea as issued on January 21, 1999 by the Ministry of Trade, Industry and Energy (formerly, the Ministry of Commerce, Industry and Energy) of Korea, (A) as it has been amended, modified and supplemented by (i) the Act on Promotion of Restructuring of the Electricity Power Industry (Act No: 6282) as promulgated on December 23, 2000, (ii) the Basic Plan for Privatization of Power Generation Companies as issued on April 9, 2002 by the Committee for Privatization of Public Enterprises and (iii) the Basic Plan of Electricity Supply and Demand as promulgated in February 2013 and as amended from time to time or (B) as it may be amended, modified or supplemented from time to time as required by, or in accordance with, applicable law or relevant governmental authorities.

13. REPLACEMENT OF NOTES, RECEIPTS, COUPONS AND TALONS

Should any Note, Receipt, Coupon or Talon be lost, stolen, mutilated, defaced or destroyed, it may be replaced at the specified office of the Agent (in the case of Bearer Notes, Receipts or Coupons) or the Registrar (in the case of Registered Notes) upon payment by the claimant of such costs and expenses as may be incurred in connection therewith and on such terms as to evidence and indemnity as the Issuer may reasonably require. Mutilated or defaced Notes, Receipts, Coupons or Talons must be surrendered before replacements will be issued.

14. AGENTS

The names of the initial Agents and their initial specified offices are set out below.

The Issuer is entitled to vary or terminate the appointment of any Agent and/or appoint additional or other Agents and/or approve any change in the specified office through which any Agent acts, **provided that**:

(a) there will at all times be an Agent and a Registrar;

- (b) so long as the Notes are listed on any stock exchange, there will at all times be a Paying Agent (in the case of Bearer Notes) and a Transfer Agent (in the case of Registered Notes) with a specified office (outside the United States in the case of Bearer Notes) in such place as may be required by the rules and regulations of the relevant stock exchange (or any other relevant authority);
- (c) so long as any of the Registered Global Notes payable in a Specified Currency other than U.S. dollars are held through DTC or its nominee, there will at all times be an Exchange Agent with a specified office in London; and
- (d) for so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Global Note is exchanged for definitive Notes, the Issuer will appoint and maintain a Paying Agent in Singapore, where the Notes may be presented or surrendered for payment or redemption. In addition, in the event that a Global Note is exchanged for definitive Notes, an announcement of such exchange shall be made by or on behalf of the Issuer through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Notes, including details of the Paying Agent in Singapore.

In addition, the Issuer shall forthwith appoint a Paying Agent having a specified office in New York City in the circumstances described in Condition 8(e) (*Payments* – *General Provisions Applicable to Payments*). Any variation, termination, appointment or change shall only take effect (other than in the case of insolvency, when it shall be of immediate effect) after not less than 30 nor more than 45 days' prior notice thereof shall have been given to the Noteholders in accordance with Condition 16 (*Notices*).

In acting under the Agency Agreement, the Agents act solely as agents of the Issuer and do not assume any obligation to, or relationship of agency or trust with, any Noteholders, Receiptholders or Couponholders. The Agency Agreement contains provisions permitting any entity into which any Agent is merged or converted or with which it is consolidated or to which it transfers all or substantially all of its assets to become the successor agent.

15. EXCHANGE OF TALONS

On and after the Interest Payment Date on which the final Coupon comprised in any Coupon sheet matures, the Talon (if any) forming part of such Coupon sheet may be surrendered at the specified office of the Agent or any other Paying Agent in exchange for a further Coupon sheet including (if such further Coupon sheet does not include Coupons to (and including) the final date for the payment of interest due in respect of the Note to which it appertains) a further Talon, subject to the provisions of Condition 11 (*Prescription*).

16. NOTICES

All notices regarding the Bearer Notes will be deemed to be validly given if published (i) in a leading English language daily newspaper of general circulation in London and (ii) if and for so long as the Bearer Notes are listed on the SGX-ST and the rules of the SGX-ST so require, a leading newspaper of general circulation in Singapore. It is expected that such publication will be made in the *Financial Times* in London and the Business Times in Singapore. The Issuer shall also ensure that notices are duly published in a manner which complies with the rules of any stock exchange (or any other relevant authority) on which the Bearer Notes are for the time being listed. Any such notice will be deemed to have been given on the date of the first publication or, where required to be published in more than one newspaper, on the date of the first publication in all required newspapers.

All notices regarding the Registered Notes will be deemed to be validly given if sent by first-class mail or (if posted to an address overseas) by airmail to the holders (or the first named of joint holders) at their respective addresses recorded in the Register and will be deemed to have been given on the fourth day after mailing and, in addition, for so long as any Registered Notes are listed on a stock exchange and the rules of that stock exchange (or any other relevant authority) so require, such notice will be published in a daily newspaper of general circulation in the place or places required by those rules.

Until such time as any definitive Notes are issued, there may, so long as any Global Notes representing the Notes are held in their entirety on behalf of Euroclear and/or Clearstream and/or DTC, be substituted for such publication in such newspaper(s) the delivery of the relevant notice to Euroclear and/or Clearstream and/or DTC for communication by them to the holders of the Notes and, in addition, for so long as any Notes are listed on a stock exchange and the rules of that stock exchange (or any other relevant authority) so require, such notice will be published in a manner specified by those rules. Any such notice shall be deemed to have been given to the holders of the Notes one day after the day on which the said notice was given to Euroclear and/or Clearstream and/or DTC.

Notices to be given by any Noteholder shall be in writing and given by lodging the same, together (in the case of any Note in definitive form) with the relative Note or Notes, with the Agent (in the case of Bearer Notes) or the Registrar (in the case of Registered Notes). While any of the Notes are represented by a Global Note, such notice may be given by any holder of a Note to the Agent or the Registrar through Euroclear and/or Clearstream and/or DTC, as the case may be, in such manner as the Agent, the Registrar and Euroclear and/or Clearstream and/or DTC, as the case may be, may approve for this purpose.

17. MEETINGS OF NOTEHOLDERS AND MODIFICATION

The Agency Agreement contains provisions for convening meetings of the Noteholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution of a modification of the Notes, the Receipts, the Coupons or any of the provisions of the Agency Agreement. Such a meeting may be convened by the Issuer or Noteholders holding not less than 10% in nominal amount of the Notes for the time being remaining outstanding.

The quorum at any such meeting for passing an Extraordinary Resolution is one or more persons holding or representing not less than 50% in nominal amount of the Notes for the time being outstanding, or at any adjourned meeting one or more persons being or representing Noteholders whatever the nominal amount of the Notes so held or represented, except that at any meeting the business of which includes the modification of certain provisions of the Notes, the Receipts or the Coupons (including modifying the date of maturity of the Notes or any date for payment of interest thereon, reducing or cancelling the amount of principal or the rate of interest payable in respect of the Notes or altering the currency of payment of the Notes, the Receipts or the Coupons), the quorum shall be one or more persons holding or representing not less than two-thirds in nominal amount of the Notes for the time being outstanding, or at any adjourned such meeting one or more persons holding or representing not less than one-third in nominal amount of the Notes for the time being outstanding. An Extraordinary Resolution passed at any meeting of the Noteholders shall be binding on all the Noteholders, whether or not they are present at the meeting, and on all Receiptholders and Couponholders.

The Agent and the Issuer may agree, without the consent of the Noteholders, Receiptholders or Couponholders, to:

- (i) any modification (except as mentioned above) of the Notes, the Receipts, the Coupons or the Agency Agreement which is not prejudicial to the interests of the Noteholders; or
- (ii) any modification of the Notes, the Receipts, the Coupons or the Agency Agreement which is of a formal, minor or technical nature or is made to correct a manifest error or to comply with mandatory provisions of the law.

Any such modification shall be binding on the Noteholders, the Receiptholders and the Couponholders and any such modification shall be notified to the Noteholders in accordance with Condition 16 (*Notices*) as soon as practicable thereafter.

The Agency Agreement also provides that quorum and voting requirements for certain resolutions which may affect the Notes of more than one Series shall be deemed to require separate meetings for the holders of each Series so affected.

18. FURTHER ISSUES

The Issuer may from time to time without the consent of the Noteholders, the Receiptholders or the Couponholders, create and issue further notes with the same terms and conditions as the Notes in all respects except for the amount and date of the first payment of interest thereon so that such further issue shall be consolidated and form a single Series with the outstanding Notes; **provided that** further Notes in registered form must be issued with no more than *de minimis* original issue discount for U.S. federal income tax purposes, constitute a "qualified reopening" for U.S. federal income tax purposes or otherwise be treated as part of the same "issue" of debt instruments as the outstanding Notes; and **provided further that**, in the case of Bearer Notes initially represented by interests in a Temporary Global Note exchangeable for interests in a Permanent Global Note or definitive Bearer Notes, such consolidation will occur only upon certification of non-U.S. beneficial ownership and exchange of interests in the Temporary Global Note for interests in the Permanent Global Note or definitive Bearer Notes.

19. GOVERNING LAW AND SUBMISSION TO JURISDICTION

(a) Governing Law

The Agency Agreement, the Notes, the Receipts and the Coupons are governed by, and shall be construed in accordance with, the law of the State of New York.

(b) Submission to Jurisdiction

The Issuer irrevocably submits to the non-exclusive jurisdiction of any federal or state court located in the Borough of Manhattan, The City of New York, United States of America ("New York Courts"), in any suit, action or proceeding brought by any Noteholder, Receiptholder or Couponholder arising out of or based upon the Notes, the Receipts/or the Coupons, and irrevocably agrees that all claims in respect of any such suit, action or proceeding may be determined in any such court. The Issuer irrevocably waives, to the fullest extent permitted by applicable law, any objection

it may have to the laying of venue in any such court and any claim that any such suit, action or proceeding brought in such a court has been brought in an inconvenient forum. The Issuer hereby appoints Cogency Global Inc., 122 East 42nd Street, 18th Floor, New York, New York 10168, United States of America, as its authorized agent (the "Authorized Agent", which expression shall include any replacement authorized agent) upon whom process may be served in any such suit or proceeding set forth herein, it being understood that the designation and appointment of the Authorized Agent as such authorized agent shall become effective immediately without any further action on the part of the Issuer; provided that if for any reason the Authorized Agent named above ceases to act as Authorized Agent hereunder for the Issuer, the Issuer will appoint another person acceptable to the Dealers in the Borough of Manhattan, The City of New York as Authorized Agent. The Issuer agrees to take any and all action as may be necessary, including the filing of any and all documents that may be necessary, to maintain such designation and appointment of the authorized agent in full force and effect. If for any reason the appointment of the Authorized Agent shall cease to be in force, the Issuer shall forthwith appoint a new agent to be the Authorized Agent and shall deliver to the Dealers and the Arranger a copy of the new Authorized Agent's acceptance for that appointment within 30 days. Service of process upon the Authorized Agent shall be deemed, in every respect, effective service of process upon the Issuer. The parties hereto each hereby waive any right to trial by jury in any action, proceeding or counterclaim arising out of or relating to the Notes, the Receipts, the Talons and/or Coupons.

(c) Other Documents

The Issuer has in the Agency Agreement submitted to the jurisdiction of the New York Courts and appointed an agent for service of process in terms substantially similar to those set out in this Condition 19.

20. CURRENCY INDEMNITY

If, under any applicable law and whether pursuant to a judgment being made or registered against the Issuer or in the liquidation, insolvency or analogous process of the Issuer or for any other reason, any payment under or in connection with the Agency Agreement, the Notes, the Receipts or the Coupons, as the case may be, is made or fails to be satisfied in a currency (the "other currency") other than that in which the relevant payment is expressed to be due (the "required currency") thereunder, then, to the extent that the payment (when converted into the required currency at the rate of exchange (as defined below) on the date of payment or, if it is not practicable for any Noteholder, Receiptholder or Couponholder, as the case may be, to purchase the required currency with the other currency on the date of payment, at the rate of exchange as soon thereafter as it is practicable for it to do so or, in the case of a liquidation, insolvency or analogous process of the Issuer, at the rate of exchange on the latest date permitted by applicable law for the determination of liabilities in such liquidation, insolvency or analogous process) actually received by any Noteholder, Receiptholder or Couponholder, as the case may be, falls short of the amount due under the terms of the Agency Agreement, the Notes, the Receipts or the Coupons, as the case may be, the Issuer shall, as a separate and independent obligation, indemnify and hold harmless such Noteholder, Receiptholder or Couponholder against the amount of such shortfall.

"Rate of exchange" means the rate at which the relevant Noteholder, Receiptholder or Couponholder, as the case may be, is able on the relevant date in London to purchase the required currency with the other currency and shall take into account any premium and other costs of exchange.

21. WAIVER OF IMMUNITY

To the extent that the Issuer has or hereafter may acquire any immunity (sovereign or otherwise) from any legal action, suit or proceeding, from jurisdiction of any court or from set-off or any legal process (whether service or notice, attachment in aid or otherwise) with respect to itself or any of its property, the Issuer hereby irrevocably waives and agrees not to plead or claim such immunity in respect of its obligations under the Agency Agreement, the Notes, the Receipts or the Coupons, as the case may be.

USE OF PROCEEDS

The net proceeds from each issue of Notes will be applied by the Company for its general corporate purposes or such other purposes as may be specified in the applicable Pricing Supplement.

EXCHANGE RATES

The table below sets forth the Market Average Exchange Rate for the last day of, and the average for, the periods indicated. No representation is made that the Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all.

| Period | At End of Period | Average Rate ⁽¹⁾ | High | Low |
|------------------------|---------------------|--------------------------------|---------|---------|
| | (Won per US\$1.00) | | | |
| 2017 | 1,071.4 | 1,130.8 | 1,208.5 | 1,071.4 |
| 2018 | 1,118.1 | 1,100.3 | 1,142.5 | 1,057.6 |
| 2019 | 1,157.8 | 1,165.7 | 1,218.9 | 1,111.6 |
| 2020 | 1,088.0 | 1,180.1 | 1,280.1 | 1,082.7 |
| 2021 | 1,185.5 | 1,144.4 | 1,199.1 | 1,083.1 |
| 2022 (through July 14) | 1,305.9 | 1,238.2 | 1,312.9 | 1,185.5 |
| January | 1,202.4 | 1,194.0 | 1,202.4 | 1,185.5 |
| February | 1,202.7 | 1,198.3 | 1,205.7 | 1,192.1 |
| March | 1,210.8 | 1,221.0 | 1,241.7 | 1,203.6 |
| April | 1,269.4 | 1,232.3 | 1,269.4 | 1,210.7 |
| May | 1,245.8 | 1,269.9 | 1,286.4 | 1,245.8 |
| June | 1,292.9 | 1,277.4 | 1,300.7 | 1,238.4 |
| July (through July 14) | 1,305.9 | 1,301.9 | 1,312.9 | 1,294.2 |

Source: Seoul Money Brokerage Services, Ltd.

Note:

⁽¹⁾ The average rate for each year is calculated as the average of the Market Average Exchange Rates on each business day during the relevant year (or portion thereof). The average rate for a month is calculated as the average of the Market Average Exchange Rates on each business day during the relevant month (or portion thereof).

RISK FACTORS

Prospective purchasers of the Notes should carefully consider all of the information contained in this Offering Circular, including our consolidated financial statements and related notes, in addition to the following risk factors. In particular, investors should pay attention to the fact that we are subject to the legal and regulatory environment of Korea, which in many respects differs from that which prevails in other countries.

RISKS RELATING TO OUR BUSINESS

The Government's plan and policy for the electricity industry in Korea may have a material adverse effect on us and the price of the Notes.

Since our establishment, the Government has introduced successive policy initiatives to foster efficiency in the Korean electric power industry and has adopted policy measures that have substantially modified our business and operations. However, these policy initiatives have not always been fully implemented as originally planned and in some cases have been amended or replaced by new initiatives, among others, due to economic or policy considerations or a change in administration. There can be no assurance that the initiatives and plans announced by the Government will be implemented as planned or at all, or that the implementation of any such plans will not have a negative effect on our business, results of operations or financial condition.

In June 2019, the Government announced the Third Basic National Energy Plan, which is a comprehensive plan that covers the entire spectrum of energy industries in Korea from 2019 to 2040. The Third Basic National Energy Plan focuses on the following five key tasks: (i) innovating the structure of energy consumption by strengthening the energy demand management of various sectors such as industrial, building and transportation, and streamlining pricing systems with the aim of improving the efficiency of energy consumption by 38% by 2040 and reducing energy demand by 18.6% by 2040, (ii) transitioning to a clean and safe mix of energy through increasing the share of renewable energy by 30~35% while reducing the share of nuclear and coal energy, (iii) expanding decentralized and participatory energy systems by increasing the share of distributed energy resources (such as renewable energy and fuel cells) in areas with demand and strengthening regional management by expanding the roles and responsibilities of local governments, (iv) bolstering the global competitiveness of Korea's energy industry by fostering future energy industries such as renewable energy, hydrogen and efficiency-enhancing industries, as well as through adding value to existing traditional energy industries, and (v) laying the foundation for conversion to clean and safe energy by improving the electricity, gas and heat market systems and building an energy big data platform to promote the creation of new industries.

In December 2020, the Government announced the Ninth Basic Plan of Long-Term Electricity Supply and Demand (the "Ninth Basic Plan") for the period from 2020 to 2034, which focuses on, among other things, (i) changing energy policy to a safe and clean energy mix by reducing coal and nuclear power generation and increasing renewable energy, (ii) preparing implementation measures for further reduction of greenhouse gas, (iii) accelerating investments in renewable energy and expanding infrastructure for the transition to a low-carbon economy/society and (iv) improving the electricity market system to promote fair competition and lay the foundation for expansion of eco-friendly energy. Furthermore, the Ninth Basic Plan includes the following implementation measures: (i) six coal-fired generation plants will be retired by 2022, (ii) 24 other coal-fired

generation plants will be retired and converted to LNG fuel use by 2034, (iii) domestic renewable energy generation capacity will be expanded to 77.8 gigawatts by 2034 to meet the target set in the Third Basic National Energy Plan and (iv) the extension of life of eleven nuclear generation units will not be granted and such units will be retired by 2034.

Pursuant to such Government plans, in June 2018, we announced our decision to shut down Wolsong unit #1 and to abandon our plans to construct four new nuclear units (Daejin units #1 and 2 and Cheonji units #1 and 2). Our plans to construct two new nuclear units, Shin-Hanul units #3 and 4 for which construction permits have already been received, have been suspended until further notice from the Government. In December 2019, we permanently shut down Wolsong unit #1.

The early shutdown of Wolsong unit #1, the preclusion of extending the operating lives of eleven nuclear generation units and the abandonment of plans to construct the four new nuclear generation units have resulted in lower generating capacity. Furthermore, we have not been able to realize the benefits of the capital improvements we have made to Wolsong unit #1 in preparation for extended operating life and the preparations we have made to construct the four new nuclear generation units. While shutting down and eventually decommissioning a nuclear unit is a process that can take several years, and further analysis will be required in order to gauge the actual financial impact we would face from a decommissioning, we have recognized significant impairment losses related to our decision to shut down Wolsong unit #1 and abandon plans to construct the four new nuclear generation units in our consolidated financial statements for 2018. In 2018, we recorded impairment loss on property, plant and equipment of Won 570 billion for Wolsong unit #1 and Won 39 billion for Cheonji units #1 and 2 and Daejin units #1 and 2. In addition, we have suspended construction of Shin-Hanul units #3 and 4 and we recorded impairment loss of Won 133 billion in 2018 and Won 2 billion in 2019 related to such units. In addition, our provision for decommissioning liabilities increased from Won 16,240 billion as of December 31, 2018 to Won 19,097 billion as of December 31, 2019. While the Government has stated its intention to compensate us for legitimate and reasonable losses in connection with the implementation of the Roadmap, there is no assurance that any compensation provided will be sufficient to fully offset our losses.

However, with the inauguration of the new administration, major changes in energy policy are expected which will affect our nuclear power plant operations.

In particular, following his election in May 2022, President Seok-Yeol Yoon, in his 110 National Agenda Items and Implementation Plan, announced that the energy mix will be adjusted to a reasonable and feasible level in consideration of the harmony between nuclear power plants and renewable energy in order to achieve the Nationally Determined Contribution ("NDC") of reducing greenhouse gas emissions. Renewable energy will continue to be supplied based on residential receptivity while the proportion of renewable energy (such as wind and solar power) will be adjusted to a reasonable level.

Furthermore, at the 30th Cabinet meeting held on July 5, 2022, the Government presented new policy goals and directions through its "New Government's Energy Policy Direction," including on climate change, energy security and new energy industries. While the "New Government's Energy Policy Direction" does not replace the existing Government policies in all aspects, it replaces or modifies, in part, the previous administration's energy policy that specified phased reduction of nuclear power plants, including the Third Basic National Energy Plan and Ninth Basic Plan. The "New Government's Energy Policy Direction" states, among others, (1) to resume construction of

Shin-Hanul units #3 and 4 with the goal of expanding the proportion of nuclear energy to a minimum of 30% by 2030 and (2) to promote continued operations of the nuclear power plants whose operation license expires in the future (including for ten of the aging nuclear power plants mentioned in the Ninth Basic Plan) and to change the application period for license renewal from two to five years prior to the expiration of the operation license to five to ten years prior to the expiration of such license. The Government is also planning to enact a special act for the disposal of high-level radioactive waste treatment, as well as devise a plan to manage high-level radioactive waste treatment, including through the establishment of a dedicated organization under the Prime Minister. The specifics of the "New Government's Energy Policy Direction" are to be discussed in the Tenth Basic Plan of Long-Term Electricity Supply and Demand (the "Tenth Basic Plan"), which is expected to be established by the end of 2022.

As a result of the above, our results of operation, financial condition and cash flow have been and in the future could be adversely affected. Furthermore, since it is impossible to predict how policies, such as increasing the proportion of nuclear energy, will be realized or changed in the future, there can be no assurance that the initiatives and plans announced by the Government will not have a material adverse effect on our business, results of operations or financial condition or will not lead to a decline in the market value of the Notes.

Inherent in the operation of nuclear power generation facilities are numerous hazards and risks, any of which could result in a material loss of revenues or increased expenses.

The operation of nuclear power plants is subject to certain hazards, including but not limited to:

- leaks, ruptures and discharge of toxic and radioactive substances and materials whether as a result of human error or otherwise;
- extreme weather or environmental conditions, such as hurricanes, tropical storms, rising water and earthquakes;
- explosions, fires, accidents, mechanical malfunctions, faulty measurement and other operating errors; and
- acts of war, terrorism or vandalism.

These hazards can cause personal injuries or loss of life, severe damage to or destruction of property and natural resources, pollution or other environmental damage, clean-up responsibilities, regulatory investigation and penalties and suspension of operations.

From time to time, our nuclear power generation units may experience unexpected shutdowns or reduced output. For example, in September 2020, six nuclear generation units in Kori and Wolsong were temporarily shut down for approximately 32 days for the Kori units and 13 days for the Wolsong units due to the breakdown of certain electric facilities of the units as a result of typhoons Maysak and Haishen. In March 2021, we announced that we would be further delaying construction of Shin-Kori units #5 and 6 by one year and nine months respectively, in order to comply with the safety measures required by the comprehensive measures for the prevention of earthquake disasters which were announced in December 2016 following a series of earthquakes in Gyeongju City earlier that year and were further amended in May 2018. In March 2021 and April 2021, our Hanul units #1 and

2 were temporarily shut down for approximately 8 days and 9 days, respectively, due to the inflow of salp into circulating pumps. The breakdown, failure, reduced output or suspension of operation of a nuclear power generation unit could result in a material loss of revenues and/or additional repair and maintenance costs, greater risk of litigation and increased social and political hostility to the use of nuclear power, which could have a material adverse impact on our reputation, business and results of operation and could lead to a decline in the market value of the Notes.

In response to the damage to the nuclear facilities (including nuclear meltdowns) in Japan as a result of the tsunami and earthquake in March 2011, the Government announced plans to further enhance the safety and security of nuclear power facilities, including by establishing the Nuclear Safety and Security Commission ("NSSC") in July 2011 for neutral and independent safety appraisals, subjecting nuclear power plants to additional safety inspections by governmental authorities and civic groups and requiring us to prepare a comprehensive safety improvement plan. As a result of the foregoing, as well as a generally higher level of public and regulatory scrutiny of nuclear power following the nuclear incident in Japan, we implemented a significant number of measures to improve the safety and efficiency of our generation facilities. In addition, we have established additional comprehensive safety improvement plans through continuous safety evaluations conducted through stress tests and accident management programs. Following the earthquakes in Gyeongju city in September 2016, we have engaged in more frequent safety and maintenance inspections of our nuclear power generation units during which inspections such units are shut down or operated at a reduced output resulting in depressed capacity factors. There is no assurance that we would not be required to adopt and implement additional safety measures in the future, which may be costly and may depress our capacity factor and could have a material adverse impact on our business, financial conditions and results of operation.

In addition, in December 2014, we became subject to a cyber terror incident. According to the preliminary findings of the Prosecutor's Office announced in March 2015, hackers suspected to be affiliated with North Korean authorities stole and distributed a mock blueprint for a hypothetical nuclear unit that had been devised for educational purposes, hacked into the computer network of our employees and threatened to shut down certain of our nuclear plants. The hacking incident did not jeopardize our nuclear operation in any material respect and none of the stolen information was material to our nuclear operation or the national nuclear policy. In response to such incident, we and our subsidiaries have further bolstered anti-hacking and other preventive and remedial measures in relation to potential cyber terror. However, there is no assurance that a similar or more serious hacking or other forms of cyber terror will not happen with respect to us, which could have a material adverse impact on our business, financial conditions and results of operation.

Our risk management policies and procedures relating to nuclear safety may not be fully effective at all times.

Although we devote significant resources to developing and improving our risk management policies and procedures relating to nuclear safety and expect to continue to do so in the future, our risk management practices may not be fully effective at all times in eliminating or mitigating risk exposures that are unidentified or unanticipated, such as employee misconduct. For example, in May 2017, the MOTIE assessed a warning against us and recommended that we reprimand a number of our employees for failing to properly oversee the installation of Passive Auto Catalytic Recombiner ("PAR") safety systems to our nuclear generation units. PAR safety systems remove hydrogen gas generated from a nuclear accident, which if left to build up, can result in an explosion. Between 2011

and 2015, we installed PAR units to all our nuclear generation units as one of the safety measures we implemented in response to the Fukushima Dai-ichi nuclear disaster in Japan in March 2011. Of the more than 600 PAR units that were installed, the MOTIE reported in its audit report that the anchor bolts of 38 units were not properly secured and covered on the wall of the containment building, resulting in small holes in the wall. Since the release of the MOTIE audit report, we have reinstalled the affected units, conducted our own internal audit and taken appropriate actions against the responsible contractors and employees. In addition, in February 2022, we were assessed a fine of Won 32.0 billion by the NSSC in connection with the discovery of substandard steam relief valves at 16 of our nuclear units.

We believe we are in compliance in all material respects with internal compliance policies and procedures and all other additional safety measures initiated internally or required by regulatory and governmental agencies. However, we cannot assure you that, despite all precautionary and reform measures undertaken by us, these measures will prove to be fully effective at all times against all the risks we face or that an incident that could cause harm to our reputation and operation will not happen in the future, including due to factors beyond our control.

Opposition to the construction and operation of nuclear power generation units may have an adverse effect on us.

From time to time, we encounter social and political opposition to the construction and operation of our nuclear power generation units, and protracted community opposition to the construction and operation of our nuclear power generation units takes time and resources to resolve. For example, in May 2019, a group of 729 Korean nationals brought a lawsuit against the NSSC to suspend the operations of Shin-Kori unit #4. We filed to join the lawsuit as a third party stakeholder in July 2019. In February 2021, the Seoul Administrative Court dismissed the plaintiffs' claim. The plaintiffs subsequently appealed in March 2021 and the case is currently pending at the Seoul High Court. If the courts were to ultimately rule against the operation of such nuclear power generation unit, we will experience a loss of revenues, which could adversely affect our results of operation and financial condition.

We also face heightened public scrutiny into nuclear safety, including in connection with past quality assurance issues involving certain of our nuclear power generation units. Accordingly, we undergo extensive safety review process, including by the International Atomic Energy Agency (the "IAEA") and the Korea Institute of Nuclear Safety (the "KINS"), and undertake various infrastructure and other community improvement projects, such as building schools and parks and providing financial support, for the surrounding communities, in each case, at significant costs.

Although the Government and we have undertaken and will continue to undertake various community programs to address concerns of residents of areas near our nuclear units, continued community opposition to the construction, operation and extension of nuclear power generation units could result in delayed construction, relocation of planned nuclear power generation units, or early shut-downs, all of which could have a material adverse impact on our business and results of operation and could lead to a decline in the market value of the Notes.

Constructing and operating our generation units requires substantial capital expenditures which will likely require additional debt incurrence in the future.

While we have abandoned plans to construct four new nuclear power generation units and suspended plans to construct two new nuclear power generation units in accordance with the Eighth and Ninth Basic Plans, we still require substantial capital expenditures to complete the construction of the four nuclear power generation units already underway as well as renewable generation units, such as solar and wind power units. In 2019, 2020, 2021 and for the three months ended March 31, 2022, we spent Won 2,649 billion, Won 2,596 billion, Won 2,003 billion and Won 596 billion, respectively, on capital expenditures, which represent the amount of cash used in the acquisitions of land, buildings, structures, machinery, vehicles, fixtures and furniture and tools and intangible assets and acquisition of construction-in-progress in our consolidated statements of cash flows, and we have budgeted Won 2,653 billion, Won 2,332 billion and Won 2,244 billion for capital expenditures (including capitalized interest) for 2022, 2023 and 2024, respectively.

The budgeted amounts may vary from the actual amounts of our capital expenditures for a variety of reasons, including changes in the number of units to be constructed and the timing of such construction, changes in rates of exchange between the Won and foreign currencies, changes in interest rates, changes in the Government's policy objectives and other factors. For example, in June 2019, the Government announced through the Third Basic National Energy Plan, its plans to increase the portion of renewable energy generated in Korea to 30~35% of the total energy generated in Korea by 2040, which calls for the Generation Subsidiaries, including us, to make significant investments in the construction and operation of power plants fueled by renewable energy. In addition, President Seok-Yeol Yoon, in his 110 National Agenda Items and Implementation Plan, announced that the energy mix will be adjusted to a reasonable and feasible level in consideration of the harmony between nuclear power plants and renewable energy in order to achieve the NDC of reducing greenhouse gas emissions. Renewable energy will continue to be supplied based on residential receptivity while the proportion of renewable energy (such as wind and solar power) will be adjusted to a reasonable level. In addition, according to the "New Government's Energy Policy Direction," the Government plans to expand the proportion of nuclear energy to a minimum of 30% by 2030 and adjust the renewable energy supply target to reasonable levels.

In response to such policy objectives, we are developing a medium to long-term financial management plan that reflects the new Government's policies (including the resumption of construction of Shin-Hanul units #3 and 4 and the possible extension of operations of nuclear power plants whose operation license periods are scheduled to expire in the near future) and the extent to which we invest in the construction and operation of power plants fueled by renewable energy are subject to change based on such policy changes. Although we plan to fund a substantial portion of our capital expenditures with net cash from operating activities, no assurance can be given that we will be able to do so. We expect that a significant portion of our future capital expenditures will need to be financed through foreign currency borrowings in the international capital markets, as well as borrowings of Korean Won in the domestic capital market, which may lead to an increase in our overall debt levels as well as our debt ratio. It is also possible that the required financing may not be available to us or that the cost at which such financing may be available may not be acceptable to us. In addition to funding requirements relating to our capital investment program, payments of principal and interest on indebtedness will require considerable capital resources. See "Management's Discussion and Analysis of Financial Conditions and Results of Operations – Capital Requirements." If we are unable to obtain debt financing at acceptable rates on a timely basis, or at all, we may be unable to meet our funding requirements or debt repayment obligations, including those arising in respect of the Notes, which could have a material adverse impact on our business and results of operations and could lead to a decline in the market value of the Notes.

In recent years, in light of the previous policy guidelines of the Government for public enterprises (including us) in general to reduce their respective overall debt levels, we implemented various measures to reduce our debt levels, including by way of disposing of equity interests in unprofitable subsidiaries and other non-core assets. If the Government reprises such policy guidelines in the future, we cannot provide assurance that we will be able to successfully reduce our debt to a level contemplated by the Government or to a level that would be optimal for our capital structure. If we fail to reduce our debt to a level contemplated by the Government or the measures taken by us to reduce debt levels have unintended adverse consequences, such developments may have an adverse effect on our business, results of operation and financial condition.

We are dependent on fuel imported from overseas suppliers and under contracts with limited quantity and duration, and market and political circumstances could lead to a rise in fuel costs that adversely affect our results of operations.

Nuclear fuel costs represented 13.5%, 12.9% 13.8% and 11.6% of our sales in 2019, 2020, 2021 and the three months ended March 31, 2022, respectively. Substantially all of the nuclear fuel we use comes from sources outside of Korea at prices determined in part by prevailing market prices. In addition, we purchase a significant portion of our fuel requirements under contracts with limited quantity and duration. See "Business – Fuel." Our average fuel cost per kWh of electricity sold decreased by 2.5% from Won 7.9 in 2019 to Won 7.7 in 2020 but increased by 0.8% to Won 7.8 in 2021. We expect nuclear fuel costs to be at similar levels through at least 2022.

Under the current electricity pricing system, called the cost-based pool system, which protects the generation companies from significant fuel cost fluctuations by purchasing electricity on a cost-plus basis while providing generation companies with incentives to maintain lower costs, our exposure to fuel price fluctuations is limited. For a more detailed description of the tariff setting mechanism, see "The Korea Electricity Industry – Restructuring of the Electricity Industry in Korea." However, as the purchase price at which KEPCO purchases electricity from us is adjusted periodically in consideration of, among other factors, changes in fuel costs, our profitability may be adversely affected if fuel prices were to rise steeply in a short period of time, including as a result of depreciation of the Won against currencies in which we purchase our nuclear fuels.

Furthermore, any significant interruption or delay in the supply of nuclear fuel from any of our suppliers could cause us to purchase fuel on the spot market at prices higher than contracted. For example, the political situation in Russia and the Ukraine region remains unstable, and any future U.S. or European Union ("EU") sanctions against Russian entities could potentially disrupt our long-term supply relationship with our suppliers from Russia. See "— We engage in certain international activities and dealings, including dealings relating to Russia, that may be subject to or otherwise affected by economic sanctions administered and enforced by various jurisdictions. These economic sanctions may limit what dealings we can engage in, including dealings related to our supply of uranium, and may have other adverse effects on our business and reputation."

Accordingly, our operating profit and profit for the period may be negatively affected from period to period, and sudden rises in fuel costs could have a material adverse impact on our business and results of operation and could lead to a decline in the market value of the Notes.

We engage in certain international activities and dealings, including dealings relating to Russia, that may be subject to or otherwise affected by economic sanctions administered and enforced by various jurisdictions. These economic sanctions may limit what dealings we can engage in, including dealings related to our supply of uranium and nuclear fuel, and may have other adverse effects on our business and reputation.

The U.S. government, including the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC"), administers and enforces certain laws and regulations, or U.S. direct sanctions, that impose prohibitions or restrictions on dealings with or related to certain designated countries and territories, governments, entities and individuals, and entities majority-owned by such parties, that take place within U.S. jurisdiction. U.S. direct sanctions include territorial sanctions targeting specific countries and jurisdictions; blocking sanctions, which generally prohibit U.S. persons from engaging in transactions or other dealings with or involving blocked persons or the property or interests in property of blocked person; and non-blocking prohibitions and restrictions that target specific kinds of dealings, including, for example, dealings in debt or equity issued by certain designated parties issued after certain dates. For example, as a result of the ongoing conflict involving Ukraine and Russia, the United States, along with the European Union, the United Kingdom, Korea and other major jurisdictions, has adopted new, additional and/or enhanced economic and trade sanctions and restrictions on Russia. Although U.S. direct sanctions generally are not applicable to non-U.S. persons (although certain U.S. direct sanctions programs do apply to non-U.S. subsidiaries of U.S. companies), non-U.S. persons can be held liable for violations of U.S. direct sanctions to the extent they participate in prohibited transactions within U.S. jurisdiction (including as a result of, for example, involving U.S. goods, services or technology, U.S. persons, or U.S. dollar payments that are cleared through the U.S. financial system). Violations of U.S. direct sanctions can result in substantial civil or criminal penalties.

In addition to U.S. direct sanctions, the United States maintains numerous secondary sanctions programs that give the U.S. government authority to impose a variety of sanctions on foreign parties that engage in certain dealings relating to Russia, as well as other U.S. sanctions targets/targeted activities regardless of whether such dealings are within U.S. jurisdiction. The imposition of U.S. secondary sanctions is not automatic, and instead requires specific action by the U.S. government. In practice, U.S. secondary sanctions are highly discretionary and may be strongly influenced by political considerations, and accordingly, are difficult to predict. Non-U.S. parties that engage in sanctionable activities are potentially subject to a number of sanctions, including, among other things, the blocking of any property within U.S. jurisdiction (including the possession or control of U.S. persons) in which the sanctioned party has an interest, which would include a prohibition on transactions or dealings within U.S. jurisdiction involving the securities of the sanctioned party, or, in the case of financial institutions, being prohibited or restricted from maintaining correspondent accounts in the United States. Our business and reputation could be adversely affected, for example, if the U.S. government were to determine that its activities, or the activities of any of its counterparties, involve sanctionable activity under U.S. secondary sanctions.

In addition, the European Union, the United Kingdom, Korea and other major jurisdictions administer and enforce their own sanctions programs that target certain countries and territories, governments, entities and individuals in varying respects that we or certain of our dealings may be subject to.

From time to time, we have engaged in business transactions related to Russia, mainly purchasing uranium and nuclear fuel sourced from Russia through global, including Russian, suppliers. While these dealings have historically included transactions conducted in U.S. dollars through U.S. financial institutions, we confirm that these transactions have been conducted at all times in full compliance with all sanctions laws. We are continuing to evaluate our business activities in, with, or involving Russia in light of recent developments and will only engage in additional transactions in, with, or involving Russia that are fully compliant with applicable sanctions. Although we believe that we are in compliance with all applicable sanctions, and intend to use our reasonable best efforts to maintain such compliance, we cannot guarantee that we will be in compliance in the future, particularly since the scope of such sanctions may be uncertain and such sanctions are subject to frequent and unpredictable changes. Additionally, changes to applicable sanctions may have a negative impact on our stable procurement of uranium or nuclear fuel or otherwise on our business or reputation. While we believe that adequate alternative supplies of uranium and nuclear fuel are currently available to us, if we cannot obtain adequate uranium or nuclear fuel volumes of the type and quality we require or if we are able to obtain such types and volumes only at unfavorable prices as a result of applicable sanctions, our business and results of operations could be materially and adversely affected.

Environmental regulations may limit our operations.

We are required to comply with numerous laws and regulations relating to the protection of the environment and land use in Korea. See "Business – Environment and Community Programs." These laws and regulations are constantly changing. While we believe we are in compliance with applicable environmental laws and regulations in all material respects and that we have obtained all material environmental approvals currently required to own and operate our facilities, we may incur significant costs as a result of these requirements.

Starting January 2012, the Government has enforced the Renewable Portfolio Standard ("RPS"), under which each generation company, including us, is required to supply 25% of the total energy generated from such generation company in the form of renewable energy by 2026, with interim annual targets for the intervening years. Any generation company failing to do so in the prescribed timeline is subject to penalties. We have met the RPS targets of 6% for 2019, 7% for 2020 and 9% for 2021 and thus have not been levied any penalties for non-compliance with respect to such years. While we intend to continue increasing the proportion of generation capacity from renewable energy relative to generation capacity from non-renewable energy in order to meet our future RPS targets, there is no assurance that we will be able to do so quickly enough to meet such targets. Furthermore, while we expect that additional capital expenditures to increase generation capacity from renewable energy will be covered by a corresponding increase in electricity tariff levied on end-users, which will in turn increase the amount payable to us by KEPCO, there is no assurance that the Government will in fact raise the electricity tariff to a level sufficient to fully cover such additional capital expenditures or at all.

In addition, in 2015, the Government implemented a carbon emission trading system in order to reduce the emission of greenhouse gases in accordance with the Act on Allocation and Trading of Greenhouse Gas Emission Allowances. Under the Government's emission trading system, the Government allocates emission allowance units to companies in certain industries, including generation companies, and such companies are allowed to emit levels of greenhouse gases based on the number of allowance units that have been allocated to them. If a company emits more than the

amount of allowance units that have been allocated to it, the company must purchase additional allowance units on the emission trading system. In 2021, we emitted approximately 311 million tons of carbon equivalents, which was less than the amount of allowance units that had been allocated to us for that year. The Government is currently evaluating our 2021 carbon emission level. Adhering to such annual emission reduction targets is expected to result in our incurring significant compliance costs.

Furthermore, heightened global awareness and international and national commitments to reduce greenhouse gas emissions and counteract climate change (including increased activism by non-governmental and political organizations campaigning against fossil fuel extractions) may lead to increased costs for us. For example, the Glasgow Climate Pact which was agreed to at the 2021 United Nations Climate Change Conference ("COP26") in November 2021 includes commitments to phase down the use of unabated coal power and inefficient fossil fuel subsidies. The Government also announced its commitment to reduce greenhouse gas emissions by 40% by 2030 at COP26. In addition, in the "Framework Act on Carbon Neutrality and Green Growth for Responding to Climate Crisis," which was enacted in September 2021 and took effect in March 2022, the Government set the carbon neutrality target as a national vision by 2050 and specified the NDC of reducing greenhouse gas emissions by 40% by 2030. Carbon tax proposals in various jurisdictions as well as consumer preference changes in response to growing concerns of climate change could stimulate the emergence of alternative technologies and renewable energy availability, which may impact demand for electricity while increasing corporate expenses. Investor preferences and sentiments are also influenced by environmental, social and corporate governance considerations including climate change and the transition to a lower carbon economy. Changes in such preferences and sentiment, including increased scrutiny from market participants, environmental organizations or the press could have an adverse effect on our debt issuances, could affect our access to the capital markets and our attractiveness to potential investors, potentially resulting in reduced access to financing, increased financing costs, potential volatility in the price(s) of our outstanding debt securities as well as on our business plans and financial performance.

Failure to comply with environmental laws and regulations could have a material adverse effect on us, including closure of individual facilities not in compliance, as well as the imposition of civil or criminal liability and the imposition of liens, penalties or fines, and expenditures to bring facilities into compliance.

Unexpected events, including natural disasters and health epidemics, including the ongoing COVID-19 pandemic, may increase our cost of doing business or disrupt our operations.

The occurrence of one or more unexpected events, including fires, tornadoes, tsunamis, hurricanes, earthquakes, floods and other forms of severe weather, as well as severe health epidemics such as the current global pandemic of a novel strain of coronavirus (referred to as "COVID-19") in Korea or in other countries where we operate or where our suppliers or customers are located could adversely affect our operations and financial performance. In particular, COVID-19, which the World Health Organization declared as a pandemic in March 2020, has materially and adversely affected the global economy and financial markets in recent years. In addition, the normal operations of our existing facilities or the construction of our new facilities may be interrupted by accidents caused by operating hazards, power supply disruptions, equipment failures, natural disasters or other events or by disruptions due to health epidemics. Although we have not had any material instances of such interruptions in recent years, any interruption (partial or complete) to our operations at our facilities

as a result of any such accidents or otherwise, including a prolonged outbreak of COVID-19, could materially and adversely affect our business, financial condition and results of operations. There can be no assurance that such events will not occur in the future or that our production capacity will not be materially and adversely impacted as a result of such events.

Risks associated with a prolonged outbreak of COVID-19 or other types of widespread infectious diseases include:

- disruption in the normal operations of industrial and commercial customers, which in turn may decrease demand for electricity by such uses;
- an increase in unemployment among, and/or decrease in disposable income of, Korean consumers, which may decrease demand for electricity for residential use and the products and services of our industrial and commercial customers, thereby also leading to a decrease in demand for electricity for such uses;
- disruption in the supply of fuel and equipment from our suppliers;
- disruptions or delays in the construction of new generation facilities or maintenance and refurbishment of existing generation facilities;
- disruption in the normal operations of our business resulting from contraction of COVID-19 by our employees, which may necessitate our employees to be quarantined and/or our generation facilities or offices to be temporarily shut down;
- disruption resulting from the necessity for social distancing, including implementation of temporary adjustment of work arrangements requiring employees to work remotely, which may lead to a reduction in labor productivity;
- depreciation of the Won against major foreign currencies, which in turn may increase the cost of imported raw materials and equipment;
- unstable global and Korean financial markets, which may adversely affect our ability to meet our funding needs on a timely and cost-effective basis;
- impairments in the fair value of our investments in companies that may be adversely affected by the pandemic.

It is not possible to predict the duration or full magnitude of harm from COVID-19. In the event that COVID-19 or other types of widespread infectious diseases cannot be effectively and timely contained, our business, financial condition and results of operations may be materially adversely affected.

We are involved in numerous legal proceedings, the outcomes of which are uncertain, and resolutions adverse to us could negatively affect our cash flows, financial conditions or results of operations.

We are subject to numerous legal proceedings, many of which are related to the alleged impact of our nuclear power generation plants on the environment and health of the local population. We have incurred a significant amount of compensation cost, paid to the plaintiffs, including claims that were settled outside of court. As we construct additional generation plants and facilities, similar claims may be brought against us in the future, resulting in an increase of costs for compensating such claims.

In December 2020, the Daejeon District Prosecutor's Office commenced investigations on twelve individuals, including five of our employees for, among others, allegedly undervaluing the economic viability of Wolsong unit #1 which led to its early shutdown and in June 2021, the Daejeon District Prosecutor's Office indicted three individuals, including Jae Hoon Chung, our president and chief executive officer since April 2018. The trial is currently ongoing at the Daejeon District Court and the outcome of such trial remains uncertain. There can be no assurance that the outcome of the ongoing case will not have a material adverse effect on us, our reputation or our business.

In addition, in May 2019, a group of 729 Korean nationals brought a lawsuit against the NSSC to suspend the operations of Shin-Kori unit #4. We filed to join the lawsuit as a third party stakeholder in July 2019. In February 2021, the Seoul Administrative Court dismissed the plaintiffs' claim. The plaintiffs subsequently appealed in March 2021 and the case is currently pending at the Seoul High Court. If the courts were to ultimately rule against the operation of such nuclear power generation unit, we will experience a loss of revenues, which could adversely affect our results of operation and financial condition.

We plan to vigorously defend our position in such legal proceedings. However, the outcome of these lawsuits cannot presently be determined. We cannot presently assure you that there will not be further lawsuits in relation to the aforementioned matters or that the reserve amount that we have set aside will be sufficient to cover any compensation or damages arising from the present or future litigation. However, if the courts ultimately rule against us in these proceedings, such outcomes could have a material adverse impact on our business and results of operation and could lead to a decline in the market value of the Notes.

We may be exposed to potential claims made by current or former employees relating to unpaid wages and benefits and may also incur increased labor costs as a result of the expansion of the scope of applicable wages and benefits.

From time to time, we have been subject to various lawsuits involving our current and former employees seeking compensation for unpaid wages based on interpretations of relevant labor laws in Korea. For example, under the Labor Standards Act and Labor Severance Payment Security Act of Korea, the amount of compensation to which an employee is legally entitled, such as overtime allowance for night shifts or work performed outside of working hours as well as severance pay, is determined by the definition of "ordinary wage." After a decision by the Supreme Court of Korea in 2013 that provided a standard rule for determining what kinds of payments should be included as part of ordinary wage, we became subject to a number of lawsuits involving hundreds of our current and former employees for unpaid ordinary wages and related retirement benefits, which were decided in

the plaintiffs' favor. Pursuant to such decisions, we have made an aggregate payment of Won 84.5 billion to cover the amounts claimed by the plaintiffs, as well as to address substantially all of the other current and former employees that would have had similar claims. We have not set aside a reserve to cover any potential future payments in relation to the related lawsuits.

Separately from such prior cases involving ordinary wages, we are currently subject to one lawsuit which was filed in 2020 involving hundreds of our current and former employees seeking compensation for allegedly unpaid retirement benefits in relation to certain employee bonuses based on our institutional performance, based on a decision by the Supreme Court of Korea in 2018 that such bonuses should be a part of "average wage" that determines the applicable amount of retirement benefits. In June 2022, the trial court decided in the plaintiffs' favor and we plan to pay the aggregate claim amount of Won 16.5 billion plus accrued interest by this year. We have set aside a reserve of Won 11.7 billion to cover any potential future payments of additional retirement benefits in relation to the related lawsuit.

We cannot presently assure you that there will not be further lawsuits seeking additional wages or benefits based on current or future interpretations of applicable laws and regulations, or that the foregoing amount of provisions will be sufficient to cover payments of any additional wages, retirement benefits or other compensation and damages arising from the present or future litigation relating to claims for additional wages and benefits.

The value of our assets is subject to the nature and extent of decommissioning obligations applicable to us.

Our facilities and related properties may become subject to decommissioning obligations that may require material unplanned expenditures or otherwise materially affect the value of those assets. The closure or modification of any of our facilities could lead to substantial liabilities, including the cleanup of any contamination that occurred during the facility's operation. While we have a reserve for such decommissioning liabilities, the reserved amount may not be sufficient to cover the actual liabilities to be incurred in the future. Further, laws and regulations may change to require additional decommissioning obligations in the future, all of which will negatively impact the value of our assets. For further descriptions on decommissioning costs, see "Business – Nuclear Safety – Decommissioning."

Our insurance coverage may not be sufficient.

As of March 31, 2022, we maintain property damage insurance coverage that covers damage at any of our nuclear plants up to US\$1 billion per accident, which includes property insurance coverage for acts of terrorism up to US\$300 million and for breakdown of machinery up to US\$300 million. In addition, we have construction insurance for Shin-Kori units #5 and 6, and Shin-Hanul units #1 and 2. We also maintain nuclear liability insurance for personal injury and property damage caused to third parties for coverage of up to 300 million Special Drawing Rights ("SDRs"), which is equivalent to approximately US\$415 million as of March 31, 2022 (based on the exchange rate published by the International Monetary Fund), per accident per plant complex. We are also the beneficiary of a Government indemnity for damage claims of up to 300 million SDRs per accident for each of our six power plant complexes.

In addition, we maintain liability insurance related to our hydro and renewable plant facilities and nuclear fuel transportation, as well as directors' and officers' liability insurance. We are not responsible for the insurance coverage related to the construction of low and intermediate level integrated radioactive waste ("LILW") management facilities, which were transferred to the Korea Radioactive Waste Agency ("KORAD") in 2008. See "Business – Insurance."

While we believe that we carry insurance coverage meeting the expected standards in our industry, our insurance policy does not cover all of the assets that we own and operate and does not cover all types or amounts of loss which could arise in connection with the ownership and operation of our power plants. Furthermore, we currently do not maintain any business interruption insurance. As a result, significant accidents with damages over our "per occurrence" amount limitations that affect our assets, or other events for which we are not insured could have a material adverse impact on our business and results of operation and could lead to a decline in the market value of the Notes. See "Business – Insurance."

The movement of the Won against the U.S. Dollar and other currencies may have a material adverse effect.

The Won has fluctuated significantly against major currencies from time to time, including recently in light of the ongoing COVID-19 outbreak in Korea and globally, as well as Russia's invasion of Ukraine and the ensuing sanctions against Russia. See "Exchange Rates." Depreciation of the Won against the U.S. dollar and other foreign currencies typically results in a material increase in the cost of fuel and equipment purchased by us from overseas since the prices for substantially all of the fuel materials and a significant portion of the equipment we purchase are denominated in currencies other than the Won, generally in U.S. dollars. Changes in foreign exchange rates may also impact the cost of servicing our foreign currency-denominated debt. Since substantially all of our revenues are denominated in Won, we must generally obtain foreign currencies through foreign-currency denominated financings or from foreign currency exchange markets to make such purchases or service such debt. As a result, any significant depreciation of the Won against the U.S. dollar or other major foreign currencies may have a material adverse effect on our profitability and results of operations.

We may not be successful in implementing new business strategies.

In response to the Ninth Basic Plan and the "New Government's Energy Policy Direction," we plan to export our nuclear technology and services to overseas markets and invest in renewable energy generation capabilities, while managing our existing nuclear and renewable generation units, as part of our overall business strategy.

Due to their inherent uncertainties, such new and expanded strategic initiatives expose us to a number of risks and challenges, including the following:

- unanticipated capital expenditures and additional compliance requirements;
- less growth or profit than we currently anticipate with no assurance that such business activities will become profitable;
- failure to identify and enter into alternative business areas in a timely fashion, putting us at a disadvantage vis-a-vis competitors, particularly in overseas markets; and
- failure to hire or retain personnel who are able to supervise and conduct the relevant business activities.

As part of our business strategy, particularly in relation to overseas expansion and renewable energy development, we may also, on a selective basis, seek, evaluate or engage in potential acquisitions, mergers, combinations or other similar opportunities, including with existing or future joint ventures and strategic alliances. The prospects of these initiatives are uncertain, and there can be no assurance that we will be able to successfully implement or grow new ventures, and these ventures may prove more difficult or costly than we presently expect. In addition, we regularly review the profitability and growth potential of our businesses. As a result of such review, we may decide to exit from or reduce the resources that we allocate to new business ventures in the future. There is a risk that these ventures may not achieve profitability or operational efficiencies to the extent that we presently expect and we may fail to recover investments or expenditures we have already made. Any of the foregoing may have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

We plan to pursue international expansion opportunities that may subject us to different or greater risk from those associated with our domestic operations.

While our operations have, to date, been primarily based in Korea, we plan to expand, on a selective basis, our overseas operations in the future after engaging in rigorous feasibility studies and risk analyses. Overseas operations generally carry risks that are different from those we face in our domestic operations. These risks include:

- challenges of complying with multiple foreign laws and regulatory requirements, including tax laws and laws regulating our operations and investments;
- volatility of overseas economic conditions, including fluctuations in foreign currency exchange rates;
- difficulties in enforcing creditors' rights in foreign jurisdictions;
- risk of expropriation and exercise of sovereign immunity where the counterparty is a foreign government;
- difficulties in establishing, staffing and managing foreign operations;
- differing labor regulations;
- political and economic instability, natural calamities, war and terrorism;
- lack of familiarity with local markets and competitive conditions;
- changes in applicable laws and regulations in Korea that affect foreign operations; and
- obstacles to the repatriation of earnings and cash.

Any failure by us to recognize or respond to these differences may adversely affect the success of our operations in those markets, which in turn could materially and adversely affect our business and results of operations.

RISKS RELATING TO KOREA

If economic conditions in Korea deteriorate, our current business and future growth could be materially and adversely affected.

We are incorporated in Korea and a significant portion of our assets are located in Korea. As a result, we are subject to political, economic, legal and regulatory risks specific to Korea, and our performance and successful execution of our operational strategies are dependent on the overall Korean economy. The economic indicators in Korea in recent years have shown mixed signs of growth and uncertainty, and future growth of the Korean economy is subject to many factors beyond our control, including developments in the global economy.

In particular, the on-going COVID-19 pandemic, and more recently, Russia's invasion of Ukraine and the ensuing sanctions against Russia, have had an adverse impact on the Korean economy. Following the Government's announcement of the first confirmed case of COVID-19 in Korea in January 2020, it has implemented a number of measures in order to contain the spread of COVID-19, including a nationwide order for social distancing, implementation of strict self-isolation and quarantine measures for those who may be infected, and the temporary closure of all school and other public facilities. In addition, the Government has undertaken a series of actions to mitigate the adverse impact of the COVID-19 pandemic on the Korean economy, including (i) lowering of The Bank of Korea's policy rates, (ii) execution of a bilateral currency swap agreement with the U.S. Federal Reserve, (iii) provision of loans, guarantees and maturity extensions to eligible financial institutions, small- and medium business enterprises and self-employed business owners facing liquidity crises, and (iv) offering emergency relief payments for those impacted by the COVID-19 pandemic. However, the impact of the on-going COVID-19 pandemic, Russia's invasion of Ukraine and the ensuing sanctions against Russia to the Korean economy in 2022 and for the foreseeable future remains highly uncertain.

Other developments that could have an adverse impact on Korea's economy include:

- declines in consumer confidence and a slowdown in consumer spending, including as a result of the ongoing global COVID-19 pandemic;
- the occurrence of severe health epidemics in Korea and other parts of the world (such as the ongoing global COVID-19 pandemic);
- adverse conditions or uncertainty in the economies of countries and regions that are important export markets for Korea, such as China, the United States, Europe and Japan, or in emerging market economies in Asia or elsewhere, including as a result of the ongoing COVID-19 pandemic, deteriorating relations between the United States and China and increased uncertainties resulting from the UK's exit from the European Union;
- hostilities, political or social tensions involving Russia (including the invasion of Ukraine by Russia and the ensuing actions that the United States and other countries have taken or may take in the future) and the resulting adverse effects on the global supply of oil and other natural resources and the global financial markets;
- adverse changes or volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates, interest rates, inflation rates or stock markets;

- deterioration in economic or diplomatic relations between Korea and its trading partners
 or allies, including deterioration resulting from territorial or trade disputes or
 disagreements in foreign policy;
- increased sovereign default risk in select countries and the resulting adverse effects on the global financial markets;
- deterioration in the financial condition or performance of small- and medium-sized enterprises and other companies in Korea due to the Government's policies to increase minimum wages and limit working hours of employees;
- investigations of large Korean business groups and their senior management for possible misconduct:
- a continuing rise in the level of household debt and increasing delinquencies and credit defaults by retail and small- and medium-sized enterprise borrowers in Korea;
- the economic impact of any pending or future free trade agreements or of any changes to existing free trade agreements;
- social and labor unrest;
- substantial changes in the market prices of Korean real estate;
- rising inflationary pressures leading to increases in the costs of goods and services and a decrease in purchasing power;
- a substantial decrease in tax revenues and a substantial increase in the Government's expenditures for fiscal stimulus measures, unemployment compensation and other economic and social programs, in particular in light of the Government's efforts to provide emergency relief payments to households and emergency loans to corporations in need of funding in light of COVID-19, which, together, would likely lead to a national budget deficit as well as an increase in the Government's debt;
- financial problems or lack of progress in the restructuring of Korean business groups, other large troubled companies, their suppliers or the financial sector;
- increases in social expenditures to support an aging population in Korea or decreases in economic productivity due to the declining population size in Korea;
- political uncertainty or increasing strife among or within political parties in Korea;
- hostilities or political or social tensions involving oil producing countries in the Middle East (including a potential escalation of hostilities between the United States and Iran) and Northern Africa and any material disruption in the global supply of oil or sudden increase in the price of oil;
- natural or man-made disasters that have a significant adverse economic or other impact on Korea or its major trading partners; and
- an increase in the level of tensions or an outbreak of hostilities between North Korea and Korea or the United States.

Escalations in tensions with North Korea could have an adverse effect on us and the market value of the Notes.

Relations between Korea and North Korea have been tense throughout Korea's modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, there have been heightened security concerns in recent years stemming from North Korea's nuclear weapon and ballistic missile programs as well as its hostile military actions against Korea. Some of the significant incidents in recent years include the following:

- North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted six rounds of nuclear tests since October 2006, including claimed detonations of hydrogen bombs and warheads that can be mounted on ballistic missiles. Over the years, North Korea has continued to conduct a series of missile tests, including ballistic missiles launched from submarines and intercontinental ballistic missiles that it claims can reach the United States mainland. In response, the Government has repeatedly condemned the provocations and flagrant violations of relevant United Nations Security Council resolutions. In February 2016, the Government also closed the inter-Korea Gaesong Industrial Complex in response to North Korea's fourth nuclear test in January 2016. Internationally, the United Nations Security Council has passed a series of resolutions condemning North Korea's actions and significantly expanding the scope of sanctions applicable to North Korea, most recently in December 2017 in response to North Korea's intercontinental ballistic missile test in November 2017. Over the years, the United States and the European Union have also expanded their sanctions applicable to North Korea.
- In March 2010, a Korean naval vessel was destroyed by an underwater explosion, killing many of the crewmen on board. The Government formally accused North Korea of causing the sinking, while North Korea denied responsibility. Moreover, in November 2010, North Korea fired more than one hundred artillery shells that hit Korea's Yeonpyeong Island near the Northern Limit Line, which acts as the de facto maritime boundary between Korea and North Korea on the west coast of the Korean peninsula, causing casualties and significant property damage. The Government condemned North Korea for the attack and vowed stern retaliation should there be further provocation.

North Korea's economy also faces severe challenges, which may further aggravate social and political pressures within North Korea.

Although bilateral summit meetings were held between the two Koreas in April, May and September 2018 and between the United States and North Korea in June 2018, February 2019 and June 2019, there can be no assurance that the level of tensions affecting the Korean peninsula will not escalate in the future. Any increase in tensions, which may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between Korea and North Korea break down or military hostilities occur, could have a material adverse effect on the Korean economy and on our business, financial condition and results of operations and the price of the Notes, including a downgrade in our credit rating or of the Notes.

There are special risks involved with investing in securities of Korean companies.

As we are a Korean company and operate in a business and cultural environment that is different from that of other countries, there are risks associated with investing in its securities that are not typical for investments in securities of companies in other jurisdictions.

Under the Foreign Exchange Transactions Act of Korea and its Enforcement Decree and regulations under that Act and Decree (collectively referred to as the "Foreign Exchange Transaction Laws"), if the Government deems that certain emergency circumstances, including sudden fluctuations in interest rates or exchange rates, extreme difficulty in stabilizing the balance of payments or substantial disturbance in the Korean financial and capital markets, are likely to occur, it may impose any necessary restriction such as requiring Korean or foreign investors to obtain prior approval from the Ministry of Economy and Finance for the acquisition of Korean securities or for the repatriation of interest, dividends or sales proceeds arising from Korean securities or other types of capital transactions. Moreover, if the Government deems it necessary on account of war, armed conflict, natural disaster or grave and sudden changes in domestic or foreign economic circumstances or similar events or circumstances, the Minister of Economy and Finance may temporarily suspend performance under any or all foreign exchange transactions, in whole or in part, to which the Foreign Exchange Transaction Laws apply (including suspension of payment and receipt of foreign exchange) or impose an obligation to deposit or sell any means of payment to the Bank of Korea or certain other governmental agencies or financial institutions.

In addition, our audited consolidated financial statements included in this Offering Circular are presented in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions which require application of K-IFRS where specific accounting treatments are not prescribed, and our future consolidated financial statements will be prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions which require application of K-IFRS where specific accounting treatments are not prescribed, which differ in certain respects from accounting principles applicable to companies in certain other countries, including the United States. There may also be less publicly available information about Korean companies, such as us, than is regularly made available by public or nonpublic companies in other countries. In making an investment decision, investors must rely upon their own examination of us, the terms of the offering and the financial and other information contained in this Offering Circular.

RISKS RELATING TO THE NOTES

The Notes are subject to transfer restrictions.

The Notes will not be registered under the Securities Act or any state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons, except to QIBs in reliance on the exemption provided by Rule 144A, to certain persons in offshore transactions in reliance on Regulation S, or, if available, pursuant to another exemption from, or in another transaction not subject to, the registration requirements of the Securities Act and, in each case, in accordance with applicable state securities laws. In addition, subject to the conditions set forth in the Agency Agreement (as defined in "Terms and Conditions of the Notes"), a Note may be transferred only if the principal amount of Notes transferred is at least US\$200,000. Under certain conditions and if so set forth in the applicable Pricing Supplement, a Note may be transferred only if the principal amount of Notes transferred is at least €100,000 or the equivalent in another foreign currency. For a further discussion of the transfer restrictions applicable to the Notes, see "Subscription and Sale and Transfer and Selling Restrictions."

The Notes have not been and will not be registered under the Financial Investment Services and Capital Markets Act of Korea (the "FSCMA"). Accordingly, the Notes may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as such term is defined under the Foreign Exchange Transactions Act of Korea and its Enforcement Decree), except as otherwise permitted under applicable Korean laws and regulations.

In addition, during the first year after the issuance of the Notes, the Notes may not be transferred to any resident of Korea other than a "qualified institutional buyer" (a "Korean QIB," as defined in the Regulation on Securities Issuance, Public Disclosure, Etc. of Korea) who is registered with the Korea Financial Investment Association (the "KOFIA") as a Korean QIB, provided that (a) the Notes are denominated, and the principal and interest payments thereunder are made, in a currency other than Korean won, (b) the amount of the Notes acquired by such Korean QIBs in the primary market is limited to no more than 20% of the aggregate issue amount of the Notes, (c) the Notes are listed on one of the major overseas securities markets designated by the Financial Supervisory Service of Korea, or certain procedures, such as registration or report with a foreign financial investment regulator, have been completed for offering of the Notes in a major overseas securities market, (d) the one-year restriction on offering, delivering or selling of Notes to a Korean resident other than a Korean QIB is expressly stated in the Notes, the relevant purchase agreement and offering circular and (e) the Company and the Dealers shall individually or collectively keep the evidence of fulfillment of conditions (a) through (d) above after having taken necessary actions therefor.

The Notes are unsecured obligations.

As the Notes are unsecured obligations, their repayment may be compromised if:

- we enter into bankruptcy, liquidation, reorganization or other winding-up proceedings;
- there is a default in payment under our secured indebtedness or other unsecured indebtedness; or
- there is an acceleration of any of our indebtedness.

If any of these events were to occur, our assets and any amounts received from the sale of such assets may not be sufficient to pay amounts due on the Notes.

The Notes are subject to prescription regulations in Korea.

Failure to exercise a right of action for more than a certain period of time may operate as a bar to exercise of such right. Under Korean laws, claims against the issuer in respect of the payment of principal of notes or bonds are prescribed upon the expiry of 10 years, and claims for payment of interest in respect of notes or bonds are prescribed upon the expiry of five years, in each case, from the relevant due date as adjusted by any acceleration or otherwise, in respect thereof. If the Note holders fail to exercise his or her right of payment for more than the period set forth above, the Korean courts may not enforce a claim for payment for principal or interest in respect of the Notes.

There is no existing trading market for the Notes and, therefore, the Notes offer limited liquidity.

The Notes constitute a new issue of securities for which there is no existing market. Approval in-principle has been received from the SGX-ST in connection with the Program and application will be made for the listing and quotation of Notes that may be issued under the Program, which Notes are agreed, at or prior to the time of issue thereof, to be so listed on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. Although the Dealers have advised us that they currently intend to make a market in the Notes, they are not obligated to do so, and any market making activity with respect to the Notes, if commenced, may be discontinued at any time without notice in their sole discretion. For a further discussion of the Dealers' planned market making activities, see "Subscription and Sale and Transfer and Selling Restrictions."

No assurance can be given as to the liquidity of, or the development and continuation of an active trading market for, the Notes. If an active trading market for the Notes does not develop or is not maintained, the liquidity and market price of the Notes may be adversely affected. If such a market were to develop, the Notes could trade at prices that may be higher or lower than the price at which the Notes are issued depending on many factors, including:

- prevailing interest rates;
- our results of operations and financial condition;
- the rate of exchange between Won and the currency of the Notes;
- political and economic developments in and affecting Korea and other regions;
- the market conditions for similar securities; and
- the financial condition and stability of the Korean financial and other sectors.

The Notes are not protected by restrictive covenants.

The Notes and the Agency Agreement relating to the Notes do not contain restrictive financial or operating covenants or restrictions on the payment of dividends, the incurrence of indebtedness, the sale of assets or the issuance or repurchase of securities by us.

CAPITALIZATION

The following table sets forth our actual capitalization, as derived from our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 included in this Offering Circular.

The table below should be read in connection with our unaudited interim consolidated financial statements and the related notes as of March 31, 2022 and for the three months ended March 31, 2022 and 2021, included elsewhere in this Offering Circular.

| _ | As of March 31, 2022 ⁽¹⁾ | | |
|--|-------------------------------------|--------------------------------------|--|
| | (Billions of Won) | (Millions of US\$) ⁽⁴⁾ | |
| Long-term debt: | | | |
| Bonds, net of discount and premium (excluding current portion) | ₩ 9,702 | US\$ 8,013 | |
| Long-term borrowings (excluding current portion) | 313 | 259 | |
| Total long-term debt | 10,015 | 8,272 | |
| Equity: | | | |
| Contributed capital | ₩10,705 | US\$ 8,841 | |
| Retained earnings ⁽²⁾ | 15,830 | 13,074 | |
| Other components of equity | 11 | 9 | |
| Equity attributable to owners of the parent | 26,545 | 21,924 | |
| Non-controlling interests | 33 | 27 | |
| Total equity | 26,578 | 21,951 | |
| Total capitalization ⁽³⁾ | ₩36,593 | US\$30,222 | |

Notes:

- (1) There has been no material change in our capitalization since March 31, 2022.
- (2) Retained earnings include reserves.
- (3) Total capitalization is defined as the sum of the bonds, net of discount and premium (excluding current portion) and long-term borrowings (excluding current portion) plus total equity.
- (4) The Won financial information as of March 31, 2022 has been translated into U.S. dollars at the exchange rate of Won 1,210.8 to US\$1.00, which was the Market Average Exchange Rate in effect on March 31, 2022.

SELECTED FINANCIAL DATA

The following tables present selected financial data as of and for the years ended December 31, 2019, 2020 and 2021 and as of March 31, 2022 and for the three months ended March 31, 2021 and 2022. The selected financial data below have been derived from and should be read together with our audited consolidated financial statements as of and for the years ended December 31, 2019, 2020 and 2021 and unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 and the related notes included elsewhere in this Offering Circular.

Our audited consolidated financial statements as of and for the years ended December 31, 2019, 2020 and 2021 have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of K-IFRS where specific accounting treatments are not prescribed. Our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of K-IFRS where specific accounting treatments are not prescribed.

SELECTED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME DATA

| | | | | For the Thre | ee Months |
|--|---------------------------------|------------------|----------------|--------------|------------------|
| | For the Year Ended December 31, | | | Ended Ma | rch 31, |
| | 2019 | 2020 | 2021 | 2021 | 2022 |
| | | (In I | oillions of Wo | n) | |
| Sales | ₩ 8,983 | ₩10,000 | ₩ 9,469 | ₩ 2,980 | ₩ 3,050 |
| Cost of sales | (7,976) | (8,467) | (8,448) | (2,054) | (2,332) |
| Gross profit | 1,006 | 1,533 | 1,021 | 926 | 717 |
| Selling and administrative expenses | (223) | (217) | (216) | (50) | (61) |
| Operating profit | 783 | 1,316 | 804 | 876 | 656 |
| Other income | 45 | 61 | 47 | 18 | 5 |
| Other expenses | (178) | (173) | (64) | (8) | (36) |
| Other gains (losses), net | 11 | (56) | (13) | 2 | 3 |
| Finance income | 266 | 261 | 392 | 126 | 36 |
| Finance costs | (648) | (639) | (798) | (255) | (228) |
| Gain (loss) on investments in associates and | | | | | |
| joint ventures, net | (6) | (5) | (17) | 2 | 3 |
| Profit before income tax | 274 | 766 | 353 | 761 | 440 |
| Income tax expense | (27) | (148) | (66) | (197) | (106) |
| Profit for the year/period | 247 | 618 | 287 | 564 | 334 |
| Other comprehensive income, net of tax | 37 | 26 | 93 | 53 | 69 |
| Total comprehensive income, net of tax | ₩ 283 | W 644 | ₩ 380 | ₩ 617 | W 403 |

SELECTED CONSOLIDATED STATEMENT OF FINANCIAL POSITION DATA

| | As of December 31, | | | As of March 31, |
|---|--------------------|----------------|---------|---------------------|
| - | 2019 | 2020 | 2021 | 2022 |
| - | | (In billions | | |
| Assets: | | (III DIIIIOIIS | or won) | |
| Cash and cash equivalents | ₩ 35 | ₩ 316 | ₩ 362 | ₩ 194 |
| Other current assets ⁽¹⁾ | 6,529 | 7,011 | 7,161 | 7,770 |
| Property, plant and equipment, net | 49,961 | 51,502 | 53,587 | 53,633 |
| Other non-current assets ⁽²⁾ | 3,218 | 3,455 | 4,026 | 4,064 |
| Total assets | ₩59,743 | ₩62,284 | ₩65,136 | W 65,661 |
| Liabilities and equity: | | | | |
| Short-term borrowings | 210 | 340 | 867 | 426 |
| Current portion of long-term borrowings | 18 | 19 | 37 | 37 |
| Current portion of long-term bonds, net of | | | | |
| discount | 500 | 1,154 | 1,439 | 1,448 |
| Current provisions | 825 | 962 | 999 | 1,100 |
| Other current liabilities ⁽³⁾ | 1,301 | 1,528 | 1,167 | 1,540 |
| Bonds, net of discount and premium (excluding | | | | |
| current portion) | 9,580 | 9,379 | 9,560 | 9,702 |
| Long-term borrowings (excluding current | | | | |
| portion) | 148 | 296 | 323 | 313 |
| Other non-current liabilities ⁽⁴⁾ | 21,495 | 22,400 | 24,435 | 24,517 |
| Total liabilities | ₩34,077 | ₩36,078 | ₩38,827 | ₩39,083 |
| Total equity | ₩25,666 | ₩26,206 | ₩26,309 | ₩26,578 |
| Total liabilities and equity | ₩59,743 | ₩62,284 | ₩65,136 | W 65,661 |

Notes:

- (2) Other non-current assets consist of non-current financial assets, net, non-current trade and other receivables, net, intangible assets, investments in associates and joint ventures, deferred tax assets and non-current non-financial assets.
- (3) Other current liabilities consist of trade and other payables, current derivative liabilities, current tax liabilities and current non-financial liabilities.
- (4) Other non-current liabilities consist of non-current trade and other payables, non-current derivative liabilities, non-current non-financial liabilities, employee benefit obligation and non-current provisions.

⁽¹⁾ Other current assets consist of current financial assets, net, trade and other receivables, net, inventories, current tax assets, non-current assets held for sale and current non-financial assets.

OTHER SELECTED FINANCIAL DATA

| _ | For the Year Ended December 31, | | | Ended March 31, | |
|--------------------------------------|---------------------------------|-----------------|----------------|-----------------|---------|
| _ | 2019 | 2020 | 2021 | 2021 | 2022 |
| | | (In billions of | Won, except pe | rcentages) | |
| Net cash flows provided by operating | | | | | |
| activities | ₩ 1,835 | ₩ 2,427 | ₩ 1,655 | ₩ 1,291 | ₩ 1,197 |
| Net cash flows used in investing | | | | | |
| activities | (2,592) | (2,919) | (2,150) | (979) | (1,002) |
| Net cash flows provided by (used in) | | | | | |
| financing activities | 681 | 773 | 537 | (586) | (363) |
| Operating profit margin $(\%)^{(1)}$ | 8.7% | 13.2% | 8.5% | 29.4% | 21.5% |
| Net profit margin $(\%)^{(2)}$ | 2.7% | 6.2% | 3.0% | 18.9% | 10.9% |

For the Three Months

| _ | As | of December 31, | | As of March 31, |
|--|-------|-----------------|-------|-----------------|
| _ | 2019 | 2020 | 2021 | 2022 |
| | (In b | es) | | |
| Debt to equity ratio $(\%)^{(3)}$ | 40.7 | 42.7 | 46.5 | 44.9 |
| Net debt to equity ratio $(\%)^{(4)}$ | 40.6 | 41.5 | 45.1 | 44.1 |
| Total liabilities to equity ratio $(\%)^{(5)}$ | 132.8 | 137.7 | 147.6 | 147.1 |
| Net working capital ⁽⁶⁾ | 3,709 | 3,324 | 3,014 | 3,413 |

Notes:

- (1) Operating profit margin equals operating profit divided by sales.
- (2) Net profit margin equals profit for the period divided by sales.
- (3) Debt-to-equity ratio equals the sum of short-term borrowings, bonds (net of discount and premium, including the current portion) and long-term borrowings (including the current portion) divided by total equity.
- (4) Net debt-to-equity ratio equals (i) the sum of short-term borrowings, bonds (net of discount and premium, including the current portion) and long-term borrowings (including the current portion) less (ii) cash and cash equivalents, divided by (iii) total equity.
- (5) Total liabilities to equity ratio equals total liabilities divided by total equity.
- (6) Net working capital means current assets minus current liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read together with our consolidated financial statements and the related notes included elsewhere in this Offering Circular. Our audited consolidated financial statements as of and for the years ended December 31, 2019, 2020 and 2021 and our unaudited interim consolidated financial statement as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of K-IFRS where specific accounting treatments are not prescribed. This discussion contains forward-looking statements that involve risks and uncertainties. Actual results and the timing of events may differ materially from those contained in these forward-looking statements due to a number of factors, including those discussed in the section entitled "Risk Factors" and elsewhere in this Offering Circular.

OVERVIEW

We were established on April 2, 2001 as a result of a corporate split from KEPCO, pursuant to which KEPCO transferred all of its nuclear and hydroelectric power generation assets and related liabilities to us in accordance with the Act on the Promotion of Restructuring the Electric Power Industry and the Restructuring Plan for the electricity industry in Korea announced by MOTIE. See "The Korean Electricity Industry – Restructuring of the Electricity Industry in Korea." Pursuant to Article 2 of our Articles of Association, we engage in nuclear and hydroelectric power generation and sell all of our generated electricity to KEPCO through the KPX in accordance with Article 31 of the Electricity Business Act of Korea. We are wholly owned by KEPCO and are the only nuclear power generation company in Korea.

As of March 31, 2022, we owned and operated 24 nuclear power generation units with aggregate installed capacities of 23,250 MW, 53 hydroelectric power generation units (which includes pumped-storage hydro power generation units) with aggregate installed capacities of 5,307 MW, 46 solar generation units with aggregate installed capacities of 62 MW and one wind power generation unit with installed capacity of 0.75 MW. All of our nuclear power plants supply base load power, and hydroelectric power plants supply electricity during peak hours.

Nuclear power is one of the largest electricity supply sources in Korea. As of March 31, 2022, we owned approximately 21.4% of the total electricity generation capacity in Korea (excluding plants generating electricity primarily for private or emergency use). In 2021 and for the three months ended March 31, 2022, we sold 154,843 GW hours and 42,983 GW hours of electricity, respectively, to KEPCO. Nuclear power, all of which is generated by us, accounted for 28.0% and 29.3% of total electricity sold in Korea in 2021 and for the three months ended March 31, 2022, respectively, in terms of sales volume. In 2021 and for the three months ended March 31, 2022, nuclear power generation accounted for 97.1% and 97.4%, respectively, of the electricity generated by us.

The Third Basic National Energy Plan, which was announced by the Government in June 2019, focuses on transitioning to a clean and safe mix of energy through increasing the share of renewable energy by 30~35% while reducing the share of nuclear and coal energy. In addition, the Ninth Basic Plan, which was released in December 2020, plans to gradually reduce the proportion of nuclear energy generated from 25.9% of the energy generated nationally in 2019 to 25.0% by 2030. However, according to the "New Government's Energy Policy Direction," which replaces or modifies, in part, the previous Government policies, the Government plans to expand the proportion of nuclear energy

to a minimum of 30% by 2030 and adjust the renewable energy supply target to reasonable levels. Accordingly, we expect our current capital requirements in the medium to long-term future to remain the same or gradually increase. See "- Capital Requirements."

In addition to capital expenditures related to the construction of power generation assets, we also incur significant cash expenditures following the establishment by the Government of KORAD, a separate corporate entity responsible for nuclear waste management, as a result of which we pay fees to KORAD for the disposal of low- and intermediate- level radioactive waste and spent fuel. See "Business – Nuclear Safety Research and Development – Nuclear Waste Management."

Unexpected or prolonged shutdowns of our nuclear generation units may result in a significant loss of revenue. For example, in September 2020, six nuclear generation units in Kori and Wolsong were temporarily shut down for approximately 32 days for the Kori units and 13 days for the Wolsong units due to the breakdown of certain electric facilities of the units as a result of typhoons Maysak and Haishen. In March 2021 and April 2021, our Hanul units #1 and 2 were temporarily shut down for approximately 8 days and 9 days, respectively, due to the inflow of salp into circulating pumps. Since then, we have engaged in safety and maintenance inspections and improvement works across our nuclear generation units to prevent the recurrence of such incidents. The breakdown, failure or suspension of operation of a nuclear generation unit could result in a material loss of revenues and/or additional repair and maintenance costs, greater risk of litigation and increased social and political hostility to the use of nuclear power, which could have a material adverse impact on our reputation, business and results of operation and could lead to a decline in the market value of the Notes. See "Risk Factors – Risk Relating to Our Business – Inherent in the operation of nuclear power generation facilities are numerous hazards and risks, any of which could result in a material loss of revenues or increased expenses."

We have established a provision for decommissioning costs related to nuclear plant operation (which costs principally consist of (i) costs related to spent fuel, (ii) costs related to radioactive waste, and (iii) costs related to dismantling nuclear plants) as a liability since 1983. The decommissioning costs of nuclear facilities are estimated based on the study by the Cost Determination Committee established by the MOTIE and as provided under the Radioactive-Waste Management Act, and are adjusted annually. The decommissioning costs are reviewed by the MOTIE every two years and the MOTIE is required to issue, every two years, guidelines relating to the accounting treatment of decommissioning, which we are required to adopt. The estimated decommissioning costs increased in 2022 based on the 2022 MOTIE guidelines as well as in consideration of overseas cases of decommissioning, inflation rate assumptions, changes in the operating environment and other criteria. We believe that the guidelines adopted to-date capture the substantial majority of the accounting adjustments required in connection with determining decommissioning costs and liabilities. As of March 31, 2022, we have accrued Won 22,562 billion for the cost of dismantling and decontaminating existing nuclear power plants, which consists of dismantling costs of nuclear plants of Won 19,560 billion and dismantling costs of spent fuel and radioactive waste of Won 3,003 billion. See note 21 of our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2021 and 2022 included elsewhere in this Offering Circular. As of March 31, 2022, we hold Won 884 billion in beneficiary securities exclusively for the payment of decommissioning costs, which is the estimated cost of decommissioning one nuclear plant, and plan to maintain a similar amount of reserve going forward. See also "Business - Nuclear Safety - Decommissioning" and "- Critical Accounting Policies -Retirement of Tangible Assets."

The adjusted coefficient is one of the factors in determining the price of electricity sold by us to KEPCO and is reset from time to time. The adjusted coefficient applicable to electricity generated from nuclear fuels was adjusted (1) upwards in 2020 compared to 2019, which contributed to an increase in our revenue in 2020 compared to 2019, (2) downwards in 2021 compared to 2020, which contributed to a decrease in our revenue in 2021 compared to 2020 and (3) downwards in the first three months of 2022 compared to the first three months of 2022 compared to the first three months of 2022 compared to the first three months of 2021.

RECENT ACCOUNTING CHANGES

For a discussion of new accounting standards, interpretations and amendments applicable to us, see note 2 of our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 and note 2 of our audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020 included elsewhere in this Offering Circular.

CRITICAL ACCOUNTING POLICIES

We have prepared our consolidated financial statements in accordance with Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, which require application of K-IFRS where specific accounting treatments are not prescribed. These accounting principles require us to make certain estimates and judgments that affect the reported amounts in our consolidated financial statements. Critical accounting policies are defined as those that are both most important to the portrayal of our financial condition and results of operations and require our management's most difficult, subjective, or complex judgment, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods. Our estimates and judgments are based on historical experience, forecasted future events and various other assumptions that we believe to be reasonable under the circumstances. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting the estimate may differ significantly from the management's current judgments. We evaluate our estimates and judgments on an ongoing basis. We believe the following represents our critical accounting policies. See notes 2 and 3 of our audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020 included elsewhere in this Offering Circular.

RESULTS OF OPERATIONS

The table below presents consolidated statement of comprehensive income information for the years or periods indicated.

| | For the Year Ended December 31, | | | For the Thre Ended Ma | | | |
|----------------------------|---------------------------------|---------|---------|--------------------------|---------|--|--|
| | 2019 | 2020 | 2021 | 2021 | 2022 | | |
| | (In billions of Won) | | | | | | |
| Sales | ₩ 8,983 | ₩10,000 | ₩ 9,469 | ₩ 2,980 | ₩ 3,050 | | |
| Cost of sales | (7,976) | (8,467) | (8,448) | (2,054) | (2,332) | | |
| Gross profit | 1,006 | 1,533 | 1,021 | 926 | 717 | | |
| Selling and administrative | | | | | | | |
| expenses | (223) | (217) | (216) | (50) | (61) | | |

| | For the Year Ended December 31, | | | Ended Ma | rch 31, |
|--|---------------------------------|------------------|------------------|----------|---------|
| | 2019 | 2020 | 2021 | 2021 | 2022 |
| | | (In | billions of Won) |) | |
| Operating profit | 783 | 1,316 | 804 | 876 | 656 |
| Other income | 45 | 61 | 47 | 18 | 5 |
| Other expenses | (178) | (173) | (64) | (8) | (36) |
| Other gains (losses), net | 11 | (56) | (13) | 2 | 3 |
| Finance income | 266 | 261 | 392 | 126 | 36 |
| Finance costs | (648) | (639) | (798) | (255) | (228) |
| Gain (loss) on investments in associates and joint ventures, | | | | | |
| net | (6) | (5) | (17) | 2 | 3 |
| Profit before income tax | 274 | 766 | 353 | 761 | 440 |
| Income tax expense | (27) | (148) | (66) | (197) | (106) |
| Profit for the period Other comprehensive income, net | 247 | 618 | 287 | 564 | 334 |
| of tax | 37 | 26 | 93 | 53 | 69 |
| Total comprehensive income, net | | | | | |
| of tax | ₩ 283 | W 644 | ₩ 380 | ₩ 617 | ₩ 403 |

For the Three Months

First Three Months of 2022 Compared to First Three Months of 2021

Our sales, substantially all of which are derived from the sales of electric power to KEPCO, increased by 2.3% to Won 3,050 billion in first three months of 2022 from Won 2,980 billion in the first three months of 2021, mainly due to a 8.1% increase in the volume of electricity sold to 42,983 GWh in the first three months of 2022 from 39,765 GWh in the first three months of 2021, offset by a 6.2% decrease in the average unit price of electricity sold to Won 68.28 per kWh in the first three months of 2022 from Won 72.78 per kWh in the first three months of 2021. The increase in the volume of electricity sold was mainly due to an increase in the capacity factor of our nuclear generation units. The decrease in the average unit price of electricity sold was mainly due to a decrease in the adjusted coefficient applicable to nuclear energy.

Cost of sales increased by 13.6% to Won 2,332 billion in the first three months of 2022 from Won 2,054 billion in the first three months of 2021, primarily due to a 71.9% increase in raw materials used to Won 260 billion in the first three months of 2022 from Won 151 billion in the first three months of 2021, a 29.7% increase in repairs to Won 372 billion in the first three months of 2022 from Won 287 billion in the first three months of 2021 and a 13.8% increase in depreciation of property, plant and equipment to Won 670 billion in the first three months of 2022 from Won 589 billion in the first three months of 2021. The increase in raw materials used was due to an increase in electricity costs of our pumped-storage hydro power generation units reflecting an increase in the system marginal price. The increase in repairs was primarily related to our undertaking of additional preventative maintenance measures at our nuclear plants. The increase in depreciation of property, plant and equipment was primarily related to an increase in depreciation relating to the asset retirement costs of our nuclear plants. Such increases were offset in part by an 18.0% decrease in other expenses to Won 91 billion in the first three months of 2022 from Won 111 billion in the first three months of 2021 and a 29.9% decrease in provisions for decommissioning costs to Won 37 billion in the first three months of 2022 from Won 53 billion in the first three months of 2021. Other expenses decreased primarily due to a decrease in expenses relating to our nuclear power generation project located in Barakah, United Arab Emirates. Provisions for decommissioning costs decreased primarily due to planned preventative maintenance relating to our Wolsong unit #2.

As a result of the above factors, our gross profit decreased by 22.6% to Won 717 billion in the first three months of 2022 from Won 926 billion in the first three months of 2021. Our gross profit margin, which equals gross profit divided by sales, decreased to 23.5% in the first three months of 2022 from 31.1% in the first three months of 2021.

Our selling and administrative expenses increased by 22.2% to Won 61 billion in the first three months of 2022 from Won 50 billion in the first three months of 2021, primarily attributable to increases in advertisement and repair expenses. Advertisement expenses increased by 239.9% to Won 10 billion in the first three months of 2022 from Won 3 billion in the first three months of 2021 primarily due to expenses relating to our football team, Gyeongju Korea Hydro & Nuclear Power FC. Repair expenses increased by 567.0% to Won 3 billion in the first three months of 2022 from Won 0.5 billion in the first three months of 2021 primarily due to repairs relating to telecommunications equipment.

As a result of the above factors, our operating profit decreased by 25.1% to Won 656 billion in the first three months of 2022 from Won 876 billion in the first three months of 2021 and our operating profit margin, which equals operating profit divided by sales, decreased to 21.5% in the first three months of 2022 from 29.4% in the first three months of 2021.

We recognized net other expenses of Won 31 billion in the first three months of 2022 compared to net other income of Won 10 billion in the first three months of 2021. Such change was primarily due to a 457.7% increase in miscellaneous other expenses to Won 32 billion in the first three months of 2022 from Won 6 billion in the first three months of 2021. Such decrease was primarily due to payments of fines relating to administration of constructions and operations.

Our net other gains increased by 98.2% to Won 3 billion in the first three months of 2022 from Won 2 billion in the first three months of 2021, primarily attributable to the recognition of net gain on foreign currency transactions of Won 2 billion in the first three months of 2022 compared to net loss on foreign currency transactions of Won 1 billion in the first three months of 2021, primarily due to fluctuations of the Won against the U.S. dollar in the first three months of 2021 and 2022, as well as an 89.2% decrease in net loss on disposal of property, plant and equipment to Won 0.2 billion in the first three months of 2021 mainly in connection with the sale of certain of our residential buildings in the first three months of 2021 compared to no such sales in the first three months of 2022. Such changes were partially offset by a 64.6% decrease in net gain on foreign currency translations to Won 1 billion in the first three months of 2022 from Won 3 billion in the first three months of 2021 primarily due to fluctuations of the Won against the U.S. dollar in the first three months of 2021 and 2022.

Our net finance costs increased by 48.3% to Won 192 billion in the first three months of 2022 from Won 129 billion in the first three months of 2021, primarily as a result of an 86.4% decrease in net gain on valuation of derivative instruments, which we entered into to hedge foreign currency risks, to Won 12 billion in the first three months of 2022 from Won 90 billion in the first three months of 2021, which was offset in part by a 37.6% decrease in net loss on foreign currency translations to Won 69 billion in the first three months of 2022 from Won 111 billion in the first three months of 2021, primarily due to the smaller depreciation of the Won against the U.S. dollar in the first three months of 2022 compared to the first three months of 2021, in which a majority of our foreign currency debt is denominated. In terms of the Market Average Exchange Rate, the Won depreciated from Won 1,088.0 to US\$1.00 as of December 31, 2020 to Won 1,133.50 to US\$1.00 as of March 31, 2021, and depreciated from Won 1,185.5 to US\$1.00 as of December 31, 2021 to Won 1,210.8 to US\$1.00 as of March 31, 2022.

As a result of the above factors, our profit before income tax decreased by 42.2% to Won 440 billion in the first three months of 2022 from Won 761 billion in the first three months of 2021.

Our income tax expense decreased by 46.2% to Won 106 billion in the first three months of 2022 from Won 197 billion in the first three months of 2021 primarily due to the decrease in profit before income tax. The effective tax rate decreased slightly to 24.07% in the first three months of 2022 from 25.86% in the first three months of 2021. See note 33 to our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 included elsewhere in the Offering Circular.

As a result of the above factors, our profit for the period decreased by 40.8% to Won 334 billion in the first three months of 2022 from Won 564 billion in the first three months of 2021.

2021 Compared to 2020

Our sales, substantially all of which are derived from the sales of electric power to KEPCO, decreased by 5.3% to Won 9,469 billion in 2021 from Won 10,000 billion in 2020, mainly due to a 3.9% decrease in the average unit price of electricity sold to Won 58.57 per kWh in 2021 from Won 60.96 per kWh in 2020, enhanced by a 1.2% decrease in the volume of electricity sold to 154,843 GWh in 2021 from 156,717 GWh in 2020. The decrease in the average unit price of electricity sold was mainly due to a decrease in the adjusted coefficient applicable to nuclear energy. The decrease in the volume of electricity sold was mainly due to a decrease in the capacity factor of our nuclear generation units.

Cost of sales decreased by 0.2% to Won 8,448 billion in 2021 from Won 8,467 billion in 2020, primarily due to a 9.6% decrease in repairs to Won 1,351 billion in 2021 from Won 1,495 billion in 2020, the recognition of a reversal of other provisions of Won 69 billion in 2021 compared to a recognition of other provisions of Won 55 billion in 2020 and a 34.7% decrease in commissions to Won 117 billion in 2021 from Won 179 billion in 2020. The decrease in repairs was primarily related to a decrease in shutdown periods of our generation units for maintenance. The change in provisions was due to a reversal of provisions relating to settlements of RECs in 2021. The decrease in commissions was primarily due to a decrease in commission relating to inspections of our in-service units. Such decreases were offset in part by a 34.2% increase in raw materials used to Won 689 billion in 2021 from Won 513 billion in 2020 and a 5.0% increase in depreciation of property, plant and equipment to Won 2,389 billion in 2021 from Won 2,276 billion in 2020. The increase in raw materials used was primarily related to an increase in electricity costs of our pumped-storage hydro power generation units reflecting an increase in the system marginal price. The increase in depreciation of property, plant and equipment was primarily related to an increase in depreciation of asset retirement costs and machineries.

As a result of the above factors, our gross profit decreased by 33.4% to Won 1,021 billion in 2021 from Won 1,533 billion in 2020. Our gross profit margin, which equals gross profit divided by sales, decreased to 10.8% in 2021 from 15.3% in 2020.

Our selling and administrative expenses decreased by 0.2% to Won 216 billion in 2021 from Won 217 billion in 2020, primarily attributable to a decrease in commissions, which was partially offset by an increase in rent. Commissions decreased by 13.6% to Won 32 billion in 2021 from Won 37 billion in 2020 primarily due to a decrease in commissions relating to cyber security. Rent increased by 43.8% to Won 11 billion in 2021 from Won 8 billion in 2020 primarily due to an increase in rent relating to physical training facilities for our employees.

As a result of the above factors, our operating profit decreased by 38.9% to Won 804 billion in 2021 from Won 1,316 billion in 2020 and our operating profit margin, which equals operating profit divided by sales, decreased to 8.5% in 2021 from 13.2% in 2020.

Our net other expenses decreased by 85.4% to Won 16 billion in 2021 from Won 111 billion in 2020, primarily due to a decrease in donations. Donations decreased by 80.6% to Won 30 billion in 2021 from Won 157 billion in 2020 primarily due to our contribution to the Nuclear Plant Decommissioning Research Institute in 2020, which was not repeated in 2021.

Our net other losses decreased by 77.4% to Won 13 billion in 2021 from Won 56 billion in 2020, primarily due to a decrease in net loss on disposal of property, plant and equipment and a decrease in loss on disposal of inventories. Net loss on disposal of property, plant and equipment decreased by 69.0% to Won 23 billion in 2021 from Won 74 billion in 2020 primarily due to an increase in net loss on disposal of property, plant and equipment in 2020 related to the flooding of the Yecheon pumped storage units, which were not repeated in 2021. Loss on disposal of inventories decreased by 84.1% to Won 6 billion in 2021 from Won 35 billion in 2020 primarily due to write-offs of obsolete inventories in 2020, which were not repeated in 2021.

Our net finance costs increased by 7.3% to Won 406 billion in 2021 from Won 378 billion in 2020, primarily as a result of net loss on foreign currency translations of Won 256 billion in 2021 compared to net gain on foreign currency translations of Won 172 billion in 2020, which were in significant part offset by net gain on valuation of derivative instruments, which we entered into to hedge foreign currency risks, of Won 314 billion in 2021 compared to net loss on valuation of derivative instruments of Won 88 billion in 2020, primarily due to fluctuations of the Won against the U.S. dollar in 2020 and 2021, in which a majority of our foreign currency debt is denominated. In terms of the Market Average Exchange Rate, the Won appreciated from Won 1,157.8 to US\$1.00 as of December 31, 2019 to Won 1,088.0 to US\$1.00 as of December 31, 2020, but depreciated to Won 1,185.5 to US\$1.00 as of December 31, 2021.

As a result of the above factors, our profit before income tax decreased by 54.0% to Won 353 billion in 2021 from Won 766 billion in 2020.

Our income tax expense decreased by 55.4% to Won 66 billion in 2021 from Won 148 billion in 2020 primarily due to the decrease in profit before income tax and, to a lesser extent, change in adjustments recognized in the current period for the income tax in previous periods of Won 88 billion in 2021 compared to Won (1) billion in 2020. The effective tax rate decreased to 18.71% in 2021 from 19.33% in 2020, primarily due to the decrease in profit before income tax as described above, as well as adjustments recognized in 2021 for changes of unrecognized tax losses, tax credit and temporary differences for the prior year. See note 33 to our audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020, included elsewhere in the Offering Circular.

As a result of the above factors, our profit for the year decreased by 53.6% to Won 287 billion in 2021 from Won 618 billion in 2020.

2020 Compared to **2019**

Our sales, substantially all of which are derived from the sales of electric power to KEPCO, increased by 11.3% to Won 10,000 billion in 2020 from Won 8,983 billion in 2019, mainly due to a 9.6% increase in the volume of electricity sold to 156,726 GWh in 2020 from 142,949 GWh in 2019, enhanced by a 1.2% increase in the average unit price of electricity sold to Won 60.96 per kWh in 2020 from Won 60.22 per kWh in 2019. The increase in the volume of electricity sold was mainly due to an increase in the capacity factor of our nuclear generation units. The increase in the average unit price of electricity sold was mainly due to an increase in the adjusted coefficient applicable to nuclear energy.

Cost of sales increased by 6.2% to Won 8,467 billion in 2020 from Won 7,976 billion in 2019, primarily due to a 24.6% increase in repairs to Won 1,495 billion in 2020 from Won 1,199 billion in 2019 and a 25.0% increase in salaries to Won 944 billion in 2020 from Won 755 billion in 2019. The increase in repairs was primarily related to our undertaking of additional preventative maintenance measures at our nuclear plants. The increase in salaries was due to an increase in the average salary paid to employees, as well as an increase in the number of employees. Such increases were offset in part by a 51.8% decrease in provisions for decommissioning cost to Won 217 billion in 2020 from Won 449 billion in 2019 primarily related to an increase in provisions for costs related to the disposal of low and intermediate-level radioactive waste in 2019, which were not repeated in 2020.

As a result of the above factors, our gross profit increased by 52.3% to Won 1,533 billion in 2020 from Won 1,006 billion in 2019. Our gross profit margin, which equals gross profit divided by sales, increased to 15.3% in 2020 from 11.2% in 2019.

Our selling and administrative expenses decreased by 2.9% to Won 217 billion in 2020 from Won 223 billion in 2019, primarily attributable to decreases in commission and depreciation expenses, which were partially offset by an increase in salaries. Commission decreased by 12.2% to Won 37 billion in 2020 from Won 42 billion in 2019 primarily due to a decrease in commissions paid by our subsidiaries. Depreciation expenses decreased by 9.3% to Won 41 billion in 2020 from Won 46 billion in 2019 primarily due to a decrease in the depreciation of office equipment. Salaries increase by 10.2% to Won 54 billion 2020 from Won 49 billion in 2019 primarily due to the reasons described above.

As a result of the above factors, our operating profit increased by 68.0% to Won 1,316 billion in 2020 from Won 783 billion in 2019 and our operating profit margin, which equals operating profit divided by sales, increased to 13.2% in 2020 from 8.7% in 2019.

Our net other expenses decreased by 16.3% to Won 111 billion in 2020 from Won 133 billion in 2019, primarily due to decreases in other miscellaneous expenses and other bad debt expenses, which were partially offset by an increase in donations. Miscellaneous other expenses decreased by 90.7% to Won 10 billion in 2020 from Won 103 billion in 2019 primarily due to the cancellation of an installment plan for a containment filtered venting system in 2019 that was not repeated in 2020. We recognized other bad debt expenses of Won 49 billion in 2019 primarily related to a debt-equity swap in one of our subsidiaries in 2019, compared to no such recognition of other bad debt expenses in 2020. Donations increased by 730.6% to Won 157 billion in 2020 from Won 19 billion in 2019 primarily due to our Won 131 billion contribution to the Nuclear Plant Decommissioning Research Institute in 2020.

We recorded net other losses of Won 56 billion in 2020 compared to net other gains of Won 11 billion in 2019. This change was primarily attributable to increases in net loss on disposals of property, plant and equipment and loss on disposal of inventories. Net loss on disposals of property, plant and equipment increased by 385.9% to Won 74 billion in 2020 from Won 15 billion in 2019 mainly in connection with write-offs relating to the flooding of the Yecheon pumped storage units. Loss on disposal of inventories increased by 367.0% to Won 35 billion in 2020 from Won 7 billion in 2019 primarily due to write-offs of obsolete inventories.

Our net finance costs decreased by 0.8% to Won 378 billion in 2020 from Won 381 billion in 2019, primarily as a result of net gain on foreign currency translations of Won 172 billion in 2020 compared to net loss on foreign currency translations of Won 105 billion in 2019, which were in significant part offset by net loss on valuation of derivative financial instruments, which we entered into to hedge foreign currency risks, of Won 88 billion in 2020 compared to net gain on valuation of derivative financial instruments of Won 169 billion in 2019, primarily due to fluctuations of the Won against the U.S. dollar in 2019 and 2020, in which a majority of our foreign currency debt is denominated. In terms of the Market Average Exchange Rate, the Won depreciated from Won 1,118.1 to US\$1.00 as of December 31, 2018 to Won 1,157.8 to US\$1.00 as of December 31, 2019, but appreciated to Won 1,088.0 to US\$1.00 as of December 31, 2020.

As a result of the above factors, our profit before income tax increased by 179.7% to Won 766 billion in 2020 from Won 274 billion in 2019.

Our income tax expense increased by 442.7% to Won 148 billion in 2020 from Won 27 billion in 2019 primarily due to the increase in profit before income tax and, to a lesser extent, the decrease in adjustment recognized in the current period for the income tax in previous periods to Won 1 billion in 2020 from Won 65 billion in 2019. The effective tax rate increased to 19.33% in 2020 from 9.97% in 2019, primarily due to the increase in profit before income tax as described above, as well as a decrease in adjustments recognized in the current period for the income tax in previous periods. See note 33 to our audited consolidated financial statements as of and for the years ended December 31, 2020 and 2019, included elsewhere in the Offering Circular.

As a result of the above factors, our profit for the year increased by 150.6% to Won 618 billion in 2020 from Won 247 billion in 2019.

CASH FLOWS

Cash Flows from Operating Activities

Net cash flows provided by operating activities decreased from Won 1,291 billion in the first three months of 2021 to Won 1,197 billion in the first three months of 2022, primarily due to the decrease in profit for the period.

Net cash flows provided by operating activities decreased from Won 2,427 billion in 2020 to Won 1,655 billion in 2021, primarily due to the decrease in profit for the year.

Net cash flows provided by operating activities increased from Won 1,835 billion in 2019 to Won 2,427 billion in 2020, primarily due to the increase in profit for the year.

Cash Flows from Investing Activities

Net cash flows used in investing activities increased from Won 979 billion in the first three months of 2021 to Won 1,002 billion in the first three months of 2022, primarily due to an increase in net cash used for increases in current financial assets at fair value through profit or loss.

Net cash flows used in investing activities decreased from Won 2,919 billion in 2020 to Won 2,150 billion in 2021, primarily due to decreases in cash used in acquisition of construction-in-progress, which were partially offset by an increase in acquisition of long-term financial instruments.

Net cash flows used in investing activities increased from Won 2,592 billion in 2019 to Won 2,919 billion in 2020, primarily due to net cash used for acquisition of current financial assets at fair value through profit or loss in 2020 compared to net cash provided by proceeds from disposal of current financial assets at fair value through profit or loss in 2019, which were partially offset by a decrease in cash used for acquisition of construction-in-progress.

Cash Flows from Financing Activities

Net cash flows used in financing activities decreased from Won 586 billion in the first three months of 2021 to Won 363 billion in the first three months of 2022, primarily due to proceeds from bonds issuance of Won 300 billion in the first three months of 2022 compared to no such recognition in the first three months of 2021, which was partially offset by an increase in cash used for net repayment of short-term borrowings.

Net cash flows provided by financing activities decreased from Won 773 billion in 2020 to Won 537 billion in 2021, primarily due to an increase in dividends paid.

Net cash flows provided by financing activities increased from Won 681 billion in 2019 to Won 773 billion in 2020, primarily due to increase in cash generated from proceeds from long-term borrowings and decrease in cash used for repayment of current portion of long-term bonds, which were partially offset by an increase in cash used for dividends paid.

CAPITAL REQUIREMENTS

Capital Expenditures

Our most significant cash requirement has been funding capital expenditures related to the construction of power generation facilities. Our capital expenditures, which represent the amount of cash used in the acquisitions of land, buildings, structures, machinery, vehicles, fixtures and furniture and tools and intangible assets and acquisition of construction-in-progress in our consolidated statements of cash flows, were Won 2,649 billion, Won 2,596 billion, Won 2,003 billion, Won 601 billion and Won 596 billion in 2019, 2020, 2021, the first three months of 2021 and the first three months of 2022, respectively, and we have budgeted Won 2,653 billion, Won 2,332 billion and Won 2,244 billion for capital expenditures (including capitalized interest) for 2022, 2023 and 2024, respectively. The budgeted amounts may vary from the actual amounts of our capital expenditures for a variety of reasons, including changes in the number of units to be constructed and the timing of such construction, changes in rates of exchange between the Won and foreign currencies, changes in interest rates and other factors.

We expect our current capital requirements in the medium to long-term future to remain the same or gradually increase in accordance with our capital investment program, which reflects the Government's plan to gradually expand the proportion of nuclear energy generated to a minimum of 30% by 2030 under the "New Government's Energy Policy Direction" announced in July 2022. These figures are subject to change pending the current administration's directives. See "Business – Capital Investment Program."

The current capital investment program contemplates the construction of four additional nuclear power generation units consisting of two units at the Shin-Kori site and two units at the Shin-Hanul site, each with a 1,400 megawatt capacity. We expect to complete these units by 2025. In addition, as adopted in the "New Government's Energy Policy Direction," the preparatory work for resuming the construction of Shin-Hanul units #3 and 4 is expected to commence in the near future. The construction of new nuclear power generation units requires significant investment over extended periods of time before such units can commence operation. We anticipate that capital expenditures for construction of nuclear power generation facilities will be the most significant use of our funds over the next several years. Furthermore, our capital expenditure plans will be affected by changes in Government policies relating to the extension of operations of nuclear power plants whose operation license periods are scheduled to expire in the near future.

Spent Fuel Disposal Expenses and Interest Expenses

In addition to the capital expenditures relating to the construction of additional nuclear power generation facilities, we also incur fees payable to a separate waste management corporation for disposal of low and intermediate level radioactive waste and spent fuel. Such costs reflect, to a large extent, past and future disposal costs related to spent fuel and waste. Pursuant to the Radioactive Waste Management Act enacted in 2009, payment in cash for existing disposal cost for spent fuel has been deferred for five years since 2009 and became payable at the end of 2014. Disposal fees for existing spent fuel, whose accrued amount as of December 31, 2021 was Won 2,078 billion, are being paid out with interest over a 15-year period from the end of 2014 until 2028. We also accrued interest on the deferred amounts beginning in 2009.

See also "Business - Nuclear Safety - Decommissioning" and "- Critical Accounting Policies - Retirement of Tangible Assets."

Repayment of Debt and Other Cash Requirements

Our current portion of long-term debt (including borrowings and bonds), net of discount, amounted in the aggregate to Won 518 billion, Won 1,172 billion, Won 1,474 billion and Won 1,484 billion as of December 31, 2019, 2020 and 2021 and as of March 31, 2022, respectively. Our short-term borrowings amounted to Won 210 billion, Won 340 billion, Won 867 billion and Won 426 billion as of December 31, 2019, 2020 and 2021 and as of March 31, 2022, respectively. Our non-current portion of long-term debt (including borrowings and bonds), net of discount and premium, amounted in the aggregate to Won 9,727 billion, Won 9,675 billion, Won 9,882 billion and Won 10,015 billion as of December 31, 2019, 2020 and 2021 and as of March 31, 2022, respectively. The payments of principal and interest on our borrowings will require a considerable amount of funding. The scheduled maturities of our outstanding debt as of December 31, 2022 were as follows:

| Year ended December 31 | Local currency borrowings | Foreign currency borrowings | Domestic bonds payable | Foreign bonds payable | Total |
|------------------------|---------------------------|-----------------------------|------------------------------|-----------------------------|---------|
| | | (in | | | |
| 2022 | ₩ 727 | ₩177 | ₩ 550 | ₩ 889 | ₩ 2,343 |
| 2023 | 38 | _ | 640 | 711 | 1,389 |
| 2024 | 39 | _ | 580 | 259 | 878 |
| 2025 | 34 | _ | 340 | 356 | 730 |
| 2026 | 34 | _ | 280 | 593 | 907 |
| Thereafter | 178 | | 5,090 | 736 | 6,004 |
| Total | ₩1,050 | W 177 | ₩7,480 | W 3,544 | ₩12,251 |

For a description of our contingencies and commitments, see note 40 to our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 and note 40 to our audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020 included elsewhere in the Offering Circular.

LIQUIDITY AND CAPITAL RESOURCES

We have met our working capital and other capital requirements primarily from, and we intend to continue to rely on, net cash flows provided by operating activities and financing activities. We had net working capital (current assets minus current liabilities) of Won 3,709 billion, Won 3,324 billion, Won 3,014 billion and Won 3,413 billion as of December 31, 2019, 2020 and 2021 and as of March 31, 2022, respectively.

In the first three months of 2022, the balance of our cash and cash equivalents decreased by Won 168 billion as we had net cash flows used in investing activities of Won 1,002 billion and net cash flows used in financing activities of Won 363 billion, while we had net cash flows provided by operating activities of Won 1,197 billion.

During 2021, the balance of our cash and cash equivalents increased by Won 46 billion as we had net cash flows provided by operating activities of Won 1,655 billion and net cash flows provided by financing activities of Won 537 billion, while we had net cash flows used in investing activities of Won 2,150 billion.

During 2020, the balance of our cash and cash equivalents increased by Won 281 billion as we had net cash flows provided by operating activities of Won 2,427 billion and net cash flows provided by financing activities of Won 773 billion, while had net cash flows used in investing activities of Won 2,919 billion.

During 2019, the balance of our cash and cash equivalents decreased by Won 76 billion as we had net cash flows used in investing activities of Won 2,592 billion, mainly for the construction of new nuclear power plants, while we had net cash flows provided by operating activities of Won 1,835 billion and net cash flows provided by financing activities of Won 681 billion.

In order to meet future working capital and other capital requirements, including our capital expenditures and servicing of our future debt, we intend to rely upon net cash flows provided by operating activities and debt financings.

Our ability to incur long-term debt in the future is subject to a variety of uncertainties including, among others, the amount of capital that other Korean entities may seek to raise in the markets. Economic, political and other conditions in Korea and globally may also affect investor demand for our debt securities. In addition, our ability to incur debt will also be affected by the Government's policies relating to borrowings, the liquidity of the Korean and global capital markets and our operating results and financial condition. We expect that a portion of our long-term debt will need to be raised through foreign currency borrowings outside of Korea.

As of March 31, 2022, our cash and cash equivalents were Won 194 billion, our total and unused committed bank credit lines amounted to Won 400 billion provided by local Korean banks and our total unused uncommitted trade finance credit facility amounted to US\$920 million provided by major foreign and local Korean banks.

MARKET RISKS

Our primary market risk exposures are to fluctuations in exchange rates, interest rates and fuel prices.

We are exposed to foreign exchange risk related to our purchases of fuels since substantially all of our fuel materials directly or indirectly come from sources outside Korea. Prices for such fuel materials are quoted based on prices stated in, and in many cases are paid for in, currencies other than Won. Nuclear fuel costs represented 13.5%, 12.9%, 13.8% and 11.6% of our sales in 2019, 2020 and 2021 and the first three months of 2022, respectively. We are currently not exposed to any material foreign exchange risk related to foreign currency denominated liabilities, as the majority of our long-term borrowings and bonds are currently denominated in Won and our foreign currency denominated bonds are fully hedged. We expect that our reliance on access to the foreign capital markets will increase and that, as a result, we will have to continue to take measures to mitigate a significant portion of our exposure to exchange rate fluctuations through currency forward contracts, including any U.S. dollar-denominated notes that we may issue from time to time under this Program.

We are exposed to interest rate risk. Upward fluctuations in interest rates increase the cost of additional debt and the interest cost of outstanding variable rate borrowings. We manage interest rate exposure in our debt positions by limiting our variable-rate and fixed-rate exposures to percentages of total debt and by monitoring the effects of market changes in interest rates. As of March 31, 2022, Won 79 billion of our long-term debt (including borrowings and bonds) were floating rate debts.

See note 37 of our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021.

THE KOREAN ELECTRICITY INDUSTRY

BACKGROUND

Total demand for electricity in Korea decreased by 1.1% in 2019 and by 2.2% in 2020 but increased by 4.7% in 2021, in each case, year on year, according to KEPCO. The consumption of electric power is expected to increase by 1.6% per year from 2020 to 2034, according to the Ninth Basic Plan.

Historically, KEPCO and the Generation Subsidiaries have made substantial expenditures for the construction of power plants and other facilities to meet increased demand for electric power. Subject to the Restructuring Plan as defined and discussed in "– Restructuring of the Electricity Industry in Korea" below, KEPCO and the Generation Subsidiaries plan to continue to make substantial expenditures to expand and enhance their generation, transmission and distribution system in the future.

The Korean electric utility industry traces its origin to the establishment of the first electric utility company in Korea in 1898. On July 1, 1961, the industry was reorganized by the merger of Korea Electric Power Company, Seoul Electric Company and South Korea Electric Company, which resulted in the formation of Korea Electric Company. From 1976 to 1981, the Government acquired the private minority shareholdings in Korea Electric Company. After the Government had acquired all of the outstanding shares of Korea Electric Company, Korea Electric Company dissolved, and KEPCO was incorporated in 1981, assuming the assets and liabilities of Korea Electric Company. KEPCO ceased to be wholly owned by the Government in 1989 when the Government sold 21.0% of its common stock. As of March 31, 2022, the Government owned 51.1% (including indirect holdings by Korea Development Bank, which is wholly owned by the Government) of the outstanding shares of KEPCO's common stock.

The Korea Electric Power Corporation Act requires that the Government own at least 51% of KEPCO's capital stock. Direct or indirect ownership of more than 50% of KEPCO's outstanding common stock enables the Government to control the approval of certain corporate matters which require a stockholders' resolution, including approval of dividends. The rights of the Government and Korea Development Bank as holders of KEPCO's common stock are exercised by the MOTIE in consultation with the Ministry of Economy and Finance (the "MOEF"). To our knowledge, the Government currently has no plan to cease to own, directly or indirectly, at least 51% of KEPCO's outstanding common stock.

Prior to the corporate reorganization effected on April 2, 2001, which created six generation subsidiaries wholly owned by KEPCO (including us), KEPCO was the principal electricity generation company in Korea. KEPCO continues to be the principal electricity transmission and distribution company in Korea, subject to the implementation of the Restructuring Plan.

RESTRUCTURING OF THE ELECTRICITY INDUSTRY IN KOREA

On January 21, 1999, the MOTIE published a plan to restructure the electricity industry (the "Restructuring Plan"). The overall objectives of the Restructuring Plan were to:

- introduce competition and thereby increase efficiency in the Korean electricity industry,
- ensure a long-term, inexpensive and stable electricity supply, and
- promote consumer convenience through the expansion of consumer choice.

The following is a description of the Restructuring Plan and the Government's position relating to the Restructuring Plan.

Phase I

During Phase I, which was the preparation stage for Phase II and lasted from January 1, 1999 to April 2, 2001, KEPCO continued to be the principal electricity generator, with several independent power producers ("IPPs") supplying electricity to it under existing power purchase agreements. On February 23, 2001, KEPCO's board of directors approved a plan to split its non-nuclear and non-hydroelectric generation capacity into five separate wholly owned generation subsidiaries, namely, Korea East-West Power Co., Ltd. ("EWP"), Korea Midland Power Co., Ltd. ("KOMIPO"), Korea South-East Power Co., Ltd. ("KOSEP"), Korea Southern Power Co., Ltd. ("KOSPO") and Korea Western Power Co., Ltd. ("KOWEPO"), each with its own management structure, assets and liabilities. KEPCO's hydroelectric and nuclear generation capacity was transferred into a separate wholly owned generation subsidiary (namely, us). On March 16, 2001, KEPCO's shareholders approved the plan to establish the Generation Subsidiaries effective as of April 2, 2001.

The Government's objectives in dividing the power generation capacity into separate generation subsidiaries were principally to:

- introduce competition and thereby increase efficiency in the electricity generation industry in Korea, and
- ensure the stable supply of electricity in Korea.

Following the implementation of Phase I, KEPCO retained, until the adoption of the Community Energy System ("CES") in July 2004, its monopoly position with respect to the transmission and distribution of electricity in Korea.

While KEPCO's ownership percentage of the non-nuclear and non-hydroelectric generation subsidiaries was to be decided by the ultimate form of the Restructuring Plan approved by the Government, to our knowledge, KEPCO plans to continue to retain 100% ownership of us and the transmission and distribution business.

Phase II

Phase II of the Restructuring Plan began on April 2, 2001. For Phase II, the Government introduced a competitive or bidding pool system under which KEPCO purchases power from the Generation Subsidiaries and other companies for transmission and distribution to customers. Such competitive bidding pool system, which is a cost-based system, was established on April 2, 2001. For a further description of the pool system, see "– *Power Purchase – Cost-based Pool System*" below.

Pursuant to the Electricity Business Act amended on December 23, 2000, the Government established the KPX on April 2, 2001 to deal with the sale of electricity and implement regulations governing the electricity market to allow for electricity distribution through a competitive bidding process. The Government also established the Electricity Regulatory Commission ("KOREC") on April 27, 2001 to regulate the restructured Korean electricity industry and to ensure fair competition. As part of this process, the KPX established the Electricity Market Rules relating to the operation of the bidding pool system. To amend the Electricity Market Rules, the KPX must have the proposed amendment reviewed by the KOREC and then obtain the approval of the MOTIE.

The KOREC's main functions include implementation of necessary standards and measures for electricity market operation and review of matters relating to licensing participants in the Korean electricity industry. The KOREC also acts as an arbitrator in disputes involving utility rates and participants in the Korean electricity industry and consumers and investigates illegal or deceptive activities of the participants in the Korean electricity industry.

Privatization of Non-nuclear Generation Subsidiaries

In April 2002, the MOTIE released the basic privatization plan for the five non-nuclear Generation Subsidiaries. KEPCO commenced the process for selling its interest in KOSEP in 2002. According to the original plan, this process was, in principle, to take the form of a sale of management control, potentially supplemented by an initial public offering as a way of broadening the investor base.

Suspension of the Plan to Form and Privatize Distribution Subsidiaries

In September 2003, the Tripartite Commission, which included, among others, representatives from the Government and the leading businesses and labor unions in Korea, established the Joint Study Group on Reforming Electricity Distribution Network to propose a methodology of introducing competition within the industry for distribution of electricity. In June 2004, based on a report published by this Joint Study Group, the Tripartite Commission issued a resolution that recommended halting the plan to form and privatize the distribution subsidiaries, and in lieu thereof, creating independent business divisions within KEPCO, namely, the "strategy business units," as a way of improving operational efficiency and internal competition among the district divisions. This resolution was adopted by the MOTIE in June 2004, and KEPCO subsequently commissioned a third party consultant to conduct a study on implementing plans related to the creation of the strategy business units and solicited comments on the study from various parties, including labor unions and the Government. Based on this study and the related comments, in September 2006, KEPCO established nine strategy business units (which, together with KEPCO's other business units, were subsequently restructured into 14 business units in February 2012) having a separate management structure with limited autonomy and separate financial accounting and performance evaluation criteria. Based on whether the strategy business units successfully achieve their intended goals of improving operational efficiency and internal competition, KEPCO may expand the use of strategy business units.

Introduction of Market-based Public Enterprise System

On August 25, 2010, the Government announced an electricity industry development plan through which the Government aims to increase efficiency through fostering competition and strengthen the autonomy of public companies. Pursuant to this plan, in December 2010, the MOTIE announced guidelines for a cooperative framework between KEPCO and the Generation Subsidiaries, and in January 2011, the five non-nuclear Generation Subsidiaries formed a "joint cooperation unit" and transferred their pumped-storage hydroelectric business units to us. Furthermore, in January 2011, the six Generation Subsidiaries were officially designated as "market-oriented public enterprises," whereupon the president of each such subsidiary is required to enter into a management contract directly with the minister of the MOTIE, performance evaluation of such subsidiaries is conducted by the Public Enterprise Management Evaluation Commission, and the president and the statutory auditor of each such subsidiary are appointed by the President of Korea while the selection of outside directors is subject to approval by the minister of the MOEF. Previously, the president of each such subsidiary entered into a management contract with KEPCO's president, performance evaluation of such subsidiaries was conducted by KEPCO's evaluation committee, and the president and the statutory auditor of each such subsidiary were appointed by, and the selection of outside directors was subject to approval by, KEPCO's president.

POWER PURCHASE

Cost-based Pool System

Since April 2001, the purchase and sale of electricity in Korea is generally required to be made through the KPX, which is a statutory not-for-profit organization established under the Electricity Business Act responsible for setting the price of electricity, handling the trading and collecting relevant data for the electricity market in Korea. The suppliers of electricity in Korea primarily consist of the Generation Subsidiaries, including us, which were spun-off from KEPCO in April 2001, and IPPs. KEPCO distributes electricity purchased through the KPX to end users.

The price of electricity in the Korean electricity market is determined principally based on the cost of generating electricity using a system known as the "cost-based pool" system, under which the Generation Subsidiaries, including us, fully pass through changes in fuel costs to KEPCO in its purchase through KPX of electricity from the Generation Subsidiaries, including us. Under the cost-based pool system, the price of electricity has two principal components, namely the marginal price (representing, in principle, the variable cost of generating electricity) and the capacity price (representing, in principle, the fixed cost of generating electricity).

Marginal Price

The primary purpose of the marginal price is to compensate the generation companies for fuel costs, which represents the principal component of the variable costs of generating electricity. Such marginal price is referred to as the "system marginal price." The concept of marginal price under the cost-based pool system has undergone several changes in recent years in large part due to the sharp fluctuations in fuel prices. For example, prior to December 31, 2006, the marginal price operated on a two-tiered structure, namely, a "base load" marginal price applicable to electricity generated from nuclear fuels and coals, which tend to be less expensive per unit of electricity than electricity generated from LNG, oil and hydroelectric power to which a "non-base load" marginal price applied.

The base load marginal price and the non-base load marginal price were generally set at levels so that electricity generated from cheaper fuels could be utilized first while ensuring a relatively fair rate of return to all generation units. However, when the price of coal rose sharply beginning in the second half of 2006, the pre-existing base load marginal price was abolished and a market cap by the name of "regulated market price" was introduced in its stead for electricity generated from base load fuels, with the regulated market price being set at a level higher than the pre-existing base load marginal price in order to compensate the Generation Subsidiaries for the rapid rise in the price of coal. Subsequently, when the price of coal continued to rise sharply above the level originally assumed in setting the regulated market price, this had the effect of undercutting KEPCO's profit margin as the purchaser of electricity from the Generation Subsidiaries, although the Generation Subsidiaries were able to maintain a better margin under the regulated market price regime than under the pre-existing base load marginal price regime. Accordingly, on May 1, 2008, the regulated market price regime was abolished, and the current system of "system marginal price" was introduced in order to set the marginal price in a more flexible way by using the concept of an "adjusted coefficient" tailored to each fuel type.

Under the system marginal price regime currently in effect, the marginal price of electricity at which the Generation Subsidiaries sell electricity to KEPCO is determined using the following formula:

Marginal Price = Variable Cost + [System Marginal Price - Variable Cost]

* Adjusted Coefficient

The system marginal price represents, in effect, the marginal price of electricity at a given hour at which the projected demand for electricity and the projected supply of electricity for such hour intersect, as determined by the merit order system, which is a system used by the KPX to allocate which generation units will supply electricity for which hour and at what price. The projected demand for electricity for a given hour is determined by the KPX based on a forecast made one day prior to trading, and such forecast takes into account, among others, historical statistics relating to demand for electricity nationwide by day and by hour, after taking into account, among others, seasonality and peak-hour versus non-peak hour demand analysis. The projected supply of electricity at a given hour is determined as the aggregate of the available capacity of all generation units that have submitted bids to supply electricity for such hour. These bids are submitted to the KPX one day prior to trading.

Under the merit order system, the generation unit with the lowest variable cost of producing electricity among all the generation units that have submitted a bid for a given hour is first awarded a purchase order for electricity up to the available capacity of such unit as indicated in its bid. The generation unit with the next lowest variable cost is then awarded a purchase order up to its available capacity in its bid, and so forth, until the projected demand for electricity for such hour is met. The variable cost of the generation unit that is the last to receive the purchase order for such hour is referred to as the system marginal price, which also represents the most expensive price at which electricity can be supplied at a given hour based on the demand and supply for such hour. Generation units whose variable costs exceed the system marginal price for a given hour do not receive purchase orders to supply electricity for such hour. The variable cost of each generation unit is determined by the Cost Evaluation Committee on a monthly basis and reflected in the following month based on the fuel costs as of two months prior to such determination. The final allocation of electricity supply, however, is further adjusted on the basis of other factors, including the proximity of a generation unit to the geographical area to which power is being supplied, network and fuel constraints and the amount of power loss.

The purpose of the merit order system is to encourage generating units to reduce their electricity generation costs by making their generation process more efficient, sourcing fuels from more cost-effective sources or adopting other cost savings programs. The additional adjustment mechanism is designed to improve the overall cost-efficiency in the distribution and transmission of electricity to the end-users by adjusting for losses arising from the distribution and transmission process.

Under the merit order system, the electricity purchase allocation, the system marginal price and the final allocation adjustment are automatically determined based on an objective formula. The adjusted coefficient, the capacity price and the variable costs are determined in advance of trading by the Cost Evaluation Committee. Accordingly, a supplier of electricity cannot exercise control over the merit order system or its operations to such supplier's strategic advantage.

An adjusted coefficient applies in principle to all generation units operated by the Generation Subsidiaries and the coal-fired generation units operated by IPPs. The adjusted coefficient applicable to the generation units operated by the Generation Subsidiaries is determined based on considerations of, among others, electricity tariff rates, the differential generation costs for different fuel types and the relative fair returns on investment in respect of KEPCO compared to the Generation Subsidiaries. The purpose of the adjusted coefficient is to prevent electricity trading from resulting in undue imbalances as to the relative financial results among the Generation Subsidiaries as well as between KEPCO (as the purchaser of electricity) and the Generation Subsidiaries (as sellers of electricity). Such imbalances may arise from excessive profit taking by base load generators (on account of their inherently cheaper fuel cost structure compared to non-base load generators) as well as from fluctuations in fuel prices (it being the case that during times of rapid and substantial rises in fuel costs which are not offset by corresponding rises in electricity tariff rates charged by KEPCO to end-users, on a non-consolidated basis, the profitability of KEPCO will decline compared to that of the Generation Subsidiaries since the Generation Subsidiaries are entitled to sell electricity to KEPCO at cost plus a guaranteed margin). In comparison, the adjusted coefficient applicable to the coal-fired generation units operated by IPPs is determined to enable such IPPs to recover the total costs of building and operating such units.

The adjusted coefficient applicable to the Generation Subsidiaries is currently set at the highest level for the marginal price of electricity generated using LNG and oil, followed by coal and nuclear fuel. The differentiated adjusted coefficients reflect the Government's prevailing energy policy objectives and have the effect of setting priorities in the fuel types to be used in electricity generation.

The adjusted coefficient is determined by the Cost Evaluation Committee in principle on an annual basis, although in exceptional cases driven by external or structural factors such as rapid and substantial changes in fuel costs, adjustments to electricity tariff rates or changes in the electricity pricing structure, the adjusted coefficient may be adjusted on a quarterly basis.

Previously, it was contemplated that the vesting contract system would gradually replace the application of the adjusted coefficient. However, since the implementation of the vesting contract system has been suspended indefinitely, it is unlikely to impact the application of the adjusted coefficient in the foreseeable future.

Capacity Price

In addition to payment in respect of the variable cost of generating electricity, the Generation Subsidiaries receive payment in the form of capacity price, the purpose of which is to compensate them for the costs of constructing generation facilities and to provide incentives for new construction. The capacity price is determined annually by the Cost Evaluation Committee based on the construction costs and maintenance costs of a standard generation unit and is paid to each generation company for the amount of available capacity indicated in the bids submitted the day before trading. From time to time, the capacity price is adjusted in ways to soften the impact of changes in the marginal price over time based on the expected rate of return for the Generation Subsidiaries. The reference capacity price and the time-of-the-day capacity coefficient are determined annually before the end of December for the subsequent 12-month period. The reserve capacity factor and the fuel switching factor are determined annually before the end of June for the subsequent 12-month period. Currently, the capacity price is determined using the following formula:

Capacity Price = Reference Capacity Price * Reserve Capacity Factor * Time of the Day

Capacity Factor * Fuel Switching Factor

In the three months ended March 31, 2022, the average capacity price of our generation units was Won 10.2/kWh.

The reference capacity price refers to the Korean Won amount per kilowatt-hour payable annually for annualized available capacity indicated in the bids submitted the day before trading (provided that such capacity is actually available on the relevant day of trading), and is determined based on the construction costs and maintenance costs of a standard generation unit and related transmission access facilities, and a base rate for loading electricity. Prior to October 2016, the same reference capacity price applied uniformly to all generation units. Since October 2016, the reference capacity price applies differentially to each generation unit depending on the start year of its commercial operation.

The reserve capacity factor relates to the requirement to maintain a standard capacity reserve margin in the range of 15% in order to prevent excessive capacity build-up as well as induce optimal capacity investment at the regional level. The capacity reserve margin is the ratio of peak demand to the total available capacity. Under this system, generation units in a region where available capacity is insufficient to meet demand for electricity, as evidenced by a failure to meet the standard capacity reserve margin, receive an increased capacity price. Conversely, generation units in a region where available capacity exceeds demand for electricity, as evidenced by exceeding the standard capacity reserve margin, receive a reduced capacity price. Since October 2016, the reserve capacity factor also factors in the transmission loss per generation unit in order to favor transmission of electricity from a nearby generation unit.

The time-of-the-day capacity coefficient allows hourly and seasonal adjustments in order to incentivize the Generation Subsidiaries to operate their generation facilities at full capacity during periods of highest demand. For example, the capacity price paid differs depending on whether the relevant hour is an "on-peak" hour, a "mid-peak" hour or an "off-peak" hour (the capacity price being highest for the on-peak hours and lowest for the off-peak hours) and the capacity price paid is highest during the months of January, July and August when electricity usage is highest due to weather conditions.

The fuel switching factor, which was introduced in October 2016 to promote environmental sensitivities to climate change, seeks to encourage reduced carbon emission by penalizing generation units (mostly coal-fired units) for excessive carbon emission.

Other than subject to the aforementioned variations, the same capacity pricing mechanism applies to all generation units regardless of fuel types used.

Vesting Contract System

On May 20, 2014, the Electricity Business Act was amended, with effect from November 21, 2014, to introduce a vesting contract system to determine the price and quantity of electricity to be sold and purchased through the KPX between the purchaser of electricity (currently, KEPCO) and the sellers of electricity (namely, the Generation Subsidiaries (including us) and IPPs). The application of the adjusted coefficient under the cost-based pool system is planned to be gradually replaced by the vesting contract system.

Under the vesting contract system, electricity generators using low-cost base load fuels (such as nuclear, coal, hydro and by-product gas) at a particular generation unit were to be required to enter into a contract with the purchaser of electricity (currently, KEPCO), which would specify, among other things, the quantity of electricity to be generated and sold from such generation unit and the price at which such electricity would be sold, subject to certain adjustments.

The introduction of the vesting contract system was intended principally to prevent excessive profit-taking by producers of electricity using low-cost base load fuels (such as nuclear, coal, hydro and by-product gas) by replacing the adjusted coefficient as the basis for determining the guaranteed return to generation companies, as well as to enhance the stability of electricity supply by requiring long-term contractual arrangements for the purchase and sale of electricity and promote cost savings, productivity enhancements and operational efficiency by providing incentives and penalties depending on the degree to which the generation companies could supply electricity at costs below the contracted electricity prices.

In order to minimize undue shock to the electricity trading market in Korea, the vesting contract system was to be implemented in phases starting with by-product gas-based electricity in 2015. The rollout of the vesting contract system was further studied by a task force consisting of representatives from the Government, the KPX and generation companies. Following such study, the Government announced in June 2016 that, due to changes in the electricity business environment (including an increase in generation capacity relative to peak usage, reduced fuel costs following a decline in oil prices and greater environmental concerns related to coal-fired electricity generation), it will indefinitely suspend any further rollout of the vesting contract system beyond by-product gas-based electricity, and retain the adjusted coefficient-based electricity pricing adjustment mechanism.

RENEWABLE PORTFOLIO STANDARD

In order to expand the utilization of renewable energy resources for generating electrical energy, to reduce greenhouse gas emission and to protect the environment, the Government adopted the RPS in December 2010, under which 25% of all electricity generated by the power generation companies in Korea will be required to be sourced from renewable energy by 2026. Generation companies receive Renewable Energy Certificates ("RECs"), based on a weighted scheme, for energy generated from an eligible renewable energy source, which can be used to satisfy their own RPS requirements or traded on the KPX to other generation companies to satisfy their RPS requirements. Penalties are levied on any generation company with generation capacities of 500 MW or more that fails to do so in the prescribed timeline.

THIRD BASIC NATIONAL ENERGY PLAN

On June 4, 2019, the MOTIE adopted the Third Basic National Energy Plan following consultations with representatives from civic groups, the power industry and academia. The Third Basic National Energy Plan, which is a comprehensive plan that covers the entire spectrum of energy industries in Korea, covers the period from 2019 to 2040 (compared to 2013 to 2035 under the Second Basic National Energy Plan) and focuses on the following five key tasks: (i) innovating the structure of energy consumption by strengthening the energy demand management of various sectors such as industrial, building and transportation, and streamlining pricing systems with the aim of improving the efficiency of energy consumption by 38% by 2040 and reducing energy demand by 18.6% by 2040, (ii) transitioning to a clean and safe mix of energy through increasing the share of renewable energy by 30~35% while reducing the share of nuclear and coal energy, (iii) expanding decentralized and participatory energy systems by increasing the share of distributed energy resources (such as renewable energy and fuel cells) in areas with demand and strengthening regional management by expanding the roles and responsibilities of local governments, (iv) bolstering the global competitiveness of Korea's energy industry by fostering future energy industries such as renewable energy, hydrogen and efficiency-enhancing industries, as well as through adding value to existing traditional energy industries, and (v) laying the foundation for conversion to clean and safe energy by improving the electricity, gas and heat market systems and building an energy big data platform to promote the creation of new industries.

However, the Third Basic National Energy Plan will be replaced or modified, in part, in accordance with the "New Government's Energy Policy Direction" announced in July 2022. According to the "New Government's Energy Policy Direction," the Government plans to expand the proportion of nuclear energy to a minimum of 30% by 2030 and adjust the renewable energy supply target to reasonable levels.

NINTH BASIC PLAN RELATING TO THE LONG-TERM SUPPLY AND DEMAND OF ELECTRICITY

In December 2020, the Government released the Ninth Basic Plan which serves as the guideline for stable medium and long-term supply of electric power. The Ninth Basic Plan replaced and superseded the Eighth Basic Plan, which covered the period from 2017 to 2031 and focused on, among other things, (i) increasing efforts to address environmental and safety concerns, including reducing greenhouse gas emission and yellow dust, (ii) decreasing the portion of electricity supplied using nuclear and coal energy sources, (iii) increasing the portion of electricity supplied from

renewable energy, in particular solar and wind power and (iv) promoting the replacement of coal with LNG as an energy source by reducing the gap in expenses incurred in using the respective fuel types, for example, by adjusting the consumption tax rates applicable to the respective fuel types.

The objectives of the Ninth Basic Plan include, among other things, (i) changing energy policy to a safe and clean energy mix by reducing coal and nuclear power generation and increasing renewable energy, (ii) preparing implementation measures for further reduction of greenhouse gas, (iii) accelerating investments in renewable energy and expanding infrastructure for the transition to a low-carbon economy/society and (iv) improving the electricity market system to promote fair competition and lay the foundation for expansion of eco-friendly energy. Furthermore, the Ninth Basic Plan includes the following implementation measures: (i) six coal-fired generation plants will be retired by 2022, (ii) 24 other coal-fired generation plants will be retired and converted to LNG fuel use by 2034, (iii) domestic renewable energy generation capacity will be expanded to 77.8 gigawatts by 2034 to meet the target set in the Third Basic National Energy Plan and (iv) the extension of life of eleven nuclear generation units will not be granted and such units will be retired by 2034. However, the Ninth Basic Plan will be replaced or modified, in part, in accordance with the "New Government's Energy Policy Direction" announced in July 2022. According to the "New Government's Energy Policy Direction," the Government plans to expand the proportion of nuclear energy to a minimum of 30% by 2030 and adjust the renewable energy supply target to reasonable levels. The specifics of the "New Government's Energy Policy Direction" are to be discussed in the Tenth Basic Plan, which is expected to be established by the end of 2022.

PLAN TO REFORM STATE-OWNED ENTERPRISES IN THE ENERGY AND RESOURCES DEVELOPMENT SECTOR

On June 14, 2016, the Government announced broad plans to overhaul state-owned enterprises in the energy and resources development sector, including KEPCO, in response to reported losses and inefficiencies among state-owned enterprises. The Government aimed to streamline overlapping energy and resources development roles and functions among the state-owned enterprises by divesting from businesses not essential to the core purpose for which a stated-owned enterprise was established, while also encouraging competition by gradually opening up the energy and resources development industry to the private sector. With respect to the electric power industry, the plans call for, among other things, (i) KEPCO's divestiture of its overseas businesses to the Generation Subsidiaries, (ii) the designation and specialization among the Generation Subsidiaries on the areas of business to pursue overseas, (iii) the gradual liberalization of the electricity distribution market and (iv) the initial public offering of the Generation Subsidiaries, in conjunction with the sale of minority interests (20% to 30%) in such subsidiaries, by 2020. Pursuant to such plans, KEPCO considered a sale in the public market of a minority stake of its shares in the Generation Subsidiaries. However, to our knowledge, the planned sales have been put on hold. In any event, we believe that KEPCO plans to maintain a controlling interest in each of the Generation Subsidiaries.

BUSINESS

OVERVIEW

We were established on April 2, 2001 as a result of a corporate split from KEPCO, pursuant to which KEPCO transferred all of its nuclear and hydroelectric power generation assets and related liabilities to us in accordance with the Act on the Promotion of Restructuring the Electric Power Industry and the Restructuring Plan for the electricity industry in Korea announced by MOTIE. See "The Korean Electricity Industry – Restructuring of the Electricity Industry in Korea." Pursuant to Article 2 of our Articles of Association, we engage in nuclear and hydroelectric power generation and sell all of our generated electricity to KEPCO through the KPX in accordance with Article 31 of the Electricity Business Act of Korea. We are wholly owned by KEPCO and are the only nuclear power generation company in Korea.

Our vision is to become a trusted leader in the global energy industry. Our key strategic priorities are in the following four areas: substantialize our core businesses, diversify our growing businesses, achieve social value and promote continuous innovation. We maintain a "safety first, corruption free" principle for all our operating systems and comprehensively improve our business through technological innovation. We plan to continue to focus on winning mandates for EPC projects as well as explore opportunities to expand into the "build, operate and own" business. We also strive to explore new business areas, such as decommissioning and renewable energy optimization, with a view of exporting such services in the future.

As of March 31, 2022, we owned and operated 24 nuclear power generation units with aggregate installed capacities of 23,250 MW, 53 hydroelectric power generation units (which includes pumped-storage hydro power generation units) with aggregate installed capacities of 5,307 MW, 46 solar generation units with aggregate installed capacities of 62 MW and one wind power generation unit with installed capacity of 0.75 MW. All of our nuclear power plants supply base load power, and hydroelectric power plants supply electricity during peak hours.

Nuclear power is one of the largest electricity supply sources in Korea. As of March 31, 2022, we owned approximately 21.4% of the total electricity generation capacity in Korea (excluding plants generating electricity primarily for private or emergency use). In 2021 and for the three months ended March 31, 2022, we sold 154,843 GW hours and 42,983 GW hours of electricity, respectively, to KEPCO. Nuclear power, all of which is generated by us, accounted for 28.0% and 29.3% of total electricity sold in Korea in 2021 and for the three months ended March 31, 2022, respectively, in terms of sales volume. In 2021 and for the three months ended March 31, 2022, nuclear power generation accounted for 97.1% and 97.4%, respectively, of the electricity generated by us.

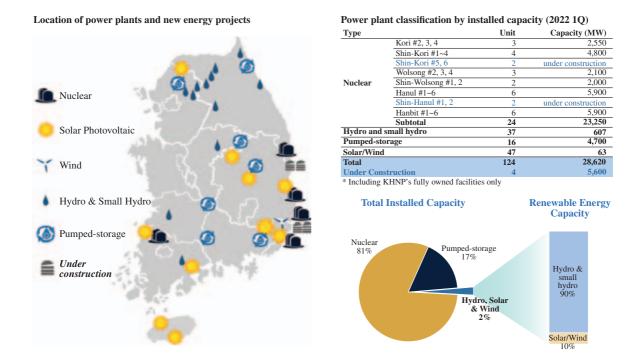
In 2019, 2020, 2021 and for the three months ended March 31, 2022, our sales were Won 8,983 billion, Won 10,000 billion Won 9,469 billion and Won 3,050 billion, respectively. We recorded profit for the year of Won 247 billion in 2019, Won 618 billion in 2020, Won 287 billion in 2021 and profit for the period of Won 334 billion for the three months ended March 31, 2022. As of March 31, 2022, our total assets amounted to Won 65,661 billion.

We are a corporation of unlimited duration incorporated with limited liability under the laws of Korea. Our registered office is located at 1655 Bulguk-ro, Munmudaewang-myeon, Gyeongju-si, Gyeongsangbuk-do 38120, Republic of Korea. Our corporate registration number in the commercial registry office in Korea is 120-86-18943.

POWER GENERATION

KEPCO commenced nuclear power generation activities in 1978 when its first nuclear power generation unit, Kori unit #1, began commercial operations. On April 2, 2001, KEPCO transferred all of its nuclear and hydroelectric power generation assets and related liabilities to us.

The following map shows the geographic locations of our power plants as of March 31, 2022.



As of March 31, 2022, we owned and operated (i) 24 nuclear power generation units at five power plant complexes in Korea, located in Kori, Saeul, Wolsong, Hanbit and Hanul, (ii) 53 hydroelectric power generation units (which include 16 pumped-storage hydro power generation units), (iii) 46 solar power generation units and (iv) one wind power generation unit.

The table below sets forth, as of the dates and the periods indicated, the number of units, installed capacity and the average capacity factor for the four types of generation facilities.

| | Number of Units as of March 31, 2022 | Installed Capacity as of March 31, 2022 ⁽¹⁾ | Average Capacity Factor in 2021 ⁽²⁾ |
|------------|---|---|---|
| | | (MWs) | (%) |
| Nuclear | 24 | 23,250 | 74.5 |
| Hydro | 53 | 5,307 | 10.0 |
| Solar/Wind | 47 | 63 | 15.0 |
| Total | 124 | 28,620 | |

Notes:

⁽¹⁾ Installed capacity represents the level of output that may be sustained continuously without significant risk of damage to plant and equipment.

⁽²⁾ Average capacity factor represents the total number of kWh of electricity generated in the respective period divided by the total number of kWh that would have been generated assuming continuous operation of generation units at installed capacity expressed as a percentage.

Nuclear power generation continues to play an important component in Korea's power generation mix. While nuclear units are more expensive to construct than other units of comparable capacity, nuclear fuel is less expensive than fossil fuels in terms of marginal costs for producing comparable amounts of energy. However, efficient operation of nuclear units requires that such plants be run continuously at relatively constant energy output levels. As electricity cannot be stored in significant amounts, generation must be varied continuously to match demand. Each day there is a certain level below which demand does not fall. This minimum level of demand throughout the day is known as "base load." Nuclear power generation units operate at base load because design and safety considerations limit the extent to which the plant can vary output. For production at times when demand exceeds the level of continuous demand, reliance is made on units fired by fossil fuel and hydroelectric units, which can be started and shut down more efficiently than nuclear units. Hydroelectric units, along with thermal units fired by LNG and gas turbine internal combustion units, are one of the most efficient types of units for rapid startup and shutdown, and therefore have been used principally to meet short-term surges in demand.

Nuclear

The table below sets forth certain information with respect to the nuclear power generation units we owned as of December 31, 2021.

| | Reactor Type ⁽¹⁾ | Reactor Design ⁽²⁾ | Turbine and Generation ⁽³⁾ | Commencement of Operations | Capacity Installed | Average Capacity Factor |
|-----------------|-----------------------------|-------------------------------|--|----------------------------|---------------------------|-------------------------------|
| | | | | | (MWs) | (%) |
| Kori-2 | PWR | W | GEC | 1983 | 650 | 97.9 |
| Kori-3 | PWR | W | GEC, Hitachi | 1985 | 950 | 63.2 |
| Kori 4 | PWR | W | GEC, Hitachi | 1986 | 950 | 63.9 |
| Shin-Kori-1 | OPR1000 | D, KEPCO E&C, W | D, GE | 2011 | 1,000 | 78.7 |
| Shin-Kori-2 | OPR1000 | D, KEPCO E&C, W | D, GE | 2012 | 1,000 | 84.1 |
| Shin-Kori-3 | APR1400 | D, KEPCO E&C, W | D, GE | 2016 | 1,400 | 75.6 |
| Shin-Kori 4 | APR1400 | D, KEPCO E&C, W | D, GE | 2018 | 1,400 | 74.3 |
| Wolsong-2 | PHWR | AECL, H, K | H, GE | 1997 | 700 | 93.9 |
| Wolsong-3 | PHWR | AECL, H | H, GE | 1998 | 700 | 89.1 |
| Wolsong-4 | PHWR | AECL, H | H, GE | 1999 | 700 | 85.9 |
| Shin-Wolsong-1 | OPR1000 | D, KEPCO E&C, W | D, GE | 2012 | 1,000 | 76.9 |
| Shin-Wolsong-2 | OPR1000 | D, KEPCO E&C, W | D, GE | 2015 | 1,000 | 87.2 |
| Hanbit-1 | PWR | W | W, D | 1986 | 950 | 72.6 |
| Hanbit-2 | PWR | W | W, D | 1987 | 950 | 98.2 |
| Hanbit-3 | PWR | H, CE, K | H, GE | 1995 | 1,000 | 100.1 |
| Hanbit-4 | PWR | H, CE, K | H, GE | 1996 | 1,000 | 0.0 |
| Hanbit-5 | PWR | D, W, KEPCO E&C | D, GE | 2002 | 1,000 | 18.7 |
| Hanbit-6 | PWR | D, W, KEPCO E&C | D, GE | 2002 | 1,000 | 62.4 |
| Hanul-1 | PWR | F | A | 1988 | 950 | 95.2 |
| Hanul-2 | PWR | F | A | 1989 | 950 | 74.0 |
| Hanul-3 | OPR1000 | H, CE, K | H, GE | 1998 | 1,000 | 66.2 |
| Hanul-4 | OPR1000 | H, CE, K | H, GE | 1999 | 1,000 | 70.9 |
| Hanul-5 | OPR1000 | D, KEPCO E&C, W | D, GE | 2004 | 1,000 | 84.9 |
| Hanul-6 | OPR1000 | D, KEPCO E&C, W | D, GE | 2005 | 1,000 | 100.0 |
| Total installed | | | | | | |
| capacity | | | | | 23,250 | 74.5 |

Notes:

(1) "PWR" means pressurized light water reactor; "PHWR" means pressurized heavy water reactor, "OPR1000" means two-loop 1000 MWe Generation II nuclear reactor, "APR1400" means 1400 MW advanced pressurized water nuclear reactor.

- (2) "W" means Westinghouse Electric Company (U.S.A.); "AECL" means Atomic Energy Canada Limited (Canada); "F" means Framatome (France); "H" means Hanjung; "CE" means Combustion Engineering (U.S.A.); "D" means Doosan Heavy Industries; "K" means Korea Atomic Energy Research Institute; "KEPCO E&C" means KEPCO Engineering & Construction.
- (3) "GEC" means General Electric Company (U.K.); "P" means Parsons (Canada and U.K.); "W" means Westinghouse Electric Company (U.S.A.); "A" means Alstom (France); "H" means Hanjung; "GE" means General Electric (U.S.A.); "D" means Doosan Heavy Industries; "Hitachi" means Hitachi Ltd. (Japan).

We are currently building four additional nuclear power generation units, consisting of two units at the Shin-Kori site and two units at the Shin-Hanul site, each with a 1,400 megawatt capacity. We expect to complete these units by 2025. In December 2019, our Wolsong unit #1 was permanently shut down. We also announced the abandonment of plans to construct four new nuclear units and our plans to construct two nuclear units, Shin-Hanul units #3 and 4 for which construction permits had already been received, have been suspended until further notice from the Government. Furthermore, the Ninth Basic Plan precludes the extension of the operating lives of eleven nuclear generation units, which will be retired by 2034. However, in accordance with the "New Government's Energy Policy Direction" announced in July 2022, the preparatory work for resuming the construction of Shin-Hanul units #3 and 4 is expected to commence in the near future.

The structure of a nuclear power plant in many aspects resembles that of a conventional thermal power station, since in both cases the heat produced in the boiler (or reactor) is transported by some coolant and used to generate steam. The steam then goes to the blades of a turbine and by rotating them, causes a connected generator to produce electric energy. The steam goes to the condenser, where it condenses, i.e., becomes liquid again. The cooled-down water afterwards returns to the boiler or reactor, or in the case of PWRs to the steam generator.

The key difference between a conventional thermal power station and a nuclear power plant is the method of heat production. In a fossil plant, oil, gas or coal is fired in the boiler, as a result of which the chemical energy of the fuel is converted into heat. In a nuclear power plant, energy that comes from fission reactions is utilized.

Several nuclear power plant types are used for energy generation in the world. The different types are usually classified based on the main features of the reactor applied in them.

At our reactors, we apply two of the most widespread power plant reactor types:

- Light water reactors: both the moderator and coolant are operated with light water (H20). The PWR and boiling water reactors belong to this category. These units use enriched uranium and require a complete shutdown of the power generation unit during a nuclear fuel change.
- Heavy water reactors: both the coolant and moderator are operated with heavy water (D20). The PHWR belongs to this category. These units use non-enriched uranium and do not require a shutdown of the power generation unit during a nuclear fuel change.

As of March 31, 2022, extended fuel cycle operations were in effect for all 24 of our nuclear units. Under extended fuel cycle operations, nuclear units can be run continuously for twelve-month to eighteen-month periods between shutdowns for refueling and maintenance.

In 2021, the average shutdown period for fuel replacement and maintenance was 121.3 days per unit of which approximately 124 to 209 hours were spent on fuel replacement per unit. Our nuclear units experienced an average of 0.25 unplanned shutdowns per unit in 2021 and an average of 0.08 unplanned shutdowns per unit in the three months ended March 31, 2022.

In the ordinary course of operation, our nuclear units routinely experience damage and wear and tear and are repaired during routine shutdown periods or during unplanned temporary suspensions of operations. No significant damage has occurred in any of our nuclear reactors and no significant nuclear exposure or release incidents have occurred at any of our nuclear facilities since the first nuclear plant commenced operations in 1978.

Nuclear power has a stable and low cost structure that forms the base load of Korea's electricity supply. In 2021 and the three months ended March 31, 2022, the average nuclear fuel cost, which includes power purchase costs and material costs, was Won 7.75 per kWh and Won 7.28 per kWh, respectively.

Hydroelectric

The table below sets forth for the year ended December 31, 2021 certain information regarding each hydroelectric power plant.

| Name (Number of Plants) | Classification | Year Built | Installed Capacity | Average Capacity Factor For the Year Ended December 31, 2021 |
|--------------------------|----------------|------------|-----------------------|--|
| | | | (MWs) | (%) |
| Hwacheon (4) | Hydro | 1944 | 108.0 | 13.9 |
| Chuncheon (2) | Hydro | 1965 | 62.3 | 15.1 |
| Uiam (2) | Hydro | 1967 | 48.0 | 24.4 |
| Cheongpyeong (4) | Hydro | 1943/2011 | 140.1 | 17.1 |
| Paldang (4) | Hydro | 1972 | 120.0 | 31.2 |
| Chilbo (Seomjingang) (3) | Hydro | 1945 | 35.4 | 23.3 |
| Gangneung (2) | Hydro | 1990 | 82.0 | 0.0 |
| Gangrim (3) | Small hydro | 1978 | 0.5 | 3.3 |
| Boseonggang (2) | Small hydro | 1935 | 4.5 | 39.4 |
| Goesan (2) | Small hydro | 1957 | 2.8 | 35.6 |
| Muju (1) | Small hydro | 2003 | 0.4 | 10.0 |
| Yangyang (2) | Small hydro | 2004 | 1.4 | 38.3 |
| Yangyang (1) | Small hydro | 2020 | 0.2 | 75.2 |
| Sancheong (2) | Small hydro | 2010 | 1.0 | 39.9 |
| Yecheon (1) | Small hydro | 2011 | 0.9 | 19.8 |
| Yecheon (1) | Small hydro | 2018 | 0.03 | 90.8 |
| Topyeong (1) | Small hydro | 2011 | 0.05 | 12.4 |
| Cheongpyeong (2) | Pumped Storage | 1980 | 400.0 | 9.3 |
| Samrangjin (2) | Pumped Storage | 1985 | 600.0 | 11.1 |
| Cheongsong (2) | Pumped Storage | 2006 | 600.0 | 8.9 |
| Sancheong (2) | Pumped Storage | 2001 | 700.0 | 12.0 |
| Yangyang (4) | Pumped Storage | 2006 | 1,000.0 | 10.7 |
| Muju (2) | Pumped Storage | 1995 | 600.0 | 12.0 |
| Yecheon (2) | Pumped Storage | 2011 | 800.0 | 0.0 |
| Total | | | 5,307.5 | 10.0 |

As of March 31, 2022, we operated 53 hydroelectric power-producing units (which includes pumped-storage power generation units) with total generating capacity of approximately 5,307 MW. The Government-owned Korea Water Resources Corporation assumes full control of multipurpose dams, while we maintain the dams used for power generation.

Existing hydroelectric power plants exploit most of the water resources in Korea available for commercially viable hydroelectric power generation. Consequently, we are working to develop pumped-storage hydro power generation units with capacity of 1.8 GW by 2034.

Due to its high cost of generation and relative ease in starting up and shutting down the generation units, hydroelectric power generation is reserved for peak periods.

Fuel

All uranium ore concentrates used by us are imported from, and conversion and enrichment of such concentrates are provided by, sources outside Korea and are paid for with currencies other than Won, primarily U.S. dollars.

In order to ensure stable supply, we enter into long-term and medium-term contracts with various suppliers, and supplement such supplies with purchases of fuels on spot markets. In addition, we have entered into definitive agreements to purchase equity interests in uranium mines, a uranium production company and a uranium enrichment plant. In connection with such investments, we have secured long-term supply of uranium pursuant to those and other related agreements. See "— Overseas Activities."

In 2021 and for the three months ended March 31, 2022, we purchased our uranium concentrates requirements under both long-term and spot supply contracts with suppliers in Australia, Canada, France, Germany, Hong Kong, Japan, Kazakhstan, Switzerland, the United Kingdom and Uzbekistan. Under the long-term supply contracts, the purchase prices of uranium concentrates are adjusted annually based on base price and spot market price prevailing at the time of actual delivery. Non-Korean suppliers provide the conversion and enrichment of uranium concentrates and a Korean supplier provide fabrication of fuel assemblies.

Contract prices for processing of uranium are adjusted annually in accordance with the general rate of inflation with exceptions for certain fixed contract prices. We intend to obtain our uranium requirements in the future, in part, through purchases under long-term and medium-term contracts and, in part, through spot market purchases.

SALES AND PURCHASE OF POWER

Generation Companies' Combined Sales of Electricity

Pursuant to Article 31 of the Electricity Business Act of Korea, we sell all of the electricity we generate to KEPCO through the KPX. KEPCO is currently the only company engaged in the transmission and distribution of electricity in Korea. The results of power trading, as effected through the KPX, for the generation subsidiaries, including us, and IPPs for the years ended December 31, 2019, 2020 and 2021 and the three months ended March 31, 2021 and 2022 are as follows:

For the year ended December 31, 2019 Percentage Percentage of Total of Total $Volume^{(1)(2)}$ Sales⁽¹⁾ Volume **Sales Unit Price** (Gigawatt (in billions hours) (%) of Won) (%) (Won/kWh) **Generation Companies:** 8,608 KHNP 142,949 27.0 18.1 60.22 60,361 11.4 5,354 11.2 88.70 43,342 8.2 4,435 9.3 102.33 9.1 44,178 8.4 4,354 98.56 48,932 9.2 10.5 101.91 4,987 EWP 9.1 48,144 4,658 9.8 96.75 $Others^{(3)} \ \dots \dots \dots \dots \dots$ 141,168 26.7 15,290 32.1 108.31 529,075 100.0 47,686 100.0 90.13 **Energy Sources:** 138,607 26.2 8,094 17.0 58.39 Bituminous coal 215,012 40.6 18,808 39.4 87.47 Anthracite coal 2,331 0.4 240 0.5 102.85 4,011 0.8 918 1.9 228.79 LNG combined-cycle 138,655 26.2 16,519 34.6 119.13 0.5 2,193 0.4 236 107.83 Pumped storage 3,444 0.7 419 0.9 121.62 $Renewables^{(1)} \dots \dots \dots$ 99.30 22,575 4.3 2,242 4.7

Source: KEPCO.

Notes:

- (1) Excludes sale of RECs by generation companies.
- (2) Includes volume from CES projects.

(3) Includes, among others, POSCO, OCI Company Ltd., LG Petrochemical Co., Ltd. and Korea Petrochemical IND. Co., Ltd.

0.4

100.0

211

47,686

0.4

100.0

94.01

90.13

2,247

529,075

For the year ended December 31, 2020

| | Volume ⁽¹⁾⁽²⁾ | Percentage of Total Volume | Sales ⁽¹⁾ | Percentage of Total Sales | Unit Price |
|---------------------------|--------------------------|----------------------------------|----------------------|---------------------------------|------------|
| | (Gigawatt | (61) | (in billions | (61) | (11//-// |
| Companyion Communicati | hours) | (%) | of Won) | (%) | (Won/kWh) |
| Generation Companies: | 156 717 | 20.4 | 0.552 | 22.0 | 60.06 |
| KHNP | 156,717 | 30.4 | 9,553 | 23.0 | 60.96 |
| KOSEP | 48,677 | 9.4 | 4,047 | 9.7 | 83.14 |
| KOMIPO | 46,265 | 9.0 | 4,154 | 10.0 | 89.79 |
| KOWEPO | 37,684 | 7.3 | 3,502 | 8.4 | 92.94 |
| KOSPO | 41,433 | 8.0 | 3,946 | 9.5 | 95.23 |
| EWP | 43,027 | 8.4 | 3,981 | 9.6 | 92.52 |
| Others ⁽³⁾ | 141,304 | 27.4 | 12,378 | 29.8 | 87.60 |
| Total | 515,107 | 100.0 | 41,561 | 100.0 | 80.68 |
| Energy Sources: | | | | | |
| Nuclear | 152,319 | 29.6 | 9,092 | 21.9 | 59.69 |
| Bituminous coal | 185,178 | 35.9 | 15,209 | 36.6 | 82.13 |
| Anthracite coal | 1,876 | 0.4 | 153 | 0.4 | 81.56 |
| Oil | 2,184 | 0.4 | 422 | 1.0 | 193.22 |
| LNG combined-cycle | 140,784 | 27.3 | 13,914 | 33.5 | 98.83 |
| Hydro | 3,156 | 0.6 | 258 | 0.6 | 81.72 |
| Pumped storage | 3,257 | 0.6 | 368 | 0.9 | 112.99 |
| Renewables ⁽¹⁾ | 19,179 | 3.7 | 1,539 | 3.7 | 80.24 |
| Others | 7,174 | 1.4 | 607 | 1.5 | 84.61 |
| Total | 515,107 | 100.0 | 41,561 | 100.0 | 80.68 |

Source: KEPCO.

Notes:

(1) Excludes sale of RECs by generation companies.

(2) Includes volume from CES projects.

(3) Includes, among others, POSCO, OCI Company Ltd., LG Petrochemical Co., Ltd. and Korea Petrochemical IND. Co., Ltd.

For the year ended December 31 2021

| | For the year ended December 31, 2021 | | | | | |
|-----------------------|--------------------------------------|----------------------------------|----------------------|---------------------------------|-------------------|--|
| | Volume ⁽¹⁾⁽²⁾ | Percentage of Total Volume | Sales ⁽¹⁾ | Percentage of Total Sales | Unit Price | |
| | (Gigawatt hours) | (%) | (in billions of Won) | (%) | (Won/kWh) | |
| Generation Companies: | | | | | | |
| KHNP | 154,843 | 28.9 | 9,069 | 17.6 | 58.57 | |
| KOSEP | 43,824 | 8.2 | 4,581 | 8.9 | 104.54 | |
| KOMIPO | 46,203 | 8.6 | 5,249 | 10.2 | 113.62 | |
| KOWEPO | 44,469 | 8.3 | 4,825 | 9.4 | 108.51 | |
| KOSPO | 48,605 | 9.1 | 5,654 | 11.0 | 116.33 | |
| EWP | 41,530 | 7.7 | 4,604 | 8.9 | 110.86 | |
| Others ⁽³⁾ | 156,513 | 29.2 | 17,585 | 34.1 | 112.36 | |
| Total | 535,985 | 100.0 | 51,569 | 100.0 | 96.21 | |

For the year ended December 31, 2021

| | Volume ⁽¹⁾⁽²⁾ (Gigawatt | Percentage of Total Volume | Sales ⁽¹⁾ (in billions | Percentage of Total Sales | Unit Price |
|---------------------------|------------------------------------|----------------------------------|-----------------------------------|---------------------------------|------------|
| Energy Sources: | hours) | (%) | of Won) | (%) | (Won/kWh) |
| Nuclear | 150,163 | 28.0 | 8,451 | 16.4 | 56.28 |
| Bituminous coal | 186,813 | 34.9 | 19,001 | 36.9 | 101.71 |
| Anthracite coal | 1,654 | 0.3 | 172 | 0.3 | 103.92 |
| Oil | 2,110 | 0.4 | 460 | 0.9 | 218.12 |
| LNG-combined cycle | 163,079 | 30.4 | 19,955 | 38.7 | 122.37 |
| Hydro | 2,349 | 0.4 | 253 | 0.5 | 107.64 |
| Pumped storage | 3,667 | 0.7 | 515 | 1.0 | 140.38 |
| Renewables ⁽¹⁾ | 23,368 | 4.4 | 2,498 | 4.8 | 106.88 |
| Others | 2,785 | 0.5 | 265 | 0.5 | 95.06 |
| Total | 535,985 | 100.0 | 51,569 | 100.0 | 96.21 |

Source: KEPCO.

Notes:

- (1) Excludes sale of RECs by generation companies.
- (2) Includes volume from CES projects.
- (3) Includes, among others, POSCO, OCI Company Ltd., LG Petrochemical Co., Ltd. and Korea Petrochemical IND. Co., Ltd.

For the three months ended March 31, 2021

| | Volume ⁽¹⁾⁽²⁾ | Percentage of Total Volume | Sales ⁽¹⁾ | Percentage of Total Sales | Unit Price |
|-----------------------|--------------------------|----------------------------------|----------------------|---------------------------------|---|
| | (Gigawatt hours) | (%) | (in billions of Won) | (%) | (Won/kWh) |
| Generation Companies: | 110415) | (,,,) | 01 ((011) | (10) | (, , , , , , , , , , , , , , , , , , , |
| KHNP | 39,765 | 29.3 | 2,894 | 23.7 | 72.78 |
| KOSEP | 11,377 | 8.4 | 1,022 | 8.4 | 89.83 |
| KOMIPO | 11,292 | 8.3 | 1,105 | 9.0 | 97.86 |
| KOWEPO | 10,470 | 7.7 | 1,062 | 8.7 | 101.43 |
| KOSPO | 10,382 | 7.7 | 1,102 | 9.0 | 106.15 |
| EWP | 10,624 | 7.8 | 1,094 | 9.0 | 102.97 |
| Others ⁽³⁾ | 41,599 | 30.7 | 3,938 | 32.2 | 94.67 |
| Total | 135,509 | 100.0 | 12,217 | 100.0 | 90.16 |
| Energy Sources: | | | | | |
| Nuclear | 38,651 | 28.5 | 2,761 | 22.6 | 71.43 |
| Bituminous coal | 42,917 | 31.7 | 3,899 | 31.9 | 90.85 |
| Anthracite coal | 461 | 0.3 | 40 | 0.3 | 86.77 |
| Oil | 565 | 0.4 | 109 | 0.9 | 192.92 |
| LNG-combined cycle | 45,001 | 33.2 | 4,692 | 38.4 | 104.26 |
| Hydro | 433 | 0.3 | 42 | 0.3 | 97.00 |
| Pumped storage | 937 | 0.7 | 117 | 1.0 | 124.87 |
| $Renewables^{(1)}$ | 5,695 | 4.2 | 490 | 4.0 | 85.86 |
| Others | 848 | 0.6 | 68 | 0.6 | 80.19 |
| Total | 135,509 | 100.0 | 12,217 | 100.0 | 90.16 |

Source: KEPCO.

Notes:

- (1) Excludes sale of RECs by generation companies.
- (2) Includes volume from CES projects.
- (3) Includes, among others, POSCO, OCI Company Ltd., LG Petrochemical Co., Ltd. and Korea Petrochemical IND. Co., Ltd.

For the three months ended March 31, 2022

| | For the three months ended Waren 31, 2022 | | | | |
|---------------------------------------|---|----------------------------------|----------------------|---------------------------------|---------------------|
| | Volume ⁽¹⁾⁽²⁾ | Percentage of Total Volume | Sales ⁽¹⁾ | Percentage of Total Sales | Unit Price |
| | (Gigawatt | | (in billions | | |
| | hours) | (%) | of Won) | (%) | (Won/kWh) |
| Generation Companies: | | | | | |
| KHNP | 42,983 | 30.1 | 2,935 | 13.8 | 68.28 |
| KOSEP | 11,076 | 7.8 | 1,681 | 7.9 | 151.77 |
| KOMIPO | 12,180 | 8.5 | 2,070 | 9.7 | 169.95 |
| KOWEPO | 11,043 | 7.7 | 1,811 | 8.5 | 164.00 |
| KOSPO | 11,670 | 8.2 | 2,155 | 10.1 | 184.66 |
| EWP | 9,437 | 6.6 | 1,613 | 7.6 | 170.92 |
| Others ⁽³⁾ | 44,292 | 31.0 | 9,060 | 42.5 | 204.55 |
| Total | 142,681 | 100.0 | 21,323 | 100.0 | 149.45 |
| Energy Sources: | | | | | |
| Nuclear | 41,826 | 29.3 | 2,632 | 12.3 | 62.93 |
| Bituminous coal | 46,793 | 32.8 | 6,816 | 32.0 | 145.66 |
| Anthracite coal | 0 | 0.0 | 5 | 0.0 | N.A. ⁽⁴⁾ |
| Oil | 725 | 0.5 | 171 | 0.8 | 235.86 |
| LNG-combined cycle | 44,605 | 31.3 | 9,949 | 46.7 | 223.05 |
| Hydro | 439 | 0.3 | 91 | 0.4 | 207.29 |
| Pumped storage | 995 | 0.7 | 269 | 1.3 | 270.35 |
| $Renewables^{(1)}\ \dots \dots \dots$ | 6,735 | 4.7 | 1,287 | 6.0 | 191.09 |
| Others | 564 | 0.4 | 104 | 0.5 | 184.40 |
| Total | 142,681 | 100.0 | 21,323 | 100.0 | 149.45 |

Source: KEPCO.

Notes:

- (1) Excludes sale of RECs by generation companies.
- (2) Includes volume from CES projects.
- (3) Includes, among others, POSCO, OCI Company Ltd., LG Petrochemical Co., Ltd. and Korea Petrochemical IND. Co., Ltd.
- (4) Not Applicable.

Cost-based Pool System

Currently, other than in limited circumstances under the CES and certain exceptional transactions stipulated under the Enforcement Decree of the Electricity Business Act, the purchase and sale of electricity in Korea is required to be made through the KPX. The pricing of electricity in the Korean electricity market is based on the "cost-based pool" system and is determined principally based on the variable cost of generating electricity, adjusted by an adjustment factor that varies depending on fuel sources. See "The Korean Electricity Industry – Power Purchase – Cost-Based Pool System."

Demand Trends in Korea

The rapid growth in Korea's economy since the early 1960s has resulted in substantial growth in the demand for electricity. Consumption levels, particularly during periods of peak demand, continue to press the limits of available supply.

According to KEPCO, demand for electricity in Korea grew at a compounded average rate of 1.5% per annum for the five years ended December 31, 2021, and total demand for electricity in Korea decreased by 1.1% in 2019 and 2.2% in 2020 but increased by 4.7% in 2021, in each case, year on year. The GDP growth rate at chained 2015 year prices was 2.2% in 2019, (0.7)% in 2020 and 4.0% in 2021, in each case, year on year based on preliminary data from the Bank of Korea.

The table below sets forth, for the periods indicated, the annual rate of growth in Korea's GDP as published by the Bank of Korea and the annual rate of growth in electricity demand (measured in total annual electricity consumption) as published by KEPCO.

For the year ended December 31,

| | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------------------------|------|------|--------|--------|------|
| Growth in GDP (at chained 2015 | | | | | |
| year prices) | 3.2% | 2.9% | 2.3% | (0.7)% | 4.0% |
| Growth in electricity consumption | 2.2% | 3.6% | (1.1)% | (2.2)% | 4.7% |

Source: KEPCO; Bank of Korea.

The demand for electricity varies depending on the season and the time of day. Demand is generally higher during the summer and winter seasons due to the use of air conditioners and heaters, respectively, and during daylight hours due to commercial and industrial activity. Variations in weather conditions may also cause significant variations in demand for electricity.

Demand by Class of Customer

The table below sets forth the consumption of electric power by class of customer for the periods indicated.

| For the | *** | hobee | Dogombon | 21 |
|---------|------|-------|----------|----|
| ror the | vear | enaea | December | |

| | 2017 | 2018 | 2019 | 2020 | 2021 | % of Total 2021 |
|------------------|---------|---------|---------|---------|---------|-----------------|
| | | | (%) | | | |
| Industrial | 285,970 | 292,999 | 289,240 | 278,660 | 291,333 | 54.6 |
| Public & Service | 111,298 | 116,934 | 116,227 | 113,639 | 119,550 | 22.4 |
| Residential | 68,544 | 72,895 | 72,639 | 76,303 | 79,915 | 15.0 |
| Agricultural | 17,251 | 18,504 | 18,882 | 19,029 | 20,603 | 3.9 |
| Others $^{(1)}$ | 24,684 | 24,818 | 23,511 | 21,639 | 22,029 | 4.1 |
| Total | 507,746 | 526,149 | 520,499 | 509,270 | 533,431 | 100.0 |

Source: KEPCO.

Note:

(1) Consists of consumption for education, street lighting and overnight power.

The industrial sector represents the largest segment of electricity consumption in Korea. Demand from the industrial sector has generally increased historically as well as in recent years as a result of a general increase in industrial production. Demand increased by 4.5% in 2021 to 291,333 gigawatt hours in 2021 compared to 2020, mainly due to recovering global economic activity reflecting the progress in ongoing COVID-19 vaccination efforts and rising mobility.

Demand from the public and service sector has also generally increased historically except for a decrease in 2020 due primarily to the impact of COVID-19. The continued expansion of the service sector of the Korean economy has resulted in increased office building construction, office automation and use of air conditioners. Growth in the public and service sector is also attributable to the construction industry and the expansion of the leisure and distribution industries. Demand from the public and service sector increased by 5.2% to 119,550 gigawatt hours in 2021 compared to 2020, primarily due to the recovery of the Korean economy in 2021 reflecting the progress in ongoing COVID-19 vaccination efforts and rising mobility.

Demand from the residential sector has generally increased historically as well as in recent years as a result of a general increase in rising household income. Demand increased by 4.7% in 2021 to 79,915 gigawatt hours in 2021 compared to 2020, mainly due to recovering global economic activity reflecting the progress in ongoing COVID-19 vaccination efforts and rising mobility.

POWER DEVELOPMENT

In June 2019, the Government announced the Third Basic National Energy Plan, which is a comprehensive plan that covers the entire spectrum of energy industries in Korea from 2019 to 2040. The Third Basic National Energy Plan focuses on the following five key tasks: (i) innovating the structure of energy consumption by strengthening the energy demand management of various sectors such as industrial, building and transportation, and streamlining pricing systems with the aim of improving the efficiency of energy consumption by 38% by 2040 and reducing energy demand by 18.6% by 2040, (ii) transitioning to a clean and safe mix of energy by increasing the share of renewable energy by 30~35% while reducing the share of nuclear and coal energy, (iii) expanding decentralized and participatory energy systems by increasing the share of distributed energy resources (such as renewable energy and fuel cells) in areas with demand and strengthening regional management by expanding the roles and responsibilities of local governments, (iv) bolstering the global competitiveness of Korea's energy industry by fostering future energy industries such as renewable energy, hydrogen and efficiency-enhancing industries, as well as through adding value to existing traditional energy industries, and (v) laying the foundation for conversion to clean and safe energy by improving the electricity, gas and heat market systems and building an energy big data platform to promote the creation of new industries.

In December 2020, the Government announced the Ninth Basic Plan for the period from 2020 to 2034, which focuses on, among other things, (i) changing energy policy to a safe and clean energy mix by reducing coal and nuclear power generation and increasing renewable energy, (ii) preparing implementation measures for further reduction of greenhouse gas, (iii) accelerating investments in renewable energy and expanding infrastructure for the transition to a low-carbon economy/society and (iv) improving the electricity market system to promote fair competition and lay the foundation for expansion of eco-friendly energy. Furthermore, the Ninth Basic Plan includes the following implementation measures: (i) six coal-fired generation plants will be retired by 2022, (ii) 24 other coal-fired generation plants will be retired and converted to LNG fuel use by 2034, (iii) domestic renewable energy generation capacity will be expanded to 77.8 gigawatts by 2034 to meet the target set in the Third Basic National Energy Plan and (iv) the extension of life of eleven nuclear generation units will not be granted and such units will be retired by 2034.

In June 2018, we announced the abandonment of plans to construct four new nuclear units, and our plans to construct two new units, Shin-Hanul units #3 and 4 for which construction permits had already been received, have been suspended until further notice from the Government. In December 2019, we shut down Wolsong unit #1 following our examination of the feasibility of its continued operations. However, in accordance with the "New Government's Energy Policy Direction" announced in July 2022, (1) we expect to commence preparatory work for resuming the construction of Shin-Hanul units #3 and 4 in the near future and (2) we have submitted a report to the Nuclear Safety and Security Commission for safety evaluations for continued operations of our Kori unit #2, whose operation license is scheduled to expire in 2023.

CAPITAL INVESTMENT PROGRAM

According to the Ninth Basic Plan, the ratio of reserve power required to peak power demand at any future point in time is set at 17% from 2020 to 2024, 18% from 2025 to 2028 and 22% from 2029 to 2034, and the total nominal capacity of all generating facilities in Korea in 2034 is expected to be 193 gigawatts, of which nuclear power plants are expected to contribute 10.1%, coal-fired

plants 15.0%, LNG plants 30.6%, renewable energy plants 40.3% and other plants 4.0%. In accordance with the objectives of the Ninth Basic Plan, we intend to add new installed capacity, primarily by making investments in renewable energy generation. However, the Ninth Basic Plan will be replaced or modified, in part, in accordance with the "New Government's Energy Policy Direction" announced in July 2022. According to the "New Government's Energy Policy Direction," the Government plans to expand the proportion of nuclear energy to a minimum of 30% by 2030 and adjust the renewable energy supply target to reasonable levels, and the energy capacity of generation plants may be adjusted in accordance with such changes in policies.

The table below sets forth information as to installed capacity of new or expanded nuclear power generation units to be completed by us in each year from 2022 to 2034 and the currently estimated year of completion.

| Expected Year of Completion | Number of Units | Name | Type of Units ⁽¹⁾ | Installed Capacity Addition |
|-----------------------------|-----------------|--------------|------------------------------|-----------------------------|
| 2022 | 1 | Shin-Hanul-1 | APR1400 | 1,400 |
| 2023 | 1 | Shin-Hanul-2 | APR1400 | 1,400 |
| 2024 | 1 | Shin-Kori-5 | APR1400 | 1,400 |
| 2025 | 1 | Shin-Kori-6 | APR1400 | 1,400 |
| Note: | | | | |

(1) APR1400 means 1400 MW advanced pressurized water nuclear reactor.

Our capital expenditures, which represent the amount of cash used in the acquisitions of land, buildings, structures, machinery, vehicles, fixtures and furniture, tools and intangible assets and acquisition of construction-in-progress in our consolidated statements of cash flows, were Won 2,649 billion in 2019, Won 2,596 billion in 2020, Won 2,003 billion in 2021 and Won 596 billion for the three months ended March 31 2022, which include amounts used to develop renewable energy sources, such as wind power and solar energy, and we have budgeted Won 2,653 billion, Won 2,332 billion and Won 2,244 billion for capital expenditures (including capitalized interest) for 2022, 2023 and 2024, respectively. The budgeted amounts may vary from the actual amounts of our capital expenditures for a variety of reasons, including changes in the number of units to be constructed and the timing of such construction, changes in rates of exchange between the Won and foreign currencies, changes in interest rates and changes in Government policy.

Under the RPS system adopted in 2012, 25% of all electricity generated by each power generation company in Korea, including us, will be required to be sourced from renewable energy sources by 2026. In order to comply with the RPS system, we are currently constructing solar, wind, biomass and fuel cell units, both independently and through joint ventures with others, which are scheduled to be completed between 2022 to 2026 and we plan to add 3,808 MW to our installed capacity.

We are also pursuing other renewable generation projects. The actual number and capacity of generation units we construct and the timing of such construction will depend upon a variety of factors, including demand growth projections, availability and cost of financing, changes in fuel prices and availability of fuel, ability to acquire necessary plant sites, environmental considerations, community opposition and other factors.

The table below sets forth for 2022, 2023, 2024 and 2025, the budgeted amounts of expenditures pursuant to our capital investment program as reported to the MOTIE. Our capital investment program consists of capital expenditures and other expenditures, including expenditures for nuclear fuel, which are recognized as amortization of nuclear fuel in our consolidated statements of cash flows. The budgeted amounts may vary from the actual amounts of expenditures for a variety of reasons, including changes in the number of units to be constructed and the timing of such construction, changes in rates of exchange between the Won and foreign currencies, changes in interest rates and other factors.

| Tot the year chucu becchiber 31, | For | the | vear | ended | December | 31, |
|----------------------------------|-----|-----|------|-------|----------|-----|
|----------------------------------|-----|-----|------|-------|----------|-----|

| | 2022(1) | 2023 | 2024 | 2025 |
|--|---------|--------------|---------|---------|
| | | (in billions | of Won) | |
| Construction of new generation facilities $^{(2)}$ | ₩ 1,520 | ₩ 1,747 | ₩ 1,244 | ₩ 1,493 |
| Maintenance of existing generation facilities | 584 | 638 | 628 | 542 |
| Nuclear fuel ⁽³⁾ | 1,149 | 1,053 | 1,054 | 1,099 |
| Others ⁽⁴⁾ | 403 | 444 | 450 | 455 |
| $Total^{(5)}$ | ₩ 3,656 | ₩ 3,882 | ₩ 3,376 | ₩ 3,589 |

Notes:

- (1) Includes amounts expended through March 31, 2022.
- (2) Includes our capital expenditures relating to renewable energy facilities.
- (3) Initially categorized as an asset but later reduced for amortization.
- (4) Miscellaneous expenditures for investments and maintenance of non-generation and ancillary facilities.
- (5) The estimates for our capital expenditures and their allocation to different projects may vary as they are subject to many uncertainties, many of which are beyond our control.

OVERSEAS ACTIVITIES

We are actively engaged in a number of overseas resource development and EPC projects. Our overseas resource development activities help us establish strategic relationships with companies that supply or enrich nuclear fuel, and our EPC projects help us apply our operational experience abroad to add new revenue streams.

Resource Development Projects

In January 2008 and August 2010, we, as part of a consortium of energy companies, entered into agreements with Fission Energy Corp., a uranium exploration company located in Canada, to carry out a joint uranium exploration project in Waterbury Lake, Saskatchewan, Canada. In April 2013, Denison Mines Corp. acquired Fission Energy Corp.'s 60.0% interest in the Waterbury Lake uranium project. We have invested C\$15.5 million and currently hold a 23.0% equity interest in the project and explorations are currently in progress.

In June 2009, we and KEPCO entered into a definitive agreement with Denison to purchase 58.0 million shares, or 19.9%, of the share capital of Denison for an aggregate purchase price of C\$75.4 million. The Waterbury Lake exploration project is ongoing with Denison as the current operator. In December 2016, as a result of changes in government policy, we purchased KEPCO's equity interest in Denison. As of March 31, 2022, our interest in Denison Mines Corp. was 7.12%.

In June 2009, we entered into a definitive agreement with Orano Expansion (formerly known as Areva NC Expansion) and Société d'Enrichissement du Tricastin to purchase a 2.5% equity interest in the Georges Besse II enrichment plant in France for €129 million. Construction of the Georges Besse II project began in 2006 and the plant, which included two enrichment units, commenced commercial operations in April 2011 and reached full capacity in 2017. Under the terms of the agreement, we have a right to request enrichment services in case of emergency and we will also receive a *pro rata* portion of the net income generated by the new plant.

In December 2009, we and KEPCO entered into a definitive agreement with Orano Expansion to purchase 15.0% of the share capital of Orano Expansion and 10% of the share capital of Imouraren SA, which is an Orano Expansion-invested mine operating company. In December 2016, as a result of changes in government policy, we purchased KEPCO's equity interest in Orano Expansion. We currently hold a 4.72% equity interest in Orano Expansion and a 3.15% equity interest in Imouraren SA, which holds a 66.65% equity interest in Orano Expansion. We are entitled to procure up to approximately 3.15% of Imouraren SA's annual uranium production in Niger, which is estimated to be 240 metric tons based on Orano Expansion's annual production plan for 24 years starting from its production.

EPC Projects

In December 2009, KEPCO entered into a contract with Emirates Nuclear Energy Corporation (the "ENEC"), a state-owned nuclear energy provider of the United Arab Emirates ("UAE"), to design and construct four civil nuclear power generation units to be located in Barakah for the UAE's peaceful nuclear energy program (the "UAE Nuclear Project"). Under the contract, KEPCO is to perform various duties including, among others, designing and constructing four nuclear power generation units each with a capacity of 1,400 megawatts, supplying nuclear fuel for three fuel cycles including initial loading, with each cycle currently projected to last for approximately 18 months, and providing technical support, training and education related to plant operation. The contract amount for the UAE Nuclear Project is US\$18.6 billion, with the term of the contract to last from December 27, 2009 to May 1, 2020. ENEC and KEPCO are currently negotiating the renewal of the terms of the contract, as well as negotiating to adjust the target completion dates, taking into account UAE's power supply and demand conditions.

On March 15, 2010, we entered into a Joint Project Management Agreement with KEPCO, the prime contractor for the UAE Nuclear Project, under which agreement the Joint Project Division was established to provide engineering, procurement and construction services during the construction of the Barakah nuclear power generation units. We and KEPCO own 40% and 60% of the shares of the Joint Project, respectively. Additionally, we undertook to assist the operation of the Barakah nuclear power generation units by setting up and commissioning the units and training the staff at ENEC under a separate operating support services contract entered into in May 2010 with KEPCO. In July 2016, we entered into an operating support services agreement with ENEC to render certain operating support services, such as annually providing a supply of operators and engineers, for the Barakah nuclear power generation units until 2034. The contract amount under OSSA is US\$600 million. In June 2019, we also entered into a long term maintenance service agreement with ENEC to render certain maintenance services for the four nuclear power generation units until 2025.

ENVIRONMENT AND COMMUNITY PROGRAMS

The Environment Policy Basic Act and other related legislation and regulations (the "Environment Acts"), which are principally administered by the Ministry of Environment, regulate atmospheric emissions, waste water and other emissions from our nuclear, hydro and pumped storage units. We know of no material breach or violation of the requirements of the Environment Acts at any of our plants.

The Act for Supporting the Communities Surrounding Power Plants addresses neighboring community concerns about nuclear power generation units. Pursuant to this Act, we are required to provide financial support for scholarship programs, programs for economic development and promotion of culture and social welfare in communities where we operate our nuclear facilities. We are required to make annual contributions to the affected local communities in (i) an amount equal to Won 0.25 per kWh of electricity generated by our nuclear power generation units during the one-year period before the immediately preceding fiscal year, (ii) Won 5 million per thousand kW of hydroelectric generation capacity and (iii) Won 0.5 million per thousand kW of pumped-storage generation capacity. In 2021 and the three months ended March 31, 2022, we expended Won 47 billion and Won 8 billion, respectively, for the Power Plant Regional Support Program and, as of such respective date, the balance of provisions amounted to Won 147 billion and Won 192 billion, respectively.

The Act on the Compensation and Support for Areas Adjacent to Transmission and Substation Facilities, enacted in January 2014 with effect from July 2014, prescribes measures to be taken by power generation or transmission companies with respect to the communities adjacent to transmission and substation facilities. Under this Act, those who own land or houses in the vicinity of transmission lines and substation may claim compensation for damages or compel purchase of such properties by the power generation or transmission companies which are legally obligated in principle to pay for such damages or purchase such properties. In addition, under this Act, residents of communities adjacent to transmission and substation facilities are entitled to subsidies on electricity tariff as well as support for a variety of welfare projects and collective business ventures.

From time to time, we enter into separate arrangements, at significant cost, to undertake various infrastructure and other community improvement projects, such as building schools and parks and providing financial support for the benefit of communities that may be affected by the construction, operation or extension of life of our nuclear plants. In connection with extending the operating lives of Kori unit #1 in 2007 and Wolsong unit #1 in 2015, we entered into arrangements to, among other things, build community facilities in the areas surrounding these units and provide loan assistance to qualifying local residents. We entered into similar arrangements with local communities in connection with the construction of the Shin-Kori and Shin-Hanul generation units.

NUCLEAR SAFETY

We take nuclear safety as our top priority and continue to focus on ensuring the safe and reliable operation of our nuclear power plants. We also focus on enhancing corporate ethics and transparency in the operation of our plants.

We have a corporate code of ethics and are firmly committed to enhancing nuclear safety, developing new technologies and improving transparency. We have also established the "Statement of Safety Policy for Nuclear Power Plants" to ensure the highest level of nuclear safety. Furthermore, we invest approximately 5% of our total annual sales into research and development for the enhancement of nuclear safety and operational performance.

However, our safety programs, even if implemented to the best of our abilities, do not necessarily ensure the safety of our nuclear plants in all aspects.

Safety Inspections after Fukushima Dai-ichi Nuclear Disaster

The nuclear disaster at Fukushima Dai-ichi Nuclear Power Plant following the 9.0 magnitude earthquake and tsunami in north eastern Japan in March 2011 have created heightened concerns regarding the safety of nuclear power facilities. Inspections by the relevant regulatory bodies immediately after the disaster found that our power plants were safe against natural disasters foreseeable to occur in Korea. However, they recommended measures to improve our long-term safety and to enhance our readiness against worst case scenarios.

Following these recommendations, in May 2011, the Ministry of Education, Science and Technology identified 46 projects to improve our safety, including installing additional automatic shutdown systems for earthquakes, extending coastal barriers for seismic waves, procuring mobile power generators and storage batteries, installing passive hydrogen removers at nuclear facilities and improving our radiology emergency medical system. As of March 31, 2022, we have completed implementation of 45 measures and the one remaining measure will be implemented by 2024. In addition, we also developed ten additional supplementary safety measures after analyzing our overseas plants and their current operations and implemented nine of such measures in 2020, with the one remaining measure to be implemented by 2023. The progress of these projects is regularly reported to the Government. In 2018, we completed the implementation of improvement works and enhanced the seismic capability of the core facilities of our nuclear power generation units to withstand up to 7.0 magnitude earthquakes (previous to such improvement works, our nuclear power generation units could withstand up to 6.5 magnitude earthquakes). As for the units under construction, the core facilities of Shin-Kori units #5 and 6 will be able to withstand magnitude 7.4 earthquakes and the core facilities of Shin-Hanul units #1 and 2 will be able to withstand magnitude 7.0 earthquakes.

On September 12, 2016, a series of earthquakes including a magnitude 5.8 earthquake hit the city of Gyeongju, where our headquarters and the Wolsong nuclear power plant are located. Although there were no material safety issues, we manually stopped the operations of Wolsong units #1, 2, 3, and 4 according to our safety guidelines. All units resumed their operations on December 5, 2016, with the approval by the NSSC. We continue to implement measures to improve safety by reinforcing seismic capability of our core facilities and performing stress tests across all our nuclear power plants.

Compliance with International Standards

We implement safety measures and controls in the design, fabrication, construction, operation and maintenance of our nuclear power generation units in order to reduce the risk of possible release of radioactive materials. International nuclear plant safety standards are set by the IAEA. Compliance with the standards is generally monitored by the NSSC. We submit a safety assessment report once every quarter to the NSSC and KINS, which is a technical expert organization entrusted by the NSCC to perform regulatory functions such as safety reviews, inspections, and development of regulatory technical standards for the regulation of nuclear power plants and radiation facilities. In addition, the NSSC personnel and the KINS personnel are employed at our operation sites full-time, enabling continuous reporting to the regulatory bodies. In addition, the Nuclear Safety Act and regulations promulgated thereunder ("Nuclear Safety Acts") specify safety standards for nuclear power generation units in Korea. Our nuclear units are in compliance in all material respects with the standards of the IAEA and with requirements under Korean law. If we or the NSSC determine safety conditions and measures are inadequate, operation of one or more nuclear units may be suspended temporarily or indefinitely. No material suspension of operation for accidents or other safety reasons (other than periodic or other precautionary inspections) has occurred at any of our nuclear units at any time.

We also maintain a close relationship with international nuclear organizations in order to enhance nuclear safety. In particular, we invite international safety review teams such as the World Association of Nuclear Operators ("WANO") Peer Review Team, the IAEA and the Expert Mission Team to our nuclear plants for purposes of meeting international standards for independent review of our facilities. We actively exchange relevant operational information and technical expertise with our peers in other countries. For example, we conducted WANO Pre-Startup Peer Reviews for Shin-Hanul unit #1 in 2020 and we conducted WANO Peer Reviews for Shin-Kori units #3 and 4 and Hanul units #5 and 6 in 2021. The recommendations and findings from this event were shared with our other nuclear plants to implement improvements at such plants. In addition, to ensure that our nuclear generation units reflect global safety standards, the Operational Safety Review Team at the International Atomic Energy Agency will conduct a mission at Shin-Kori units #3 and 4 in the second half of 2022.

Integrated Safety Management and Surveillance Systems

We implement comprehensive programs to monitor, ensure and improve the safety of nuclear power plants. In order to enhance nuclear safety through risk-informed assessment, we conduct probabilistic safety assessments, including for low power-shutdown states, for all our nuclear power plants. In order to systematically verify nuclear safety and identify the potential areas for safety improvements, we perform periodic safety reviews on a 10-year frequency basis for all our operating units. These reviews have been completed for Kori units #1, 2, 3 and 4; Hanbit units #1, 2, 3, 4, 5 and 6; Wolsong units #1, 2, 3 and 4; and Hanul units #1, 2, 3, 4, 5 and 6 once or more. Reviews for Shin-Kori units #1 and 2 are in progress. In order to enhance nuclear safety and plant performance, we have established a maintenance effectiveness monitoring program based on the maintenance rules issued by the United States Nuclear Regulatory Commission, which covers all of our nuclear power plants in commercial operation.

We have developed the Risk Monitoring System for operating nuclear power plants, which is implemented in all of our nuclear power plants. The Risk Monitoring System is intended to help ensure nuclear plant safety. In addition, we have developed and implemented the Severe Accident Management Guidelines and are developing the Severe Accident Management Guidelines for Low Power-Shutdown States in order to manage severe accidents for all of our nuclear power plants.

We currently operate R&D programs to minimize radiation using various methods and to maximize safety related to management of radioactive waste and reduction of such waste materials by developing disposal repository for low and intermediate level radioactive waste. The average level of radiation per unit was 0.28 man-SV, 0.34 man-SV and 0.06 man-SV in 2019, 2020 and 2021 and the three months ended March 31, 2022, respectively, which were all lower than the global average of 0.60 man-SV, 0.57 man-SV, 0.64 man-SV and 0.14 man-SV, respectively. "Man-SV" measures the biological effects of radiation to which a population is collectively exposed. In addition, we have in place a Radiation Emergency Plan in preparation for nuclear accidents and conduct regular preventive exercises and drills.

Nuclear Waste Management

In 2009, the Radioactive Waste Management Act was enacted in order to centralize radioactive waste disposal and management process. Under this legislation, KORAD, a government-owned corporation established under the legislation, has assumed full responsibility for the management of nuclear waste from January 1, 2009, including LILW and spent fuel. We transferred to KORAD all of our assets and liabilities relating to existing and in-construction nuclear waste management facilities in 2008 and 2009. KORAD completed construction of a LILW disposal facility in Gyeongju and government approval for its operations was obtained in December 2014. The construction of a second silo was completed in 2019.

The construction cost of the nuclear waste management facility incurred since 2006 has been reimbursed by KORAD to us. Approximately 23,247 drums of LILW have been transported to the disposal silo for storage in 2021. While Government policy for spent fuel storage is still under development, we have been pursuing various projects, such as installing high-density racks in spent fuel pools and building dry storage facilities, to temporarily store spent fuels at our nuclear power plants.

KORAD currently charges Won 15.11 million per drum for the disposal of LILW, Won 13.2 million per fuel assembly for the disposal of spent fuel from pressurized heavy water reactor nuclear power plants, and Won 320 million per fuel assembly for the disposal of spent nuclear fuel from pressurized light water reactor nuclear plants. We are required to make, and have made, payments of the disposal fees incurred after January 1, 2009. With respect to the nuclear waste disposal costs prior to 2009, of which the amount including accrued interests as of March 31, 2022 was Won 2,101 billion, we are required under the Radio Waste Management Act to transfer to KORAD the amount accrued for such reserves over a 15-year period beginning in 2014, after a five-year deferral.

Decommissioning

Decommissioning of a nuclear power generation unit is the process whereby the unit is shut down at the end of its economic life, the fuel is removed and the unit is eventually dismantled. We have adopted a decommissioning strategy under which the last stage of decommissioning would commence up to five to ten years after unit closure. We commenced the decommissioning of Kori unit #1, our first plant, in June 2017 after its operating license, which had been renewed once for a 10-year period in 2007, expired. In December 2019, the NSSC approved the permanent shutdown of Wolsong unit #1 and we are currently preparing for the decommissioning of such unit. Separately, the Ninth Basic Plan precludes the extension of the operating lives of eleven nuclear generation units and such units will be retired by 2034. We retain full financial and operational responsibility for decommissioning our units.

We have accumulated decommissioning costs as a liability since 1983. The decommissioning costs of nuclear facilities are estimated based on the study by the related committee and defined by the Radioactive-Waste Management Act, which requires us to credit annual appropriations separately. The decommissioning costs are reviewed by MOTIE every two years. The estimated decommissioning costs increased in 2021 based on the 2019 MOTIE guidelines as well as in consideration of overseas cases of decommissioning, inflation rate assumption, changes in the operating environment and other adjustments required in connection with determining decommissioning costs and liabilities. As of March 31, 2022, we have accrued Won 22,562 billion for the cost of dismantling and decontaminating existing nuclear power plants, which consists of dismantling costs of nuclear plants of Won 19,560 billion and dismantling costs of spent fuel and radioactive waste of Won 3,003 billion. See note 21 of our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2021 and 2022 included elsewhere in this Offering Circular. As of March 31, 2022, we hold Won 884 billion in beneficiary securities exclusively for the payment of decommissioning costs, which is the estimated cost of decommissioning one nuclear plant, and plan to maintain a similar amount of reserve going forward. For the accounting treatment of decommissioning costs, see "Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Policies - Retirement of Tangible Assets."

RESEARCH AND DEVELOPMENT

Our Research and Development ("**R&D**") program is centered on safety, including R&D relating to the operation of nuclear facilities, quality inspection technologies of such facilities, preventive repair and maintenance of equipment, evaluation of operating life and maintenance of nuclear facilities, technical developments for improvement in design safety for the APR+ reactor and digital control devices. In the field of nuclear power, our R&D programs are primarily focused on developing technology for enhancing the safety and economy of nuclear plants, such as the "*Life Time Management for Nuclear Power Plan*" project. In the field of hydroelectric power, our R&D efforts are primarily focused on projects to improve operational reliability and automatic control techniques. In 2019, 2020, 2021 and the three months ended March 31, 2022 we incurred Won 484 billion, Won 439 billion, Won 442 billion and Won 93 billion, respectively, of ordinary development expenses.

We had approximately 543 employees engaged in R&D activities as of March 31, 2022. In addition, we contribute quarterly payments to the Government for the Nuclear Research & Development Fund an amount equal to Won 1.2 per kWh of power produced.

INSURANCE

Risks of substantial liability arise from the operation of nuclear power generation units and from the use and handling of nuclear fuel and possible radioactive emissions associated with such nuclear fuel. While we carry insurance and are the beneficiary of a Government indemnity with respect to such risks, the amounts and coverage thereof are limited.

As of March 31, 2022, we maintain property damage insurance coverage that covers damage at any of our nuclear plants up to US\$1 billion per accident, which includes property insurance coverage for acts of terrorism up to US\$300 million and for breakdown of machinery up to US\$300 million. In addition, we have construction insurance for Shin-Kori units #5 and 6, and Shin-Hanul units #1 and 2. We also maintain third party nuclear liability insurance for personal injury and property damage caused to third parties for coverage of up to 300 million Special Drawing Rights ("SDRs"), which is equivalent to approximately US\$415 million as of March 31, 2022 (based on the exchange rate published by the International Monetary Fund), per accident per plant complex. We are also the beneficiary of a Government indemnity for damage claims of up to 300 million SDRs per accident for each of our six power plant complexes. In addition, we maintain liability insurance related to our hydro and renewable plant facilities and nuclear fuel transportation, as well as directors' and officers' liability insurance. See "Risk Factors – Risks Relating to Our Business – Our insurance coverage may not be sufficient."

Under the Nuclear Damage Compensation Act, we are liable only up to 900 million SDRs, which was equivalent to approximately Won 1,506 billion as of March 31, 2022, per single accident per plant complex; provided that such limitation will not apply where we intentionally caused the harm or knowingly failed to prevent the harm from occurring. We may receive the Government's support, subject to the approval of the National Assembly, if (i) the damages exceed the insurance coverage amount and (ii) the Government deems such support to be necessary for the purposes of protecting damaged persons and supporting the development of nuclear energy business. The amount of the Government's support to us for such qualifying nuclear incident is 900 million SDRs, which is the limit of our liability, minus any amount covered by insurance.

COMPETITION

We are the only nuclear power generating operation in Korea. High initial investment costs, national security and safety concerns are an effective barrier for entry for any newcomer in the Korean nuclear industry.

We believe that we do not compete directly with KEPCO's other generation subsidiaries and with independent power generators for the sale of electricity in Korea due to the inherent differences in costs structures between nuclear and non-nuclear generation companies. In general, nuclear generation companies' costs of generating power are lower than that of non-nuclear generation companies. Our overall unit generation costs are generally the lowest among the Generation Subsidiaries, owing to a stable and low cost structure of nuclear power that forms the base load of Korea's electricity supply.

EMPLOYEES

As of March 31, 2022, we had 12,404 regular employees, and, of the total number of employees, approximately 8.4% were office employees and 81.3% were engineers. As of March 31, 2022, approximately 68.2% of our employees were members of the KHNP Workers Union, which negotiates a collective bargaining agreement, which has a term of two years, for its members.

Since our formation on April 2, 2001, our businesses have not been interrupted by any strikes or work stoppages by employees and our relations with our employees have been good. However, we cannot assure that we will not have any strikes or work stoppages or other labor problems in the future.

PROPERTY, PLANT AND EQUIPMENT

Our property consists mainly of power generation equipment and facilities in Korea. See "-*Power Generation*" and "- *Capital Investment Program*" above. As of March 31, 2022, the net book value of our property, plant and equipment was Won 53.6 trillion. No significant amount of our properties is leased.

LEGAL AND REGULATORY PROCEEDINGS

As of March 31, 2022, we are currently involved in various legal proceedings and regulatory matters in connection with our business, including being involved in litigation as a defendant in 72 cases and as a plaintiff in 79 cases. We may from time to time become a party to further legal proceedings or regulatory matters arising in the ordinary course of our business.

We are currently subject to a number of class action lawsuits involving thousands of our current and former employees based on claims for unpaid ordinary wages and retirement benefits. We have set aside a reserve on a consolidated basis in the aggregate amount of Won 17 billion to cover any potential future payments that may result from these and related lawsuits. For a further description, see "Risk Factors – Risk Relating to Our Business – We may be exposed to potential claims made by current or previous employees for unpaid wages and may also incur increased labor costs as a result of the expansion of the scope of ordinary wages."

In December 2020, the Daejeon District Prosecutor's Office commenced investigations on twelve individuals, including five of our employees for, among others, allegedly undervaluing the economic viability of Wolsong unit #1 which led to its early shutdown and in June 2021, the Daejeon District Prosecutor's Office indicted three individuals, including our president and chief executive officer since April 2018. The trial is currently ongoing at the Daejeon District Court and the outcome of such trial remains uncertain. There can be no assurance that the outcome of the ongoing case will not have a material adverse effect on us, our reputation or our business.

In addition, in May 2019, a group of 729 Korean nationals brought a lawsuit against the NSSC to suspend the operations of Shin-Kori unit #4. We filed to join the lawsuit as a third party stakeholder in July 2019. In February 2021, the Seoul Administrative Court dismissed the plaintiffs' claim. The plaintiffs subsequently appealed in March 2021 and the case is currently pending at the Seoul High Court. If the courts were to ultimately rule against the operation of such nuclear power generation unit, we will experience a loss of revenues, which could adversely affect our results of operation and financial condition.

These incidents have had a material adverse effect, and may have a further material adverse effect, on our reputation, business, results of operation, financial condition or the general acceptance of nuclear power, especially if, as a result of these incidents or otherwise, there are findings of other criminal or other illegal or improper activities or if there are additional shutdowns or challenges to constructing new plants that lead to greater social and political concerns over nuclear safety to the effect of impeding our normal operation of nuclear power generation units.

MANAGEMENT

DIRECTORS, AUDIT COMMITTEE AND SENIOR MANAGEMENT

Under our Articles of Association, our board of directors, consisting of not more than fifteen directors, including the president, is vested with the power of management. The directors are classified into two categories: standing directors and non-standing directors. The total number of non-standing directors must be at least a majority of the total number of all directors. Under the Articles of Association, an audit committee is responsible for monitoring our business affairs and accounts. The audit committee must consist of three directors, two of whom must be non-standing directors. At least one of the three directors must also be an accounting or financial expert. Under the Articles of Association, our representative director, who also acts as our president, is appointed by the President of Korea through the following nomination process: the recommendation of two or more candidates by the committee for nomination of directors established within the board of directors pursuant to the revised Articles of Association; the resolution of the Committee for Management of Public Institutions established under Article 8 of the Act on the Management of Public Institutions; the resolution of shareholders at the general meeting; and the nomination of the Minister of Trade, Industry & Energy. The standing directors, other than our president, are appointed by our president following the resolution of shareholders at the general meeting, except that any standing director who is to become a member of the audit committee is appointed by the President of Korea following the nomination of two or more candidates by the committee for nomination of directors, the resolution of the Committee for Management of Public Institutions, the resolution of shareholders and the nomination of the Minister of Economy and Finance. The non-standing directors are appointed by the Minister of Economy and Finance following the nomination of two or more candidates by the committee for nomination of directors, the resolution of the Committee for Management of Public Institutions and the resolution of shareholders. Our president serves as our chief executive officer and represents us and administers our day-to-day business in all matters not specifically designated as responsibilities of the board.

The names, titles, and outside occupations, if any, of our current directors, and the respective dates on which they took office are set forth below.

Position Hold

| Name (Age) | Title | Outside Occupation | Since |
|----------------------|--|--------------------|-----------------------|
| Jae Hoon Chung (63)* | Standing Director, President and CEO | None | April 5, 2018 |
| Seok Jin Park (63)* | Standing Director, Executive Auditor | None | May 15, 2019 |
| Sang Hyung Park (61) | Standing Director, Executive Vice President, Administration Division and CFO | None | November 26, 2020 |
| Nam Woo Choi (61)* | Standing Director, Executive Vice President, Power Generation Division and CNO | None | May 26, 2020 |
| Seung Chul Lee (60) | Standing Director, Executive Vice President, Quality & Safety Division | None | September 27, 2021 |
| Yoh Shik Nam (62) | Standing Director, Executive Vice President, Business Growth Division | None | August 19, 2020 |

| Name (Age) | Title | Outside Occupation | Position Held Since |
|---------------------|-----------------------|--|------------------------|
| Chang Ho Lee (67) | Non-Standing Director | None | August 12, 2019 |
| Yoon Suk Kim (65) | Non-Standing Director | Adjunct Professor, Yonsei University and Director, Digital Industry Promotion Agency of | August 12, 2019 |
| | | Yongin City | |
| Ju Sik Lee (47) | Non-Standing Director | Managing Director, Sunil Accounting & Consulting Firm and Accounting Advisor, Korea Housing- Finance Corporation | August 12, 2019 |
| Hee Kyung Kim (46)* | Non-Standing Director | Attorney, Doyoung Law Firm | June 25, 2020 |
| Jee Yoon Lee (58) | Non-Standing Director | Executive Advisor, FleishmanHillard Korea | October 31, 2020 |
| Yu Chang Kim (60) | Non-Standing Director | Professor, Dong-Eui University and President, Korean Certificated Professional Ergonomist Association | August 4, 2021 |

^{*} The term of this director has expired, but pursuant to the Act on management of Public Institutions, the director is continuing his/her duties until his/her term is officially extended or a successor is appointed.

Jae Hoon Chung has served as a Standing Director, President and CEO since April 5, 2018. Mr. Chung received a doctorate degree in Economics from Soonchunhyang University. Mr. Chung previously served as Director General of the MOTIE.

Seok Jin Park has served as a Standing Director and an Executive Auditor since May 15, 2019. Mr. Park received a B.A. in Accounting from Pusan National University. Mr. Park previously served as an auditor for the Board of Audit and Inspection of Korea.

Sang Hyung Park has served as a Standing Director and an Executive Vice President of the Administration Division since November 26, 2020. Mr. Park received a doctorate degree in IT Policy and Management from Soongsil University. Mr. Park previously served as our Head of the Digital Innovation Unit.

Nam Woo Choi has served as a Standing Director and an Executive Vice President of the Power Generation Division since May 26, 2020. Mr. Choi has received a B.A. in Metal Engineering from Sungkyunkwan University. Mr. Choi previously served as our Head of the Power Generation Department.

Seung Chul Lee has served as a Standing Director and an Executive Vice President of the Quality & Safety Division since September 27, 2021. Mr. Lee received an M.A. in Nuclear Engineering from Seoul National University. Mr. Lee previously served as our Head of the Central Research Institute.

Yoh Shik Nam has served as a Standing Director and an Executive Vice President of the Business Growth Division since August 19, 2020. Mr. Nam received an M.A. in Radiation and Environmental Protection from the University of Surrey. Mr. Nam previously served as the Head of our Abu Dhabi Office.

Chang Ho Lee has served as a Non-Standing Director since August 12, 2019. Mr. Lee received an M.A. in Public Administration from Seoul National University.

Yoon Suk Kim has served as a Non-Standing Director since August 12, 2019. Mr. Kim received a doctorate degree in Electrical Engineering from the University of Oregon. Mr. Kim also serves as an adjunct professor at Yonsei University.

Ju Sik Lee has served as a Non-Standing Director since August 12, 2019. Mr. Lee received an M.A. in Business Administration from Pusan National University. Mr. Lee also serves as the Managing Director of Sunil Accounting & Consulting Firm.

Hee Kyung Kim has served as a Non-Standing Director since June 25, 2020. Ms. Kim received an LL.M. from Konkuk University. Ms. Kim also serves as an attorney at Doyoung Law Firm.

Jee Yoon Lee has served as a Non-Standing Director since October 31, 2020. Ms. Lee received an M.B.A. from CHA University. Ms. Lee also serves the Executive Advisor of FleishmanHillard Korea.

Yu Chang Kim has served as a Non-Standing Director since August 4, 2021. Mr. Kim received a doctorate degree in Industrial Engineering from the Korea Advanced Institute of Science and Technology. Mr. Kim also serves a professor of the Department of Human-System Design Engineering at Dong-Eui University and the president of the Korean Certificated Professional Ergonomist Association.

The presence at board meetings of a majority of the board members constitutes a voting quorum and resolutions can be passed by a majority of the board members.

The business address of our directors is 1655 Bulguk-ro, Munmudaewang-myeon, Gyeongju-si, Gyeongsangbuk-do, 38120, Republic of Korea.

COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS

For the three months ended March 31, 2022, the aggregate amount of remuneration paid and accrued to the directors and executive officers, as a group, was Won 234 million. The aggregate amount set aside or accrued during the three months ended March 31, 2022 to provide retirement and severance benefits for directors and executive officers, including the statutory auditor, was Won 129 million.

Board Practices

Under our Articles of Association, the term of office of our directors is two years, except that the term of office for our president is three years. A director whose term of office has expired carries on his or her duties until the successor director is appointed. The term of office for directors may be extended on an annual basis. The president, or the representative director, may not be removed from post except by the President of Korea who has the appointive power under the Act on the Management of Public Institutions.

As permitted by law in Korea, our board currently does not maintain a remuneration committee. Under our Articles of Association, we currently have an audit committee, currently composed of standing member Seok Jin Park and two non-standing members Ju Sik Lee and Hee Kyung Kim.

The terms for termination benefits for standing directors, including the president, are determined in accordance with the internal regulations for executive compensation. Standing directors are eligible for benefits after retirement or upon death. The payment amount for retirement benefits is calculated by multiplying (i) the annual base compensation divided by twelve times (ii) the term of service which shall be calculated as the number of years of the term, but for less than one year, monthly calculation will be applied, and where there is a period of less than one month, this shall be deemed as one month.

SHARE OWNERSHIP

The table below sets forth certain information relating to the ownership of our capital stock as of March 31, 2022:

| Title of Class | Identity of Person or Group | Shares Owned | Percentage |
|----------------|-----------------------------|--------------|------------|
| Common stock | KEPCO | 242,442,838 | 100.0% |
| Total | | 242,442,838 | 100.0% |

RELATED PARTY TRANSACTIONS

For our company's sale of electricity to KEPCO through the KPX, see "Business - Sales and Purchase of Power."

As of March 31, 2022, we had a 14.28% ownership of the KPX, accounted for using the fair value method, in the amount of Won 36 billion. For transactions and related account balances with related parties, including KEPCO and its subsidiaries, see note 38 to our audited consolidated financial statements for the years ended December 31, 2021 and 2020 and note 38 to our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 included herein.

Significant transactions with related parties for the years ended December 31, 2020 and 2021 included the following: (i) sale of electricity and others to KEPCO for Won 10,241 billion and Won 9,825 billion, respectively; (ii) dividends paid to KEPCO of Won 107 billion and Won 280 billion, respectively and; (iii) cost of construction service, etc. of Won 537 billion and Won 532 billion, respectively, to KEPCO Plant Service & Engineering Co., Ltd.

Significant transactions with related parties for the three months ended March 31, 2021 and 2022 included the following: (i) sale of electricity and others to KEPCO for Won 3,047 billion and Won 3,166 billion, respectively; (ii) dividends paid to KEPCO of Won 280 billion and Won 136 billion, respectively, and; (iii) cost of construction service, etc. of Won 145 billion and Won 168 billion, respectively, to KEPCO Plant Service & Engineering Co., Ltd.

In addition, significant receivables and payables arising from related party transactions as of December 31, 2020 and 2021 and March 31, 2022 consisted of receivables and others from KEPCO, which were Won 1,613 billion, Won 1,444 billion and Won 1,471 billion, respectively.

TAXATION

The following summary contains a description of certain Korean and U.S. federal income tax consequences of the ownership and disposition of Notes, but it does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a decision to purchase or dispose of Notes. This summary is based on the Korean and U.S. federal income tax laws in force on the date of this Offering Circular (which are subject to change and which changes may have retroactive effect), and does not describe any tax consequences arising under the laws of any state, locality or taxing jurisdiction other than the laws of Korea and the federal income tax laws of the United States.

Prospective purchasers of Notes should consult their own tax advisers as to the Korean, U.S. or other tax consequences of the ownership and disposition of Notes, including the effect of any foreign, state or local tax laws.

KOREAN TAXATION

The taxation of non-resident individuals and non-Korean corporations generally depends on whether they have a "**Permanent Establishment**" (as defined under Korean law and any applicable tax treaty) in Korea to which the relevant Korean source income is attributable or with which such relevant Korean source income is effectively connected. Non-residents without such a Permanent Establishment in Korea ("**Non-Residents**") are taxed in the manner described below. Non-residents with such Permanent Establishment are taxed in accordance with different rules.

Tax on Interest

Interest on the Notes paid to Non-Residents is exempt from income tax and corporation tax (whether payable by withholding or otherwise) pursuant to the Special Tax Treatment Control Law (the "STTCL"), subject to the tax consequences with respect to Index Linked Notes set out in the applicable Pricing Supplement, **provided that** the Notes are "foreign currency denominated bonds issued outside of Korea" under the STTCL. The term "foreign currency denominated bonds issued outside of Korea" in this context is not defined under the STTCL. In this regard, the Korean tax authority issued a ruling on September 1, 1990 to the effect that "Notes Issuance Facility, USCP, Euro CP and Banker's Acceptance, etc." are not treated as "foreign currency denominated bonds."

If not exempt under the STTCL, the rate of income tax or corporation tax applicable to interest or any premium on the Notes, for a Non-Resident, is currently 14%. In addition, a tax surcharge, called a local income tax, is imposed at the rate of 10% of the income or corporation tax (raising the total tax rate to 15.4%).

The tax rates may be reduced or exempted by applicable tax treaty between Korea and the residence country of the recipient of the interest. The relevant tax treaties are discussed below.

In order to obtain the benefit of a tax exemption available under applicable tax treaties, a beneficial owner of the interest should submit to the party liable for withholding an application for an exemption, together with a certificate of the tax residence issued by a competent authority of the beneficial owner's residence country. Subject to certain exceptions, the Korean tax laws also require an overseas investment vehicle (which is defined as an organization established in a foreign

jurisdiction that manages funds collected through investment solicitation by way of acquiring, disposing or otherwise investing in proprietary targets and then distributes the outcome of such management to investors) to obtain the application for tax exemption from the beneficial owners together with a certificate of tax residence of the beneficial owner and submit a report of overseas investment vehicle to the party liable for the withholding, together with a detailed statement on the beneficial owner of the income and the obtained application for exemption from the beneficial owner. The party liable for the withholding of the interest is required to submit the application for exemption together with the certificate of tax residence to its district tax office no later than the ninth day of the month following the month in which the interest is paid. However, this requirement does not apply to exemptions under Korean tax law.

Further, in order to obtain the benefit of a reduced rate available under applicable tax treaties, a beneficial owner should submit an application for reduced rate to the party liable for the withholding before the receipt of relevant payment (if there is no change in the contents of such application, it is not required to submit again within three years thereafter), together with a certificate of the non-resident holder's tax residence issued by a competent authority of the non-resident holder's residence country. Subject to certain exceptions, the Korean tax law also requires an overseas investment vehicle to receive the application for entitlement to a preferential tax rate from the beneficial owners and forward a report of overseas investment vehicle to the party liable for the withholding, together with a detailed statement on the beneficial owner of the income. However, this requirement does not apply to exemptions under Korean tax law.

If a Non-Resident holder cannot obtain the benefit of an exempted or reduced rate due to the failure of the timely submission of the above-mentioned application, the Non-Resident holder may be able to get the tax refunded if the application of the claim for reassessment is submitted within five years from the last day of the month in which the withholding occurs.

INDEX LINKED NOTES

A detailed description of the tax considerations relevant to Index Linked Notes will be provided in the applicable Pricing Supplement.

Tax on Capital Gains

The Korean tax laws currently exclude from Korean taxation gains made by a Non-Resident from the sale of the Notes to another non-resident (other than to the other non-resident's Permanent Establishment in Korea). In addition, capital gains earned by a Non-Resident from the transfer outside Korea of the Notes are currently exempt from taxation by virtue of the STTCL, provided that the issuance of the Notes is deemed to be an overseas issuance.

In the absence of an applicable tax treaty or any other special tax laws eliminating the capital gains tax, the applicable rate of tax is the lower of 11% (including local income tax) of the gross realization proceeds (the "Gross Realization Proceeds") and (subject to the production of satisfactory evidence of the acquisition cost and certain direct transfer cost of the relevant Notes) 22% (including local income tax) of the gain made. The gain is calculated as the Gross Realization Proceeds less the acquisition cost and certain direct transfer cost (including taxes, dues and brokerage commissions paid in direct connection with the acquisition and transfer of the Notes). If such evidence shows that no gain (or a loss) was made on the sale, no Korean tax is payable. There is no provision under the relevant Korean law for offsetting gains and losses or otherwise aggregating transactions for the purpose of computing the net gain attributable to sales of securities of Korean companies.

The purchaser or any other designated withholding agent of the Notes is obliged under Korean law to withhold the applicable amount of Korean tax and make payment thereof to the relevant Korean tax authority. Unless the seller can claim the benefit of an exemption from the tax under an applicable tax treaty, in the absence of the seller producing satisfactory evidence of his or her acquisition cost and certain direct transfer cost in relation to the Notes being sold, the purchaser or such withholding agent must withhold an amount equal to 11% of the Gross Realization Proceeds. Any amounts withheld by the purchaser or such withholding agent must be paid to the relevant Korean tax authority no later than the tenth day of the month following the month in which the payment for the sale of the relevant Notes occurred. Failure to transmit the withheld tax to the Korean tax authorities in time may technically subject the purchaser or the withholding agent to penalties under Korean tax laws. Accordingly, a Non-Resident who is liable for payment of any Korean tax on gains, either as a seller of Notes, as a purchaser, or the withholding agent who is obliged to withhold such tax, is subject to the Korean tax authorities seeking enforcement through attachment of, or other legal proceedings against, payments due to it from its Korean investments and to enforcement against the assets or revenues of any of the Non-Resident's branch or representative offices in Korea.

In addition, in order to obtain the benefit of a tax exemption available under applicable tax treaties, a beneficial owner should submit to the purchaser or the withholding agent an application for exemption, together with a certificate of the beneficial owner's tax residence issued by a competent authority of the beneficial owner's residence country. Subject to certain exceptions, the Korean tax law also requires an overseas investment vehicle to receive the application for tax exemption from the beneficial owners together with a certificate of tax residence of the beneficial owner and forward a report of overseas investment vehicle to the withholding obligor, together with a detailed statement on the beneficial owner of the income and the obtained application for an exemption from the beneficial owner. The purchaser or the withholding agent is required to submit the application for exemption, together with the certificate of the beneficial owner's tax residence, to its district tax office no later than the ninth day of the month following the month in which sale proceeds are paid. However, this requirement does not apply to exemptions under Korean tax law.

If a Non-Resident holder cannot obtain the benefit of a tax exemption due to the failure of the timely submission of the above-mentioned application, the Non-Resident holder may be able to get the tax refunded if the application of the claim for reassessment is submitted within five years from the last day of the month in which the withholding occurs.

Inheritance Tax and Gift Tax

Korean inheritance tax is imposed upon (a) all assets (wherever located) of the deceased if at the time of his or her death he or she was domiciled in Korea or resided in Korea for at least 183 days immediately prior to his death and (b) all property located in Korea which passes on death (irrespective of the domicile of the deceased). Gift tax is imposed upon (a) all gift assets granted to a donee if at the time of the making of the gift the donee was domiciled in Korea or resided in Korea for at least 183 days immediately prior to the donation and (b) all gift assets located in Korea (irrespective of the domicile of the donee). The taxes are imposed if the value of the relevant property is above a certain limit, and the rate varies from 10% to 50% according to the value of the relevant property and the identity of the parties involved. At present, Korea has not entered into any tax treaties regarding its inheritance or gift taxes.

Under the Korean inheritance and gift tax laws, notes issued by Korean corporations are deemed located in Korea irrespective of where they are physically located or by whom they are owned. Consequently, the Korean inheritance and gift taxes will be imposed on transfers of the Notes by inheritance or gift. Prospective purchasers should consult their personal tax advisers regarding the consequences of the imposition of the Korean inheritance or gift tax.

Stamp Duty and Securities Transaction Tax

No stamp, issue or registration duties will be payable in Korea by Non-Resident holders of the Notes in connection with the issue of the Notes except for a nominal amount of stamp duty on certain documents executed in Korea which will be paid by the Issuer. No securities transaction tax will be imposed on the transfer of Notes.

Tax Treaties

At the date of this Offering Circular, Korea has tax treaties with *inter alia* Australia, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, the United Kingdom and the United States of America under which the rate of withholding tax on interest is reduced, generally to between 5% and 16.5% (13.2% under the treaty with the United States) (including local income tax), and the tax on capital gains is often eliminated (as it is generally under the treaty with the United States).

Each Non-Resident holder should enquire whether he is entitled to the benefit of a tax treaty. It is the responsibility of the party claiming the benefits of a tax treaty in respect of interest payments to file with the Issuer a certificate as to his or her residence. In the absence of sufficient proof, the Issuer must withhold taxes in accordance with the above discussion.

Withholding and Gross-up

As mentioned above, interest on the Notes is exempt from any withholding or deduction on account of income tax or corporation tax pursuant to the STTCL. However, in the event that the Issuer is required by law to make any withholding or deduction for or on account of any Korean taxes, the Issuer has agreed, subject to certain customary exceptions set forth in "Terms and Conditions of the Notes – Taxation," to pay such additional amounts as may be necessary in order that the net amounts received by the Non-Resident holder after such withholding or deduction shall equal the respective amounts received by the Non-Resident holder in the absence of such withholding or deduction.

UNITED STATES FEDERAL INCOME TAXATION

The following is a summary of certain U.S. federal income tax considerations that may be relevant to a holder of a Note. This summary is based on laws, regulations, rulings and decisions now in effect, all of which are subject to change. This summary deals only with beneficial owners of Notes that will hold Notes as capital assets, and does not address particular tax considerations that may be applicable to investors that are subject to special tax rules, such as banks, tax-exempt entities, insurance companies, regulated investment companies, dealers in securities or currencies, traders in securities electing to mark to market, persons that will hold Notes as a position in a "straddle" or conversion transaction, or as part of a "synthetic security" or other integrated financial transaction,

entities taxed as partnerships or the partners therein, persons subject to the alternative minimum tax, U.S. expatriates, nonresident alien individuals present in the United States for more than 182 days in a taxable year, or persons that have a "functional currency" other than the U.S. dollar. Any special U.S. federal income tax considerations relevant to a particular issue of Notes, including any Index Linked Notes, will be provided in the applicable Pricing Supplement.

This summary addresses only U.S. federal income tax consequences, and does not address consequences arising under state, local, foreign tax laws or the Medicare tax on net investment income, or under special timing rules prescribed under section 451(b) of the U.S. Internal Revenue Code. Investors should consult their own tax advisers in determining the tax consequences to them of holding Notes under such tax laws, as well as the application to their particular situation of the U.S. federal income tax considerations discussed below.

Because Bearer Notes cannot be offered or sold in connection with their initial distribution to U.S. citizens or residents (or to other persons located in the United States), this summary does not discuss special tax considerations relevant to the ownership and disposal of Bearer Notes by U.S. holders. This summary addresses only Notes that are properly characterized as indebtedness for U.S. federal income tax purposes. Particular tax consequences relating to Notes having a term to maturity of more than 30 years or Dual Currency Notes will be discussed in the applicable Pricing Supplement.

As used herein, a "U.S. holder" is a beneficial owner of a Note that is, for U.S. federal income tax purposes, a citizen or resident of the United States or a domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of the Note. A "non-U.S. holder" is a beneficial owner of a Note that is an individual, corporation, foreign estate, or foreign trust, that is not a U.S. holder.

U.S. Holders

Payments of Interest and Additional Amounts. The gross amount of payments of "qualified stated interest" (as defined below under "- Original Issue Discount") and additional amounts, if any (i.e., without reduction for Korean withholding taxes, determined utilizing the appropriate Korean withholding tax rate applicable to the U.S. holder), but excluding any pre-issuance accrued interest, will be taxable to a U.S. holder as ordinary interest income at the time that such payments are accrued or are received (in accordance with the U.S. holder's method of tax accounting). If payments of this kind are made with respect to a Note denominated in a single currency other than the U.S. dollar (a "Foreign Currency Note"), the amount of interest income realized by a U.S. holder that uses the cash method of tax accounting will be the U.S. dollar value of the Specified Currency payment based on the exchange rate in effect on the date of receipt regardless of whether the payment in fact is converted into U.S. dollars. A U.S. holder that uses the accrual method of accounting for tax purposes will accrue interest income on the Note in the relevant foreign currency and translate the amount accrued into U.S. dollars based on the average exchange rate in effect during the interest accrual period (or portion thereof within the U.S. holder's taxable year), or, at the accrual basis U.S. holder's election, at the spot rate of exchange on the last day of the accrual period (or the last day of the taxable year within such accrual period if the accrual period spans more than one taxable year), or at the spot rate of exchange on the date of receipt, if this date is within five business days of the last day of the accrual period. A U.S. holder that makes this election must apply it consistently to all debt instruments from year to year and cannot change the election without the consent of the Internal Revenue Service (the "IRS"). A U.S. holder that uses the accrual method of accounting for tax purposes will recognize foreign currency gain or loss, as the case may be, on the receipt of an interest payment made with respect to a Foreign Currency Note if the exchange rate in effect on the date the payment is received differs from the rate applicable to a previous accrual of that interest income. Amounts attributable to pre-issuance accrued interest will generally not be includable in income, except to the extent of foreign currency gain or loss attributable to any changes in exchange rates during the period between the date the U.S. holder acquired the Note and the first Interest Payment Date. This foreign currency gain or loss will be treated as ordinary income or loss but generally will not be treated as an adjustment to interest income received on the Note.

Subject to generally applicable limitations and conditions, Korean interest withholding tax paid at the appropriate rate applicable to the U.S. holder may be eligible for credit against such U.S. holder's U.S. federal income tax liability. These generally applicable limitations and conditions include new requirements recently adopted by the IRS, and any Korean tax will need to satisfy these requirements in order to be eligible to be a creditable tax for a U.S. holder. The application of these requirements to the Korean tax on interest is uncertain and we have not determined whether these requirements have been met. If the Korean interest tax is not a creditable tax for a U.S. holder or the U.S. holder does not elect to claim a foreign tax credit for any foreign income taxes, the U.S. holder may be able to deduct the Korean tax in computing such U.S. holder's taxable income for U.S. federal income tax purposes. Interest and Additional Amounts will constitute income from sources without the United States and, for U.S. holders that elect to claim foreign tax credits, generally will constitute "passive category income" for foreign tax credit purposes.

The availability and calculation of foreign tax credits and deductions for foreign taxes depend on a U.S. holder's particular circumstances and involve the application of complex rules to those circumstances. U.S. holders should consult their own tax advisors regarding the application of these rules to their particular situations.

Original Issue Discount. If the Issuer issues Notes at a discount from their stated redemption price at maturity (as defined below), and the discount is equal to or more than the product of one-fourth of one percent (0.25%) of the stated redemption price at maturity of such Notes multiplied by the number of full years to their maturity (the "de minimis threshold"), such Notes will be "original issue discount Notes." The difference between the issue price and the stated redemption price at maturity of such Notes will be the "original issue discount" ("OID"). The "issue price" of a Note will be the first price at which a substantial amount of the Notes is sold to the public (i.e., excluding sales of the Notes to underwriters, placement agents, wholesalers, or similar persons). The "stated redemption price at maturity" will include all payments under a Note other than payments of qualified stated interest. The term "qualified stated interest" generally means stated interest that is unconditionally payable in cash or property (other than debt instruments issued by the Issuer) at least annually during the entire term of the Note at a single fixed interest rate or, subject to certain conditions, based on one or more interest indices.

U.S. holders of original issue discount Notes generally will be subject to special tax accounting rules for obligations issued with OID. U.S. holders of such Notes should be aware that, as described in greater detail below, they generally must include OID in ordinary gross income for U.S. federal income tax purposes as it accrues, in advance of the receipt of cash attributable to that income.

In general, each U.S. holder of an original issue discount Note, regardless of whether the holder uses the cash or the accrual method of tax accounting, will be required to include in ordinary gross income the sum of the "daily portions" of OID on the Note for all days during the taxable year that the U.S. holder owns the Note. The daily portions of OID on an original issue discount Note are determined by allocating to each day in any accrual period a ratable portion of the OID allocable to that accrual period. Accrual periods may be any length and may vary in length over the term of an original issue discount Note, provided that no accrual period is longer than one year and each scheduled payment of principal or interest occurs on either the final day or the first day of an accrual period. In the case of an initial holder, the amount of OID on an original issue discount Note allocable to each accrual period is determined by (a) multiplying the "adjusted issue price" (as defined below) of the original issue discount Note at the beginning of the accrual period by its yield to maturity (appropriately adjusted to reflect the length of the accrual period) and (b) subtracting from that product the amount (if any) of qualified stated interest allocable to that accrual period. The "yield to maturity" of a Note is the discount rate that causes the present value of all payments on the Note as of its original issue date to equal the issue price of the Note. The "adjusted issue price" of an original issue discount Note at the beginning of any accrual period will generally be the sum of its issue price (generally including accrued interest, if any) and the amount of OID allocable to all prior accrual periods, reduced by the amount of all payments other than payments of qualified stated interest (if any) made with respect to the Note in all prior accrual periods. As a result of this "constant yield" method of including OID in income, the amounts includible in income by a U.S. holder in respect of an original issue discount Note denominated in U.S. dollars generally are lesser in the early years and greater in the later years than the amounts that would be includible on a straight-line basis.

A U.S. holder generally may make an irrevocable election to include in its income its entire return on a Note (*i.e.*, the excess of all remaining payments to be received on the Note, including payments of qualified stated interest, over the amount paid by the U.S. holder for the Note) under the constant-yield method described above. For Notes purchased at a premium or bearing market discount in the hands of the U.S. holder, the U.S. holder making such election will also be deemed to have made the election (discussed below in "– Premium and Market Discount") to amortize premium or to accrue market discount in income currently on a constant-yield basis.

In the case of an original issue discount Note that is also a Foreign Currency Note, a U.S. holder should determine the U.S. dollar amount includible in income as OID for each accrual period by (a) calculating the amount of OID allocable to each accrual period in the Specified Currency using the constant-yield method described above, and (b) translating the amount of the Specified Currency so derived at the average exchange rate in effect during that accrual period (or portion thereof within a U.S. holder's taxable year) or, at the U.S. holder's election (as described above under "- Payments of Interest and Additional Amounts"), at the spot rate of exchange on the last day of the accrual period (or the last day of the taxable year within such accrual period if the accrual period spans more than one taxable year), or at the spot rate of exchange on the date of receipt, if that date is within five business days of the last day of the accrual period. Because exchange rates may fluctuate, a U.S. holder of an original issue discount Note that is also a Foreign Currency Note may recognize a different amount of OID income in each accrual period than would the holder of an otherwise similar original issue discount Note denominated in U.S. dollars. All payments on an original issue discount Note, other than payments of qualified stated interest, will generally be viewed first as payments of previously accrued OID to the extent thereof, with payments attributed first to the earliest-accrued OID, and then as payments of principal. Upon the receipt of an amount attributable to OID (whether in connection with a payment of an amount that is not qualified stated interest or the sale or retirement of the original issue discount Note), a U.S. holder will recognize ordinary income or loss measured by the difference between the amount received (translated into U.S. dollars at the exchange rate in effect on the date of receipt or on the date of disposition of the original issue discount Note, as the case may be) and the amount accrued (using the exchange rate applicable to such previous accrual).

A subsequent U.S. holder of an original issue discount Note that purchases the Note at a cost less than its remaining redemption amount (as defined below), or an initial U.S. holder that purchases an original issue discount Note at a price other than the Note's issue price, also generally will be required to include in gross income the daily portions of OID, calculated as described above. However, if the U.S. holder acquires the original issue discount Note at a price greater than its adjusted issue price, the holder is required to reduce its periodic inclusions of OID income to reflect the premium paid over the adjusted issue price. The "remaining redemption amount" for a Note is the total of all future payments to be made on the Note other than payments of qualified stated interest.

Floating Rate Notes generally will be treated as "variable rate debt instruments" under applicable Treasury Regulations. Accordingly, the stated interest on a Floating Rate Note generally will be treated as "qualified stated interest" and such a Note will not have OID solely as a result of the fact that it provides for interest at a variable rate. If a Floating Rate Note qualifying as a "variable rate debt instrument" is an original issue discount Note, for purposes of determining the amount of OID allocable to each accrual period under the rules above, the Note's "yield to maturity" and "qualified stated interest" will generally be determined as though the Note bore interest in all periods at a fixed rate determined at the time of issuance of the Note. Additional rules may apply if interest on a Floating Rate Note is based on more than one interest index. If a Floating Rate Note does not qualify as a "variable rate debt instrument," the Note will be subject to special rules (the "Contingent Payment Regulations") that govern the tax treatment of debt obligations that provide for contingent payments ("Contingent Debt Obligations"). A detailed description of the tax considerations relevant to U.S. holders of any such Notes will be provided in the applicable Pricing Supplement.

Certain of the Notes may be subject to special redemption, repayment or interest rate reset features, as indicated in the applicable Pricing Supplement. Notes containing such features, in particular original issue discount Notes, may be subject to special rules that differ from the general rules discussed above. Purchasers of Notes with such features should carefully examine the applicable Pricing Supplement and should consult their own tax advisers with respect to the Notes since the tax consequences with respect to such features, and especially with respect to OID, will depend, in part, on the particular terms of the Notes.

If a Note provides for a scheduled Accrual Period that is longer than one year (for example, as a result of a long initial period on a Note with interest that is generally paid on an annual basis), then stated interest on the Note will not qualify as "qualified stated interest" under the applicable Treasury Regulations. As a result, the Note would be an original issue discount Note. In that event, among other things, cash-method U.S. holders will be required to accrue stated interest on the Note under the rules for OID described above, and all U.S. holders will be required to accrue OID that would otherwise fall under the *de minimis* threshold.

Purchase, Sale and Retirement of Notes. A U.S. holder's tax basis in a Note generally will equal the cost of such Note to such holder, increased by any amounts includible in income by the holder as original issue discount and market discount and reduced by any amortized premium (each as described below) and any payments other than payments of qualified stated interest made on such Note. In the case of a Foreign Currency Note, the cost of such Note to a U.S. holder will be the U.S. dollar value of the foreign currency purchase price on the date of purchase. In the case of a Foreign Currency Note that is traded on an established securities market, a cash basis U.S. holder (and, if it so elects, an accrual basis U.S. holder) will determine the U.S. dollar value of the cost of such Note by translating the amount paid at the spot rate of exchange on the settlement date of the purchase.

The amount of any subsequent adjustments to a U.S. holder's tax basis in a Note in respect of original issue discount, market discount and premium denominated in a Specified Currency will be determined in the manner described under "Original Issue Discount" above and "Premium and Market Discount" below. The conversion of U.S. dollars to a Specified Currency and the immediate use of the Specified Currency to purchase a Foreign Currency Note generally will not result in taxable gain or loss for a U.S. holder.

Upon the sale, exchange or retirement of a Note, a U.S. holder generally will recognize gain or loss equal to the difference between the amount realized on the sale, exchange or retirement (less any accrued qualified stated interest, which will be taxable as such) and the U.S. holder's tax basis in such Note. If a U.S. holder receives a currency other than the U.S. dollar in respect of the sale, exchange or retirement of a Note, the amount realized will be the U.S. dollar value of the Specified Currency received calculated at the exchange rate in effect on the date the instrument is disposed of or retired. In the case of a Foreign Currency Note that is traded on an established securities market, a cash basis U.S. holder, and if it so elects, an accrual basis U.S. holder will determine the U.S. dollar value of the amount realized by translating such amount at the spot rate on the settlement date of the sale. The election available to accrual basis U.S. holders in respect of the purchase and sale of Foreign Currency Notes traded on an established securities market, discussed above, must be applied consistently to all debt instruments from year to year and cannot be changed without the consent of the IRS.

Except as discussed below with respect to market discount, Short-Term Notes (as defined below) and foreign currency gain or loss, gain or loss recognized by a U.S. holder generally will be long-term capital gain or loss if the U.S. holder has held the Note for more than one year at the time of disposition. Long-term capital gains recognized by an individual holder generally are subject to tax at a lower rate than short-term capital gains or ordinary income. The deduction of capital losses is subject to limitations.

Gain or loss recognized by a U.S. holder on the sale, exchange or retirement of a Foreign Currency Note generally will be treated as ordinary income or loss to the extent that the gain or loss is attributable to changes in exchange rates during the period in which the holder held such Note. This foreign currency gain or loss will not be treated as an adjustment to interest income received on the Notes.

Capital gain or loss recognized by a U.S. holder on the sale or other disposition of the Notes generally will be U.S.-source gain or loss for U.S. foreign tax credit purposes. Under the new foreign tax credit requirements recently adopted by the IRS, any Korean tax imposed on the sale or other disposition of the Notes generally will not be treated as a creditable tax for U.S. foreign tax credit purposes. If the Korean tax is not a creditable tax, the tax would reduce the amount realized on the sale or other disposition of the Notes even if the U.S. holder has elected to claim a foreign tax credit for other taxes in the same year. U.S. holders should consult their own tax advisers regarding the application of the foreign tax credit rules to a sale or other disposition of the Notes and any Korean tax imposed on such sale or disposition.

Premium and Market Discount. A U.S. holder of a Note that purchases the Note at a cost greater than its remaining redemption amount will be considered to have purchased the Note at a premium, and may elect to amortize the premium (as an offset to interest income), using a constant-yield method, over the remaining term of the Note. Such election, once made, generally applies to all bonds

held or subsequently acquired by the U.S. holder on or after the first taxable year to which the election applies and may not be revoked without the consent of the IRS. A U.S. holder that elects to amortize the premium must reduce its tax basis in a Note by the amount of the premium amortized during its holding period. Original issue discount Notes purchased at a premium will not be subject to the OID rules described above. In the case of premium in respect of a Foreign Currency Note, a U.S. holder should calculate the amortization of the premium in the Specified Currency. Amortization deductions attributable to a period reduce interest payments in respect of that period and therefore are translated into U.S. dollars at the exchange rate used by the U.S. holder for such interest payments. Exchange gain or loss will be realized with respect to amortized bond premium on such a Note based on the difference between the exchange rate on the date or dates the premium is recovered through interest payments on the Note and the exchange rate on the date on which the U.S. holder acquired the Note. With respect to a U.S. holder that does not elect to amortize bond premium, the amount of bond premium will be included in the U.S. holder's tax basis when the Note matures or is disposed of by the U.S. holder. Therefore, a U.S. holder that does not elect to amortize such premium and that holds the Note to maturity generally will be required to treat the premium as capital loss when the Note matures.

If a U.S. holder of a Note purchases the Note at a price that is lower than its remaining redemption amount, or in the case of an original issue discount Note, a price that is lower than its adjusted issue price, by at least 0.25% of its remaining redemption amount multiplied by the number of remaining whole years to maturity, the Note will be considered to have "market discount" in the hands of such U.S. holder. In such case, gain realized by the U.S. holder on the disposition of the Note generally will be treated as ordinary income to the extent of the market discount that accrued on the Note while held by the U.S. holder. In addition, the U.S. holder could be required to defer the deduction of a portion of the interest paid on any indebtedness incurred or maintained to purchase or carry the Note. In general terms, market discount on a Note will be treated as accruing ratably over the term of the Note, or, at the election of the holder, under a constant-yield method. Market discount on a Foreign Currency Note will be accrued by a U.S. holder in the Specified Currency. The amount includible in income by a U.S. holder in respect of such accrued market discount will be the U.S. dollar value of the amount accrued, generally calculated at the exchange rate in effect on the date that the Note is disposed of by the U.S. holder.

A U.S. holder may elect to include market discount in income on a current basis as it accrues (on either a ratable or constant-yield basis), in lieu of treating a portion of any gain realized on a sale of a Note as ordinary income. If a U.S. holder elects to include market discount on a current basis, the interest deduction deferral rule described above will not apply. Any accrued market discount on a Foreign Currency Note that is currently includible in income will be translated into U.S. dollars at the average exchange rate for the accrual period (or portion thereof within the U.S. holder's taxable year). Any such election, if made, applies to all market discount bonds acquired by the taxpayer on or after the first day of the first taxable year to which such election applies and is revocable only with the consent of the IRS.

Short-Term Notes. The rules set forth above will also generally apply to Notes having maturities of not more than one year ("Short-Term Notes"), but with certain modifications.

First, applicable Treasury Regulations treat *none* of the interest on a Short-Term Note as qualified stated interest. Thus, all Short-Term Notes will be original issue discount Notes. OID will be treated as accruing on a Short-Term Note ratably, or at the election of a U.S. holder, under a constant yield method.

Second, a U.S. holder of a Short-Term Note that uses the cash method of tax accounting and is not a bank, securities dealer, regulated investment company or common trust fund, and does not identify the Short-Term Note as part of a hedging transaction, will generally not be required to include OID in income on a current basis. Such a U.S. holder may not be allowed to deduct all of the interest paid or accrued on any indebtedness incurred or maintained to purchase or carry such Note until the Maturity of the Note or its earlier disposition in a taxable transaction. In addition, the U.S. holder will be required to treat any gain realized on a sale, exchange or retirement of the Note as ordinary income to the extent such gain does not exceed the OID accrued with respect to the Note during the period the U.S. holder held the Note. Notwithstanding the foregoing, a cash-basis U.S. holder of a Short-Term Note may elect to accrue OID into income on a current basis or to accrue the "acquisition discount" on the Note under the rules described below. If the U.S. holder elects to accrue OID or acquisition discount, the limitation on the deductibility of interest described above will not apply.

A U.S. holder using the accrual method of tax accounting and certain cash-basis U.S. holders (including banks, securities dealers, regulated investment companies and common trust funds) generally will be required to include original issue discount on a Short-Term Note in income on a current basis. Alternatively, a U.S. holder of a Short-Term Note can elect to accrue the "acquisition discount," if any, with respect to the Note on a current basis. If such an election is made, the OID rules will not apply to the Note. Acquisition discount is the excess of the Short-Term Note's stated redemption price at maturity (*i.e.*, all amounts payable on the Short-Term Note) over the purchase price. Acquisition discount will be treated as accruing ratably or, at the election of the U.S. holder, under a constant-yield method based on daily compounding.

Finally, the market discount rules will not apply to a Short-Term Note.

Index Linked Notes and Other Notes Providing for Contingent Payments. The Contingent Payment Regulations, which govern the tax treatment of Contingent Debt Obligations, generally require accrual of interest income on a constant-yield basis in respect of such obligations at a yield determined at the time of their issuance, and may require adjustments to such accruals when any contingent payments are made. A detailed description of the tax considerations relevant to U.S. holders of any Contingent Debt Obligations will be provided in the applicable Pricing Supplement.

Foreign Currency Notes and Reportable Transactions. A U.S. holder that participates in a "reportable transaction" will be required to disclose its participation to the IRS. The scope and application of these rules is not entirely clear. A U.S. holder may be required to treat a foreign currency exchange loss relating to a Foreign Currency Note as a reportable transaction if the loss exceeds \$50,000 in a single taxable year if the U.S. holder is an individual or trust, or higher amounts for other U.S. holders. In the event the acquisition, ownership or disposition of a Foreign Currency Note constitutes participation in a "reportable transaction" for purposes of these rules, a U.S. holder will be required to disclose its investment to the IRS, currently on Form 8886. Prospective purchasers should consult their tax advisers regarding the application of these rules to the acquisition, ownership or disposition of Foreign Currency Notes.

Specified Foreign Financial Assets. Individual U.S. holders that own "specified foreign financial assets" with an aggregate value in excess of US\$50,000 on the last day of the taxable year or US\$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. "Specified

foreign financial assets" include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which may include Notes issued in certificated form) that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on certain objective criteria. U.S. holders that fail to report the required information could be subject to substantial penalties. In addition, the statute of limitations for assessment of tax would be suspended, in whole or part. Prospective investors should consult their own tax advisers concerning the application of these rules to their investment in the Notes, including the application of the rules to their particular circumstances.

Non-U.S. Holders

Subject to the discussion below under "- Information Reporting and Backup Withholding," payments of interest on the Notes to a non-U.S. holder, and any gain realized on a disposition of the Notes by a non-U.S. holder, generally will be exempt from U.S. federal income taxes, including withholding tax. However, to receive this exemption a non-U.S. holder may be required to satisfy certification requirements, described below under "- Information Reporting and Backup Withholding," to establish that it is not a U.S. holder.

Information Reporting and Backup Withholding

Information returns will be filed with the IRS in connection with payments on the Notes made to, and the proceeds of dispositions of Notes effected by, certain U.S. persons. In addition, certain U.S. persons may be subject to backup withholding in respect of such amounts if they do not provide their taxpayer identification numbers to the person from whom they receive payments. Non-U.S. persons may be required to comply with applicable certification procedures to establish that they are not U.S. persons in order to avoid the application of such information reporting requirements and backup withholding. The amount of any backup withholding from a payment to a U.S. or non-U.S. person will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle the holder to a refund, provided that the required information is timely furnished to the IRS.

PROPOSED FINANCIAL TRANSACTION TAX

The European Commission has published a proposal (the "Commission's Proposal") for a Directive for a common financial transaction tax ("FTT") in Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain (the "participating Member States"). However, Estonia has since stated that it will not participate.

The Commission's Proposal has very broad scope and could, if introduced in its current form, apply to certain dealings in the Notes in certain circumstances.

Under the Commission's Proposal, the FTT could apply in certain circumstances to persons both within and outside of the participating Member States. Generally, it would apply to certain dealings in the Notes where at least one party is a financial institution, and at least one party is established in a participating Member State. A financial institution may be, or be deemed to be, "established" in a participating Member State in a broad range of circumstances, including (a) by transacting with a person established in a participating Member State or (b) where the financial instrument which is subject to the dealings is issued in a participating Member State.

The FTT remains subject to negotiation between participating Member States and the legality of the proposal is uncertain. It may therefore be altered prior to any implementation, the timing of which remains unclear. Additional EU Member States may decide to participate and/or certain of the participating Member States may decide to withdraw.

Prospective holders of the Notes are advised to seek their own professional advice in relation to the FTT.

BOOK-ENTRY CLEARANCE SYSTEMS

The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream (together, the "Clearing Systems") currently in effect. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. None of the Issuer, the Arranger, any Dealer nor any party to the Agency Agreement will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Notes held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests. The relevant Pricing Supplement will specify the Clearing System(s) applicable for each Series.

BOOK-ENTRY SYSTEMS

DTC

DTC has advised the Issuer that it is a limited purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to Section 17A of the Exchange Act. DTC holds securities that its participants ("Participants") deposit with DTC. DTC also facilitates the settlement among Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is owned by a number of its Direct Participants and by the New York Stock Exchange, Inc., the American Stock Exchange, Inc. and the National Association of Securities Dealers, Inc. Access to the DTC System is also available to others such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants").

Under the rules, regulations and procedures creating and affecting DTC and its operations (the "Rules"), DTC makes book-entry transfers of Registered Notes among Direct Participants on whose behalf it acts with respect to Notes accepted into DTC's book-entry settlement system ("DTC Notes") as described below and receives and transmits distributions of principal and interest on DTC Notes. The Rules are on file with the U.S. Securities and Exchange Commission. Direct Participants and Indirect Participants with which beneficial owners of DTC Notes ("Owners") have accounts with respect to the DTC Notes similarly are required to make book-entry transfers and receive and transmit such payments on behalf of their respective Owners. Accordingly, although Owners who hold DTC Notes through Direct Participants or Indirect Participants will not possess Registered Notes, the Rules, by virtue of the requirements described above, provide a mechanism by which Direct Participants will receive payments and will be able to transfer their interest in respect of the DTC Notes.

Purchases of DTC Notes under the DTC system must be made by or through Direct Participants, which will receive a credit for the DTC Notes on DTC's records. The ownership interest of each actual purchaser of each DTC Note ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participant's records. Beneficial Owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the DTC Notes are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in DTC Notes, except in the event that use of the book-entry system for the DTC Notes is discontinued.

To facilitate subsequent transfers, all DTC Notes deposited by Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. The deposit of DTC Notes with DTC and their registration in the name of Cede & Co. effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the DTC Notes; DTC's records reflect only the identity of the Direct Participants to whose accounts such DTC Notes are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to Cede & Co. If less than all of the DTC Notes within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. will consent or vote with respect to DTC Notes. Under its usual procedures, DTC mails an Omnibus Proxy to the Issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the DTC Notes are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the DTC Notes will be made to DTC. DTC's practice is to credit Direct Participants' accounts on the due date for payment in accordance with their respective holdings shown on DTC's records unless DTC has reason to believe that it will not receive payment on the due date. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name", and will be the responsibility of such Participant and not of DTC or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to DTC is the responsibility of the Issuer, disbursement of such payments to Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners is the responsibility of Direct and Indirect Participants.

Under certain circumstances, including if there is an Event of Default under the Notes, DTC will exchange the DTC Notes for definitive Registered Notes, which it will distribute to its Participants in accordance with their proportionate entitlements and which, if representing interests in a Rule 144A Global Note, will be legended as set forth under "Subscription and Sale and Transfer and Selling Restrictions."

Since DTC may only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, any Owner desiring to pledge DTC Notes to persons or entities that do not participate in DTC, or otherwise take actions with respect to such DTC Notes, will be required to withdraw its Registered Notes from DTC as described below.

Euroclear and Clearstream

Euroclear and Clearstream each holds securities for its customers and facilitates the clearance and settlement of securities transactions by electronic book-entry transfer between their respective account holders. Euroclear and Clearstream provide various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear and Clearstream also deal with domestic securities markets in several countries through established depository and custodial relationships. Euroclear and Clearstream have established an electronic bridge between their two systems across which their respective participants may settle trades with each other.

Euroclear and Clearstream customers are world-wide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear and Clearstream is available to other institutions that clear through or maintain a custodial relationship with an account holder of either system.

Book-entry Ownership of and Payments in Respect of DTC Notes

The Issuer may apply to DTC in order to have any Tranche of Notes represented by a Registered Global Note accepted in its book-entry settlement system. Upon the issue of any such Registered Global Note, DTC or its custodian will credit, on its internal book-entry system, the respective nominal amounts of the individual beneficial interests represented by such Registered Global Note to the accounts of persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the relevant Dealer. Ownership of beneficial interests in such a Registered Global Note will be limited to Direct Participants or Indirect Participants, including, in the case of any Regulation S Global Note, the respective depositaries of Euroclear and Clearstream. Ownership of beneficial interests in a Registered Global Note accepted by DTC will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to the interests of Direct Participants) and the records of Direct Participants (with respect to interests of Indirect Participants).

Payments in U.S. dollars of principal and interest in respect of a Registered Global Note accepted by DTC will be made to DTC or its nominee as the registered holder of such Note. In the case of any payment in a currency other than U.S. dollars, payment will be made to the Exchange Agent on behalf of DTC or its nominee and the Exchange Agent will (in accordance with instructions received by it) remit all or a portion of such payment for credit directly to the beneficial holders of interests in the Registered Global Note in the currency in which such payment was made and/or cause all or a portion of such payment to be converted into U.S. dollars and credited to the applicable Participants' account.

The Issuer expects DTC to credit accounts of Direct Participants on the applicable payment date in accordance with their respective holdings as shown in the records of DTC unless DTC has reason to believe that it will not receive payment on such payment date. The Issuer also expects that payments by Participants to beneficial owners of Notes will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers, and will be the responsibility of such Participant and not the responsibility of DTC, the Principal Paying Agent, the Registrar or the Issuer. Payment of principal, premium, if any, and interest, if any, on Notes to DTC is the responsibility of the Issuer.

Transfers of Notes Represented by Registered Global Notes

Transfers of any interests in Notes represented by a Registered Global Note within DTC, Euroclear and Clearstream will be effected in accordance with the customary rules and operating procedures of the relevant clearing system. The laws in some States within the United States require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer Notes represented by a Registered Global Note to such persons may depend upon the ability to exchange such Notes for Notes in definitive form. Similarly, because DTC can only act on behalf of Direct Participants in the DTC system, who in turn act on behalf of Indirect Participants, the ability of a person having an interest in Notes represented by a Registered Global Note accepted by DTC to pledge such Notes to persons or entities that do not participate in the DTC system or otherwise to take action in respect of such Notes may depend upon the ability to exchange such Notes for Notes in definitive form. The ability of any holder of Notes represented by a Registered Global Note accepted by DTC to resell, pledge or otherwise transfer such Notes may be impaired if the proposed transferee of such Notes is not eligible to hold such Notes through a direct or indirect participant in the DTC system.

Subject to compliance with the transfer restrictions applicable to the Registered Notes described under "Subscription and Sale and Transfer and Selling Restrictions", cross-market transfers between DTC, on the one hand, and directly or indirectly through Clearstream or Euroclear accountholders, on the other, will be effected by the relevant clearing system in accordance with its rules and through action taken by the Registrar, the Fiscal Agent and any custodian ("Custodian") with whom the relevant Registered Global Notes have been deposited.

On or after the Issue Date for any Series, transfers of Notes of such Series between accountholders in Clearstream and Euroclear and transfers of Notes of such Series between participants in DTC will generally have a settlement date three business days after the trade date (T+3). The customary arrangements for delivery versus payment will apply to such transfers.

Cross-market transfers between accountholders in Clearstream or Euroclear and DTC participants will need to have an agreed settlement date between the parties to such transfer. Because there is no direct link between DTC, on the one hand, and Clearstream and Euroclear, on the other, transfers of interests in the relevant Registered Global Notes will be effected through the Registrar, the Fiscal Agent and the Custodian receiving instructions (and, where appropriate, certification) from the transferor and arranging for delivery of the interests being transferred to the credit of the designated account for the transferee. In the case of cross-market transfers, settlement between Euroclear or Clearstream accountholders and DTC participants cannot be made on a delivery versus payment basis. The securities will be delivered on a free delivery basis and arrangements for payment must be made separately.

DTC, Clearstream and Euroclear have each published rules and operating procedures designed to facilitate transfers of beneficial interests in Registered Global Notes among participants and accountholders of DTC, Clearstream and Euroclear. However, they are under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued or changed at any time. None of the Issuer, the Agents or any Dealer will be responsible for any performance by DTC, Clearstream or Euroclear or their respective direct or indirect participants or accountholders of their respective obligations under the rules and procedures governing their operations and none of them will have any liability for any aspect of the records relating to or payments made on account of beneficial interests in the Notes represented by Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial interests.

SUBSCRIPTION AND SALE AND TRANSFER AND SELLING RESTRICTIONS

The Dealers have, in an amended and restated program agreement dated May 26, 2015 as amended by the first amendment dated July 12, 2018, the second amendment dated April 15, 2021 and the third amendment dated July 15, 2022 (as amended, restated and supplemented, the "Program Agreement"), agreed with the Issuer a basis upon which they or any of them may from time to time agree to purchase or procure purchasers for Notes. Any such agreement will extend to those matters stated under "Form of the Notes" and "Terms and Conditions of the Notes." In the Program Agreement, the Issuer has agreed to reimburse the Dealers for certain of their expenses in connection with the establishment of the Program and the issue of Notes under the Program and to indemnify the Dealers against certain liabilities incurred by them in connection therewith.

In order to facilitate the offering of any Tranche of the Notes, certain persons participating in the offering of the Tranche may, to the extent permitted by applicable laws and regulations, engage in transactions that stabilize, maintain or otherwise affect the market price of the relevant Notes during and after the offering of the Tranche. Specifically, such persons may over allot or create a short position in the Notes for their own account by selling more Notes than have been sold to them by the Issuer. Such persons may also elect to cover any such short position by purchasing Notes in the open market. In addition, such persons may stabilize or maintain the price of the Notes by bidding for or purchasing Notes in the open market and may impose penalty bids, under which selling concessions allowed to syndicate members or other broker-dealers participating in the offering of the Notes are reclaimed if Notes previously distributed in the offering are repurchased in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the Notes at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the Notes to the extent that it discourages resales thereof. No representation is made as to the magnitude or effect of any such stabilizing or other transactions. Such transactions, if commenced, may be discontinued at any time. Stabilization activities are subject to certain prescribed time limits in certain jurisdictions.

CERTAIN RELATIONSHIPS

The Dealers and certain affiliates of the Dealers may have performed banking and advisory services (which may include securities trading, commercial and investment banking, financial advice, investment management, principal investment, hedging, financing and brokerage activities) for the Issuer from time to time for which they have received customary fees and expenses. The Dealers and certain of their affiliates may, from time to time, engage in transactions with and perform services for the Issuer in the ordinary course of their business. In the ordinary course of their various business activities, the Dealers and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and instruments of the Issuer.

The Dealers or certain of their respective affiliates may purchase the Notes and be allocated Notes for asset management and/or proprietary purposes and not with a view to distribution. The Dealers and/or their affiliates may purchase Notes for their own account and enter into transactions, including credit derivatives, such as asset swaps, repackaging and credit default swaps relating to the Notes, and/or other securities of the Issuer or its respective subsidiaries or associates at the same time as the offer and sale of the Notes, or in secondary market transactions. Such transactions would be carried out as bilateral trades with selected counterparties and separately from any existing sale or resale of the Notes to which this Offering Circular relates (notwithstanding that such selected counterparties may also be purchasers of the Notes).

TRANSFER RESTRICTIONS UNDER U.S. SECURITIES LAW

As a result of the following restrictions, purchasers of Notes in the United States are advised to consult legal counsel prior to making any purchase, offer, sale, resale or other transfer of such Notes.

Each purchaser of Registered Notes (other than a person purchasing an interest in a Registered Global Note with a view to holding it in the form of an interest in the same Global Note) or person wishing to transfer an interest from one Registered Global Note to another or from global to definitive form or vice versa, will be required to acknowledge, represent and agree as follows (terms used in this paragraph that are defined in Rule 144A or in Regulation S are used herein as defined therein):

- (i) that either: (a) it is a QIB, purchasing (or holding) the Notes for its own account or for the account of one or more QIBs and it is aware that any sale to it is being made in reliance on Rule 144A or (b) it is an Institutional Accredited Investor, that, prior to its purchase of the Notes has delivered to the Registrar an IAI Investment Letter in the form as set forth below or (c) it is outside the United States and is not a U.S. person;
- (ii) that the Notes have not been and will not be registered under the Securities Act or any other applicable U.S. state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except as set forth below;
- (iii) that, unless it holds an interest in a Regulation S Global Note and either is a person located outside the United States or is not a U.S. person, if in the future it decides to resell, pledge or otherwise transfer the Notes or any beneficial interests in the Notes, it will do so, prior to the date which is one year after the later of the last Issue Date for the Series and the last date on which the Issuer or an affiliate of the Issuer was the owner of such Notes, only (a) to the Issuer or any affiliate thereof, (b) inside the United States to a person whom the seller reasonably believes is a QIB purchasing for its own account or for the account of a QIB in a transaction meeting the requirements of Rule 144A, (c) outside the United States in compliance with Rule 903 or Rule 904 under the Securities Act, (d) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (e) pursuant to an effective registration statement under the Securities Act, in each case in accordance with all applicable U.S. state securities laws;
- (iv) it will, and will require each subsequent holder to, notify any purchaser of the Notes from it of the resale restrictions referred to in paragraph (iii) above, if then applicable;

- (v) that Notes initially offered in the United States to QIBs will be represented by one or more Rule 144A Global Notes, that Notes offered to Institutional Accredited Investors will be in the form of Definitive IAI Registered Notes and that Notes offered outside the United States in reliance on Regulation S will be represented by one or more Regulation S Global Notes;
- (vi) that the Notes, other than the Regulation S Global Notes, will bear a legend to the following effect unless otherwise agreed to by the Issuer:

"THIS SECURITY HAS NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ITS ACQUISITION HEREOF, THE HOLDER (A) REPRESENTS THAT (1) IT IS A "QUALIFIED INSTITUTIONAL BUYER" (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) PURCHASING THE SECURITIES FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF ONE OR MORE QUALIFIED INSTITUTIONAL BUYERS OR (2) IT IS AN INSTITUTIONAL "ACCREDITED INVESTOR" (AS DEFINED IN RULE 501(A)(1), (2), (3) OR (7) THE SECURITIES ACT) (AN "INSTITUTIONAL ACCREDITED INVESTOR"); (B) AGREES THAT IT WILL NOT RESELL OR OTHERWISE TRANSFER THE SECURITIES EXCEPT IN ACCORDANCE WITH THE AGENCY AGREEMENT AND, PRIOR TO THE DATE WHICH IS ONE YEAR AFTER THE LATER OF THE LAST ISSUE DATE FOR THE SERIES AND THE LAST DATE ON WHICH THE ISSUER OR AN AFFILIATE OF THE ISSUER WAS THE OWNER OF SUCH SECURITIES OTHER THAN (1) TO THE ISSUER OR ANY AFFILIATE THEREOF, (2) INSIDE THE UNITED STATES TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER WITHIN THE MEANING OF RULE 144A UNDER THE SECURITIES ACT PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF A QUALIFIED INSTITUTIONAL BUYER IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (3) OUTSIDE THE UNITED STATES IN COMPLIANCE WITH RULE 903 OR RULE 904 UNDER THE SECURITIES ACT, (4) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (5) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH CASE IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE STATES OF THE UNITED STATES AND ANY OTHER JURISDICTION; AND (C) IT AGREES THAT IT WILL DELIVER TO EACH PERSON TO WHOM THIS SECURITY IS TRANSFERRED A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND.

THIS SECURITY AND RELATED DOCUMENTATION (INCLUDING, WITHOUT LIMITATION, THE AGENCY AGREEMENT REFERRED TO HEREIN) MAY BE AMENDED OR SUPPLEMENTED FROM TIME TO TIME, WITHOUT THE CONSENT OF, BUT UPON NOTICE TO, THE HOLDERS OF SUCH SECURITIES SENT TO THEIR REGISTERED ADDRESSES, TO MODIFY THE RESTRICTIONS ON AND PROCEDURES FOR RESALES AND OTHER TRANSFERS OF THIS SECURITY TO REFLECT ANY CHANGE IN APPLICABLE LAW OR REGULATION (OR THE

INTERPRETATION THEREOF) OR IN PRACTICES RELATING TO RESALES OR OTHER TRANSFERS OF RESTRICTED SECURITIES GENERALLY. THE HOLDER OF THIS SECURITY SHALL BE DEEMED, BY ITS ACCEPTANCE OR PURCHASE HEREOF, TO HAVE AGREED TO ANY SUCH AMENDMENT OR SUPPLEMENT (EACH OF WHICH SHALL BE CONCLUSIVE AND BINDING ON THE HOLDER HEREOF AND ALL FUTURE HOLDERS OF THIS SECURITY AND ANY SECURITIES ISSUED IN EXCHANGE OR SUBSTITUTION THEREFOR, WHETHER OR NOT ANY NOTATION THEREOF IS MADE HEREON).";

(vii) if it is outside the United States and is not a U.S. person, that if it should resell or otherwise transfer the Notes prior to the expiration of the distribution compliance period (defined as 40 days after the later of the commencement of the offering and the closing date with respect to the original issuance of the Notes), it will do so only (a)(i) outside the United States in compliance with Rule 903 or Rule 904 under the Securities Act or (ii) to a QIB in compliance with Rule 144A and (b) in accordance with all applicable U.S. state securities laws; and it acknowledges that the Regulation S Global Notes will bear a legend to the following effect unless otherwise agreed to by the Issuer:

"THIS SECURITY HAS NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT IN ACCORDANCE WITH THE AGENCY AGREEMENT AND PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OR PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT. THIS LEGEND SHALL CEASE TO APPLY UPON THE EXPIRY OF THE PERIOD OF 40 DAYS AFTER THE COMPLETION OF THE DISTRIBUTION OF ALL THE NOTES OF THE TRANCHE OF WHICH THIS NOTE FORMS A PART."; and

(viii) that the Issuer and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that if any of such acknowledgements, representations or agreements made by it are no longer accurate, it shall promptly notify the Issuer; and if it is acquiring any Notes as a fiduciary or agent for one or more accounts it represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.

Institutional Accredited Investors who purchase Registered Notes in definitive form offered and sold in the United States in reliance upon the exemption from registration provided by Regulation D of the Securities Act are required to execute and deliver to the Registrar an IAI Investment Letter. Upon execution and delivery of an IAI Investment Letter by an Institutional Accredited Investor, Notes will be issued in definitive registered form, see "Form of the Notes."

The IAI Investment Letter will state, among other things, the following:

(i) that the Institutional Accredited Investor has received a copy of this Offering Circular and such other information as it deems necessary in order to make its investment decision;

- (ii) that the Institutional Accredited Investor understands that any subsequent transfer of the Notes is subject to certain restrictions and conditions set forth in this Offering Circular and the Notes (including those set out above) and that it agrees to be bound by, and not to resell, pledge or otherwise transfer the Notes except in compliance with, such restrictions and conditions and the Securities Act;
- (iii) that, in the normal course of its business, the Institutional Accredited Investor invests in or purchases securities similar to the Notes;
- (iv) that the Institutional Accredited Investor is an Institutional Accredited Investor within the meaning of Rules 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act and has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment in the Notes, and it and any accounts for which it is acting are each able to bear the economic risk of its or any such accounts' investment for an indefinite period of time;
- (v) that the Institutional Accredited Investor is acquiring the Notes purchased by it for its own account or for one or more accounts (each of which is an Institutional Accredited Investor) as to each of which it exercises sole investment discretion and not with a view to any distribution of the Notes, subject, nevertheless, to the understanding that the disposition of its property shall at all times be and remain within its control; and
- (vi) that, in the event that the Institutional Accredited Investor purchases Notes, it will acquire Notes having a minimum purchase price of at least US\$500,000 (or the approximate equivalent in another Specified Currency).

No sale of Legended Notes in the United States to any one purchaser will be for less than US\$200,000 (or its foreign currency equivalent) principal amount or, in the case of sales to Institutional Accredited Investors, US\$500,000 (or its foreign currency equivalent) principal amount and no Legended Note will be issued in connection with such a sale in a smaller principal amount. If the purchaser is a non-bank fiduciary acting on behalf of others, each person for whom it is acting must purchase at least US\$200,000 (or its foreign currency equivalent) or, in the case of sales to Institutional Accredited Investors, US\$500,000 (or its foreign currency equivalent) principal amount of Registered Notes.

TRANSFER RESTRICTIONS UNDER KOREAN LAWS AND REGULATIONS

Each purchaser of the Notes, by accepting delivery of this Offering Circular, will be deemed to have acknowledged, represented and agreed as follows:

THE NOTES HAVE NOT BEEN REGISTERED UNDER FSCMA. ACCORDINGLY, THE NOTES MAY NOT BE OFFERED, SOLD OR DELIVERED, DIRECTLY OR INDIRECTLY, IN KOREA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY RESIDENT OF KOREA (AS SUCH TERM IS DEFINED UNDER THE FOREIGN EXCHANGE TRANSACTIONS ACT OF KOREA AND ITS ENFORCEMENT DECREE) OR TO OTHERS FOR RE-OFFERING OR RESALE DIRECTLY OR INDIRECTLY IN KOREA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY RESIDENT OF KOREA, EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS.

IN ADDITION, DURING THE FIRST YEAR AFTER THE ISSUANCE OF THE NOTES, THE NOTES MAY NOT BE TRANSFERRED TO ANY RESIDENT OF KOREA OTHER THAN A KOREAN QIB WHO IS REGISTERED WITH THE KOFIA AS A KOREAN QIB, PROVIDED THAT (A) THE NOTES ARE DENOMINATED, AND THE PRINCIPAL AND INTEREST PAYMENTS THEREUNDER ARE MADE, IN A CURRENCY OTHER THAN KOREAN WON, (B) THE AMOUNT OF THE NOTES ACQUIRED BY SUCH KOREAN QIBS IN THE PRIMARY MARKET IS LIMITED TO NO MORE THAN 20% OF THE AGGREGATE ISSUE AMOUNT OF THE NOTES, (C) THE NOTES ARE LISTED ON ONE OF THE MAJOR OVERSEAS SECURITIES MARKETS DESIGNATED BY THE FINANCIAL SUPERVISORY SERVICE OF KOREA, OR CERTAIN PROCEDURES, SUCH AS REGISTRATION OR REPORT WITH A FOREIGN FINANCIAL INVESTMENT REGULATOR, HAVE BEEN COMPLETED FOR OFFERING OF THE NOTES IN A MAJOR OVERSEAS SECURITIES MARKET, (D) THE ONE-YEAR RESTRICTION ON OFFERING, DELIVERING OR SELLING OF NOTES TO A KOREAN RESIDENT OTHER THAN A KOREAN QIB IS EXPRESSLY STATED IN THE NOTES, THE RELEVANT UNDERWRITING AGREEMENT, SUBSCRIPTION AGREEMENT, AND THE OFFERING CIRCULAR AND (E) THE ISSUER AND THE DEALERS SHALL INDIVIDUALLY OR COLLECTIVELY KEEP THE EVIDENCE OF FULFILLMENT OF CONDITIONS (A) THROUGH (D) ABOVE AFTER HAVING TAKEN NECESSARY ACTIONS THEREFOR.

SELLING RESTRICTIONS

United States of America

The Notes have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except (i) to QIBs in reliance on Rule 144A, (ii) to Institutional Accredited Investors, that, prior to their purchase of the Notes have furnished an IAI Investment Letter and (iii) in accordance with Regulation S under the Securities Act.

Notes in bearer form (other than Notes with a maturity of 365 days or less including unilateral rollovers and extensions) will be issued in accordance with the provisions of United States Treasury Regulations Section 1.163-5(c)(2)(i)(D) (the "**D Rules**"), or in accordance with the provisions of United States Treasury Regulations Section 1.163-5(c)(2)(i)(C) (the "**C Rules**"), as specified in the applicable Pricing Supplement.

In respect of Notes issued in accordance with the D Rules, each Dealer has represented and agreed that:

- (i) except to the extent permitted under the D Rules, (x) it has not offered or sold, and during the restricted period will not offer or sell, Notes to a person who is within the United States or its possessions or to a United States person, and (y) such Dealer has not delivered and will not deliver within the United States or its possessions definitive Notes in bearer form that are sold during the restricted period;
- (ii) it has and throughout the restricted period will have in effect procedures reasonably designed to ensure that its employees or agents who are directly engaged in selling Notes in bearer form are aware that such Notes may not be offered or sold during the restricted period to a person who is within the United States or its possessions or to a United States person, except as permitted by the D Rules;

- (iii) if such Dealer is a United States person, it has represented that it is acquiring the Notes in bearer form for purposes of resale in connection with their original issuance and if such Dealer retains Notes for its own account, it will only do so in accordance with the requirements of United States Treasury Regulations Section 1.163-5(c)(2)(i)(D)(6);
- (iv) with respect to each affiliate that acquires from such Dealer Notes in bearer form for the purposes of offering or selling such Notes during the restricted period, such Dealer either (x) repeats and confirms the representations and agreements contained in sub-clauses (i), (ii) and (iii) on such affiliate's behalf or (y) agrees that it will obtain from such affiliate for the benefit of the Issuer the representations and agreements contained in sub-causes (i), (ii) and (iii); and
- (v) such Dealer will obtain for the benefit of the Issuer the representations and agreements contained in sub-clauses (i), (ii), (iii) and (iv) from any person other than its affiliate with whom it enters into a written contract, as defined in United States Treasury Regulations Section 1.163-5(c)(2)(i)(D)(4), for the offer and sale during the restricted period of Notes.

Terms used in the above paragraph have the meanings given to them by the Code and regulations thereunder, including the D Rules.

In respect of Notes issued in accordance with the C Rules, Notes in bearer form must be issued and delivered outside the United States and its possessions in connection with their original issuance. In relation to such tranche, each Dealer has represented and agreed that it has not offered, sold or delivered and will not offer, sell or deliver, directly or indirectly, Notes in bearer form within the United States or its possessions in connection with their original issuance. Further, each Dealer has represented and agreed in connection with the original issuance of Notes, that it has not communicated, and will not communicate, directly or indirectly, with a prospective purchaser if either of them is within the United States or its possessions and will not otherwise involve its U.S. office in the offer or sale of Notes in bearer form. Terms used in this paragraph have the meaning given to them by the Code and regulations thereunder, including the C Rules.

The following legend will appear on all Notes in bearer form which have a maturity of more than 365 days (including unilateral rollovers and extensions) and on all talons, receipts and interest coupons relating to such Notes: "Any United States person who holds this obligation will be subject to limitations under the United States income tax laws, including the limitation provided in Sections 165(j) and 1287(a) of the Internal Revenue Code."

In connection with any Notes which are offered or sold outside the United States in reliance on an exemption from the registration requirements of the Securities Act provided under Regulation S ("Regulation S Notes"), each Dealer has represented and agreed that it will not offer, sell or deliver such Regulation S Notes (i) as part of their distribution at any time or (ii) otherwise until 40 days after the completion of the distribution, as determined and certified by the relevant Dealer or, in the case of an issue of Notes on a syndicated basis, the relevant lead manager, of all Notes of the Tranche of which such Regulation S Notes are a part, within the United States or to, or for the account or benefit of, U.S. persons. Each Dealer has further agreed, and each further Dealer appointed under the Program will be required to agree, that it will send to each dealer to which it sells any Regulation S Notes during the distribution compliance period a confirmation or other notice setting forth the restrictions on offers and sales of the Regulation S Notes within the United States or to, or for the account or benefit of, U.S. persons.

Until 40 days after the commencement of the offering of any Series of Notes, an offer or sale of such Notes within the United States by any dealer that is not participating in the offering may violate the registration requirements of the Securities Act.

Dealers may arrange for the resale of Notes to QIBs pursuant to Rule 144A and each such purchaser of Notes is hereby notified that the Dealers may be relying on the exemption from the registration requirements of the Securities Act provided by Rule 144A. The minimum aggregate principal amount of Notes which may be purchased by a QIB pursuant to Rule 144A is US\$200,000 (or the approximate equivalent thereof in any other currency).

Each issuance of Index Linked, Commodity Linked or Currency Linked Notes may be subject to such additional U.S. selling restrictions as the Issuer and the relevant Dealer may agree as a term of the issuance and purchase of such Notes, which additional selling restrictions shall be set out in the applicable Pricing Supplement.

To the extent the Dealers intend to make any offers or sales of the Notes in the United States, or to nationals or residents of the United States, they will do so only through one or more registered broker-dealers in compliance with applicable securities laws and regulations, as well as with applicable laws of the various states.

European Economic Area

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes may include information entitled "MiFID II Product Governance," which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the target market assessment; however, a distributor subject to MiFID II will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the MiFID Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

Unless the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes specifies "Prohibition of Sales to EEA Retail Investors" as "Not Applicable", each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes which are the subject of the offering contemplated by this Offering Circular as completed by the final terms (or the Pricing Supplement, as the case may be) in relation thereto to any retail investor in the EEA. For the purposes of this provision: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; (ii) a customer within the meaning of Directive (EU) 2016/97 (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in the Prospectus Regulation; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

If the final terms (or the Pricing Supplement, as the case may be) in respect of any Notes specifies the "Prohibition of sales to EEA retail investors" as "Not Applicable", in relation to each Member State of the EEA, each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not made and will not make an offer of Notes which are the subject of the offering contemplated by this Offering Circular, as completed by the final terms in relation thereto, to the public in that Member State except that it may make an offer of such Notes to the public in that Member State:

- (a) if the final terms in relation to the Notes specify that an offer of those Notes may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Member State (a "Non-exempt Offer"), following the date of publication of a prospectus in relation to such Notes which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, provided that any such prospectus has subsequently been completed by the final terms contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable, and the Issuer has consented in writing to its use for the purpose of that Non-exempt Offer;
- (b) at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;
- (c) subject to any other restriction and obtaining the prior consent of the relevant Dealer or Dealers nominated by the Issuer for any such offer, at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation); or
- (d) at any time in any other circumstances falling within Article 1(4) of the Prospectus Regulation;

provided that no such offer of Notes referred to in (b) to (d) above shall require the Issuer or any Dealer to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer of Notes to the public" in relation to any Notes in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

The EEA selling restrictions described above are in addition to any other applicable selling restriction set out below.

United Kingdom

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes may include information entitled "UK MiFIR Product Governance" which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of

the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration the target market assessment; however, a UK MiFIR distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the UK MiFIR Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a UK MiFIR manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a UK MiFIR manufacturer for the purpose of the UK MiFIR Product Governance Rules.

Unless the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes specifies "Prohibition of Sales to UK Retail Investors" as "Not Applicable", each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes which are the subject of the offering contemplated by this Offering Circular as completed by the final terms (or the Pricing Supplement, as the case may be) in relation thereto to any retail investor in the UK. For the purposes of this provision: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; (ii) a customer within the meaning of the FSMA and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of the UK Prospectus Regulation; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

If the final terms (or the Pricing Supplement, as the case may be) in respect of any Notes specifies the "Prohibition of sales to UK retail investors" as "Not Applicable", in relation to the UK, each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not made and will not make an offer of Notes which are the subject of the offering contemplated by this Offering Circular, as completed by the final terms in relation thereto, to the public in the UK except that it may make an offer of such Notes to the public in the UK:

(a) if the final terms in relation to the Notes specify that an offer of those Notes may be made other than pursuant to section 86 of the FSMA (a "Public Offer"), following the date of publication of a prospectus in relation to such Notes which either (i) has been approved by the Financial Conduct Authority, or (ii) is to be treated as if it had been approved by the Financial Conduct Authority in accordance with the transitional provision in Regulation 74 of the Prospectus (Amendment etc.) (EU Exit) Regulations 2019, provided that any such prospectus has subsequently been completed by the final terms contemplating such Public Offer, in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable, and the Issuer has consented in writing to its use for the purpose of that Public Offer;

- (b) at any time to any legal entity which is a qualified investor as defined in Article 2 of the UK Prospectus Regulation;
- (c) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in Article 2 of the UK Prospectus Regulation) in the UK subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by the Issuer for any such offer; or
- (d) at any time in any other circumstances falling within section 86 of the FSMA;

provided that no such offer of Notes referred to in (b) to (d) above shall require the Issuer or any Dealer to publish a prospectus pursuant to section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

For the purposes of this provision, the expression an "offer of Notes to the public" in relation to any Notes means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, and the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA.

Each Dealer has represented, warranted and agreed, and each further Dealer appointed under the Program will be required to represent, warrant and agree that:

- (a) in relation to any Notes having a maturity of less than one year, (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell any Notes other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Notes would otherwise constitute a contravention of Section 19 of the FSMA by the Issuer; and
- (b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of any Notes in circumstances in which Section 21(1) of the FSMA would not, if the Issuer was not an authorised person, apply to the Issuer; and
- (c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Notes in, from or otherwise involving the UK.

The UK selling restrictions described above are in addition to any other applicable selling restriction set out below.

Switzerland

This Offering Circular is not intended to constitute an offer or solicitation to purchase or invest in the Notes described herein. The Notes may not be publicly offered, sold or advertised, directly or indirectly, in, into or from Switzerland, and will not be listed on SIX Swiss Exchange ("SIX") or on any other exchange or regulated trading facility in Switzerland. Neither this Offering Circular nor any other offering or marketing material relating to the Notes constitutes a prospectus as such term is understood pursuant to article 652a or article 1156 of the Swiss Code of Obligations or a listing prospectus within the meaning of the listing rules of the SIX or any other regulated trading facility in Switzerland or a simplified prospectus or a prospectus as such term is defined in the Swiss Collective Investment Scheme Act, and neither this offering circular nor any other offering or marketing material relating to the Notes may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this Offering Circular nor any other offering or marketing material relating to the offering, the Company nor the Notes have been or will be filed with or approved by any Swiss regulatory authority. The Notes are not subject to the supervision by any Swiss regulatory authority, e.g., the Swiss Financial Markets Supervisory Authority, and investors in the Notes will not benefit from protection or supervision by such authority.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the "Financial Instruments and Exchange Act"). Accordingly, each Initial Purchaser has represented and agreed that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Notes in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and other relevant laws and regulations of Japan.

Singapore

Each Dealer has acknowledged, and each further Dealer appointed under the Program will be required to acknowledge, that this Offering Circular has not been and will not be registered as a prospectus with the Monetary Authority of Singapore under the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"). Accordingly, each Dealer has represented and agreed that it has not offered or sold any Notes or caused the Notes to be made the subject of an invitation for subscription or purchase and will not offer or sell any Notes or cause the Notes to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this Offering Circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor under Section 274 of the SFA; (ii) to a relevant person pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA and (where applicable) Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018 of Singapore; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Notes pursuant to an offer made under Section 275 of the SFA except:

- (i) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- (ii) where no consideration is or will be given for the transfer;
- (iii) where the transfer is by operation of law;
- (iv) as specified in Section 276(7) of the SFA; or
- (v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018 of Singapore.

Hong Kong

Each Dealer has represented, warranted and agreed that:

- (a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Notes (except for Notes which are a "structured product" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong) ("SFO") other than (i) to "professional investors" as defined in the SFO and any rules made under the SFO; or (ii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the "Companies Ordinance") or which do not constitute an offer to the public within the meaning of the Companies Ordinance; and
- (b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Notes, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

Korea

Each Dealer has represented and agreed and each Dealer further appointed under the Program will be required to represent and agree, that the Notes have not been and will not be offered, delivered or sold directly or indirectly in Korea or to any resident of Korea or to others for re-offering or resale directly or indirectly in Korea or to any resident of Korea (as defined in the Foreign Exchange Transactions Act of Korea and the regulations thereunder) except as otherwise permitted under applicable Korean laws and regulations.

In addition, each Dealer has confirmed and each Dealer further appointed under the Program will be required to confirm, that (i) during the first year after the issuance of the Notes, the Notes may not be transferred to any resident of Korea other than a Korean QIB who is registered with KOFIA as a Korean QIB, provided that (a) the Notes are denominated, and the principal and interest payments thereunder are made, in a currency other than Korean won, (b) the amount of the Notes acquired by such Korean QIBs in the primary market is limited to no more than 20% of the aggregate issue amount of the Notes, (c) the Notes are listed on one of the major overseas securities markets designated by the Financial Supervisory Service of Korea, or certain procedures, such as registration or report with a foreign financial investment regulator, have been completed for offering of the Notes in a major overseas securities market, (d) the one-year restriction on offering, delivering or selling of Notes to a Korean resident other than a Korean QIB is expressly stated in the Notes, the relevant underwriting agreement, subscription agreement, and the offering circular and (e) the Issuer and the Dealers shall individually or collectively keep the evidence of fulfillment of conditions (a) through (d) above after having taken necessary actions therefor.

Each Dealer has undertaken and each Dealer further appointed under the Program will be required to undertake to use commercially reasonable best measures as a Dealer in the ordinary course of its business so that any securities dealer to which it sells the Notes confirms that it is purchasing such Notes as principal and agrees with such Dealer that it will comply with the restrictions described above.

GENERAL

None of the Dealers represents that Notes may at any time lawfully be sold in compliance with any applicable registration or other requirements in any jurisdiction, or pursuant to any exemption available thereunder, or assumes any responsibility for facilitating such sale.

If a jurisdiction requires that the offering be made by a licensed broker or dealer and the Dealers or any affiliate of the Dealers is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by the Dealers or such affiliate on behalf of the issuer in such jurisdiction.

GENERAL INFORMATION

AUTHORIZATION

The establishment of the Program has been duly authorized by a resolution of the Board of Directors of the Issuer dated April 29, 2008. Each issue of Notes under the Program is to be authorized by the Board of Directors of the Issuer at the time of issue.

LISTING OF NOTES

Approval in-principle has been received from the SGX-ST in connection with the Program and application will be made for the listing and quotation of Notes that may be issued under the Program, which Notes are agreed, at or prior to the time of issue thereof, to be so listed on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, such Notes, if traded on the SGX-ST, will be traded in a minimum board lot size of S\$200,000 (or its equivalent in foreign currencies).

The Notes may also be listed on such other or further stock exchange(s) as may be agreed between the Issuer and the relevant Dealer in relation to each Series or Tranche.

Unlisted Notes may also be issued.

DOCUMENTS AVAILABLE

From the date hereof and so long as Notes are capable of being issued under the Program, copies of the following documents will, when published, be available from the registered office of the Issuer and from the specified office of the Paying Agent for the time being in London:

- (i) the Articles of Association (together with English translations) of the Issuer;
- (ii) the audited consolidated financial statements of the Issuer as of and for the years ended December 31, 2019, 2020 and 2021:
- (iii) the unaudited interim consolidated financial statements of the Issuer in respect of the financial period ended as of March 31, 2022 and for the three months ended March 31, 2022 and 2021;
- (iv) the most recently published audited consolidated financial statements of the Issuer and the most recently published unaudited interim consolidated financial statements of the Issuer;
- (v) the Program Agreement, the Agency Agreement, the forms of the Global Notes, the Notes in definitive form, the Receipts, the Coupons and the Talons;
- (vi) a copy of this Offering Circular;
- (vii) any future offering circulars, prospectuses, information memoranda and supplements including Pricing Supplements (except that a Pricing Supplement relating to an unlisted Note will only be available for inspection by a holder of such Note and such holder must produce evidence satisfactory to the Issuer and the Paying Agent as to its holding of Notes and identity) to this Offering Circular and any other documents incorporated herein or therein by reference; and
- (viii) in the case of each issue of listed Notes subscribed pursuant to a subscription agreement, the subscription agreement (or equivalent document).

CLEARING SYSTEMS

The Notes in bearer form have been accepted for clearance through Euroclear and Clearstream. The appropriate Common Code and ISIN for each Tranche of Bearer Notes allocated by Euroclear and Clearstream will be specified in the applicable Pricing Supplement. In addition, the Issuer may make an application for any Notes in registered form to be accepted for trading in book-entry form by DTC. The CUSIP and/or CINS numbers (if any) for each Tranche of Registered Notes, together with the relevant ISIN and Common Code, will be specified in the applicable Pricing Supplement. If the Notes are to clear through an additional or alternative clearing system, the appropriate information will be specified in the applicable Pricing Supplement.

INDEPENDENT AUDITORS

With respect to our unaudited interim consolidated financial statements as of March 31, 2022 and for the three months ended March 31, 2022 and 2021 included elsewhere in this Offering Circular, Ernst & Young Han Young reported that they have conducted their review in accordance with the review standards for interim financial statements in the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters and applying analytical and other review procedures. However, their report on review of interim consolidated financial statement dated May 16, 2022 appearing herein states that they did not audit and they do not express an opinion on such unaudited interim consolidated financial statements. Accordingly, the degree of reliance on their report on review of interim consolidated financial statements dated May 16, 2022 on such information should be restricted in light of the limited nature of the review procedures applied.

Our consolidated financial statements as of and for the years ended December 31, 2019, 2020 and 2021 included in this Offering Circular, have been audited by Ernst & Young Han Young, independent auditors, as stated in their independent auditor's reports dated March 14, 2022 and March 11, 2021 appearing herein.

INFORMATION RELATING TO THE FISCAL AGENT

The Fiscal Agent is Citicorp International Limited ("CIL"). CIL was incorporated as a company with limited liability in Hong Kong under the Companies Ordinance on October 23, 1970 with company number 21829. It is a wholly-owned subsidiary of Citigroup Inc., a U.S. registered bank holding company.

CIL is a restricted license bank and registered institution subject to regulation and supervision by the Hong Kong Monetary Authority and Securities and Futures Commission. The registered office of CIL is 39/F Champion Tower, 3 Garden Road, Central, Hong Kong.

A copy of CIL's Memorandum and Articles of Association, as amended from time to time, together with copies of the most recent financial statements and annual report of CIL will be available for inspection at its principal place of business located at 39/F Champion Tower, Citibank Plaza, 3 Garden Road, Central, Hong Kong (Attention: Agency & Trust).

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Report on review of interim consolidated financial statements

The Shareholder and Board of Directors Korea Hydro & Nuclear Power Co., Ltd.

We have reviewed the accompanying interim consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (collectively referred to as the "Group"), which comprise the interim consolidated statement of financial position as of March 31, 2022, and the related interim consolidated statements of comprehensive income, interim consolidated statements of changes in equity and interim consolidated statements of cash flows for the three months ended March 31, 2022 and 2021, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the interim consolidated financial statements

Management is responsible for the preparation and presentation of these interim consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea, and for such internal control as management determines is necessary to enable the preparation of interim consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express a conclusion on these interim consolidated financial statements based on our review.

We conducted our review in accordance with the review standards for interim financial statements in the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Auditing Standards ("KGAAS") and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the accompanying interim consolidated financial statements are not prepared, in all material respects, in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

Emphasis of matter

We draw attention to Note 2 to the interim consolidated financial statements, which describes that the Group has prepared its interim consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS") where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Our conclusion is not modified in respect of this matter.



Other matter

We have audited the consolidated statement of financial position of the Group as of December 31, 2021, and the related consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended (not presented herein) in accordance with KGAAS, and our report dated March 14, 2022 expressed an unqualified opinion thereon. The accompanying consolidated statement of financial position as of December 31, 2021, presented for comparative purposes, is not different, in all material respects, from the above audited consolidated statement of financial position.

Ernst Young Han Young

May 16, 2022

This review report is effective as of May 16, 2022, the independent auditor's review report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's review report date to the time this review report is used. Such events and circumstances could significantly affect the accompanying interim consolidated financial statements and may result in modifications to this review report.

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of financial position as of March 31, 2022 and December 31, 2021

(Korean won in millions)

| | Notes | | March 31, 2022 (Unaudited) | De | ecember 31, 2021 |
|--|-------------|---|----------------------------------|----|---------------------|
| Assets | | | | | |
| Current assets: | | | | | |
| Cash and cash equivalents | 5,36 | ₩ | 194,394 | ₩ | 362,429 |
| Current financial assets, net | 6,9,36 | | 743,621 | | 382,131 |
| Trade and other receivables, net | 7,36 | | 1,258,413 | | 1,229,348 |
| Inventories | 10 | | 5,642,260 | | 5,438,788 |
| Current tax assets | | | 1,055 | | 15 |
| Current non-financial assets | 11 | | 124,531 | | 110,211 |
| Total current assets | | | 7,964,274 | | 7,522,922 |
| Non-current assets: | | | | | |
| Non-current financial assets, net | 6,8,9,36 | | 1,496,321 | | 1,445,543 |
| Non-current trade and other receivables, net | 7,36 | | 34,362 | | 35,814 |
| Property, plant and equipment, net | 13,15,19,22 | | 53,632,825 | | 53,586,924 |
| Intangible assets, net | 14,15,22 | | 134,259 | | 134,842 |
| Investments in associates and joint ventures | 12 | | 214,475 | | 206,947 |
| Deferred tax assets | | | 1,777,553 | | 1,718,015 |
| Non-current non-financial assets | 11 | | 406,849 | | 484,731 |
| Total non-current assets | | | 57,696,644 | | 57,612,816 |
| Total assets | | ₩ | 65,660,918 | ₩ | 65,135,738 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of financial position as of March 31, 2022 and December 31, 2021 (cont'd)

(Korean won in millions)

| | Notes | March 31, 2022 (Unaudited) | December 31, 2021 |
|---|------------------------------|----------------------------------|------------------------|
| Liabilities | | | |
| Current liabilities: | | | |
| Trade and other payables | 17,19,36 | ₩ 1,130,268 | ₩ 1,046,374 |
| Current financial liabilities, net | 6,16,18,36 | 1,915,663 | 2,345,903 |
| Current tax liabilities | | 223,892 | 55,794 |
| Current non-financial liabilities | 23 | 181,483 | 61,949 |
| Current provisions | 21 | 1,099,865 | 998,944 |
| Total current liabilities | | 4,551,171 | 4,508,964 |
| Non-current liabilities: Non-current trade and other payables Non-current financial liabilities, net Non-current non-financial liabilities | 17,19,36 6,16,18,36 23 | 2,226,831 10,026,986 | 2,137,076 9,897,780 |
| | 23 20 | 5,065 208.323 | 5,065 |
| Employee benefit obligation Non-current provisions | 21 | 22,064,699 | 252,936 22,025,263 |
| Total non-current liabilities | 21 | 34,531,904 | 34,318,120 |
| Total liabilities | | 39,083,075 | 38,827,084 |
| Total liabilities | | 39,063,075 | 30,027,004 |
| Equity | | | |
| Contributed capital | 24 | 10,704,515 | 10,704,515 |
| Retained earnings | 25 | 15,829,877 | 15,584,941 |
| Other components of equity | 26 | 10,730 | (9,780) |
| Equity attributable to owners | | | |
| of the parent | | 26,545,122 | 26,279,676 |
| Non-controlling interests | | 32,721 | 28,978 |
| Total equity | | 26,577,843 | 26,308,654 |
| Total liabilities and equity | | ₩ 65,660,918 | ₩ 65,135,738 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of comprehensive income for the three months ended March 31, 2022 and 2021

(Korean won in millions, except for earnings per share)

| | Notes | (U | 2022 Inaudited) | (U | 2021 Inaudited) |
|--|---------|-----|--------------------|-----|--------------------|
| Sales | 4,27 | ₩ | 3,049,751 | ₩ | 2,980,177 |
| Cost of sales | 34 | | 2,332,294 | | 2,053,806 |
| Gross profit | | | 717,457 | | 926,371 |
| Selling and administrative expenses | 28,34 | | 61,460 | | 50,300 |
| Operating profit | | | 655,997 | | 876,071 |
| Other income | 29 | | 4,849 | | 17,820 |
| Other expenses | 29 | | 35,544 | | 8,016 |
| Other gains, net | 30 | | 3,031 | | 1,529 |
| Finance income | 6,31,36 | | 36,481 | | 125,543 |
| Finance costs | 6,32,36 | | 228,189 | | 254,803 |
| Gain on investments in associates and joint ventures, net | 12 | | 2,885 | | 2,416 |
| Profit before income tax | | | 439,510 | | 760,560 |
| Income tax expense | 33 | | 105,788 | | 196,707 |
| Profit for the period | | | 333,722 | | 563,853 |
| Other comprehensive income (net of tax): Other comprehensive income that will not be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans | 20.25 | | 49 400 | | 30,004 |
| Share of other comprehensive income (loss) of associates and joint ventures | 20,25 | | 48,100 1 | | (1) |
| Gain on valuation of financial assets at fair value through other comprehensive income Other comprehensive income that may be reclassified to profit or loss in subsequent periods: | 8,26 | | 14,173 | | 20,843 |
| Gain from translation of foreign operations Share of other comprehensive income(loss) of | 26 | | 4,368 | | 2,320 |
| associates and joint venture | 12,26 | | 2,278 | | (255) |
| Other comprehensive income for the period, net of tax | | | 68,920 | | 52,911 |
| Total comprehensive income, net of tax | | ₩ | 402,642 | ₩ | 616,764 |
| Profit for the period attributable to: | | | | | |
| Owners of the parent | | ₩ | 332,834 | ₩ | 563,753 |
| Non-controlling interests | | ₩ | 888 333,722 | ₩ | 100 563,853 |
| Total common bounds for any 1000 and 10 | | | | | |
| Total comprehensive income for the period attributable to |): | 117 | 404 000 | 117 | 640,000 |
| Owners of the parent | | ₩ | 401,802 | ₩ | 616,668 |
| Non-controlling interests | | 117 | 840 | 777 | 96 |
| | | ₩ | 402,642 | ₩ | 616,764 |
| Earnings per share in Korean won: Basic earnings per share | 35 | ₩ | 1,373 | ₩ | 2,325 |

| | c | ontributed capital | | Retained earnings | c | Other components of equity | | Equity tributable to wners of the parent | | n-controlling interests | т | otal equity |
|---|-----|-----------------------|-----|-------------------|---|----------------------------------|---|---|---|----------------------------|-----|-------------|
| As of January 1, 2021 | ₩ | 10,704,515 | ₩ | 15,518,793 | ₩ | (44,466) | ₩ | 26,178,842 | ₩ | 27,133 | ₩ | 26,205,975 |
| Total comprehensive income | | | | | | | | | | | | |
| Profit for the period | | - | | 563,752 | | - | | 563,752 | | 100 | | 563,852 |
| Items that will not be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Remeasurement of defined benefit plans | | - | | 30,004 | | - | | 30,004 | | - | | 30,004 |
| Share of other comprehensive loss of | | | | | | | | | | | | |
| associates and joint ventures | | - | | - | | - | | - | | - | | - |
| Gain on valuation of financial assets at fair value through other comprehensive income | | | | | | 20,843 | | 20,843 | | | | 20,843 |
| Items that may be reclassified to | | - | | - | | 20,043 | | 20,043 | | - | | 20,043 |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Gain (loss) on translation of foreign operations | | _ | | - | | 2.324 | | 2,324 | | (4) | | 2,320 |
| Share of other comprehensive loss of | | | | | | 2,02 . | | 2,02 . | | (., | | 2,020 |
| associates and joint ventures | | - | | - | | (255) | | (255) | | - | | (255) |
| Transactions with owners of the parent | | | | | | , , | | , , | | | | . , |
| recognized directly in equity: | | | | | | | | | | | | |
| Paid-in capital increase of subsidiaries | | - | | - | | - | | - | | 9 | | 9 |
| Dividends paid | | - | | (279,779) | | - | | (279,779) | | - | | (279,779) |
| Others | | <u> </u> | | 4,490 | | (3,411) | | 1,080 | | (36) | | 1,044 |
| As of March 31, 2021 (unaudited) | ₩ | 10,704,515 | ₩ | 15,837,260 | ₩ | (24,965) | ₩ | 26,516,811 | ₩ | 27,202 | ₩ | 26,544,013 |
| As of January 1, 2022 | ₩ | 10,704,515 | ₩ | 15,584,941 | ₩ | (9,780) | ₩ | 26,279,676 | ₩ | 28,978 | ₩ | 26,308,654 |
| Total comprehensive income | | | | | | | | | | | | |
| Profit for the period | | - | | 332,834 | | - | | 332,834 | | 888 | | 333,722 |
| Items that will not be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Remeasurement of defined benefit plans | | - | | 48,103 | | - | | 48,103 | | (4) | | 48,099 |
| Share of other comprehensive income of | | | | 1 | | | | 1 | | | | 1 |
| associates and joint ventures Gain (loss) on valuation of financial assets at fair value | | - | | 1 | | - | | 1 | | - | | 1 |
| through other comprehensive income | | | | _ | | 14,217 | | 14.217 | | (44) | | 14.173 |
| Items that may be reclassified to | | | | | | 17,217 | | 14,217 | | (44) | | 14,173 |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Gain on translation of foreign operations | | _ | | - | | 4,368 | | 4,368 | | _ | | 4,368 |
| Share of other comprehensive income of | | | | | | , | | , | | | | , |
| associates and joint ventures | | - | | - | | 2,278 | | 2,278 | | - | | 2,278 |
| Transactions with owners of the parent | | | | | | | | | | | | |
| recognized directly in equity: | | | | | | | | | | | | |
| Paid-in capital increase of subsidiaries | | - | | - | | - | | - | | 2,903 | | 2,903 |
| Dividends paid | | - | | (136,010) | | - | | (136,010) | | - | | (136,010) |
| Others | *** | - | *** | 8 | | (352) | | (344) | | | *** | (344) |
| As of March 31, 2022 (unaudited) | ₩ | 10,704,515 | ₩ | 15,829,877 | ₩ | 10,731 | ₩ | 26,545,123 | ₩ | 32,721 | ₩ | 26,577,844 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of cash flows for the three months ended March 31, 2022 and 2021

(Korean won in millions)

| | (Uı | 2022 naudited) | 2021 (Unaudited) | | |
|---|-----|-------------------|---------------------|-----------|--|
| Operating activities | | | | | |
| Profit for the period | ₩ | 333,722 | ₩ | 563,852 | |
| Adjustments for: | | | | | |
| Income tax expense | | 105,788 | | 196,706 | |
| Depreciation of property, plant and equipment | | 683,263 | | 605,714 | |
| Amortization of nuclear fuel | | 330,860 | | 299,835 | |
| Amortization of intangible assets | | 8,415 | | 7,677 | |
| Depreciation of idle assets | | 890 | | 976 | |
| Retirement benefits | | 21,471 | | 23,540 | |
| Other bad debt expenses | | - | | 22 | |
| Gain on investments in associates and joint ventures, net | | (2,885) | | (2,416) | |
| Loss on disposal of property, plant and equipment | | 1,170 | | 4,029 | |
| Loss on inventory obsolescence | | - | | 5 | |
| Loss on disposal of inventories | | - | | 9 | |
| Provisions for greenhouse gas emission | | - | | 1,685 | |
| Provisions for decommissioning costs | | 37,454 | | 53,447 | |
| Other provisions | | 43,851 | | 44,228 | |
| Provisions for employee benefits | | 54,535 | | 52,571 | |
| Interest expense | | 142,941 | | 121,285 | |
| Loss on sale of financial assets | | 234 | | - | |
| Loss on valuation of financial assets at fair value through | | | | | |
| profit or loss | | 3,787 | | 2,039 | |
| Loss on valuation of derivative instruments | | 6,081 | | 9,035 | |
| Loss on transactions of derivative instruments | | 1,318 | | 1,353 | |
| Loss on foreign currency translation | | 70,756 | | 120,902 | |
| Loss from lease cancellation | | 49 | | _ | |
| Gain on disposal of property, plant and equipment | | (961) | | (2,097) | |
| Gain on assets contributed | | - | | (105) | |
| Gain on reversal of inventories | | - | | (68) | |
| Interest income | | (5,230) | | (4,995) | |
| Dividend income | | (252) | | (138) | |
| Gain on sale of financial assets | | (7) | | (4) | |
| Gain on valuation of financial assets at fair value | | (000) | | (4.000) | |
| through profit or loss | | (963) | | (1,299) | |
| Gain on valuation of derivative instruments | | (18,322) | | (99,369) | |
| Gain on transactions of derivative instruments | | (10,394) | | (9,855) | |
| Gain on foreign currency translations | | (2,797) | | (13,361) | |
| Gain from lease cancellation | 177 | (1) | 117 | - 444.054 | |
| | ₩ | 1,471,051 | ₩ | 1,411,351 | |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of cash flows for the three months ended March 31, 2022 and 2021 (cont'd)

(Korean won in millions)

| | (U | 2022 naudited) | (U | 2021 naudited) |
|--|----|-------------------|----|-------------------|
| Changes in operating assets and liabilities: | | | | |
| Current trade receivables | ₩ | (50,404) | ₩ | 147,844 |
| Current non-trade receivables | | 37,479 | | (3,780) |
| Current accrued income | | (19,529) | | (13,412) |
| Current advanced payments | | (39,844) | | (17,397) |
| Current prepaid expenses | | 4,536 | | 4,249 |
| Other current non-financial assets | | 288 | | 5,620 |
| Inventories | | (355,582) | | (237,462) |
| Current guarantee deposits | | (2,254) | | 1,028 |
| Current trade payables | | (115,546) | | (244,651) |
| Current other payables | | 131,320 | | (66,649) |
| Current accrued expenses | | (110,141) | | (87,360) |
| Current leasehold deposits received | | - | | 58 |
| Current other deposits received | | 328 | | (96) |
| Current advance received | | (142) | | 266 |
| Current withholdings | | (20,495) | | (19,915) |
| Current unearned revenue | | 1,748 | | 579 |
| Non-current other payables | | - | | (967) |
| Other current non-financial liabilities | | 138,427 | | 110,476 |
| Other non-current non-financial liabilities | | - | | 115 |
| Provisions for employee benefits | | (29,446) | | (29,078) |
| Provisions for power plant regional support program | | (7,554) | | (7,140) |
| Provisions for decommissioning cost of nuclear plants Provisions for disposal of low and | | (9,879) | | (13,986) |
| intermediate-level radioactive waste | | (47,355) | | (1,097) |
| Provisions for others | | (3,185) | | (2,744) |
| Other long-term employee benefits liabilities | | (83) | | (61) |
| Payment of retirement benefits | | (12,991) | | (7,261) |
| Changes in plan assets | | 10,038 | | 6,055 |
| · | | (500,266) | | (476,766) |
| Interest received | | 5,512 | | 4,689 |
| Interest paid | | (96,333) | | (104,965) |
| Dividends received | | 429 | | 215 |
| Income tax paid | | (17,252) | | (107,159) |
| Net cash flows provided by operating activities | ₩ | 1,196,863 | ₩ | 1,291,217 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of cash flows for the three months ended March 31, 2022 and 2021 (cont'd)

(Korean won in millions)

| | (| 2022 Unaudited) | (U | 2021 naudited) |
|--|----|--------------------|----|-------------------|
| Investing activities | | | | |
| Increase in current financial assets at fair value | | | | |
| through profit or loss, net | ₩ | (385,413) | ₩ | (331,100) |
| Acquisition of short-term financial instruments | | - | | (2) |
| Proceeds from disposal of short-term financial instruments | | 20,000 | | 2,000 |
| Acquisition of short-term loans | | - | | (4) |
| Collection of short-term loans | | 110 | | 3,933 |
| Collection of current guarantee deposits | | - | | 1 |
| Acquisition of non-current financial assets at fair value | | | | |
| through profit or loss | | (153,970) | | (167,423) |
| Proceeds from disposal of non-current financial assets at fair val | ue | | | |
| through profit or loss | | 157,260 | | 224,237 |
| Acquisition of non-current financial assets at fair value | | | | |
| through other comprehensive income | | - | | (1,000) |
| Proceeds from disposal of non-current financial assets at fair value | ue | | | |
| through other comprehensive income | | - | | 8,082 |
| Acquisition of long-term financial instruments | | (30,000) | | (68,062) |
| Proceeds from disposal of long-term financial instruments | | 8,260 | | - |
| Increase in long-term loans | | (2,127) | | (6,314) |
| Collection of long-term loans | | 515 | | 260 |
| Increase in long-term guarantee deposits | | (7,810) | | (11,164) |
| Collection of long-term guarantee deposits | | 13,338 | | 15,323 |
| Payment of non-current advanced payments | | (24,531) | | (47,566) |
| Acquisition of investments in associates | | (3,745) | | (1,398) |
| Proceeds from investments in associates | | 8 | | - |
| Acquisition of land | | - | | (415) |
| Proceeds from disposal of land | | 870 | | 2,003 |
| Acquisition of buildings | | (47) | | (221) |
| Proceeds from disposal of buildings | | 144 | | 558 |
| Proceeds from disposal of structures | | - | | 121 |
| Acquisition of machineries | | (7,311) | | (6,766) |
| Acquisition of vehicles | | (80) | | (743) |
| Proceeds from disposal of vehicles | | 138 | | 33 |
| Acquisition of fixtures and furniture | | (6,294) | | (7,733) |
| Proceeds from fixtures and furniture | | 1 | | - |
| Acquisition of tools | | (629) | | (74) |
| Acquisition of construction-in-progress | | (574,084) | | (578,132) |
| Acquisition of intangible assets | | (7,094) | | (7,076) |
| | | | | |
| Net cash flows used in investing activities | ₩ | (1,002,491) | ₩ | (978,642) |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Interim consolidated statements of cash flows for the three months ended March 31, 2022 and 2021 (cont'd)

(Korean won in millions)

| | 2022 (Unaudited) | | (U | 2021 naudited) |
|--|---------------------|-----------|----|-------------------|
| Financing activities | | | | |
| Proceeds from short-term borrowings | ₩ | 355,767 | ₩ | 112,046 |
| Repayment of short-term borrowings | | (798,400) | | (450,646) |
| Repayment of current portion of long-term borrowings | | (9,147) | | (4,689) |
| Repayment of current portion of long-term bonds | | (220,000) | | (260,000) |
| Proceeds from long-term borrowings | | - | | 14,900 |
| Proceeds from bonds issuance | | 300,000 | | - |
| Payment of issuance costs of bonds | | (863) | | (3) |
| Settlement of derivative instruments | | 9,076 | | 8,040 |
| Decrease in lease liabilities | | (2,241) | | (5,705) |
| Paid-in capital increase of subsidiaries | | 2,903 | | 9 |
| Net cash flows used in financing activities | | (362,905) | | (586,048) |
| Net foreign exchange difference | | 498 | | (58) |
| Net decrease in cash and cash equivalents | | (168,035) | | (273,531) |
| Cash and cash equivalents at the beginning of the period | | 362,429 | | 316,072 |
| Cash and cash equivalents at the end of the period | ₩ | 194,394 | ₩ | 42,541 |

1. General information of the Company

1.1 The parent company

Korea Hydro & Nuclear Power Co., Ltd. ("KHNP" or the "Company") was incorporated on April 2, 2001 through the split-off of the power generation division of Korea Electric Power Corporation ("KEPCO") in accordance with the Act on Promotion of Restructuring the Electric Power Industry. As of March 31, 2022, KHNP owns and operates 24 nuclear generating units (23,250MW), 37 hydroelectric generating units (607MW), 16 pumped-storage facilities (4,700MW) and 47 new renewable energy generating units (63MW). As of March 31, 2022, KHNP's generation capacity is 124 total units (28,620MW).

As of March 31, 2022, KEPCO holds 100% of KHNP's outstanding shares.

1.2 Consolidated subsidiaries

Details of consolidated subsidiaries as of March 31, 2022 and December 31, 2021 are as follows:

| | | | | Percentage of ownership | | |
|-----------------------------|-------------------|----------|-----------|-------------------------|--------------|--|
| | Key operating | | Reporting | March 31, | December 31, | |
| Subsidiaries | activities | Location | date | 2022 | 2021 | |
| KHNP Canada Energy Ltd. | Overseas | _ | | | _ | |
| | Investment | Canada | March 31 | 100.00% | 100.00% | |
| Gyeonggi Green Energy Co., | Electricity and | | | | | |
| Ltd. | heat generation | Korea | March 31 | 62.01% | 62.01% | |
| Korea Waterbury Uranium | Overseas | | | | | |
| Limited Partnership | Investment | Canada | March 31 | 70.00% | 70.00% | |
| Incheon Fuel Cell Co., Ltd. | Electricity and | | | | | |
| | heat generation | Korea | March 31 | 60.00% | 60.00% | |
| First Keepers Co., Ltd. | Facility | | | | | |
| | management | Korea | March 31 | 100.00% | 100.00% | |
| Secutec Co., Ltd. | Facility security | Korea | March 31 | 100.00% | 100.00% | |
| KHNP USA LLC | Overseas | | | | | |
| | Investment | USA | March 31 | 100.00% | 100.00% | |
| Energy Innovation Growth | Investment | | | | | |
| Fund 1 | Trust | Korea | March 31 | 67.42% | 67.42% | |
| KHNP Chile SpA | Overseas | | | | | |
| | Investment | Chile | March 31 | 100.00% | 100.00% | |
| LSG Hydro Power Ltd. | Overseas | | | | | |
| | Investment | Pakistan | March 31 | 99.80% | 99.80% | |
| KHNP Spain, S.L. | Overseas | | | 400 000/ | 400 000/ | |
| | Investment | Spain | March 31 | 100.00% | 100.00% | |

1. General information of the Company (cont'd)

1.2 Consolidated subsidiaries (cont'd)

Summarized financial information of subsidiaries as of and for the three months ended March 31, 2022 is as follows (Korean won in millions):

| | | | | | | | Pro | fit (loss) |
|--|---|---------|---|-------------|---|--------|--------|------------|
| Company | | Assets | | Liabilities | | Sales | for th | ne period |
| KHNP Canada Energy Ltd. | ₩ | 128,069 | W | 22 | ₩ | - | ₩ | 7 |
| Gyeonggi Green Energy Co., Ltd. | | 237,817 | | 218,172 | | 30,128 | | (200) |
| Korea Waterbury Uranium Limited Partnership | | 20,925 | | 190 | | - | | (35) |
| Incheon Fuel Cell Co., Ltd. | | 258,895 | | 234,057 | | 27,890 | | 2,636 |
| First Keepers Co., Ltd. | | 19,971 | | 17,678 | | 19,360 | | 810 |
| Secutec Co., Ltd. | | 13,281 | | 10,211 | | 16,893 | | 556 |
| KHNP USA LLC | | 977 | | 75 | | 260 | | 129 |
| Energy Innovation Growth Fund 1 | | 27,936 | | 2 | | - | | (245) |
| KHNP Chile SpA | | 5,369 | | 3,952 | | - | | 2 |
| LSG Hydro Power Ltd. | | 1 | | 10 | | - | | (10) |
| KHNP Spain, S.L. | | 5 | | 1 | | - | | (1) |

Significant restrictions related to subsidiaries are as follows:

| Company | Significant Restrictions in Details |
|-----------------------------|--|
| Gyeonggi Green Energy | Acquisition or disposal of assets by more than \text{\text{\$\psi}}35 billion, change in the |
| Co., Ltd. | capacity of cogeneration units (except for the change due to performance |
| | improvement of equipment or maintenance) will require unanimous consent of all directors. |
| Incheon Fuel Cell Co., Ltd. | Acquisition or disposal of assets by more than \$\psi 20\$ billion, change in the capacity of cogeneration units (except for the change due to performance improvement of equipment or maintenance) will require unanimous consent of all directors. |

2. Basis of preparation

2.1 Statement of compliance

The interim consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (collectively referred to as the "Group") have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions pursuant to the *Act on the Management of Public Institutions* and the Decree on Accounting for Public Corporations and Quasi-governmental Institutions. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS"), a standard adopted in accordance with International Financial Reporting Standards by the Korean Accounting Standards Board, where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

The interim consolidated financial statements do not include all the information required for a complete set of KIFRS financial statements. However, selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in financial position and performance of the Group since the last annual consolidated financial statements as of and for the year ended December 31, 2021.

2. Basis of preparation (cont'd)

2.2 New and amended standards and interpretations

The significant accounting policies adopted to prepare interim consolidated financial statements are consistent with those followed in the preparation of the Group's annual consolidated financial statements for the year ended December 31, 2021, except for the adoption of new standards and interpretations effective as of January 1, 2022. The Group has not early applied any standards, interpretations or amendments that have been issued but have not been implemented.

Several other amendments and interpretations apply for the first time in 2022, but do not have a significant impact on the interim consolidated financial statements of the Group.

(i) Amendments to KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* – Costs of Fulfilling a Contract

An onerous contract is a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The amendments specify that when assessing whether a contract is onerous or loss-making, an entity needs to include costs that relate directly to a contract to provide goods or services include both incremental costs (e.g., the costs of direct labor and materials) and an allocation of costs directly related to contract activities (e.g., depreciation of property, plant and equipment used to fulfil the contract as well as costs of contract management and supervision). General administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

(ii) Amendments to KIFRS 1103 *Business Combinations* - Reference to Conceptual Framework for Financial Reporting

The amendments replace a reference to a previous version of the *Conceptual Framework* with a reference to the current version issued in March 2018 without significantly changing its requirements.

The amendments add an exception to the recognition principle of KIFRS 1103 *Business Combinations* to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* or KIFRIC 2121 *Levies,* if incurred separately. The exception requires entities to apply the criteria in KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* or KIFRIC 2121 *Levies,* respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date.

The amendments also add a new paragraph to KIFRS 1037 *Business Combinations* to clarify that contingent assets do not qualify for recognition at the acquisition date.

(iii) Amendments to KIFRS 1016 Property, Plant and Equipment - Proceeds before Intended Use

The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment, any proceeds of the sale of items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

The amendments below are not expected to have a material impact on the Group.

- A subsidiary as a first-time adopter (KIFRS 1101 First-time Adoption of KIFRS)
- Fees in the '10 per cent' test for derecognition of financial liabilities (KIFRS 1109 Financial Instruments)
- Taxation in fair value measurements (KIFRS 1041 Agriculture)

3. Significant accounting judgements, estimates and assumptions

The preparation of the Group's interim consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The significant judgments made by management on the application of accounting policies and key sources of estimation uncertainty for the preparation of interim consolidated financial statements are the same as the consolidated financial statements for the year ended December 31, 2021.

4. Segment information

The Group's segments are determined based on components of the Group that are engaged in revenue generating activities and for which discrete financial information is available that is regularly reported to the Chief Operating Decision Maker ("CODM") for the purpose of resource allocation and assessment of performance.

Under KIFRS 1108 *Operating Segments*, the Group's segment consists of electric power generation (nuclear power and others) and other business. The price of transactions between reportable segments is determined based on the market transaction price applied to independent third-party transactions. Each segment is the basis for reporting the Group's primary segment information, and the accounting policies for each reportable segment are the same as those described in the summary of significant accounting policies.

The following table presents revenue and operating profit from the reportable segments for the three months ended March 31, 2022 and 2021 (Korean won in millions):

| | 2022 | | | | | | | | | |
|---|------|--|---|---|-----|--|---------------------|--|--|--|
| | | ectric power generation | | Others | | nsolidation ljustments | Consolidated totals | | | |
| Revenue from external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income Finance costs Gain on investments in associates and joint ventures, | ₩ | 3,049,485 - 3,049,485 657,553 (31,947) 3,036 36,694 228,175 | ₩ | 267 36,246 36,513 1,303 (75) (5) 59 69 | ₩ | (36,246) (36,246) (2,858) 1,327 - (273) (55) | ₩ | 3,049,752 - 3,049,752 655,998 (30,695) 3,031 36,480 228,189 | | |
| net Income tax expense | | 106,035 | | - | | 2,885 (247) | | 2,885 105,788 | | |
| | | | | 20 |)21 | | | | | |
| | | ectric power generation | | Others | | nsolidation ljustments | C | onsolidated totals | | |
| Revenue from external customers Intersegment revenue | ₩ | 2,979,935 9 | ₩ | 242 33,936 | ₩ | (33,945) | ₩ | 2,980,177 | | |

| | g | eneration | | Others | adju | ıstments | totals | | |
|---|---|-----------|---|--------|------|----------|--------|-----------|--|
| Revenue from | | | | | | | | _ | |
| external customers | ₩ | 2,979,935 | ₩ | 242 | ₩ | - | ₩ | 2,980,177 | |
| Intersegment revenue | | 9 | | 33,936 | | (33,945) | | | |
| Segment revenue | | 2,979,944 | | 34,178 | | (33,945) | | 2,980,177 | |
| Operating profit | | 878,346 | | 670 | | (2,946) | | 876,070 | |
| Other income, net | | 8,637 | | 241 | | 926 | | 9,804 | |
| Other gains, net | | 1,524 | | 5 | | - | | 1,529 | |
| Finance income | | 125,619 | | 4,737 | | (4,813) | | 125,543 | |
| Finance costs | | 254,791 | | 13 | | (1) | | 254,803 | |
| Gain on investments in associates and joint ventures, | | | | | | | | | |
| net | | _ | | _ | | 2,416 | | 2,416 | |
| Income tax expense | | 195,819 | | 489 | | 398 | | 196,706 | |

For the three months ended March 31, 2022 and 2021, depreciation and amortization expenses for electric power generation segment (nuclear power and others) are $\mbox{$W$}1,022,284$ million and $\mbox{$W$}913,022$ million, respectively, and depreciation and amortization expenses for other business segments amount to $\mbox{$W$}254$ million and $\mbox{$W$}224$ million, respectively.

Electric power

38,822,369

4. Segment information (cont'd)

Total liabilities

Details of assets and liabilities by operating segments as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

March 31, 2022

Consolidation

(29,262)

Consolidated

38,827,083

| | generation | | | Others | ad | justments | totals | | |
|--|------------|--------------|---|---------|---------|-------------|--------|--------------|--|
| Total assets Investments in associates and | ₩ | 65,651,425 | ₩ | 216,614 | ₩ | (207,122) | ₩ | 65,660,917 | |
| joint ventures Acquisitions of non-current | | 210,521 | | 22,150 | | (18,196) | | 214,475 | |
| assets | | 623,977 | | 162 | | (323) | | 623,816 | |
| Total liabilities | | 39,089,251 | | 32,141 | | (38,319) | | 39,083,073 | |
| | | | | Decembe | r 31, 2 | 021 | | | |
| | El | ectric power | | | Co | nsolidation | (| Consolidated | |
| | | generation | | Others | ad | justments | | totals | |
| Total assets Investments in associates and | ₩ | 65,141,778 | W | 189,335 | ₩ | (195,375) | ₩ | 65,135,738 | |
| joint ventures Acquisitions of non-current | | 206,783 | | 22,150 | | (21,986) | | 206,947 | |
| assets | | 2 238 243 | | 3 943 | | (2 498) | | 2 239 688 | |

The substantial part of the Group's business is in Korea in which the Company's headquarter is domiciled. Most of its revenue was generated domestically in Korea. Also, most of non-current assets are located domestically in Korea.

33,976

For the three months ended March 31, 2022 and 2021, the Group recognized total revenues of $\mbox{$W$}3,049,751$ million and $\mbox{$W$}2,980,177$ million, respectively. Also, the Group recognized total revenues from KEPCO, the Group's largest customer, of $\mbox{$W$}3,006,106$ million and $\mbox{$W$}2,944,661$ million, respectively. There is no single other customer that accounts for more than 10% of the consolidated sales for the three months ended March 31, 2022 and 2021.

5. Cash and cash equivalents

Cash and cash equivalents as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | M | arch 31, 2022 | December 31, 2021 | | |
|---|---|------------------|----------------------|---------|--|
| Cash equivalents | W | 11,476 | W | 3,069 | |
| Short-term instruments classified as cash equivalents | | 182,918 | | 359,360 | |
| | W | 194,394 | W | 362,429 | |

Restricted cash and cash equivalents as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

 $\frac{\text{March 31,}}{2022} \quad \frac{\text{December 31,}}{2021}$ Short-term instruments classified as cash equivalents $\frac{\text{W}}{22,728} \quad \frac{2021}{\text{W}} \quad 29,014$

6. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 31, 20 |)22 | December 31, 2021 | | | | | |
|--|---|---------|--------|---------------|-------------------|---------|-------------|---------|--|--|
| | | Current | No | on-current(*) | | Current | Non-current | | | |
| Financial assets designated as at fair value through profit or loss: Financial assets designated as at fair value through profit or loss(*) | W | - | W | 278,904 | ₩ | _ | ₩ | 242,116 | | |
| Financial assets at fair value through profit or loss: | | | | , | | | | • | | |
| Derivative assets | | 88,328 | | 240,788 | | 92,313 | | 227,150 | | |
| Beneficiary certificate(*) | | - | | 142,504 | | - | | 200,955 | | |
| Other(*) | | 446,813 | | 103,970 | | 61,400 | | 88,649 | | |
| | | 535,141 | | 487,262 | | 153,713 | | 516,754 | | |
| | ₩ | 535,141 | ₩ | 766,166 | ₩ | 153,713 | ₩ | 758,870 | | |

^(*) As of March 31, 2022, the Group invested \(\psi \)525,378 million in financial assets exclusively for payment of decommissioning costs of nuclear power plants. These are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to March 31, 2022. Therefore, these assets have been categorized as non-current assets.

Details of derivative instruments as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31 | , 2022 | December 31, 2021 | | | | |
|---|----------|-------------|-------------------|-------------|--|--|--|
| | Current | Non-current | Current | Non-current | | | |
| Derivative assets: Foreign currency swaps | 88.328 | 240.778 | 92.313 | 227.142 | | | |
| Other | - | 10 | - | 8 | | | |
| | 88,328 | 240,788 | 92,313 | 227,150 | | | |
| Derivative liabilities: | | | | | | | |
| Foreign currency swaps | 5,131 | 12,046 | 4,446 | 15,319 | | | |

6. Financial assets at fair value through profit or loss (cont'd)

Details of foreign currency swap contracts as of March 31, 2022 are as follows (Korean won in millions, USD, HKD and CHF in thousands, KRW/USD, KRW/HKD, KRW/CHF):

| | | | Amount | of contract | Interest ret | Interest rate of contract | | |
|------------------|---|-----------------------|-------------|----------------------|--------------|---------------------------|-----------------------------|--|
| | Counterparty | Period | Pay | of contract Receive | Pay | Receive | foreign exchange rate | |
| - | Citibank | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 | |
| | JP Morgan | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 | |
| | Bank of America | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 | |
| | Shinhan Bank | 2016.12.21~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 | |
| | Hana Bank | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.87% | 3.00% | 1,117.70 | |
| | Standard Chartered | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 | |
| | HSBC | 2012.11.01~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 | |
| | Deutsche Bank Nomura Financial Investment (Korea) | 2012.12.28~2022.09.19 | KRW 55,885 | USD 50,000 | 2.79% | 3.00% | 1,117.70 | |
| | Co., Ltd. Korea Development | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.60% | 3.25% | 1,111.90 | |
| | Bank | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.62% | 3.25% | 1,111.90 | |
| | Woori Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 | |
| | Hana Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 | |
| Held for trading | Woori Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.25% | 3.13% | 1,116.10 | |
| (*) | Bank | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 | |
| ., | Hana Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 | |
| | Bank | 2018.04.03~2028.03.13 | KRW 108,600 | HKD 800,000 | 2.69% | 3.35% | 135.75 | |
| | Shinhan Bank Korea Development | 2018.04.16~2028.03.13 | KRW 115,387 | HKD 850,000 | 2.66% | 3.35% | 135.75 | |
| | Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.15% | 3.75% | 1,135.20 | |
| | Woori Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.18% | 3.75% | 1,135.20 | |
| | Hana Bank | 2018.07.25~2023.07.25 | KRW 113,520 | USD 100,000 | 2.17% | 3.75% | 1,135.20 | |
| | Shinhan Bank | 2018.07.25~2023.07.25 | KRW 227,040 | USD 200,000 | 2.17% | 3.75% | 1,135.20 | |
| | Citibank Korea Development | 2019.07.19~2024.07.19 | KRW 239,956 | CHF 200,000 | 1.44% | 0.00% | 1,199.78 | |
| | Bank | 2019.07.19~2027.07.19 | KRW 119,978 | CHF 100,000 | 1.43% | 0.05% | 1,199.78 | |
| | Woori Bank | 2021.04.27~2026.04.27 | KRW 222,800 | USD 200,000 | 0.93% | 1.25% | 1,114.00 | |
| | Shinhan Bank Korea Development | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.92% | 1.25% | 1,114.00 | |
| | Bank | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.93% | 1.25% | 1,114.00 | |
| | NongHyup Bank | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.93% | 1.25% | 1,114.00 | |

^(*) The Group contracted derivative financial instruments for the purpose of hedging risk but classified them as derivative financial instruments held for trading since those derivatives do not meet the applicable requirements of applying hedge accounting under KIFRS 1109 *Financial Instruments*.

6. Financial assets at fair value through profit or loss (cont'd)

Gain (loss) on valuation and transaction of derivatives (not designated as in hedging relationships) for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | Gain on val | uation, net | | Gain on transaction, net | | | | | | | |
|-------------------|---|-------------|-------------|--------|--------------------------|-------|------|-------|--|--|--|--|
| | | 2022 | | 2021 | | 2022 | 2021 | | | | | |
| Currency forwards | ₩ | - | ₩ | 22,596 | W | 83 | ₩ | 2,158 | | | | |
| Currency swaps | | 12,241 | | 67,738 | | 8,993 | | 6,344 | | | | |
| | ₩ | 12,241 | ₩ | 90,334 | W | 9,076 | ₩ | 8,502 | | | | |

7. Trade and other receivables

Trade and other receivables as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 2022 | | | | | | | | | | Decembe | r 31, 2 | 021 | | |
|--|--|----------------|---|---------------------|--------------------------|-------|---|---------------------------------|---|-----------|------------------------|---------|---------|-----------------|---|-----------|
| | Allowance for doubtful Gross amount accounts | | | ent value scount | Carrying amount Gross an | | | Allowance for doubtful accounts | | | Present value discount | | | Carrying amount | | |
| Current assets: Trade receivables Other | ₩ | 1,006,857 | ₩ | - | ₩ | - | ₩ | 1,006,857 | ₩ | 955,332 | ₩ | | ₩ | - | ₩ | 955,332 |
| receivables | | 254,883 | | (3,185) | | (143) | _ | 251,555 | | 277,327 | | (3,185) | | (127) | _ | 274,015 |
| Non-current | | 1,261,740 | | (3,185) | | (143) | | 1,258,412 | | 1,232,659 | _ | (3,185) | | (127) | | 1,229,347 |
| assets: Other | | 24.067 | | | | (60E) | | 24.262 | | 26 224 | | | | (416) | | 25 945 |
| receivables | _ | 34,967 | | | | (605) | | 34,362 | _ | 36,231 | _ | | | (416) | | 35,815 |
| | ₩ | 1,296,707 | ₩ | (3,185) | ₩ | (748) | ₩ | 1,292,774 | ₩ | 1,268,890 | ₩ | (3,185) | ₩ | (543) | ₩ | 1,265,162 |

Other receivables as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | | March | 31, 20 | 22 | | | December 31, 2021 | | | | | | | |
|---|-----|-----------|----|----------------------------------|--------|------------------------|----|--------------------|-------------------|-----------|----|------------------------------------|----|------------------------|----|--------------------|
| | Gro | ss amount | C | wance for doubtful ccounts | | sent value liscount | | Carrying amount | Gro | ss amount | (| owance for doubtful accounts | | sent value liscount | | Carrying amount |
| Current assets: Non-trade receivables | ₩ | 69,390 | ₩ | (3,185) | ₩ | _ | ₩ | 66.205 | ₩ | 120.476 | ₩ | (3,185) | ₩ | _ | ₩ | 117,291 |
| Accrued | ** | 09,590 | ** | (3, 103) | ** | _ | ** | 00,203 | ** | 120,470 | ** | (3, 103) | ** | _ | ** | 117,291 |
| income | | 146,440 | | - | | - | | 146,440 | | 115,793 | | _ | | - | | 115,793 |
| Guarantee | | | | | | | | | | | | | | | | |
| deposits | | 36,148 | | - | | (143) | | 36,005 | | 38,158 | | - | | (127) | | 38,031 |
| Other current receivables | | 2,905 | | - | | - | | 2,905 | | 2,900 | | | | | | 2,900 |
| | | 254,883 | | (3,185) | | (143) | | 251,555 | | 277,327 | | (3,185) | | (127) | | 274,015 |
| Non-current assets: Guarantee | | | | | | | | | | | | | | | | |
| deposits | | 34,967 | | - | | (605) | | 34,362 | | 36,231 | | | | (416) | | 35,815 |
| | ₩ | 289,850 | ₩ | (3,185) | ₩ | (748) | ₩ | 285,917 | ₩ | 313,558 | ₩ | (3,185) | ₩ | (543) | ₩ | 309,830 |

Trade and other receivables are measured at amortized cost. For electricity sales revenue, the average credit term of trade receivables is 2 business days from the billing date. Interest is charged on trade receivables after 2 business days from due date based on interest rates of overdue open market loans.

7. Trade and other receivables (cont'd)

Aging analysis of trade receivables as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | <u> </u> | December 31, 2021 | | | |
|---|----------|----------------------|---|---------|--|
| Receivables (not overdue, not impaired) | W | 1,006,857 | ₩ | 955,332 | |
| Receivables (overdue, not impaired) | | - | | - | |
| Receivables (other) | | - | | | |
| | | 1,006,857 | | 955,332 | |
| Less: allowance for doubtful accounts | | - | | - | |
| Less: present value discount | | - | | _ | |
| | W | 1,006,857 | ₩ | 955,332 | |

Aging analysis of other receivables as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | M | December 31, 2021 | | | |
|---|---|----------------------|---|---------|--|
| Receivables (not overdue, not impaired) | W | 286,665 | ₩ | 310,373 | |
| Receivables (overdue, not impaired) | | _ | | - | |
| Receivables (other) | | 3,185 | | 3,185 | |
| 0~60 days | | - | | - | |
| 60~90 days | | - | | - | |
| 90~120 days | | - | | - | |
| 120~365 days | | - | | - | |
| Over 365 days | | 3,185 | | 3,185 | |
| | | 289,850 | | 313,558 | |
| Less: allowance for doubtful accounts | | (3,185) | | (3,185) | |
| Less: present value discount | | (748) | | (543) | |
| | ₩ | 285,917 | ₩ | 309,830 | |

Changes in allowance for doubtful accounts for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the | For the three months ended March 31, 2022 | | | | For the year ended December 31, 2021 | | | | | |
|-------------------------------------|---------|---|---|-------------------|-------------------|--------------------------------------|----|-----------------|--|--|--|
| | | Trade receivables | | Other eivables | Trade receivables | | re | Other ceivables | | | |
| Beginning balance Bad debt expenses | ₩ | - | ₩ | 3,185 - | ₩ | - | ₩ | 3,185 1,038 | | | |
| Write-offs | | - | | - | | - | | (1,038) | | | |
| Ending balance | ₩ | - | ₩ | 3,185 | ₩ | - | ₩ | 3,185 | | | |

8. Financial assets at fair value through other comprehensive income

Changes in financial assets at fair value through other comprehensive income for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended March 31, 2022 | | | | | | | | | | | | | |
|---|---|----------|-----|------------|-----------|---------------|--------|-----------|----------|--------|---|---------|----|-----------|
| | | | | | | | _ | ain on | | irment | | | | |
| | <u>J</u> ; | anuary 1 | Acc | quisitions | <u>D</u> | isposals | Vä | aluation | los | ses | | Others | N | March 31 |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | W | 96,098 | ₩ | - | ₩ | - | ₩ | 16,495 | ₩ | - | ₩ | 4,329 | ₩ | 116,922 |
| Unlisted equity securities | | 184,714 | | - | | - | | - | | - | | - | | 184,714 |
| | | 280,812 | | - | | | | 16,495 | | - | | 4,329 | | 301,636 |
| Debit securities: | | | | | | | | | | | | | | |
| Corporate bonds | | 491 | | - | | - | | _ | | _ | | - | | 491 |
| | ₩ | 281,303 | W | - | W | _ | W | 16,495 | ₩ | _ | W | 4,329 | ₩ | 302,127 |
| Non-current financial assets at fair value through other | | | | | 3 1 | | | | | | | | | |
| comprehensive income | ₩ | 281,303 | ₩ | - | ₩ | - | ₩ | 16,495 | ₩ | - | ₩ | 4,329 | ₩ | 302,127 |
| | | | | | | For the yea | r ande | nd Decemb | or 31 20 | 21 | | | | |
| | - | | | | | i oi iiie yea | | (loss) on | | irment | | | | |
| | J; | anuary 1 | Acc | quisitions | D | isposals | | aluation | | ses | (| Others | De | cember 31 |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | ₩ | 49,878 | ₩ | - | ₩ | (7,814) | ₩ | 47,843 | ₩ | - | ₩ | 6,191 | ₩ | 96,098 |
| Unlisted equity securities | | 183,493 | | 8,877 | | - | | (6,156) | | - | | (1,500) | | 184,714 |
| | | 233,371 | | 8,877 | | (7,814) | | 41,687 | | _ | | 4,691 | | 280,812 |
| Debit securities: | | | | | | | | | | | | | | |
| Corporate bonds | | _ | | 500 | | _ | | _ | | _ | | (9) | | 491 |
| · | W | 233.371 | W | 9.377 | W | (7,814) | W | 41.687 | W | _ | ₩ | 4.682 | ₩ | 281,303 |
| Non-current financial assets at fair value through other | <u></u> | | | 2,011 | · <u></u> | (1,011) | | ,001 | | | | .,002 | | |
| comprehensive income | ₩ | 233,371 | ₩ | 9,377 | ₩ | (7,814) | ₩ | 41,687 | ₩ | - | ₩ | 4,682 | ₩ | 281,303 |

8. Financial assets at fair value through other comprehensive income (cont'd)

Details of financial assets at fair value through other comprehensive income as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | |
|---------------------------|----------------|-----------|----|------------|---|----------|---|-----------|--|
| • | | | Ad | cquisition | (| Carrying | | | |
| | Shares | Ownership | | cost | | amount | F | air value | |
| Listed securities: | | | | | | | | | |
| Denison Mines Corp. | 58,248,500 | 7.17% | ₩ | 36,799 | ₩ | 115,279 | ₩ | 115,279 | |
| Ihsung CNI Co., Ltd. | 142,860 | 4.81% | | 1,500 | | 1,643 | | 1,643 | |
| | | | | 38,299 | | 116,922 | | 116,922 | |
| Unlisted securities: | | | | | | | | | |
| Korea Power | | | | | | | | | |
| Exchange(*1) | - | 14.28% | | 18,263 | | 35,795 | | 35,795 | |
| SET Holding(*1) | 1,100,220 | 2.50% | | 229,255 | | 131,037 | | 131,037 | |
| HeeMang Sunlight Power | | | | | | | | | |
| Co., Ltd.(*2) | 78,600 | 8.33% | | 393 | | 393 | | 393 | |
| SGC Green Power Co., | | / | | | | | | | |
| Ltd.(*2) | 580,000 | 5.00% | | 2,900 | | 2,900 | | 2,900 | |
| Le Soleil Khnp, Inc.(*2) | 137,600 | 19.00% | | 1,376 | | 1,376 | | 1,376 | |
| Orano Expansion(*2) | 5,742,405 | 4.72% | | | | - | | - | |
| Ihsung CNI Co., Ltd.(*2) | 127,660 | 4.30% | | 1,500 | | 2,618 | | 2,618 | |
| H robotics Co., Ltd.(*2) | 422,832 | 3.77% | | 1,000 | | 2,639 | | 2,639 | |
| Goodtcells Co., Ltd.(*2) | 11,364 | 0.34% | | 500 | | 456 | | 456 | |
| iPS Bio Co., Ltd.(*2) | 1,975 | 3.13% | | 1,000 | | 1,000 | | 1,000 | |
| Nine B Co., Ltd.(*2) | 5,000 | 4.96% | | 1,000 | | 1,000 | | 1,000 | |
| Common Computer Co., | | | | | | | | | |
| Ltd.(*2) | 3,856 | 1.87% | | 1,000 | | 1,000 | | 1,000 | |
| H robotics Co., Ltd.(*2) | 480,769 | 4.28% | | 3,000 | | 3,000 | | 3,000 | |
| Fine Powerx Co., Ltd.(*2) | 72,633 | 4.92% | | 1,500 | | 1,500 | | 1,500 | |
| | | | | 262,687 | | 184,714 | | 184,714 | |
| Debit securities | | | | | | | | | |
| Aron Flying Ship Co., | | | | | | | | | |
| Ltd.(*2) | | | | 491 | | 491 | | 491 | |
| | | | | 491 | | 491 | | 491 | |
| | | | ₩ | 301,477 | ₩ | 302,127 | ₩ | 302,127 | |

^(*1) The Group has estimated the fair value by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended March 31, 2022.

^(*2) This financial asset at fair value through other comprehensive income does not have a quoted market price in an active market, and its fair value cannot be reliably measured. Therefore, it is measured at cost.

8. Financial assets at fair value through other comprehensive income (cont'd)

| | December 31, 2021 | | | | | | | | | |
|----------------------------|-------------------|-----------|---|------------|---|----------|---|-----------|--|--|
| | | | | cquisition | | Carrying | | | | |
| | Shares | Ownership | | cost | | amount | F | air value | | |
| Listed securities: | | | | | | | | | | |
| Denison Mines Corp. | 58,248,500 | 7.21% | ₩ | 36,799 | ₩ | 94,319 | ₩ | 94,319 | | |
| Ihsung CNI Co., Ltd.(*1) | 142,860 | 4.81% | | 1,500 | | 1,779 | | 1,779 | | |
| | | | | 38,299 | | 96,098 | | 96,098 | | |
| Unlisted securities: | | | | | | | | | | |
| Korea Power | | | | | | | | | | |
| Exchange(*2) | - | 14.28% | | 18,263 | | 35,795 | | 35,795 | | |
| SET Holding(*2) | 1,100,220 | 2.50% | | 229,255 | | 131,037 | | 131,037 | | |
| HeeMang Sunlight Power | | | | | | | | | | |
| Co., Ltd.(*3) | 78,600 | 8.33% | | 393 | | 393 | | 393 | | |
| SGC Green Power Co., | | | | | | | | | | |
| Ltd.(*3) | 580,000 | 5.00% | | 2,900 | | 2,900 | | 2,900 | | |
| Le Soleil Khnp, Inc.(*3) | 137,600 | 19.00% | | 1,376 | | 1,376 | | 1,376 | | |
| Orano Expansion(*3) | 5,742,405 | 4.72% | | - | | - | | - | | |
| Ihsung CNI Co., Ltd.(*1,3) | 127,660 | 4.30% | | 1,500 | | 2,618 | | 2,618 | | |
| H robotics Co., Ltd.(*3) | 422,832 | 3.77% | | 1,000 | | 2,639 | | 2,639 | | |
| Goodtcells Co., Ltd.(*3) | 11,364 | 0.34% | | 500 | | 456 | | 456 | | |
| iPS Bio Co., Ltd.(*3) | 1,975 | 3.13% | | 1,000 | | 1,000 | | 1,000 | | |
| Nine B Co., Ltd.(*3) | 5,000 | 4.96% | | 1,000 | | 1,000 | | 1,000 | | |
| Common Computer Co., | · | | | | | • | | · | | |
| Ltd.(*3) | 3,856 | 1.87% | | 1,000 | | 1,000 | | 1,000 | | |
| H robotics Co., Ltd.(*3) | 480,769 | 4.28% | | 3,000 | | 3,000 | | 3,000 | | |
| Fine Powerx Co., Ltd.(*3) | 72,633 | 4.92% | | 1,500 | | 1,500 | | 1,500 | | |
| | | | | 262,687 | | 184,714 | | 184,714 | | |
| Debit securities | | | | • | | • | | • | | |
| Aron Flying Ship Co., | | | | | | | | | | |
| Ltd.(*3) | | | | 491 | | 491 | | 491 | | |
| | | | | 491 | | 491 | | 491 | | |
| | | | W | 301,477 | W | 281,303 | ₩ | 281,303 | | |

^(*1) The entire shares of Ihsung CNI Co., Ltd. are 2,969,120. The entity listed 2,841,460 shares (ordinary shares) except for 127,660 shares (preference shares).

^(*2) The Group had estimated the fair value by using the discounted cash flow method and had recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended December 31, 2021.

^(*3) This financial asset at fair value through other comprehensive income did not have a quoted market price in an active market, and its fair value couldn't be reliably measured. Therefore, it was measured at cost.

9. Other financial assets

Other financial assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March : | 22 | | Decembe | r 31, 2 | 021 | |
|-----------------------|---|-----------|----|------------|---------|---------|-------------|---------|
| | (| Current | No | on-current | | Current | Non-current | |
| Financial instruments | ₩ | ₩ 191,161 | | 355,195 | ₩ | 211,160 | W | 333,581 |
| Loans | | 17,318 | | 72,834 | | 17,258 | | 71,789 |
| | ₩ | 208,479 | W | 428,029 | ₩ | 228,418 | W | 405,370 |

Details of financial instruments as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March | 22 | December 31, 2021 | | | | | |
|---------------|---|------------------------|----|-------------------|---|---------|-------------|---------|--|
| | (| Current Non-current(*) | | | | Current | Non-current | | |
| Time deposits | ₩ | ₩ 1,161 | | 95,195 | ₩ | 1,160 | W | 93,581 | |
| Others | | 190,000 | | 260,000 | | 210,000 | | 240,000 | |
| | ₩ | 191,161 | W | 355,195 | ₩ | 211,160 | ₩ | 333,581 | |

^(*) As of March 31, 2022, the Group set aside \(\psi \)354,609 million for decommissioning costs for nuclear power plants. These funds are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to March 31, 2022. Therefore, these assets have been categorized as non-current financial assets.

9. Other financial assets (cont'd)

Detail of loans as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | December 31, 2021 | | | | |
|------------------------------|----------------|---------------------|---------|----------|---|-------------------|-------------|---------|--|--|
| | | Current Non-current | | | | Current | Non-current | | | |
| Loans for tuition(*1) | ₩ | 5,370 | W | 71,877 | ₩ | 5,303 | W | 70,154 | | |
| Loans for housing(*2) | | 603 | | 4,840 | | 599 | | 5,027 | | |
| Other loans(*3) | | 11,439 | | 3,245 | | 11,444 | | 3,128 | | |
| Less: present value discount | (94) | | (7,128) | | | (88) | | (6,520) | | |
| | ₩ 17,318 | | W | ₩ 72,834 | | 17,258 | ₩ | 71,789 | | |

^(*1) The annual interest rate on loans for tuition is 0%, under a condition for installment repayment for seven years with a three-year grace period.

Details of loans as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | | |
|-------------------|-----------------------|-----------|-----|-------------|-------------|----------|----------------|------------|--|--|--|
| | | | Pre | esent value | Allowa | ance for | | | | | |
| | | Par value | | discount | doubtful | accounts | Carrying amour | | | | |
| Loans for tuition | ₩ 77,247 ¹ | | ₩ | (7,222) | ₩ | - | ₩ | 70,025 | | | |
| Loans for housing | | 5,443 | | · - | | _ | | 5,443 | | | |
| Other loans | | 14,684 | | - | | - | | 14,684 | | | |
| | ₩ | 97,374 | ₩ | (7,222) | ₩ | - | ₩ | 90,152 | | | |
| | | | | Decembe | er 31, 2021 | | | | | | |
| | | | Pre | esent value | Allowa | ance for | | | | | |
| | | Par value | | discount | doubtf | ul value | Carry | ing amount | | | |
| Loans for tuition | ₩ | 75,457 | ₩ | (6,608) | ₩ | - | ₩ | 68,849 | | | |
| Loans for housing | | 5,626 | | - | | - | | 5,626 | | | |
| Other loans | | 14,572 | | - | | - | | 14,572 | | | |
| | ₩ | 95,655 | ₩ | (6,608) | ₩ | - | ₩ | 89,047 | | | |

^(*2) The annual interest rate on loans for housing is 2.00% to 2.71%, under the condition of a 15 to 20-year installment repayment.

^(*3) The annual interest rate on other loans is 4.60% to 5.80%, under a condition for repayment on maturity.

10. Inventories

Inventories as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | March | 31, 2022 | | | December 31, 2021 | | | | | | |
|-----------------------------|---|------------------|---------------------|----------|--------------------|-----------|-------------------|-----------|---------------------|---|--------------------|-----------|--|
| | P | Acquisition cost | Valuation allowance | | Carrying amount | | Acquisition cost | | Valuation allowance | | Carrying amount | | |
| Raw materials | ₩ | 3,226,697 | ₩ | - | ₩ | 3,226,697 | ₩ | 3,073,865 | ₩ | - | ₩ | 3,073,865 | |
| Supplies Inventories-in- | | 2,144,949 | | - | | 2,144,949 | | 2,088,715 | | - | | 2,088,715 | |
| transit | | 270,614 | | - | | 270,614 | | 276,208 | | | | 276,208 | |
| | ₩ | 5,642,260 | ₩ | - | ₩ | 5,642,260 | ₩ | 5,438,788 | ₩ | - | ₩ | 5,438,788 | |

11. Non-financial assets

Non-financial assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 22 | December 31, 2021 | | | | |
|-------------------|---|-------------------------|----|-------------------|---|---------|-------------|---------|
| | (| Current Non-current | | | | Current | Non-current | |
| Advanced payments | ₩ | 57,957 W 384 | | | ₩ | 38,581 | ₩ | 462,578 |
| Prepaid expenses | | 49,878 | | 8,472 | | 54,007 | | 8,058 |
| Others | | 16,696 | | 14,094 | | 17,623 | | 14,095 |
| | ₩ | 124,531 | ₩ | 406,849 | ₩ | 110,211 | ₩ | 484,731 |

Investments in associates and joint ventures as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| M | ard | :h | 31 | . 20 | 122 |
|---|-----|----|----|------|-----|
| | | | | | |

| | | IV | arch 31, 202 | 2 | | |
|---|---|----------|----------------------|----------------|------------------|-----------------|
| Company | Key operating activities | Location | Reporting Date | Owner- ship | Acquisition cost | Carrying amount |
| <associates></associates> | | | | | | |
| Korea Offshore Wind Power Co., Ltd.(*1) | Offshore wind resources development | Korea | March 31 | 12.50% | ₩ 26,600 | ₩ 22,302 |
| Noeul Green Energy Co., Ltd. | Electricity and heat generation | Korea | March 31 | 29.00% | 1,740 | 3,366 |
| Busan Green Energy Co., Ltd. Korea Hydro & Nuclear Power | Electricity and heat generation | Korea | March 31 | 29.00% | 5,243 | 6,942 |
| KNP Co., Ltd. KEPCO Solar Co., Ltd.(*1) | Electric material agency Photovoltaic power | Korea | March 31 | 28.98% | 537 | 239 |
| KEPCO ES Co., Ltd.(*1) | generation electricity resources development Energy-efficient equipment | Korea | March 31 | 8.38% | 16,750 | 17,678 |
| , | investment services business | Korea | March 31 | 8.33% | 25,000 | 25,951 |
| Gwangyang Green Energy Co., Ltd. Hanwha Solar Power Private | Biomass generation | Korea | March 31 | 20.00% | 26,800 | 25,387 |
| equity investment trust | Investment trust | Korea | March 31 | 49.00% | 7,105 | 7,129 |
| Godeok Clean Energy Co., Ltd. Bigeum Resident Solar Power | Electricity and heat generation | Korea | March 31 | 40.00% | 5,560 | 4,791 |
| Generation Co., Ltd. Digital Innovation Growth | Photovoltaic power generation | Korea | March 31 | 29.90% | 1 | - |
| Fund(*2) Gangneung Sacheon Fuel | Investment trust | Korea | March 31 | 76.92% | 10,000 | 9,841 |
| Cell Co., Ltd.(*3) Chuncheon Green Energy | Electricity and heat generation | Korea | March 31 | 53.95% | 5,695 | 5,149 |
| Co., Ltd.(*3) | Electricity and heat generation | Korea | March 31 | 68.00% | 3,400 | 3,273 |
| < laint vanturaas | | | | | 134,431 | 132,048 |
| <joint ventures=""> Waterbury Lake Uranium</joint> | Uranium resources | | | | | |
| Limited Partnership(*4) Cheongsong Noraesan Wind | development | Canada | March 31 | 33.10% | 20,753 | 22,508 |
| Power Co., Ltd. Saemangeum Solar Power | Wind power generation | Korea | March 31 | 29.01% | 3,200 | 3,666 |
| Co., Ltd.(*5) KAS INVESTMENT I LLC(*6) | Solar power generation | Korea | March 31 December | 81.01% | 26,400 | 23,753 |
| KAS INVESTMENT II LLC(*6) | Overseas Investment | USA | 31 December | 29.89% | 23,437 | 15,798 |
| Overdalisma Calan Ca A (*E) | Overseas Investment | USA | 31 | 29.89% | 23,343 | 15,734 |
| Guadalupe Solar SpA(*5) | Overseas Investment | Chile | March 31 | 60.00% | 1,397 | 968 |
| | | | | | 98,530 | 82,427 |
| | | | | | ₩ 232,961 | ₩ 214,475 |

^(*1) Although the Group holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates as the Group determines that it could exercise significant influence over the investee.

^(*2) Although the Group holds more than 50% equity interest in the investee, the investee has been classified as an investment in associates as the Group has no control over the relevant activities and exercises significant influence through the participation of the investment decision-making body.

^(*3) Although the Group holds more than 50% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. However, the investee has been classified as an investment in associates as the Group determines that it could exercise significant influence over the investee through participation in the Board of Directors.

^(*5) The Group's voting right over the investee is exceed 50% based on the shareholders' agreement, and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

^(*6) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of December 31, 2021, the most recent financial statements available for use, were used.

December 31, 2021

| | | DC | Combon on, 2021 | | | |
|---|--|----------|-------------------|----------------|------------------|-----------------|
| Company | Key operating activities | Location | Reporting Date | Owner- ship | Acquisition cost | Carrying amount |
| <associates></associates> | | | | · <u></u> | | |
| Korea Offshore Wind Power Co., Ltd.(*1) | Offshore wind resources development | Korea | December 31 | 12.50% | ₩ 26,600 | ₩ 21,436 |
| Noeul Green Energy Co., Ltd. | Electricity and heat generation | Korea | December 31 | 29.00% | 1,740 | 3,809 |
| Busan Green Energy Co., Ltd. Korea Hydro & Nuclear Power | Electricity and heat generation | Korea | December 31 | 29.00% | 5,243 | 5,033 |
| KNP Co., Ltd. KEPCO Solar Co., Ltd.(*1) | Electric material agency Photovoltaic power generation electricity | Korea | December 31 | 28.98% | 537 | 219 |
| KEPCO ES Co., Ltd.(*1) | resources development Energy-efficient equipment | Korea | December 31 | 8.38% | 16,750 | 17,552 |
| Gwangyang Green Energy | investment services business | Korea | December 31 | 8.33% | 25,000 | 26,075 |
| Co., Ltd. Hanhwa Solar Power Private | Biomass generation | Korea | December 31 | 20.00% | 26,800 | 25,465 |
| equity investment trust Godeok Clean Energy | Investment trust | Korea | December 31 | 49.00% | 7,113 | 7,136 |
| Co., Ltd. Bigeum Resident Solar Power | Electricity and heat generation | Korea | December 31 | 40.00% | 5,560 | 4,301 |
| Generation Co., Ltd. Digital Innovation Growth Fund | Photovoltaic power generation | Korea | December 31 | 29.90% | 1 | - |
| (*2,4) Gangneung Sacheon Fuel Cell | Investment trust | Korea | December 31 | 76.92% | 10,000 | 9,890 |
| Co., Ltd.(*3,4) | Electricity and heat generation | Korea | December 31 | 65.00% | 1,950 | 1,878 |
| Chuncheon Green Energy Co., Ltd.(*3,4) | Electricity and heat generation | Korea | December 31 | 68.00% | 3,400 | 3,372 |
| a laint continues | | | | | 130,694 | 126,166 |
| <joint ventures=""></joint> | | | | | | |
| Waterbury Lake Uranium Limited Partnership(*5) Cheongsong Noraesan Wind | Uranium resources development | Canada | December 31 | 33.10% | 20,753 | 21,590 |
| Power Co., Ltd. | Wind power generation | Korea | December 31 | 29.01% | 3,200 | 4,106 |
| Saemangeum Solar Power Co., Ltd.(*6) | Solar power generation | Korea | December 31 | 81.01% | 26,400 | 23,939 |
| KAS INVESTMENT I LLC (*7) | Overseas Investment | USA | September 31 | 29.89% | 23,437 | 15,273 |
| KAS INVESTMENT II LLC (*7) | Overseas Investment | USA | September 31 | 29.89% | 23,343 | 15,213 |
| Guadalupe Solar SpA(*4,6) | pe Solar SpA(*4,6) Overseas Investment | | December 31 | 60.00% | 1,397 | 660 |
| | | | | | 98,530 | 80,781 |
| | | | | | W 229,224 | ₩ 206,947 |
| | | | | | | |

^(*1) Although the joint venture holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates as the Group determines that it could exercise significant influence over the investee.

^(*2) Although the Group holds more than 50% equity interest in the investee, the investee has been classified as an investment in associates as the Group has no control over the relevant activities and exercises significant influence through the participation of the investment decision-making body.

^(*3) Although the Group holds more than 50% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. However, the investee has been classified as an investment in associates, as the Group determines that it could exercise significant influence over the investee through participation in the Board of Directors.

^(*4) This entity is newly included as associates and joint ventures of the Group due to new investments for the year ended December 31, 2021

^(*5) The above acquisition cost is the book value at the time of change in the consolidation scope. The initial acquisition cost of the Waterbury Lake Uranium Limited Partnership held by the Korea Waterbury Uranium Limited Partnership was W26,602 million.

(*6) The Group's voting right over the investee is exceed 50% based on the shareholders' agreement and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

(*7) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of September 30, 2021, the most recent financial statements available for use, were used.

Changes in investments in associates and joint ventures for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | | | | | For the three | mon | ths ended Ma | rch 31, 2022 | | | | |
|--|---|-----------|-------------|---|------------------------|-----|------------------------------|--------------|---|---------|---|----------|
| | | January 1 | Acquisition | (| Share of profit (loss) | (| Changes in equity and others | Disposals | | Others | N | larch 31 |
| <associates></associates> | | • | | | | | | | | | | |
| Korea Offshore Wind Power Co., Ltd. | ₩ | 21,436 | ₩ - | ¥ | ¥ 866 | W | - | ₩ - | ₩ | - | ₩ | 22,302 |
| Noeul Green Energy Co., Ltd. | | 3,809 | - | | (443) | | - | - | | - | | 3,366 |
| Busan Green Energy Co., Ltd. Korea Hydro & Nuclear | | 5,033 | - | | 1,909 | | - | - | | - | | 6,942 |
| Power KNP Co., Ltd. | | 219 | _ | | 20 | | _ | _ | | _ | | 239 |
| KEPCO Solar Co., Ltd. | | 17,552 | _ | | 242 | | _ | _ | | (116) | | 17,678 |
| KEPCO ES Co., Ltd. | | 26,075 | _ | | 18 | | _ | _ | | (142) | | 25,951 |
| Gwangyang Green Energy Co., Ltd. | | 25,465 | | | (78) | | | | | (142) | | 25,387 |
| Hanwha Solar Power Private equity | | 25,405 | _ | | (10) | | _ | | | _ | | 25,567 |
| investment trust Godeok Clean Energy | | 7,136 | - | | 99 | | - | (8) | | (98) | | 7,129 |
| Co., Ltd. Bigeum Resident Solar | | 4,301 | - | | 490 | | - | - | | - | | 4,791 |
| Power Generation Co., Ltd. | | | _ | | | | | _ | | _ | | |
| Digital Innovation | | _ | _ | | _ | | _ | _ | | _ | | _ |
| Growth Fund Gangneung Sacheon | | 9,890 | - | | (49) | | - | - | | - | | 9,841 |
| Fuel Cell Co., Ltd. Chuncheon Green | | 1,878 | 3,745 | | (451) | | (23) | - | | - | | 5,149 |
| Energy Co., Ltd. | | 3,372 | - | | (99) | | - | - | | - | | 3,273 |
| | | 126,166 | 3,745 | | 2,524 | | (23) | (8) | | (356) | | 132,048 |
| <joint ventures=""> Waterbury Lake Uranium Limited</joint> | | | | _ | | | | | | (===) | | |
| Partnership Cheongsong Noraesan | | 21,590 | - | | - | | 918 | - | | - | | 22,508 |
| Wind Power Co., Ltd. Saemangeum Solar | | 4,106 | - | | 232 | | - | - | | (672) | | 3,666 |
| Power Co., Ltd. KAS INVESTMENT I | | 23,939 | - | | (186) | | - | - | | - | | 23,753 |
| LLC(*) KAS INVESTMENT II | | 15,273 | - | | 60 | | 465 | - | | - | | 15,798 |
| LLC(*) | | 15,213 | - | | 58 | | 463 | - | | - | | 15,734 |
| Guadalupe Solar SpA | | 660 | | _ | 197 | | 111 | | | | | 968 |
| | | 80,781 | | _ | 361 | | 1,957 | | _ | (672) | | 82,427 |
| | ₩ | 206,947 | ₩ 3,745 | ٧ | ¥ 2,885 | ₩ | 1,934 | ₩ (8) | ₩ | (1,028) | ₩ | 214,475 |

^(*) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of December 31, 2021, the most recent financial statements available for use, were used.

| | | | | | | For the year | ar er | nded Decemi | ber 31, 2021 | | | | |
|--|-----|-------------|----|-----------|----|----------------|-------|-------------|--------------|-------------|--------|-----|----------|
| | | | | | Sh | nare of profit | | Changes in | | | 041 | Б. | |
| <accesiators< td=""><td>Ja</td><td>anuary 1</td><td>Ac</td><td>quisition</td><td></td><td>(loss)</td><td>_</td><td>equity</td><td>Disposals</td><td></td><td>Others</td><td>Dec</td><td>ember 31</td></accesiators<> | Ja | anuary 1 | Ac | quisition | | (loss) | _ | equity | Disposals | | Others | Dec | ember 31 |
| <associates> Korea Offshore Wind</associates> | | | | | | | | | | | | | |
| Power Co., Ltd. Noeul Green Energy Co., | ₩ | 20,884 | ₩ | - | ₩ | 552 | ₩ | - | ₩ - | ₩ | - | ₩ | 21,436 |
| Ltd. Busan Green Energy Co., | | 4,197 | | - | | (389) | | - | - | | 1 | | 3,809 |
| Ltd. | | 8,778 | | - | | (3,750) | | - | - | | 5 | | 5,033 |
| Korea Hydro & Nuclear Power KNP Co., Ltd. | | 200 | | - | | 19 | | - | - | | - | | 219 |
| KEPCO Solar Co., Ltd. | | 17,365 | | - | | 189 | | - | - | | (2) | | 17,552 |
| KEPCO ES Co., Ltd. Gwangyang Green | | 25,808 | | - | | 269 | | - | - | | (2) | | 26,075 |
| Energy Co., Ltd. Hanhwa Solar Power Private equity | | 925 | | 24,800 | | (138) | | (122) | - | | - | | 25,465 |
| investment trust Godeok Clean Energy | | 7,325 | | - | | 399 | | - | (188) | | (400) | | 7,136 |
| Co., Ltd. Bigeum Resident Solar Power Generation | | 960 | | 3,730 | | (333) | | (56) | - | | - | | 4,301 |
| Co., Ltd. | | - | | - | | - | | - | - | | - | | - |
| Jeju Solarone Co., Ltd. Digital Innovation | | 160 | | 45 | | (1) | | - | (206) | | 2 | | - |
| Growth Fund Gangneung Sacheon | | - | | 10,000 | | (110) | | - | - | | - | | 9,890 |
| Fuel Cell Co., Ltd. Chuncheon Green | | - | | 1,950 | | (72) | | - | - | | - | | 1,878 |
| Energy Co., Ltd. | | _ | | 3,400 | | (28) | | _ | - | | - | | 3,372 |
| | | 86,602 | | 43,925 | | (3,393) | | (178) | (394) | | (396) | | 126,166 |
| <joint ventures=""> Waterbury Lake Uranium Limited</joint> | | | | | | | | | | | | | |
| Partnership Cheongsong Noraesan | | 19,796 | | - | | - | | 1,794 | - | | - | | 21,590 |
| Wind Power Co., Ltd. Saemangeum Solar | | 3,453 | | - | | 653 | | - | - | | - | | 4,106 |
| Power Co., Ltd. KAS INVESTMENT I | | 24,292 | | 1 | | (354) | | - | - | | - | | 23,939 |
| LLC(*) KAS INVESTMENT II | | 23,437 | | - | | (6,876) | | (1,288) | - | | - | | 15,273 |
| LLC(*) | | 23,343 | | - | | (6,515) | | (1,615) | - | | - | | 15,213 |
| Guadalupe Solar SpA | | | | 1,397 | | (672) | | (65) | | | | | 660 |
| | 141 | 94,321 | | 1,398 | | (13,764) | | (1,174) | - | | | | 80,781 |
| | ₩ | 180,923 | ₩ | 45,323 | ₩ | (17,157) | ₩ | (1,352) | ₩ (394) | ₩ | (396) | ₩ | 206,947 |

^(*) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of September 30, 2021, the most recent financial statements available for use, were used.

The summary financial information of investments accounted for using the equity method as of and for the three months ended March 31, 2022 and as of and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | | | | |
|---------------------------------------|----------------|-----------|-----|----------------|---|--------|-----|---------------|--|--|--|--|--|
| | Tot | al assets | Tot | al liabilities | | Sales | Net | profit (loss) | | | | | |
| <associates></associates> | | | | | | | | | | | | | |
| Korea Offshore Wind Power | | | | | | | | | | | | | |
| Co., Ltd. | ₩ | 370,151 | ₩ | 191,737 | ₩ | 16,257 | ₩ | 7,383 | | | | | |
| Noeul Green Energy Co., Ltd. | | 106,506 | | 94,901 | | 7,969 | | (1,450) | | | | | |
| Busan Green Energy Co., Ltd. | | 164,778 | | 140,841 | | 19,064 | | 1,476 | | | | | |
| Korea Hydro & Nuclear Power | | | | | | | | | | | | | |
| KNP Co., Ltd. | | 1,433 | | 55 | | 486 | | 68 | | | | | |
| KEPCO Solar Co., Ltd. | | 234,062 | | 22,986 | | 6,313 | | 2,581 | | | | | |
| KEPCO ES Co., Ltd. | | 316,491 | | 5,081 | | 9,189 | | 379 | | | | | |
| Gwangyang Green Energy | | | | | | | | | | | | | |
| Co., Ltd. | | 126,888 | | 43 | | - | | (208) | | | | | |
| Hanwha Solar Power Private | | | | | | | | | | | | | |
| equity investment trust | | 14,756 | | 207 | | 206 | | 198 | | | | | |
| Godeok Clean Energy | | 07.504 | | 55.000 | | | | (470) | | | | | |
| Co., Ltd. | | 67,584 | | 55,606 | | - | | (172) | | | | | |
| Bigeum Resident Solar Power | | 44.004 | | 40 400 | | | | (400) | | | | | |
| Generation Co., Ltd. | | 41,064 | | 42,190 | | - | | (123) | | | | | |
| Digital Innovation Growth Fund | | 12,794 | | - | | 6 | | (64) | | | | | |
| Gangneung Sacheon Fuel Cell Co., Ltd. | | 9,573 | | 163 | | | | (246) | | | | | |
| Chuncheon Green Energy Co., | | 9,573 | | 103 | | - | | (246) | | | | | |
| Ltd. | | 4,760 | | 25 | | | | (149) | | | | | |
| Liu. | | 4,700 | | 25 | | - | | (149) | | | | | |
| <joint ventures=""></joint> | | | | | | | | | | | | | |
| Waterbury Lake | | | | | | | | | | | | | |
| Uranium Limited Partnership | | 68,208 | | 211 | | _ | | _ | | | | | |
| Cheongsong Noraesan Wind | | , | | | | | | | | | | | |
| Power Co., Ltd. | | 57,771 | | 45,345 | | 2,513 | | 1,230 | | | | | |
| Saemangeum Solar Power | | , | | , | | , | | , | | | | | |
| Co., Ltd. | | 35,019 | | 5,696 | | - | | (229) | | | | | |
| KAS INVESTMENT I LLC | | 55,043 | | 2,191 | | 199 | | `199́ | | | | | |
| KAS INVESTMENT II LLC | | 54,828 | | 2,187 | | 197 | | 197 | | | | | |
| Guadalupe Solar SpA | | 9,484 | | 8,034 | | 108 | | 328 | | | | | |
| , , | | | | • | | | | | | | | | |

| | December 31, 2021 | | | | | | | | | | | | |
|--------------------------------|-------------------|------------|----|-----------------|---|----------|----|-----------------|--|--|--|--|--|
| | То | tal assets | То | tal liabilities | | Sales | Ne | t profit (loss) | | | | | |
| <associates></associates> | | | | | - | | | | | | | | |
| Korea Offshore Wind Power | | | | | | | | | | | | | |
| Co., Ltd. | ₩ | 359,804 | ₩ | 188,316 | ₩ | 36,157 | ₩ | 4,421 | | | | | |
| Noeul Green Energy Co., Ltd. | | 109,355 | | 96,222 | | 36,029 | | (1,269) | | | | | |
| Busan Green Energy Co., Ltd. | | 163,016 | | 145,664 | | 45,088 | | (10,843) | | | | | |
| Korea Hydro & Nuclear Power | | | | | | | | | | | | | |
| KNP Co., Ltd. | | 1,409 | | 100 | | 836 | | 64 | | | | | |
| KEPCO Solar Co., Ltd. | | 231,830 | | 22,255 | | 10,897 | | 2,252 | | | | | |
| KEPCO ES Co., Ltd. | | 317,614 | | 4,727 | | 21,423 | | 3,253 | | | | | |
| Gwangyang Green Energy | | | | | | | | | | | | | |
| Co., Ltd. | | 128,375 | | 1,136 | | - | | (688) | | | | | |
| Hanhwa Solar Power Private | | | | | | | | | | | | | |
| equity investment trust | | 14,777 | | 211 | | 848 | | 815 | | | | | |
| Godeok Clean Energy | | 05.500 | | = 1 0 1 1 | | | | (0.400) | | | | | |
| Co., Ltd. | | 65,566 | | 54,811 | | - | | (2,482) | | | | | |
| Bigeum Resident Solar Power | | 00.400 | | 00.450 | | | | (000) | | | | | |
| Generation Co., Ltd. | | 22,160 | | 23,158 | | - | | (608) | | | | | |
| Digital Innovation Growth Fund | | 12,857 | | - | | 2 | | (143) | | | | | |
| Gangneung Sacheon Fuel Cell | | 2.750 | | 2 | | | | (124) | | | | | |
| Co., Ltd. | | 2,759 | | 3 | | - | | (124) | | | | | |
| Chuncheon Green Energy | | 4 000 | | 20 | | | | (101) | | | | | |
| Co., Ltd. | | 4,900 | | 20 | | - | | (101) | | | | | |
| <joint ventures=""></joint> | | | | | | | | | | | | | |
| Waterbury Lake | | | | | | | | | | | | | |
| Uranium Limited Partnership | | 65,240 | | 14 | | _ | | _ | | | | | |
| Cheongsong Noraesan Wind | | 00,2.0 | | | | | | | | | | | |
| Power Co., Ltd. | | 57,046 | | 43,106 | | 7,929 | | 2,309 | | | | | |
| Saemangeum Solar Power | | 21,212 | | 12,122 | | ,,,, | | _, | | | | | |
| Co., Ltd. | | 35,322 | | 5,771 | | - | | (631) | | | | | |
| KAS INVESTMENT I LLC | | 52,680 | | 1,583 | | (19,390) | | (23,007) | | | | | |
| KAS INVESTMENT II LLC | | 52,476 | | 1,581 | | (19,311) | | (21,801) | | | | | |
| Guadalupe Solar SpA | | 8,775 | | 7,839 | | ` 12 | | `(1,119)́ | | | | | |

13. Property, plant and equipment

Property, plant and equipment as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | |
|------------------------------|----------------|----------------|---|---------------------|---|-----------------------------|---|-----------------------------------|-----|--------------|
| | Ac | quisition cost | G | overnment grants | - | Accumulated depreciation | | ccumulated npairment losses | Cai | rying amount |
| Land | ₩ | 2,677,874 | ₩ | - | ₩ | - | ₩ | - | ₩ | 2,677,874 |
| Buildings | | 8,528,861 | | (467) | | (3,800,720) | | (1,896) | | 4,725,778 |
| Structures | | 4,828,512 | | (8,141) | | (2,509,922) | | (360) | | 2,310,089 |
| Machineries | | 26,746,032 | | (6,842) | | (13,360,946) | | (386,807) | | 12,991,437 |
| Ships | | 1,232 | | - | | (1,062) | | - | | 170 |
| Vehicles | | 90,520 | | (51) | | (63,464) | | - | | 27,005 |
| Fixtures and furniture | | 575,689 | | (93) | | (464,832) | | (36) | | 110,728 |
| Tools | | 508,192 | | (8) | | (430,126) | | (6) | | 78,052 |
| Construction-in- progress | | 17,662,935 | | - | | - | | (154,729) | | 17,508,206 |
| Right-of-use assets | | 2,494,956 | | - | | (577,268) | | - | | 1,917,688 |
| Asset retirement costs | | 14,072,566 | | - | | (5,284,579) | | (146,423) | | 8,641,564 |
| Others | | 15,390,514 | | | | (12,746,280) | | | | 2,644,234 |
| | ₩ | 93,577,883 | ₩ | (15,602) | ₩ | (39,239,199) | ₩ | (690,257) | ₩ | 53,632,825 |

| | December 31, 2021 | | | | | | | | | |
|------------------------------|-------------------|----------------|---|----------------------|---|--------------------------|---|-----------------------------------|----|---------------|
| | Ac | quisition cost | G | Sovernment grants | - | Accumulated depreciation | | ccumulated mpairment losses | Ca | rrying amount |
| Land | ₩ | 2,677,913 | ₩ | - | ₩ | - | ₩ | _ | ₩ | 2,677,913 |
| Buildings | | 8,438,139 | | (482) | | (3,718,541) | | (1,896) | | 4,762,220 |
| Structures | | 4,826,295 | | (8,290) | | (2,468,731) | | (360) | | 2,348,914 |
| Machineries | | 26,702,559 | | (7,331) | | (13,054,267) | | (386,807) | | 13,254,154 |
| Ships | | 1,232 | | - | | (1,055) | | - | | 177 |
| Vehicles | | 90,517 | | (55) | | (60,420) | | - | | 30,042 |
| Fixtures and furniture | | 566,626 | | (103) | | (452,352) | | (36) | | 114,135 |
| Tools | | 495,340 | | (10) | | (421,363) | | (6) | | 73,961 |
| Construction-in- progress | | 16,905,317 | | - | | - | | (154,730) | | 16,750,587 |
| Right-of-use assets | | 2,478,284 | | - | | (553,143) | | - | | 1,925,141 |
| Asset retirement costs | | 14,124,056 | | - | | (5,077,005) | | (146,423) | | 8,900,628 |
| Others | | 15,238,404 | | | | (12,489,352) | | | | 2,749,052 |
| | ₩ | 92,589,682 | ₩ | (16,271) | ₩ | (38,296,229) | ₩ | (690,258) | W | 53,586,924 |

13. Property, plant and equipment (cont'd)

Changes in property, plant and equipment for three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended March 31, 2022 | | | | | | | | | | |
|------------------------------------|---|---------------------------------|-----------|---------------|-----------|--------------|--|--|--|--|--|
| | January 1 | Acquisitions/ Capitalization | Disposals | Depreciation | Others | March 31 | | | | | |
| Land | ₩ 2,677,913 | ₩ - | ₩ (140) | ₩ - | ₩ 101 | ₩ 2,677,874 | | | | | |
| Buildings | 4,762,702 | 47 | (746) | (83,208) | 47,450 | 4,726,245 | | | | | |
| (Government | | | | | | | | | | | |
| grants) | (482) | - | - | 15 | - | (467) | | | | | |
| Structures | 2,357,204 | - | (120) | (41,626) | 2,772 | 2,318,230 | | | | | |
| (Government grants) | (8,290) | - | - | 149 | - | (8,141) | | | | | |
| Machineries(*3) | 13,261,485 | 1,290 | (222) | (308,648) | 44,374 | 12,998,279 | | | | | |
| (Government grants) | (7,331) | - | - | 489 | - | (6,842) | | | | | |
| Ships | 177 | - | - | (7) | - | 170 | | | | | |
| Vehicles | 30,097 | 80 | - | (3,391) | 270 | 27,056 | | | | | |
| (Government grants) | (55) | - | - | 4 | - | (51) | | | | | |
| Fixtures and Furniture | 114,238 | 6,294 | (3) | (12,685) | 2,977 | 110,821 | | | | | |
| (Government grants) | (103) | - | - | 11 | (1) | (93) | | | | | |
| Tools | 73,971 | 629 | (146) | (8,853) | 12,459 | 78,060 | | | | | |
| (Government grants) | (10) | - | - | 2 | - | (8) | | | | | |
| Construction- in-progress(*1,3) | 16,750,587 | 650,416 | - | - | 107,203 | 17,508,206 | | | | | |
| Right-of-use assets | 1,925,141 | 16,682 | (301) | (24,382) | 548 | 1,917,688 | | | | | |
| Asset retirement costs | 8,900,628 | - | · - | (280,811) | 21,747 | 8,641,564 | | | | | |
| Others(*2) | 2,749,052 | | | (256,929) | 152,111 | 2,644,234 | | | | | |
| | ₩ 53,586,924 | ₩ 675,438 | ₩ (1,678) | ₩ (1,019,870) | ₩ 392,011 | ₩ 53,632,825 | | | | | |

^(*1) Other increases or decreases in construction-in-progress include \W82,980 million of borrowing cost capitalization.

^(*2) Other increases or decreases in others are the amount replaced to the stored nuclear fuel from inventories.

(*3) Acquisitions in construction-in-progress and machineries include \(\psi_70,312\) million replaced by other payables.

13. Property, plant and equipment (cont'd)

| | | | | | For the | e year ended | l Dec | ember 31, 202 | 21 | | | |
|---------------------|---|------------|----|--------------|---------|--------------|-------|---------------|----|-------------|----|------------|
| | | | | cquisitions/ | | | | | | | | |
| | | January 1 | Ca | pitalization | D | isposals | | Depreciation | | Others | De | ecember 31 |
| Land | ₩ | 2,651,211 | ₩ | 754 | ₩ | (11,842) | ₩ | - | ₩ | 37,790 | ₩ | 2,677,913 |
| Buildings | | 4,821,114 | | 867 | | (6,882) | | (334,708) | | 282,311 | | 4,762,702 |
| (Government | | | | | | | | | | | | |
| grants) | | (543) | | - | | - | | 61 | | - | | (482) |
| Structures | | 2,468,085 | | - | | (421) | | (171,387) | | 60,927 | | 2,357,204 |
| (Government | | | | | | | | | | | | |
| grants) | | (8,882) | | - | | - | | 592 | | - | | (8,290) |
| Machineries | | 13,479,357 | | 11,312 | | (37,217) | | (1,188,913) | | 996,946 | | 13,261,485 |
| (Government | | () | | | | | | | | | | |
| grants) | | (8,878) | | - | | - | | 1,955 | | (408) | | (7,331) |
| Ships | | 254 | | - | | - | | (103) | | 26 | | 177 |
| Vehicles | | 22,285 | | 1,592 | | (106) | | (13,584) | | 19,910 | | 30,097 |
| (Government | | | | | | | | | | | | |
| grants) | | (47) | | - | | - | | 29 | | (37) | | (55) |
| Fixtures and | | 405.045 | | 40.704 | | (400) | | (40,004) | | 40.505 | | 444.000 |
| Furniture | | 105,245 | | 40,701 | | (439) | | (49,804) | | 18,535 | | 114,238 |
| (Government grants) | | (160) | | | | | | 74 | | (17) | | (103) |
| Tools | | 77,211 | | 3.949 | | (65) | | (38,764) | | 31,640 | | 73,971 |
| (Government | | 11,211 | | 3,949 | | (03) | | (30,704) | | 31,040 | | 13,311 |
| grants) | | (151) | | _ | | _ | | 176 | | (35) | | (10) |
| Construction- | | (101) | | | | | | .,, | | (00) | | (10) |
| in-progress(*1) | | 15,845,104 | | 1,915,836 | | _ | | _ | | (1,010,353) | | 16,750,587 |
| Right-of-use assets | | 1,922,462 | | 7,329 | | (12,209) | | (98, 154) | | 105,713 | | 1,925,141 |
| Asset retirement | | | | | | , , , | | , , , | | | | |
| costs | | 7,382,469 | | - | | (209) | | (838,437) | | 2,356,805 | | 8,900,628 |
| Others(*2) | | 2,745,567 | | - | | (504) | | (904,852) | | 908,841 | | 2,749,052 |
| | ₩ | 51,501,703 | ₩ | 1,982,340 | ₩ | (69,894) | ₩ | (3,635,819) | ₩ | 3,808,594 | ₩ | 53,586,924 |

^(*1) Other increases or decreases in construction-in-progress include \#326,706 million of borrowing cost capitalization. (*2) Other increases or decreases in others are the amount replaced by the stored nuclear fuel from inventories.

14. Intangible assets

Intangible assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | |
|-------------------------------------|----------------|---------------|---|---------------------|---|--------------------------|----------------------------|-------|---|-----------------|
| | Acc | uisition cost | G | overnment grants | | cumulated nortization | Accumu impairr losse | nent | | Carrying amount |
| Computer software | ₩ | 138,958 | W | (82) | ₩ | (106,642) | W | - | W | 32,234 |
| Industrial rights | | 3,437 | | - | | (2,390) | | - | | 1,047 |
| Development cost | | 189,990 | | (5) | | (164,665) | | - | | 25,320 |
| Intangible assets under development | | 27,195 | | - | | - | | - | | 27,195 |
| Land use rights | | 2,706 | | - | | (1,671) | | - | | 1,035 |
| Goodwill | | 176 | | - | | - | | - | | 176 |
| Others Loading and unloading | | | | | | | | | | |
| facilities rights | | 26,282 | | - | | (7,526) | | - | | 18,756 |
| Dam use rights | | 6,274 | | - | | (2,081) | | - | | 4,193 |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 |
| Others | | 57,372 | | - | | (33,868) | - | | | 23,504 |
| | ₩ | 453,548 | ₩ | (87) | ₩ | (318,843) | ₩ | (359) | ₩ | 134,259 |

| | December 31, 2021 | | | | | | | | | | |
|--|-------------------|---------------|---|---------------------|---|---------------------------|---|-----------------------------------|---|-----------------|--|
| | Acq | uisition cost | G | overnment grants | | ccumulated mortization | | ccumulated npairment losses | | Carrying amount | |
| Computer software | ₩ | 135,096 | ₩ | (88) | ₩ | (102,323) | ₩ | - | ₩ | 32,685 | |
| Industrial rights | | 3,437 | | - | | (2,355) | | - | | 1,082 | |
| Development cost | | 177,403 | | (6) | | (161,809) | | - | | 15,588 | |
| Intangible assets under development | | 35,811 | | - | | - | | - | | 35,811 | |
| Land use rights | | 2,706 | | - | | (1,606) | | - | | 1,100 | |
| Goodwill | | 176 | | - | | - | | - | | 176 | |
| Others Loading and unloading | | | | | | | | | | | |
| facilities rights | | 26,282 | | - | | (7,208) | | - | | 19,074 | |
| Dam use rights | | 6,274 | | - | | (2,045) | | - | | 4,229 | |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 | |
| Others | | 57,322 | | - | | (33,024) | | | | 24,298 | |
| | ₩ | 445,665 | W | (94) | W | (310,370) | W | (359) | W | 134,842 | |

14. Intangible assets (cont'd)

Changes in intangible assets for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | | | | For the thre | e n | months ended Ma | arch 31, 2022 | | | | |
|---|----|---------|--------------------------------|--------------|-----|-----------------|-------------------|---|----------|---|---------|
| | Ja | nuary 1 | Acquisition/ Capitalization | Disposal | | Amortization | Impairment losses | | Others | M | arch 31 |
| Computer software (government | ₩ | 32,773 | ₩ 3,248 | ₩ | _ ! | ₩ (4,319) | ₩ - | ₩ | 614 | ₩ | 32,316 |
| grants) | | (88) | - | | - | 13 | - | | (7) | | (82) |
| Industrial rights Development | | 1,082 | - | | - | (35) | - | | - | | 1,047 |
| cost (government | | 15,594 | - | | - | (2,856) | - | | 12,587 | | 25,325 |
| grants) Intangible assets under development | | (6) | - | | - | 1 | - | | - | | (5) |
| (*) | | 35,811 | 3,846 | | - | - | - | | (12,462) | | 27,195 |
| Land use rights | | 1,100 | - | | - | (65) | - | | - | | 1,035 |
| Goodwill | | 176 | - | | - | - | - | | - | | 176 |
| Others Loading and unloading | | 40.074 | | | | (240) | | | | | 40.750 |
| facilities rights Dam use | | 19,074 | - | | - | (318) | - | | - | | 18,756 |
| rights | | 4,229 | - | | - | (36) | - | | - | | 4,193 |
| Memberships | | 799 | - | | - | - | - | | - | | 799 |
| Others | | 24,298 | | | | (844) | | | 50 | | 23,504 |
| | ₩ | 134,842 | W 7,094 | ₩ | - ! | ₩ (8,459) | ₩ - | ₩ | 782 | ₩ | 134,259 |

^(*) Other increases or decreases in intangible assets under development include W409 million of borrowing cost capitalization.

| | | For the year ended December 31, 2021 | | | | | | | | | | | | |
|--|----|--------------------------------------|-------|-----------|-----|-------|----|-------------|----|---------|---|---------|-----|----------|
| | | | | uisition/ | · · | | | | | airment | | 0.11 | - | |
| | Ja | nuary 1 | Capit | alization | Dis | posal | Ar | mortization | 10 | sses | | Others | Dec | ember 31 |
| Computer software (government | ₩ | 33,606 | ₩ | 10,399 | ₩ | - | ₩ | (16,826) | ₩ | - | ₩ | 5,594 | ₩ | 32,773 |
| grants) | | (126) | | - | | - | | 57 | | - | | (19) | | (88) |
| Industrial rights Development | | 687 | | - | | - | | (300) | | - | | 695 | | 1,082 |
| cost (government | | 20,293 | | - | | - | | (10,103) | | - | | 5,404 | | 15,594 |
| grants) Intangible assets under development | | (11) | | - | | - | | 5 | | - | | - | | (6) |
| (*) | | 28,704 | | 17,092 | | - | | - | | - | | (9,985) | | 35,811 |
| Land use rights | | 1,359 | | - | | - | | (259) | | - | | - | | 1,100 |
| Goodwill | | 176 | | - | | - | | - | | - | | - | | 176 |
| Others Loading and unloading facilities rights | | 20,356 | | - | | _ | | (1,282) | | _ | | _ | | 19,074 |
| Dam use | | 20,000 | | | | | | (.,=0=) | | | | | | .0,0 |
| rights | | 4,373 | | - | | - | | (144) | | - | | - | | 4,229 |
| Memberships | | 799 | | - | | - | | - | | - | | - | | 799 |
| Others | | 26,334 | | - | | - | | (3,293) | | - | | 1,257 | | 24,298 |
| | W | 136,550 | W | 27,491 | W | - | W | (32,145) | ₩ | - | ₩ | 2,946 | ₩ | 134,842 |

^(*) Other increases or decreases in intangible assets under development include \W1,704 million of borrowing cost capitalization.

15. Borrowing costs

Borrowing costs capitalized for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|--|---|--------|---|--------|
| Amount of capitalization(*): | | | - | |
| Construction-in-progress | ₩ | 82,980 | ₩ | 85,212 |
| Intangible assets under development and others | | 2,208 | | 2,337 |
| | ₩ | 85,188 | ₩ | 87,549 |
| Capitalization ratio | | 2.88% | | 3.18% |

^{(*) \}psi_3,132 million of loss on foreign currency translation are capitalized for the three months ended March 31, 2022.

16. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 022 | December 31, 2021 | | | | |
|-------------------------------------|---|---------|-------------|-------------------|---------|-------|-------------|--------|
| | | Current | Non-current | | Current | | Non-current | |
| Financial liabilities at fair value | | | | | | | - | _ |
| through profit or loss | | | | | | | | |
| Derivative instruments | ₩ | 5,131 | ₩ | 12,046 | ₩ | 4,446 | ₩ | 15,319 |

17. Trade and other payables

Trade and other payables as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 31, 2 | 022 | December 31, 2021 | | | | |
|-----------------------------|---|-----------|-------|-------------|-------------------|-----------|---|-------------|--|
| | | Current | | Non-current | | Current | 1 | Non-current | |
| Trade payables | ₩ | 43,529 | W | - | W | 159,075 | ₩ | - | |
| Other payables(*) | | 606,929 | | 2,092,812 | | 473,327 | | 2,002,832 | |
| Accrued expenses | | 324,976 | | - | | 395,872 | | - | |
| Leasehold deposits received | | 1,546 | | - | | 1,546 | | - | |
| Other deposits received | | 1,810 | | - | | 1,482 | | - | |
| Unpaid dividend | | 136,010 | | - | | | | | |
| Lease liabilities | | 15,468 | | 134,019 | | 15,072 | | 134,244 | |
| | ₩ | 1,130,268 | ₩ | 2,226,831 | ₩ | 1,046,374 | ₩ | 2,137,076 | |

^{(*) \(\}psi_2,100,837\) million and \(\psi_2,078,193\) million are other payables related to fuel management charges spent as of March 31, 2022 and December 31, 2021, respectively, which are to be paid out in installments over a 15-year period from 2014.

18. Borrowings and bonds

Borrowings as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | 1 | March 31, 2022 | | ecember 31, 2021 |
|---|---|-------------------|---|---------------------|
| Current liabilities: | | | | |
| Short-term borrowings | ₩ | 426,433 | ₩ | 867,028 |
| Current portion of long-term borrowings | | 37,131 | | 36,911 |
| Current portion of bonds | | 1,448,100 | | 1,439,125 |
| Less: discount on bonds | | (1,132) | | (1,607) |
| | | 1,910,532 | | 2,341,457 |
| Non-current liabilities: | | | | |
| Long-term borrowings | | 313,378 | | 322,743 |
| Bonds | | 9,727,121 | | 9,585,441 |
| Add: premium on bonds | | 940 | | 1,031 |
| Less: discount on bonds | | (26,499) | | (26,754) |
| | | 10,014,940 | | 9,882,461 |
| | W | 11,925,472 | W | 12,223,918 |

Short-term borrowings as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions, USD and EUR in thousands):

| | | | Ma | arch 31, 2 | 022 | | | | |
|---------------------------------------|--------------------------|------------------|-------|------------|------------|---------|----------|-------------------|-----------|
| | | | | Interest | | Foreign | currency | | _ |
| | Financial institution | Type | Rate | rate | Maturity | am | ount | Amount | |
| Short-term borrowings in Korean | | | | | | | | | |
| won | Industrial Bank of Korea | Overdraft | Fixed | 3.67% | 2022.04.10 | | - | W 2,00 | |
| | DBS Bank | Trade | | | | | | | |
| | Shinhan Bank | finance Trade | Fixed | 0.57% | 2022.06.20 | USD | 63,200 | 76,52 | 24 |
| | Credit Agricole | finance Trade | Fixed | 0.59% | 2022.06.24 | USD | 5,119 | 6,19 | 98 |
| | · · | finance | Fixed | 0.04% | 2022.06.28 | EUR | 71,544 | 96,66 | 35 |
| | Societe Generale | Trade finance | Fixed | 0.04% | 2022.06.28 | EUR | 88,985 | 120,23 | 30 |
| Short-term | DBS Bank | Trade finance | Fixed | 0.04% | 2022.06.28 | USD | 16,367 | 19,81 | 17 |
| borrowings | DBS Bank | Trade finance | Fixed | 0.04% | 2022.06.28 | USD | 19,366 | 23,44 | 48 |
| in foreign currency | Shinhan Bank | Trade finance | Fixed | 1.44% | 2022.08.26 | USD | 23,447 | 28,38 | |
| | Shinhan Bank | Trade | | | | | , | | |
| | Shinhan Bank | finance Trade | Fixed | 1.44% | 2022.08.26 | USD | 17,368 | 21,02 | 29 |
| | Shinhan Bank | finance Trade | Fixed | 1.44% | 2022.08.26 | USD | 15,348 | 18,58 | 33 |
| | Chimian Bank | finance | Fixed | 1.44% | 2022.08.26 | USD | 11,191 | 13,55 | <u>50</u> |
| | | | | | | | | 424,43 | 33 |
| | | | | | | | | ₩ 426,43 | 33 |

| | December 31, 2021 | | | | | | | | | | |
|-------------------------|---------------------------------------|--------------------|------------|----------|------------|-------------|-------|-----|---------|--|--|
| | | | | Interest | | Foreign cur | rency | | | | |
| | Financial institution | Type | Rate | rate | Maturity | amoun | ıt | A | mount | | |
| Short-term | Korea Development | 0# | - : | 4.700/ | 0000 00 00 | | | 147 | 400.000 | | |
| borrowings in Korean | Bank Nonghyun Bank | Overdraft | Fixed | 1.73% | 2022.02.08 | | - | ₩ | 100,000 | | |
| won | Nonghyup Bank | Overdraft | Fixed | 2.22% | 2022.01.07 | | - | | 100,000 | | |
| WOII | NH INVESTMENT & SECURITIES Co., Ltd. | Short-term Bond | Fixed | 2.30% | 2022.02.17 | | | | 20.000 | | |
| | Woori Investment | Short-term | rixeu | 2.30% | 2022.02.17 | | - | | 30,000 | | |
| | BANK Co., Ltd. | Bond | Fixed | 2.30% | 2022.02.17 | | _ | | 30,000 | | |
| | SK SECURITIES Co., | Short-term | | | | | | | , | | |
| | Ltd. | Bond | Fixed | 2.30% | 2022.02.17 | | - | | 10,000 | | |
| | KB SECURITIES Co., | Short-term | | | | | | | | | |
| | Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | - | | 70,000 | | |
| | SK SECURITIES Co., | Short-term | Fixed | 0.260/ | 2022 02 17 | | | | 20.000 | | |
| | Ltd. DS INVESTMENT & | Bond Short-term | rixeu | 2.36% | 2022.02.17 | | - | | 30,000 | | |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | _ | | 10,000 | | |
| | CAPE INVESTMENT & | Short-term | 1 1/100 | 2.0070 | 2022.02.11 | | | | 10,000 | | |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | - | | 10,000 | | |
| | SK SECURITIES Co., | Short-term | | | | | | | | | |
| | Ltd. | Bond | Fixed | 2.31% | 2022.02.28 | | - | | 80,000 | | |
| | KB SECURITIES Co., | Short-term | F: . | 0.040/ | 0000 00 00 | | | | F0 000 | | |
| | Ltd. KTB INVESTMENT & | Bond Short-term | Fixed | 2.31% | 2022.02.28 | | - | | 50,000 | | |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.31% | 2022.02.28 | | _ | | 10,000 | | |
| | BNK INVESTMENT & | Short-term | TIACU | 2.0170 | 2022.02.20 | | | | 10,000 | | |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.30% | 2022.02.25 | | _ | | 20,000 | | |
| | DB Financial | Short-term | | | | | | | , | | |
| | Investment Co., Ltd. | Bond | Fixed | 2.30% | 2022.02.25 | | - | | 10,000 | | |
| | KB SECURITIES Co., | Short-term | | 0.000/ | | | | | | | |
| | Ltd. | Bond | Fixed | 2.39% | 2022.02.25 | | - | | 30,000 | | |
| | KTB INVESTMENT & SECURITIES Co., Ltd. | Short-term Bond | Fixed | 2.39% | 2022.02.25 | | | | 10,000 | | |
| | DB Financial | Short-term | i ixeu | 2.39 /0 | 2022.02.23 | | - | | 10,000 | | |
| | Investment Co., Ltd. | Bond | Fixed | 2.45% | 2022.02.25 | | _ | | 20,000 | | |
| | DB Financial | Short-term | | | | | | | , | | |
| | Investment Co., Ltd. | Bond | Fixed | 2.41% | 2022.02.25 | | - | | 40,000 | | |
| | SK SECURITIES Co., | Short-term | | | | | | | | | |
| | Ltd. | Bond | Fixed | 2.41% | 2022.02.25 | | - | | 30,000 | | |
| | | | | | | | | | 690,000 | | |
| Short-term | DBS Bank | Trade | | | | | | | | | |
| borrowings | Objete Develo | finance | Fixed | 0.57% | 2022.06.20 | USD 6 | 3,200 | | 74,924 | | |
| in foreign | Shinhan Bank | Trade finance | Fixed | 0.59% | 2022.06.24 | USD | E 110 | | 6 060 | | |
| currency | Credit Agricole | Trade | rixeu | 0.59% | 2022.00.24 | USD | 5,119 | | 6,068 | | |
| | Stoutt Agricole | finance | Fixed | 0.04% | 2022.06.28 | EUR 7 | 1,544 | | 96,036 | | |
| | | | | 3.00 | | | ., | | 177,028 | | |
| | | | | | | | | 141 | | | |
| | | | | | | | | W | 867,028 | | |

Long-term borrowings as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| 11000 | hつ 1 | 2022 |
|--------|-------------|--------|
| iviaic | 11 3 1 | , 2022 |

| Financial institution Type Rate Interest rate Maturity Amount | | N | /larch 31, 202 | 2 | | |
|--|---------------------------------------|------------------|----------------|---------------|------------|-----------|
| Marine M | Financial institution | Type | Rate | Interest rate | Maturity | Amount |
| According to the component loan Floating (3M)-2.25% 2025.03.15 1,694 | | development loan | Floating | (3M)-2.25% | 2024.09.15 | ₩ 450 |
| Morea Energy Agency Resource development loan Floating Campus Cam | o, c , | development loan | Floating | (3M)-2.25% | 2025.03.15 | 1,694 |
| Morea Development Bank | | development loan | Floating | (3M)-2.25% | 2025.12.15 | 679 |
| Bank Facility loan Fixed 4.60% 2028.06.24 20,221 | 6, 6 | | Floating | | - | 4,445 |
| Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 9,276 Samsung Fire & Marine Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 16,233 KB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 15,305 Hyundai Marine & Fire Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 13,914 DB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 9,276 Hana Bank Facility loan Fixed 4.60% 2028.06.24 9,276 Samsung Life Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 9,276 Shinhan Bank Facility loan Fixed 3.60% 2031.06.30 34,079 Shinhan Bank Shinha | Bank | Facility loan | Fixed | 4.60% | 2028.06.24 | 20,221 |
| Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 16,233 KB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 15,305 Hyundai Marine & Fire Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 13,914 DB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 9,276 Hana Bank Facility loan Fixed 4.60% 2028.06.24 9,276 Corporate Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 9,276 Samsung Life Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 13,914 Corporate Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 13,914 Corporate Facility loan Floating bonds+1.1% 2028.06.24 13,914 Part Corporate Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 13,914 Part Corporate Facility loan Fixed 3.60% 2031.06.30 27,263 Part Corporate Facility loan Fixed 3.60% 2031.06.30 27,263 Part Corporate Facility loan Fixed 3.60% 2031.06.30 27,263 Part Corporate Facility loan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Part Part Part Part Part Part Part Part | Insurance Co., Ltd. Samsung Fire & | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,276 |
| KB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 15,305 Hyundai Marine & Fire Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 13,914 DB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 9,276 Hana Bank Facility loan Fixed 4.60% 2028.06.24 9,276 Samsung Life Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 9,276 Shinhan Bank Facility loan Floating bonds+1.1% 2028.06.24 9,276 Kookmin Bank Facility loan Floating bonds+1.1% 2028.06.24 13,914 Kookmin Bank Facility loan Fixed 3.60% 2031.06.3 | | Facility loan | Fixed | 4.60% | 2028.06.24 | 16,233 |
| Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 13,914 DB Insurance Co., Ltd. Facility loan Fixed 4.60% 2028.06.24 9,276 Hana Bank Facility loan Fixed 4.60% 2028.06.24 9,276 Samsung Life Corporate Corporate 2028.06.24 9,276 Shinhan Bank Facility loan Floating bonds+1.1% bonds+1.1% bonds+1.1% ponds+1.1% | · | Facility loan | Fixed | 4.60% | 2028.06.24 | |
| Hana Bank Facility Ioan Fixed 4.60% 2028.06.24 9,276 | , | Facility loan | Fixed | 4.60% | 2028.06.24 | 13,914 |
| Hana Bank Facility loan Fixed 4.60% 2028.06.24 9,276 Samsung Life Insurance Co., Ltd. Facility loan Floating bonds+1.1% Corporate Corporate 2028.06.24 9,276 Shinhan Bank Facility loan Floating bonds+1.1% Ponds+1.1% Ponds+1.1 | DB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,276 |
| Insurance Co., Ltd. Facility loan Floating bonds+1.1% 2028.06.24 9,276 | | • | Fixed | | 2028.06.24 | • |
| Kookmin Bank Facility loan Floating bonds+1.1% 2028.06.24 13,914 Kookmin Bank Facility loan Floating + 1.79% 2031.06.30 48,684 Korean Federation of Community Credit Cooperatives Facility loan Fixed 3.60% 2031.06.30 34,079 KB life Insurance Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 27,263 Samsung Fire & Marine Insurance Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 27,263 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Less: current portion (37,131) | Insurance Co., Ltd. | Facility loan | Floating | bonds+1.1% | 2028.06.24 | 9,276 |
| Facility loan Floating + 1.79% 2031.06.30 48,684 | | Facility loan | Floating | bonds+1.1% | 2028.06.24 | 13,914 |
| Community Credit Facility Ioan Fixed 3.60% 2031.06.30 34,079 KB life Insurance Co., Ltd. Facility Ioan Fixed 3.60% 2031.06.30 27,263 Samsung Fire & Marine Insurance Co., Ltd. Facility Ioan Fixed 3.60% 2031.06.30 27,263 Energy Infra Asset Management Co., Ltd. Facility Ioan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility Ioan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility Ioan Fixed 6.00% 2037.03.31 34,500 Less: current portion Less: current portion (37,131) | | Facility loan | Floating | | 2031.06.30 | 48,684 |
| KB life Insurance Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 27,263 Samsung Fire & Marine Insurance Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 27,263 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Less: current portion (37,131) | | | | | | |
| Samsung Fire & Marine Facility loan Fixed 3.60% 2031.06.30 27,263 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 3.60% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Less: current portion (37,131) | | Facility loan | Fixed | 3.60% | 2031.06.30 | 34,079 |
| Energy Infra Asset Management Co., Ltd. KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2031.06.30 19,961 KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 350,509 Less: current portion (37,131) | • | Facility loan | Fixed | 3.60% | 2031.06.30 | 27,263 |
| KB Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,800 Energy Infra Asset Management Co., Ltd. Facility loan Fixed 6.00% 2037.03.31 34,500 Less: current portion 2037.03.31 350,509 | | Facility loan | Fixed | 3.60% | 2031.06.30 | 27,263 |
| Energy Infra Asset Management Co., Ltd. Facility Ioan Fixed 6.00% 2037.03.31 34,500 350,509 Less: current portion (37,131) | | Facility loan | Fixed | 3.60% | 2031.06.30 | 19,961 |
| 350,509 Less: current portion (37,131) | Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,800 |
| Less: current portion (37,131) | | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,500 |
| • | | | | | | 350,509 |
| ₩ 313,378 | | Less: curren | t portion | | | (37,131) |
| | | | | | | ₩ 313,378 |

| Decem | ber | 31 | . 2021 |
|-------|-----|----|--------|
| | | | |

| | Dec | cember 31, 20 | 021 | | |
|---|--|---------------|--|------------|-----------|
| Financial institution | Type | Rate | Interest rate | Maturity | Amount |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes (3M)-2.25% | 2024.09.15 | ₩ 495 |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes (3M)-2.25% | 2025.03.15 | 1,836 |
| Korea Energy Agency Korea Energy Agency | Resource development loan Resource | Floating | Treasury notes (3M)-2.25% Treasury notes | 2025.12.15 | 724 |
| Noted Energy Agency | development loan | Floating | (3M)-2.25% | - | 4,445 |
| Korea Development | | | | | |
| Bank Samsung Life | Facility loan | Fixed | 4.60% | 2028.06.24 | 21,030 |
| Insurance Co., Ltd. Samsung Fire & Marine Insurance | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,646 |
| Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 16,881 |
| KB Insurance Co., Ltd. Hyundai Marine & Fire | Facility loan | Fixed | 4.60% | 2028.06.24 | 15,916 |
| Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 14,470 |
| DB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,647 |
| Hana Bank Samsung Life | Facility loan | Fixed | 4.60% Corporate | 2028.06.24 | 9,647 |
| Insurance Co., Ltd. Shinhan Bank | Facility loan | Floating | bonds+1.1% Corporate | 2028.06.24 | 9,647 |
| Kookmin Bank | Facility loan | Floating | bonds+1.1% 91-Day CDs | 2028.06.24 | 14,470 |
| | Facility loan | Floating | + 1.79% | 2031.06.30 | 50,000 |
| Korean Federation of Community Credit | | | | | |
| Cooperatives | Facility loan | Fixed | 3.60% | 2031.06.30 | 35,000 |
| KB life Insurance Co., Ltd. Samsung Fire & Marine | Facility loan | Fixed | 3.60% | 2031.06.30 | 28,000 |
| Insurance Co., Ltd. Energy Infra Asset | Facility loan | Fixed | 3.60% | 2031.06.30 | 28,000 |
| Management Co., Ltd. KB Asset Management Co., | Facility loan | Fixed | 3.60% | 2031.06.30 | 20,500 |
| Ltd. Energy Infra Asset | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,800 |
| Management Co., Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,500 |
| | | | | | 359,654 |
| | Less: curren | t portion | | | (36,911) |
| | | | | | ₩ 322,743 |

Bonds in Korean won as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| _ | Issue | Maturity | Rate | Interest rate | March 31, 2022 | | December 31, 2021 | |
|----------------------|------------|------------|-------|---------------|-------------------|---------|----------------------|---------|
| Corporate bond #9-1 | 2009.10.16 | 2024.10.16 | Fixed | 5.72% | ₩ | 30,000 | ₩ | 30,000 |
| Corporate bond #9-2 | 2009.10.16 | 2029.10.16 | Fixed | 5.74% | | 70,000 | | 70,000 |
| Corporate bond #11 | 2009.11.06 | 2029.11.06 | Fixed | 5.84% | | 100,000 | | 100,000 |
| Corporate bond #17-2 | 2010.12.10 | 2040.12.10 | Fixed | 5.06% | | 100,000 | | 100,000 |
| Corporate bond #26-2 | 2011.03.25 | 2031.03.25 | Fixed | 4.89% | | 100,000 | | 100,000 |
| Corporate bond #27-3 | 2011.04.15 | 2031.04.15 | Fixed | 4.88% | | 100,000 | | 100,000 |
| Corporate bond #28 | 2011.07.01 | 2026.07.01 | Fixed | 4.56% | | 100,000 | | 100,000 |
| Corporate bond #29-3 | 2011.12.08 | 2031.12.08 | Fixed | 4.26% | | 100,000 | | 100,000 |
| Corporate bond #30-2 | 2012.01.19 | 2022.01.19 | - | - | | - | | 120,000 |
| Corporate bond #30-3 | 2012.01.19 | 2032.01.19 | Fixed | 4.24% | | 50,000 | | 50,000 |
| Corporate bond #31-2 | 2012.03.20 | 2022.03.20 | - | - | | - | | 100,000 |
| Corporate bond #31-3 | 2012.03.20 | 2032.03.20 | Fixed | 4.32% | | 150,000 | | 150,000 |
| Corporate bond #32-2 | 2012.04.26 | 2022.04.26 | Fixed | 3.97% | | 90,000 | | 90,000 |
| Corporate bond #32-3 | 2012.04.26 | 2032.04.26 | Fixed | 4.14% | | 130,000 | | 130,000 |
| Corporate bond #33-1 | 2012.05.18 | 2022.05.18 | Fixed | 3.82% | | 100,000 | | 100,000 |
| Corporate bond #33-2 | 2012.05.18 | 2032.05.18 | Fixed | 4.01% | | 100,000 | | 100,000 |
| Corporate bond #34-1 | 2012.07.13 | 2022.07.13 | Fixed | 3.54% | | 90,000 | | 90,000 |
| Corporate bond #34-2 | 2012.07.13 | 2032.07.13 | Fixed | 3.71% | | 100,000 | | 100,000 |
| Corporate bond #35-2 | 2013.01.18 | 2023.01.18 | Fixed | 3.15% | | 90,000 | | 90,000 |
| Corporate bond #35-3 | 2013.01.18 | 2033.01.18 | Fixed | 3.32% | | 100,000 | | 100,000 |
| Corporate bond #36-2 | 2013.03.28 | 2023.03.28 | Fixed | 2.98% | | 100,000 | | 100,000 |
| Corporate bond #36-3 | 2013.03.28 | 2033.03.28 | Fixed | 3.19% | | 100,000 | | 100,000 |
| Corporate bond #37-2 | 2013.04.26 | 2023.04.26 | Fixed | 2.93% | | 100,000 | | 100,000 |
| Corporate bond #37-3 | 2013.04.26 | 2033.04.26 | Fixed | 3.12% | | 120,000 | | 120,000 |
| Corporate bond #38-2 | 2013.07.19 | 2023.07.19 | Fixed | 3.62% | | 100,000 | | 100,000 |
| Corporate bond #38-3 | 2013.07.19 | 2033.07.19 | Fixed | 3.88% | | 90,000 | | 90,000 |
| Corporate bond #39-2 | 2013.10.18 | 2023.10.18 | Fixed | 3.71% | | 90,000 | | 90,000 |
| Corporate bond #40-2 | 2013.11.22 | 2023.11.22 | Fixed | 3.92% | | 140,000 | | 140,000 |
| Corporate bond #41-2 | 2014.01.17 | 2024.01.17 | Fixed | 3.86% | | 130,000 | | 130,000 |
| Corporate bond #42-2 | 2014.04.25 | 2024.04.25 | Fixed | 3.68% | | 100,000 | | 100,000 |
| Corporate bond #42-3 | 2014.04.25 | 2034.04.25 | Fixed | 3.89% | | 100,000 | | 100,000 |
| Corporate bond #43-2 | 2014.12.18 | 2024.12.18 | Fixed | 2.80% | | 220,000 | | 220,000 |
| Corporate bond #43-3 | 2014.12.18 | 2034.12.18 | Fixed | 3.07% | | 90,000 | | 90,000 |
| Corporate bond #44-2 | 2015.06.29 | 2025.06.29 | Fixed | 2.70% | | 40,000 | | 40,000 |
| Corporate bond #44-3 | 2015.06.29 | 2035.06.29 | Fixed | 2.94% | | 150,000 | | 150,000 |
| Corporate bond #45-2 | 2017.04.27 | 2027.04.27 | Fixed | 2.44% | | 50,000 | | 50,000 |
| Corporate bond #45-3 | 2017.04.27 | 2037.04.27 | Fixed | 2.60% | | 110,000 | | 110,000 |
| Corporate bond #46-2 | 2017.09.18 | 2027.09.18 | Fixed | 2.37% | | 80,000 | | 80,000 |
| Corporate bond #46-3 | 2017.09.18 | 2047.09.18 | Fixed | 2.41% | | 150,000 | | 150,000 |
| Corporate bond #47-2 | 2017.10.17 | 2027.10.17 | Fixed | 2.50% | | 70,000 | | 70,000 |
| Corporate bond #47-3 | 2017.10.17 | 2047.10.17 | Fixed | 2.47% | | 80,000 | | 80,000 |
| Corporate bond #48-2 | 2018.03.13 | 2023.03.13 | Fixed | 2.70% | | 20,000 | | 20,000 |
| Corporate bond #48-3 | 2018.03.13 | 2028.03.13 | Fixed | 2.86% | | 30,000 | | 30,000 |
| Corporate bond #48-4 | 2018.03.13 | 2048.03.13 | Fixed | 2.94% | | 90,000 | | 90,000 |
| Corporate bond #49-2 | 2018.05.11 | 2038.05.11 | Fixed | 2.90% | | 170,000 | | 170,000 |
| Corporate bond #49-3 | 2018.05.11 | 2048.05.11 | Fixed | 2.88% | | 60,000 | | 60,000 |
| Corporate bond #50-2 | 2018.06.05 | 2038.06.05 | Fixed | 2.84% | | 200,000 | | 200,000 |
| Corporate bond #50-3 | 2018.06.05 | 2048.06.05 | Fixed | 2.81% | | 70,000 | | 70,000 |

| | Issue | Maturity | Rate | Interest rate | March 31, 2022 | December 31, 2021 |
|----------------------|--------------|-------------|-------|---------------|-------------------|----------------------|
| Corporate bond #51-2 | 2018.10.26 | 2048.10.26 | Fixed | 2.25% | 50,000 | 50,000 |
| Corporate bond #52-1 | 2019.06.05 | 2024.06.05 | Fixed | 1.74% | 40,000 | 40,000 |
| Corporate bond #52-2 | 2019.06.05 | 2039.06.05 | Fixed | 1.81% | 120,000 | 120,000 |
| Corporate bond #52-3 | 2019.06.05 | 2049.06.05 | Fixed | 1.82% | 140,000 | 140,000 |
| Corporate bond #53-1 | 2019.10.16 | 2024.10.16 | Fixed | 1.53% | 60,000 | 60,000 |
| Corporate bond #53-2 | 2019.10.16 | 2039.10.16 | Fixed | 1.59% | 100,000 | 100,000 |
| Corporate bond #53-3 | 2019.10.16 | 2049.10.16 | Fixed | 1.58% | 90,000 | 90,000 |
| Corporate bond #54-1 | 2019.11.27 | 2022.11.27 | Fixed | 1.60% | 50,000 | 50,000 |
| Corporate bond #54-2 | 2019.11.27 | 2039.11.27 | Fixed | 1.76% | 70,000 | 70,000 |
| Corporate bond #54-3 | 2019.11.27 | 2049.11.27 | Fixed | 1.70% | 70,000 | 70,000 |
| Corporate bond #55-1 | 2020.04.02 | 2040.04.02 | Fixed | 1.80% | 50,000 | 50,000 |
| Corporate bond #55-2 | 2020.04.02 | 2050.04.02 | Fixed | 1.80% | 50,000 | 50,000 |
| Corporate bond #56-1 | 2020.04.28 | 2025.04.28 | Fixed | 1.62% | 60,000 | 60,000 |
| Corporate bond #56-2 | 2020.04.28 | 2040.04.28 | Fixed | 1.81% | 90,000 | 90,000 |
| Corporate bond #56-3 | 2020.04.28 | 2050.04.28 | Fixed | 1.83% | 150,000 | 150,000 |
| Corporate bond #57-1 | 2020.05.25 | 2025.05.25 | Fixed | 1.38% | 100,000 | 100,000 |
| Corporate bond #57-2 | 2020.05.25 | 2040.05.25 | Fixed | 1.57% | 70,000 | 70,000 |
| Corporate bond #57-3 | 2020.05.25 | 2050.05.25 | Fixed | 1.59% | 80,000 | 80,000 |
| Corporate bond #58-1 | 2020.06.15 | 2025.06.15 | Fixed | 1.34% | 80,000 | 80,000 |
| Corporate bond #58-2 | 2020.06.15 | 2040.06.15 | Fixed | 1.63% | 70,000 | 70,000 |
| Corporate bond #58-3 | 2020.06.15 | 2050.06.15 | Fixed | 1.66% | 100,000 | 100,000 |
| Corporate bond #59-1 | 2020.11.23 | 2025.11.23 | Fixed | 1.47% | 60,000 | 60,000 |
| Corporate bond #59-2 | 2020.11.23 | 2040.11.23 | Fixed | 1.80% | 70,000 | 70,000 |
| Corporate bond #59-3 | 2020.11.23 | 2050.11.23 | Fixed | 1.78% | 90,000 | 90,000 |
| Corporate bond #60-1 | 2021.06.29 | 2026.06.29 | Fixed | 1.96% | 30,000 | 30,000 |
| Corporate bond #60-2 | 2021.06.29 | 2041.06.29 | Fixed | 2.31% | 70,000 | 70,000 |
| Corporate bond #60-3 | 2021.06.29 | 2051.06.29 | Fixed | 2.31% | 160,000 | 160,000 |
| Corporate bond #61-1 | 2021.10.14 | 2026.10.14 | Fixed | 2.34% | 50,000 | 50,000 |
| Corporate bond #61-2 | 2021.10.14 | 2041.10.14 | Fixed | 2.49% | 90,000 | 90,000 |
| Corporate bond #61-3 | 2021.10.14 | 2051.10.14 | Fixed | 2.45% | 160,000 | 160,000 |
| Corporate bond #62-1 | 2021.11.03 | 2026.11.03 | Fixed | 2.55% | 100,000 | 100,000 |
| Corporate bond #62-2 | 2021.11.03 | 2041.11.03 | Fixed | 2.60% | 50,000 | 50,000 |
| Corporate bond #62-3 | 2021.11.03 | 2051.11.03 | Fixed | 2.59% | 90,000 | 90,000 |
| Corporate bond #63-1 | 2022.02.17 | 2027.02.17 | Fixed | 2.81% | 40,000 | · - |
| Corporate bond #63-2 | 2022.02.17 | 2042.02.17 | Fixed | 3.04% | 60,000 | _ |
| Corporate bond #63-3 | 2022.02.17 | 2052.02.17 | Fixed | 2.97% | 50,000 | - |
| Corporate bond #64-1 | 2022.03.11 | 2042.03.11 | Fixed | 3.10% | 70,000 | - |
| Corporate bond #64-2 | 2022.03.11 | 2052.03.11 | Fixed | 3.02% | 80,000 | - |
| | | | | | 7,560,000 | 7,480,000 |
| | Less: discou | nt on bonds | | | (14,143) | (13,645) |
| | Less: curre | | | | (539,884) | (549,910) |
| | | • | | | ₩ 7,005,973 | W 6,916,445 |

Foreign bonds as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions, USD, HKD and CHF in thousands): $\frac{1}{2}$

| | | | | | March 31, 2022 | | | | December | r 31, 2021 | | |
|-----------------------|------------|-----------------|-------|----------|----------------|-----------|-----|----------|----------|------------|-------------|-----------|
| | | | | Interest | F | oreign | | Won | - | Foreign | | Won |
| | Issue | Maturity | Rate | rate | C | currency | | ivalents | currency | | equivalents | |
| | | | | | | | | | | | | |
| Global bond #4 | 2012.09.19 | 2022.09.19 | Fixed | 3.00% | USD | 750,000 | ₩ | 908,100 | USD | 750,000 | ₩ | 889,125 |
| Global bond #7 | 2015.06.15 | 2025.06.15 | Fixed | 3.25% | USD | 300,000 | | 363,240 | USD | 300,000 | | 355,650 |
| Global bond #8 | 2017.07.25 | 2027.07.25 | Fixed | 3.13% | USD | 300,000 | | 363,240 | USD | 300,000 | | 355,650 |
| Global bond #9 | 2018.07.25 | 2023.07.25 | Fixed | 3.75% | USD | 600,000 | | 726,480 | USD | 600,000 | | 711,300 |
| Global bond #10 | 2021.04.27 | 2026.04.27 | Fixed | 1.25% | USD | 500,000 | | 605,400 | USD | 500,000 | | 592,750 |
| Private | | | | | | | | | | | | |
| Placement | 0040 00 40 | 0000 00 40 | F: | 0.050/ | LIKE | 4 050 000 | | 055.000 | LIKE | 4 050 000 | | 050.050 |
| bond#1 Swiss franc | 2018.03.13 | 2028.03.13 | Fixed | 3.35% | HKD | 1,650,000 | | 255,239 | HKD | 1,650,000 | | 250,850 |
| bond #1 | 2019.07.19 | 2024.07.19 | Fixed | 0.00% | CHF | 200.000 | | 262.348 | CHF | 200.000 | | 259.494 |
| Swiss franc | | | | | | , | | ,- | | , | | |
| bond #2 | 2019.07.19 | 2027.07.19 | Fixed | 0.05% | CHF | 100,000 | | 131,174 | CHF | 100,000 | | 129,747 |
| | | | | | | | 3 | ,615,221 | | | | 3,544,566 |
| | Less: dis | count on bonds | | | | | | (13,488) | | | | (14,717) |
| | Add: pre | mium on bonds | | | | | | 940 | | | | 1,031 |
| | Less: o | current portion | | | | | (| 907,084) | | | | (887,608) |
| | | | | | | | ₩ 2 | ,695,589 | , | | ₩ | 2,643,272 |

As of March 31, 2022 and December 31, 2021, the plans to repay the borrowings and bonds payables are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | |
|--------------------|----------------|-----------|------|---------------|---|------------|--|
| | В | orrowings | | Bonds | | Total | |
| Within 1 year | ₩ | 463,564 | W | 1,448,100 | W | 1,911,664 | |
| Within 1 ~ 5 years | | 144,034 | | 3,627,468 | | 3,771,502 | |
| Afterward | | 169,344 | | 6,099,653 | | 6,268,997 | |
| | W | 776,942 | W | 11,175,221 | ₩ | 11,952,163 | |
| | | | Dece | mber 31, 2021 | 1 | | |
| | В | orrowings | | Bonds | | Total | |
| Within 1 year | ₩ | 903,939 | W | 1,439,125 | W | 2,343,064 | |
| Within 1 ~ 5 years | | 144,685 | | 3,759,194 | | 3,903,879 | |
| Afterward | | 178,058 | | 5,826,247 | | 6,004,305 | |
| | ₩ | 1,226,682 | ₩ | 11,024,566 | ₩ | 12,251,248 | |

19. Leases

Details of right-of-use assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | | h 31, 2022 umulated | | | |
|--|----------|---|-------|--|-----------------|---|--|
| | Acqu | uisition cost | | preciation | Carrying amount | | |
| Land Buildings Structures Vehicles Machineries Other right-of-use assets | ₩ | 13,752 19,172 2,305,877 8,193 18,821 129,141 | ₩ | (639) (9,383) (533,619) (5,763) (10,134) (17,730) | ₩ | 13,113 9,789 1,772,258 2,430 8,687 111,411 | |
| | <u>₩</u> | 2,494,956 | ₩ | (577,268) | ₩ | 1,917,688 | |
| | | | Decem | ber 31, 2021 | | | |
| | Acqı | uisition cost | | umulated preciation | Carry | ring amount | |
| Land Buildings Structures Vehicles Machineries Other right-of-use assets | ₩ | 14,050 17,122 2,291,668 7,402 18,886 129,156 | ₩ | (576) (8,176) (513,932) (4,990) (9,159) (16,310) | ₩ | 13,474 8,946 1,777,736 2,412 9,727 112,846 | |
| | ₩ | 2,478,284 | ₩ | (553,143) | ₩ | 1,925,141 | |

Changes in right-of-use assets for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended March 31, 2022 | | | | | | | | | | | | |
|---|---|---|--------------------|----------------------------------|----|------------------------------------|----------|--|---|--|----|--|--|
| | January 1 | | January 1 Increase | | | Decrease | | Depreciation | | Others | | March 31 | |
| Land Buildings Structures Vehicles Machineries Other right-of-use | ₩ 1 | 13,474 8,946 ,777,736 2,412 9,727 | ₩ | 1,721 14,209 752 | ₩ | (223) (76) - (2) | ₩ | (119) (1,385) (19,687) (796) (975) | ₩ | (19) 583 - 64 (65) | ₩ | 13,113 9,789 1,772,258 2,430 8,687 | |
| assets | ₩ 1 | 112,846 ,925,141 | ₩ | 16,682 | ₩ | (301) | <u>₩</u> | (1,420) | ₩ | (15) 548 | ₩ | 111,411 1,917,688 | |
| | | | | | | e year ended | | | | | | | |
| | Ja | nuary 1 | Inc | crease | De | ecrease | Dep | reciation | 0 | thers | De | cember 31 | |
| Land Buildings Structures Vehicles Machineries Other right-of-use | ₩ 1 | 14,157 11,255 ,753,818 2,627 13,640 | ₩ | 92 3,653 - 2,591 337 | ₩ | (1,345) (553) (492) (187) | ₩ | (473) (7,209) (77,800) (2,642) (4,023) | ₩ | (302) 2,592 102,271 328 (40) | ₩ | 13,474 8,946 1,777,736 2,412 9,727 | |
| assets | W 1 | 126,965 ,922,462 | ₩ | 7,329 | ₩ | (9,632) (12,209) | ₩ | (6,007) (98,154) | ₩ | 864 105,713 | ₩ | 112,846 1,925,141 | |

19. Leases (cont'd)

The amount of lease liabilities as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 2022 | | | | December 31, 2021 | | | | |
|--------------------|---|------------------------|---|--------------------------------------|---|----------------------|---|---------|--|--|
| | | Minimum lease payments | | ent value of num lease syments | | num lease syments | Present value of minimum lease payments | | | |
| Within 1 year | ₩ | 17,852 | ₩ | 15,468 | ₩ | 17,995 | ₩ | 15,072 | | |
| Within 1 ~ 5 years | | 38,732 | | 29,155 | | 39,263 | | 29,538 | | |
| Afterward | | 150,715 | | 104,864 | | 150,744 | | 104,706 | | |
| | ₩ | 207,299 | ₩ | 149,487 | ₩ | 208,002 | ₩ | 149,316 | | |

Changes in liabilities related to lease contracts for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | | For the three months ended March 31, 2022 | | | | | | | | | | |
|-------------------|----|---|-----|-------|---------|-------------|---------|------------|------|-------|-----|-----------|
| | Ja | nuary 1 | Inc | rease | De | ecrease | Acc | retion | 0 | thers | M | larch 31 |
| Lease liabilities | W | 149,316 | W | 2,106 | W | (3,370) | W | 762 | W | 673 | W | 149,487 |
| | | | | | | | | | | | | |
| | | | | | For the | e year ende | d Decei | mber 31, 2 | 2021 | | | |
| | Ja | nuary 1 | Inc | rease | De | ecrease | Acc | retion | 0 | thers | Dec | cember 31 |
| Lease liabilities | W | 169,148 | W | 6,793 | W | (33,933) | W | 3,167 | W | 4,141 | W | 149,316 |

The amount recognized in profit or loss by the Group in relation to the lease for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2 | 2022 | | 2021 |
|---|---|--------|---|----------|
| Depreciation of right-of-use assets | ₩ | 24,382 | ₩ | 25,799 |
| Interest on lease liabilities | | 762 | | 844 |
| Expenses relating to short-term leases | | 8,876 | | 469 |
| Expenses relating to leases of low-value assets | | 300 | | 349 |
| Loss on translation of lease liabilities | | 33 | | 327 |
| Gain on translation of lease liabilities | | (24) | | - |
| Loss from lease cancellation | | 49 | | - |
| Gain from lease cancellation | | (1) | | <u>-</u> |
| | ₩ | 34,377 | W | 27,788 |

Capitalized amounts to property, plant and equipment and others are included.

20. Retirement benefit plans

20.1 Defined contribution plans

For the three months ended March 31, 2022 and 2021, retirement benefit expenses of \(\pmu 8,178\) million and \(\pmu 8,292\) million, respectively, are recognized in the interim consolidated statements of comprehensive income and represent contribution amounts paid to retirement benefit plans in accordance with a ratio defined in retirement benefit plans. All the contribution amounts as of March 31, 2022 have been paid.

Costs related to the defined contribution plans for the three months ended March 31, 2022 and 2021 are recognized in profit or loss and others as follows (Korean won in millions):

| | | 2022 | | 2021 |
|---|---|-------|---|-------|
| Cost of sales | ₩ | 5,670 | ₩ | 5,649 |
| Selling and administrative expenses | | 305 | | 325 |
| Others (construction-in-progress, etc.) | | 2,203 | | 2,318 |
| | ₩ | 8,178 | ₩ | 8,292 |

20.2 Defined benefit plans

The principal assumptions used for actuarial valuation as of March 31, 2022 and December 31, 2021 are as follows:

| | March 31, 2022 | December 31, 2021 |
|------------------------|-------------------|----------------------|
| Discount rate | 2.51% ~ 4.58% | 2.51% ~ 3.92% |
| Future salary increase | 2.00% ~ 5.95% | 2.00% ~ 5.95% |

Details of the Group's expense relating to its defined benefit plans for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|--------------------------------|---|---------|---|---------|
| Current service cost | W | 22,743 | ₩ | 24,994 |
| Interest cost | | 5,275 | | 4,227 |
| Expected return on plan assets | | (3,981) | | (3,076) |
| Transfer to others(*) | | (6,020) | | (6,328) |
| | W | 18,017 | ₩ | 19,817 |

^(*) It is replaced to ordinary development expense and others (\$3,454 million) and construction-in-progress (\$2,566 million) for the three months ended March 31, 2022.

20. Retirement benefit plans (cont'd)

20.2 Defined benefit plans (cont'd)

Costs related to the defined benefit plans recognized in profit or loss for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|-------------------------------------|---|--------|---|--------|
| Cost of sales | ₩ | 16,991 | ₩ | 18,748 |
| Selling and administrative expenses | | 1,026 | | 1,069 |
| | ₩ | 18,017 | ₩ | 19,817 |

The amounts recognized in the interim consolidated statements of financial position related to defined benefit plans as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | IV. | /larch 31, | December 31, | | |
|--|-----|------------|--------------|-----------|--|
| | | 2022 | 2021 | | |
| Present value of defined benefit obligations | ₩ | 822,532 | ₩ | 874,121 | |
| Fair value of plan assets | | (615,466) | | (622,524) | |
| Net defined benefit liabilities | ₩ | 207,066 | ₩ | 251,597 | |

Changes in present value of defined benefit obligations for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | Fo mo I | For the year ended December 31, 2021 | | |
|-------------------------------------|---------------|--------------------------------------|---|----------|
| Beginning balance | ₩ | 874,121 | ₩ | 875,575 |
| Current service cost | | 22,743 | | 99,465 |
| Interest expense | | 5,275 | | 17,916 |
| Remeasurement | | (66,519) | | (74,722) |
| Actual payments | | (12,992) | | (44,082) |
| Changes in retirement benefits plan | | (96) | | (31) |
| Ending balance | ₩ | 822,532 | ₩ | 874,121 |

20. Retirement benefit plans (cont'd)

20.2 Defined benefit plans (cont'd)

Changes in fair value of plan assets for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | mor | the three of this ended larch 31, 2022 | | or the year ed December 31, 2021 |
|-------------------------------------|-----|--|---|--|
| Beginning balance | ₩ | 622,524 | ₩ | 596,538 |
| Expected return on plan assets | | 3,981 | | 12,451 |
| Remeasurement | | (905) | | (2,277) |
| Contribution from the employer | | - | | 48,400 |
| Actual payments | | (10,038) | | (32,556) |
| Changes in retirement benefits plan | | (96) | | (32) |
| Ending balance | ₩ | 615,466 | ₩ | 622,524 |

In addition, accumulated remeasurement gain amounting to \$\pmu\$130,210 million and \$\pmu\$82,111 million are recognized in accumulated other comprehensive income as of March 31, 2022 and December 31, 2021, respectively.

Types of plan assets and fair value of plan assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, | De | cember 31, |
|--------------------|---|-----------|----|------------|
| | | 2022 | | 2021 |
| Equity instruments | W | 216,619 | ₩ | 337,627 |
| Debt instruments | | 79,788 | | 59,145 |
| Bank deposits | | 128,718 | | 23,545 |
| Others | | 190,341 | | 202,207 |
| | ₩ | 615,466 | ₩ | 622,524 |

Actual return on plan assets for the three months ended March 31, 2022 and 2021 are $\upmu 3,076$ million and $\upmu 2,956$ million, respectively.

Remeasurement recognized in other comprehensive income for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended For the ye March 31, ended Decer 2022 31, 2021 | | | | | |
|--|---|----------|---|----------|--|--|
| Actuarial gain arising from changes in financial assumptions | ₩ | (64,093) | ₩ | (49,342) | | |
| Experience adjustments | | (2,426) | | (25,380) | | |
| Return on plan assets | | 905 | | 2,277 | | |
| | ₩ | (65,614) | ₩ | (72,445) | | |

The amounts recognized in the interim consolidated statements of financial position related to employee benefits obligations other than retirement benefit obligation as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | Mar | ch 31, | De | cember 31, |
|---|-----|--------|------|------------|
| | 2 | 022 | 2021 | |
| Other long-term employee benefits liabilities | | | | |
| Long-term employee paid annual leave | ₩ | 1,256 | ₩ | 1,339 |

21. Provisions

Details of provisions as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | December 31, 2021 | | | | |
|--|----------------|-----------|---|-------------|---|-------------------|-------------|------------|--|--|
| | | Current | | Non-current | | Current | Non-current | | | |
| Provisions for employee benefits | ₩ | 278,588 | ₩ | - | ₩ | 246,690 | ₩ | - | | |
| Provisions for litigation | | - | | 16,755 | | - | | 16,755 | | |
| Provisions for decommissioning costs | | 622,100 | | 21,940,286 | | 594,808 | | 21,900,850 | | |
| Nuclear plants | | - | | 19,559,604 | | - | | 19,461,461 | | |
| Fuel spent | | 500,321 | | 852,081 | | 457,466 | | 893,196 | | |
| Radioactive waste | | 121,779 | | 1,528,601 | | 137,342 | | 1,546,193 | | |
| Others Provisions for power plant regional | | 199,177 | | 107,658 | | 157,446 | | 107,658 | | |
| support program | | 191,503 | | - | | 146,587 | | - | | |
| Others | | 7,674 | | 107,658 | | 10,859 | | 107,658 | | |
| | ₩ | 1,099,865 | ₩ | 22,064,699 | ₩ | 998,944 | ₩ | 22,025,263 | | |

21. Provisions (cont'd)

Changes in provisions for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended March 31, 2022 | | | | | | | | | | | |
|--|---|------------|---|-----------|--------|-------------|------|----------------|---|----------|----|------------|
| | , | January 1 | | Accrual | 1 | Transfer | | Payment | | Others | | March 31 |
| Provisions for employee benefits | ₩ | 246,690 | ₩ | 61,344 | ₩ | - | ₩ | (29,446) | ₩ | - | ₩ | 278,588 |
| Provisions for litigation Provisions for | | 16,755 | | - | | - | | - | | - | | 16,755 |
| decommissioning costs | | 22,495,658 | | 59,201 | | 115,886 | | (108,346) | | (13) | | 22,562,386 |
| Nuclear plants | | 19,461,461 | | - | | 108,035 | | (9,879) | | (13) | | 19,559,604 |
| Fuel spent | | 1,350,662 | | 52,851 | | - | | (51,111) | | - | | 1,352,402 |
| Radioactive waste | | 1,683,535 | | 6,350 | | 7,851 | | (47,356) | | - | | 1,650,380 |
| Others Provisions for power plant | | 265,104 | | 211,364 | | - | | (169,633) | | - | | 306,835 |
| regional support program Provisions for renewable | | 146,587 | | 52,470 | | - | | (7,554) | | - | | 191,503 |
| energy portfolio standard | | - | | 158,894 | | - | | (158,894) | | - | | - |
| Others | _ | 118,517 | | - | | | | (3,185) | | | | 115,332 |
| | ₩ | 23,024,207 | ₩ | 331,909 | ₩ | 115,886 | ₩ | (307,425) | ₩ | (13) | ₩ | 23,164,564 |
| | | | | Fo | or the | e year ende | d De | cember 31, 202 | 1 | | | |
| | | January 1 | | Accrual | | Transfer | | Payment | F | Reversal | De | ecember 31 |
| Provisions for employee benefits | ₩ | 230,002 | ₩ | 255,108 | ₩ | - | ₩ | (238,420) | ₩ | - | ₩ | 246,690 |
| Provisions for litigation Provisions for | | 17,135 | | - | | - | | (380) | | - | | 16,755 |
| decommissioning costs | | 20,073,776 | | 2,621,735 | | 376,131 | | (564,710) | | (11,274) | | 22,495,658 |
| Nuclear plants | | 16,974,884 | | 2,169,672 | | 376,131 | | (59,226) | | - | | 19,461,461 |
| Fuel spent | | 1,354,001 | | 452,063 | | - | | (455,402) | | - | | 1,350,662 |
| Radioactive waste | | 1,744,891 | | - | | - | | (50,082) | | (11,274) | | 1,683,535 |
| Others Provisions for power plant | | 290,377 | | 494,880 | | 2,154 | | (519,916) | | (2,391) | | 265,104 |
| regional support program Provisions for renewable | | 144,272 | | 49,596 | | - | | (47,281) | | - | | 146,587 |
| energy portfolio standard | | - | | 430,344 | | - | | (430,344) | | - | | - |
| Others Provisions for greenhouse | | 145,178 | | 14,940 | | 2,154 | | (41,364) | | (2,391) | | 118,517 |
| gas emission | | 927 | _ | - | | | | (927) | | - | | |
| | W | 20,611,290 | ₩ | 3,371,723 | ₩ | 378,285 | ₩ | (1,323,426) | ₩ | (13,665) | ₩ | 23,024,207 |

Estimates of discount rates, inflation, etc. used by management to calculate provisions for decommissioning costs are listed in Note 37.2.4.

22. Government grants

Government grants as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | M | March 31, 2022 | | December 31, 2021 | |
|-------------------------------|---|-------------------|---|----------------------|--|
| Property, plant and equipment | | | | | |
| Buildings | ₩ | 467 | ₩ | 482 | |
| Structures | | 8,141 | | 8,290 | |
| Machineries | | 6,842 | | 7,331 | |
| Vehicles | | 51 | | 55 | |
| Fixtures and furniture | | 93 | | 103 | |
| Tools | | 8 | | 10 | |
| | | 15,602 | | 16,271 | |
| Intangible assets | | | | _ | |
| Computer software | | 82 | | 88 | |
| Development costs | | 5 | | 6 | |
| | | 87 | | 94 | |
| | ₩ | 15,689 | ₩ | 16,365 | |

Changes in government grants for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three months ended March 31, 2022 | | | | | | | | | | |
|--------------------------------|---|----------|---------|--------------------|---|--------|---|----------|--|--|--|
| | | | | reciation/ | | | | | | | |
| | Ja | anuary 1 | Amortiz | zation offset | | Others | | March 31 | | | |
| Property, plant and equipment: | | | | | | | | | | | |
| Buildings | W | 482 | ₩ | (15) | ₩ | - | ₩ | 467 | | | |
| Structures | | 8,290 | | (1 4 9) | | _ | | 8,141 | | | |
| Machineries | | 7,331 | | (489) | | _ | | 6,842 | | | |
| Vehicles | | 55 | | (4) | | _ | | 51 | | | |
| Fixtures and | | 00 | | (4) | | | | 31 | | | |
| furniture | | 103 | | (11) | | 1 | | 93 | | | |
| Tools | | 10 | | `(2) | | _ | | 8 | | | |
| | - | 16,271 | | (670) | | 1 | | 15,602 | | | |
| Intangible assets: | | | | | | | | | | | |
| Computer | | | | | | | | | | | |
| software | | 88 | | (13) | | 7 | | 82 | | | |
| Development | | _ | | | | | | _ | | | |
| costs | | 6 | | (1) | | = | | 5 | | | |
| | | 94 | | (14) | | 7 | | 87 | | | |
| | ₩ | 16,365 | ₩ | (684) | ₩ | 8 | ₩ | 15,689 | | | |

22. Government grants (cont'd)

| | For the year ended December 31, 2021 Depreciation/ | | | | | | | | | |
|--------------------------------|---|-----------|--------|----------------|---|--------|-------------|--------|--|--|
| | | | _ | | | | | | | |
| | | January 1 | Amorti | zation offset | | Others | December 31 | | | |
| Property, plant and equipment: | | | | | | | | | | |
| Buildings | ₩ | 542 | ₩ | (60) | ₩ | - | ₩ | 482 | | |
| Structures | | 8,882 | | (5 <u>9</u> 2) | | _ | | 8,290 | | |
| Machineries | | 8,878 | | (1,955) | | 408 | | 7,331 | | |
| Vehicles | | 47 | | (29) | | 37 | | 55 | | |
| Fixtures and | | | | () | | | | | | |
| furniture | | 162 | | (74) | | 15 | | 103 | | |
| Tools | | 152 | | (176) | | 34 | | 10 | | |
| | - | 18,663 | - | (2,886) | - | 494 | | 16,271 | | |
| Intangible | | 10,000 | | (2,000) | | 101 | | 10,271 | | |
| assets: | | | | | | | | | | |
| Computer | | | | | | | | | | |
| software | | 126 | | (57) | | 19 | | 88 | | |
| Development | | | | ` ' | | | | | | |
| costs | | 11 | | (5) | | - | | 6 | | |
| | - | 137 | | (62) | | 19 | | 94 | | |
| | ₩ | 18,800 | ₩ | (2,948) | ₩ | 513 | ₩ | 16,365 | | |

23. Non-financial liabilities

Non-financial liabilities as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 2022 | | | December 31, 2021 | | | |
|------------------|---|---------------------|---|---------|-------------------|-------------|---|-------|
| | (| Current Non-current | | Current | | Non-current | | |
| Advance received | ₩ | 86 | ₩ | - | ₩ | 228 | ₩ | - |
| Unearned revenue | | 4,326 | | - | | 2,577 | | - |
| Withholdings | | 22,795 | | - | | 43,650 | | - |
| Others | | 154,276 | | 5,065 | | 15,494 | | 5,065 |
| | ₩ | 181,483 | ₩ | 5,065 | ₩ | 61,949 | ₩ | 5,065 |

24. Contributed capital

Details of share capital as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions, except for number of shares and par value per share):

| | Number of shares authorized | Number of shares issued | Par value per share | N | larch 31, 2022 | Dec | ember 31, 2021 |
|--------------|--------------------------------|-------------------------|------------------------|---|----------------|-----|----------------|
| Common share | 500,000,000 | 242,442,838 | ₩ 5,000 | ₩ | 1,212,214 | ₩ | 1,212,214 |

Number of shares issued as of March 31, 2022 and December 31, 2021 are as follows:

 March 31, 2022
 December 31, 2021

 Number of shares issued
 242,442,838
 242,442,838

Share premium as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

25. Retained earnings and dividends

Retained earnings as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 2022 | D | ecember 31, 2021 |
|----------------------------------|---|-------------------|---|---------------------|
| Legal reserve(*) | W | 606,107 | W | 606,107 |
| Voluntary reserves | | 10,659,119 | | 10,492,897 |
| Unappropriated retained earnings | | 4,564,651 | | 4,485,937 |
| | ₩ | 15,829,877 | ₩ | 15,584,941 |

^(*) The legal reserve cannot be used for cash dividends and may be used to reduce a deficit or to be transferred to common stock.

25. Retained earnings and dividends (cont'd)

Details of voluntary reserves as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | Ī | March 31, | De | ecember 31, |
|--------------------------------|---|------------|------|-------------|
| | | 2022 | 2021 | |
| Reserve for business expansion | ₩ | 5,219,937 | ₩ | 5,053,715 |
| Others(*) | | 5,439,182 | | 5,439,182 |
| | W | 10,659,119 | W | 10,492,897 |

(*) The Group has appropriated the majority of its tax credits as a reserve for business rationalization in accordance with the Restriction of Special Taxation Act ("Act") until 2002. This reserve could only be used for the preservation of deficits carried forward and transfer to capital. However, on December 11, 2002, the Act was amended and the reserve for business rationalization was changed to the voluntary reserve due to the deletion of the relevant clauses in the amendment.

Changes in retained earnings for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | Fo | or the three | | |
|--|--------------|--------------|----------|--------------|
| | months ended | | | or the year |
| | March 31, | | end | ded December |
| | - , | | 31, 2021 | |
| Beginning balance | W | 15,584,941 | W | 15,518,793 |
| Profit for the period attributable to owners of the parent | | 332,834 | | 288,748 |
| Dividends paid | | (136,010) | | (279,780) |
| Changes in retained earnings of equity method investees | | 2 | | 2 |
| Remeasurement gain on defined benefit plans | | 48,103 | | 52,753 |
| Other | | 7 | | 4,425 |
| Ending balance | W | 15,829,877 | ₩ | 15,584,941 |

Dividends paid for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions, except for number of share and dividends for share):

| • | , ' | | | , | |
|--------------|---------------|-----------------|----------------|----------------|-----------|
| | | For the three r | months ended M | March 31, 2022 | |
| | | | Number of | | |
| | Number of | Treasury | dividend | Dividends for | |
| | shares issued | stocks | shares | share | Dividends |
| Common share | 242,442,838 | - | 242,442,838 | ₩ 561 | ₩ 136,010 |
| | | | | | |
| | | For the year | ended Decemb | ber 31, 2021 | |
| | , | | Number of | | _ |
| | Number of | Treasury | dividend | Dividends for | |
| | shares issued | stocks | shares | share | Dividends |
| Common share | 242,442,838 | - | 242,442,838 | ₩ 1,154 | ₩ 279,780 |

25. Retained earnings and dividends (cont'd)

Changes in remeasurement gain on defined benefit plans for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | For the three | | | | | | |
|------------------------|---------------|------------|--------------------|----------|--|--|--|
| | moni | ths ended | For the year ended | | | | |
| | Marcl | h 31, 2022 | December 31, 2021 | | | | |
| Beginning balance | W | 82,035 | ₩ | 29,282 | | | |
| Changes for the period | | 65,614 | | 72,417 | | | |
| Tax effect | | (17,511) | | (19,664) | | | |
| Ending balance | ₩ | 130,138 | ₩ | 82,035 | | | |

26. Other components of equity

Other components of equity as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March | December 31, 2021 | | |
|---|-------|-------------------|---|---------|
| Accumulated other comprehensive income (loss) | ₩ | 11,587 | ₩ | (9,268) |
| Other equity | | (857) | | (512) |
| | W | 10,730 | ₩ | (9,780) |

Changes in accumulated other comprehensive income (loss) for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | | Fo | r the th | ree months | ende | d March 31, 20 | 22 | |
|---------------------------------------|-------|---------------------------|----------|--------------------------|------|---------------------------|----|--------------------|
| | valua | (loss) on tion of fair | | | | | | |
| | | e through other | • | e of other orehensive | | Gain from anslation of | | |
| | | rehensive | | associates | | foreign | | |
| | ir | come | and jo | int ventures | | operations | | Total |
| Beginning balance | ₩ | (9,615) | ₩ | (2,452) | ₩ | 2,799 | ₩ | (9,268) |
| Change for the period | | 16,539 | | 2,279 | | 4,361 | | 23,179 |
| Tax effect | | (2,324) | | | | <u>-</u> | | (2,324) |
| Ending balance | ₩ | 4,600 | ₩ | (173) | ₩ | 7,160 | ₩ | 11,587 |
| | | | For the | year ended | Dece | ember 31, 2021 | | |
| | | n valuation | | <u>.</u> | | | | |
| | | air value | • | e of other | | Gain from | | |
| | | igh other | | prehensive | tr | anslation of | | |
| | | rehensive come | | associates int ventures | | foreign | | Total |
| Paginning halanga | ₩ | | | | | operations 975 | W | |
| Beginning balance Change for the year | ** | (43,830) 40,713 | ** | (1,278) (1,174) | ₩. | 5,745 | ₩. | (44,133) 45,284 |
| Tax effect | | (2,111) | | (1,174) | | 374 | | (1,737) |
| Others | | (4,387) | | _ | | (4,295) | | (8,682) |
| Ending balance | ₩ | (9,615) | W | (2,452) | ₩ | 2,799 | W | (9,268) |

Other equity as of March 31, 2022 and December 31, 2021 are as follows (Korea won in millions):

| | | arch 31, 2022 | Dec | cember 31, 2021 |
|--|---|------------------|-----|--------------------|
| Changes from paid-in capital increase of subsidiaries and others | W | (857) | ₩ | (512) |

27. Sales

Sales for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2022 | | | | 2021 | | | | | | | |
|-------------------------------|------|-----------|----|--------|------|-----------|---|-------------|----|---------|---|-------------|
| | | Domestic | Ov | erseas | | Total | | Domestic | 0\ | /erseas | | Total |
| Sales of electric power | ₩ | 2,991,648 | ₩ | | ₩ | 2,991,648 | ₩ | 2,917,375 | ₩ | - | ₩ | 2,917,375 |
| Service revenue Others | | 41,989 | | 16,115 | | 58,104 | | 42,413 2 | | 20,387 | | 62,800 2 |
| | ₩ | 3,033,637 | ₩ | 16,115 | ₩ | 3,049,752 | ₩ | 2,959,790 | ₩ | 20,387 | ₩ | 2,980,177 |

28. Selling and administrative expenses

Selling and administrative expenses for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|---|---|--------|---|--------|
| Salaries | ₩ | 12,744 | ₩ | 12,437 |
| Retirement benefits | | 1,331 | | 1,394 |
| Employee welfare | | 2,459 | | 3,108 |
| Insurance expenses | | 430 | | 376 |
| Depreciation of property, plant and equipment | | 8,898 | | 9,254 |
| Amortization of intangible assets | | 4,270 | | 3,387 |
| Commission | | 7,615 | | 8,277 |
| Advertisement | | 9,979 | | 2,936 |
| Training | | 12 | | 22 |
| Vehicles | | 36 | | 37 |
| Publication expenses | | 108 | | 89 |
| Business expenses | | 34 | | 24 |
| Rent | | 3,050 | | 1,081 |
| Communication | | 230 | | 193 |
| Taxes and dues | | 84 | | 372 |
| Supplies expenses | | 203 | | 221 |
| Utilities | | 346 | | 377 |
| Repairs | | 3,135 | | 470 |
| Ordinary development expenses | | 1,131 | | 1,051 |
| Travel expenses | | 212 | | 176 |
| Clothing expenses | | 9 | | 5 |
| Subscription | | 78 | | 75 |
| Others | | 5,066 | | 4,938 |
| | ₩ | 61,460 | ₩ | 50,300 |

Details of others of selling and administrative expenses for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | 2 | 2021 |
|-------------------|---|-------|---|-------|
| Other wage | ₩ | 4,286 | ₩ | 3,158 |
| Compliance costs | | 12 | | 11 |
| Award costs | | 12 | | 4 |
| Registration fees | | - | | 115 |
| Litigation costs | | 415 | | 1,394 |
| Meeting costs | | 341 | | 256 |
| | ₩ | 5,066 | ₩ | 4,938 |

29. Other income and expenses

Details of other income for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2 | 022 | 2 | 2021 |
|----------------------------|---|-------|---|--------|
| Gain on assets contributed | ₩ | - | ₩ | 105 |
| Reparations | | 1,819 | | 7,214 |
| Rental income | | 1,789 | | 2,549 |
| Others | | 1,241 | | 7,952 |
| | ₩ | 4,849 | ₩ | 17,820 |

Details of other expenses for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2022 | | 2021 | |
|-----------------------------|------|--------|------|-------|
| Depreciation of idle assets | ₩ | 890 | ₩ | 976 |
| Other bad debt expenses | | - | | 22 |
| Donations | | 2,465 | | 1,246 |
| Others | | 32,189 | | 5,772 |
| | ₩ | 35,544 | ₩ | 8,016 |

30. Other gains and losses

Other gains and losses for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|---|---|---------|---|---------|
| Gain on disposal of property plant and equipment | ₩ | 961 | ₩ | 2,097 |
| Gain on foreign currency translation (*) | | 1,483 | | 3,478 |
| Gain on foreign currency transactions (*) | | 4,780 | | 2,767 |
| Gain on insurance transactions | | - | | 154 |
| Others | | 167 | | 1,118 |
| Loss on disposal of property, plant and equipment | | (1,170) | | (4,029) |
| Loss on foreign currency translation (*) | | (372) | | (336) |
| Loss on foreign currency transactions (*) | | (2,752) | | (3,706) |
| Others | | (66) | | (14) |
| | ₩ | 3,031 | ₩ | 1,529 |

^(*) It represents gain (loss) on foreign currency translation and transactions arising from operating activities.

31. Finance income

Finance income for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2022 | | | 2021 | |
|---|------|--------|---|---------|--|
| Interest income | ₩ | 5,230 | ₩ | 4,995 | |
| Dividend income | | 252 | | 138 | |
| Gain on sale of financial assets | | 7 | | 4 | |
| Gain on valuation of financial assets at fair value through | | | | | |
| profit or loss | | 963 | | 1,299 | |
| Gain on valuation of derivative instruments | | 18,322 | | 99,369 | |
| Gain on transactions of derivative instruments | | 10,394 | | 9,855 | |
| Gain on foreign currency translation (*) | | 1,313 | | 9,883 | |
| | ₩ | 36,481 | ₩ | 125,543 | |

^(*) It represents gain on foreign currency translation arising from financing activities.

Details of interest income included in finance income for the three months ended March 31, 2021 and 2021 are as follows (Korean won in millions):

| | 2022 | | 2021 | |
|---|------|-------|------|-------|
| Cash and cash equivalents | ₩ | 782 | ₩ | 270 |
| Financial assets at fair value through profit or loss | | 2,558 | | 1,818 |
| Financial instruments | | 1,327 | | 2,389 |
| Loans | | 391 | | 284 |
| Trade and other receivables | | 172 | | 234 |
| | ₩ | 5,230 | ₩ | 4,995 |

32. Finance costs

Finance costs for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|---|---|---------|---|---------|
| Interest expense | ₩ | 142,941 | ₩ | 121,285 |
| Loss on sale of financial assets | | 235 | | - |
| Loss on valuation of financial assets at fair value | | | | |
| through profit or loss | | 3,787 | | 2,039 |
| Loss on valuation of derivative instruments | | 6,081 | | 9,035 |
| Loss on transactions of derivative instruments | | 1,318 | | 1,353 |
| Loss on foreign currency translation (*) | | 70,384 | | 120,567 |
| Loss on foreign currency transactions (*) | | 3,443 | | 524 |
| | ₩ | 228,189 | ₩ | 254,803 |

^(*) It represents loss on foreign currency translation and transactions arising from financing activities.

Details of interest expense included in finance costs for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 2022 | | 2021 | |
|---|------|----------|------|----------|
| Short-term borrowings | ₩ | 2,124 | ₩ | 375 |
| Long-term borrowings | | 3,678 | | 3,147 |
| Bonds | | 79,180 | | 84,706 |
| Other financial liabilities(*) | | 140,015 | | 120,606 |
| | | 224,997 | | 208,834 |
| Less: capitalization of borrowing costs | | (82,056) | | (87,549) |
| | ₩ | 142,941 | W | 121,285 |
| | | | | |

^(*) Interest expenses related to provisions for decommissioning costs of nuclear power plant are included.

33. Income tax expense

The income tax expense is calculated by adjusting the adjustment due to changes in estimates related to, deferred tax expense (benefit) due to changes in temporary differences, recognition of unrecognized temporary differences for prior year and income tax expense (benefit) related to items recognized outside profit or loss. The average effective tax rate for income tax expenses for the three months ended March 31, 2022 and 2021 are 24.07% and 25.86%, respectively.

34. Expenses classified by nature

Expenses classified by nature for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | |
|---|----------------|---------------|-------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 259,809 | ₩ 259,809 |
| Salaries | 12,744 | 232,984 | 245,728 |
| Retirement benefits | 1,331 | 22,661 | 23,992 |
| Employee welfare | 2,459 | 32,823 | 35,282 |
| Insurance expenses | 430 | 9,607 | 10,037 |
| Depreciation of property, plant and equipment | 8,898 | 670,415 | 679,313 |
| Amortization of nuclear fuel | - | 330,860 | 330,860 |
| Amortization of intangible assets | 4,270 | 1,906 | 6,176 |
| Commission | 7,615 | 32,087 | 39,702 |
| Provisions for decommissioning costs | - | 37,454 | 37,454 |
| Other provisions | - | 43,851 | 43,851 |
| Advertisement | 9,979 | 416 | 10,395 |
| Training | 12 | 97 | 109 |
| Vehicles | 36 | 168 | 204 |
| Publication expenses | 108 | 137 | 245 |
| Business expenses | 34 | 75 | 109 |
| Rent | 3,050 | 24,201 | 27,251 |
| Communication | 230 | 499 | 729 |
| Freight expenses | - | 12 | 12 |
| Taxes and dues | 84 | 67,139 | 67,223 |
| Supplies expenses | 203 | 782 | 985 |
| Utilities | 346 | 2,006 | 2,352 |
| Repairs | 3,135 | 372,258 | 375,393 |
| Ordinary development expenses | 1,131 | 91,759 | 92,890 |
| Travel expenses | 212 | 1,289 | 1,501 |
| Clothing expenses | 9 | 80 | 89 |
| Research and analysis expenses | - | 220 | 220 |
| Labor welfare fund contribution | 78 | 5,672 | 5,750 |
| Others | 5,066 | 91,027 | 96,093 |
| | ₩ 61,460 | ₩ 2,332,294 | ₩ 2,393,754 |

34. Expenses classified by nature (cont'd)

| | | 2021 | |
|---|----------------|---------------|-------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 151,122 | ₩ 151,122 |
| Salaries | 12,437 | 226,067 | 238,504 |
| Retirement benefits | 1,394 | 24,397 | 25,791 |
| Employee welfare | 3,108 | 30,116 | 33,224 |
| Insurance expenses | 376 | 10,286 | 10,662 |
| Depreciation of property, plant and equipment | 9,254 | 589,131 | 598,385 |
| Amortization of nuclear fuel | - | 299,835 | 299,835 |
| Amortization of intangible assets | 3,387 | 1,744 | 5,131 |
| Commission | 8,277 | 37,955 | 46,232 |
| Provisions for decommissioning costs | - | 53,447 | 53,447 |
| Other provisions | - | 45,913 | 45,913 |
| Advertisement | 2,936 | 360 | 3,296 |
| Training | 22 | 81 | 103 |
| Vehicles | 37 | 148 | 185 |
| Publication expenses | 89 | 152 | 241 |
| Business expenses | 24 | 72 | 96 |
| Rent | 1,081 | 24,593 | 25,674 |
| Communication | 193 | 956 | 1,149 |
| Freight expenses | - | 18 | 18 |
| Taxes and dues | 372 | 64,241 | 64,613 |
| Supplies expenses | 221 | 651 | 872 |
| Utilities | 377 | 1,833 | 2,210 |
| Repairs | 470 | 287,002 | 287,472 |
| Ordinary development expenses | 1,051 | 85,929 | 86,980 |
| Travel expenses | 176 | 966 | 1,142 |
| Clothing expenses | 5 | 927 | 932 |
| Research and analysis expenses | - | 222 | 222 |
| Labor welfare fund contribution | 75 | 4,692 | 4,767 |
| Others | 4,938 | 110,950 | 115,888 |
| | ₩ 50,300 | ₩ 2,053,806 | ₩ 2,104,106 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Notes to the interim consolidated financial statements for the three months ended March 31, 2022 and 2021 (Unaudited)

35. Earnings per share

Basic earnings per share for the three months ended March 31, 2022 and 2021 are as follow (Korean won):

| | | 2021 | | |
|--------------------------|---|-------|---|-------|
| Basic earnings per share | ₩ | 1,373 | ₩ | 2,325 |

Profit for peiord attributable to owners of the parent and weighted average number of common shares outstanding for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions, except for number of shares):

| | | 2022 | 2021 | | |
|--|---|-------------|------|-------------|--|
| Profit for the period attributable to owners of the parent | ₩ | 332,834 | ₩ | 563,752 | |
| Weighted average number of common shares | | 242,442,838 | | 242,442,838 | |

Because the Group has no dilutive potential common shares, diluted earnings per share and the details of calculations are equal to basic earnings per share.

36. Categories of financial instruments

Details of categories of financial assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | | |
|--|----------------|---|---|--------------------------------|---------|---|---|-----------|--|--|--|
| | at | ancial assets t fair value ough profit or loss | | ancial assets mortized cost | a th | ancial assets t fair value rough other nprehensive income | | Total | | | |
| Current financial assets: | | | | | | | | | | | |
| Cash and cash equivalents Current financial assets Financial assets at fair value | ₩ | - | ₩ | 194,394 | ₩ | - | ₩ | 194,394 | | | |
| through profit or loss | | 446,813 | | | | | | 446.813 | | | |
| Loans | | 0,013 | | 17,318 | | _ | | 17,318 | | | |
| Short-term financial | | | | 17,510 | | | | 17,510 | | | |
| instruments | | _ | | 191,161 | | _ | | 191,161 | | | |
| Derivative assets | | 88,328 | | - | | _ | | 88,328 | | | |
| | | 535,141 | | 208,479 | | - | | 743,620 | | | |
| Trade and other receivables | | - | | 1,258,412 | | _ | | 1,258,412 | | | |
| | | 535,141 | | 1,661,285 | | - | | 2,196,426 | | | |
| Non-current financial assets: Financial assets at fair value through profit or loss Financial assets at fair value through other | | 525,378 | | - | | - | | 525,378 | | | |
| comprehensive income | | - | | _ | | 302,127 | | 302,127 | | | |
| Loans | | - | | 72,834 | | - | | 72,834 | | | |
| Long-term financial | | | | | | | | | | | |
| instruments | | - | | 355,195 | | - | | 355,195 | | | |
| Derivative assets | | 240,788 | | - | | - | | 240,788 | | | |
| | | 766,166 | | 428,029 | | 302,127 | | 1,496,322 | | | |
| Trade and other receivables | | - | | 34,362 | | - | | 34,362 | | | |
| | | 766,166 | | 462,391 | | 302,127 | | 1,530,684 | | | |
| | ₩ | 1,301,307 | ₩ | 2,123,676 | ₩ | 302,127 | ₩ | 3,727,110 | | | |

36. Categories of financial instruments (cont'd)

| | | December 31, 2021 | | | | | | | | | | |
|--|--|---------------------------------------|---|-------------|--|--|--|--|--|--|--|--|
| | Financial assets at fair value through profit or loss | Financial assets at amortized cost | Financial assets at fair value through other comprehensive income | Total | | | | | | | | |
| Current financial assets: | | | | | | | | | | | | |
| Cash and cash equivalents Current financial assets Financial assets at fair value | ₩ - | ₩ 362,429 | ₩ - | ₩ 362,429 | | | | | | | | |
| through profit or loss | 61,400 | - | - | 61,400 | | | | | | | | |
| Loans | - | 17,258 | - | 17,258 | | | | | | | | |
| Short-term financial | | | | | | | | | | | | |
| instruments | - | 211,160 | - | 211,160 | | | | | | | | |
| Derivative assets | 92,313 | | <u>-</u> | 92,313 | | | | | | | | |
| | 153,713 | 228,418 | - | 382,131 | | | | | | | | |
| Trade and other receivables | | 1,229,347 | - <u>-</u> | 1,229,347 | | | | | | | | |
| | 153,713 | 1,820,194 | <u> </u> | 1,973,907 | | | | | | | | |
| Non-current financial assets: Financial assets at fair value through profit or loss Financial assets at fair value through other | 531,720 | - | - | 531,720 | | | | | | | | |
| comprehensive income | _ | _ | 281,303 | 281,303 | | | | | | | | |
| Loans Long-term financial | - | 71,789 | - | 71,789 | | | | | | | | |
| instruments | - | 333,581 | _ | 333,581 | | | | | | | | |
| Derivative assets | 227,150 | - | - | 227,150 | | | | | | | | |
| | 758,870 | 405,370 | 281,303 | 1,445,543 | | | | | | | | |
| Trade and other receivables | , - | 35,815 | - | 35,815 | | | | | | | | |
| | 758,870 | 441,185 | 281,303 | 1,481,358 | | | | | | | | |
| | ₩ 912,583 | ₩ 2,261,379 | ₩ 281,303 | ₩ 3,455,265 | | | | | | | | |

36. Categories of financial instruments (cont'd)

Details of categories of financial liabilities as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 2022 | |
|--|--|--|---|
| | Financial liabilities at fair value through profit or loss | Financial liabilities at amortized cost | Total |
| Current financial liabilities: | | | |
| Current financial liabilities | | | |
| Short-term borrowings | ₩ - | ₩ 426,433 | ₩ 426,433 |
| Current portion of long-term borrowings | - | 37,131 | 37,131 |
| Bonds | - | 1,446,968 | 1,446,968 |
| Derivative liabilities | 5,131 | - <u>-</u> | 5,131 |
| | 5,131 | 1,910,532 | 1,915,663 |
| Trade and other payables | | 1,130,268 | 1,130,268 |
| | 5,131 | 3,040,800 | 3,045,931 |
| Non-current financial liabilities: | | | |
| Non-current financial liabilities | | 040.070 | 040.070 |
| Long-term borrowings Bonds | - | 313,378 | 313,378 |
| Derivative liabilities | 12,046 | 9,701,562 | 9,701,562 12,046 |
| Derivative habilities | 12,046 | 10,014,940 | 10,026,986 |
| Trade and other payables | 12,040 | 2,226,831 | 2,226,831 |
| Trade and other payables | 12,046 | 12,241,771 | 12,253,817 |
| | ₩ 17,177 | ₩ 15,282,571 | ₩ 15,299,748 |
| | | | |
| | | | |
| | | December 31, 2021 | |
| | Financial liabilities at | | |
| | Financial liabilities at fair value through | Financial liabilities | |
| | Financial liabilities at | | Total |
| Current financial liabilities: | Financial liabilities at fair value through | Financial liabilities | Total |
| Current financial liabilities | Financial liabilities at fair value through profit or loss | Financial liabilities at amortized cost | |
| Current financial liabilities Short-term borrowings | Financial liabilities at fair value through | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings | Financial liabilities at fair value through profit or loss | Financial liabilities at amortized cost W 867,028 36,911 | ₩ 867,028 36,911 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds | Financial liabilities at fair value through profit or loss W - | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings | Financial liabilities at fair value through profit or loss W - 4,446 | Financial liabilities at amortized cost W 867,028 36,911 1,437,518 | ₩ 867,028 36,911 1,437,518 4,446 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities | Financial liabilities at fair value through profit or loss W - | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds | Financial liabilities at fair value through profit or loss W 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables | Financial liabilities at fair value through profit or loss W - 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: | Financial liabilities at fair value through profit or loss W 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities | Financial liabilities at fair value through profit or loss W 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities Long-term borrowings | Financial liabilities at fair value through profit or loss W 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities | Financial liabilities at fair value through profit or loss W 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 322,743 9,559,718 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds | Financial liabilities at fair value through profit or loss W - 4,446 4,446 4,446 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 322,743 9,559,718 15,319 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds | Financial liabilities at fair value through profit or loss W - 4,446 4,446 4,446 - 15,319 | Financial liabilities at amortized cost W 867,028 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 322,743 9,559,718 |
| Current financial liabilities Short-term borrowings Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities | Financial liabilities at fair value through profit or loss W - 4,446 4,446 4,446 - 15,319 | Financial liabilities at amortized cost W 867,028 36,911 1,437,518 - 2,341,457 1,046,374 3,387,831 322,743 9,559,718 - 9,882,461 | ₩ 867,028 36,911 1,437,518 4,446 2,345,903 1,046,374 3,392,277 322,743 9,559,718 15,319 9,897,780 |

36. Categories of financial instruments (cont'd)

Gain (loss) by categories of financial instruments for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| Categories | Description | | 2022 | | 2021 |
|--|--|---|----------|---|-----------|
| Financial assets | Cash and cash equivalents-interest income | W | 782 | ₩ | 270 |
| at amortized cost | Financial instruments - interest income | | 1,327 | | 2,389 |
| | Loans - interest income | | 391 | | 284 |
| | Trade and other receivables - interest income Gain (loss) on fluctuation of exchange rate in | | 172 | | 234 |
| Financial assets at | foreign currency, net Financial assets at fair value through | | (72) | | 1,916 |
| fair value through profit or loss | profit or loss - interest income Financial assets at fair value through profit or | | 2,558 | | 1,818 |
| F | loss - valuation loss, net | | (2,825) | | (741) |
| | Gain (loss) on sale of financial assets, net | | (228) | | 4 |
| | Dividend income | | 252 | | 138 |
| | Gain on valuation of derivative instruments, net Gain on transactions of derivative instruments, | | 9,653 | | 71,907 |
| | net | | 10,394 | | 9,393 |
| Financial assets at fair value through other | | | | | |
| comprehensive | Gain on valuation of fair value through other | | | | |
| income Financial liabilities | comprehensive income (before tax), net | | 16,495 | | 22,156 |
| measured at fair value through | Gain on valuation of derivative instruments, net Loss on transactions of derivative instruments. | | 2,588 | | 18,427 |
| profit or loss | net | | (1,318) | | (891) |
| Financial liabilities at amortized cost | Loss on fluctuation of exchange rate in foreign currency, net Financial liabilities at amortized cost-interest | | (69,302) | | (110,922) |
| | expense | | (27,055) | | (27,252) |

37. Risk management

37.1 Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue while maximizing the return to shareholder through the optimization of the debt and equity balance. Management of the Group regularly reviews the capital structure and maintains the optimal capital structure through short- and long-term borrowings and bond issuance.

The capital structure of the Group consists of net debt (offset by cash and cash equivalents, etc.) and equity. The Group's overall capital risk management strategy remains consistent with the prior year.

Details of the Group's capital risk management items as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

March 21

December 21

| | | D | 2021 | | |
|---|----------|------------|------|------------|--|
| Total borrowings and bonds | W | 11,925,472 | W | 12,223,918 | |
| Cash and cash equivalents, etc.(*) | | 385,556 | | 573,589 | |
| Net borrowings | | 11,539,916 | | 11,650,329 | |
| Total equity | ₩ | 26,577,844 | ₩ | 26,308,655 | |
| Ratio of net borrowings to total equity | <u> </u> | 43.42% | | 44.28% | |

(*) It consists of cash and cash equivalents and short-term financial instruments.

37.2 Financial risk management

The Group is exposed to various risks related to its financial instruments, such as, market risk (currency risk, interest rate risk, price risk) and credit risk. The goal of financial risk management is to reduce and eliminate the financial risks to acceptable levels by identifying sources of potential risks to the Group's financial performance.

The Group uses derivative instruments to hedge certain risk exposures such as foreign currency risk. The Group's overall financial risk management strategy remains consistent with the prior year.

37.2.1 Risk management policy

The Group's management is responsible for the establishment and supervision of the financial risk management system. Management established a risk management committee to develop and supervise the risk management policy of the Group. The committee regularly reports on its activities to management.

The Group's risk management policy is designed to identify and analyze the risks facing the Group, establish appropriate risk limits and controls, and ensure that the risks do not exceed the limits. Risk management policies and systems are regularly reviewed to reflect market conditions and changes in the activities of the Group.

37.2.2 Credit risk

Credit risk is the risk of finance loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Exposure to the risk mainly arises from the Group's sales activities, as well as from derivatives and debt securities. There are also credit risks arising from financial guarantees and unused loan agreements. For banks and financial institutions, the credit risk from them is limited as the Group makes transactions with reputable financial institutions. For general accounts, the Group evalutates the customer's credit based on the customer's financial position, past experience, and other factors.

Credit risk management

The Group uses publicly available information and its own internal data related to trade receivables to rate its major customers and to measure the credit risk that a counter party will default on a contractual obligation. As the majority of the Group's trade receivables are due from governmental entities (i.e. KEPCO and others), the Group does not have significant credit risk exposure. Regarding its debt securities, the Group continuously monitors credit ratings issued by credit agencies, and the Group's working capital (i.e. cash) is deposited at financial institutions with a high credit rating.

Impairment & allowance account

In accordance with the Group's policies, individual financial assets above the materiality are regularly reviewed. The allowance for individually reviewed trade receivable shall be determined by evaluating the loss incurred as of the end of the reporting period, which applies to all material trade receivables. For such assessment, the Group considers the amount of collateral obtained (including the recoverability) for the individual financial assets and the expected recoverable amounts.

The Group's maximum exposure to credit risk as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | N | //arch 31, 2022 | De | cember 31, 2021 |
|---|---|--------------------|----|--------------------|
| Cash and cash equivalents | ₩ | 194,394 | ₩ | 362,429 |
| Financial instruments | | 546,356 | | 544,741 |
| Financial assets at fair value through profit or loss | | 972,191 | | 593,120 |
| Derivative assets | | 329,116 | | 319,463 |
| Loans | | 90,152 | | 89,047 |
| Trade and other receivables | | 1,292,774 | | 1,265,162 |

There were no financial assets (current or non-current) acquired or received as a result of exercise of rights to collaterals received or additionally obtained to adjust credit limits.

37.2.3 Market risk

The Group is exposed to market risks in which the fair value of the financial instruments or future cash flows change due to changes in market prices. Market risk consists of interest rate risk, currency risk and other price risk.

37.2.4 Sensitivity analysis

Major assets and liabilities with uncertanties in underlying assumptions

(i) Defined benefit obligations

Changes in the Group's defined benefit obligations due to changes in underlying assumptions as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | March : | 31, 20 | 022 | | December 31, 2021 | | | | |
|-----------------------------|-----------------------------|-------------|----------|-------------|----------|-------------|-------------------|----|----------|--|--|
| Assumption | Accounts | 1% increase | | 1% decrease | | 1% increase | | 1% | decrease | | |
| Future salary increase rate | Defined benefit obligations | ₩ | 93,204 | ₩ | (80,410) | ₩ | 102,641 | ₩ | (88,418) | | |
| Discount rate | Defined benefit obligations | | (81,419) | | 96,400 | | (91,902) | | 109,284 | | |

(ii) Provisions for decommissioning costs

Details of underlying assumptions used to estimate provisions for decommissioning costs as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, | December 31, |
|----------------|----------------|-----------|--------------|
| Accounts | Assumptions | 2022 | 2021 |
| Nuclear plants | Inflation rate | 1.41% | 1.41% |
| | Discount rate | 2.20% | 2.20% |
| Fuel spent | Inflation rate | 2.93% | 2.93% |
| | Discount rate | 4.49% | 4.49% |

The following is a sensitivity analysis of provisions for decommissioning costs assuming 0.1% points increase or decrease in the underlying assumptions as of March 31, 2022 and December 31, 2021 (Korean won in millions):

| | March 31, 2022 | | | | | December 31, 2021 | | | |
|-----------------|----------------|-----------|---|-----------|----|-------------------|-------------|-----------|--|
| | 0.19 | % points | | 1% points | 0. | 1% points | 0.1% points | | |
| | ine | crease | | decrease | i | ncrease | decrease | | |
| Discount rate: | | | | | | | | | |
| Nuclear plants | ₩ | (366,818) | ₩ | 378,179 | ₩ | (369,540) | ₩ | 381,026 | |
| Fuel spent | | (51,497) | | 53,507 | | (51,430) | | 53,438 | |
| Inflation rate: | | | | | | | | | |
| Nuclear plants | | 405,621 | | (393,891) | | 403,420 | | (391,754) | |
| Fuel spent | | 54,281 | | (52,313) | | 54,210 | | (52,245) | |

37.2.4 Sensitivity analysis (cont'd)

Impact of the management's estimate on the consolidated financial statements

(i) Foreign currency risk

The Group undertakes transactions denominated in foreign currencies; consequently, esposures to risk of exchange rate fluctuations arise. The carrying amounts of the Group's monetary assets and liabilities denominated in foreign currencies as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | March 31, 2022 | | | | | | | | | | | |
|---|---|-------|----------------|-------------------|-----|------------------|-----|----------|-----|-----------|-----------|-------------|-------|-------------------|
| | | AED | | USD | | EUR | | HKD | CHF | | Others(*) | | Total | |
| Assets: Cash and cash equivalents Trade and other receivables | ₩ | 2,350 | ₩ | 1,269 124,057 | ₩ | 87 | ₩ | - | ₩ | - | ₩ | 8,256 14 | ₩ | 11,962 124,071 |
| Loans | | _ | | 1,523 | | - | | - | | - | | _ | | 1,523 |
| Total assets denominated in foreign currency | | 2,350 | | 126,849 | | 87 | | | | | | 8,270 | | 137,556 |
| Liabilities: Trade and other payables Short-term borrowings | | 1,332 | | 15,772 207,538 | | 1,710 216,895 | | 428 - | | 46 | | 256 | | 19,544 424,433 |
| Bonds Total liabilities denominated in | | | | 2,953,768 | | - | | 255,098 | | 393,807 | | | | 3,602,673 |
| foreign currency | | 1,332 | | 3,177,078 | _ | 218,605 | | 255,526 | | 393,853 | | 256 | | 4,046,650 |
| Net exposure | ₩ | 1,018 | ₩ (| 3,050,229) | ₩ (| 218,518) | ₩ (| 255,526) | ₩ | (393,853) | ₩ | 8,014 | ₩ (| (3,909,094) |

(*) Others include CAD, CZK, EGP, PKR and RUB.

| | December 31, 2021 | | | | | | | | | | | | | |
|---|-------------------|------------|------|------------------|---|---------------|---|-----------|---|-----------|----|-----------|---|-------------------|
| | | AED | | USD | | EUR | | HKD | | CHF | Ot | hers(*) | | Total |
| Assets: Cash and cash equivalents Trade and other receivables | ₩ | 2,523 | ₩ | 58,008 99,435 | ₩ | 87 96 | ₩ | - | ₩ | - 30 | ₩ | 156 26 | ₩ | 60,774 99,587 |
| Loans | | _ | | 3,360 | | _ | | _ | | _ | | _ | | 3,360 |
| Total assets denominated in foreign currency | | 2,523 | | 160,803 | | 183 | | - | | 30 | | 182 | | 163,721 |
| Liabilities: Trade and other payables Short-term borrowings | | 1,925 - | | 28,291 80,992 | | 782 96,036 | | 420 | | 29 | | 531 | | 31,978 177,028 |
| Bonds | | - | | 2,890,617 | | - | | 250,706 | | 389,557 | | - | | 3,530,880 |
| Total liabilities denominated in foreign currency | | 1,925 | | 2,999,900 | _ | 96,818 | | 251,126 | | 389,586 | | 531 | | 3,739,886 |
| Net exposure | ₩ | 598 | ₩ (2 | 2,839,097) | ₩ | (96,635) | ₩ | (251,126) | ₩ | (389,556) | ₩ | (349) | ₩ | (3,576,165) |

^(*) Others include CAD, CZK, EGP and PKR.

37.2.4 Sensitivity analysis (cont'd)

Foreign exchange rates as of March 31, 2022 and December 31, 2021 are as follows (Korean won in each currency):

| | March 3 | 1, 2022 | December | 31, 2021 |
|-----|---------------|---------------|---------------|---------------|
| | Average | Ending | Average | Ending |
| | exchange rate | exchange rate | exchange rate | exchange rate |
| USD | 1,204.95 | 1,210.80 | 1,144.42 | 1,185.50 |
| EUR | 1,352.44 | 1,351.13 | 1,352.79 | 1,342.34 |
| CAD | 951.73 | 970.15 | 913.26 | 930.61 |
| CHF | 1,304.45 | 1,311.74 | 1,251.65 | 1,297.47 |
| HKD | 154.38 | 154.69 | 147.23 | 152.03 |
| CZK | 54.90 | 55.29 | 52.76 | 53.98 |
| AED | 328.05 | 329.64 | 311.57 | 322.75 |
| EGP | 75.15 | 66.27 | 72.90 | 75.46 |
| PKR | 6.79 | 6.63 | 7.03 | 6.65 |
| RUB | 14.06 | 14.50 | - | - |

A sensitivity analysis on the Group's profit before income tax and equity assuming 10% increase or decrease in foreign exchange rates as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 31, 202 | 22 | | December | r 31, 2021 | | |
|-------------------------------|------------------------|------------|---------|------------|-----------------|------------|--------------|---------|--|
| | 109 | % increase | 10% | √ decrease | 10 ^o | % increase | 10% decrease | | |
| Increase (decrease) in | | | | | | | | | |
| profit before income tax | W (390,909) | | ₩ | 390,909 | ₩ | (339,914) | ₩ | 339,914 | |
| Increase (decrease) in equity | | (390,909) | | 390,909 | | (339,914) | | 339,914 | |

Sensitivity analysis above is conducted for monetary assets and liabilities denominated in foreign currencies other than functional currency as of March 31, 2022 and December 31, 2021.

(ii) Interest rate risk

The Group is exposed to interest rate risk due to its borrowing with floating interest rates. 1% points increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

The Group's floating-rate long-term borrowings and bonds as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | 1 | March 31, 2022 | Ded | cember 31, 2021 |
|--|---|-------------------|-----|--------------------|
| Long-term borrowings (including current portion) | ₩ | 79,142 | ₩ | 81,617 |

37.2.4 Sensitivity analysis (cont'd)

A sensitivity analysis on the Group's long-term borrowings and bonds assuming 1% points increase or decrease in interest rates as of March 31, 2022 and March 31, 2021 are as follows (Korean won in millions):

| | March 31 | , 2022 | March 31 | , 2021 |
|---|--------------------|--------------------|--------------------|--------------------|
| | 1% points increase | 1% points decrease | 1% points increase | 1% points decrease |
| Increase (decrease) in profit for the period Increase (decrease) in | (198) | 198 | (175) | 175 |
| equity | (198) | 198 | (175) | 175 |

To manage its interest rate risks, the Group, in addition to maintaining an appropriate mix of fixed and floating rate borrowings, has entered into certain interest rate swap agreements, if needed.

37.2.5 Liquidity risk

The Group has established an appropriate liquidity risk management framework for the management of the Group's short, medium and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

In addition, the Group has established credit lines on its trade finance and bank overdrafts, and through payment guarantees it has received, it maintains an adequate credit (borrowing) facility. In addition, in case of major construction investment, the Group has the ability to use reserve cash or utilize long-term borrowings.

Details of remaining maturities of the Group's non-derivative financial liabilities based on agreement terms are as follows. The amount disclosed below represents the undiscounted cash flows the Group is obligated to pay in the future on the earliest repayment date:

Contractual remaining maturities of the Group's non-derivative financial liabilities, including interest payments, as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 31, 202 | 22 | | |
|--------------|--|--|--|---|--|
| Under 1 year | 1~2 years | 2~5 years | Over 5 years | Total | |
| ₩ 2,211,086 | ₩ 1,579,227 | ₩ 3,056,741 | ₩ 8,078,413 | ₩ 14,925,46 | 67 |
| 1,133,080 | 336,869 | 947,914 | 1,001,571 | 3,419,43 | 34 |
| ₩ 3,344,166 | ₩ 1,916,096 | ₩ 4,004,655 | ₩ 9,079,984 | ₩ 18,344,90 |)1 |
| | | December 31, 2 | 2021 | | |
| Under 1 year | 1~2 years | 2~5 years | Over 5 years | Total | |
| ₩ 2,650,461 | ₩ 1,652,701 | ₩ 3,113,740 | ₩ 7,702,824 | ₩ 15,119,72 | 26 |
| 1,069,848 | 333,235 | 944,315 | 920,129 | 3,267,52 | 27 |
| | | | | | |
| | ₩ 2,211,086 1,133,080 ₩ 3,344,166 Under 1 year ₩ 2,650,461 | ₩ 2,211,086 ₩ 1,579,227 1,133,080 336,869 ₩ 3,344,166 ₩ 1,916,096 Under 1 year 1~2 years ₩ 2,650,461 ₩ 1,652,701 | Under 1 year 1~2 years 2~5 years ₩ 2,211,086 ₩ 1,579,227 ₩ 3,056,741 1,133,080 336,869 947,914 ₩ 3,344,166 ₩ 1,916,096 ₩ 4,004,655 December 31, 2 Under 1 year 1~2 years 2~5 years ₩ 2,650,461 ₩ 1,652,701 ₩ 3,113,740 | Under 1 year 1~2 years 2~5 years Over 5 years ₩ 2,211,086 ₩ 1,579,227 ₩ 3,056,741 ₩ 8,078,413 1,133,080 336,869 947,914 1,001,571 ₩ 3,344,166 ₩ 1,916,096 ₩ 4,004,655 ₩ 9,079,984 December 31, 2021 Under 1 year 1~2 years 2~5 years Over 5 years ₩ 2,650,461 ₩ 1,652,701 ₩ 3,113,740 ₩ 7,702,824 | W 2,211,086 W 1,579,227 W 3,056,741 W 8,078,413 W 14,925,46 1,133,080 336,869 947,914 1,001,571 3,419,43 W 3,344,166 W 1,916,096 W 4,004,655 W 9,079,984 W 18,344,90 December 31, 2021 Under 1 year 1~2 years 2~5 years Over 5 years Total W 2,650,461 W 1,652,701 W 3,113,740 W 7,702,824 W 15,119,72 |

37.2.5 Liquidity risk (cont'd)

As the Group manages its liquidity based on its net asset and net liability balances, the Group's liquidity risk management analysis includes its non-derivative financial assets.

Details of the Group's contractual expected holding period of its non-derivative financial assets as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | | | | March 31, 2022 | | | | | | |
|--|-----|------------|-----|----------|------|----------------|-----|-----------|---|-----------|--|--|
| | Un | der 1 year | 1 ~ | 5 years | Ove | er 5 years | (*) | | | Total | | |
| Cash and cash equivalents Financial assets at fair value | ₩ | 194,394 | ₩ | - | ₩ | - | ₩ | - | ₩ | 194,394 | | |
| through profit or loss | | 446,813 | | - | | - | | 525,378 | | 972,191 | | |
| Financial instruments Financial assets at fair value through other comprehensive | | 191,161 | | - | | - | | 355,195 | | 546,356 | | |
| income | | - | | - | | - | | 302,127 | | 302,127 | | |
| Loans | | 17,412 | | 25,724 | | 54,238 | | - | | 97,374 | | |
| Trade and other receivables | | 1,258,555 | | 34,967 | | - | | - | | 1,293,522 | | |
| | ₩ 2 | 2,108,335 | ₩ | 60,691 | ₩ | 54,238 | ₩ | 1,182,700 | ₩ | 3,405,964 | | |
| | | | | | Dece | mber 31, 2 | 021 | | | | | |
| | Un | der 1 year | 1- | ∼5 years | Ov | er 5 years | | (*) | | Total | | |
| Cash and cash equivalents Financial assets at fair value | ₩ | 362,429 | ₩ | - | ₩ | - | ₩ | - | ₩ | 362,429 | | |
| through profit or loss | | 61,400 | | - | | - | | 531,720 | | 593,120 | | |
| Financial instruments Financial assets at fair value through other comprehensive | | 211,160 | | - | | - | | 333,581 | | 544,741 | | |
| income | | _ | | - | | _ | | 281,303 | | 281,303 | | |
| Loans | | 17,346 | | 25,649 | | 52,660 | | - | | 95,655 | | |
| Trade and other receivables | | 1,229,474 | | 36,231 | | - | | - | | 1,265,705 | | |
| | ₩ | 1,881,809 | ₩ | 61,880 | ₩ | 52,660 | ₩ | 1,146,604 | ₩ | 3,142,953 | | |

^(*) Maturity period cannot be reasonably estimated.

37.2.5 Liquidity risk (cont'd)

Remaining maturities of the Group's derivative financial liabilities as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | | | | | | | | |
|--------------|----------------|------------|-----------|----------|-----------|-------------|--------------|------------|---|----------|--|--|
| | Under 1 year | | 1~2 years | | 2~5 years | | Over 5 years | | | Total | | |
| Cash inflow | W | 66 | ₩ | 66 | ₩ | 197 | ₩ | 66 | W | 395 | | |
| Cash outflow | | (5,231) | | (5,231) | | (6,964) | | (863) | | (18,289) | | |
| | W | (5,165) | ₩ | (5,165) | ₩ | (6,767) | ₩ | (797) | ₩ | (17,894) | | |
| | | | | De | cemb | per 31, 202 | 21 | | | | | |
| | Und | ler 1 year | 1- | ∼2 years | 2~ | ∕5 years | Ove | er 5 years | | Total | | |
| Cash inflow | W | 65 | W | 65 | W | 197 | ₩ | 65 | W | 392 | | |
| Cash outflow | | (4,511) | | (5,155) | | (9,275) | | (1,216) | | (20,157) | | |
| | ₩ | (4,446) | ₩ | (5,090) | ₩ | (9,078) | ₩ | (1,151) | ₩ | (19,765) | | |

37.3 Fair value estimate

The fair value of the Group's financial instruments traded in an active market (i.e. financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income) is the based on the traded market-price as of the reporting period end. The fair value of Group's financial assets is determined by the closing purchase price disclosed at the end of the reporting period.

The fair values of financial instruments where no active market exists or where quoted prices are not otherwise available are determined by using valuation techniques. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the Group uses that technique.

For trade receivables and payables, the Group considers the carrying value, net of impairment, as fair value. While for disclosure purposes, the fair value of non-current financial liabilities is estimated by discounting a financial instruments with similar contractual cash flows based on the effective interest method.

37.3.1 Fair value and carrying amount

The carring amount and fair value of financial assets and financial liabilities as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | March 3 | 31, 2 | 022 | | 2021 | | |
|---|-------|---|-------|---|-------|---|-------|---|
| | Car | rying amount | | Fair value | Car | rying amount | | Fair value |
| Financial assets at fair value: Financial assets at fair value through other comprehensive income | ₩ | 302,127 | ₩ | 302,127 | ₩ | 281,303 | ₩ | 281,303 |
| Financial assets at fair value through profit or loss Derivative instruments held | | 972,191 | | 972,191 | | 593,120 | | 593,120 |
| for trading | - | 329,116 | | 329,116 | | 319,463 | | 319,463 |
| | ₩ | 1,603,434 | ₩ | 1,603,434 | ₩ | 1,193,886 | ₩ | 1,193,886 |
| Financial assets at amortized cost: | | | | | | | | |
| Loans Trade and other receivables Cash and cash equivalents Financial instruments | ₩ | 90,152 1,292,774 194,394 546,356 | ₩ | 90,152 1,292,774 194,394 546,356 | ₩ | 89,047 1,265,162 362,429 544,741 | ₩ | 89,047 1,265,162 362,429 544,741 |
| | ₩ | 2,123,676 | ₩ | 2,123,676 | W | 2,261,379 | ₩ | 2,261,379 |
| Financial liabilities at fair value: Derivative instruments held for trading Financial liabilities at amortized cost: | ₩ | 17,177 | ₩ | 17,177 | ₩ | 19,765 | ₩ | 19,765 |
| Bonds Short-term borrowings Long-term borrowings Trade and other payables | ₩ | 11,148,530 426,433 350,509 3,357,099 | ₩ | 10,914,609 426,433 350,509 3,357,099 | ₩ | 10,997,236 867,028 359,655 3,183,450 | ₩ | 11,765,790 867,028 359,655 3,183,450 |
| | ₩ | 15,282,571 | ₩ | 15,048,650 | ₩ | 15,407,369 | ₩ | 16,175,923 |

37.3.2 Interest rates used in calculating fair values

Interest rates used to discount expected cash flows were determined by adding credit spreads to government bond yields at the end of the reporting period.

37.3.3 Fair value hierarchy

The Group classifies fair value measurement based on a fair value hierarchy that reflects the significance of the input variables used in fair value measurement. The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, classified as Level 1, 2, or 3.

| | Significance of the input variables |
|---------|---|
| Level 1 | Unadjusted quoted prices in active markets for identical assets or liabilities. |
| Level 2 | Inputs other than quoted prices that are observable for the asset or liability either directly or |
| | indirectly. |
| Level 3 | Inputs that are not based on observable market data. |

37.3.3 Fair value hierarchy (cont'd)

Fair values of financial instruments by hierarchy level as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | | | March | | | | |
|--|---|-------------|---|-------------------------|---|-------------------|---|-------------------------------|
| | | Level 1 | | Level 2 | | Level 3 | | Total |
| Financial assets at fair value: Financial assets at fair value through profit or loss Financial assets at fair value through other | ₩ | - | ₩ | 972,191 | ₩ | - | ₩ | 972,191 |
| comprehensive income | | 116,922 | | _ | | 185,205 | | 302,127 |
| Derivative assets Financial liabilities at fair value: | | - | | 329,106 | | 10 | | 329,116 |
| Derivative liabilities | | - | | 17,177 | | - | | 17,177 |
| | | | | , 2021 | | | | |
| | | Level 1 | | Level 2 | | Level 3 | | Total |
| Financial assets at fair value: | | | | | | | | |
| Financial assets at fair value through profit or loss Financial assets at fair value | ₩ | - | ₩ | 593,120 | ₩ | - | ₩ | 593,120 |
| through profit or loss | ₩ | 96,098 - | ₩ | 593,120 - 319,463 | ₩ | - 185,205 - | ₩ | 593,120 281,303 319,463 |

The fair value of financial assets at fair value through other comprehensive income traded in the market is determined by the closing purchase price disclosed at the end of the reporting period, and the fair value of financial assets at fair value through other comprehensive income without marketability is determined by the fair value evaluation results from external assessment institutions. Financial assets measured at level 3 in the fair value hierarchy as of March 31, 2022 include investments in SET Holding and Korea Electric Power Exchange as described in Note 8. They were measured by estimating future cash flows in consideration of expected operating revenue and cost structure, which then were discounted by the weighted average capital costs considering capital structure, etc. In addition, the Group measured the fair value of the derivative using a cash flow discount model that reflected credit risk and used the inputs (credit risk, interest rate, and exchange rate) considering the key economic indicators and economic environment of the derivative to be assessed.

37.3.3 Fair value hierarchy (cont'd)

Changes in financial assets at fair value through other comprehensive income for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

| | | For the three months ended March 31, 2022 | | | | | | | | | |
|---|---|---|-------|------------|--------|-------------|--------|--------|------|------------|--|
| | В | eginning | Acc | quisition | Mea | surement of | | | | | |
| | I | palance | (Disp | osal), net | fa | ir values | (| Others | Endi | ng balance | |
| Financial assets at fair value through other comprehensive | | | | | | | | | | | |
| income | ₩ | 281,303 | | - | | 16,495 | | 4,329 | | 302,127 | |
| | | | | For the ye | ar end | ed December | 31, 20 | 21 | | | |
| | В | eginning | Acc | quisition | Mea | surement of | | | | | |
| | | balance | (Disp | osal), net | fa | ir values | (| Others | Endi | ng balance | |
| Financial assets at fair value through other comprehensive | | | | | | | | | | | |
| income | W | 233,371 | ₩ | 1,563 | ₩ | 41,687 | ₩ | 4,682 | ₩ | 281,303 | |

38. Related party disclosures

Details of related parties as of March 31, 2022 are as follows:

| Relationship | Related party | | | | | |
|----------------------------|--|--|--|--|--|--|
| Parent company | Korea Electric Power Corporation | | | | | |
| Subsidiaries | KHNP Canada Energy Ltd. | | | | | |
| | Gyeonggi Green Energy Co., Ltd. | | | | | |
| | Korea Waterbury Uranium Limited Partnership | | | | | |
| | Incheon Fuel Cell Co., Ltd. | | | | | |
| | First Keepers Co., Ltd. | | | | | |
| | Secutec Co., Ltd. | | | | | |
| | KHNP USA LLC | | | | | |
| | Energy Innovation Growth Fund 1 | | | | | |
| Associates Joint ventures | KHNP Chile SpA | | | | | |
| | LSG Hydro Power Ltd. | | | | | |
| | KHNP Spain, S.L. | | | | | |
| Associates | Korea Offshore Wind Power Co., Ltd. | | | | | |
| | Noeul Green Energy Co., Ltd. | | | | | |
| | Busan Green Energy Co., Ltd. | | | | | |
| | Korea Hydro & Nuclear Power KNP Co., Ltd. | | | | | |
| | KEPCO Solar Co., Ltd. | | | | | |
| | KEPCO ES Co., Ltd. | | | | | |
| | Gwangyang Green Energy Co., Ltd. | | | | | |
| | Godeok Clean Energy Co., Ltd. | | | | | |
| | Hanhwa Solar Power Private equity investment trust | | | | | |
| | Bigeum Resident Solar Power Generation Co., Ltd. | | | | | |
| | Digital Innovation Growth Fund | | | | | |
| | Gangneung Sacheon Fuel Cell Co., Ltd. | | | | | |
| | Chuncheon Green Energy Co., Ltd. | | | | | |
| Joint ventures | Waterbury Lake Uranium Limited Partnership | | | | | |
| | Cheongsong Noraesan Wind Power Co., Ltd. | | | | | |
| | Saemangeum Solar Power Co., Ltd. | | | | | |
| | KAS INVESTMENT I LLC | | | | | |
| | KAS INVESTMENT II LLC | | | | | |
| | Guadalupe Solar SpA | | | | | |
| Other related parties | Korea Midland Power Co., Ltd. | | | | | |
| | Korea East-West Power Co., Ltd. | | | | | |
| | Korea South-East Power Co., Ltd. | | | | | |
| | Korea Western Power Co., Ltd. | | | | | |
| | Korea Southern Power Co., Ltd. | | | | | |
| | KEPCO Engineering & Construction Inc. | | | | | |
| | KEPCO Plant Service & Engineering Co., Ltd. | | | | | |
| | KEPCO Nuclear Fuel Co., Ltd. | | | | | |
| | KEPCO Knowledge, Data & Network Co., Ltd. | | | | | |
| | Korea Power Exchange | | | | | |
| | YTN Co., Ltd. | | | | | |
| | Korea Development Bank | | | | | |
| | HeeMang Sunlight Power Co., Ltd. | | | | | |
| | Korea Gas Corporation | | | | | |
| | Energy Infra Asset Management Co., Ltd. | | | | | |
| | Nawah Energy Company and others | | | | | |
| | | | | | | |

38. Related party disclosures (cont'd)

The transactions with related parties for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| Related party | Transaction | Sales and others | | | | Purchases and others | | | |
|---|--|------------------|-----------|------|-----------|----------------------|------------------|------|------------------|
| | | 2022 | | 2021 | | 2022 | | 2021 | |
| Korea Electric Power Corporation | Sales of electricity and others | ₩ | 3,165,970 | ₩ | 3,047,276 | ₩ | 258,822 | ₩ | 172,213 |
| | Dividends paid | | - | | - | | 136,010 | | 279,780 |
| Busan Green Energy Co., Ltd. Noeul Green Energy Co., | REC Purchases | | - | | - | | 2,575 | | 1,819 |
| Ltd. Korea Offshore Wind | REC Purchases | | - | | - | | 2,415 | | 989 |
| Power Co., Ltd. | REC Purchases | | _ | | _ | | 1,597 | | _ |
| KEPCO ES Co., Ltd. Hanhwa Solar Power Private equity investment | Service income | | - | | 9 | | - | | - |
| trust | Dividend income | | 100 | | 97 | | - | | - |
| KEPCO Solar Co., Ltd. Bigeum Resident Solar Power Generation Co., | Service income | | 118 | | - | | 672 | | - |
| Ltd. Cheongsong Noraesan | Interest income | | 127 | | 40 | | - | | - |
| Wind Power Co., Ltd. Korea East-West Power | REC Purchases | | - | | - | | 665 | | - |
| Co., Ltd. KEPCO Plant Service & | RPS sales income Other income/ | | 41 | | 41 | | - | | - |
| Engineering Co., Ltd. | Cost of construction services, etc. | | 919 | | 839 | | 167,876 | | 144,740 |
| KEPCO Engineering & Construction Inc. | Other income/ Cost of technique | | 919 | | 639 | | 107,870 | | 144,740 |
| KEPCO Knowledge, Data & Network Co., Ltd. | services, etc. Information and communication consigned service | | 26 | | 4,569 | | 17,621 | | 89,123 |
| KEPCO Nuclear Fuel Co., | costs, etc. Nuclear power plant | | - | | - | | 13,674 | | 9,375 |
| Ltd. Korea Power Exchange YTN Co., Ltd. | fuel purchase, etc. Commission fees | | - | | - | | 196,190 4,448 | | 171,858 4,080 |
| | Advertisement expenses | | - | | - | | 45 | | 36 |
| Korea Development Bank | Interest income /Interest expenses | | 16 | | 3 | | 461 | | 333 |
| HeeMang Sunlight Power Co., Ltd. | REC Purchases | | _ | | _ | | 14 | | _ |
| Nawah Energy Company Energy Infra Asset | Service income | | 15,507 | | 19,722 | | - | | - |
| Management Co., Ltd. | Interest expense | | - | | - | | 692 | | 626 |
| Guadalupe Solar SpA | Interest income | | 49 | | 7 | | - | | - |
| | | ₩ | 3,182,873 | ₩ | 3,072,603 | ₩ | 803,777 | ₩ | 874,972 |

Receivables and payables arising from related party transactions as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | Trade receivables and others | | | | | Trade payables and others | | | | |
|-------------------------|------------------------|------------------------------|-----------|---|-----------|---|---------------------------|-----|-----------|--|--|
| | | M | arch 31, | | ember 31, | N | March 31, | Dec | ember 31, | | |
| Related party | Transaction | | 2022 | | 2021 | | 2022 | | 2021 | | |
| Korea Electric Power | Trade receivables | ₩ | 930,946 | ₩ | 927,393 | ₩ | - | ₩ | - | | |
| Corporation | Non-trade receivables, | | | | | | | | | | |
| | and others | | 539,969 | | 516,921 | | - | | - | | |
| | Other payables and | | | | | | | | | | |
| | others | | - | | - | | 221,648 | | 123,818 | | |
| Saemangeum Solar Power | | | | | | | | | | | |
| Co., Ltd. | Non-trade receivables | | 4,268 | | 4,268 | | - | | - | | |
| Gwangyang Green Energy | | | | | | | | | | | |
| Co., Ltd. | Non-trade receivables | | - | | 532 | | - | | - | | |
| KEPCO Solar Co., Ltd. | Non-trade receivables | | 118 | | - | | - | | - | | |
| Noeul Green Energy Co., | | | | | | | | | | | |
| Ltd. | Non-trade receivables | | 660 | | 1,169 | | - | | - | | |
| Busan Green Energy Co., | Non-trade receivables | | 16,970 | | 20,658 | | - | | - | | |
| Ltd. | Other payables | | - | | - | | 3,317 | | - | | |
| Korea Offshore Wind | | | | | | | | | | | |
| Power Co., Ltd. | Trade receivables | | - | | 101 | | - | | - | | |
| Bigeum Resident Solar | Trade receivables | | 922 | | 922 | | - | | - | | |
| Power Generation Co., | | | | | | | | | | | |
| Ltd. | Loans and others | | 11,624 | | 11,497 | | - | | - | | |
| KEPCO Plant Service & | Non-trade receivables | | | | | | | | | | |
| Engineering Co., Ltd. | and others | | - | | 2,150 | | - | | - | | |
| | Other payables | | - | | - | | 3,718 | | 12,031 | | |
| KEPCO Engineering & | | | | | | | | | | | |
| Construction Inc. | Other payables | | - | | - | | 3,626 | | - | | |
| KEPCO Knowledge, Data | Advanced payment | | 8,406 | | - | | - | | - | | |
| & Network Co., Ltd. | Other payables | | - | | - | | 1,919 | | - | | |
| KEPCO Nuclear Fuel Co., | Trade payables and | | | | | | | | | | |
| Ltd. | others | | - | | - | | 31,456 | | 25,444 | | |
| Korea Power Exchange | Other payables | | - | | - | | - | | 1,628 | | |
| Korea Development Bank | Prepaid expenses | | 755 | | 785 | | - | | - | | |
| | Borrowings | | - | | - | | 20,221 | | 121,030 | | |
| | Accrued expenses | | - | | - | | 18 | | 21,053 | | |
| Nawah Energy Company | Trade receivables | | 60,487 | | 73,784 | | - | | - | | |
| Guadalupe Solar SpA | Loans | | 3,325 | | 3,360 | | - | | - | | |
| | Advance received | | - | | - | | 9 | | 27 | | |
| Energy Infra Asset | | | | | | | | | | | |
| Management Co., Ltd. | Borrowings | | | | | | 54,461 | | 55,000 | | |
| | | W | 1,578,450 | ₩ | 1,563,540 | W | 340,393 | ₩ | 360,031 | | |

Details of loans to related parties as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | | De | cember 31, | | | | M | arch 31, |
|----------------|---|----|------------|---------|------------|--------|---|----------|
| | Company name | | 2021 | Proceed | Collection | Others | | 2022 |
| Associates | Bigeum Resident Solar Power Generation Co., | | | | | | | _ |
| | Ltd. | ₩ | 11,212 | - | - | - | ₩ | 11,212 |
| Joint ventures | Guadalupe Solar SpA | | 3,360 | - | (104) | 69 | | 3,325 |
| | | ₩ | 14,572 | - | (104) | 69 | ₩ | 14,537 |

Financial transactions with related parties for the three months ended March 31, 2022 and for the year ended December 31, 2021 are as follows (Korean won in millions):

(i) Loans and capital investments

| | | For the three | months end | led March 31, 2022 | | | |
|-----------------------|---|---------------|------------|--------------------|------------|---|--------------|
| | | | Trans | action | | | Cash |
| | Company name | Loan | ıs | Collection | | | contribution |
| Associates | Gangneung Sacheon Fuel Cell Co., Ltd. | ₩ | - | ₩ | - | ₩ | 3,745 |
| Joint ventures | Guadalupe Solar SpA | ₩ | | ₩ | 104 104 | ₩ | 3,745 |
| | | | | | | | -, |
| | | For the yea | | | | | |
| | | | Trans | action | | | Cash |
| | Company name | Loan | ıs | Collection | | | contribution |
| Associates | Gwangyang Green Energy Co., Ltd. | ₩ | _ | ₩ | _ | ₩ | 24,800 |
| | Godeok Clean Energy Co., Ltd. | | _ | | _ | | 3.730 |
| | Jeju Solarone Co., Ltd.(*) Bigeum Resident Solar Power | | - | | - | | 45 |
| | Generation Co., Ltd. Digital Innovation Growth | | 11,212 | | - | | - |
| | Fund | | - | | - | | 10,000 |
| | Gangneung Sacheon Fuel Cell Co., Ltd. | | - | | - | | 1,950 |
| La trade considerance | Chuncheon Green Energy Co., Ltd. | | - | | - | | 3,400 |
| Joint ventures | Saemangeum Solar Power Co., Ltd. | | - | | - | | 1 |
| | Guadalupe Solar SpA | | 3,367 | | 7 | | 1,397 |
| | | ₩ | 14,579 | ₩ | 7 | ₩ | 45,323 |

^(*) This entity was excluded from related parties of the Group due to disposal for the year ended December 31, 2021. The above transactions include only transaction details before being excluded from related parties.

(ii) Borrowings

For the three months ended March 31, 2022 March 31 Company name Type January 1 Borrowings Repayments Others Korea Facility loan W 21,030 W W (809)W 20,221 Development Bank(*1,2) Operating loan 100,000 100,000 (200,000)Energy Infra Asset Management Co., Ltd.(*1,2) Facility loan 55,000 54,461 (539)₩ 176,030 W 100,000 W (201,348) ₩ 74,682

(*1) Details of collaterals pledged for related parties are described in Note 40.

(*2) The interest expense recognized by the borrowing transaction with the related parties is ₩1,153 million.

| | | | For the y | ear ended D | Decemb | per 31,2021 | | | | |
|--------|---|----------------|-----------|-------------|--------|-------------|----|-----------|-----|----------|
| | Company name | Туре | Ja | anuary 1 | Во | rrowings | Re | epayments | Dec | ember 31 |
| Others | Korea Development | Facility loan | ₩ | 24,173 | ₩ | - | ₩ | (3,143) | ₩ | 21,030 |
| | Bank(*1,2) Energy Infra Asset Management Co., | Operating loan | | 100,000 | | 100,000 | | (100,000) | | 100,000 |
| | Ltd.(*1,2) | Facility loan | | 46,877 | | 8,123 | | - | | 55,000 |
| | | | W | 171,050 | ₩ | 108,123 | ₩ | (103,143) | ₩ | 176,030 |

(*1) Details of collaterals pledged for related parties are described in Note 40.

(*2) The interest expense recognized by the borrowing transaction with the related parties is \(\pi_3,907\) million.

Compensations to key management personnel of the Company for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | 20 | 022 | 2021 | |
|---------------------|----|-----|------|-----|
| Salaries | ₩ | 202 | W | 195 |
| Retirement benefits | | 13 | | 12 |
| | W | 215 | ₩ | 207 |

Details of collateral provided to related parties as of March 31, 2022 is as follows (Korean won in millions):

| | | | | Financial |
|--------------------|---------------------|------------------------------|--------------|----------------|
| Provided by | Provided to | Assets pledged(*) | Credit limit | institution |
| Korea Hydro & | Korea Offshore Wind | Korea Offshore Wind Power | | Woori Bank and |
| Nuclear Power Co., | Power Co., Ltd. | Co., Ltd. Shares | ₩ 22,302 | others |
| Ltd. | Noeul Green | Noeul Green Energy Co., Ltd. | | Hana Bank and |
| | Energy Co., Ltd. | Shares | 3,366 | others |
| | Busan Green | Busan Green Energy Co., | | Shinhan Bank |
| | Energy Co., Ltd. | Ltd. Shares | 6,942 | and others |
| | Cheongsong Noraesan | Cheongsong Noraesan Wind | | Woori Bank and |
| | Wind Power Co., Ltd | Power Co., Ltd. Shares | 3,666 | others |
| | Godeok Clean Energy | Godeok Clean Energy Co., | | Kookmin Bank |
| | Co., Ltd. | Ltd. Shares | 4,791 | and others |
| | Gwangyang Green | Gwangyang Green Energy | | Shinhan Bank |
| | Energy Co., Ltd. | Co., Ltd. Shares | 25,387 | and others |
| | Gangneung Sacheon | Gangneung Sacheon Fuel | | Hana Bank and |
| | Fuel Cell Co., Ltd. | Cell Co., Ltd. Shares | 5,149 | others |
| | | | | |

(*) As of March 31, 2022, the entire shares held by the Group are pledged as collateral to the financial institutions.

Details of derivatives transactions with related parties as of March 31, 2022 is as follows: (USD, HKD and CHF in thousands, Korean won in millions, Contract exchange rate: KRW/USD, KRW/HKD, KRW/CHF):

| | | | | Contract | amoun | ıt | | erest rate per num | | |
|------------------|---------------------------|--|-----|----------|-------|---------|-------|-----------------------|---------------------------|----------|
| Counter party(*) | | Contract year | | Pay | | eceive | Pay | Receive | Contract exchange rate | |
| Currency swap | Korea Development Bank | 2015.06.15~ 2025.06.15 2017.07.25~ | KRW | 111,190 | USD | 100,000 | 2.62% | 3.25% | ₩ | 1,111.90 |
| | | 2017.07.25~ 2027.07.25 2018.04.03~ | KRW | 111,610 | USD | 100,000 | 2.31% | 3.13% | | 1,116.10 |
| | | 2028.03.13 2018.07.25~ | KRW | 108,600 | HKD | 800,000 | 2.69% | 3.35% | | 135.75 |
| | | 2023.07.25 2019.07.19~ | KRW | 170,280 | USD | 150,000 | 2.15% | 3.75% | | 1,135.20 |
| | | 2027.07.19 2021.04.27~ | KRW | 119,978 | CHF | 100,000 | 1.43% | 0.05% | | 1,199.78 |
| | | 2026.04.27 | KRW | 111,400 | USD | 100,000 | 0.93% | 1.25% | | 1,114.00 |

^(*) The Group recognized a gain on valuation of derivative instruments of $\mbox{$W4$}$,166 million and a loss on valuation of derivative instruments of $\mbox{$W1$}$,697 million from the derivative transactions above. It also recognized a gain on transactions of derivative instruments of $\mbox{$W2$}$,398 million and a loss on transactions of derivative instruments of $\mbox{$W4$}$ 438 million.

39. Supplementary cash flow information

Significant non-cash transactions for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | 2022 | | 2021 |
|---|---|---------|---|---------|
| Transfer of long-term borrowings and bonds to current portion | ₩ | 238,837 | ₩ | 248,161 |
| Transfer of provisions for decommissioning costs to current portion | | 125,760 | | 7,239 |
| Transfer of construction-in-progress to property, plant | | | | |
| and equipment | | 1,975 | | 625 |
| Recognition of assets retirement costs based on provision | | | | |
| for restoration | | 21,747 | | 39,977 |
| Transfer of spent fuel management charges to accrued expenses | | 51,111 | | 84,972 |
| Transfer of inventories to storage of nuclear power fuel | | 152,111 | | 147,081 |
| Transfer of long-term advanced payments to right-of-use assets | | 123,393 | | 5,831 |
| Increase in other payables from acquisition of property, plant | | | | |
| and equipment | | 70,312 | | - |
| Transfer of long-term other payables to current portion | | 4,437 | | - |

Changes in liabilities arising from financing activities for the three months ended March 31, 2022 and 2021 are as follows (Korean won in millions):

| | | | | | | | 2022 | | | | | | | |
|---|---|------------------------|-----|------------|-----------|--------------|------|----------|------|----------------------|----|----------------------|---|------------------------|
| | | _ | | Cash | flow | 1 | | | Non- | cash chang | je | | | |
| | J | anuary 1 | | ecrease | <u>lı</u> | ncrease | Acq | uisition | | hange rate uctuation | | Others | | March 31 |
| Current portion of lease liabilities Lease | ₩ | 15,072 | ₩ | (2,239) | ₩ | - | ₩ | - | ₩ | - | ₩ | 2,635 | ₩ | 15,468 |
| liabilities | | 134,244 | | (2) | | - | | 2,106 | | 9 | | (2,338) | | 134,019 |
| Short-term borrowings Current portion | | 867,028 | | (798,400) | | 355,767 | | - | | 2,038 | | - | | 426,433 |
| of long-term borrowings Long-term | | 36,911 | | (9,146) | | - | | - | | - | | 9,366 | | 37,131 |
| borrowings | | 322,744 | | - | | - | | - | | - | | (9,366) | | 313,378 |
| Current portion of bonds Bonds Dividends | | 1,437,518 9,559,718 | | (220,000) | | - 299,137 | | - | | (21) 67,281 | | 229,471 (224,574) | | 1,446,968 9,701,562 |
| payable Derivative | | - | | - | | - | | - | | - | | 136,010 | | 136,010 |
| instruments | | (299,699) | | (1,318) | | 10,394 | | _ | | _ | | (21,317) | | (311,940) |
| | ₩ | 12,073,536 | ₩(′ | 1,031,105) | ₩ | 665,298 | ₩ | 2,106 | ₩ | 69,307 | ₩ | 119,887 | ₩ | 11,899,029 |

39. Supplementary cash flow information (cont'd)

| | 2021 | | | | | | | | | | |
|---|------------------------|------------------|-----------|-------------|---------------------------|----------------------|------------------------|--|--|--|--|
| | | Cas | n flow | | е | | | | | | |
| | January 1 | Decrease | Increase | Acquisition | Exchange rate fluctuation | Others | March 31 | | | | |
| Current portion of lease liabilities Lease | ₩ 20,645 | ₩ (5,705) | ₩ - | ₩ - | ₩ - | ₩ 7,660 | ₩ 22,600 | | | | |
| liabilities | 148,503 | - | _ | 7,952 | 327 | (7,835) | 148,947 | | | | |
| Short-term borrowings Current portion | 340,000 | (450,646) | 112,046 | - | - | - | 1,400 | | | | |
| of long-term borrowings Long-term | 19,063 | (4,689) | - | - | - | 4,897 | 19,271 | | | | |
| borrowings Current portion | 295,654 | - | 14,900 | - | - | (4,897) | 305,657 | | | | |
| of bonds Bonds Dividends | 1,152,802 9,379,108 | (260,000) (3) | - | - | (23) 110,618 | 243,264 (241,404) | 1,136,043 9,248,319 | | | | |
| payable Derivative | - | - | - | - | - | 279,779 | 279,779 | | | | |
| instruments | (24,805) | (1,353) | 9,393 | | | (98,836) | (115,601) | | | | |
| | ₩11,330,970 | ₩ (722,396) | ₩ 136,339 | ₩ 7,952 | ₩ 110,922 | ₩ 182,628 | ₩ 11,046,415 | | | | |

40. Commitment and contingencies

Ongoing litigations as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions):

| | March | 31, 202 | 2 | December 31, 2021 | | | | |
|---------------------|----------------|---------|-------------|-------------------|-------|--------------|--|--|
| | Litigations in | | _ | Litigations in | | | | |
| | progress | Litiga | ation value | progress | Litig | gation value | | |
| Pending lawsuits(*) | 72 cases | ₩ | 95,633 | 83 cases | ₩ | 113,367 | | |

(*) Details of ongoing litigations as of March 31, 2022 are as follows (Korean won in millions):

| 0 1 | 0 1: 1 | - . | 0 4 4 | L | itigation | Progress |
|------------------|-----------------|-----------------|----------------------------|---|-----------|-------------------|
| Court | Complainant | The accused | Contents | | cost | situation |
| Seoul High Court | OO Kwon and | | | | | |
| | 918 others | | 2 Wages(*) | ₩ | 35,919 | The second trial |
| Supreme Court | OO Kim and | | | | | The third trial |
| and others | 58 others | | 4 Wages(*) | | 1,287 | / The first trial |
| Daegu District | OO Ki and | | | | | |
| Court | 8 others | | Wage(*) | | 225 | The first trial |
| Daegu District | OO Lim and | | 3 () | | | |
| Court | 11 others | | Wage(*) | | 60 | The first trial |
| Daegu District | OO Lee and | | 3 () | | | |
| Court | 4 others | | 2 Wages(*) | | 270 | The first trial |
| Seoul Central | OO Kang and | The Controlling | =ages() | | • | |
| District Court | 1,172 others | Company | 2 Wages(*) | | 290 | The first trial |
| Daegu District | OO Choi and | Company | 2 Wagoo() | | 200 | THO MOCUICA |
| Court and others | 309 others | | 9 Salary peak(*) | | 28,304 | The first trial |
| Seoul High Court | OO Choi and | | o calary peak() | | 20,004 | The first trial |
| and others | 296 others | | 4 Wages(*) | | 1,388 | THE HIST THAI |
| Seoul Central | OO Kang and | | + Wages() | | 1,500 | |
| District Court | | | 1 Detiroment pension | | 16 520 | The first trial |
| | 3,909 others | | 1 Retirement pension | | 16,530 | The ilist that |
| Seoul High Court | S&TC and others | | 1 Cancellation of vendor's | | 0.004 | T I 1411 |
| | | | contract | | 2,391 | The second trial |
| Seoul High Court | OO Hong and | | 45 cases, including | | | |
| and others | 64 others | | compensation for damages | | 8,969 | Lawsuit pending |

(*) As of March 31, 2022, the Group has a total of 12 ordinary wage-related, 9 salary peak system-related lawsuits and 4 other wage-related lawsuits pending at the Seoul High Court and others. On February 3, 2017, 2 cases were judged in the first trial; on December 31, 2017, 1 case was in the second trial and some of the plaintiffs won. The Group has paid the liability related to ordinary wages in 2017 and determines that the contingent liability associated with this case will not be significant.

The Group has reserved \$\pmu16,755\$ million of provisions for litigation in respect to current ongoing litigations. Although the final results cannot be predicted for case other than cases for which provisions for litigation are recognized, management expects that the outcome of the lawsuit will not have a significant impact on the Group's operations or financial status.

The Group determined that there is no present obligation regarding the payment of the periodic pre-work for main facilities by a particular client in relation to the Shin-Hanul Units 3 and 4 as of March 31, 2022. In addition, the Group determines that the probability of winning a lawsuit in the future is higher than that of losing it. Furthermore, the Group cannot reliably estimate the amount required to meet the obligations as of March 31, 2022.

As of March 31, 2022, the Group was sued by 3,909 people for "Commitment to contributions in retirement pension and claims for severance pay" and is in the process of the first trial. The Group has recognized a provision for litigation of \$41,730 million.

40. Commitment and contingencies (cont'd)

Lines of credit provided by financial institutions as of March 31, 2022 are as follows (Korean won in millions, USD and EUR in thousands):

| Description | Financial institution | Currency | Limit |
|---|---------------------------|----------|---------|
| Commitments on Bank-overdraft | Woori Bank | KRW | 50,000 |
| | Nonghyup Bank | KRW | 100,000 |
| | Hana Bank | KRW | 50,000 |
| | Kookmin Bank | KRW | 100,000 |
| | Korea Development Bank | KRW | 100,000 |
| Trade finance | Sumitomo Mitsui Banking | | |
| | Corporation | USD | 100,000 |
| | The Export-Import | | |
| | Bank of Korea | USD | 100,000 |
| | DBS Bank | USD | 150,000 |
| | Societe Generale | USD | 100,000 |
| | Standard Chartered | USD | 150,000 |
| | Kookmin Bank | USD | 100,000 |
| | Shinhan Bank | USD | 120,000 |
| | Credit Agricole | USD | 100,000 |
| Certification of payment on L/C | Nonghyup Bank | USD | 50,000 |
| Certification of performance guarantee on | National Bank of Pakistan | USD | 477 |
| contract | Hana Bank | KRW | 51,000 |
| | Nonghyup Bank | USD | 20,000 |
| Loan limit | Korea Development Bank | | |
| | and others | KRW | 251,600 |
| | Kookmin Bank and others | KRW | 230,800 |
| | Woori Bank and others | KRW | 3,600 |
| | Industrial Bank of | | |
| | Korea and others | KRW | 6,000 |
| | Woori Bank and others | KRW | 1,600 |
| Limit amount available for card | Nonghyup Card Co., Ltd. | KRW | 13,104 |
| | Woori Card Co., Ltd. | KRW | 4,400 |
| Certification of bidding | Nonghyup Bank | EUR | 230 |
| Others | Industrial Bank of Korea | KRW | 20,020 |
| | Shinhan Bank | KRW | 10,000 |
| | Hana Bank | KRW | 8,000 |
| | Nonghyup Bank | KRW | 25,000 |
| | Woori Bank | KRW | 5,000 |

40. Commitment and contingencies (cont'd)

The Group voluntarily suspended operations of the Gangneung hydroelectric generating plant, with a carrying amount of \$\pmu67,517\$ million as of March 31, 2022, to improve the quality of water used in generating electricity. The expenses related to the suspension of operations of \$\pmu254\$ million and depreciation on the utility plant amounting to \$\pmu8890\$ million are charged to other expenses for the three months ended March 31, 2022. Regarding the improvement of water quality, the results of damages compensation for the local residents cannot be reasonably estimated, and the Group is under negotiations with Gangneung City and related stakeholders to restart the Gangneung hydroelectric generating plant as of March 31, 2022.

Major contracts related to constructions:

Agreements for the purchase of property, plant and equipment as of March 31, 2022 and December 31, 2021 are as follows (Korean won in millions)

 $\frac{\text{March 31,}}{2022} \frac{\text{December 31,}}{2022}$ Agreements for the purchase of property, plant and equipment(*) $\frac{\text{March 31,}}{\text{W}} \frac{\text{19,694,156}}{19,694,156} \frac{\text{December 31,}}{\text{W}} \frac{\text{19,545,547}}{19,545,547}$

(*) The above amount is the total business standard amount of the construction work.

Contractual amounts for construction of Shin-Kori units (#5,6) and Shin-Hanul units (#1,2) as of March 31, 2022 and December 2021 are as follows (Korean won in millions):

| | March 31, 2022 | | | | December 31, 2021 | | | |
|---|----------------|---|---|---|---|---|---|--|
| _ | | | Remaining balance | (| Contractual amounts | Remaining balance | | |
| ₩ | 9,800,424 | ₩ | 3,199,695 | ₩ | 9,800,424 | ₩ | 3,479,667 | |
| | 9,893,732 | | - | | 9,745,123 | | = | |
| ₩ | 19,694,156 | ₩ | 3,199,695 | ₩ | 19,545,547 | ₩ | 3,479,667 | |
| | ₩ | Contractual amounts ₩ 9,800,424 9,893,732 | Contractual amounts ₩ 9,800,424 ₩ 9,893,732 | Contractual amounts Remaining balance ₩ 9,800,424 ₩ 3,199,695 9,893,732 - | Contractual amounts Remaining balance ₩ 9,800,424 ₩ 3,199,695 ₩ 9,893,732 - | Contractual amounts Remaining balance Contractual amounts ₩ 9,800,424 ₩ 3,199,695 ₩ 9,800,424 9,893,732 - 9,745,123 | Contractual amounts Remaining balance Contractual amounts W 9,800,424 W 3,199,695 W 9,800,424 W 9,800,424 9,893,732 - 9,745,123 | |

The Group has various purchase commitments for uranium, and the details of the major contracts as of March 31, 2022 are as follows:

| | Contract Year | Quantity | |
|-----------------------------------|---------------|-----------------|--|
| Concentrate | 2022 ~ 2033 | 26,310 Ton U3O8 | |
| Transformation | 2022 ~ 2030 | 19,012 Ton U | |
| Enrichment | 2022 ~ 2032 | 21,434 Ton SWU | |
| Fabrication (light-water reactor) | 2021 ~ 2022 | 805 Ton U | |
| Fabrication (heavy-water reactor) | 2021 ~ 2022 | 405 Ton U | |
| Fabrication (initial core) | 2014 ~ 2023 | 208 Ton U | |

40. Commitment and contingencies (cont'd)

Details of collateral provided by the Group for long-term borrowings as of March 31, 2022 are as follows (Korean won in millions):

| | Type | Loar | n amounts | Lo | oan limit | а | aximum mount aranteed | Financial institution |
|--------------------------|---------------|------|-----------|----|-----------|---|-----------------------------|-----------------------------------|
| Long-term borrowings(*1) | Facility loan | ₩ | 116,690 | ₩ | 251,600 | ₩ | 327,080 | Korea Development Bank and others |
| Long-term borrowings(*2) | Facility loan | | 226,551 | | 230,800 | | 276,960 | Kookmin Bank and others |
| | • | ₩ | 343,241 | ₩ | 482,400 | ₩ | 604,040 | |

^(*1) As of March 31, 2022, all shares of Gyeonggi Green Energy Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above by shareholders, including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledge for plants and other pledges were established.

Uncertainties relating to Covid-19

In order to prevent the spread of Covid-19, various prevention and control measures including restrictions on movement are being implemented worldwide, and as a result, the global economy is widely affected. In addition, the government has announced various support measures to cope with the impact of Covid-19.

The items affected by Covid-19 are primarily impairment of inventories, property, plant and equipment and intangible assets, recognition of provisions and the realizability of deferred tax. The Group prepared its consolidated financial statements by reasonably estimating the impact of Covid-19 on the Group. However, in Covid-19 circumstances, there is an uncertainty exist in estimating the duration of Covid-19 and its impact on the Group.

Uncertainties relating to the current conflict in Ukraine

The ongoing armed conflict in Ukraine area which began in February 2022 and international sanctions imposed against Russia may impact sanctioned entitles, entities doing business with Ukraine or Russia as well as entities exposed directly or indirectly to industries or economy of Ukraine or Russia. The events described above represent non-adjusting events after the reporting period. The Group cannot make a reasonable estimation of financial impact of the recent conflict in Ukraine in the future.

41. Events after the reporting period

The Group has issued new bonds for use as the facility loans after the end of reporting period, and the details of the issuance are as follows (Korean won in millions):

| Туре | Issue date | Maturity | Interest rate | Aı | mount |
|----------------------|------------|------------|---------------|----|---------|
| Corporate bond #65-1 | 2022.04.22 | 2027.04.22 | 22 3.68% | | 30,000 |
| Corporate bond #65-2 | 2022.04.22 | 2042.04.22 | 3.84% | | 60,000 |
| Corporate bond #65-3 | 2022.04.22 | 2052.04.22 | 3.72% | | 20,000 |
| | | | | ₩ | 110,000 |

^(*2) As of March 31, 2022, all shares of Incheon Fuel Cell Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above by shareholders, including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledge for plants and other pledges were established.



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Independent auditor's report

The Shareholder and Board of Directors Korea Hydro & Nuclear Power Co., Ltd.

Opinion

We have audited the consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (the "Group"), which comprise the consolidated statements of financial position as of December 31, 2021 and 2020, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2021 and 2020, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

Basis for opinion

We conducted our audit in accordance with Korean Auditing Standards ("KGAAS"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements, and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of matter

We draw attention to Note 2 to the consolidated financial statements, which describes that the Group has prepared its consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS") where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Our opinion is not modified in respect of this matter.



Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KGAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KGAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due
 to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence
 that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material
 misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion,
 forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business
 activities within the Group to express an opinion on the consolidated financial statements. We are responsible
 for the direction, supervision and performance of the group audit. We remain solely responsible for our audit
 opinion.



We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ernst Joung Han Young

March 14, 2022

This audit report is effective as of March 14, 2022, the independent auditor's report date. Accordingly, certain subsequent events or circumstances, which may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of financial position as of December 31, 2021 and 2020

(Korean won in millions)

| | Notes | December 31, 2021 | December 31, 2020 |
|--|-------------|--------------------------|--------------------------|
| Assets | | | |
| Current assets: | | | |
| Cash and cash equivalents | 5,36 | ₩ 362,428 | ₩ 316,072 |
| Current financial assets, net | 6,9,36 | 382,131 | 402,101 |
| Trade and other receivables, net | 7,36 | 1,229,348 | 1,382,498 |
| Inventories | 10 | 5,438,788 | 5,111,674 |
| Current tax assets | | 15 | 1 |
| Current non-financial assets | 11 | 110,211 | 114,668 |
| Total current assets | | 7,522,921 | 7,327,014 |
| Non-current assets: | | | |
| Non-current financial assets, net | 6,8,9,36 | 1,445,543 | 1,167,684 |
| Non-current trade and other receivables, net | 7,36 | 35,815 | 49,795 |
| Property, plant and equipment, net | 13,15,19,22 | 53,586,924 | 51,501,703 |
| Intangible assets, net | 14,15,22 | 134,842 | 136,550 |
| Investments in associates and joint ventures | 12 | 206,947 | 180,923 |
| Deferred tax assets | 33 | 1,718,015 | 1,488,615 |
| Non-current non-financial assets | 11 | 484,731 | 432,102 |
| Total non-current assets | | 57,612,817 | 54,957,372 |
| Total assets | | ₩ 65,135,738 | ₩ 62,284,386 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of financial position as of December 31, 2021 and 2020 (cont'd)

(Korean won in millions)

| | Notes | December 31, 2021 | | Dece | mber 31, 2020 |
|--|------------|--------------------------|------------|--------------|---------------|
| Liabilities | | | | | |
| Current liabilities: | | | | | |
| Trade and other payables | 17,19,36 | ₩ | 1,046,374 | \mathbf{W} | 1,157,933 |
| Current financial liabilities, net | 6,16,18,36 | | 2,345,903 | | 1,512,327 |
| Current tax liabilities | 33 | | 55,793 | | 268,465 |
| Current non-financial liabilities | 23 | | 61,949 | | 101,605 |
| Current provisions | 21 | | 998,944 | | 962,583 |
| Total current liabilities | | | 4,508,963 | | 4,002,913 |
| Non-current liabilities: | | | | | |
| Non-current trade and other payables | 17,19,36 | | 2,137,076 | | 2,442,577 |
| Non-current financial liabilities, net | 6,16,18,36 | | 9,897,780 | | 9,698,563 |
| Non-current non-financial liabilities | 23 | | 5,065 | | 5,065 |
| Employee benefit obligation | 20 | | 252,936 | | 280,584 |
| Non-current provisions | 21 | | 22,025,263 | | 19,648,709 |
| Total non-current liabilities | | | 34,318,120 | | 32,075,498 |
| Total liabilities | | | 38,827,083 | | 36,078,411 |
| Equity | | | | | |
| Contributed capital | 24 | | 10,704,515 | | 10,704,515 |
| Retained earnings | 25 | | 15,584,941 | | 15,518,793 |
| Other components of equity | 26 | | (9,779) | | (44,466) |
| Equity attributable to owners | | | | | <u> </u> |
| of the parent | | | 26,279,677 | | 26,178,842 |
| Non-controlling interests | | | 28,978 | | 27,133 |
| Total equity | | | 26,308,655 | | 26,205,975 |
| Total liabilities and equity | | ₩ | 65,135,738 | ₩ | 62,284,386 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of comprehensive income for the years ended December 31, 2021 and 2020

(Korean won in millions, except for earnings per share)

| (Nordan non minoro, exception dammigs per enale) | | | | | |
|---|---------|---|-----------|---|-----------|
| | Notes | | 2021 | | 2020 |
| Sales | 4,27 | ₩ | 9,469,081 | ₩ | 9,999,713 |
| Cost of sales | 34 | | 8,448,172 | | 8,467,070 |
| Gross profit | | | 1,020,909 | | 1,532,643 |
| Selling and administrative expenses | 28,34 | | 216,470 | | 216,809 |
| Operating profit | | | 804,439 | | 1,315,834 |
| Other income | 29 | | 47,431 | | 61,394 |
| Other expenses | 29 | | 63,652 | | 172,730 |
| Other losses, net | 30 | | (12,559) | | (55,589) |
| Finance income | 6,31,36 | | 391,880 | | 260,528 |
| Finance costs | 6,32,36 | | 797,716 | | 638,765 |
| Loss on investments in associates and joint ventures, net | 12 | | (17,135) | | (4,636) |
| Profit before income tax | | | 352,688 | | 766,036 |
| Income tax expense | 33 | | 65,985 | | 148,094 |
| Profit for the year | | | 286,703 | | 617,942 |
| Other comprehensive income (net of tax): | | | | | |
| Other comprehensive income that will not be reclassified to | | | | | |
| profit or loss in subsequent periods: | 33 | | | | |
| Remeasurement gain on defined benefit plans | 20 | | 52,781 | | 30,569 |
| Share of other comprehensive income (loss) of associates and joint ventures | | | 2 | | (1) |
| Gain (loss) on valuation of financial assets at fair value | 0.00 | | 20 570 | | (0.760) |
| through other comprehensive income Other comprehensive income that may be reclassified to | 8,26 | | 39,576 | | (2,763) |
| profit or loss in subsequent periods: | | | | | |
| Gain (loss) from translation of foreign operations | 26 | | 1,819 | | (998) |
| Share of other comprehensive loss of | | | | | |
| associates and joint venture | 12,26 | | (1,173) | | (770) |
| Other comprehensive income, net of tax | | | 93,005 | | 26,037 |
| Total comprehensive income, net of tax | | ₩ | 379,708 | ₩ | 643,979 |
| Profit (loss) for the year attributable to: | | | | | |
| Owners of the parent | | ₩ | 288,748 | ₩ | 622,218 |
| Non-controlling interests | | | (2,045) | | (4,276) |
| | | ₩ | 286,703 | ₩ | 617,942 |
| Total comprehensive income (loss) for the year attributable to: | | | | | |
| Owners of the parent | | ₩ | 380,756 | ₩ | 648,245 |
| Non-controlling interests | | | (1,048) | | (4,266) |
| | | ₩ | 379,708 | ₩ | 643,979 |
| Earnings per share in Korean won: | | | | | |
| Basic earnings per share | 35 | ₩ | 1,191 | ₩ | 2,566 |

| Capital Capi | | c | ontributed | | Retained | C | Other omponents | | Equity ributable to vners of the | (| Non- controlling | |
|--|---|-----|------------|----|------------|-----|-----------------|-----|--|-----|---------------------|---------------|
| Total comprehensive income (loss) Profit (loss) for the year Forti (loss) for th | | *** | capital | | earnings | | of equity | *** | parent | 777 | interests | Total equity |
| Profit (loss) for the year Items that will not be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans Share of other comprehensive loss of associates and joint ventures Capability C | • • | ₩ | 10,704,515 | ₩ | 14,972,697 | ₩ | (39,900) | ₩ | 25,637,312 | ₩ | 28,565 | ₩ 25,665,877 |
| Internshat will not be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans Share of other comprehensive loss of associates and joint ventures (1) (1 | | | | | | | | | | | | |
| Remeasurement gain on defined benefit plans Share of other comprehensive loss of associates and joint ventures Capital | | | - | | 622,218 | | - | | 622,218 | | (4,276) | 617,942 |
| Remeasurement gain on defined benefit plans Share of other comprehensive loss of associates and joint ventures Capability Capab | | | | | | | | | | | | |
| Share of other comprehensive loss of associates and joint ventures and | · | | | | | | | | | | | |
| And point ventures | Remeasurement gain on defined benefit plans | | - | | 30,563 | | - | | 30,563 | | 6 | 30,569 |
| Loss on valuation of financial assets at fair value through OCI Items that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of associates and joint ventures Capta | Share of other comprehensive loss of associates | | | | | | | | | | | |
| through OCI 1 | and joint ventures | | - | | (1) | | - | | (1) | | - | (1) |
| Remain Hand may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations | Loss on valuation of financial assets at fair value | | | | | | | | | | | |
| Profit or loss in subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of associates and joint ventures Share of other comprehensive loss of associates and joint ventures Share of other comprehensive loss of associates and joint ventures Share of other comprehensive loss of translations with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries Share of other comprehensive loss of subsidiaries Share of other comprehensive loss of subsidiaries Share of other comprehensive loss of subsidiaries Share of other comprehensive income (loss) Share of other comprehensive income of associates and joint ventures Share of other comprehensive income of associates and joint ventures Share of other comprehensive loss of subsequent periods: Gain (loss) for the comprehensive income of associates and joint ventures Share of other comprehensive loss of subsequent periods: Gain on valuation of financial assets at fair value through OCI Items that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive loss of subsidiaries Share of other comprehensi | through OCI | | - | | - | | (2,763) | | (2,763) | | - | (2,763) |
| Cain (loss) from translation of foreign operations Share of other comprehensive loss of associates and joint ventures Cain (loss) Cain | Items that may be reclassified to | | | | | | | | | | | |
| Share of other comprehensive loss of associates and joint ventures | profit or loss in subsequent periods: | | | | | | | | | | | |
| Share of other comprehensive loss of associates and joint ventures | Gain (loss) from translation of foreign operations | | - | | - | | (1,002) | | (1,002) | | 4 | (998) |
| Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries Changes in consolidation scope Changes in changes in consolidation scope Changes in consolidation scope Ch | Share of other comprehensive loss of | | | | | | , , , | | | | | , , |
| Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries Changes in consolidation scope Changes in changes in consolidation scope Changes in consolidation scope Ch | associates and joint ventures | | _ | | _ | | (770) | | (770) | | _ | (770) |
| recognized directly in equity: Paid-in capital increase of subsidiaries Changes in consolidation scope Dividends Others Others Others Others As of December 31, 2020 As of December 31, 2020 Profit (106,875) As of January 1, 2021 Total comprehensive income (loss) Profit (10ss) for the year 1,000 the year | • | | | | | | (- / | | (- / | | | (- / |
| Paid-in capital increase of subsidiaries - - - - - - 2,815 3,815 2,815 3,815 | • | | | | | | | | | | | |
| Changes in consolidation scope | , , , | | _ | | _ | | _ | | _ | | 19 | 19 |
| Dividends | | | _ | | _ | | _ | | _ | | | |
| Others | | | | | (106 675) | | | | (106 675) | | 2,0.0 | , |
| As of December 31, 2020 As of January 1, 2021 As of January 1, 2021 Total comprehensive income (loss) Profit (loss) for the year Items that will not be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans Share of other comprehensive income of associates and joint ventures Gain on valuation of financial assets at fair value through OCI Items that may be reclassified to profit or loss in subsequent periods: Gain (loss) form translation of foreign operations Share of other comprehensive income of associates and joint ventures Gain floss) from translation of foreign operations Share of other comprehensive income of associates associates and joint ventures Gain (loss) from translation of foreign operations Share of other comprehensive loss of associates and joint ventures Gain (loss) from translation of foreign operations Share of other comprehensive loss of associates and joint ventures Paid-in capital increase of subsidiaries Paid-in capital increase of subsidiaries Paid-in capital increase of subsidiaries Share of Others Others W 10,704,515 W 15,518,793 W (44,466) W 26,178,842 W 27,133 W 26,205,975 W 26,205,975 W 15,518,793 W (44,466) W 26,178,842 W 27,133 W 26,205,975 W 26,205,975 W 286,703 Sa8,703 28 52,781 2 | | | | | , , | | (31) | | , , | | | , |
| As of January 1, 2021 W 10,704,515 W 15,518,793 W (44,466) W 26,178,842 W 27,133 W 26,205,975 Total comprehensive income (loss) Profit (loss) for the year | | w | 10 704 515 | w | | w | | w | | w | | |
| Profit (loss) for the year - 288,748 - 288,748 (2,045) 286,703 18 18 18 18 18 18 18 1 | • | 137 | , , | | | | . , , | | | | | |
| Profit (loss) for the year - 288,748 - 288,748 (2,045) 286,703 Items that will not be reclassified to profit or loss in subsequent periods: - - - - - - - 52,753 28 52,781 - 52,753 28 52,781 - | · · | *** | 10,704,515 | ** | 10,010,733 | *** | (44,400) | ** | 20,170,042 | ** | 27,100 | 11 20,200,510 |
| Items that will not be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans 52,753 - 52,753 28 52,781 Share of other comprehensive income of associates and joint ventures - 2 - 2 - 2 Gain on valuation of financial assets at fair value through OCI - 38,602 38,602 974 39,576 Items that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations - 1,824 1,824 (5) 1,819 Share of other comprehensive loss of associates and joint ventures - 1,824 1,824 (5) 1,819 Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) 2,929 2,929 Dividends - 26,7779 - 2,7779 - 2,7779 Others - 36 (178) (142) (36) (178) | | | | | 200 740 | | | | 200 740 | | (2.045) | 206 702 |
| profit or loss in subsequent periods: Remeasurement gain on defined benefit plans Share of other comprehensive income of associates and joint ventures and joint ventures | • , , | | - | | 200,740 | | - | | 200,740 | | (2,043) | 200,703 |
| Remeasurement gain on defined benefit plans - 52,753 - 52,753 28 52,781 Share of other comprehensive income of associates - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 2 - 2 - 2 2 - 2 - 2 2 - 2 - 2 2 - 2 - 2 2 - 2 - 2 2 - 2 2 - 2 - 2 - 2 - 2 - 2 - - 38,602 974 39,576 1819 - - - - - - - - - - - - - - - - - - -< | | | | | | | | | | | | |
| Share of other comprehensive income of associates and joint ventures - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - | · | | | | | | | | | | | =0 =0.4 |
| and joint ventures - 2 - 2 - 2 - 2 - 2 - 2 Gain on valuation of financial assets at fair value through OCI - 38,602 38,602 974 39,576 ltems that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations - 1,824 1,824 (5) 1,819 Share of other comprehensive loss of associates and joint ventures - 1,824 1,824 (5) 1,819 (1,173) Share of other comprehensive loss of associates and joint ventures - 2,829 2,929 (1,173) 1,739 1,73 | | | - | | 52,753 | | - | | 52,753 | | 28 | 52,781 |
| Gain on valuation of financial assets at fair value through OCI - - 38,602 38,602 974 39,576 Items that may be reclassified to profit or loss in subsequent periods: | • | | | | _ | | | | _ | | | _ |
| through OCI ltems that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations | | | - | | 2 | | - | | 2 | | - | 2 |
| Items that may be reclassified to profit or loss in subsequent periods: Gain (loss) from translation of foreign operations - - 1,824 1,824 (5) 1,819 Share of other comprehensive loss of associates and joint ventures - - (1,173) (1,173) Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries - - - 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - - Dividends - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | | | | | | | | | | | | |
| profit or loss in subsequent periods: Gain (loss) from translation of foreign operations 1,824 1,824 (5) 1,819 Share of other comprehensive loss of associates and joint ventures (1,173) (1,173) - (1,173) Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) 2 Dividends - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | | | - | | - | | 38,602 | | 38,602 | | 974 | 39,576 |
| Gain (loss) from translation of foreign operations - - 1,824 1,824 (5) 1,819 Share of other comprehensive loss of associates and joint ventures - - - (1,173) (1,173) - (1,173) Transactions with owners of the parent recognized directly in equity: - - - - - 2,929 2,929 Paid-in capital increase of subsidiaries - - - - 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - - Dividends - 2(279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | | | | | | | | | | | | |
| Share of other comprehensive loss of associates and joint ventures - (1,173) (1,173) - (1,173) Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) 2 Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | | | | | | | | | | | | |
| associates and joint ventures - - (1,173) (1,173) - (1,173) Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries - - - - 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - - - Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | ` , | | - | | - | | 1,824 | | 1,824 | | (5) | 1,819 |
| Transactions with owners of the parent recognized directly in equity: Paid-in capital increase of subsidiaries - - - 2,929 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - - Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | Share of other comprehensive loss of | | | | | | | | | | | |
| recognized directly in equity: Paid-in capital increase of subsidiaries Disposals of financial assets at fair value through OCI Dividends Cappa 2,929 2 | associates and joint ventures | | - | | - | | (1,173) | | (1,173) | | - | (1,173) |
| Paid-in capital increase of subsidiaries - - 2,929 Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | Transactions with owners of the parent | | | | | | | | | | | |
| Disposals of financial assets at fair value through OCI - 4,388 (4,388) - - - - Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | recognized directly in equity: | | | | | | | | | | | |
| Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | Paid-in capital increase of subsidiaries | | - | | - | | - | | - | | 2,929 | 2,929 |
| Dividends - (279,779) - (279,779) - (279,779) Others - 36 (178) (142) (36) (178) | | | - | | 4,388 | | (4,388) | | - | | - | - |
| Others - 36 (178) (142) (36) (178) | | | - | | | | - | | (279,779) | | - | (279,779) |
| | Others | | - | | 36 | | (178) | | (142) | | (36) | (178) |
| | As of December 31, 2021 | ₩ | 10,704,515 | ₩ | | ₩ | | ₩ | | ₩ | | |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2021 and 2020

(Korean won in millions)

| | | 2021 | | 2020 |
|---|-----|-----------|-----|-----------|
| Operating activities | *** | 200 700 | *** | 047.040 |
| Profit for the year | ₩ | 286,703 | ₩ | 617,942 |
| Adjustments for: | | 65.004 | | 140.004 |
| Income tax expense | | 65,984 | | 148,094 |
| Depreciation of property, plant and equipment | | 2,449,361 | | 2,346,537 |
| Amortization of nuclear fuel | | 1,164,054 | | 1,206,193 |
| Amortization of intangible assets | | 31,883 | | 30,653 |
| Depreciation of idle assets | | 3,621 | | 6,604 |
| Retirement benefits | | 94,197 | | 94,234 |
| Other bad debt expense | | 1,038 | | - |
| Loss on investments in associates and joint ventures, net | | 17,136 | | 4,637 |
| Loss on disposal of property, plant and equipment | | 45,619 | | 78,179 |
| Loss on inventory obsolescence | | 91 | | 28 |
| Loss on disposal of inventories | | 5,555 | | 34,865 |
| Provision for greenhouse gas emission | | - | | 927 |
| Provisions for decommissioning costs | | 264,930 | | 216,747 |
| Provisions for litigation | | - | | 11,730 |
| Other provisions | | 54,619 | | 178,353 |
| Provisions for employee benefits | | 228,311 | | 283,295 |
| Interest expense | | 491,649 | | 513,195 |
| Loss on sale of financial assets | | 10 | | - |
| Loss on valuation of financial assets at fair value through | | 0.700 | | 545 |
| profit or loss | | 3,722 | | 515 |
| Loss on valuation of derivative instruments | | - | | 101,150 |
| Loss on transactions of derivative instruments | | 6,355 | | 11,386 |
| Loss on foreign currency translation | | 265,606 | | 15,783 |
| Loss from lease cancellation | | 458 | | - |
| Miscellaneous losses | | 3,322 | | 2 |
| Gain on disposal of property, plant and equipment | | (22,772) | | (4,428) |
| Gain on disposal of inventories | | (73) | | - |
| Gain on valuation of inventories | | (22) | | (9) |
| Gain on reversal of inventories | | (93) | | (2,203) |
| Gain on assets contributed | | (105) | | - |
| Gain from infrastructure fund | | (1) | | = |
| Reversal of provisions for decommissioning costs | | (11,274) | | - |
| Reversal of provisions for greenhouse gas emission | | (927) | | - |
| Reversal of provisions for litigation | | ` - | | (25) |
| Interest income | | (22,344) | | (24,988) |
| Dividend income | | (5,654) | | (5,269) |
| Gain on sale of financial assets | | (344) | | (484) |
| Gain on valuation of financial assets at fair value | | , , | | , , |
| through profit or loss | | (6,608) | | (5,037) |
| Gain on valuation of derivative instruments | | (313,629) | | (13,107) |
| Gain on transactions of derivative instruments | | (33,662) | | (26,878) |
| Gain on foreign currency translation | | (11,240) | | (186,128) |
| Gain from lease cancellation | | (265) | | (6) |
| Miscellaneous gains | | (511) | | - |
| Gain on disposal of assets held for sale | | - | | (4,457) |
| | ₩ | 4,767,997 | ₩ | 5,010,088 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2021 and 2020 (cont'd)

(Korean won in millions)

| | | 2021 | | 2020 |
|---|---|-------------|---|-------------|
| Changes in operating assets and liabilities: | | | | |
| Current trade receivables | ₩ | 242,908 | ₩ | (112,985) |
| Current non-trade receivables | | (8,590) | | (5,099) |
| Current accrued income | | (91,439) | | (11,987) |
| Current advanced payments | | (7,306) | | (24,777) |
| Current prepaid expenses | | (2,168) | | 19,705 |
| Contract assets | | - | | 2,151 |
| Other current non-financial assets | | 13,359 | | (4,345) |
| Inventories | | (1,241,413) | | (1,372,804) |
| Current guarantee deposits | | 1,049 | | = |
| Current trade payables | | (101,042) | | 112,629 |
| Current other payables | | (353,992) | | (292,553) |
| Current accrued expenses | | (424,905) | | (388,787) |
| Current leasehold deposits received | | 60 | | (3) |
| Current other deposits received | | (513) | | (3,188) |
| Current advance received | | 225 | | - |
| Current withholdings | | (2,384) | | 5,738 |
| Current unearned revenue | | 958 | | 1,243 |
| Non-current other payables | | (63,933) | | 21,984 |
| Other current non-financial liabilities | | (38,466) | | 35,391 |
| Other non-current non-financial assets | | - | | 115 |
| Provisions for power plant regional support program | | (47,280) | | (42,935) |
| Provisions for employee benefits | | (238, 329) | | (247,548) |
| Provisions for litigation | | (380) | | (9,389) |
| Provisions for decommissioning cost of nuclear plants Provisions for disposal of low and | | (59,209) | | (47,734) |
| intermediate-level radioactive waste | | (50,084) | | (67,048) |
| Provisions for others | | (18,031) | | (2,018) |
| Other long-term employee benefits liabilities | | (207) | | (170) |
| Payment of retirement benefits | | (44,082) | | (30,548) |
| Changes in plan assets | | (15,843) | | (72,251) |
| | | (2,551,037) | | (2,537,213) |
| Interest received | | 23,107 | | 20,752 |
| Interest paid | | (345,530) | | (346,921) |
| Dividends received | | 5,293 | | 2,545 |
| Income tax paid | | (531,220) | | (340,403) |
| Net cash flows provided by operating activities | W | 1,655,313 | ₩ | 2,426,790 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2021 and 2020 (cont'd)

(Korean won in millions)

| | 2021 | 2020 |
|--|-------------|---------------|
| Investing activities | | |
| Acquisition of current financial assets at fair value | | |
| through profit or loss ₩ | (1,556,850) | ₩ (1,661,157) |
| Proceeds from disposal of current financial assets | | |
| at fair value through profit or loss | 1,656,050 | 1,530,077 |
| Acquisition of short-term financial instruments | (107,002) | (22,002) |
| Proceeds from disposal of short-term financial instruments | 108,000 | 20,000 |
| Acquisition of short-term loans | (7,716) | (61,500) |
| Collection of short-term loans | 462 | 61,878 |
| Increase in current guarantee deposits | - | (132,852) |
| Collection of current guarantee deposits | 1 | 131,186 |
| Acquisition of non-current financial assets at fair value | | |
| through profit or loss | (217,210) | (324,273) |
| Proceeds from disposal of non-current financial assets | | |
| at fair value through profit or loss | 266,674 | 295,960 |
| Acquisition of non-current financial assets at fair value | | |
| through other comprehensive income | (9,376) | (3,400) |
| Proceeds from disposal of non-current financial assets | | |
| at fair value through other comprehensive income | 8,386 | - |
| Acquisition of long-term financial instruments | (185,365) | (37,818) |
| Proceeds from disposal of long-term financial instruments | 110,673 | 30,088 |
| Increase in long-term loans | (15,120) | (15,317) |
| Collection of long-term loans | 12,061 | 13,880 |
| Increase in long-term guarantee deposits | (57,408) | (34,102) |
| Collection of long-term guarantee deposits | 74,315 | 54,580 |
| Payment of non-current advanced payments | (191,864) | (137,051) |
| Acquisition of investments in associates and joint ventures | (45,323) | (67,481) |
| Proceeds from disposal of investments in associates and joint ventures | 413 | 99 |
| Proceeds from disposal of non-current assets held for sale | - | 27,459 |
| Acquisition of land | (754) | (9,339) |
| Proceeds from disposal of land | 6,994 | 6,118 |
| Acquisition of buildings | (867) | (2,976) |
| Proceeds from disposal of buildings | 907 | 995 |
| Acquisition of structures | _ | (6) |
| Proceeds from disposal of structures | 121 | - |
| Acquisition of machineries | (11,312) | (17,115) |
| Proceeds from disposal of machineries | 535 | - |
| Proceeds from disposal of ships | 56 | - |
| Acquisition of vehicles | (1,592) | (1,068) |
| Proceeds from disposal of vehicles | 290 | 61 |
| Acquisition of fixtures and furniture | (40,702) | (46,532) |
| Proceeds from disposal of fixtures and furniture | 9 | 11 |
| Acquisition of tools | (3,950) | (5,211) |
| Proceeds from disposal of tools | 27 | 7 |
| Acquisition of construction-in-progress | (1,915,836) | (2,481,690) |
| Acquisition of intangible assets | (27,491) | (32,375) |
| Net cash flows due to changes in consolidation scope | <u>-</u> | 2,239 |
| Net cash flows used in investing activities | (2,149,764) | ₩ (2,918,627) |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2021 and 2020 (cont'd)

(Korean won in millions)

| | | 2021 | | 2020 |
|--|---|-------------|---|-------------|
| Financing activities | | | | |
| Proceeds from short-term borrowings | ₩ | 984,038 | ₩ | 1,147,751 |
| Repayment of short-term borrowings | | (456, 324) | | (1,017,750) |
| Repayment of current portion of long-term borrowings | | (19,131) | | (18,253) |
| Repayment of current portion of long-term bonds | | (1,154,000) | | (500,000) |
| Proceeds from bonds issuance | | 1,349,015 | | 1,116,881 |
| Proceeds from long-term borrowings | | 63,868 | | 166,800 |
| Dividends paid | | (279,779) | | (106,675) |
| Settlement of derivative instruments | | 66,052 | | 15,296 |
| Decrease in lease liabilities | | (19,348) | | (31,050) |
| Paid-in capital increase of subsidiaries | | 2,929 | | 19 |
| Net cash flows provided by financing activities | | 537,320 | | 773,019 |
| Net foreign exchange difference | | 3,487 | | (25) |
| Net increase in cash and cash equivalents | | 46,356 | | 281,156 |
| Cash and cash equivalents at the beginning of year | | 316,072 | | 34,916 |
| Cash and cash equivalents at the end of year | ₩ | 362,428 | ₩ | 316,072 |

1. General information of the Company

1.1 The parent company

Korea Hydro & Nuclear Power Co., Ltd. ("KHNP" or the "Company") was incorporated on April 2, 2001 through the split-off of the power generation division of Korea Electric Power Corporation ("KEPCO") in accordance with the Act on Promotion of Restructuring the Electric Power Industry. As of December 31, 2021, KHNP owns and operates 24 nuclear generating units (23,250MW), 37 hydroelectric generating units (607MW), 16 pumped-storage facilities (4,700MW) and 46 new renewable energy generating units (63MW). As of December 31, 2021, KHNP's generation capacity is 123 total units (28,620MW).

As of December 31, 2021, KEPCO holds 100% of KHNP's outstanding shares.

1.2 Consolidated subsidiaries

Details of consolidated subsidiaries as of December 31, 2021 and 2020 are as follows:

| | | | | Percentage of ownership | |
|--|---|----------|----------------|-------------------------|--------------|
| | Key operating | | | December 31, | December 31, |
| Company | activities | Location | Reporting date | 2021 | 2020 |
| KHNP Canada Energy Ltd. | Overseas Investment Electricity and heat | Canada | December 31 | 100.00% | 100.00% |
| Gyeonggi Green Energy Co., Ltd. Korea Imouraren Uranium | generation | Korea | December 31 | 62.01% | 62.01% |
| Investment Corp. (*1) Korea Waterbury Uranium | Overseas Investment | France | - | - | 100.00% |
| Limited Partnership | Overseas Investment Electricity and heat | Canada | December 31 | 70.00% | 70.00% |
| Incheon Fuel Cell Co., Ltd. | generation | Korea | December 31 | 60.00% | 60.00% |
| First Keepers Co., Ltd. | Facility management | Korea | December 31 | 100.00% | 100.00% |
| Secutec Co., Ltd. | Facility security | Korea | December 31 | 100.00% | 100.00% |
| KHNP USA LLC | Overseas Investment | USA | December 31 | 100.00% | 100.00% |
| Energy Innovation Growth Fund 1 | Investment Trust | Korea | December 31 | 67.42% | 67.42% |
| KHNP Chile SpA (*2) | Overseas Investment | Chile | December 31 | 100.00% | - |
| LSG Hydro Power Ltd. (*2) | Overseas Investment | Pakistan | December 31 | 99.80% | - |
| KHNP Spain, S.L. (*2) | Overseas Investment | Spain | December 31 | 100.00% | - |

^(*1) This entity is excluded from a subsidiary of the Group due to liquidation for the year ended December 31, 2021.

^(*2) This entity is newly included as a subsidiary of the Group due to new investment for the year ended December 31, 2021.

1. General information of the Company (cont'd)

1.2 Consolidated subsidiaries (cont'd)

Summarized financial information of subsidiaries as of and for the year ended December 31, 2021 is as follows (Korean won in millions):

| | | | | | | | Pr | ofit (loss) for |
|---------------------------------|---|---------|---|-------------|---|--------|----|-----------------|
| Company | | Assets | | Liabilities | | Sales | | the year |
| KHNP Canada Energy Ltd. | ₩ | 109,326 | ₩ | 25 | ₩ | - | ₩ | 29 |
| Gyeonggi Green Energy | | | | | | | | |
| Co., Ltd. | | 243,977 | | 224,132 | | 93,794 | | (5,588) |
| Korea Waterbury Uranium | | | | | | | | |
| Limited Partnership | | 20,920 | | 159 | | - | | (57) |
| Incheon Fuel Cell Co., Ltd. | | 259,111 | | 236,901 | | 46,034 | | 962 |
| First Keepers Co., Ltd. | | 17,152 | | 16,041 | | 77,189 | | 19 |
| Secutec Co., Ltd. | | 13,176 | | 10,662 | | 65,963 | | 1,774 |
| KHNP USA LLC | | 764 | | 8 | | 1,001 | | 267 |
| Energy Innovation Growth Fund 1 | | 22,616 | | 3,202 | | - | | (888) |
| KHNP Chile SpA | | 5,294 | | 3,879 | | - | | 17 |
| LSG Hydro Power Ltd. | | 1 | | - | | - | | - |
| KHNP Spain, S.L. | | 5 | | - | | - | | - |

Significant restrictions related to subsidiaries are as follows:

| | Significant Restrictions in Details |
|-----------------------------|--|
| Gyeonggi Green Energy | Acquisition or disposal of assets by more than \text{\psi}35 billion, change in the |
| Co., Ltd. | capacity of cogeneration units (except for the change due to performance |
| | improvement of equipment or maintenance) will require unanimous consent |
| | of all directors. |
| Incheon Fuel Cell Co., Ltd. | Acquisition or disposal of assets by more than \$\psi 20\$ billion, change in the capacity of cogeneration units (except for the change due to performance improvement of equipment or maintenance) will require unanimous consent of all directors. |

2. Basis of preparation

2.1 Statement of compliance

The consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (collectively referred to as the "Group") have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions pursuant to the *Act on the Management of Public Institutions* and the Decree on Accounting for Public Corporations and Quasi-governmental Institutions. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS"), a standard adopted in accordance with International Financial Reporting Standards by the Korean Accounting Standards Board, where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

The consolidated financial statements were authorized for issue by the Board of Directors on February 11, 2022, which will be submitted for approval to the shareholder's meeting to be held on March 25, 2022.

2.2 Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except for the following material items in the consolidated statement of financial position:

- ✓ Derivative financial instruments are measured at fair value
- ✓ Financial assets at fair value through other comprehensive income are measured at fair value.
- ✓ Financial assets at fair value through profit or loss are measured at fair value
- ✓ Liabilities for defined benefit plans are recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

2.3 Functional and presentation currency

The consolidated financial statements of the Group are prepared in functional currency of the respective operation. These consolidated financial statements are presented in Korean won, which is the Group's functional currency and the currency of the primary economic environment in which the Group operates.

2.4 Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with KIFRS requires management to make estimates and assumptions based on management's best judgment that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. At the end of the reporting period, if estimates and assumptions based on management's best judgment differ from the actual environment, actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

The followings are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

(i) Early shutdown of Wolsong unit 1 nuclear power plant and changes in new nuclear power plants construction

The 30-year designed life of Wolsong unit 1 nuclear power plant of the Group had expired on November 20, 2012. On February 27, 2015, however, approval from the Nuclear Safety and Security Commission (NSSC) was received to continue its operation until November 20, 2022.

2.4 Use of estimates and judgments (cont'd)

According to the Eighth Basic Plan for Electricity Supply and Demand announced by the Ministry of Trade, Industry and Energy, Wolsong unit 1 nuclear power plant was excluded from the supply facility and decided on the closing time during the first half of 2018. On June 15, 2018, the Board of Directors of the Company has decided to shut down the Wolsong unit 1 by assessing comprehensively the feasibility of continuing operation, such as economic efficiency and regional acceptance. On December 24, 2019, the Nuclear Safety and Security Commission (NSSC) deliberated and voted on a proposed change in the operation of the Wolsong unit 1 and finalized the change in operation (permanent suspension).

In addition, the Board of Directors of the Company has also decided to discontinue the construction of Cheonji unit 1 and 2 and Daejin unit 1 and 2 pursuant to the follow-up measures of government policy. For this reason, the Group recognized impairment loss on property, plant and equipment and other expenses during the year ended December 31, 2018. Among the new nuclear power plants under construction, Shin-Hanul unit 3 and 4, which were approved for power generation business, are not included in the decision to suspend construction approved by the Board of Directors of the Company; However, the Group determines that it is highly probable that the constructions will be suspended according to the government's recommendation. For this reason, the Group recognized impairment loss on property, plant and equipment during the year ended December 31, 2018 as the Group believes that there was a significant change in its operating environment.

The Korean government plans to compensate the Group for reasonable expenditures incurred in relation to the phase-out of nuclear power plants in accordance with the energy transformation policy established by the Korean government by utilizing available resources, such as relevant funds. Also, the Korean government amended the relevant regulations of providing compensation including basis, procedures, etc.

As of December 31, 2021, there is no indication that the impairment loss of the above-mentioned property, plant and equipment is no longer present or may have been reduced.

(ii) Useful lives of property, plant and equipment, estimation on provision for decommissioning costs

The Group reviews the estimated useful lives of property, plant and equipment at the end of each annual reporting period. Management's judgments could affect the determination of estimated economic useful lives.

The Group is required to record a liability for the dismantling (demolition) of nuclear power plants and disposal of spent fuel and low and intermediate radioactive wastes. When there is a possibility that resources may be leaked to fulfill the obligation, and the amount required to fulfill the obligation can be estimated reliably, it is recognized as a liability. The measurement of such liability is subject to change based on change in estimated cash flow, inflation rate, discount rate, and passage of time.

(iii) Income tax expense

The Group recognized current and deferred tax based on the best estimate for the income tax effects expected to be borne as a result of business activities up to the end of the reporting period. Actual future tax liability may not be consistent with the recognized assets and liabilities and this difference may affect current and deferred tax assets and liabilities at the time the final tax effect is finalized.

(iv) Valuations of financial instruments at fair values

When measuring the fair value of an asset or a liability, the Group uses inputs that are not based on observable market data. Information about the assumptions made in measuring fair values and sensitivity analysis on the fair value of financial instruments are included in Note 37. Management believes that methods and assumptions in measuring the fair value of an asset or a liability are appropriate.

2.4 Use of estimates and judgments (cont'd)

(v) Defined benefit liabilities

The Group offers its employees defined benefit plans. The cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. For actuarial valuations, certain inputs such as discount rates and future salary increases are estimated. Defined benefit plans contain significant uncertainness in estimations due to its long-term nature.

2.5 Changes in accounting policies

The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2021. The Group has not early adopted any standards, interpretations or amendments that have been issued but are not yet effective.

(i) Interest Rate Benchmark Reform – Phase 2: Amendments to KIFRS 1109, KIFRS 1039, KIFRS 1107, KIFRS 1104 and KIFRS 1116

The amendments provide temporary reliefs which address the financial reporting effects when an interbank offered rate (IBOR) is replaced with an alternative nearly risk- free interest rate (RFR). The amendments include the following practical expedients:

- ✓ A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest
- ✓ Permit changes required by IBOR reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued.
- ✓ Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component

These amendments had no significant impact on the consolidated financial statements of the Group. The Group intends to use the practical expedients in future periods if they become applicable.

(ii) Amendments to KIFRS 1116 Leases - Covid-19 Related Rent Concessions beyond June 30, 2021

In 2020, the IASB issued Covid-19-Related Rent Concessions – amendment to KIFRS 1116 *Leases*. The amendments provide relief to lessees from applying KIFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the Covid-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a Covid-19 related rent concession from a lessor is a lease modification, A lessee that makes this election accounts for any change in lease payments resulting from the Covid-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification. The amendment was intended to apply until June 30, 2021, but as the impact of the Covid-19 pandemic is continuing, the IASB extended the period of application of the practical expedient to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. However, the Group has not received Covid-19-related rent concessions, but plans to apply the practical expedient if it becomes applicable within allowed period of application.

2.6 Presentation of financial statements

The Group subdivides and prepares the accounts presented in the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

3. Significant accounting policies

The significant accounting policies applied by the Group in preparation of these consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, except for those as disclosed in note 2.5.

3.1 Basis of consolidation

(i) Business combinations

The Group accounts for business combinations using the acquisition method when control is transferred to the Group except for acquisitions from entites or business under common control.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed income or loss in the period in which costs is incurred and service is provided, except if related to issue debt or equity securities are recognized in accordance with KIFRS 1032, *Financial Instruments: Presentation* and KIFRS 1039, *Financial Instruments: Recognition and Measurement*.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. Replacement awards, which is part of the consideration transferred to the acquiree, and remuneration for service after business combination are determined based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(ii) Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the date of acquisition.

Changes in the Group's interest in subsidiary that do not result in a loss of control are accounted for as equity transactions.

(iii) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns f'rom its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

(iv) Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

3.1 Basis of consolidation (cont'd)

(v) Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and joint ventures.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and joint ventures are accounted for using the equity method. They are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

(vi) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(vii) Acquisitions from entities under common control

The assets and liabilities acquired under business combinations under common control are recognized at the carrying amounts recognized previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is recognized as part of other capital adjustments.

3.2 Revenue from contracts with customers

The Group recognizes revenue by applying the five-step approach (Step 1: Identify the contract(s) with a customer, Step 2: Identify the performance obligations in the contract, Step 3: Determine the transaction price, Step 4: Allocate the transaction price to the performance obligations in the contract, Step 5: Recognize revenue when the entity satisfied a performance obligation).

Identify the performance obligations in the contract

The Group identifies the power supply in the power exchange under the Power Market Operating Rules as a single performance obligation as a series of distinct goods or services. In addition to power supply, the Group carries out other projects such as profits from overseas projects through contracts with customers and identifies performance obligations that are distinct from each contract.

Variable consideration

If the contract with the customer includes a variable amount, the transaction price consists of fixed and variable consideration, and the transaction price is estimated at one of the expected value or the most likely amount. The variable consideration shall be included in the transaction price only to the extent that it is highly probable that a significant portion of the cumulative revenue recognition amount will not be reversed (returned) when the uncertainty is subsequently resolved. A refund liability is recognized at the amount of consideration received or receivable for which the entity does not expect to be entitled.

3.2 Revenue from contracts with customers (cont'd)

Allocate the transaction price to the performance obligations in the contract

The Group allocates the transaction price based on the relative stand-alone selling price to the various performance obligations identified in a single contract.

Performance obligations satisfied over time

The Group provides power over time. The Group recognizes revenue by dividing the performance of the performance obligation according to the progress rate calculated on a reasonable basis.

3.3 Leases

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group uses the definition of a lease in KIFRS 1116.

(i) As a lessee

At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate. The Group adjusts interest rates from various external financial information to reflect the terms of the lease and the characteristics of the lease asset and calculates the incremental borrowing rate.

The Group adjusts interest rates from various external financial information to reflect the terms of the lease and the characteristics of the lease asset and calculates the incremental borrowing rate.

3.3 Leases (cont'd)

Lease payments included in the measurement of the lease liability comprise the following:

- Fixed payments, including in-substance fixed payments;
- Variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date:
- Amounts expected to be payable under a residual value guarantee; and
- The exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised insubstance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset or it is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

The Group presents right-of-use assets that do not meet the definition of investment property separately from the other assets in 'property, plant and equipment' in the consolidated statement of financial position, and lease liabilities in 'trade and other payables' in the consolidated statement of financial position.

Short-term leases and leases of low-value assets

The Group has elected not to recognize right-of-use assets and lease liabilities for leases of low-value assets and short-term leases. The Group recognizes the lease fee associated with such a lease as an expense in accordance with the straight-line method over the lease term.

(ii) As a lessor

At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies KIFRS 1115 to allocate the consideration in the contract.

The Group applies the derecognition and impairment requirements in KIFRS 1109 to the net investment in the lease (Refer to Note 3.19). The Group further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

3.4 Foreign currencies

(i) Foreign currency transaction

Transactions in foreign currencies are translated to the respective functional currencies of the Group's entities at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are retranslated to the functional currency using the reporting date's exchange rate. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are retranslated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary assets and liabilities denominated in foreign currencies that are measured at historical costs are retranslated to the functional currency at the exchange rate at the dates of the transactions.

Both the foreign currency differences arising at the time of settlement of monetary items and the foreign currency differences arising from the conversion of monetary items are recognized in profit or loss. If gains or losses arising from non-monetary items are recognized in other comprehensive income, the exchange rate fluctuation effects included in the gains and losses are also recognized in other comprehensive income, and if they are recognized in profit or loss, the exchange rate fluctuation effect is also recognized in profit or loss.

(ii) Foreign operations

If the functional currency of a foreign operation is different from the presentation currency of the Group, the management performance and financial status are converted into the presentation currency according to the following methods. If the functional currency of a foreign operation is not the currency of the hyperinflationary economy, the assets and liabilities in the statement of financial position (including the comparative statement of financial position) are converted to the closing exchange rate at the end of the relevant reporting period, and the income and expenses of the statement of comprehensive income (including the comparative statement of comprehensive income) are converted to the exchange rate at the date of the transaction, and the foreign exchange differences arising from the currency are recognized in other comprehensive income.

The fair value adjustment for the carrying amount of goodwill and assets and liabilities arising from the acquisition of a foreign operation is regarded as assets and liabilities of a foreign operation and is presented in the functional currency of a foreign operation, and the closing exchange rate is applied to the Won along with other assets and liabilities of a foreign operation.

When disposing of a foreign operation, the accumulated foreign exchange differences related to a foreign operation recognized as a separate equity item from other comprehensive income are reclassified from equity to profit or loss at the time of recognition of the foreign operation's disposal gains or losses. When a subsidiary, including a foreign operation, is partially disposed of, its proportionate share of the accumulated foreign exchange differences recognized in other comprehensive income is reverted to the non-controlling interest of the foreign operation, and in other cases, only its proportionate share is reclassified to profit or loss among the accumulated foreign exchange differences recognized in other comprehensive income when the foreign operation is partially disposed of.

3.5 Borrowing costs

The Group capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Group borrows funds specifically for the purpose of obtaining a qualifying asset, the Group determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. To the extent that the Group borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Group shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Group that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Group capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.

3.6 Government grants

Government grants are recognized where there is reasonable assurance that the Group will comply with the grant's conditions and that the grant will be received.

The Group receives government grants whose primary condition is to be used to purchase, construct noncurrent assets, which are deducted in calculating the carrying amount of the asset. The grant is recognized in profit or loss over the life of a depreciable asset as a reduction to depreciation expense.

Government grants which are intended to compensate the Group for expenses incurred are recognized as other income (government grants) in profit or loss over the periods in which the Group recognizes the related costs as expenses. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

3.7 Employee benefits

(i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss.

(ii) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods, less the fair value of any related assets. Remeasurements are recognized in profit or loss in the period in which they arise.

(iii) Retirement benefits: Defined contribution plans

When an employee has rendered service to the Group during a period, the contributions owed to the defined contribution plan in exchange for the service is recognized in profit or loss unless it is included in the cost of the asset. The Group recognizes the contribution payable to a defined contribution plan in exchange for that service as an accrued expense, after deducting any contributions already paid. If the contributions already paid exceed the contribution due for service before the end of the reporting period, the Group recognizes that excess as an asset (prepaid expense) to the extent that the prepayment will lead to a reduction in future payments or a cash refund

(iv) Retirement benefits: Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amounts and deducting the fair value of any plan assets.

The calculation is performed annually by an independent actuary using the projected unit credit method. Any asset resulting from this calculation is limited to unrecognized actuarial losses and past service cost, plus the present value of available refunds and reductions in future contributions to the plan.

Remeasurements of net defined benefit liabilities, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments, net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss in curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

3.8 Income taxes

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

The interest and fines related to income taxes are applied to KIFRS 1012 *Income Taxes* if they are determined to income tax and applied to KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* if they are not

(i) Current income tax

Current income tax is the expected income tax payable or receivable on the taxable profit or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of previous years. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit of future periods, and non-taxable or non-deductible items from the accounting profit.

(ii) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities. The Group recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes a deferred tax asset for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and deferred tax assets reflect the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current income tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current income tax liabilities and assets on a net basis.

3.9 Property, plant and equipment

Property, plant and equipment are initially measured at cost. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and, when the Group has an obligation to remove the asset or restore the site, an estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent to initial recognition, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.

Property, plant and equipment, except for land, are depreciated over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed, either on a straight-line basis or on an unit-of-production basis.

A component that is significant compared to the total cost of property, plant and equipment is depreciated over its separate useful life.

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized in profit or loss.

The estimated useful lives and depreciation methods of the Group's property, plant and equipment are as follows:

| | Method | Useful lives (years) |
|--|--------------------|-------------------------|
| Buildings | Straight-line | 8 ~ 32 |
| Structures | Straight-line | 8 ~ 50 |
| Machinery | Straight-line | 6 ~ 32 |
| Vehicles | Straight-line | 4 |
| Right-of-use assets | Straight-line | 1 ~ 65 |
| Asset retirement costs of nuclear power plants | Straight-line | 30, 40, 60 |
| Asset retirement costs of spent fuel | Unit-of-production | - |
| Loaded nuclear fuel | Unit-of-production | - |
| Loaded heavy water | Straight-line | 30 |
| Others | Straight-line | 4 ~ 9 |

The estimated residual value, useful lives and the depreciation method are reviewed at least at the end of each reporting period and, if expectations differ from previous estimates, the changes are accounted for as changes in accounting estimates.

3.10 Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value of intangible assets is zero. However, as there are no foreseeable limits to the periods over which some of other intangible assets are expected to be available for use, this intangible asset is determined as having an indefinite useful life and not amortized.

The estimated useful lives and amortization methods of the Group's intangible assets with finite useful lives are as follows:

| | Method | Useful lives (years) |
|---|---------------|-------------------------|
| Software | Straight-line | 4 |
| Industrial rights | Straight-line | 5, 10 |
| Development cost | Straight-line | 5 |
| Loading and unloading facilities rights | Straight-line | 20 |
| Others | Straight-line | 5 ~ 50 |

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

(i) Research and development

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

On the other hand, the development cost recognized as an asset is presented as at the acquisition cost less accumulated amortization and accumulated impairment losses, by applying the cost model, and is amortized over the expected duration of economic benefits from the time the development is completed to be used, which is recognized as cost of sales. The Group conducts an annual impairment test for the development cost recognized as an asset during the development period.

(ii) Subsequent expenditures

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which they relate. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

3.11 Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from construction contracts, employee benefits, inventories, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

Management estimates the recoverable amount of an individual asset. If it is impossible to measure the individual recoverable amount of an asset, then management estimates the recoverable amount of cash-generating unit ("CGU"). For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of an asset or CGU is the greater of its value-in-use and its fair value less costs to sell. The Group determined that individual operating entities are CGUs. The value-in-use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

3.12 Inventories

The cost of inventories is based on the weighted average method and includes expenditures for acquiring the inventories, conversion costs and other costs incurred in bringing them to their existing location and condition.

Inventories are measured at the lower of cost and net realizable value. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories arising from an increase in net realizable value is recognized as a reduction in the amount of inventories recognized as a cost of sales in the period in which the reversal occurs.

3.13 Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

When some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement shall be recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed. A provision is used only for expenditures for which the provision was originally recognized.

3.13 Provisions (cont'd)

(i) Provision for decommissioning costs of nuclear power plants

The Group recognizes provisions for the estimated cost of removing, dismantling, or restoring the site to its original state after the end of economic use of the nuclear power plant.

(ii) Provision for disposal of spent nuclear fuel

Under the Radioactive Waste Management Act, the Group is levied to pay the spent nuclear fuel fund for the management of spent nuclear fuel. The Group recognizes the provision at the present value of the payments.

(iii) Provision for low and intermediate radioactive wastes

Under the Radioactive Waste Management Act, the Group recognizes the provision for the disposal of low and intermediate radioactive wastes in best estimate of the expenditure required to settle the present obligation.

(iv) Provisions for power plant regional support program

Power plant regional support programs consist of scholarship programs to local students, local economy support programs, local culture support programs, environment development programs, and local welfare programs. The Group recognizes the provision in relation to power plant regional support program at the estimated cash outflows as required by related laws and regulations.

3.14 Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits with maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value, and are used by the Group in the management of its short-term commitments. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares when it has a short maturity with a specified redemption date.

3.15 Non-derivative financial assets

(i) Recognition and initial measurement

Trade receivable and issued debt securities are initially recognized at the time of issue. Other financial assets or financial liabilities are recognized when the Group becomes a party to the contractual provisions of the instrument.

With the exception of trade receivables that do not contain a significant financing component, the Group initially measures a financial asset at its fair value. Upon initial recognition, financial assets and financial liabilities are measured at their fair value plus, in the case of a financial asset or financial liabilities not at fair value through profit or loss, transaction costs that are directly attributable to the asset's acquisition or issuance. A trade receivable without a significant financing component is initially measured at the transaction price.

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3.15 Non-derivative financial assets (cont'd)

(ii) Classification and subsequent measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

Financial assets are not reclassified unless there is a change in business model, and if there is a change in business model, all financial assets are reclassified at the beginning of the subsequent reporting period.

The Group measures financial assets at amortized cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Group measures debt instruments at fair value through OCI if both of the following conditions are met and designated as at fair value through profit or loss:

- The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under KIFRS 1032 *Financial Instruments: Presentation and are not held for trading.* The classification is determined on an instrument-by-instrument basis.

Financial assets not measured at amortized cost or fair value through OCI are measured at fair value through profit or loss. These financial assets include derivative assets. Financial assets initially measured at amortized cost or fair value through OCI may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch. However, once classification is designated, it cannot be subsequently changed. The classification is determined on an instrument-by-instrument basis.

The Group assesses the level of a portfolio of financial assets in a way that best reflects how the business model is managed. Accordingly, the Group considers the following information:

- The stated policies and objectives of the portfolio and the operation of those policies in practice. These include whether management's strategy focuses on earning contractual interest income, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of any related liabilities of expected cash outflows or realizing cash flows through the sale of the assets,
- How the performance of the portfolio is evaluated and reported to the Group's management,
- The risk that affects the performance of the business model (and the financial assets held within that business model) and how those risks are managed, and
- The frequency, volume and timing of sales of financial assets in prior periods, the reasons for such sales and expectations about future sales activity.

A portfolio of financial assets that meets the definition of short-term trading or whose performance is evaluated on a fair value basis is measured at fair value through profit or loss.

The principal is defined as the fair value at the initial recognition of the financial assets. Interest is comprised of time value of money, value for the credit risk associated with principal and other costs, such as basic financing risks and costs.

3.15 Non-derivative financial assets (cont'd)

When assessing whether contractual cash flows consist solely of payments for principal and interest, the Group takes into account contractual terms. If the financial assets include contractual terms that change the timing or amount of cash flows in the contract, it is necessary to determine whether the cash flows that may occur during the period of the financial assets consist solely of principal and interest payments.

The Group consider the followings:

- Conditions that change the amount or timing of cash flows,
- Provision to adjust contractual nominal interest rate, including variable interest rate characteristics, and
- Characteristics of repayment and maturity extension.

The amount of the repayment represents the interest on the principal and remaining balance, and if it includes reasonable additional compensation for the early settlement of the contract, early repayment characteristics are consistent with the conditions under which principal and interest that paid on a particular day.

In addition, for financial assets acquired significantly at a discount or additional premium, when the amount of repayments consists substantially of contractual principal and interest amounts, and the characteristics of fair value at initial recognition is insignificant, the Group determined that these conditions are satisfied.

(iii) Derecognition of financial assets

The Group derecognizes non-derivative financial assets when the contractual rights to the cash flows from the financial asset expire, or the Group transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in a transferred financial asset that is created or retained by the Group is recognized as a separate asset or liability.

If the Group retains substantially all the risks and rewards of ownership of the transferred financial assets, it continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.

(iv) Offsetting a financial asset and a financial liability

Financial assets and financial liabilities are offset, and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

3.16 Non-derivative financial liabilities

The Group classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or as other financial liabilities based on the substance of the contractual arrangement and the definition of financial liabilities. The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instruments.

3.16 Non-derivative financial liabilities (cont'd)

(i) Financial liabilities at fair value through profit or loss

Financial liabilities are classified as at financial liabilities at fair value through profit or loss when the financial liability is either held for trading or it is designated as financial liabilities at fair value through profit or loss. Financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs are recognized in profit or loss when incurred

(ii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method, with interest expense recognized on an effective interest method.

(iii) Elimination of financial liabilities

The Group eliminates financial liabilities only when the contractual obligation of the financial liability is fulfilled, canceled or expires. When the contractual terms of a financial liability change and the cash flows change substantially, the Group eliminates the existing liabilities and recognizes the new financial liabilities as fair value based on the new contract.

The difference between the book value and the consideration paid (including non-cash assets transferred and liabilities incurred) when removing financial liabilities is recognized in profit and loss.

3.17 Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are accounted for as described below.

(i) Hedge accounting

The Group holds forward exchange contracts, interest rate swaps, currency swaps and other derivative contracts to manage interest rate risk and foreign exchange risk. The Group designates derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions, together with the methods that will be used to assess the effectiveness in offsetting changes in fair values or cash flows of the hedged item.

(ii) Other derivative financial instruments

Changes in the fair value of other derivative financial instrument not designated as a hedging instrument are recognized immediately in profit or loss.

3.18 Greenhouse gases emission right

The Group accounts for greenhouse gases emission right and the relevant liability as below pursuant to the Act on Allocation and Trading of Greenhouse Gas Emission.

(i) Greenhouse gases emission right

Greenhouse gases emission right consists of emission allowances which are allocated from the government free of charge or purchased from the market. The cost includes any directly attributable costs incurred during the normal course of business.

The Group holds emission rights for the purpose of performing the legal obligation, which is classified as intangible asset, and the portion to be submitted to the government within one year from the end of the reporting period is classified as current assets. Emission rights classified as intangible asset is initially measured at cost and after initial recognition, are carried at cost less accumulated impairment losses.

The Group derecognizes an emission right when the emission allowance is unusable, disposed of or submitted to the government in which the future economic benefits are no longer expected to be probable.

(ii) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. Emission liability is recognized when it is probable that outflows of resources will be required to settle the obligation and the costs required to perform the obligation are reliably estimable. Emission liability is an amount of estimated obligations for emission rights to be submitted to the government for the performing period. The emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession and the unit price for such emission rights in the market at the end of the reporting period. The Group derecognizes an emission liability when the emission allowance is submitted to the government.

3.19 Impairment of financial assets

The Group recognizes loss allowance for expected credit losses on the following assets.

- Amortized cost of a financial asset,
- Financial liability measured at fair value through other comprehensive income, and
- Contract assets as defined in KIFRS 1115.

The Group measures loss allowance for expected credit losses, except for the following financial assets measured at the expected credit loss of 12 months.

- Debt securities whose credit is determined to be at low risk at the end of the reporting period, and
- Other debt securities and bank deposits that do not have a significant increase in credit risk (i.e. default risk arising over the expected life of the financial asset).

The Group has chosen to measure the loss allowance at an amount equal to lifetime expected credit losses for trade receivables and contract assets.

When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating expected credit losses, the Group considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on past experience and known credit ratings of the Group, including future-oriented information.

The Group assumes that the credit risk of a financial asset is significantly increased when past due days exceeds 30 days.

3.19 Impairment of financial assets (cont'd)

The Group considers a default on the financial asset if:

- the debtor is not likely to fully fulfill the credit obligations to the Group when the Group does not perform any recourse activity

The Group considers the credit risk to be low if the credit risk rating of the debt securities is at the level understood internationally by the definition of "investment grade".

Lifetime ECL is resulted from all possible default events over the expected life. A financial 12-month ECLs is resulted from possible default events within the 12 months after the reporting date (or if the expected life of the instrument is less than 12 months).

The longest period to consider when measuring expected credit losses is the longest term for which the Group is exposed to credit risk.

(i) Measurement of expected credit loss

Expected credit loss is a probability weighted estimate of credit loss. Credit loss is measured as the present value of all cash deficiency (i.e. the difference between all contract cash flows that are expected to be paid and all contract cash flows that are expected to be received). Expected credit losses are discounted at the effective interest rate of the financial asset.

(ii) Credit-impaired financial assets

At the end of each reporting period, the Group assesses the financial assets measured at amortized cost and other comprehensive income - whether the creditworthiness of the debt securities measured at fair value has been impaired. If there is more than one event that adversely affects the estimated future cash flows of a financial asset, the financial asset is impaired.

The evidence that the credit of a financial asset is impaired includes the following observable information:

- Significant financial difficulties of issuer or borrower,
- Breach of contract, such as default or delinquency over 90 days,
- Inevitable mitigation of initial borrowing conditions for economic or contractual reasons related to the borrower's financial difficulties,
- Possibility of bankruptcy of borrowers or other possibility of financial restructuring, and
- Due to financial difficulties, the active market for the financial assets is extinguished.
- (iii) Presentation of provision for credit loss on the consolidated statement of financial position

The allowance for losses on financial assets measured at amortized cost is deducted from the carrying amount of the asset.

The allowance for losses on debt securities measured at fair value through other comprehensive income is recognized in other comprehensive income instead of reducing the carrying amount of the asset.

(iv) Write-off

If there is no reasonable expectation of recovery of all or part of the contract cash flows of a financial asset, the asset is derecognized. For individual customers, the Group derecognizes the carrying amount if the financial asset is overdue for more than 180 days based on historical experience with the recovery of similar assets and assesses whether there is a reasonable expectation of recovery for the enterprise customer, evaluate timing and amount separately. The Group does not expect that proceeds recovered for the amount written off will be significant. However, derecognized financial assets can be subject to collection activities in accordance with the collection procedure of the amount due to the Group.

3.20 Equity capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares and share options are recognized as a deduction from equity, net of any tax effects.

3.21 Finance income and finance costs

Finance income comprises interest income on funds invested (including financial assets measured at fair value through other comprehensive income), dividend income, gains on the disposal of financial assets measured at fair value through other comprehensive income, changes in the fair value of financial assets at fair value through profit or loss, and gains on hedging instruments that are recognized in profit or loss. Interest income is recognized as it accrues in profit or loss, using the effective interest method. Dividend income is recognized in profit or loss on the date when the Group's right to receive payment is established, which in the case of quoted securities is the ex-dividend date.

Finance costs comprise interest expense on borrowings, changes in the fair value of financial assets at fair value through profit or loss, impairment losses recognized on financial assets, and losses on hedging instruments that are recognized in profit or loss. Interest expense on borrowings is recognized as it accrues in profit or loss, using the effective interest method.

3.22 Earnings per share

The Group presents basic earnings per share data for its ordinary shares. Basic earnings per share is calculated by dividing profit or loss attributable to ordinary shareholder of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

3.23 Standards issued but not yet effective

The following new standards and amendments to existing standards have been published for annual periods beginning after January 1, 2021, and the Group has not early adopted them.

(i) Onerous Contracts - Costs of Fulfilling a Contract - Amendments to KIFRS 1037

The amendments to KIFRS 1037 specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments are effective for annual reporting periods beginning on or after January 1, 2022. At the date of initial application, the cumulative effect of applying the amendments is adjusted from retained earnings or other equity at the beginning date, and the comparative financial statements are not restated. The Group will apply these amendments to contracts for which it has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments.

(ii) Amendments to KIFRS 1012 *Income Taxes* – Deferred taxes on assets and liabilities arising from single transaction

The amendments narrowed the scope of the initial recognition exemption to transactions that give rise to equal taxable and deductible temporary difference, when initially recognizing right-of-use assets and lease liabilities and assets relating to provision for restoration costs. The amendments are effective for annual reporting periods beginning on or after January 1, 2023.

For a single transaction that generates right-of-use assets and lease liabilities and assets relating to provision for restoration costs, cumulative effects of the initial application for the related deferred tax assets and liabilities must be recognized by adjusting retained earnings (or other components of equity) at the beginning of the earliest period presented for comparative purpose.

The Group plans to adopt these amendments for annual reporting periods beginning on January 1, 2023. The amendments are not expected to have a material impact on the current or prior year.

(iii) Property, Plant and Equipment: Proceeds before Intended Use - Amendments to KIFRS 1016

The amendments are intended to prohibit entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment.

The amendments below are not expected to have a material impact on the Group.

- COVID-19-Related Rent Concessions beyond June 30, 2021 (KIFRS 1116 Leases)
- Reference to the Conceptual Framework (KIFRS 1103 Business Combinations)
- Annual Improvements to KIFRS Standards 2018-2020
- Classification of Liabilities as Current or Non-current (KIFRS 1001 Presentations of Financial statements)
- KIFRS 1117 Insurance Contracts and the amendments
- Disclosure of Accounting Policies (KIFRS 1001 Presentations of Financial statements)
- Definition of Accounting Estimates (KIFRS 1008 Accounting Policies Changes in Accounting Estimates and Errors)

4. Segment information

The Group's segments are determined based on components of the Group that are engaged in revenue generating activities and for which discrete financial information is available that is regularly reported to the Chief Operating Decision Maker ("CODM") for the purpose of resource allocation and assessment of performance.

Under KIFRS 1108 *Operating Segments*, the Group's segment consists of electric power generation (nuclear power and others) and other business. The price of transactions between reportable segments is determined based on the market transaction price applied to independent third-party transactions. Each segment is the basis for reporting the Group's primary segment information, and the accounting policies for each reportable segment are the same as those described in the summary of significant accounting policies.

The following table presents revenue and operating profit from the reportable segments for the years ended December 31, 2021 and 2020 (Korean won in millions):

| | 2021 | | | | | | | | | |
|--|------|---|----------|--|-----|--|--------|--|--|--|
| | Ele | ectric power | | | Co | nsolidation | Co | onsolidated | | |
| | g | eneration | | Others | a | djustments | totals | | | |
| Revenue from | | | | | | | | _ | | |
| external customers | ₩ | 9,468,011 | ₩ | 1,070 | ₩ | - | ₩ | 9,469,081 | | |
| Intersegment revenue | | 310 | | 143,083 | | (143,393) | | | | |
| Segment revenue | | 9,468,321 | | 144,153 | | (143,393) | | 9,469,081 | | |
| Operating profit | | 906 757 | | 2.015 | | (4 222) | | 904 420 | | |
| Operating profit Other income (expenses), net | | 806,757 (22,047) | | 2,015 (407) | | (4,333) 6,233 | | 804,439 | | |
| Other gains (losses), net | | (12,602) | | ` , | | 14,094 | | (16,221) | | |
| Finance income | | 387,905 | | (14,051) 164 | | 3,811 | | (12,559) 391,880 | | |
| Finance income | | 796,738 | | 104 | | 870 | | 797,716 | | |
| Gain (loss) on investments in | | 190,130 | | 100 | | 070 | | 191,110 | | |
| associates and joint ventures, | | | | | | | | | | |
| net | | 907 | | _ | | (18,043) | | (17,136) | | |
| Income tax expense | | 66,576 | | 588 | | (1,180) | | 65,984 | | |
| moome tax expense | | 00,070 | | 000 | | (1,100) | | 00,001 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | 20 |)20 | | | | | |
| | Ele | ectric power | | | | nsolidation | Co | onsolidated | | |
| | | ectric power generation | | Others | Сс | nsolidation djustments | Co | onsolidated totals | | |
| Revenue from | g | eneration | | Others | Co | | | totals | | |
| Revenue from external customers | | 9,999,388 | ₩ | Others 325 | Сс | djustments - | Co | | | |
| external customers Intersegment revenue | g | 9,999,388 4,212 | ₩ | Others 325 130,723 | Co | djustments - (134,935) | | 9,999,713 | | |
| external customers | g | 9,999,388 | ₩ | Others 325 | Co | djustments - | | totals | | |
| external customers Intersegment revenue Segment revenue | g | 9,999,388 4,212 10,003,600 | ₩ | Others 325 130,723 131,048 | Co | (134,935) (134,935) | | 9,999,713 - 9,999,713 | | |
| external customers Intersegment revenue Segment revenue Operating profit | g | 9,999,388 4,212 10,003,600 1,336,534 | ₩ | Others 325 130,723 131,048 4,838 | Co | (134,935) (134,935) (25,538) | | 9,999,713 - 9,999,713 1,315,834 | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) | ₩ | Others 325 130,723 131,048 4,838 (753) | Co | (134,935) (134,935) (134,935) (25,538) 3,649 | | 9,999,713 - 9,999,713 1,315,834 (111,335) | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) | ₩ | Others 325 130,723 131,048 4,838 (753) 29 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) 261,363 | ₩ | Others 325 130,723 131,048 4,838 (753) 29 30 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) (865) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) 260,528 | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income Finance costs | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) | ₩ | Others 325 130,723 131,048 4,838 (753) 29 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income Finance costs Loss on investments in | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) 261,363 | ₩ | Others 325 130,723 131,048 4,838 (753) 29 30 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) (865) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) 260,528 | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income Finance costs Loss on investments in associates and joint ventures, | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) 261,363 | ₩ | Others 325 130,723 131,048 4,838 (753) 29 30 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) (865) (3) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) 260,528 638,765 | | |
| external customers Intersegment revenue Segment revenue Operating profit Other income (expenses), net Other gains (losses), net Finance income Finance costs Loss on investments in | g | 9,999,388 4,212 10,003,600 1,336,534 (114,231) (55,595) 261,363 | ₩ | Others 325 130,723 131,048 4,838 (753) 29 30 | Co | (134,935) (134,935) (134,935) (25,538) 3,649 (23) (865) | | 9,999,713 9,999,713 1,315,834 (111,335) (55,589) 260,528 | | |

For the years ended December 31, 2021 and 2020, depreciation and amortization expenses for electric power generation segment (nuclear power and others) are \$3,644,399 million and \$3,582,667 million, respectively, and depreciation and amortization expenses for other business segments amount to \$983 million and \$800 million, respectively.

4. Segment information (cont'd)

Details of assets and liabilities by operating segments as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | | | | | | | | |
|-------------------|----|-------------------|---|---------|-------------|-------------|---|-------------|--|--|--|--|
| | El | ectric power | | | Co | nsolidation | С | onsolidated | | | | |
| | | generation | | Others | ad | justments | | totals | | | | |
| Total assets | W | 65,141,778 | ₩ | 189,335 | ₩ | (195,375) | ₩ | 65,135,738 | | | | |
| Total liabilities | | 38,822,369 | | 33,976 | | (29,262) | | 38,827,083 | | | | |
| | | | | Decembe | er 31. 2 | 020 | | | | | | |
| | El | ectric power | | | | nsolidation | С | onsolidated | | | | |
| | | generation | | Others | adjustments | | | totals | | | | |
| Total assets | ₩ | 62,317,705 | ₩ | 132,987 | ₩ | (166,306) | ₩ | 62,284,386 | | | | |
| Total liabilities | | 36,063,808 | | 22,344 | | (7,741) | | 36,078,411 | | | | |

The substantial part of the Group's business is in Korea in which the Company's headquarter is domiciled. Most of its revenue was generated domestically in Korea. Also, most of non-current assets are located domestically in Korea.

For the years ended December 31, 2021 and 2020, the Group recognized total revenues of \(\pmu\) 9,469,081 million and \(\pmu\)9,999,713 million, respectively. Also, the Group recognized total revenues from KEPCO, the Group's largest customer, of \(\pmu\)9,206,131 million and \(\pmu\)9,857,571 million, respectively. There is no single other customer that accounts for more than 10% of the consolidated sales for the years December 31, 2021 and 2020.

5. Cash and cash equivalents

Cash and cash equivalents as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Dec | ember 31, 2021 | De | cember 31, 2020 |
|---|-----|-------------------|----|--------------------|
| Cash equivalents | W | 3,069 | ₩ | 2,074 |
| Short-term instruments classified as cash equivalents | | 359,360 | | 313,998 |
| | ₩ | 362,429 | ₩ | 316,072 |

Restricted cash and cash equivalents as of December 31, 2021 and 2020 are as follows (Korean won in millions):

6. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | r 31, | 2021 | December 31, 2020 | | | | | |
|--|---|---------|-------|--------------|-------------------|---------|-------------|---------|--|--|
| | | Current | No | n-current(*) | | Current | Non-current | | | |
| Financial assets designated as at fair value through profit or loss: Financial assets designated as at fair value through profit or loss(*) | ₩ | - | ₩ | 242,116 | ₩ | _ | ₩ | 204,726 | | |
| Financial assets at fair value through profit or loss: | | | | | | | | | | |
| Derivative assets | | 92,313 | | 227,150 | | 18,274 | | 30,794 | | |
| Beneficiary certificate(*) | | _ | | 200,955 | | _ | | 149,777 | | |
| Other(*) | | 61,400 | | 88,649 | | 160,600 | | 222,978 | | |
| | | 153,713 | | 516,754 | | 178,874 | | 403,549 | | |
| | W | 153,713 | ₩ | 758,870 | ₩ | 178,874 | ₩ | 608,275 | | |

^(*) As of December 31, 2021, the Group invested \$\pmu\$531,720 million in financial assets exclusively for payment of decommissioning costs of nuclear power plants. These are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to December 31, 2021. Therefore, these assets have been categorized as non-current assets.

6. Financial assets at fair value through profit or loss (cont'd)

Details of derivative instruments as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | r 31, 2 | 2021 | December 31, 2020 | | | | | | |
|---------------------------|---|---------|---------|------------|-------------------|---------|-------------|--------|--|--|--|
| | | Current | N | on-current | | Current | Non-current | | | | |
| Derivative assets: | | _ | | _ | | | | | | | |
| Foreign currency forwards | ₩ | - | ₩ | - | ₩ | 18,274 | ₩ | - | | | |
| Foreign currency swaps | | 92,313 | | 227,142 | | - | | 30,794 | | | |
| Other | | | | 8 | | - | | - | | | |
| | | 92,313 | | 227,150 | | 18,274 | | 30,794 | | | |
| Derivative liabilities: | | | | | | | | | | | |
| Foreign currency forwards | | - | | - | | 462 | | - | | | |
| Foreign currency swaps | | 4,446 | | 15,319 | | - | | 23,801 | | | |
| | ₩ | 4,446 | ₩ | 15,319 | ₩ | 462 | ₩ | 23,801 | | | |

6. Financial assets at fair value through profit or loss (cont'd)

Details of foreign currency swap contracts as of December 31, 2021 are as follows (Korean won in millions, USD, HKD and CHF in thousands, KRW/USD, KRW/HKD, KRW/CHF):

| | | | Amount (| of contract | Interest rat | Contractual foreign | |
|------------------|---|-----------------------|-------------|-------------|--------------|---------------------|------------------|
| | Counterparty | Period | Pay | Receive | Pay | Receive | exchange rate |
| - | Citibank | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | JP Morgan | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | Bank of America | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | Shinhan Bank | 2016.12.21~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | Hana Bank | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.87% | 3.00% | 1,117.70 |
| | Standard Chartered | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 |
| | HSBC | 2012.11.01~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 |
| | Deutsche Bank Nomura Financial Investment (Korea) | 2012.12.28~2022.09.19 | KRW 55,885 | USD 50,000 | 2.79% | 3.00% | 1,117.70 |
| | Co., Ltd. Korea Development | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.60% | 3.25% | 1,111.90 |
| | Bank | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.62% | 3.25% | 1,111.90 |
| | Woori Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 |
| | Hana Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 |
| Held for trading | Woori Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.25% | 3.13% | 1,116.10 |
| (*) | Bank | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 |
| | Hana Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 |
| | Bank | 2018.04.03~2028.03.13 | KRW 108,600 | HKD 800,000 | 2.69% | 3.35% | 135.75 |
| | Shinhan Bank Korea Development | 2018.04.16~2028.03.13 | KRW 115,387 | HKD 850,000 | 2.66% | 3.35% | 135.75 |
| | Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.15% | 3.75% | 1,135.20 |
| | Woori Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.18% | 3.75% | 1,135.20 |
| | Hana Bank | 2018.07.25~2023.07.25 | KRW 113,520 | USD 100,000 | 2.17% | 3.75% | 1,135.20 |
| | Shinhan Bank | 2018.07.25~2023.07.25 | KRW 227,040 | USD 200,000 | 2.17% | 3.75% | 1,135.20 |
| | Citibank Korea Development | 2019.07.19~2024.07.19 | KRW 239,956 | CHF 200,000 | 1.44% | 0.00% | 1,199.78 |
| | Bank | 2019.07.19~2027.07.19 | KRW 119,978 | CHF 100,000 | 1.43% | 0.05% | 1,199.78 |
| | Woori Bank | 2021.04.27~2026.04.27 | KRW 222,800 | USD 200,000 | 0.93% | 1.25% | 1,114.00 |
| | Shinhan Bank Korea Development | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.92% | 1.25% | 1,114.00 |
| | Bank | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.93% | 1.25% | 1,114.00 |
| | Nonghyup Bank | 2021.04.27~2026.04.27 | KRW 111,400 | USD 100,000 | 0.93% | 1.25% | 1,114.00 |

^(*) The Group contracted derivative financial instruments for the purpose of hedging risk but classified them as derivative financial instruments held for trading since those derivatives do not meet the applicable requirements of applying hedge accounting under KIFRS 1109 *Financial Instruments*.

6. Financial assets at fair value through profit or loss (cont'd)

Gain (loss) on valuation and transaction of derivatives (not designated as in hedging relationships) for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Gain (loss) o | n valuati | on | Gain (loss) on transaction | | | | | | |
|-------------------|---|---------------|-----------|----------|----------------------------|--------|---|---------|--|--|--|
| | | 2021 | | 2020 | 2021 | | | 2020 | | | |
| Currency forwards | ₩ | 20,933 | ₩ | (26,120) | ₩ | 11,277 | ₩ | (2,521) | | | |
| Currency swaps | | 292,696 | | (61,923) | | 16,030 | | 18,013 | | | |
| | ₩ | 313,629 | ₩ | (88,043) | W | 27,307 | ₩ | 15,492 | | | |

7. Trade and other receivables

Trade and other receivables as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | December 31, 2020 | | | | | | | | | | | | |
|--|-----|----------------------|---|----------------------------------|---|---------------------|---|----------------------|----|----------------------|---|------------------------------------|---|-----------|---|----------------------|
| | Gro | oss amount | d | wance for loubtful ccounts | | ent value scount | | Carrying amount | Gr | oss amount | | owance for doubtful accounts | | ent value | | Carrying amount |
| Current assets: Trade receivables | ₩ | 955,332 | ₩ | - | ₩ | - | ₩ | 955,332 | W | 1,196,755 | ₩ | - | ₩ | _ | ₩ | 1,196,755 |
| Other receivables | | 277,327 1,232,659 | | (3,185) | | (127) (127) | _ | 274,015 1,229,347 | _ | 189,164 1,385,919 | | (3,185) | | (237) | | 185,742 1,382,497 |
| Non-current assets: Other receivables | | 36.231 | | | | (416) | | 35.815 | | 50.322 | | | | (526) | | 49,796 |
| receivables | ₩ | 1,268,890 | ₩ | (3,185) | ₩ | (543) | ₩ | 1,265,162 | W | 1,436,241 | ₩ | (3,185) | ₩ | (763) | ₩ | 1,432,293 |

Other receivables as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | | | | | December 31, 2020 | | | | | | | |
|-------------------------------------|-----|-------------------|---|------------------------------------|---|------------------------|---|--------------------|-------------------|-----------|---|------------------------------|---|-------------------------|---|--------------------|
| | Gro | ss amount | (| owance for doubtful accounts | | sent value discount | | Carrying amount | Gro | ss amount | | owance for doubtful accounts | | esent value discount | | Carrying amount |
| Current assets: Non-trade | | | | | | | | | | | | | | | | |
| receivables Accrued | ₩ | 120,476 | ₩ | (3,185) | ₩ | - | ₩ | 117,291 | ₩ | 92,371 | ₩ | (3,185) | ₩ | - | ₩ | 89,186 |
| income Guarantee | | 115,793 | | - | | - | | 115,793 | | 51,634 | | - | | - | | 51,634 |
| deposits Other current | | 38,158 | | - | | (127) | | 38,031 | | 42,017 | | - | | (237) | | 41,780 |
| receivables | | 2,900 | | | | | | 2,900 | | 3,142 | | | | | | 3,142 |
| | | 277,327 | | (3,185) | | (127) | | 274,015 | | 189,164 | | (3,185) | | (237) | | 185,742 |
| Non-current assets: Guarantee | | | | | | | | | | | | | | | | |
| deposits | | 36,231 | | | | (416) | | 35,815 | | 50,322 | | | | (526) | | 49,796 |
| | ₩ | 313,558 | ₩ | (3,185) | ₩ | (543) | ₩ | 309,830 | ₩ | 239,486 | ₩ | (3,185) | ₩ | (763) | ₩ | 235,538 |

Trade and other receivables are measured at amortized cost. For electricity sales revenue, the average credit term of trade receivables is 2 business days from the billing date. Interest is charged on trade receivables after 2 business days from due date based on interest rates of overdue open market loans.

7. Trade and other receivables (cont'd)

Aging analysis of trade receivables as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | December 31, 2020 | | | |
|---|----------------------|---------|---|----------------------|--|--|--|
| Receivables (not overdue, not impaired) | ₩ | 955,332 | ₩ | 1,196,755 | | | |
| Receivables (overdue, not impaired) | | - | | - | | | |
| Receivables (other) | | - | | | | | |
| | | 955,332 | | 1,196,755 | | | |
| Less: allowance for doubtful accounts | | - | | - | | | |
| Less: present value discount | | - | | | | | |
| | ₩ | 955,332 | ₩ | 1,196,755 | | | |

Aging analysis of other receivables as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Dec | cember 31, 2021 | December 31, 2020 | | |
|---|-----|--------------------|----------------------|---------|--|
| Receivables (not overdue, not impaired) | ₩ | 310,373 | ₩ | 236,301 | |
| Receivables (overdue, not impaired) | | - | | - | |
| Receivables (other) | | 3,185 | | 3,185 | |
| 0~60 days | | - | | - | |
| 60~90 days | | - | | - | |
| 90~120 days | | - | | - | |
| 120~365 days | | - | | - | |
| Over 365 days | | 3,185 | | 3,185 | |
| | | 313,558 | | 239,486 | |
| Less: allowance for doubtful accounts | | (3,185) | - | (3,185) | |
| Less: present value discount | | (543) | | (763) | |
| | ₩ | 309,830 | ₩ | 235,538 | |

Changes in allowance for doubtful accounts for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 20 | 21 | | 2020 | | | | | |
|-------------------|---|----|----|---------|-----------------------------------|---|---|-------------------|--|--|
| | | | | | Other Trade ceivables receivables | | | Other eivables | | |
| Beginning balance | ₩ | - | W | 3,185 | W | - | ₩ | 3,185 | | |
| Bad debt expenses | | - | | 1,038 | | - | | - | | |
| Write-offs | | - | | (1,038) | | - | | _ | | |
| Ending balance | ₩ | - | W | 3,185 | W | - | ₩ | 3,185 | | |

8. Financial assets at fair value through other comprehensive income

Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | | | | | | | | | | | |
|---|------|----------|-----|-----------|---|----------|---|-------------------------|----------------------|--------------|--------|---------|-------------|-----------|
| | J | anuary 1 | Acc | uisitions | D | isposals | | n (loss) on aluation | Impairment losses | | Others | | December 31 | |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | ₩ | 49,878 | ₩ | - | ₩ | (7,814) | ₩ | 47,843 | ₩ | - | ₩ | 6,191 | ₩ | 96,098 |
| Unlisted equity securities | | 183,493 | | 8,877 | | - | | (6,156) | | - | | (1,500) | | 184,714 |
| | | 233,371 | | 8,877 | | (7,814) | | 41,687 | | _ | | 4,691 | | 280,812 |
| Debit securities: | | | | | | | | | | | | | | |
| Corporate bonds | | - | | 500 | | - | | - | | - | | (9) | | 491 |
| | ₩ | 233,371 | ₩ | 9,377 | ₩ | (7,814) | ₩ | 41,687 | ₩ | _ | ₩ | 4,682 | ₩ | 281,303 |
| Non-current financial assets at fair value through other comprehensive income | ₩ | 233,371 | ₩ | 9,377 | ₩ | (7,814) | ₩ | 41,687 | ₩ | - | ₩ | 4,682 | ₩ | 281,303 |
| | | | | | | | | 2020 | | | | | | |
| | J | anuary 1 | Acc | uisitions | D | isposals | | n (loss) on aluation | | rment ses | | Others | Dec | cember 31 |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | ₩ | 31,828 | ₩ | - | ₩ | - | ₩ | 19,843 | ₩ | - | ₩ | (1,793) | ₩ | 49,878 |
| Unlisted equity securities | | 199,996 | | - | | - | | (23,903) | | - | | 7,400 | | 183,493 |
| | ₩ | 231,824 | ₩ | - | ₩ | _ | ₩ | (4,060) | ₩ | _ | ₩ | 5,607 | ₩ | 233,371 |
| Non-current financial assets at fair value through other comprehensive income | ₩ | 231.824 | ₩ | | ₩ | | ₩ | (4.060) | ₩ | | ₩ | 5.607 | ₩ | 233.371 |

8. Financial assets at fair value through other comprehensive income (cont'd)

Details of financial assets at fair value through other comprehensive income as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | | | |
|-------------------------------|-------------------|-----------|---|------------|---|----------|---|-----------|--|--|--|--|
| | | | A | cquisition | (| Carrying | | | | | | |
| | Shares | Ownership | | cost | | amount | F | air value | | | | |
| Listed securities: | | | | | | | | | | | | |
| Denison Mines Corp. | 58,248,500 | 7.21% | ₩ | 36,799 | ₩ | 94,319 | ₩ | 94,319 | | | | |
| Ihsung CNI Co., Ltd.(*1) | 142,860 | 4.81% | | 1,500 | | 1,779 | | 1,779 | | | | |
| | | | | 38,299 | | 96,098 | | 96,098 | | | | |
| Unlisted securities: | | | | | | | | | | | | |
| Korea Power | | | | | | | | | | | | |
| Exchange(*2) | - | 14.28% | | 18,263 | | 35,795 | | 35,795 | | | | |
| SET Holding(*2) | | | | 229,255 | | 131,037 | | 131,037 | | | | |
| HeeMang Sunlight Power | | | | | | | | | | | | |
| Co., Ltd.(*3) | 78,600 | 8.33% | | 393 | | 393 | | 393 | | | | |
| SGC Green Power Co., | 500 000 | 5.000/ | | 0.000 | | 0.000 | | 0.000 | | | | |
| Ltd.(*3) | 580,000 | 5.00% | | 2,900 | | 2,900 | | 2,900 | | | | |
| Le Soleil KHNP Co., Ltd. (*3) | 137,600 | 19.00% | | 1,376 | | 1,376 | | 1,376 | | | | |
| Orano Expansion(*3) | 5,742,405 | 4.72% | | 1,370 | | 1,370 | | 1,370 | | | | |
| | | | | • | | - | | • | | | | |
| Ihsung CNI Co., Ltd.(*1,3) | 127,660 | 4.30% | | 1,500 | | 2,618 | | 2,618 | | | | |
| H robotics Co., Ltd(*3) | 422,832 | 3.77% | | 1,000 | | 2,639 | | 2,639 | | | | |
| Goodtcells Co., Ltd(*3) | 11,364 | 0.34% | | 500 | | 455 | | 455 | | | | |
| iPS Bio Co., Ltd(*3) | 1,975 | 3.13% | | 1,000 | | 1,000 | | 1,000 | | | | |
| Nine B Co., Ltd(*3) | 5,000 | 4.96% | | 1,000 | | 1,000 | | 1,000 | | | | |
| Common Computer Co., | 0.050 | 4.070/ | | 4 000 | | 4 000 | | 4 000 | | | | |
| Ltd(*3) | 3,856 | 1.87% | | 1,000 | | 1,000 | | 1,000 | | | | |
| H robotics Co., Ltd(*3) | 480,769 | 4.28% | | 3,000 | | 3,000 | | 3,000 | | | | |
| Fine Powerx Co., Ltd(*3) | 72,633 | 4.92% | | 1,500 | | 1,500 | | 1,500 | | | | |
| | | | | 262,688 | | 184,714 | | 184,714 | | | | |
| Debit securities | | | | | | | | | | | | |
| Aron Flying Ship Co., | | | | | | | | | | | | |
| Ltd(*3) | | | | 500 | | 491 | | 491 | | | | |
| | | | | 500 | | 491 | | 491 | | | | |
| | | | ₩ | 301,487 | W | 281,303 | W | 281,303 | | | | |

^(*1) The entire shares of Ihsung CNI Co., Ltd. are 2,969,120. The entity listed 2,841,460 shares (ordinary shares) except for 127,660 shares (preference shares).

^(*2) The Group has estimated the fair value by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended December 31, 2021.

^(*3) This financial asset at fair value through other comprehensive income does not have a quoted market price in an active market, and its fair value cannot be reliably measured. Therefore, it is measured at cost.

8. Financial assets at fair value through other comprehensive income (cont'd)

| | | D | ecen | nber 31, 20 | 20 | | | |
|--------------------------|------------|-----------|------|-------------|----|----------|---|-----------|
| | | | A | cquisition | (| Carrying | | _ |
| | Shares | Ownership | | cost | | amount | F | air value |
| Listed securities: | | | | | | | | |
| Fission Uranium Corp. | 700,000 | 0.14% | ₩ | 325 | ₩ | 233 | ₩ | 233 |
| Denison Mines Corp. | 58,248,500 | 9.30% | | 36,799 | | 41,751 | | 41,751 |
| Fission 3.0 Corp. | 75,000 | 0.05% | | 36 | | 6 | | 6 |
| Energy Fuel Inc. | 1,711,814 | 1.31% | | 3,414 | | 7,888 | | 7,888 |
| | | | | 40,574 | | 49,878 | | 49,878 |
| Unlisted securities: | | | | | | | | |
| Korea Power | | | | | | | | |
| Exchange(*1) | - | 14.28% | | 18,263 | | 31,935 | | 31,935 |
| SET Holding(*1) | 1,100,220 | 2.50% | | 229,255 | | 143,765 | | 143,765 |
| HeeMang Sunlight Power | | | | | | | | |
| Co., Ltd.(*2) | 78,600 | 8.33% | | 393 | | 393 | | 393 |
| SGC Green Power Co., | | | | | | | | |
| Ltd.(*2) | 580,000 | 5.00% | | 2,900 | | 2,900 | | 2,900 |
| Ihsung CNI Co., Ltd.(*2) | 13,526 | 18.22% | | 3,000 | | 3,000 | | 3,000 |
| H robotics Co., Ltd(*2) | 9,192 | 4.55% | | 1,000 | | 1,000 | | 1,000 |
| Goodtcells Co., Ltd(*2) | 11,364 | 0.34% | | 500 | | 500 | | 500 |
| | | | | 255,311 | | 183,493 | | 183,493 |
| | | | ₩ | 295,885 | ₩ | 233,371 | ₩ | 233,371 |

^(*1) The Group has estimated the fair value by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended December 31, 2020.

9. Other financial assets

Other financial assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | r 31, : | 2021 | December 31, 2020 | | | | | |
|-----------------------|---|-----------|---------|-------------|-------------------|---------|-------------|---------|--|--|
| | | Current | N | lon-current | | Current | Non-current | | | |
| Financial instruments | ₩ | ₩ 211,160 | | 333,581 | ₩ | 212,159 | ₩ | 258,656 | | |
| Loans | | 17,258 | | 71,789 | | 11,068 | | 67,382 | | |
| | ₩ | 228,418 | ₩ | 405,370 | ₩ | 223,227 | ₩ | 326,038 | | |

Details of financial instruments as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | er 31, 2 | 2021 | December 31, 2020 | | | | | |
|---------------|---|------------------------|----------|---------|-------------------|---------|-------------|---------|--|--|
| | (| Current Non-current(*) | | | | Current | Non-current | | | |
| Time deposits | W | 1,160 | W | 93,581 | ₩ | 2,159 | W | 138,656 | | |
| Others | | 210,000 | | 240,000 | | 210,000 | | 120,000 | | |
| | ₩ | ₩ 211,160 | | 333,581 | ₩ 212,159 | | ₩ | 258,656 | | |

^(*) As of December 31, 2021, the Group set aside \(\precequiv{3}\)24,609 million for decommissioning costs for nuclear power plants. These funds are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to December 31, 2021. Therefore, these assets have been categorized as non-current assets.

^(*2) This financial asset at fair value through other comprehensive income does not have a quoted market price in an active market, and its fair value cannot be reliably measured. Therefore, it is measured at cost.

9. Other financial assets (cont'd)

Details of loans as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | , 2021 | December 31, 2020 | | | | |
|------------------------------|--------------------|---------|--------|-------------------|---|---------|-------------|---------|
| | | Current | | Non-current | | Current | Non-current | |
| Loans for tuition(*1) | W 5,303 | | | 70,154 | W | 6,745 | W | 68,889 |
| Loans for housing(*2) | | 599 | | 5,027 | | 598 | | 4,958 |
| Other loans(*3) | | 11,444 | | 3,128 | | 3,816 | | - |
| Less: present value discount | | (88) | | (6,520) | | (91) | | (6,465) |
| | ₩ 17,258 | | | 71,789 | W | 11,068 | W | 67,382 |

^(*1) The annual interest rate on loans for tuition is 0%, under a condition for installment repayment for seven years with a three-year grace period.

Details of loans as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | Decembe | er 31, 2021 | | | | | | |
|-------------------|--------|----------|----------|------------|-------------|----------|-------|------------|--|--|--|
| | | | Pre | sent value | Allowai | nce for | | | | | |
| | P | ar value | c | discount | doubtful a | accounts | Carry | ing amount | | | |
| Loans for tuition | W | 75,457 | ₩ | (6,608) | ₩ | _ | W | 68,849 | | | |
| Loans for housing | | 5,626 | | - | | _ | | 5,626 | | | |
| Other loans | 14,572 | | | - | - | | | 14,572 | | | |
| | W | 95,655 | ₩ | (6,608) | ₩ | _ | ₩ | 89,047 | | | |
| | | | | Decembe | er 31, 2020 | | | | | | |
| | | | Pre | sent value | Allowa | nce for | | | | | |
| | P | ar value | discount | | doubtful a | accounts | Carry | ing amount | | | |
| Loans for tuition | ₩ | 75,634 | ₩ | (6,556) | ₩ | _ | ₩ | 69,078 | | | |
| Loans for housing | | 5,556 | | - | | - | | 5,556 | | | |
| Other loans | | 3,816 | | - | | - | | 3,816 | | | |
| | ₩ | 85,006 | ₩ | (6,556) | ₩ | - | ₩ | 78,450 | | | |

^(*2) The annual interest rate on loans for housing is 2.00% to 2.96%, under the condition of a 15 to 20-year installment repayment.

^(*3) The annual interest rate on other loans is 4.60% to 5.80%, under the condition of balloon maturity.

10. Inventories

Inventories as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 20 | 21 | December 31, 2020 | | | | | | |
|-----------------------------|------------------|------------------|--------------------|-------------------|---------------------|--------------------|--|--|--|--|
| | Acquisition cost | | Carrying amount | Acquisition cost | Valuation allowance | Carrying amount | | | | |
| Raw materials | ₩ 3,073,86 | 5 ₩ - | ₩ 3,073,865 | ₩ 2,993,063 | ₩ - | ₩ 2,993,063 | | | | |
| Supplies Inventories-in- | 2,088,71 | 5 - | 2,088,715 | 1,828,611 | - | 1,828,611 | | | | |
| transit | 276,20 | 8 - | 276,208 | 290,000 | | 290,000 | | | | |
| | ₩ 5,438,78 | 8 W - | ₩ 5,438,788 | ₩ 5,111,674 | ₩ - | ₩ 5,111,674 | | | | |

11. Non-financial assets

Non-financial assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | 2021 | December 31, 2020 | | | | | |
|-------------------|---|-----------|------|-------------------|---|---------|-------------|---------|--|
| | (| Current | No | on-current | | Current | Non-current | | |
| Advanced payments | W | 38,581 | ₩ | 462,578 | ₩ | 34,421 | ₩ | 410,101 | |
| Prepaid expenses | | 54,007 | | 8,058 | | 50,180 | | 8,294 | |
| Others | | 17,623 | | 14,095 | | 30,067 | | 13,707 | |
| | ₩ | ₩ 110,211 | | 484,731 | ₩ | 114,668 | ₩ | 432,102 | |

Investments in associates and joint ventures as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | | | |
|---|---|----------|--------------|--------|-------------|---------------|--|--|--|--|--|--|
| 0 | V | 1 | Reporting | Owner- | Acquisition | Carrying | | | | | | |
| Company Associates> | Key operating activities | Location | Date | ship | cost | <u>amount</u> | | | | | | |
| Korea Offshore Wind Power Co., Ltd.(*1) Noeul Green Energy Co., Ltd. | Offshore wind resources development Electricity and heat generation | Korea | December 31 | 12.50% | ₩ 26,600 | ₩ 21,436 | | | | | | |
| •, | , | Korea | December 31 | 29.00% | 1,740 | 3,809 | | | | | | |
| Busan Green Energy Co., Ltd. Korea Hydro & Nuclear Power KNP Co., Ltd. (formerly Korea | Electricity and heat generation Electric material agency | Korea | December 31 | 29.00% | 5,243 | 5,033 | | | | | | |
| Nuclear Partners Co., Ltd.)(*4) KEPCO Solar Co., Ltd.(*1) | Photovoltaic power generation electricity | Korea | December 31 | 28.98% | 537 | 219 | | | | | | |
| KEPCO ES Co., Ltd. (formerly KEPCO Energy | resources development Energy-efficient equipment investment services business | Korea | December 31 | 8.38% | 16,750 | 17,552 | | | | | | |
| Solution Co., Ltd.)(*1,5) Gwangyang Green Energy | Biomass generation | Korea | December 31 | 8.33% | 25,000 | 26,075 | | | | | | |
| Co., Ltd. Hanhwa Solar Power Private | Investment trust | Korea | December 31 | 20.00% | 26,800 | 25,465 | | | | | | |
| equity investment trust Godeok Clean Energy | Clastricity and heat generation | Korea | December 31 | 49.00% | 7,113 | 7,136 | | | | | | |
| Co., Ltd. Bigeum Resident Solar Power | Electricity and heat generation Photovoltaic power generation | Korea | December 31 | 40.00% | 5,560 | 4,301 | | | | | | |
| Generation Co., Ltd. | | Korea | December 31 | 29.90% | 1 | - | | | | | | |
| Digital Innovation Growth Fund (*2,6) Gangneung Sacheon Fuel Cell | Investment trust Electricity and heat generation | Korea | December 31 | 76.92% | 10,000 | 9,890 | | | | | | |
| Co., Ltd. (*3,6) Chuncheon Green Energy | Electricity and heat generation | Korea | December 31 | 65.00% | 1,950 | 1,878 | | | | | | |
| Co., Ltd.(*3,6) | , | Korea | December 31 | 68.00% | 3,400 | 3,372 | | | | | | |
| <joint ventures=""></joint> | | | | | 130,694 | 126,166 | | | | | | |
| Waterbury Lake Uranium Limited Partnership(*7) Cheongsong Noraesan Wind | Uranium resources development Wind power generation | Canada | December 31 | 33.10% | 20,753 | 21,590 | | | | | | |
| Power Co., Ltd. | 0-1 | Korea | December 31 | 29.01% | 3,200 | 4,106 | | | | | | |
| Saemangeum Solar Power Co., Ltd.(*8) KAS INVESTMENT I LLC (*9) | Solar power generation Overseas Investment | Korea | December 31 | 81.01% | 26,400 | 23,939 | | | | | | |
| KAS INVESTMENT II LLC (*9) | Overseas Investment | USA | September 31 | 29.89% | 23,437 | 15,273 | | | | | | |
| Guadalupe Solar SpA(*6,8) | Overseas Investment | USA | September 31 | 29.89% | 23,343 | 15,213 | | | | | | |
| Caddade Coldi Op. (0,0) | C.C.CCAS IIIVCGAIICIA | Chile | December 31 | 60.00% | 1,397 | 660 | | | | | | |
| | | | | | 98,530 | 80,781 | | | | | | |
| | | | | | ₩ 229,224 | ₩ 206,947 | | | | | | |

^(*1) Although the Group holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates as the Group determines that it could exercise significant influence over the investee.

^(*2) Although the Group holds more than 50% equity interest in the investee, the investee has been classified as an investment in associates as the Group has no control over the relevant activities and exercises significant influence through the participation of the investment decision-making body.

^(*3) Although the Group holds more than 50% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. However, the investee has been classified as an investment in associates as the Group determines that it could exercise significant influence over the investee through participation in the Board of Directors.

^(*4) Korea Nuclear Partners Co., Ltd. was renamed as Korea Hydro & Nuclear Power KNP Co., Ltd. for the year ended December 31, 2021.

^(*5) KEPCO Energy Solution Co., Ltd. was renamed as KEPCO ES Co., Ltd. for the year ended December 31, 2021.

^(*6) This entity is newly included as associates and joint ventures of the Group due to new investments during the year ended December 31, 2021.

^(*7) The above acquisition cost is the book value at the time of change in the consolidation scope. The initial acquisition cost of the Waterbury Lake Uranium Limited Partnership held by the Korea Waterbury Uranium Limited Partnership was \(\foating{W26,602}\) million.

^(*8) The Group's voting right over the investee is 50% based on the shareholders' agreement, and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

^(*9) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of September 30, 2021, the most recent financial statements available for use, were used.

| | | December 31, 2020 | | | | | | | | | | | |
|--|--|-------------------|----------------|----------------|------------------|-----------------|--|--|--|--|--|--|--|
| Company | Key operating activities | Location | Reporting Date | Owner- ship | Acquisition cost | Carrying amount | | | | | | | |
| <associates></associates> | rey operating activities | Location | Reporting Date | Jilip | | amount | | | | | | | |
| Korea Offshore Wind Power Co., Ltd.(*1) Noeul Green Energy Co., Ltd. | Offshore wind resources development Electricity and heat | Korea | December 31 | 12.50% | ₩ 26,600 |) ₩ 20,884 | | | | | | | |
| Busan Green Energy | generation Electricity and heat | Korea | December 31 | 29.00% | 1,74 | 4,197 | | | | | | | |
| Co., Ltd. Korea Nuclear Partners | generation | Korea | December 31 | 29.00% | 5,24 | 8,778 | | | | | | | |
| Co., Ltd.) | Electric material agency | Korea | December 31 | 28.98% | 53 | 7 200 | | | | | | | |
| KEPCO Solar Co., Ltd. (formerly Solar School Plant Co., Ltd.) (*1,6) KEPCO Energy Solution Co., Ltd.(*1) | Photovoltaic power generation electricity resources development Energy-efficient equipment investment services | Korea | December 31 | 8.38% | 16,75 | 17,365 | | | | | | | |
| Gwangyang Green Energy | business Biomass generation | Korea | December 31 | 8.33% | 25,000 | 25,808 | | | | | | | |
| Co., Ltd. Hanhwa Solar Power Private | Investment trust | Korea | December 31 | 20.00% | 2,000 | 925 | | | | | | | |
| equity investment trust Godeok Clean Energy | Electricity and heat | Korea | December 31 | 49.00% | 7,30 | 7,325 | | | | | | | |
| Co., Ltd.(*2) Bigeum Resident Solar Power | generation Photovoltaic power | Korea | December 31 | 61.00% | 1,830 | 960 | | | | | | | |
| Generation Co., Ltd.(*5) Jeju Solarone Co., Ltd. (*1,5) | generation Photovoltaic power generation electricity | Korea | December 31 | 29.90% | | 1 - | | | | | | | |
| | resources development | Korea | December 31 | 10.00% | 16 | | | | | | | | |
| <joint ventures=""></joint> | | | | | 87,16 | 86,602 | | | | | | | |
| Waterbury Lake Uranium Limited Partnership(*3) Cheongsong Noraesan Wind | Uranium resources development Wind power generation | Canada | December 31 | 33.10% | 20,75 | 3 19,796 | | | | | | | |
| Power Co., Ltd. Saemangeum Solar Power Co., | Solar power generation | Korea | December 31 | 29.01% | 3,20 | 3,456 | | | | | | | |
| Ltd.(*4) | Solai power generation | Korea | December 31 | 81.00% | 26,39 | 24,292 | | | | | | | |
| KAS INVESTMENT I LLC(*5,7) | Overseas Investment | USA | October 7 | 29.89% | 23,43 | 7 23,437 | | | | | | | |
| KAS INVESTMENT II LLC(*5,7) | Overseas Investment | USA | October 7 | 29.89% | 23,34 | 3 23,343 | | | | | | | |
| | | | | | 97,13 | 94,321 | | | | | | | |
| | | | | | ₩ 184,29 | 4 ₩ 180,923 | | | | | | | |

^(*1) Although the Group holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates

as the Group determines that it could exercise significant influence over the investee.

(*2) Although the Group holds 61% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. The investee has been classified as an investment in associates as the Group determines that it exercises significant influence over the investee through participation in the Board of Directors.

^(*3) The acquisition cost is the book value at the time of the change in the consolidation scope. The initial acquisition cost of the Waterbury Lake Uranium Limited Partnership held by the Korea Waterbury Uranium Limited Partnership was \(\psi_26,602\) million.

^(*4) The Group's voting right over the investee is 81% based on the shareholders' agreement, and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

^(*5) This entity is newly included as associates and joint ventures of the Group due to new investments during the year ended December

^(*6) Solar School Plant Co., Ltd. was renamed as KEPCO Solar Co., Ltd. for the year ended December 31, 2020.

^(*7) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of October 7, the date of establishment, were used.

Changes in investments in associates and joint ventures for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | | | | | | | | | | | |
|--|------|----------|-----|----------------|-----|----------------|-----|-----------|-----|---------|-----|--------|-----|-----------|
| | | | | | Sh | nare of profit | С | hanges in | | | | | | |
| | Ja | anuary 1 | Aco | quisition | | (loss) | | equity | Di | sposals | | Others | Dec | cember 31 |
| <associates></associates> | | | | | | | | | | | | | | |
| Korea Offshore Wind Power Co., Ltd. | ₩ | 20,884 | ₩ | | ₩ | 552 | ₩ | | ₩ | | ₩ | | ₩ | 21,436 |
| Noeul Green Energy Co., | ₩. | 20,004 | ₩. | - | ₩. | 332 | ₩. | - | ₩. | - | ₩ | - | ₩. | 21,430 |
| Ltd. Busan Green Energy Co., | | 4,197 | | - | | (389) | | - | | - | | 1 | | 3,809 |
| Ltd. | | 8,778 | | _ | | (3,750) | | _ | | _ | | 5 | | 5,033 |
| Korea Hydro & Nuclear | | 0,770 | | | | (0,700) | | | | | | J | | 0,000 |
| Power KNP Co., Ltd. | | | | | | | | | | | | | | |
| (formerly Korea Nuclear | | | | | | | | | | | | | | |
| Partners Co., Ltd.) | | 200 | | - | | 19 | | - | | - | | - | | 219 |
| KEPCO Solar Co., Ltd. | | 17,365 | | - | | 189 | | - | | - | | (2) | | 17,552 |
| KEPCO ES Co., Ltd. | | | | | | | | | | | | | | |
| (formerly KEPCO Energ | | | | | | | | | | | | | | |
| Solution Co., Ltd.) | | 25,808 | | - | | 269 | | - | | - | | (2) | | 26,075 |
| Gwangyang Green | | 005 | | 04.000 | | (420) | | (400) | | | | | | 25.465 |
| Energy Co., Ltd. Hanhwa Solar Power | | 925 | | 24,800 | | (138) | | (122) | | - | | - | | 25,465 |
| Private equity | | | | | | | | | | | | | | |
| investment trust | | 7,325 | | _ | | 399 | | _ | | (188) | | (400) | | 7,136 |
| Godeok Clean Energy | | 7,020 | | | | 000 | | | | (100) | | (400) | | 7,100 |
| Co., Ltd. | | 960 | | 3,730 | | (333) | | (56) | | _ | | _ | | 4,301 |
| Bigeum Resident Solar | | | | -, | | () | | () | | | | | | , |
| Power Generation | | | | | | | | | | | | | | |
| Co., Ltd. | | - | | - | | - | | - | | - | | - | | - |
| Jeju Solarone Co., Ltd. | | 160 | | 45 | | (1) | | | | (206) | | 2 | | - |
| Digital Innovation | | | | | | | | | | | | | | |
| Growth Fund | | - | | 10,000 | | (110) | | - | | - | | - | | 9,890 |
| Gangneung Sacheon | | | | 1.050 | | (72) | | | | | | | | 1 070 |
| Fuel Cell Co., Ltd. Chuncheon Green | | - | | 1,950 | | (72) | | - | | - | | - | | 1,878 |
| Energy Co., Ltd. | | _ | | 3,400 | | (28) | | _ | | _ | | _ | | 3,372 |
| Energy Co., Etc. | | 86,602 | | 43,925 | _ | (3,393) | - | (178) | | (394) | _ | (396) | | 126,166 |
| <joint ventures=""></joint> | | 00,002 | | 43,323 | _ | (3,393) | | (170) | | (394) | | (390) | | 120,100 |
| Waterbury Lake | | | | | | | | | | | | | | |
| Uranium Limited | | | | | | | | | | | | | | |
| Partnership | | 19,796 | | _ | | _ | | 1,794 | | _ | | _ | | 21,590 |
| Cheongsong Noraesan | | , | | | | | | 1,10 | | | | | | ,, |
| Wind Power Co., Ltd. | | 3,453 | | - | | 653 | | - | | - | | - | | 4,106 |
| Saemangeum Solar | | | | | | | | | | | | | | |
| Power Co., Ltd. | | 24,292 | | 1 | | (354) | | - | | - | | - | | 23,939 |
| KAS INVESTMENT I | | | | | | | | | | | | | | |
| LLC(*) | | 23,437 | | - | | (6,876) | | (1,288) | | - | | - | | 15,273 |
| KAS INVESTMENT II | | 23,343 | | | | (6,515) | | (1,615) | | | | | | 15,213 |
| LLC(*) | | 23,343 | | 1 207 | | | | . , , | | - | | - | | |
| Guadalupe Solar SpA | | 04 204 | | 1,397 1,398 | | (672) | | (65) | | | | | | 660 |
| | ₩ | 94,321 | 14/ | | 10/ | (13,764) | 14/ | (1,174) | ١٨/ | (204) | 14/ | (200) | 14/ | 80,781 |
| | ₩ | 180,923 | ₩ | 45,323 | W | (17,157) | ₩ | (1,352) | ₩ | (394) | ₩ | (396) | ₩ | 206,947 |

^(*) The financial statements closing process of the joint venture was not completed before the Group's consolidated financial statements date, so the financial statements as of September 31, 2021, the most recent financial statements available for use, were used.

| | | | | | | | 2020 | | | | | | |
|--|----|----------|---------------------|-----|------------------------|---|-------------------|-------|------|---|-----------|-----|-----------|
| | Já | anuary 1 | Acquisition | | Share of profit (loss) | C | Changes in equity | Dispo | sals | C | others(*) | Dec | cember 31 |
| <associates></associates> | | | | | | | | | | | | - | |
| Korea Offshore Wind Power Co., Ltd. | ₩ | 21,081 | ₩ - | 4 | ₩ (197) | ₩ | - | ₩ | - | ₩ | - | ₩ | 20,884 |
| Noeul Green Energy Co., Ltd. Busan Green Energy Co., | | 6,611 | - | | (2,414) | | - | | - | | - | | 4,197 |
| Ltd. Korea Nuclear Partners | | 10,636 | - | | (1,860) | | - | | - | | 2 | | 8,778 |
| Co., Ltd. KEPCO Solar Co., Ltd. (formerly Solar School | | - | 247 | | (43) | | - | | - | | (4) | | 200 |
| Plant Co., Ltd.) KEPCO Energy | | 17,207 | - | | 158 | | - | | - | | - | | 17,365 |
| Solution Co., Ltd. Gwangyang Green | | 25,504 | - | | 307 | | - | | - | | (3) | | 25,808 |
| Energy Co., Ltd. Hanhwa Solar Power Private equity | | 948 | - | | (23) | | - | | - | | - | | 925 |
| investment trust Godeok Clean Energy | | 7,126 | 294 | | 296 | | - | | (99) | | (292) | | 7,325 |
| Co., Ltd. Bigeum Resident Solar Power Generation | | 1,830 | - | | (844) | | - | | - | | (26) | | 960 |
| Co., Ltd. | | - | 1 | | (1) | | - | | - | | - | | - |
| Jeju Solarone Co., Ltd. Energy Innovation | | - | 161 | | - | | - | | - | | (1) | | 160 |
| Growth Fund 1(*) | | | 3,600 | | 2 | | | | - | | (3,602) | | |
| | | 90,943 | 4,303 | | (4,619) | | | | (99) | | (3,926) | | 86,602 |
| <joint ventures=""> Waterbury Lake Uranium Limited</joint> | | | | | | | | | | | | | |
| Partnership Cheongsong Noraesan | | 20,562 | - | | 4 | | (770) | | - | | - | | 19,796 |
| Wind Power Co., Ltd. Saemangeum Solar | | 3,044 | - | | 409 | | - | | - | | - | | 3,453 |
| Power Co., Ltd. KAS INVESTMENT I | | 8,324 | 16,399 | | (431) | | - | | - | | - | | 24,292 |
| LLC KAS INVESTMENT II | | - | 23,437 | | - | | - | | - | | - | | 23,437 |
| LLC | | | 23,343 | | | | | | - | | - | | 23,343 |
| | | 31,930 | 63,179 | | (18) | | (770) | | - | | - | | 94,321 |
| | W | 122,873 | W 67,482 | _ 4 | V (4,637) | ₩ | (770) | ₩ | (99) | ₩ | (3,926) | ₩ | 180,923 |

 $^{(^{\}star})$ Energy Innovation Growth Fund 1 has been reclassified to an investment in subsidiaries from an investment in associates.

The summary financial information of investments accounted for using the equity method as of and for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 Total assets Total liabilities Sales Net profit (loss) | | | | | | | | | | | | |
|----------------------------------|---|----------|-------|---------|---------------|----------|---|----------|--|--|--|--|--|
| | Tota | l assets | Sales | Net | profit (loss) | | | | | | | | |
| <associates></associates> | | | | | | | | | | | | | |
| Korea Offshore Wind Power | | | | | | | | | | | | | |
| Co., Ltd. | ₩ | 359,804 | ₩ | 188,316 | ₩ | 36,157 | ₩ | 4,421 | | | | | |
| Noeul Green Energy Co., Ltd. | | 109,355 | | 96,222 | | 36,029 | | (1,269) | | | | | |
| Busan Green Energy Co., Ltd. | | 163,016 | | 145,664 | | 45,088 | | (10,843) | | | | | |
| Korea Hydro & Nuclear Power | | | | | | | | | | | | | |
| KNP Co., Ltd. (formerly Korea | | | | | | | | | | | | | |
| Nuclear Partners Co., Ltd.) | | 1,409 | | 100 | | 836 | | 64 | | | | | |
| KEPCO Solar Co., Ltd. | | 231,830 | | 22,255 | | 10,897 | | 2,252 | | | | | |
| KEPCO ES Co., Ltd. (formerly | | 047.044 | | 4 707 | | 04 400 | | 0.050 | | | | | |
| KEPCO Energy Solution Co., Ltd.) | | 317,614 | | 4,727 | | 21,423 | | 3,253 | | | | | |
| Gwangyang Green Energy Co., Ltd. | | 120 275 | | 1 126 | | | | (600) | | | | | |
| Hanhwa Solar Power Private | | 128,375 | | 1,136 | | - | | (688) | | | | | |
| equity investment trust | | 14,777 | | 211 | | 848 | | 815 | | | | | |
| Godeok Clean Energy | | 14,777 | | 211 | | 040 | | 013 | | | | | |
| Co., Ltd. | | 65,566 | | 54,811 | | _ | | (2,482) | | | | | |
| Bigeum Resident Solar Power | | 00,000 | | 01,011 | | | | (2, 102) | | | | | |
| Generation Co., Ltd. | | 22,160 | | 23,158 | | _ | | (608) | | | | | |
| Digital Innovation Growth Fund | | 12,857 | | - | | 2 | | (143) | | | | | |
| Gangneung Sacheon Fuel Cell | | , | | | | | | , , | | | | | |
| Co., Ltd | | 2,759 | | 3 | | - | | (124) | | | | | |
| Chuncheon Green Energy | | | | | | | | , , | | | | | |
| Co., Ltd. | | 4,900 | | 20 | | - | | (101) | | | | | |
| <joint ventures=""></joint> | | | | | | | | | | | | | |
| Waterbury Lake | | | | | | | | | | | | | |
| Uranium Limited Partnership | | 65,240 | | 14 | | - | | - | | | | | |
| Cheongsong Noraesan Wind | | | | | | | | | | | | | |
| Power Co., Ltd. | | 57,046 | | 43,106 | | 7,929 | | 2,309 | | | | | |
| Saemangeum Solar Power | | | | | | | | | | | | | |
| Co., Ltd. | | 35,322 | | 5,771 | | - | | (631) | | | | | |
| KAS INVESTMENT I LLC | | 52,680 | | 1,583 | | (19,390) | | (23,007) | | | | | |
| KAS INVESTMENT II LLC | | 52,476 | | 1,581 | | (19,311) | | (21,801) | | | | | |
| Guadalupe Solar SpA | | 8,775 | | 7,839 | | 12 | | (1,119) | | | | | |

| | | Decembe | r 31, 2020 | |
|---------------------------------|--------------|-------------------|------------|-------------------|
| | Total assets | Total liabilities | Revenue | Net profit (loss) |
| <associates></associates> | | | | |
| Korea Offshore Wind Power | | | | |
| Co., Ltd. | ₩ 354,64 | • | , | |
| Noeul Green Energy Co., Ltd. | 116,92 | • | 27,486 | (8,303) |
| Busan Green Energy Co., Ltd. | 170,26 | 1 139,995 | 40,241 | (6,422) |
| Korea Nuclear Partners | | | | |
| Co., Ltd. | 1,35 | 105 | 1,062 | (150) |
| KEPCO Solar Co., Ltd. | | | | |
| (formerly Solar School Plant | 000.00 | 00.040 | 0.000 | 4.007 |
| Co., Ltd.) | 230,29 | 22,946 | 3,933 | 1,887 |
| KEPCO Energy Solution Co., Ltd. | 313,79 | 1 4,101 | E 505 | 3,685 |
| Gwangyang Green Energy | 313,19 | 1 4,101 | 5,585 | 3,000 |
| Co., Ltd. | 28,63 | 4 24,095 | _ | (113) |
| Hanhwa Solar Power Private | 20,00 | 24,000 | | (110) |
| equity investment trust | 15,15 | 7 206 | 634 | 603 |
| Godeok Clean Energy | 10,10 | 200 | 00. | 000 |
| Co., Ltd. | 1,64 | 65 | - | (1,382) |
| Bigeum Resident Solar Power | , | | | , , |
| Generation Co., Ltd. | 11,16 | 11,551 | - | (309) |
| Jeju Solarone Co., Ltd. | 1,60 | 3 14 | - | (4) |
| | | | | |
| <joint ventures=""></joint> | | | | |
| Waterbury Lake | | | | |
| Uranium Limited Partnership | 59,88 | 5 77 | - | - |
| Cheongsong Noraesan Wind | | | | |
| Power Co., Ltd. | 55,46 | 43,771 | 7,411 | 2,039 |
| Saemangeum Solar Power | 0.4.00 | | | (500) |
| Co., Ltd. | 34,36 | , | - | (532) |
| KAS INVESTMENT I LLC | 78,41 | | - | - |
| KAS INVESTMENT II LLC | 78,09 | - | - | - |

13. Property, plant and equipment

Property, plant and equipment as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | | | |
|------------------------------|-------------------|-----------------|----------|---------------------|--------------|--------------------------|-----------|-----------------------------------|-----------------------|---------------|--|-----------|
| | Ac | equisition cost | Go | overnment grants | _ | Accumulated depreciation | | ccumulated npairment losses | Cai | rrying amount | | |
| Land | ₩ | 2,677,913 | ₩ | | ₩ | - | ₩ | - | ₩ | 2,677.913 | | |
| Buildings | | 8,483,139 | (482) | | | (3,718,541) | (1,896 | | | 4,762,220 | | |
| Structures | | 4,826,295 | (8,290) | | | (2,468,731) | | (360) | | 2,348,914 | | |
| Machineries | | 26,702,559 | (7,331) | | | (13,054,267) | | (386,807) | | 13,254,154 | | |
| Ships | | 1,232 | - | | | (1,055) | | - | | 177 | | |
| Vehicles | | 90,517 | | (55) | | (60,420) | | - | | 30,042 | | |
| Fixtures and furniture | | 566,626 | | (103) | | (452,352) | | (36) | | 114,135 | | |
| Tools | | 495,340 | | (10) | | (421,363) | | (6) | | 73,961 | | |
| Construction-in- progress | | 16,905,317 | | - | - | | (154,73 | | | 16,750,587 | | |
| Right-of-use assets | | 2,478,284 | | - | (553,143) | | - | | | 1,925,141 | | |
| Asset retirement costs | | 14,124,056 | - | | (5,077,005) | | (146,423) | | (5,077,005) (146,423) | | | 8,900,628 |
| Others | | 15,238,404 | <u> </u> | | (12,489,352) | | | | | 2,749,052 | | |
| | ₩ | 92,589,682 | ₩ | (16,271) | ₩ | (38,296,229) | ₩ | (690,258) | ₩ | 53,586,924 | | |

| | December 31, 2020 | | | | | | | | | | | |
|---------------------------|-------------------|----------------|-----|----------------------|-----------|--------------------------|---|-------------------------------------|-----------|-----------------|--|--|
| | Ac | quisition cost | | Government grants | | Accumulated depreciation | | Accumulated impairment losses | Car | Carrying amount | | |
| Land | ₩ | 2,651,211 | ₩ | - | ₩ | - | ₩ | - | ₩ | 2,651,211 | | |
| Buildings | | 8,216,677 | | (542) | | (3,393,668) | | (1,896) | | 4,820,571 | | |
| Structures | | 4,766,505 | | (8,882) | | (2,298,060) | | (360) | | 2,459,203 | | |
| Machineries | | 25,920,881 | | (8,878) | | (12,054,717) | | (386,807) | | 13,470,479 | | |
| Ships | | 1,647 | • • | | | (1,393) | | - | | 254 | | |
| Vehicles | | 70,810 | | (47) | | (48,525) | | - | | 22,238 | | |
| Fixtures and furniture | | 551,430 | | (162) | | (446,147) | | (36) | | 105,085 | | |
| Tools Construction-in- | | 465,580 | | (152) | | (388,362) | | (6) | | 77,060 | | |
| progress | | 15,999,833 | | - | | - | | (154,729) | | 15,845,104 | | |
| Right-of-use assets | | 2,413,381 | | | (490,919) | | - | | 1,922,462 | | | |
| Asset retirement costs | | 12,035,896 | - | | | (4,507,004) | |) (146,423) | | 7,382,469 | | |
| Others | | 14,330,335 | | _ | | (11,584,768) | | _ | | 2,745,567 | | |
| | ₩ | 87,424,186 | ₩ | (18,663) | ₩ | (35,213,563) | ₩ | (690,257) | ₩ | 51,501,703 | | |

13. Property, plant and equipment (cont'd)

Changes in property, plant and equipment for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | | 2 | 021 | | | | | |
|---|---|------------|----|---------------|---|-----------|-----|--------------|---|-------------|----|------------|
| | | | Α | cquisitions/ | | | | | | | | |
| | | January 1 | Ca | apitalization | [| Disposals | | Depreciation | | Others | De | ecember 31 |
| Land | ₩ | 2,651,211 | ₩ | 754 | ₩ | (11,842) | ₩ | - | ₩ | 37,790 | ₩ | 2,677,913 |
| Buildings (Government | | 4,821,114 | | 867 | | (6,882) | | (334,708) | | 282,311 | | 4,762,702 |
| grants) | | (543) | | - | | - | | 61 | | - | | (482) |
| Structures (Government | | 2,468,085 | | - | | (421) | | (171,387) | | 60,927 | | 2,357,204 |
| grants) | | (8,882) | | - | | - | | 592 | | - | | (8,290) |
| Machineries (Government | | 13,479,357 | | 11,312 | | (37,217) | | (1,188,913) | | 996,946 | | 13,261,485 |
| grants) | | (8,878) | | - | | - | | 1,955 | | (408) | | (7,331) |
| Ships | | 254 | | - | | - | | (103) | | 26 | | 177 |
| Vehicles (Government | | 22,285 | | 1,592 | | (106) | | (13,584) | | 19,910 | | 30,097 |
| grants) Fixtures and | | (47) | | - | | - | | 29 | | (37) | | (55) |
| Furniture (Government | | 105,245 | | 40,701 | | (439) | | (49,804) | | 18,535 | | 114,238 |
| grants) | | (160) | | - | | - | | 74 | | (17) | | (103) |
| Tools (Government | | 77,211 | | 3,949 | | (65) | | (38,764) | | 31,640 | | 73,971 |
| grants) Construction- | | (151) | | - | | - | | 176 | | (35) | | (10) |
| in-progress(*1) | | 15,845,104 | | 1,915,836 | | - | | - | | (1,010,353) | | 16,750,587 |
| Right-of-use assets Asset retirement | | 1,922,462 | | 7,329 | | (12,209) | | (98,154) | | 105,713 | | 1,925,141 |
| costs | | 7,382,469 | | - | | (209) | | (838,437) | | 2,356,805 | | 8,900,628 |
| Others(*2) | | 2,745,567 | | - | | (504) | | (904,852) | | 908,841 | | 2,749,052 |
| | ₩ | 51,501,703 | ₩ | 1,982,340 | ₩ | (69,894) | ₩ | (3,635,819) | ₩ | 3,808,594 | ₩ | 53,586,924 |

^(*1) Other increases or decreases in construction-in-progress include \$4326,706 million of borrowing cost capitalization. (*2) Other increases or decreases in others are the amount replaced to the stored nuclear fuel from inventories.

13. Property, plant and equipment (cont'd)

| | | | | | | 2020 | | | | | | |
|--|---|-------------------------|-----|---------------------|---|-----------|---|--------------|---|----------------------|----|-------------------------|
| | | | | .cquisitions/ | | | | | | | | |
| | | January 1 | _ C | apitalization | | Disposals | [| Depreciation | | Others | De | ecember 31 |
| Land | ₩ | 2,633,130 | ₩ | 9,339 | ₩ | (2,393) | ₩ | - | ₩ | 11,135 | ₩ | 2,651,211 |
| Buildings | | 5,007,238 | | 2,976 | | (7,661) | | (324,496) | | 143,057 | | 4,821,114 |
| (Government | | | | | | | | | | | | |
| grants) | | (603) | | - | | - | | 60 | | - | | (543) |
| Structures | | 2,573,768 | | 6 | | (536) | | (169,172) | | 64,019 | | 2,468,085 |
| (Government | | | | | | • , | | , , , | | | | |
| grants) | | (9,474) | | - | | - | | 592 | | - | | (8,882) |
| Machineries | | 14,094,318 | | 102,546 | | (67,444) | | (1,143,684) | | 493,621 | | 13,479,357 |
| (Government | | | | | | | | | | | | |
| grants) | | (10,833) | | - | | - | | 1,955 | | - | | (8,878) |
| Ships | | 200 | | - | | - | | (106) | | 160 | | 254 |
| Vehicles | | 15,592 | | 1,095 | | (7) | | (9,645) | | 15,250 | | 22,285 |
| (Government | | | | | | . , | | , , | | | | |
| grants) | | (104) | | - | | - | | 83 | | (26) | | (47) |
| Fixtures and | | | | | | | | | | | | |
| Furniture | | 95,040 | | 46,595 | | (28) | | (51,637) | | 15,275 | | 105,245 |
| (Government | | | | | | | | | | | | |
| grants) | | (177) | | - | | - | | 80 | | (63) | | (160) |
| Tools | | 60,165 | | 5,217 | | (144) | | (39,744) | | 51,717 | | 77,211 |
| (Government | | (000) | | | | | | 400 | | (4) | | (454) |
| grants) | | (339) | | - | | - | | 192 | | (4) | | (151) |
| Construction- | | 10 704 670 | | 0.404.000 | | | | | | (404.050) | | 45 045 404 |
| in-progress(*1) Right-of-use assets | | 13,794,670 1,778,778 | | 2,481,690 27,742 | | (2,010) | | (100,967) | | (431,256) 218,919 | | 15,845,104 1,922,462 |
| Asset retirement | | 1,770,770 | | 21,142 | | (2,010) | | (100,907) | | 210,919 | | 1,922,402 |
| costs | | 7,311,228 | | _ | | (177) | | (809,209) | | 880,627 | | 7,382,469 |
| Others(*2) | | 2,618,607 | | _ | | (583) | | (928,431) | | 1,055,974 | | 2,745,567 |
| S(-) | W | 49,961,204 | W | 2,677,206 | W | (80,983) | W | (3,574,129) | ₩ | 2,518,405 | W | 51,501,703 |

^(*1) Other increases or decreases in construction-in-progress include \$432,893 million of borrowing cost capitalization. (*2) Other increases or decreases in others are the amount replaced to the stored nuclear fuel from inventories.

14. Intangible assets

Intangible assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | Dece | mber 31, 202 | 1 | | | | |
|--|------|---------------|---|---------------------|------|---------------------------|----|-------------------------------|-----------------|---------|--|
| | Acqı | uisition cost | G | overnment grants | | ccumulated mortization | im | umulated pairment osses | Carrying amount | | |
| Computer software | W | 135,096 | W | (88) | W | (102,323) | ₩ | - | W | 32,685 | |
| Industrial rights | | 3,437 | | - | | (2,355) | | - | | 1,082 | |
| Development cost | | 177,403 | | (6) | | (161,809) | | - | | 15,588 | |
| Intangible assets under development | | 35,811 | | - | | - | | - | | 35,811 | |
| Land use rights | | 2,706 | | - | | (1,606) | | - | | 1,100 | |
| Goodwill | | 176 | | - | | - | | - | | 176 | |
| Others Loading and unloading | | | | | | | | | | | |
| facilities rights | | 26,282 | | - | | (7,208) | | - | | 19,074 | |
| Dam use rights | | 6,274 | | - | | (2,045) | | - | | 4,229 | |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 | |
| Others | | 57,322 | | - | | (33,024) | | - | | 24,298 | |
| | W | 445,665 | W | (94) | ₩ | (310,370) | ₩ | (359) | W | 134,842 | |

| | | | | [| Dece | mber 31, 202 | 0 | | | |
|--|-----|---------------|---|---------------------|----------|---------------------------|----------|-----------------------------------|---|-----------------|
| | Acq | uisition cost | G | overnment grants | | ccumulated mortization | | ccumulated mpairment losses | | Carrying amount |
| Computer software | ₩ | 119,087 | ₩ | (126) | ₩ | (85,481) | ₩ | - | ₩ | 33,480 |
| Industrial rights | | 2,742 | | - | | (2,055) | | - | | 687 |
| Development costs Intangible assets | | 172,001 | | (11) | | (151,708) | | - | | 20,282 |
| under development | | 28,704 | | - | | - | | - | | 28,704 |
| Land use rights | | 2,706 | | - | | (1,347) | | - | | 1,359 |
| Goodwill | | 176 | | - | | - | | - | | 176 |
| Others Loading and unloading | | | | | | | | | | |
| facilities rights | | 26,282 | | - | | (5,926) | | - | | 20,356 |
| Dam use rights | | 6,274 | | - | | (1,901) | | - | | 4,373 |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 |
| Others | | 56,063 | 3 | | (29,729) | | <u> </u> | | | 26,334 |
| | ₩ | 415,193 | W | (137) | ₩ | (278,147) | ₩ | (359) | ₩ | 136,550 |

14. Intangible assets (cont'd)

Changes in intangible assets for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | | | | 2021 | | | | | | |
|--|-----|---------|---|-----------------------|---------|---|----|------------|--------------------|----|---|---------|-----|-----------|
| | Jar | nuary 1 | | isition/ ilization | Disposa | I | Am | ortization | Impairme losses | nt | | Others | Dec | cember 31 |
| Computer software (government | ₩ | 33,606 | ₩ | 10,399 | ₩ | - | ₩ | (16,826) | ₩ | - | ₩ | 5,594 | ₩ | 32,773 |
| grants) | | (126) | | - | | - | | 57 | | - | | (19) | | (88) |
| Industrial rights Development | | 687 | | - | | - | | (300) | | - | | 695 | | 1,082 |
| costs (government | | 20,293 | | - | | - | | (10,103) | | - | | 5,404 | | 15,594 |
| grants) Intangible assets under | | (11) | | - | | - | | 5 | | - | | - | | (6) |
| development(*) | | 28,704 | | 17,092 | | - | | - | | - | | (9,985) | | 35,811 |
| Land use rights | | 1,359 | | - | | - | | (259) | | - | | - | | 1,100 |
| Goodwill | | 176 | | - | | - | | - | | - | | - | | 176 |
| Others Loading and unloading facilities rights | | 20,356 | | _ | | _ | | (1,282) | | _ | | - | | 19,074 |
| Dam use rights | | 4,373 | | _ | | _ | | (144) | | _ | | _ | | 4,229 |
| Memberships | | 799 | | _ | | _ | | - | | _ | | _ | | 799 |
| Others | | 26,334 | | - | | - | | (3,293) | | - | | 1,257 | | 24,298 |
| | ₩ | 136,550 | ₩ | 27,491 | ₩ | - | ₩ | (32,145) | ₩ | - | W | 2,946 | ₩ | 134,842 |

^(*) Other increases or decreases in intangible assets under development include Ψ 1,704 million of borrowing cost capitalization.

| | | | | | | | : | 2020 | | | | | | |
|--|----|---------|----------------------|--------|----------|---|----|------------|---|--------------|---|----------|-----|----------|
| | Ja | nuary 1 | Acquisi Capitaliz | | Disposal | | Am | ortization | | rment ses | | Others | Dec | ember 31 |
| Computer software (government | ₩ | 32,717 | ₩ | 6,554 | ₩ | - | ₩ | (15,582) | ₩ | - | ₩ | 9,917 | ₩ | 33,606 |
| grants) | | (190) | | - | | - | | 64 | | - | | - | | (126) |
| Industrial rights Development | | 553 | | - | | - | | (250) | | - | | 384 | | 687 |
| costs (government | | 29,601 | | - | | - | | (10,758) | | - | | 1,450 | | 20,293 |
| grants) Intangible assets under | | (15) | | - | | - | | 4 | | - | | - | | (11) |
| development(*) | | 13,007 | 2 | 25,821 | | - | | - | | - | | (10,124) | | 28,704 |
| Land use rights | | 1,618 | | - | | - | | (259) | | - | | - | | 1,359 |
| Goodwill | | - | | - | | - | | - | | - | | 176 | | 176 |
| Others Loading and unloading facilities rights | | 21,670 | | _ | | _ | | (1,314) | | _ | | _ | | 20,356 |
| Dam use | | | | | | | | | | | | | | |
| rights | | 4,518 | | - | | - | | (145) | | - | | - | | 4,373 |
| Memberships | | 799 | | - | | - | | - | | - | | - | | 799 |
| Others | | 19,089 | | _ | | | | (2,976) | | - | | 10,221 | | 26,334 |
| | ₩ | 123,367 | ₩ ; | 32,375 | ₩ | | ₩ | (31,216) | ₩ | - | ₩ | 12,024 | ₩ | 136,550 |

^(*) Other increases or decreases in intangible assets under development include $$\Psi 939$$ million of borrowing cost capitalization.

15. Borrowing costs

Borrowing costs capitalized for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|--|---|---------|---|---------|
| Amount of capitalization: | · | | - | |
| Construction-in-progress | ₩ | 326,706 | ₩ | 332,893 |
| Intangible assets under development and others | | 9,122 | | 10,538 |
| | W | 335,828 | ₩ | 343,431 |
| Capitalization ratio | | 3.00% | | 3.16% |

16. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | | December 31, 2020 | | | |
|------------------------|---|-------------------|---|-------------|---|-------------------|---|-------------|--|
| | C | Current | | Non-current | | Current | | Non-current | |
| Held for trading | | | | | | | | | |
| Derivative instruments | ₩ | 4,446 | ₩ | 15,319 | ₩ | 462 | ₩ | 23,801 | |

17. Trade and other payables

Trade and other payables as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | December 31, 2020 | | | |
|-----------------------------|-------------------|-----------|-------------|-----------|-------------------|-----------|---|-------------|
| | | Current | Non-current | | Current | | ١ | lon-current |
| Trade payables | W | 159,075 | ₩ | - | ₩ | 260,003 | ₩ | - |
| Other payables(*) | | 473,327 | | 2,002,832 | | 494,643 | | 2,294,074 |
| Accrued expenses | | 395,872 | | - | | 379,161 | | - |
| Leasehold deposits received | | 1,546 | | - | | 1,486 | | - |
| Other deposits received | | 1,482 | | - | | 1,995 | | - |
| Lease liabilities | | 15,072 | | 134,244 | | 20,645 | | 148,503 |
| | W | 1,046,374 | ₩ | 2,137,076 | ₩ | 1,157,933 | W | 2,442,577 |

^{(*) \(\}psi_2,078,193\) million and \(\psi_2,275,851\) million are other payables related to fuel management charges spent as of December 31, 2021 and 2020, respectively, which are to be paid out in installments over a 15-year period from 2014.

18. Borrowings and bonds

Borrowings as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | December 31, 2020 | |
|---|----------------------|------------|---|----------------------|--|
| Current liabilities: | | | | | |
| Short-term borrowings | ₩ | 867,028 | ₩ | 340,000 | |
| Current portion of long-term borrowings | | 36,911 | | 19,063 | |
| Current portion of bonds | | 1,439,125 | | 1,154,000 | |
| Less: discount on bonds | | (1,607) | | (1,198) | |
| | | 2,341,457 | | 1,511,865 | |
| Non-current liabilities: | | | | | |
| Long-term borrowings | | 322,743 | | 295,654 | |
| Bonds | | 9,585,441 | | 9,403,477 | |
| Add: premium on bonds | | 1,031 | | 1,366 | |
| Less: discount on bonds | | (26,754) | | (25,734) | |
| | | 9,882,461 | | 9,674,763 | |
| | W | 12,223,918 | ₩ | 11,186,628 | |

18. Borrowings and bonds (cont'd)

Short-term borrowings as of December 31, 2021 and 2020 are as follows (Korean won in millions, USD and EUR in thousands): $\frac{1}{2}$

| | | | Dece | ember 31, | 2021 | | | |
|-----------------------|---|--------------------|--------|-----------|------------|---------------|------|-----------|
| | | | | Interest | | Foreign curre | ncy | |
| 01 11 | Financial institution | Type | Rate | rate | Maturity | amount | | Amount |
| Short-term borrowings | Korea Development Bank | Overdraft | Fixed | 1.73% | 2022.02.08 | | _ | ₩ 100,000 |
| in KRW | Nonghyup Bank | Overdraft | Fixed | 2.22% | 2022.01.07 | | _ | 100,000 |
| | NH INVESTMENT & | Short-term | TIACU | 2.22 /0 | 2022.01.07 | | | 100,000 |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.30% | 2022.02.17 | | - | 30,000 |
| | Woori Investment | Short-term | | 0.000/ | | | | |
| | BANK Co., Ltd. SK SECURITIES Co., | Bond Short-term | Fixed | 2.30% | 2022.02.17 | | - | 30,000 |
| | Ltd. | Bond | Fixed | 2.30% | 2022.02.17 | | _ | 10,000 |
| | KB SECURITIES Co., | Short-term | | | | | | .0,000 |
| | Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | - | 70,000 |
| | SK SECURITIES Co., | Short-term | | | | | | |
| | Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | - | 30,000 |
| | DS INVESTMENT & SECURITIES Co., Ltd. | Short-term Bond | Fixed | 2.36% | 2022.02.17 | | | 10,000 |
| | CAPE INVESTMENT & | Short-term | i ixeu | 2.50 /0 | 2022.02.17 | | _ | 10,000 |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.36% | 2022.02.17 | | - | 10,000 |
| | SK SECURITIES Co., | Short-term | | | | | | |
| | Ltd. | Bond | Fixed | 2.31% | 2022.02.28 | | - | 80,000 |
| | KB SECURITIES Co., Ltd. | Short-term | Fixed | 2 240/ | 2022 02 20 | | | E0 000 |
| | KTB INVESTMENT & | Bond Short-term | Fixed | 2.31% | 2022.02.28 | | - | 50,000 |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.31% | 2022.02.28 | | _ | 10,000 |
| | BNK INVESTMENT & | Short-term | | | | | | ,,,,,, |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.30% | 2022.02.25 | | - | 20,000 |
| | DB Financial | Short-term | E | 0.000/ | 0000 00 05 | | | 40.000 |
| | Investment Co., Ltd. KB SECURITIES Co., | Bond Short-term | Fixed | 2.30% | 2022.02.25 | | - | 10,000 |
| | Ltd. | Bond | Fixed | 2.39% | 2022.02.25 | | _ | 30,000 |
| | KTB INVESTMENT & | | | 2.0070 | | | | 20,000 |
| | SECURITIES Co., Ltd. | Bond | Fixed | 2.39% | 2022.02.25 | | - | 10,000 |
| | DB Financial | Short-term | | | | | | |
| | Investment Co., Ltd. | Bond | Fixed | 2.45% | 2022.02.25 | | - | 20,000 |
| | DB Financial Investment Co., Ltd. | Short-term Bond | Fixed | 2.41% | 2022.02.25 | | _ | 40,000 |
| | SK SECURITIES Co., | Short-term | TIACU | 2.4170 | 2022.02.20 | | | 40,000 |
| | Ltd. | Bond | Fixed | 2.41% | 2022.02.25 | | - | 30,000 |
| | | | | | | | | 690,000 |
| | | | | | | | | |
| Short-term | DBS Bank | Trade | | | | | | |
| borrowings | | finance | Fixed | 0.57% | 2022.06.20 | USD 63 | ,200 | 74,924 |
| in foreign | Shinhan Bank | Trade | | 0.500/ | | | | |
| currency | Cradit Agricals | finance Trade | Fixed | 0.59% | 2022.06.24 | USD 5 | ,119 | 6,068 |
| | Credit Agricole | finance | Fixed | 0.04% | 2022.06.28 | EUR 71 | .544 | 96,036 |
| | | | | 0.0170 | | | , | 177,028 |
| | | | | | | | | |
| | | | | | | | | ₩ 867,028 |

18. Borrowings and bonds (cont'd)

| December 31, 2020 | |
|-------------------|--|
| | |

| in KRW NH INVESTMENT & Short-term | |
|---|--------|
| borrowings Ltd. Bond Fixed 1.35% 2021.01.22 \\ in KRW NH INVESTMENT & Short-term SECURITIES Co., Ltd. Bond Fixed 1.35% 2021.01.22 | unt |
| , , | 50,000 |
| | 50,000 |
| Ćo., Ltd. Bond Fixed 1.35% 2021.01.22 DB Financial Investment Short-term | 30,000 |
| | 10,000 |
| Nonghyup Bank Overdraft Fixed 1.42% 2021.01.07 1 Korea Development | 00,000 |
| Bank Overdraft Fixed 1.53% 2021.01.071 | 00,000 |
| <u>₩</u> 3. | 40,000 |

Long-term borrowings as of December 31, 2021 and 2020 are as follows (Korean won in millions):

December 31, 2021

| Financial institution | _ | cember 31, 20 | | Moturity | Amount |
|---|------------------------------|---------------|-------------------------------|------------|-----------|
| Financial institution | Type | Rate | Interest rate | Maturity | Amount |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes (3M)-2.25% | 2024.09.15 | ₩ 495 |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes _(3M)-2.25% | 2025.03.15 | 1,836 |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes (3M)-2.25% | 2025.12.15 | 724 |
| Korea Energy Agency | Resource development loan | Floating | Treasury notes (3M)-2.25% | - | 4,445 |
| Korea Development | | | | | |
| Bank Samsung Life | Facility loan | Fixed | 4.60% | 2028.06.24 | 21,030 |
| Insurance Co., Ltd. Samsung Fire & Marine Insurance | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,646 |
| Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 16,881 |
| KB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 15,916 |
| Hyundai Marine & Fire Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 14,470 |
| DB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,647 |
| Hana Bank | Facility loan | Fixed | 4.60% | 2028.06.24 | 9,647 |
| Samsung Life | r activity todin | TIACG | Corporate | 2020.00.24 | 3,047 |
| Insurance Co., Ltd. Shinhan Bank | Facility loan | Floating | bonds+1.1% Corporate | 2028.06.24 | 9,647 |
| Kookmin Bank | Facility loan | Floating | bonds+1.1% 91-Day CDs | 2028.06.24 | 14,470 |
| | Facility loan | Floating | + 1.79% | 2031.06.30 | 50,000 |
| Korean Federation of Community Credit | | _ | | | |
| Cooperatives | Facility loan | Fixed | 3.60% | 2031.06.30 | 35,000 |
| KB life Insurance Co., Ltd. Samsung Fire & Marine | Facility loan | Fixed | 3.60% | 2031.06.30 | 28,000 |
| Insurance Co., Ltd. Energy Infra Asset | Facility loan | Fixed | 3.60% | 2031.06.30 | 28,000 |
| Management Co., Ltd. KB Asset Management Co., | Facility loan | Fixed | 3.60% | 2031.06.30 | 20,500 |
| Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,800 |
| Energy Infra Asset Management Co., Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,500 |
| | | | | | 359,654 |
| | Less: curren | t portion | | | (36,911) |
| | | | | | ₩ 322,743 |

| December 31 | 1. 2020 |
|-------------|---------|
|-------------|---------|

| Financial institution | Туре | Rate | Interest rate | Maturity | | Amount |
|---|------------------------------|------------|------------------------------|------------|---|----------|
| Korea Energy Agency | Resource | | Treasury notes | | | |
| | development loan | Floating | _(3M)-2.25% | 2024.09.15 | ₩ | 676 |
| Korea Energy Agency | Resource | Election o | Treasury notes | 0005 00 45 | | 0.400 |
| Korea Energy Agency | development loan Resource | Floating | (3M)-2.25% Treasury notes | 2025.03.15 | | 2,400 |
| Rolea Ellergy Agelicy | development loan | Floating | (3M)-2.25% | 2025.12.15 | | 905 |
| Korea Energy Agency | Resource | ricating | Treasury notes | 2020.12.10 | | 000 |
| g,gee, | development loan | Floating | (3M)-2.25% | - | | 4,445 |
| Samsung Life Insurance | · | • | , , | | | |
| Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | | 11,089 |
| Samsung Fire & | | | | | | |
| Marine Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | | 19,405 |
| KB Insurance Co., Ltd. | • | | | | | |
| Hyundai Marine & Fire | Facility loan | Fixed | 4.60% | 2028.06.24 | | 18,296 |
| Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | | 16,632 |
| DB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | | 11,088 |
| Hana Bank | Facility loan | Fixed | 4.60% | 2028.06.24 | | 11,088 |
| Korea Development | i acility loan | Tixeu | 4.00 /0 | 2020.00.24 | | 11,000 |
| Bank | Facility loan | Fixed | 4.60% | 2028.06.24 | | 24,173 |
| Samsung Life | • | | Corporate | | | |
| Insurance Co., Ltd. | Facility loan | Floating | bonds+1.1% | 2028.06.24 | | 11,088 |
| Shinhan Bank | | | Corporate | | | 10.000 |
| Kaakmin Dank | Facility loan | Floating | bonds+1.1% | 2028.06.24 | | 16,632 |
| Kookmin Bank | Facility loan | Floating | 91-Day CDs + 1.79% | 2031.06.30 | | 30,186 |
| Korean Federation of | r domity rourr | rioding | . 1.7070 | 2001.00.00 | | 00,100 |
| Community Credit | | | | | | |
| Cooperatives | Facility loan | Fixed | 3.60% | 2031.06.30 | | 21,133 |
| KB life Insurance Co., Ltd. | Facility loan | Fixed | 3.60% | 2031.06.30 | | 16,902 |
| Samsung Fire & Marine | • | | | | | |
| Insurance Co., Ltd. | Facility loan | Fixed | 3.60% | 2031.06.30 | | 16,902 |
| Energy Infra Asset | Facility loop | Fixed | 3.60% | 2024 06 20 | | 10 277 |
| Management Co., Ltd. Energy Infra Asset | Facility loan | rixeu | 3.00% | 2031.06.30 | | 12,377 |
| Management Co., Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | | 34,500 |
| KB Asset Management Co., | , | | | | | ,,,,,, |
| Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | | 34,800 |
| | | | | | | 314,717 |
| | Less: curren | t portion | | | | (19,063) |
| | | • | | | W | 295,654 |
| | | | | | ₩ | 295,654 |

Bonds in Korean won as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Issue | Maturity | Rate | Interest rate | December 31, 2021 | | Dec | cember 31, 2020 |
|----------------------|------------|------------|-------|---------------|----------------------|---------|-----|--------------------|
| Corporate bond #9-1 | 2009.10.16 | 2024.10.16 | Fixed | 5.72% | ₩ | 30,000 | ₩ | 30,000 |
| Corporate bond #9-2 | 2009.10.16 | 2029.10.16 | Fixed | 5.74% | | 70,000 | | 70,000 |
| Corporate bond #11 | 2009.11.06 | 2029.11.06 | Fixed | 5.84% | | 100,000 | | 100,000 |
| Corporate bond #17-2 | 2010.12.10 | 2040.12.10 | Fixed | 5.06% | | 100,000 | | 100,000 |
| Corporate bond #26-1 | 2011.03.25 | 2021.03.25 | - | - | | - | | 100,000 |
| Corporate bond #26-2 | 2011.03.25 | 2031.03.25 | Fixed | 4.89% | | 100,000 | | 100,000 |
| Corporate bond #27-2 | 2011.04.15 | 2021.04.15 | - | - | | - | | 100,000 |
| Corporate bond #27-3 | 2011.04.15 | 2031.04.15 | Fixed | 4.88% | | 100,000 | | 100,000 |
| Corporate bond #28 | 2011.07.01 | 2026.07.01 | Fixed | 4.56% | | 100,000 | | 100,000 |
| Corporate bond #29-2 | 2011.12.08 | 2021.12.08 | - | - | | - | | 100,000 |
| Corporate bond #29-3 | 2011.12.08 | 2031.12.08 | Fixed | 4.26% | | 100,000 | | 100,000 |
| Corporate bond #30-2 | 2012.01.19 | 2022.01.19 | Fixed | 4.04% | | 120,000 | | 120,000 |
| Corporate bond #30-3 | 2012.01.19 | 2032.01.19 | Fixed | 4.24% | | 50,000 | | 50,000 |
| Corporate bond #31-2 | 2012.03.20 | 2022.03.20 | Fixed | 4.15% | | 100,000 | | 100,000 |
| Corporate bond #31-3 | 2012.03.20 | 2032.03.20 | Fixed | 4.32% | | 150,000 | | 150,000 |
| Corporate bond #32-2 | 2012.04.26 | 2022.04.26 | Fixed | 3.97% | | 90,000 | | 90,000 |
| Corporate bond #32-3 | 2012.04.26 | 2032.04.26 | Fixed | 4.14% | | 130,000 | | 130,000 |
| Corporate bond #33-1 | 2012.05.18 | 2022.05.18 | Fixed | 3.82% | | 100,000 | | 100,000 |
| Corporate bond #33-2 | 2012.05.18 | 2032.05.18 | Fixed | 4.01% | | 100,000 | | 100,000 |
| Corporate bond #34-1 | 2012.07.13 | 2022.07.13 | Fixed | 3.54% | | 90,000 | | 90,000 |
| Corporate bond #34-2 | 2012.07.13 | 2032.07.13 | Fixed | 3.71% | | 100,000 | | 100,000 |
| Corporate bond #35-2 | 2013.01.18 | 2023.01.18 | Fixed | 3.15% | | 90,000 | | 90,000 |
| Corporate bond #35-3 | 2013.01.18 | 2033.01.18 | Fixed | 3.32% | | 100,000 | | 100,000 |
| Corporate bond #36-2 | 2013.03.28 | 2023.03.28 | Fixed | 2.98% | | 100,000 | | 100,000 |
| Corporate bond #36-3 | 2013.03.28 | 2033.03.28 | Fixed | 3.19% | | 100,000 | | 100,000 |
| Corporate bond #37-2 | 2013.04.26 | 2023.04.26 | Fixed | 2.93% | | 100,000 | | 100,000 |
| Corporate bond #37-3 | 2013.04.26 | 2033.04.26 | Fixed | 3.12% | | 120,000 | | 120,000 |
| Corporate bond #38-2 | 2013.07.19 | 2023.07.19 | Fixed | 3.62% | | 100,000 | | 100,000 |
| Corporate bond #38-3 | 2013.07.19 | 2033.07.19 | Fixed | 3.88% | | 90,000 | | 90,000 |
| Corporate bond #39-2 | 2013.10.18 | 2023.10.18 | Fixed | 3.71% | | 90,000 | | 90,000 |
| Corporate bond #40-2 | 2013.11.22 | 2023.11.22 | Fixed | 3.92% | | 140,000 | | 140,000 |
| Corporate bond #41-2 | 2014.01.17 | 2024.01.17 | Fixed | 3.86% | | 130,000 | | 130,000 |
| Corporate bond #42-2 | 2014.04.25 | 2024.04.25 | Fixed | 3.68% | | 100,000 | | 100,000 |
| Corporate bond #42-3 | 2014.04.25 | 2034.04.25 | Fixed | 3.89% | | 100,000 | | 100,000 |
| Corporate bond #43-2 | 2014.12.18 | 2024.12.18 | Fixed | 2.80% | | 220,000 | | 220,000 |
| Corporate bond #43-3 | 2014.12.18 | 2034.12.18 | Fixed | 3.07% | | 90,000 | | 90,000 |
| Corporate bond #44-2 | 2015.06.29 | 2025.06.29 | Fixed | 2.70% | | 40,000 | | 40,000 |
| Corporate bond #44-3 | 2015.06.29 | 2035.06.29 | Fixed | 2.94% | | 150,000 | | 150,000 |
| Corporate bond #45-2 | 2017.04.27 | 2027.04.27 | Fixed | 2.44% | | 50,000 | | 50,000 |
| Corporate bond #45-3 | 2017.04.27 | 2037.04.27 | Fixed | 2.60% | | 110,000 | | 110,000 |

| | Issue | Maturity | Rate | Interest rate | December 31, 2021 | December 31, 2020 |
|---|--------------|-------------|----------------|---------------|----------------------|----------------------|
| Corporate bond #46-2 | 2017.09.18 | 2027.09.18 | Fixed | 2.37% | 80,000 | 80,000 |
| Corporate bond #46-3 | 2017.09.18 | 2047.09.18 | Fixed | 2.41% | 150,000 | 150,000 |
| Corporate bond #47-2 | 2017.10.17 | 2027.10.17 | Fixed | 2.50% | 70,000 | 70,000 |
| Corporate bond #47-3 | 2017.10.17 | 2047.10.17 | Fixed | 2.47% | 80,000 | 80,000 |
| Corporate bond #48-1 | 2018.03.13 | 2021.03.13 | - | - | - | 160,000 |
| Corporate bond #48-2 | 2018.03.13 | 2023.03.13 | Fixed | 2.70% | 20,000 | 20,000 |
| Corporate bond #48-3 | 2018.03.13 | 2028.03.13 | Fixed | 2.86% | 30,000 | 30,000 |
| Corporate bond #48-4 | 2018.03.13 | 2048.03.13 | Fixed | 2.94% | 90,000 | 90,000 |
| Corporate bond #49-1 | 2018.05.11 | 2021.05.11 | - | - | - | 70,000 |
| Corporate bond #49-2 | 2018.05.11 | 2038.05.11 | Fixed | 2.90% | 170,000 | 170,000 |
| Corporate bond #49-3 | 2018.05.11 | 2048.05.11 | Fixed | 2.88% | 60,000 | 60,000 |
| Corporate bond #50-1 | 2018.06.05 | 2021.06.05 | - | - | <u>-</u> | 30,000 |
| Corporate bond #50-2 | 2018.06.05 | 2038.06.05 | Fixed | 2.84% | 200,000 | 200,000 |
| Corporate bond #50-3 | 2018.06.05 | 2048.06.05 | Fixed | 2.81% | 70,000 | 70,000 |
| Corporate bond #51-1 | 2018.10.26 | 2021.10.26 | - | - | - | 50,000 |
| Corporate bond #51-2 | 2018.10.26 | 2048.10.26 | Fixed | 2.25% | 50,000 | 50,000 |
| Corporate bond #52-1 | 2019.06.05 | 2024.06.05 | Fixed | 1.74% | 40,000 | 40,000 |
| Corporate bond #52-2 | 2019.06.05 | 2039.06.05 | Fixed | 1.81% | 120,000 | 120,000 |
| Corporate bond #52-3 | 2019.06.05 | 2049.06.05 | Fixed | 1.82% | 140,000 | 140,000 |
| Corporate bond #53-1 | 2019.10.16 | 2024.10.16 | Fixed | 1.53% | 60,000 | 60,000 |
| Corporate bond #53-2 | 2019.10.16 | 2039.10.16 | Fixed | 1.59% | 100,000 | 100,000 |
| Corporate bond #53-3 | 2019.10.16 | 2049.10.16 | Fixed | 1.58% | 90,000 | 90,000 |
| Corporate bond #54-1 | 2019.11.27 | 2022.11.27 | Fixed | 1.60% | 50,000 | 50,000 |
| Corporate bond #54-2 | 2019.11.27 | 2039.11.27 | Fixed | 1.76% | 70,000 | 70,000 |
| Corporate bond #54-3 | 2019.11.27 | 2049.11.27 | Fixed | 1.70% | 70,000 | 70,000 |
| Corporate bond #55-1 | 2020.04.02 | 2040.04.02 | Fixed | 1.80% | 50,000 | 50,000 |
| Corporate bond #55-2 | 2020.04.02 | 2050.04.02 | Fixed | 1.80% | 50,000 | 50,000 |
| Corporate bond #56-1 | 2020.04.28 | 2025.04.28 | Fixed | 1.62% | 60,000 | 60,000 |
| Corporate bond #56-2 | 2020.04.28 | 2040.04.28 | Fixed | 1.81% | 90,000 | 90,000 |
| Corporate bond #56-3 | 2020.04.28 | 2050.04.28 | Fixed | 1.83% | 150,000 | 150,000 |
| Corporate bond #57-1 | 2020.05.25 | 2025.05.25 | Fixed | 1.38% | 100,000 | 100,000 |
| Corporate bond #57-2 | 2020.05.25 | 2040.05.25 | Fixed | 1.57% | 70,000 | 70,000 |
| Corporate bond #57-3 | 2020.05.25 | 2050.05.25 | Fixed | 1.59% | 80,000 | 80,000 |
| Corporate bond #58-1 | 2020.06.15 | 2025.06.15 | Fixed | 1.34% | 80,000 | 80,000 |
| Corporate bond #58-2 | 2020.06.15 | 2040.06.15 | Fixed | 1.63% | 70,000 | 70,000 |
| Corporate bond #58-3 | 2020.06.15 | 2050.06.15 | Fixed | 1.66% | 100,000 | 100,000 |
| Corporate bond #59-1 | 2020.11.23 | 2025.11.23 | Fixed | 1.47% | 60,000 | 60,000 |
| Corporate bond #59-2 | 2020.11.23 | 2040.11.23 | Fixed | 1.80% | 70,000 | 70,000 |
| Corporate bond #59-3 | 2020.11.23 | 2050.11.23 | Fixed | 1.78% | 90,000 | 90,000 |
| Corporate bond #60-1 | 2020.11.23 | 2026.06.29 | Fixed | 1.96% | 30,000 | 90,000 |
| Corporate bond #60-2 | 2021.06.29 | 2020.06.29 | Fixed | 2.31% | 70,000 | - |
| Corporate bond #60-3 | 2021.06.29 | 2051.06.29 | Fixed | 2.31% | 160,000 | _ |
| Corporate bond #61-1 | | | | 2.34% | | - |
| • | 2021.10.14 | 2026.10.14 | Fixed | 2.49% | 50,000 | - |
| Corporate bond #61-2 | 2021.10.14 | 2041.10.14 | Fixed Fixed | 2.45% | 90,000 160,000 | - |
| Corporate bond #61-3 Corporate bond #62-1 | 2021.10.14 | 2051.10.14 | Fixed | 2.55% | | - |
| • | 2021.11.03 | 2026.11.03 | | 2.60% | 100,000 | - |
| Corporate bond #62-2 | 2021.11.03 | 2041.11.03 | Fixed | 2.59% | 50,000 | - |
| Corporate bond #62-3 | 2021.11.03 | 2051.11.03 | Fixed | 2.0070 | 90,000 | 7 200 000 |
| | Loon dia | nt on bonds | | | 7,480,000 | 7,290,000 |
| | Less: discou | | | | (13,645) | (12,884) |
| | Less: curre | ant bornou | | | (549,910) | (609,834) |
| | | | | | ₩ 6,916,445 | ₩ 6,667,282 |

Foreign bonds as of December 31, 2021 and 2020 are as follows (Korean won in millions, USD, HKD and CHF in thousands): $\frac{1}{2}$

| | | | | | | Decembe | r 31, 2 | 2021 | December 31, 2020 | | | 020 |
|---------------------|------------|-----------------|-------|----------|------|-----------|---------|------------|-------------------|-----------|-----|------------|
| | | | | Interest | F | oreign | | Won | ı | oreign | | Won |
| | Issue | Maturity | Rate | rate | C | urrency | e | quivalents | | urrency | ec | quivalents |
| 01-1-1 1 1 #0 | 0044.07.40 | 2024 07 42 | | | | | 14/ | | HOD | 500,000 | 14/ | 544.000 |
| Global bond #3 | 2011.07.13 | 2021.07.13 | - | - | | - | ₩ | - | USD | 500,000 | ₩ | 544,000 |
| Global bond #4 | 2012.09.19 | 2022.09.19 | Fixed | 3.00% | USD | 750,000 | | 889,125 | USD | 750,000 | | 816,000 |
| Global bond #7 | 2015.06.15 | 2025.06.15 | Fixed | 3.25% | USD | 300,000 | | 355,650 | USD | 300,000 | | 326,400 |
| Global bond #8 | 2017.07.25 | 2027.07.25 | Fixed | 3.13% | USD | 300,000 | | 355,650 | USD | 300,000 | | 326,400 |
| Global bond #9 | 2018.07.25 | 2023.07.25 | Fixed | 3.75% | USD | 600,000 | | 711,300 | USD | 600,000 | | 652,800 |
| Global bond #10 | 2021.04.27 | 2026.04.27 | Fixed | 1.25% | USD | 500,000 | | 592,750 | | - | | - |
| Private | | | | | | | | | | | | |
| Placement bond#1 | 2018.03.13 | 2028.03.13 | Fixed | 3.35% | HKD | 1,650,000 | | 250.850 | HKD | 1,650,000 | | 231,578 |
| Swiss franc | 2010.00.10 | 2020.00.10 | TIXOG | 0.0070 | TIND | 1,000,000 | | 200,000 | 11110 | 1,000,000 | | 201,070 |
| bond#1 | 2019.07.19 | 2024.07.19 | Fixed | 0.00% | CHF | 200,000 | | 259,494 | CHF | 200,000 | | 246,866 |
| Swiss franc | | | | | = | | | | a = | | | |
| bond #2 | 2019.07.19 | 2027.07.19 | Fixed | 0.05% | CHF | 100,000 | | 129,747 | CHF | 100,000 | | 123,433 |
| | | | | | | | | 3,544,566 | | | | 3,267,477 |
| | Less: dis | count on bonds | | | | | | (14,717) | | | | (14,048) |
| | Add: pre | mium on bonds | | | | | | 1,031 | | | | 1,366 |
| | Less: c | current portion | | | | | | (887,608) | _ | | | (542,968) |
| | | | | | | | ₩ | 2,643,272 | ı | | ₩ | 2,711,827 |

As of December 31, 2021 and 2020, the plans to repay the borrowings and bonds payables are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | |
|--------------------|-------------------|-----------|------|----------------|-------|------------|--|--|--|
| | В | orrowings | | Bonds | Total | | | | |
| Within 1 year | ₩ | 903,939 | W | 1,439,125 | ₩ | 2,343,064 | | | |
| Within 1 ~ 5 years | | 144,685 | | 3,759,194 | | 3,903,879 | | | |
| Afterward | | 178,058 | | 5,826,247 | | 6,004,305 | | | |
| | W | 1,226,682 | ₩ | 11,024,566 | ₩ | 12,251,248 | | | |
| | | | Dece | ember 31, 2020 |) | | | | |
| | В | orrowings | | Bonds | | Total | | | |
| Within 1 year | W | 359,063 | W | 1,154,000 | ₩ | 1,513,063 | | | |
| Within 1 ~ 5 years | | 147,399 | | 4,152,066 | | 4,299,465 | | | |
| Afterward | | 148,255 | | 5,251,411 | | 5,399,666 | | | |
| | ₩ | 654,717 | ₩ | 10,557,477 | ₩ | 11,212,194 | | | |

19. Leases

Details of right-of-use assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 Accumulated | | | | | | | | |
|--|-------------------------------|---|-----|--|-------|---|--|--|--|
| | Acqı | uisition cost | dep | preciation | Carry | Carrying amount | | | |
| Land Buildings Structures Vehicles Machinery Other right-of-use assets | ₩ | 14,050 17,122 2,291,668 7,402 18,886 129,156 | ₩ | (576) (8,176) (513,932) (4,990) (9,159) (16,310) | ₩ | 13,474 8,946 1,777,736 2,412 9,727 112,846 | | | |
| | ₩ | 2,478,284 | ₩ | (553,143) | ₩ | 1,925,141 | | | |
| | | December 31, 2020 | | | | | | | |
| | Acqu | isition cost | | umulated preciation | Carry | ing amount | | | |
| Land Buildings Structures Vehicles Machinery Other right-of-use assets | ₩ | 14,949 42,666 2,190,147 7,639 20,578 137,402 | ₩ | (792) (31,411) (436,329) (5,012) (6,938) (10,437) | ₩ | 14,157 11,255 1,753,818 2,627 13,640 126,965 | | | |
| | ₩ | 2,413,381 | ₩ | (490,919) | ₩ | 1,922,462 | | | |

Changes in right-of-use assets for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | | 2 | 2021 | | | | | |
|---|------------|---|---------|--|--------|------------------------------------|------------------|--|---|--|----|---|
| | Ja | nuary 1 | In | crease | D | ecrease | De | preciation | | Others | De | cember 31 |
| Land Buildings Structures Vehicles Machinery Other right-of- | ₩ 1 | 14,157 11,255 1,753,818 2,627 13,640 | ₩ | 92 3,653 2,591 337 | ₩ | (1,345) (553) (492) (187) | ₩ | (473) (7,209) (77,800) (2,642) (4,023) | ₩ | (302) 2,592 102,271 328 (40) | ₩ | 13,474 8,946 1,777,736 2,412 9,727 |
| use assets | | 126,965 1,922,462 nuary 1 | ₩ In | 7,329 crease | ₩ D | (9,632) (12,209) ecrease | ₩ 2020 Dej | (6,007) (98,154) preciation | ₩ | 864 105,713 Others | ₩ | 112,846 1,925,141 cember 31 |
| Land Buildings Structures Vehicles Machinery Other right-ofuse assets | ₩ 1 | 12,655 15,000 1,618,718 2,548 17,140 112,717 | ₩ | 270 12,490 - 2,814 139 12,029 | ₩ | (39) (1,971) - - | ₩ | (429) (16,983) (70,536) (3,229) (4,197) (5,593) | ₩ | 1,661 787 207,607 494 558 7,812 | ₩ | 14,157 11,255 1,753,818 2,627 13,640 126,965 |
| | ₩ 1 | ,778,778 | W | 27,742 | W | (2,010) | ₩ | (100,967) | ₩ | 218,919 | ₩ | 1,922,462 |

19. Leases (cont'd)

The amounts of lease liabilities as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | | December 31, 2020 | | | | |
|--|---|-----------------------------|---|---|---|-----------------------------|--------------|---|--|--|
| | | Minimum lease payments | | Present value of minimum lease payments | | Minimum lease payments | | Present value of minimum lease payments | | |
| Within 1 year Within 1 ~ 5 years Afterward | ₩ | 17,995 39,263 150,744 | ₩ | 15,072 29,538 104,706 | ₩ | 20,854 42,647 162,041 | W | 20,645 41,926 106,577 | | |
| | W | 208,002 | ₩ | 149,316 | ₩ | 225,542 | W | 169,148 | | |

Changes in liabilities related to lease contracts for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | 2 | 2021 | | |
|-------------------|-----------|----------|------------|--------------|----------|-------------|
| | January 1 | Increase | Decrease | Depreciation | Others | December 31 |
| Lease liabilities | ₩ 169,148 | ₩ 6,793 | ₩ (33,933) | ₩ 3,167 | ₩ 4,141 | ₩ 149,316 |
| | | | 2 | 2020 | | |
| | January 1 | Increase | Decrease | Depreciation | Others | December 31 |
| Lease liabilities | ₩ 158,804 | ₩ 27,016 | ₩ (31,053) | ₩ 3,472 | ₩ 10,909 | ₩ 169,148 |

The amounts recognized in profit or loss by the Group in relation to the lease for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | 2020 | | |
|--|---|-----------------|------|------------|--|
| Depreciation of right-of-use assets | ₩ | 97,433 | ₩ | 100,539 | |
| Interest expense on lease liabilities | | 3,167 | | 3,472 | |
| Expenses relating to short-term leases Expenses relating to leases of low-value assets | | 16,782 1.031 | | 598 927 | |
| Loss on translation of lease liabilities | | 69 | | 921 | |
| Gain on translation of lease liabilities | | (5) | | (377) | |
| Loss from lease cancellation Gain from lease cancellation | | 458 (265) | | (6) | |
| | ₩ | 118,670 | W | 105,153 | |

20. Retirement benefit plans

20.1 Defined contribution plans

For the years ended December 31, 2021 and 2020, retirement benefit expenses of \(\pi\)34,875 million and \(\pi\)34,509 million, respectively, are recognized in the consolidated statements of comprehensive income and represent contribution amounts paid to retirement benefit plans in accordance with a ratio defined in retirement benefit plans. All the contribution amounts for the year ended December 31, 2021 have been paid.

Costs related to the defined contribution plans for the years ended December 31, 2021 and 2020 are recognized in profit or loss and others as follows (Korean won in millions):

| | <u> </u> | 2021 | | 2020 | |
|---|----------|--------|---|--------|--|
| Cost of sales | ₩ | 24,151 | ₩ | 23,599 | |
| Selling and administrative expenses | | 1,343 | | 1,330 | |
| Others (construction-in-progress, etc.) | | 9,381 | | 9,580 | |
| | W | 34,875 | ₩ | 34,509 | |

20.2 Defined benefit plans

The principal assumptions used for actuarial valuation as of December 31, 2021 and 2020 are as follows:

| | December 31, | December 31, |
|------------------------|---------------|---------------|
| | 2021 | 2020 |
| Discount rate | 2.51% ~ 3.92% | 1.91% ~ 3.43% |
| Future salary increase | 2.00% ~ 5.95% | 2.00% ~ 5.95% |

Details of the Group's expense relating to its defined benefit plans for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | <u> </u> | 2021 | | 2020 |
|--------------------------------|----------|----------|---|----------|
| Current service cost | ₩ | 99,465 | ₩ | 99,013 |
| Interest cost | | 17,916 | | 16,172 |
| Expected return on plan assets | | (12,451) | | (10,693) |
| Transfer to others(*) | <u> </u> | (25,626) | | (25,419) |
| | ₩ | 79,304 | ₩ | 79,073 |

(*) It is replaced to ordinary development expense and others (\(\psi\)14,893 million) and construction-in-progress (\(\psi\)10,732 million) for the year ended December 31, 2021.

20. Retirement benefit plans (cont'd)

20.2 Defined benefit plans (cont'd)

Costs related to the defined benefit plans recognized in profit or loss for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|-------------------------------------|---|--------|---|--------|
| Cost of sales | W | 74,849 | ₩ | 74,588 |
| Selling and administrative expenses | | 4,455 | | 4,485 |
| | ₩ | 79,304 | ₩ | 79,073 |

The amounts recognized in the consolidated statements of financial position related to defined benefit plans as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, | | | ecember 31, |
|--|--------------|-----------|---|-------------|
| | | 2021 | | |
| Present value of defined benefit obligations | W | 874,121 | ₩ | 875,575 |
| Fair value of plan assets | | (622,524) | | (596,538) |
| Net defined benefit liabilities | ₩ | 251,597 | ₩ | 279,037 |

Changes in present value of defined benefit obligations for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 |
|-------------------------------------|------|----------|---|----------|
| Beginning balance | ₩ | 875,575 | ₩ | 833,435 |
| Current service cost | | 99,465 | | 99,013 |
| Interest cost | | 17,916 | | 16,172 |
| Remeasurement | | (74,722) | | (42,497) |
| Actual payments | | (44,082) | | (30,548) |
| Changes in retirement benefits plan | | (31) | | - |
| Ending balance | ₩ | 874,121 | ₩ | 875,575 |

20. Retirement benefit plans (cont'd)

20.2 Defined benefit plans

Changes in fair value of plan assets for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | 2020 | |
|-------------------------------------|---|----------|------|----------|
| Beginning balance | ₩ | 596,538 | ₩ | 513,937 |
| Expected return on plan assets | | 12,451 | | 10,693 |
| Remeasurement | | (2,277) | | (342) |
| Contribution from the employer | | 48,400 | | 94,158 |
| Actual payments | | (32,556) | | (21,908) |
| Changes in retirement benefits plan | | (32) | | - |
| Ending balance | ₩ | 622,524 | ₩ | 596,538 |

Meanwhile, accumulated remeasurement gain amounting to \\ \Psi_82,111 \text{ million} \text{ and } \\ \Psi_29,329 \text{ million} \text{ are recognized in accumulated other comprehensive income as of December 31, 2021 and 2020, respectively.

Types of plan assets and fair value of plan assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Dec | December 31, | | |
|--------------------|-----|--------------|---|---------|
| | | 2021 | | |
| Equity instruments | W | 337,627 | ₩ | 249,575 |
| Debt instruments | | 59,145 | | 56,126 |
| Bank deposits | | 23,545 | | 95,733 |
| Others | | 202,207 | | 195,104 |
| | W | 622,524 | ₩ | 596,538 |

Actual return on plan assets for the years ended December 31, 2021 and 2020 are \text{\$\psi\$}10,174 million and \text{\$\psi\$}10,350 million, respectively.

Remeasurement recognized in other comprehensive income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|--|---|----------|---|----------|
| Actuarial gain arising from changes in financial assumptions | ₩ | (49,342) | W | (4,080) |
| Experience adjustments | | (25,380) | | (38,417) |
| Return on plan assets | | 2,277 | | 342 |
| | ₩ | (72,445) | ₩ | (42,155) |

The amounts recognized in the consolidated statements of financial position related to employee benefits obligations other than retirement benefit obligation as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | nber 31, 021 | De | December 31, 2020 | | |
|--|---|-----------------|----|----------------------|--|--|
| Other long-term employee benefits liabilities Long-term employee paid annual leave | ₩ | 1,339 | ₩ | 1,547 | | |

21. Provisions

21.1 Provisions

Details of provisions as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | December 31, 2020 | | | | | |
|---|-------------------|---------|---|-------------|---|-------------------|-------------|------------|--|--|--|
| | | Current | 1 | Non-current | | Current | Non-current | | | | |
| Provisions for employee benefits | ₩ | 246,690 | ₩ | - | ₩ | 230,002 | ₩ | - | | | |
| Provisions for litigation | | - | | 16,755 | | - | | 17,135 | | | |
| Provisions for decommissioning costs | | 594,808 | | 21,900,850 | | 532,315 | | 19,541,462 | | | |
| Nuclear plants | | - | | 19,461,461 | | - | | 16,974,884 | | | |
| Fuel spent | | 457,466 | | 893,196 | | 487,529 | | 866,472 | | | |
| Radioactive waste | | 137,342 | | 1,546,193 | | 44,786 | | 1,700,106 | | | |
| Others | | 157,446 | | 107,658 | | 200,265 | | 90,112 | | | |
| Provisions for power plant regional support program Provisions for renewable energy portfolio standard | | 146,587 | | - | | 144,272 | | - | | | |
| Others | | 10,859 | | 107,658 | | 55,066 | | 90,112 | | | |
| Provisions for greenhouse gas emission | | | | - | | 927 | | | | | |
| | ₩ | 998,944 | ₩ | 22,025,263 | ₩ | 962,582 | ₩ | 19,648,709 | | | |

Changes in provisions for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | | | | | | | | |
|--|--------------|---|-----------|---|---------|---|-------------|---|----------|-----|------------|
| | January 1 | | Accrual | T | ransfer | | Payment | R | Reversal | | cember 31 |
| Provisions for employee benefits | ₩ 230,002 | ₩ | 255,108 | ₩ | - | ₩ | (238,420) | ₩ | - | ₩ | 246,690 |
| Provisions for litigation Provisions for | 17,135 | | - | | - | | (380) | | - | | 16,755 |
| decommissioning costs | 20,073,777 | | 2,621,735 | | 376,131 | | (564,710) | | (11,274) | 2 | 22,495,658 |
| Nuclear plants | 16,974,884 | | 2,169,672 | | 376,131 | | (59,226) | | - | 1 | 19,461,461 |
| Fuel spent | 1,354,001 | | 452,063 | | - | | (455,402) | | - | | 1,350,662 |
| Radioactive waste | 1,744,892 | | - | | - | | (50,082) | | (11,274) | | 1,683,535 |
| Others | 290,377 | | 494,880 | | 2,154 | | (519,916) | | (2,391) | | 265,104 |
| Provisions for power plant regional support program Provisions for renewable | 144,272 | | 49,596 | | - | | (47,281) | | - | | 146,587 |
| energy portfolio standard | - | | 430,344 | | - | | (430,344) | | - | | - |
| Others | 145,178 | | 14,940 | | 2,154 | | (41,364) | | (2,391) | | 118,517 |
| Provisions for greenhouse gas emission | 927 | | _ | | _ | | (927) | | _ | | |
| | ₩ 20,611,291 | ₩ | 3,371,723 | ₩ | 378,285 | ₩ | (1,323,426) | W | (13,665) | ₩ 2 | 23,024,207 |

21. Provisions (cont'd)

| | 2020 | | | | | | | |
|---|--------------|----------------|-----------|---------------|----------|----------------|--|--|
| | January 1 | Accrual | Transfer | Payment | Reversal | December 31 | | |
| Provisions for employee benefits | ₩ 189,426 | W 288,195 | ₩ - | W (247,619) | ₩ - | ₩ 230,002 | | |
| Provisions for litigation Provisions for | 5,430 | 21,119 | - | (9,389) | (25) | 17,135 | | |
| decommissioning costs | 19,096,646 | 1,097,374 | 390,459 | (510,702) | - | 20,073,777 | | |
| Nuclear plants | 15,994,039 | 638,120 | 390,459 | (47,734) | - | 16,974,884 | | |
| Fuel spent | 1,355,280 | 394,642 | - | (395,921) | - | 1,354,001 | | |
| Radioactive waste | 1,747,327 | 64,612 | - | (67,047) | - | 1,744,892 | | |
| Others Provisions for power plant | 158,134 | 567,296 | 461 | (435,514) | - | 290,377 | | |
| regional support program Provisions for renewable | 140,133 | 47,074 | - | (42,935) | - | 144,272 | | |
| energy portfolio standard | - | 390,538 | - | (390,538) | - | - | | |
| Others Provisions for greenhouse gas emission | 18,001 | 128,757 927 | 461 | (2,041) | - | 145,178 927 | | |
| | ₩ 19,449,636 | W 1,973,984 | ₩ 390,920 | ₩ (1,203,224) | ₩ (25) | ₩ 20,611,291 | | |

Estimates of discount rates, inflation, etc. used by management to calculate provisions for decommissioning costs are listed in Note 37.2.4.

21.2 Greenhouse gases emission right and emission liability

Emission allowances received free of charge from the government for each planned period as of December 31, 2021 are as follows (tCO2-eq in ten thousands):

| | 3rd planned period | | | | | | | | |
|----------------------------|--------------------|------|------|------|------|-------|--|--|--|
| | 2021 | 2022 | 2023 | 2024 | 2025 | Total | | | |
| Allowance received free of | | | | | | | | | |
| charge from the government | 294 | 294 | 294 | 98 | 98 | 1,078 | | | |

Changes in greenhouse gases emission rights for the year ended December 31, 2021 are as follows (tCO2-eq in ten thousands, Korean won in millions):

| | 2nd planned | period | | 3rd planned period | | | | | | | | | | |
|------------|-------------|--------|----------|--------------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
| | 2020 | | 202 | :1 | 202 | 2 | 202 | 3 | 2024 | 1 | 2025 | | Total | |
| | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price |
| Beginning | 300 | - | 294 | - | 294 | - | 294 | - | 98 | - | 98 | - | 1,078 | _ |
| Purchase | | | | | | | | | | | | | | |
| (Sell) | (41) | - | 5 | - | - | - | - | - | - | - | - | - | 5 | - |
| Government | | | | | | | | | | | | | | |
| submission | (292) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Borrowing | | | | | | | | | | | | | | |
| (carrying | | | | | | | | | | | | | | |
| forward) | 33 | - | 30 | - | - | - | - | - | - | - | - | - | 30 | - |
| Others | | | | | | | | | | | | | | |
| Ending | | | 329 | | 294 | | 294 | | 98 | | 98 | | 1,113 | |
| Ending | _ | | 329 | | 294 | | 294 | | 98 | | 98 | | 1,113 | _ |

The Group does not have greenhouse gas emissions rights pledged as collateral as of December 31, 2021.

The Group does not hold any greenhouse gas emissions rights for a purpose of short-term trading gain as of December 31, 2021.

Estimated greenhouse gas emission of the Group for the year ended December 31, 2021 is 311 ten thousands of tCO2-eq.

22. Government grants

Details of government grants as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | December 31, 2020 | |
|-------------------------------|---|----------------------|---|----------------------|--|
| Property, plant and equipment | | | | | |
| Buildings | ₩ | 482 | ₩ | 542 | |
| Structures | | 8,290 | | 8,882 | |
| Machineries | | 7,331 | | 8,878 | |
| Vehicles | | 55 | | 47 | |
| Fixtures and furniture | | 103 | | 162 | |
| Tools | | 10 | | 152 | |
| | | 16,271 | | 18,663 | |
| Intangible assets | | | | | |
| Computer software | | 88 | | 126 | |
| Development costs | | 6 | | 11 | |
| | | 94 | | 137 | |
| | ₩ | 16,365 | ₩ | 18,800 | |

Changes in government grants for the years ended December 31, 2021 and for 2020 are as follows (Korean won in millions):

| | | 2021 | | | | | | | |
|-----------------|---|-----------|--------|-----------------------------|---|--------|----|-----------|--|
| | | January 1 | | reciation/ zation offset | | Others | De | cember 31 | |
| Property, plant | | January 1 | Amorti | Zation onset | | Others | | cember 31 | |
| and equipment: | | | | | | | | | |
| Buildings | ₩ | 542 | ₩ | (60) | W | - | ₩ | 482 | |
| Structures | | 8,882 | | (592) | | - | | 8,290 | |
| Machinery | | 8,878 | | (1,955) | | 408 | | 7,331 | |
| Vehicles | | 47 | | (29) | | 37 | | 55 | |
| Fixtures and | | | | (- / | | | | | |
| furniture | | 162 | | (74) | | 15 | | 103 | |
| Tools | | 152 | | (176) | | 34 | | 10 | |
| | | 18,663 | | (2,886) | | 494 | | 16,271 | |
| Intangible | | <u> </u> | | · · · · · · | | | | <u> </u> | |
| assets: | | | | | | | | | |
| Computer | | | | | | | | | |
| software | | 126 | | (57) | | 19 | | 88 | |
| Development | | | | ` , | | | | | |
| costs | | 11 | | (5) | | - | | 6 | |
| | | 137 | | (62) | | 19 | | 94 | |
| | W | 18,800 | ₩ | (2,948) | W | 513 | ₩ | 16,365 | |

22. Government grants(cont'd)

| | 2020 | | | | | | | | | |
|--------------------------------|------|-----------|---------------------|--------------------|--------|----|-------------|--------|--|--|
| | | | De | preciation/ | | | | | | |
| | | January 1 | Amortization offset | | Others | | December 31 | | | |
| Property, plant and equipment: | | | | | | | | | | |
| Buildings | ₩ | 603 | ₩ | (61) | ₩ | - | ₩ | 542 | | |
| Structures | | 9,474 | | (592) | | - | | 8,882 | | |
| Machineries | | 10,833 | | (1,955) | | - | | 8,878 | | |
| Vehicles | | 104 | | (83) | | 26 | | 47 | | |
| Fixtures and | | | | | | | | | | |
| furniture | | 177 | | (79) | | 64 | | 162 | | |
| Tools | | 339 | | (1 ⁹²) | | 5 | | 152 | | |
| | | 21,530 | | (2,962) | | 95 | | 18,663 | | |
| Intangible assets: | | | | | | | | | | |
| Computer | | | | (64) | | | | | | |
| software | | 190 | | , , | | - | | 126 | | |
| Development | | | | (4) | | | | | | |
| costs | | 15 | | , | | - | | 11 | | |
| | | 205 | | (68) | | - | | 137 | | |
| | ₩ | 21,735 | ₩ | (3,030) | ₩ | 95 | ₩ | 18,800 | | |
| | | | | | | | | | | |

23. Non-financial liabilities

Details of non-financial liabilities as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | December 31, 2020 | | | |
|------------------|---|-------------------|---|-------------|-------------------|---------|---|-------------|
| | C | Current | | Non-current | | Current | | Non-current |
| Advance received | W | 228 | W | | ₩ | 2 | ₩ | |
| Unearned revenue | | 2,577 | | - | | 1,614 | | - |
| Withholdings | | 43,650 | | - | | 46,593 | | - |
| Others | | 15,494 | | 5,065 | | 53,396 | | 5,065 |
| | ₩ | 61,949 | W | 5,065 | ₩ | 101,605 | ₩ | 5,065 |

24. Contributed capital

Details of share capital as of December 31, 2021 and 2020 are as follows (Korean won in millions, except for number of shares and par value per share):

| | Number of shares authorized | Number of shares issued | Par value per share | December 31, 2021 | December 31, 2020 |
|--------------|--------------------------------|-------------------------|------------------------|-------------------|-------------------|
| Common share | 500,000,000 | 242,442,838 | ₩ 5,000 | ₩ 1,212,214 | ₩ 1,212,214 |

Number of shares issued as of December 31, 2021 and 2020 are as follows:

| | December 31, | December 31, |
|-------------------------|--------------|--------------|
| | 2021 | 2020 |
| Number of shares issued | 242,442,838 | 242,442,838 |

Share premium as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | De | cember 31, | De | ecember 31, |
|--|----|------------|------|-------------|
| | | 2021 | 2020 | |
| Paid-in capital in excess of par value | W | 9,492,301 | ₩ | 9,492,301 |

25. Retained earnings and dividends

Details of retained earnings as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | D€ | ecember 31, 2021 | De | ecember 31, 2020 |
|----------------------------------|----|---------------------|----|---------------------|
| Legal reserve(*) | ₩ | 606,107 | W | 606,107 |
| Voluntary reserves | | 10,492,897 | | 10,125,036 |
| Unappropriated retained earnings | | 4,485,937 | | 4,787,650 |
| | ₩ | 15,584,941 | ₩ | 15,518,793 |

(*) The legal reserve cannot be used for cash dividens and may be used to reduce a deficit or to be transferred to common stock.

Details of voluntary reserves as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, | | | ecember 31, |
|--------------------------------|--------------|------------|---|-------------|
| | | 2021 | | |
| Reserve for business expansion | W | 5,053,715 | ₩ | 5,053,715 |
| Others(*) | | 5,439,182 | | 5,071,321 |
| | W | 10,492,897 | W | 10,125,036 |

(*) Prior to 2002, the Company appropriated certain tax-deductible benefits as reserve for business stabilization, for offsetting future deficit in accordance with the relevant tax laws. Due to the amendment of such tax laws on December 11, 2002, the reserve is no longer required. However, the Company continues to maintain such reserve on a voluntary basis.

Changes in retained earnings for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 | | |
|--|------|------------|---|------------|--|--|
| Beginning balance | W | 15,518,793 | W | 14,972,697 | | |
| Profit for the year attributable to owners of the parent | | 288,748 | | 622,218 | | |
| Dividends paid | | (279,780) | | (106,675) | | |
| Changes in retained earnings of equity method investees | | 2 | | (1) | | |
| Remeasurement gain on defined benefit plans | | 52,753 | | 30,563 | | |
| Other | | 4,425 | | (9) | | |
| Ending balance | W | 15,584,941 | W | 15,518,793 | | |

Dividends paid for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions, except for number of share and dividends per share):

| | | | 2021 Number of | | |
|--------------|-------------------------|-----------------|--------------------|---------------------|-----------|
| | Number of shares issued | Treasury stocks | dividend shares | Dividends per share | Dividends |
| Common share | 242,442,838 | - | 242,442,838 | ₩ 1,154 | ₩ 279,780 |
| | | | 2020 | | |
| | | | Number of | | |
| | Number of | Treasury | dividend | Dividends per | |
| | shares issued | stocks | shares | share | Dividends |
| Common share | 242,442,838 | - | 242,442,838 | ₩ 440 | ₩ 106,675 |

25. Retained earnings and dividends (cont'd)

Changes in remeasurement gain on defined benefit plans for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 |
|----------------------|------|----------|---|----------|
| Beginning balance | ₩ | 29,282 | ₩ | (1,281) |
| Changes for the year | | 72,417 | | 42,149 |
| Tax effect | | (19,664) | | (11,586) |
| Ending balance | ₩ | 82,035 | ₩ | 29,282 |

Statements of appropriation of retained earnings for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | 2020 | | |
|---|---|-----------|------|-----------|--|
| Unappropriated retained earnings Unappropriated retained earnings carried forward | | | | | |
| from prior year | ₩ | 4,176,055 | ₩ | 4,145,503 | |
| Profit for the year Remeasurement gain on defined benefit | | 302,232 | | 647,641 | |
| plans | | 54,326 | | 30,552 | |
| | | 4,532,613 | | 4,823,696 | |
| II. Transfer from voluntary reserves | _ | - | | <u> </u> | |
| III. Total (I + II) | | 4,532,613 | | 4,823,696 | |
| IV. Appropriation of retained earnings | | | | | |
| Dividends | | 136,010 | | 279,779 | |
| Voluntary reserves | | 166,222 | | 367,862 | |
| | | 302,232 | | 647,641 | |
| V. Unappropriated retained earnings to be carried over to subsequent year (III – IV) | ₩ | 4,230,381 | W | 4,176,055 | |
| | | | | | |

The above statements of appropriation of retained earnings is based on the separate financial statements of the Company.

26. Other components of equity

Other components of equity as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | ember 31, 2021 | Dec | cember 31, 2020 |
|--------------------------------------|---|-------------------|-----|--------------------|
| Accumulated other comprehensive loss | W | (9,268) | ₩ | (44,133) |
| Other equity | | (512) | | (333) |
| | ₩ | (9,780) | ₩ | (44,466) |

Changes in accumulated other comprehensive loss for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | 20 | 21 | | | |
|---------------------|----------------------|--|---------------|--|----|--|---|----------|
| | of t thro comp | on valuation fair value ugh other orehensive ncome | com loss o | are of other oprehensive of associates oint ventures | t | Gain from translation of foreign operations | | Total |
| Beginning balance | ₩ | (43,830) | ₩ | (1,278) | W | 975 | W | (44,133) |
| Change for the year | | 40,713 | | (1,174) | | 5,745 | | 45,284 |
| Tax effect | | (2,111) | | - | | 374 | | (1,737) |
| Other | | (4,387) | | | | (4,295) | | (8,682) |
| Ending balance | ₩ | (9,615) | ₩ | (2,452) | ₩ | 2,799 | ₩ | (9,268) |
| | | 2020 | | | | | | |
| | | on valuation | | | | | | |
| | | air value | | are of other | | Gain from | | |
| | | ugh other | | nprehensive | t | translation of | | |
| | | orehensive | | of associates | | foreign | | . |
| | | ncome | | oint ventures | | operations | | Total |
| Beginning balance | ₩ | (41,067) | ₩ | (508) | ₩ | 1,977 | ₩ | (39,598) |
| Change for the year | | (4,060) | | (770) | | (1,397) | | (6,227) |
| Tax effect | | 1,297 | | | | 395 | | 1,692 |
| Ending balance | ₩ | (43,830) | ₩ | (1,278) | ₩ | 975 | ₩ | (44,133) |

Other equity as of December 31, 2021 and 2020 are as follows (Korea won in millions):

| | Decei | mber 31, | December 31, | |
|--|-------|----------|--------------|-------|
| | 2 | 2021 | 20 | 20 |
| Changes from paid-in capital increase of subsidiaries and others | ₩ | (512) | ₩ | (333) |

27. Sales

Sales for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | 2021 | | | | | 2 | 2020 | | |
|--|---|-----------|---|---------|---|-----------|---|---------------|----|---------|---|---------------|
| | | Domestic | 0 | verseas | | Total | | Domestic | O۱ | verseas | | Total |
| Sales of electric power Service | ₩ | 9,226,675 | ₩ | - | ₩ | 9,226,675 | ₩ | 9,620,983 | ₩ | - | ₩ | 9,620,983 |
| revenue Other | | 152,116 | | 90,290 | | 242,406 | | 281,698 25 | | 97,007 | | 378,705 25 |
| | W | 9.378.791 | ₩ | 90.290 | ₩ | 9.469.081 | ₩ | 9.902.706 | ₩ | 97.007 | ₩ | 9.999.713 |

28. Selling and administrative expenses

Selling and administrative expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 | | |
|---|------|---------|---|---------|--|--|
| Salaries | ₩ | 52,655 | ₩ | 53,689 | | |
| Retirement benefits | | 5,797 | | 5,815 | | |
| Employee welfare | | 9,883 | | 10,061 | | |
| Insurance expenses | | 1,127 | | 937 | | |
| Depreciation of property, plant and equipment | | 38,604 | | 41,304 | | |
| Amortization of intangible assets | | 14,157 | | 13,299 | | |
| Commission | | 32,162 | | 37,224 | | |
| Advertisement | | 7,353 | | 8,588 | | |
| Training | | 65 | | 85 | | |
| Vehicles | | 124 | | 107 | | |
| Publication expenses | | 418 | | 465 | | |
| Business expenses | | 142 | | 162 | | |
| Rent | | 11,373 | | 7,910 | | |
| Communication | | 768 | | 606 | | |
| Taxes and dues | | 2,854 | | 2,036 | | |
| Supplies expenses | | 696 | | 665 | | |
| Utilities | | 1,272 | | 1,356 | | |
| Repairs | | 10,818 | | 10,590 | | |
| Ordinary development expenses | | 4,552 | | 3,217 | | |
| Travel expenses | | 810 | | 840 | | |
| Clothing expenses | | 16 | | 125 | | |
| Labor welfare fund contribution | | 1,274 | | 261 | | |
| Subscription | | 300 | | 200 | | |
| Others | | 19,250 | | 17,267 | | |
| | ₩ | 216,470 | W | 216,809 | | |

Details of others of selling and administrative expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 20 |)21 | | 2020 |
|------------------------------|----|----------------|---|----------------|
| Other wage Compliance costs | ₩ | 13,262 53 | ₩ | 12,295 62 |
| Award costs | | 375 | | 441 |
| Registration fees | | 380 | | 278 |
| Litigation costs | | 3,790 1,388 | | 2,939 1,252 |
| Meeting costs Transport cost | | 2 | | - |
| | ₩ | 19,250 | ₩ | 17,267 |

29. Other income and expenses

Details of other income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 | | |
|-------------------------------|------|--------|---|--------|--|--|
| Gain on assets contributed | ₩ | 105 | ₩ | - | | |
| Reparations | | 20,778 | | 37,407 | | |
| Gain from infrastructure fund | | 1 | | - | | |
| Rental income | | 6,586 | | 4,603 | | |
| Others | | 19,961 | | 19,384 | | |
| | | | | | | |
| | ₩ | 47,431 | ₩ | 61,394 | | |

Details of others in other income for the years ended December 31, 2021 and 2020 are as follows:

| | | 2021 | | 2020 |
|---|---|--------|---|--------|
| Grants of development of vocational skills | ₩ | 931 | ₩ | 284 |
| Gain on settlement of the grants | | 7,638 | | 2,150 |
| Rent management fee | | 160 | | 2,785 |
| Trustee training and technical support income | | 808 | | 3,568 |
| Contract deposit recovered from termination of contract | | 378 | | 314 |
| Others | | 10,046 | | 10,283 |
| | ₩ | 19,961 | ₩ | 19,384 |

Details of other expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|-----------------------------|---|--------|---|---------|
| Depreciation of idle assets | ₩ | 3,621 | ₩ | 6,604 |
| Other bad debt expenses | | 1,038 | | - |
| Donations | | 30,441 | | 156,510 |
| Others | | 28,552 | | 9,616 |
| | ₩ | 63,652 | ₩ | 172,730 |

29. Other income and expenses (cont'd)

Details of others in other expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|---|---|--------|---|-------|
| Operating cost of the sports center | ₩ | 6,948 | ₩ | 5,101 |
| Perform technical support costs | | 861 | | 242 |
| Loss on settlement of research and development grants | | 2,241 | | 720 |
| Maintenance expenses related to the idle assets | | 44 | | 46 |
| Surcharge on taxes and dues | | 119 | | 253 |
| Others | | 18,339 | | 3,254 |
| | | | | |
| | ₩ | 28,552 | ₩ | 9,616 |

30. Other gains and losses

Other gains and losses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|---|---|----------|---|----------|
| Gain on disposal of property plant and equipment | ₩ | 22,772 | ₩ | 4,428 |
| Gain on foreign currency translation (*) | | 1,600 | | 1,372 |
| Gain on foreign currency transactions (*) | | 21,109 | | 13,723 |
| Gain on insurance transactions | | 144 | | 40,665 |
| Others | | 3,426 | | 11,976 |
| Loss on disposal of property, plant and equipment | | (45,619) | | (78,179) |
| Loss on foreign currency translation (*) | | (299) | | (3,264) |
| Loss on foreign currency transactions (*) | | (9,587) | | (11,416) |
| Others | | (6,105) | | (34,894) |
| | ₩ | (12,559) | ₩ | (55,589) |

^(*) It represents gain (loss) on foreign currency translation and transactions arising from operating activities.

30. Other gains and losses (cont'd)

Details of others of other gains for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | 2020 | |
|--|------|-------|------|--------|
| Gain on valuation of inventories | ₩ | 22 | ₩ | 9 |
| Gain on disposal of inventories | | 73 | | - |
| Gain on reversal of inventories | | 93 | | 2,203 |
| Gain on disposal of waste | | 2,928 | | 5,288 |
| Gain from lease cancellation | | 265 | | 6 |
| Gain on disposal of assets held for sale | | - | | 4,457 |
| Others | | 45 | | 13 |
| | ₩ | 3,426 | ₩ | 11,976 |

Details of others of other losses for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2020 | | |
|---|---|--------------------------|---|------------------|
| Loss on inventory obsolescence Loss on disposal of inventories Others | ₩ | (91) (5,555) (459) | ₩ | (28) (34,866) |
| | ₩ | (6,105) | ₩ | (34,894) |

31. Finance income

Finance income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|--|---|---------|---|---------|
| Interest income | ₩ | 22,344 | ₩ | 24,988 |
| Dividend income | | 5,654 | | 5,269 |
| Gain on sale of financial assets | | 344 | | 484 |
| Gain on valuation of financial assets at fair value through profit or loss | | 6,608 | | 5,037 |
| Gain on valuation of derivative instruments | | 313,629 | | 13,107 |
| Gain on transactions of derivative instruments | | 33,662 | | 26,878 |
| Gain on foreign currency translation (*) | | 9,640 | | 184,756 |
| Gain on foreign currency transactions (*) | | | | 8 |
| | ₩ | 391,881 | ₩ | 260,527 |

^(*) It represents gain on foreign currency translation and transactions arising from financing activities.

Details of interest income included in finance income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|---|---|--------|---|--------|
| Cash and cash equivalents | ₩ | 2,566 | ₩ | 263 |
| Financial assets at fair value through profit or loss | | 9,630 | | 10,861 |
| Financial instruments | | 7,719 | | 10,294 |
| Loans | | 1,651 | | 1,486 |
| Trade and other receivables | | 778 | | 2,084 |
| | ₩ | 22,344 | ₩ | 24,988 |

32. Finance costs

Finance costs for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | 2020 | |
|---|------|---------|------|---------|
| Interest expense | ₩ | 491,649 | ₩ | 513,195 |
| Loss on sale of financial assets | | 10 | | - |
| Loss on valuation of financial assets at fair value through | | | | |
| profit or loss | | 3,722 | | 515 |
| Loss on valuation of derivative instruments | | - | | 101,150 |
| Loss on transactions of derivative instruments | | 6,355 | | 11,386 |
| Loss on foreign currency translation (*) | | 265,306 | | 12,519 |
| Loss on foreign currency transactions (*) | | 30,674 | | |
| | | | | |
| | ₩ | 797,716 | ₩ | 638,765 |

^(*) It represents loss on foreign currency translation and transactions arising from financing activities.

Details of interest expense included in finance costs for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | 2020 | |
|---|------|-----------|------|-----------|
| Trade and other payables | ₩ | 3 | W | - |
| Short-term borrowings | | 174 | | 1,460 |
| Long-term borrowings | | 15,122 | | 13,411 |
| Bonds | | 328,103 | | 340,363 |
| Other financial liabilities(*) | | 484,075 | | 501,392 |
| | | 827,477 | | 856,626 |
| Less: capitalization of borrowing costs | | (335,828) | | (343,431) |
| | W | 491,649 | ₩ | 513,195 |

^(*) Interest expenses related to provisions for decommissioning costs of nuclear power plants are included.

33. Income tax expense

The components of income tax expense for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 | |
|--|------|-----------|---|-----------|--|
| Current income tax expense: | W | 295,384 | ₩ | 394,699 | |
| Current income tax | | 228,897 | | 405,135 | |
| Adjustment for prior years | | 87,888 | | (542) | |
| Income tax credited directly to equity | | (21,401) | | (9,894) | |
| Deferred tax expense: | | (229,400) | | (246,605) | |
| Changes in temporary differences | | (169,062) | | (246,605) | |
| Changes of unrecognized tax losses, tax credit and | | | | | |
| temporary differences for prior year | | (60,338) | | | |
| Income tax expense | ₩ | 65,984 | ₩ | 148,094 | |

The relationship between accounting profit and income tax expense for the years ended December 31, 2021 and 2020 is as follows (Korean won in millions):

| | | 2021 | | 2020 |
|---|---|-----------|---|----------|
| Profit before income tax | ₩ | 352,687 | ₩ | 766,036 |
| Tax effect at the rate of 27.5% | | 96,989 | | 210,660 |
| Adjustments: | | | | |
| Effect of applying gradual tax rate | | (10,362) | | (10,362) |
| Non-taxable income | | (24) | | (149) |
| Non-deductible expense | | 1,170 | | 871 |
| Tax credits and deduction | | (22,473) | | (40,569) |
| Changes of unrecognized tax losses, tax credit and | | | | |
| temporary differences for prior year | | (60,338) | | - |
| Effects of tax loss which are not recognized in deferred tax assets | | 2,417 | | 2,203 |
| Others | | (29,283) | | (14,018) |
| | | (118,893) | | (62,024) |
| Adjustment for prior years | | 87,888 | | (542) |
| Income tax expense | ₩ | 65,984 | W | 148,094 |
| Effective tax rate | | 18.71% | | 19.33% |

33. Income tax expense (cont'd)

Tax item recognized in other comprehensive income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | 2020 | |
|---|------|----------|---|----------|--|
| Income tax credited directly to equity | | | | | |
| Tax items in other comprehensive income | | | | | |
| Loss (gain) on valuation of financial assets at FVOCI | ₩ | (2,111) | ₩ | 1,297 | |
| Remeasurement gain on defined benefit plans | | (19,664) | | (11,586) | |
| Gain from translation of foreign operations | | 374 | | 395 | |
| | | | | | |
| | ₩ | (21,401) | ₩ | (9,894) | |

Details of the deferred tax assets (liabilities) as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | 2021 | | | |
|---|---|-------------------|---|---|------|--|---|-------------------|
| | | Beginning balance | | Amounts recognized in profit (loss) for the year | cur | nts recognized in mulative other ehensive income (loss) | | Ending balance |
| Deferred tax by | | | | | | | | |
| temporary difference: | | | | | | | | |
| Long-term employee benefits Property, plant and equipment, | ₩ | 186,918 | ₩ | (12,193) | ₩ | (19,664) | ₩ | 155,061 |
| net | | (4,389,521) | | (328,663) | | - | | (4,718,184) |
| Intangible assets | | 179 | | (82) | | - | | 97 |
| Financial assets at fair value | | | | | | | | |
| through profit or loss | | (3) | | - | | - | | (3) |
| Financial assets at fair value through other comprehensive | | | | | | | | |
| income | | 17,059 | | (746) | | (2,111) | | 14,202 |
| Provision | | 5,657,908 | | 583,953 | | - | | 6,241,861 |
| Accrued income | | (2,224) | | 869 | | - | | (1,355) |
| Advanced depreciation | | | | | | | | |
| provision | | (3,952) | | 101 | | - | | (3,851) |
| Tax loss carryforwards | | 574 | | - | | - | | 574 |
| Others | | 21,677 | | 7,562 | | 374 | | 29,613 |
| | ₩ | 1,488,615 | ₩ | 250,801 | ₩ | (21,401) | ₩ | 1,718,015 |

33. Income tax expense (cont'd)

| | | | | | 2020 | | | |
|---|---|-------------------|---|---|------|---|---|-------------------|
| | | Beginning balance | | Amounts recognized in profit (loss) for the year | С | ounts recognized in umulative other prehensive income (loss) | | Ending balance |
| Deferred tax by temporary difference: | | | | | | | | |
| Long-term employee benefits Property, plant and | ₩ | 146,768 | ₩ | 51,736 | ₩ | (11,586) | ₩ | 186,918 |
| equipment, net | | (4,014,528) | | (374,993) | | - | | (4,389,521) |
| Intangible assets | | 233 | | (54) | | - | | 179 |
| Financial assets at fair | | | | | | | | |
| value through profit or loss | | (3) | | - | | - | | (3) |
| Financial assets at fair value through other | | | | | | | | |
| comprehensive income | | 15,057 | | 705 | | 1,297 | | 17,059 |
| Provision | | 5,084,003 | | 573,905 | | - | | 5,657,908 |
| Accrued income Advanced depreciation | | (1,456) | | (768) | | - | | (2,224) |
| provision | | (3,807) | | (145) | | - | | (3,952) |
| Tax loss carryforwards | | 303 | | 271 | | - | | 574 |
| Others | | 15,440 | | 5,842 | | 395 | | 21,677 |
| | ₩ | 1,242,010 | ₩ | 256,499 | ₩ | (9,894) | ₩ | 1,488,615 |

Deferred tax assets as of December 31, 2021 and 2020 are as follows (Korean won in million):

| | December | · 31, 2021 | December 31, 2020 | | |
|---------------------|----------|------------|-------------------|-----------|--|
| Deferred tax assets | ₩ | 1,718,015 | ₩ | 1,488,615 | |

The deductible temporary difference not recognized as deferred tax assets is \mbox{W} 156,942 million as of December 31, 2021.

34. Expenses classified by nature

Expenses classified by nature for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | |
|---|----------------------|------------------------|------------------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 689,127 | ₩ 689,127 |
| Salaries | 52,655 | 942,393 | 995,048 |
| Retirement benefits | 5,798 | 99,000 | 104,798 |
| Employee welfare | 9,882 | 133,911 | 143,793 |
| Insurance expenses | 1,127 | 41,748 | 42,875 |
| Depreciation of property, plant and equipment | 38,604 | 2,388,951 | 2,427,555 |
| Amortization of nuclear fuel | - | 1,164,054 | 1,164,054 |
| Amortization of intangible assets | 14,157 | 7,396 | 21,553 |
| Commission | 32,162 | 116,719 | 148,881 |
| Provisions for decommissioning costs | - | 253,656 | 253,656 |
| Other provisions | - | (69,392) | (69,392) |
| Advertisement | 7,353 | 3,570 | 10,923 |
| Training | 65 | 646 | 711 |
| Vehicles | 124 | 534 | 658 |
| Publication expenses | 418 | 525 | 943 |
| Business expenses | 142 | | 528 |
| Rent | 11,373 | 100,655 | 112,028 |
| Communication | 768 | 3,444 | 4,212 |
| Freight expenses | - | 138 | 138 |
| Taxes and dues | 2,854 | 308,256 | 311,110 |
| Supplies expenses | 696 | 1,889 | 2,585 |
| Utilities | 1,272 | 6,402 | 7,674 |
| Repairs | 10,818 | 1,351,451 | 1,362,269 |
| Ordinary development expenses | 4,552 | 436,961 | 441,513 |
| Travel expenses | 810 | 4,480 | 5,290 |
| Clothing expenses | 16 | 2,160 | 2,176 |
| Research and analysis expenses | - | 1,015 | 1,015 |
| Labor welfare fund contribution | 1,274 | 20,433 | 21,707 |
| Subscription | 300 | 6,773 | 7,073 |
| Others | 19,250 | 430,891 | 450,141 |
| | ₩ 216,470 | ₩ 8,448,172 | ₩ 8,664,642 |

34. Expenses classified by nature (cont'd)

| | | 2020 | |
|---|----------------------|---------------|-------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 513,375 | ₩ 513,375 |
| Salaries | 53,689 | 943,993 | 997,682 |
| Retirement benefits | 5,815 | | 104,002 |
| Employee welfare | 10,061 | 124,897 | 134,958 |
| Insurance expenses | 937 | 38,485 | 39,422 |
| Depreciation of property, plant and equipment | 41,304 | 2,276,000 | 2,317,304 |
| Amortization of nuclear fuel | - | 1,206,193 | 1,206,193 |
| Amortization of intangible assets | 13,299 | 6,535 | 19,834 |
| Commission | 37,224 | 178,801 | 216,025 |
| Provisions for decommissioning costs | - | 216,747 | 216,747 |
| Other provisions | = | 55,138 | 55,138 |
| Advertisement | 8,588 | 3,157 | 11,745 |
| Training | 85 | 781 | 866 |
| Vehicles | 107 | 515 | 622 |
| Publication expenses | 465 | 524 | 989 |
| Business expenses | 162 | 649 | 811 |
| Rent | 7,910 | 92,991 | 100,901 |
| Communication | 606 | 2,736 | 3,342 |
| Freight expenses | - | 122 | 122 |
| Taxes and dues | 2,036 | 304,410 | 306,446 |
| Supplies expenses | 665 | 4,613 | 5,278 |
| Utilities | 1,356 | 6,007 | 7,363 |
| Repairs | 10,590 | 1,494,507 | 1,505,097 |
| Ordinary development expenses | 3,217 | 435,777 | 438,994 |
| Travel expenses | 840 | 3,802 | 4,642 |
| Clothing expenses | 125 | 1,515 | 1,640 |
| Research and analysis expenses | - | 987 | 987 |
| Labor welfare fund contribution | 261 | 4,691 | 4,952 |
| Subscription | 200 | 11,410 | 11,610 |
| Others | 17,267 | 439,525 | 456,792 |
| | W 216,809 | ₩ 8,467,070 | ₩ 8,683,879 |

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35. Earnings per share

Basic earnings per share for the years ended December 31, 2021 and 2020 are as follow (Korean won):

| | December 31, | 2021 | December 31, 2020 | | |
|--------------------------|--------------|-------|-------------------|-------|--|
| | | | | | |
| Basic earnings per share | ₩ | 1,191 | ₩ | 2,566 | |

Profit for the year attributable to owners of the parent and weighted average number of common shares outstanding for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions, except for number of shares):

| | | December 31, 2021 | December 31, 2020 | | |
|--|---|-------------------|-------------------|-------------|--|
| | | | | | |
| Profit for the year attributable to owners of the parent | ₩ | 288,748 | ₩ | 622,218 | |
| Weighted average number of common shares | | 242,442,838 | | 242,442,838 | |

There are no potential dilutive instruments, and diluted earnings per share are same as basic earnings per share for the years ended December 31, 2021 and 2020.

36. Categories of financial instruments

Details of categories of financial assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | |
|--------------------------------|--|------------------------------------|---|------------------------|--|--|--|
| | Financial assets at fair value through profit or loss | Financial assets at amortized cost | Financial assets at fair value through other comprehensive income | Total | | | |
| Current financial assets: | | | | | | | |
| Cash and cash equivalents | ₩ - | ₩ 362,429 | ₩ - | ₩ 362,429 | | | |
| Current financial assets | | | | | | | |
| Financial assets at fair value | | | | | | | |
| through profit or loss | 61,400 | - | - | 61,400 | | | |
| Loans | - | 17,258 | - | 17,258 | | | |
| Short-term financial | | | | | | | |
| instruments | - | 211,160 | - | 211,160 | | | |
| Derivative assets | 92,313 | - | - | 92,313 | | | |
| | 153,713 | 228,418 | - | 382,131 | | | |
| Trade and other receivables | - | 1,229,347 | - | 1,229,347 | | | |
| | 153,713 | 1,820,194 | _ | 1,973,907 | | | |
| Non-current financial assets: | | | | | | | |
| Non-current financial assets | | | | | | | |
| Financial assets at fair value | | | | | | | |
| through profit or loss | 531,720 | _ | _ | 531,720 | | | |
| Financial assets at fair value | , | | | | | | |
| through other | | | | | | | |
| comprehensive income | = | - | 281,303 | 281,303 | | | |
| Loans | _ | 71,789 | · _ | 71,789 | | | |
| Long-term financial | | , | | , | | | |
| instruments | _ | 333,581 | _ | 333,581 | | | |
| Derivative assets | 227,150 | - | _ | 227,150 | | | |
| | 758,870 | 405,370 | 281,303 | 1,445,543 | | | |
| Trade and other receivables | - | 35,815 | | 35,815 | | | |
| | 758,870 | 441.185 | 281,303 | 1,481,358 | | | |
| | ₩ 912,583 | ₩ 2,261,379 | ₩ 281,303 | ₩ 3,455,265 | | | |
| | | ,, | | = , , | | | |

36. Categories of financial instruments (cont'd)

| | December 31, 2020 | | | | | | |
|---|--|------------------------------------|---|-------------|--|--|--|
| | Financial assets at fair value through profit or loss | Financial assets at amortized cost | Financial assets at fair value through other comprehensive income | Total | | | |
| Current financial assets: | | | | | | | |
| Cash and cash equivalents Current financial assets | ₩ - | ₩ 316,072 | ₩ - | ₩ 316,072 | | | |
| Financial assets at fair value | | | | | | | |
| through profit or loss | 160,600 | | - | 160,600 | | | |
| Loans | - | 11,068 | - | 11,068 | | | |
| Short-term financial | | | | | | | |
| instruments | - | 212,159 | - | 212,159 | | | |
| Derivative assets | 18,274 | | | 18,274 | | | |
| | 178,874 | 223,227 | | 402,101 | | | |
| Trade and other receivables | - | 1,382,497 | - | 1,382,497 | | | |
| | 178,874 | 1,921,796 | _ | 2,100,670 | | | |
| Non-current financial assets: Non-current financial assets Financial assets at fair value through profit or loss | 577,481 | | | 577,481 | | | |
| Financial assets at fair value through other | 377,461 | - | - | 577,461 | | | |
| comprehensive income | - | - | 233,371 | 233,371 | | | |
| Loans | - | 67,382 | - | 67,382 | | | |
| Long-term financial instruments | _ | 258,656 | _ | 258,656 | | | |
| Derivative assets | 30,794 | 200,000 | _ | 30,794 | | | |
| 20.1741176 433613 | 608,275 | 326,038 | 233,371 | 1,167,684 | | | |
| Trade and other receivables | 000,273 | 49,796 | 200,07 1 | 49,796 | | | |
| Trade and other receivables | 608,275 | 375,834 | 233,371 | 1,217,480 | | | |
| | | | | | | | |
| | ₩ 787,149 | ₩ 2,297,630 | ₩ 233,371 | ₩ 3,318,150 | | | |

36. Categories of financial instruments (cont'd)

Details of categories of financial liabilities as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | |
|--|---|--|-------|--|--------|---|
| | Financial li fair value profit d | through | | ncial liabilities | | Total |
| Current financial liabilities: | | * | | | | |
| Current financial liabilities | | | | | | |
| Short-term borrowings | ₩ | - | ₩ | 867,028 | | 867,028 |
| Current portion of long-term borrowings | | - | | 36,911 | | 36,911 |
| Bonds | | - | | 1,437,518 | 3 | 1,437,518 |
| Derivative liabilities | | 4,446 | | 0.044.455 | | 4,446 |
| T | | 4,446 | | 2,341,457 | | 2,345,903 |
| Trade and other payables | | 4 440 | | 1,046,374 | | 1,046,374 |
| Non-aument financial liabilities | | 4,446 | - | 3,387,831 | | 3,392,277 |
| Non-current financial liabilities: Non-current financial liabilities | | | | | | |
| Long-term borrowings | | | | 322,743 | ì | 322,743 |
| Bonds | | _ | | 9,559,718 | | 9,559,718 |
| Derivative liabilities | | 15,319 | | 0,000,710 | , - | 15,319 |
| Don't day o' madmillion | | 15,319 | | 9,882,461 | | 9,897,780 |
| Trade and other payables | | - | | 2,137,076 | | 2,137,076 |
| p.,, | | 15,319 | | 12,019,537 | | 12,034,856 |
| | ₩ | 19,765 | W | 15,407,368 | | 15,427,133 |
| | Financial lia fair value profit o | through | Finan | nber 31, 2020 cial liabilities nortized cost | | Total |
| Current financial liabilities: | | | | | | |
| Current financial liabilities | | | | 0.40.000 | | |
| Short-term borrowings | ₩ | - | ₩ | 340,000 | ₩ | 0.40.000 |
| Current portion of long-term borrowings Bonds | | _ | | | | 340,000 |
| Derivative liabilities | | | | 19,063 | | 19,063 |
| Derivative habilities | | - 462 | | 1,152,802 | | 19,063 1,152,802 |
| Trade and other payables | | 462 | | 1,152,802 - | | 19,063 1,152,802 462 |
| | | 462 462 | | 1,152,802 - 1,511,865 | | 19,063 1,152,802 462 1,512,327 |
| rrade and other payables | | 462 - | | 1,152,802 - 1,511,865 1,157,933 | | 19,063 1,152,802 462 1,512,327 1,157,933 |
| | | | | 1,152,802 - 1,511,865 | | 19,063 1,152,802 462 1,512,327 |
| Non-current financial liabilities: | | 462 - | | 1,152,802 - 1,511,865 1,157,933 | | 19,063 1,152,802 462 1,512,327 1,157,933 |
| Non-current financial liabilities: Non-current financial liabilities | | 462 - | | 1,152,802 - 1,511,865 1,157,933 | | 19,063 1,152,802 462 1,512,327 1,157,933 |
| Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds | | 462 - | | 1,152,802 - 1,511,865 1,157,933 2,669,798 | | 19,063 1,152,802 462 1,512,327 1,157,933 2,670,260 |
| Non-current financial liabilities: Non-current financial liabilities Long-term borrowings | | 462 - 462 - - 23,801 | | 1,152,802 - 1,511,865 1,157,933 2,669,798 295,654 9,379,109 | | 19,063 1,152,802 462 1,512,327 1,157,933 2,670,260 295,654 9,379,109 23,801 |
| Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities | | 462 - 462 - - | | 1,152,802 - 1,511,865 1,157,933 2,669,798 295,654 9,379,109 - 9,674,763 | | 19,063 1,152,802 462 1,512,327 1,157,933 2,670,260 295,654 9,379,109 23,801 9,698,564 |
| Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds | | 462 - 462 - - - 23,801 23,801 | | 1,152,802 - 1,511,865 1,157,933 2,669,798 295,654 9,379,109 - 9,674,763 2,442,577 | | 19,063 1,152,802 462 1,512,327 1,157,933 2,670,260 295,654 9,379,109 23,801 9,698,564 2,442,577 |
| Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities | | 462 - 462 - - 23,801 | | 1,152,802 - 1,511,865 1,157,933 2,669,798 295,654 9,379,109 - 9,674,763 | | 19,063 1,152,802 462 1,512,327 1,157,933 2,670,260 295,654 9,379,109 23,801 9,698,564 |

36. Categories of financial instruments (cont'd)

Gain (loss) by categories of financial instruments for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions): $\frac{1}{2}$

| Categories | Description | | 2021 | | 2020 |
|---|--|---|-------------------------|---|------------------------|
| Financial assets at amortized cost | Cash and cash equivalents-interest income Financial instruments-interest income Loans-interest income | ₩ | 2,566 7,719 1,651 | ₩ | 263 10,294 1,486 |
| Financial assets at | Trade and other receivables - interest income Gain (loss) on fluctuation of exchange rate in foreign currency, net Financial assets at fair value through profit or | | 778 (14,084) | | 2,084 900 |
| fair value through profit or loss | loss-interest income Financial assets at fair value through | | 9,630 | | 10,861 |
| | profit or loss-valuation gain, net | | 2,887 | | 4,733 |
| | Gain on sale of financial assets, net | | 334 | | 4,522 |
| | Dividend income Gain (loss) on valuation of derivative | | 2,943 | | 484 |
| | instruments, net Gain on transactions of derivative instruments, | | 309,593 | | (71,065) |
| Financial access at | net | | 33,199 | | 26,878 |
| Financial assets at fair value through other comprehensive | Gain (loss) on valuation of fair value through other comprehensive income (before tax), net | | 44,811 | | (4,060) |
| income Financial liabilities | Dividend income Gain (loss) on valuation of derivative | | 2,710 | | 535 |
| measured at | instruments, net | | 4,036 | | (16,978) |
| fair value through profit or loss Financial liabilities | Loss on transactions of derivative instruments, net Gain (loss) on fluctuation of exchange rate in | | (5,892) | | (11,386) |
| at amortized cost | foreign currency, net | | (262,562) | | 171,760 |
| | Interest expense | | (109,969) | | (122,277) |
| | Other finance costs | | (3,395) | | - |

37. Risk management

37.1 Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue while maximizing the return to shareholder through the optimization of the debt and equity balance. Management of the Group regularly reviews the capital structure and maintains the optimal capital structure through short- and long-term borrowings and bond issuance.

The capital structure of the Group consists of net debt (offset by cash and cash equivalents, etc.) and equity. The Group's overall capital risk management strategy remains consistent with the prior year.

Details of the Group's capital risk management items as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | December 31, 2020 | | |
|---|----------------------|------------|----------------------|------------|--|
| Total borrowings and bonds | W | 12,223,918 | W | 11,186,628 | |
| Cash and cash equivalents, etc.(*) | | 573,589 | | 528,231 | |
| Net borrowings | | 11,650,329 | | 10,658,397 | |
| Total equity | | 26,308,655 | | 26,205,975 | |
| Ratio of net borrowings to total equity | | 44.28% | | 40.67% | |

(*) It consists of cash and cash equivalents and short-term financial instruments.

37.2 Financial risk management

The Group is exposed to various risks related to its financial instruments, such as market risk (currency risk, interest rate risk, price risk) and credit risk. The goal of financial risk management is to reduce and eliminate the financial risks to acceptable levels by identifying sources of potential risks to the Group's financial performance.

The Group uses derivative instruments to hedge certain risk exposures. The Group's overall financial risk management strategy remains consistent with the prior year.

37.2.1 Risk management policy

The Group's management is responsible for the establishment and supervision of the financial risk management system. Management established a risk management committee to develop and supervise the risk management policy of the Group. The committee regularly reports on its activities to management.

The Group's risk management policy is designed to identify and analyze the risks facing the Group, establish appropriate risk limits and controls, and ensure that the risks do not exceed the limits. Risk management policies and systems are regularly reviewed to reflect market conditions and changes in the activities of the Group.

37. Risk management (cont'd)

37.2.2 Credit risk

Credit risk is the risk of finance loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Exposure to the risk is mainly arises from the Group's loan activities, as well as from derivatives and debt securities. There are also credit risks arising from financial guarantees and unused loan agreements. For banks and financial institutions, the credit risk from them is limited as the Group makes transactions with reputable financial institutions. For general accounts, the Group evalutates the customer's credit based on the customer's financial position, past experience, and other factors.

Credit risk management

The Group uses publicly available information and its own internal data related to trade receivables to rate its major customers and to measure the credit risk that a counter party will default on a contractual obligation. As the majority of the Group's trade receivables are due from governmental entities (i.e. KEPCO and others), the Group does not have significant credit risk exposure. Regarding its debt securities, the Group continuously monitors credit ratings issued by credit agencies, and the Group's working capital (i.e. cash) is deposited at financial institutions with a high credit rating.

Impairment & allowance account

In accordance with the Group's policies, individual financial assets above the materiality amount are regularly reviewed. The allowance for individually reviewed trade receivable shall be determined by evaluating the loss incurred as of the end of the reporting period, which applies to all material trade receivables. For such assessment, the Group considers the amount of collateral obtained (including the recoverability) for the individual financial assets and the expected recoverable amounts.

The Group's maximum exposure to credit risk as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | December 31, 2020 | |
|---|---|-----------|----------------------|-----------|
| Cash and cash equivalents | ₩ | 362.429 | ₩ | 316.072 |
| Financial instruments | • | 544.741 | •• | 470.815 |
| Financial assets at fair value through profit or loss | | 593,120 | | 738,081 |
| Derivative assets | | 319,463 | | 49,068 |
| Loans | | 89,047 | | 78,450 |
| Trade and other receivables | | 1,265,162 | | 1.432.293 |

There were no financial assets (current or non-current) acquired or received as a result of exercise of rights to collaterals received or additionally obtained to adjust credit limits.

37.2.3 Market risk

Market risk is the risk that the Group's fair value of the financial instruments or future cashflows are affected by the changes in the market. Market risk consists of interest rate risk, currency risk and other price risk.

37.2.4 Sensitivity analysis

Major liabilities with uncertanties in underlying assumptions

(i) Defined benefit obligations

Changes in the Group's defined benefit obligations due to changes in underlying assumptions as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | Decembe | er 31, | , 2021 | | December 31, 2020 | | | | |
|-----------------------------|---|----|----------|--------|-------------|---|-------------------|---|----------|--|--|
| Assumption | Accounts | 1% | increase | 1% | 1% decrease | | 1% increase | | decrease | | |
| Future salary increase rate | Defined benefit obligations Defined benefit | ₩ | 102,641 | ₩ | (88,418) | ₩ | 107,180 | ₩ | (91,734) | | |
| Discount rate | obligations | | (91,902) | | 109,284 | | (95,710) | | 114,669 | | |

(ii) Provisions for decommissioning costs

Details of underlying assumptions used to estimate provisions for decommissioning costs as of December 31, 2021 and 2020 are as follows:

| Accounts | Assumptions | December 31, 2021 | December 31, 2020 | | |
|----------------|----------------|----------------------|----------------------|--|--|
| Nuclear plants | Inflation rate | 1.41% | 1.07% | | |
| | Discount rate | 2.20% | 2.20% | | |
| Fuel spent | Inflation rate | 2.93% | 2.93% | | |
| | Discount rate | 4.49% | 4.49% | | |

The following is a sensitivity analysis of provisions for decommissioning costs assuming 0.1% increase or decrease in the underlying assumptions as of December 31, 2021 and 2020 (Korean won in millions):

| | | Decembe | r 31, | 2021 | | December | 2020 | |
|----------------------------------|------|-------------------|-------|-----------------------|----|-------------------|---------------|-----------------------|
| | 0.19 | % increase | 0. | 1% decrease | 0. | 1% increase | 0.1% decrease | |
| Discount rate: Nuclear plants | ₩ | (369,540) | ₩ | 381,026 | ₩ | (326,926) | ₩ | 336,928 |
| Fuel spent Inflation rate: | | (51,430) | | 53,438 | | (51,558) | | 53,571 |
| Nuclear plants Fuel spent | | 403,420 54,210 | | (391,754) (52,245) | | 357,676 54,345 | | (347,450) (52,375) |

37.2.4 Sensitivity analysis (cont'd)

Impact of the management's estimate on the consolidated financial statements

(i) Foreign currency risk

The Group undertakes transactions denominated in foreing currencies; consequently, exposures to risk of exchange rate fluctuations arise. The carrying amounts of the Group's monetary assets and liabilities denominated in foreign currencies as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | | | | | |
|---|-------------------|----------|-----|------------------|---|---------------|---|-----------|---|-----------|----|-----------|---|-------------------|
| | | AED | | USD | | EUR | | HKD | | CHF | Ot | hers (*) | | Total |
| Assets: Cash and cash equivalents Trade and other receivables | ₩ | 2,523 | ₩ | 58,008 99,435 | ₩ | 87 96 | ₩ | - | ₩ | - 30 | ₩ | 156 26 | ₩ | 60,774 99,587 |
| Loans | | _ | | 3,360 | | _ | | _ | | _ | | _ | | 3,360 |
| Total assets denominated in foreign currency | | 2,523 | | 160,803 | | 183 | | | | 30 | | 182 | | 163,721 |
| Liabilities: Trade and other payables Short-term borrowings | | 1,925 | | 28,291 80,992 | | 782 96,036 | | 420 - | | 29 | | 531 - | | 31,978 177,028 |
| Bonds Total liabilities | | <u>-</u> | | 2,890,617 | | | | 250,706 | | 389,557 | | | | 3,530,880 |
| denominated in foreign currency | | 1,925 | | 2,999,900 | | 96,818 | | 251,126 | | 389,586 | | 531 | | 3,739,886 |
| Net exposure | ₩ | 598 | ₩ (| 2,839,097) | ₩ | (96,635) | ₩ | (251,126) | ₩ | (389,556) | ₩ | (349) | ₩ | (3,576,165) |

(*) Others include CAD, CZK, EGP and PKR.

| | December 31, 2020 | | | | | | | | | | | | | |
|---|-------------------|---------|------|------------|------|-----------|---|-----------|---|-----------|----|----------|---|-------------|
| | | AED | | USD | | EUR | | HKD | | CHF | Ot | hers (*) | | Total |
| Assets: Cash and cash equivalents Trade and other | ₩ | 1,293 | W | 384 | ₩ | 248 | ₩ | - | ₩ | - | ₩ | 216 | ₩ | 2,141 |
| receivables | | - | | 100,808 | | 138 | | - | | - | | 128 | | 101,074 |
| Loans Total assets denominated in | | | | - | . —— | 68 | | <u> </u> | | | | - | | 68 |
| foreign currency Liabilities: | | 1,293 | | 101,192 | | 454 | | | | - | | 344 | | 103,283 |
| Trade and other payables | | 4,448 | | 171,847 | | 107,971 | | 409 | | 56 | | 6,979 | | 291,710 |
| Bonds Total liabilities denominated in | | - | | 2,652,623 | | | | 231,426 | | 370,746 | | | | 3,254,795 |
| foreign currency | | 4,448 | | 2,824,470 | | 107,971 | | 231,835 | | 370,802 | | 6,979 | | 3,546,505 |
| Net exposure | ₩ | (3,155) | ₩ (2 | 2,723,278) | ₩ | (107,517) | ₩ | (231,835) | ₩ | (370,802) | ₩ | (6,635) | ₩ | (3,443,222) |

^(*) Others include CAD, JPY, CZK, PHP and EGP.

37.2.4 Sensitivity analysis (cont'd)

Foreign exchange rates as of December 31, 2021 and 2020 are as follows (Korean won in each currency):

| | | 20 | 21 | | 2020 | | | | | | |
|-----|------|------------|-----|------------|------|-------------|----|-------------|--|--|--|
| | | Average | | Ending | | Average | | Ending | | | |
| | excl | nange rate | exc | hange rate | exc | change rate | ex | change rate | | | |
| USD | W | 1,144.42 | W | 1,185.50 | ₩ | 1,180.05 | W | 1,088.00 | | | |
| EUR | | 1,352.79 | | 1,342.34 | | 1,345.99 | | 1,338.24 | | | |
| JPY | | 10.415 | | 10.302 | | 11.051 | | 10.543 | | | |
| GBP | | 1,573.96 | | 1,600.25 | | 1,513.05 | | 1,482.40 | | | |
| CAD | | 913.26 | | 930.61 | | 879.91 | | 853.30 | | | |
| CHF | | 1,251.65 | | 1,297.47 | | 1,257.34 | | 1,234.33 | | | |
| HKD | | 147.23 | | 152.03 | | 152.14 | | 140.35 | | | |
| PHP | | 23.22 | | 23.23 | | 23.78 | | 22.66 | | | |
| CZK | | 52.76 | | 53.98 | | 50.90 | | 51.04 | | | |
| AED | | 311.57 | | 322.75 | | 321.27 | | 296.20 | | | |
| EGP | | 72.90 | | 75.46 | | 74.60 | | 69.17 | | | |
| PKR | | 7.03 | | 6.65 | | - | | - | | | |

A sensitivity analysis on the Group's profit before income tax and equity assuming 10% increase or decrease in foreign exchange rates as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 20 | 21 | | 2020 | | | | | |
|---|-----|------------------------|----|--------------------|------|------------------------|--------------|--------------------|--|--|
| | 10% | increase | 10 |)% decrease | 10 |)% increase | 10% decrease | | | |
| Increase (decrease) in profit before income tax Increase (decrease) in equity | ₩ | (357,617) (357,617) | ₩ | 357,617 357,617 | ₩ | (344,322) (344,322) | ₩ | 344,322 344,322 | | |

Sensitivity analysis above is conducted for monetary assets and liabilities denominated in foreign currencies other than functional currency as of December 31, 2021 and 2020.

(ii) Interest rate risk

The Group is exposed to interest rate risk due to its borrowings with floating interest rates. An 1% increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

The Group's floating-rate long-term borrowings and bonds as of December 31, 2021 and 2020 are as follows (Korean won in millions):

37.2.4 Sensitivity analysis (cont'd)

A sensitivity analysis on the Group's long-term borrowings and bonds assuming 1% increase or decrease in interest rates as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 20 |)21 | | | 20 | 20 | | |
|--|--------------------|----------------|-----|--------------------|---|--------------------|--------------------|------------|--|
| | 1% points increase | | | 1% points decrease | | 1% points increase | 1% points decrease | | |
| Increase (decrease) in profit for the year Increase (decrease) in equity | W | (816) (816) | ₩ | 816 816 | ₩ | (699) (699) | ₩ | 699 699 | |

To manage its interest rate risks, the Group, in addition to maintaining an appropriate mix of fixed and floating rate borrowings, has entered into certain interest rate swap agreements.

37.2.5 Liquidity risk

The Group has established an appropriate liquidity risk management framework for the management of the Group's short, medium and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

In addition, the Group has established credit lines on its trade finance and bank overdrafts, and through payment guarantees it has received, it maintains an adequate credit (borrowing) facility. In addition, in case of major construction investment, the Group has the ability to use reserve cash or utilize long-term borrowings.

Details of remaining maturities of the Group's non-derivative financial liabilities based on agreement terms are as follows. The amount disclosed below represents the undiscounted cash flows the Group is obligated to pay in the future on the earliest repayment date:

Contractual remaining maturities of the Group's non-derivative financial liabilities, including interest payments, as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Unde | r 1 year | 1 | ~2 years | 2 | 2∼5 years | O١ | er 5 years | | Total |
|---|-------------|--------------------|--------|-----------------------|-----|------------------------|-----|-------------------------|---|---------------------|
| Borrowings and bonds | ₩ 2,6 | 350,461 | ₩ | 1,652,701 | W | 3,113,740 | W | 7,702,824 | ₩ | 15,119,726 |
| Trade and other | | | | | | | | | | |
| payables | 1,0 | 069,848 | | 333,235 | | 944,315 | | 920,129 | | 3,267,527 |
| | ₩ 3,7 | 720,309 | ₩ | 1,985,936 | W | 4,058,055 | ₩ | 8,622,953 | ₩ | 18,387,253 |
| | ' <u>-</u> | | | | | | | | | |
| | | | | | Dec | ember 31, 2 | 020 | | | |
| | | | | | | 0111001 01, 2 | | | | |
| | Unde | r 1 year | 1 | ~2 years | | 2~5 years | | er 5 years | | Total |
| Borrowings and bonds | | | 1 ₩ | | | • | | er 5 years 6,925,437 | ₩ | Total 13,914,292 |
| Borrowings and bonds Trade and other | | | | ~2 years | 2 | 2∼5 years | ٥١ | | ₩ | |
| · · | ₩ 1,8 | | | ~2 years | 2 | 2∼5 years | ٥١ | | ₩ | |
| Trade and other | ₩ 1,8 1, | 334,379 148,040 | | ~2 years 1,675,776 | 2 | 2~5 years 3,478,700 | ٥١ | 6,925,437 | ₩ | 13,914,292 |

37.2.5 Liquidity risk (cont'd)

As the Group manages its liquidity based on its net asset and net liability balances, the Group's liquidity risk management analysis includes its non-derivative financial assets.

Details of the Group's contractual expected holding period of its non-derivative financial assets as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | |
|--------------------------------|-------------------|------------|----|----------|------|------------|-----|-----------|---|-----------|
| | Un | der 1 year | 1~ | √5 years | Ove | er 5 years | | (*) | | Total |
| Cash and cash equivalents | W | 362,429 | ₩ | - | ₩ | - | ₩ | - | ₩ | 362,429 |
| Financial assets at fair value | | | | | | | | | | |
| through profit or loss | | 61,400 | | - | | - | | 531,720 | | 593,120 |
| Financial instruments | | 211,160 | | - | | - | | 333,581 | | 544,741 |
| Financial assets at fair value | | | | | | | | | | |
| through other comprehensive | | | | | | | | | | |
| income | | - | | - | | - | | 281,303 | | 281,303 |
| Loans | | 17,346 | | 25,649 | | 52,660 | | - | | 95,655 |
| Trade and other receivables | | 1,229,474 | | 36,231 | | | | _ | | 1,265,705 |
| | ₩ | 1,881,809 | ₩ | 61,880 | ₩ | 52,660 | ₩ | 1,146,604 | ₩ | 3,142,953 |
| | | | | | | | | | | |
| | | | | [| Dece | mber 31, 2 | 020 | | | |
| | Un | der 1 year | 1- | ∽5 years | Ove | er 5 years | | (*) | | Total |
| Cash and cash equivalents | W | 316,072 | W | - | W | - | W | - | W | 316,072 |
| Financial assets at fair value | | | | | | | | | | |
| through profit or loss | | 160,600 | | - | | - | | 577,481 | | 738,081 |
| Financial instruments | | 212,159 | | - | | - | | 258,656 | | 470,815 |
| Financial assets at fair value | | | | | | | | | | |
| through other comprehensive | | | | | | | | | | |
| income | | - | | - | | _ | | 233,371 | | 233,371 |
| Loans | | 11,159 | | 24,368 | | 49,479 | | - | | 85,006 |
| Trade and other receivables | | 1,382,735 | | 50,323 | | - | | - | | 1,433,058 |
| | ۱۸/ | 2,082,725 | ₩ | 74,691 | ₩ | 49,479 | ₩ | 1,069,508 | ₩ | 3,276,403 |

^(*) Maturity period cannot be reasonably estimated.

Remaining maturities of the Group's derivative financial liabilities as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | December 31, 2021 | | | | | | | | | | |
|--------------|-------------------|------------|---|-----------|-------|------------|-----|------------|---|-----------|--|
| | Un | der 1 year | 1 | l∼2 years | 2~ | 5 years | Ove | er 5 years | | Total | |
| Cash inflow | W | 65 | W | 65 | W | 197 | W | 65 | W | 392 | |
| Cash outflow | | (4,511) | | (5,155) | | (9,275) | | (1,216) | | (20,157) | |
| | W | (4,446) | ₩ | (5,090) | ₩ | (9,078) | ₩ | (1,151) | ₩ | (19,765) | |
| | | | | De | eceml | ber 31, 20 | 20 | | | | |
| | Un | der 1 year | 1 | l∼2 years | 2~ | ∕5 years | Ove | er 5 years | | Total | |
| Cash inflow | W | 106,060 | ₩ | 837,909 | ₩ | - | ₩ | - | ₩ | 943,969 | |
| Cash outflow | | (105,769) | | (862,463) | | - | | - | | (968,232) | |
| | W | 291 | ₩ | (24,554) | ₩ | - | ₩ | - | ₩ | (24,263) | |

37.3 Fair value estimate

The fair value of the Group's financial instruments traded in an active market (i.e. financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income) is the based on the traded market-price as of the reporting period end. The fair value of Group's financial assets is determined by the closing purchase price disclosed at the end of the reporting period.

The fair values of financial instruments where no active market exists or where quoted prices are not otherwise available are determined by using valuation techniques. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the Group uses that technique.

For trade receivables and payables, the Group considers the carrying value, net of impairment, as fair value. While for disclosure purposes, the fair value of non-current financial liabilities is estimated by discounting a financial instruments with similar contractual cash flows based on the effective interest method.

37.3.1 Fair value and carrying amount

The fair value of financial assets and financial liabilities as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Decembe | r 31 | 2021 | December 31, 2020 | | | | | |
|--|-----|--------------|------|------------|-------------------|---------------|-----|------------|--|--|
| | Car | rying amount | | Fair value | Ca | rrying amount | | Fair value | | |
| Financial assets at fair value: Financial assets at fair value through other | 14/ | 004.000 | 10/ | 004.000 | 14/ | 200 074 | 10/ | 000 074 | | |
| comprehensive income Financial assets at fair value | ₩ | 281,303 | ₩ | 281,303 | ₩ | 233,371 | ₩ | 233,371 | | |
| through profit or loss Derivative instruments held | | 593,120 | | 593,120 | | 738,081 | | 738,081 | | |
| for trading | | 319,463 | | 319,463 | | 49,068 | | 49,068 | | |
| | ₩ | 1,193,886 | W | 1,193,886 | ₩ | 1,020,520 | W | 1,020,520 | | |
| Financial assets at amortized cost: | | | | | | | | | | |
| Loans | ₩ | 89,047 | ₩ | 89,047 | ₩ | 78,450 | ₩ | 78,450 | | |
| Trade and other receivables | | 1,265,162 | | 1,265,162 | | 1,432,293 | | 1,432,293 | | |
| Cash and cash equivalents | | 362,429 | | 362,429 | | 316,072 | | 316,072 | | |
| Financial instruments | | 544,741 | | 544,741 | | 470,815 | | 470,815 | | |
| | ₩ | 2,261,379 | ₩ | 2,261,379 | ₩ | 2,297,630 | ₩ | 2,297,630 | | |
| Financial liabilities at fair value: Derivative instruments held | | | | | | | | | | |
| for trading | ₩ | 19,765 | ₩ | 19,765 | ₩ | 24,263 | ₩ | 24,263 | | |
| Financial liabilities at amortized cost: | | | | | | | | | | |
| Bonds | ₩ | 10,997,236 | ₩ | 11,765,790 | ₩ | 10,531,911 | ₩ | 11,667,723 | | |
| Short-term borrowings | | 867,028 | | 867,028 | | 340,000 | | 340,000 | | |
| Long-term borrowings | | 359,655 | | 359,655 | | 314,717 | | 314,717 | | |
| Trade and other payables | | 3,183,450 | | 3,183,450 | | 3,600,510 | | 3,600,510 | | |
| | W | 15,407,369 | ₩ | 16,175,923 | ₩ | 14,787,138 | W | 15,922,950 | | |

37.3.2 Interest rates used in calculating fair values

Interest rates used to discount expected cash flows were determined by adding credit spreads to government bond yields at the end of the reporting period.

37.3.3 Fair value hierarchy

The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, classified as Level 1, 2, or 3.

| | Significance of an input |
|---------|---|
| Level 1 | Unadjusted quoted prices in active markets for identical assets or liabilities. |
| Level 2 | Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly. |
| Level 3 | Inputs that are not based on observable market data. |

Fair values of financial instruments by hierarchy level as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Level 1 | | Level 2 | | Level 3 | | Total | | |
|--|---|-------------------|---|------------------------|---|-------------------|---|------------------------------|--|--|
| Financial assets at fair value: Financial assets at fair value through profit or loss Financial assets at fair value through other | ₩ | - | ₩ | 593,120 | ₩ | - | ₩ | 593,120 | | |
| comprehensive income | | 96,098 | | - | | 185,205 | | 281,303 | | |
| Derivative assets | | · - | | 319,463 | | - | | 319,463 | | |
| Financial liabilities at fair value: | | | | | | | | | | |
| Derivative liabilities | | - | | 19,765 | | _ | | 19,765 | | |
| | | December 31, 2020 | | | | | | | | |
| | | Level 1 | | Level 2 | | Level 3 | | Total | | |
| Financial assets at fair value: | | | | | | | | | | |
| Financial assets at fair value through profit or loss Financial assets at fair value through other | ₩ | - | ₩ | 738,081 | ₩ | - | ₩ | 738,081 | | |
| through profit or loss | ₩ | - 49,878 - | ₩ | 738,081 - 49,068 | ₩ | - 183,493 - | ₩ | 738,081 233,371 49,068 | | |

The fair value of financial assets at fair value through other comprehensive income traded in the market is determined by the closing purchase price disclosed at the end of the reporting period, and the fair value of financial assets at fair value through other comprehensive income without marketability is determined by the fair value evaluation results from external assessment institutions. Financial assets measured at level 3 in the fair value hierarchy as of December 31, 2021 include investments in SET Holding and Korea Electric Power Exchange as described in Note 8. They were measured by estimating future cash flows in consideration of expected operating revenue and cost structure, which then were discounted by the weighted average capital costs considering capital structure, etc. In addition, the Group measured the fair value of the derivative using a cash flow discount model that reflected credit risk and used the inputs (credit risk, interest rate, and exchange rate) considering the key economic indicators and economic environment of the derivative to be assessed.

37.3.3 Fair value hierarchy (cont'd)

Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | | | | 2021 | | | | |
|---|---|----------|----------------------------|------------|----|--------------|---|---------|----------------|--------------|
| | В | eginning | Acquisition Measurement of | | | | | | | |
| | t | palance | (Disposal), net | | 1 | fair values | | Others | Ending balance | |
| Financial assets at fair value through other comprehensive | | | | | | | | | | |
| income | ₩ | 233,371 | ₩ | 1,563 | ₩ | 41,687 | ₩ | 4,682 | ₩ | 281,303 |
| | | | | | | 2020 | | | | |
| | | eginning | A | cquisition | Ме | asurement of | | | | |
| | | palance | (l | Disposal) | | fair values | | Others | End | ling balance |
| Financial assets at fair value through other comprehensive | | | | | | | | | | |
| income | ₩ | 231,825 | ₩ | 7,400 | ₩ | (4,060) | W | (1,794) | ₩ | 233,371 |

38. Related party disclosures

Details of related parties as of December 31, 2021 are as follows:

| Relationship | Related party |
|-----------------------|---|
| Parent company | Korea Electric Power Corporation |
| Subsidiaries (*) | KHNP Canada Energy Ltd. |
| | Gyeonggi Green Energy Co., Ltd. |
| | Korea Waterbury Uranium Limited Partnership |
| | Incheon Fuel Cell Co., Ltd. |
| | First Keepers Co., Ltd. |
| | Secutec Co., Ltd. |
| | KHNP USA LLC |
| | Energy Innovation Growth Fund 1 |
| | KHNP Chile SpA |
| | LSG Hydro Power Ltd. |
| | KHNP Spain, S.L. |
| Associates (*) | Korea Offshore Wind Power Co., Ltd. |
| | Noeul Green Energy Co., Ltd. |
| | Busan Green Energy Co., Ltd. |
| | Korea Hydro & Nuclear Power KNP Co., Ltd. (formerly Korea |
| | Nuclear Partners Co., Ltd.) |
| | KEPCO Solar Co., Ltd. |
| | KEPCO ES Co., Ltd. (formerly KEPCO Energy Solution Co., Ltd.) |
| | Gwangyang Green Energy Co., Ltd. |
| | Godeok Clean Energy Co., Ltd. |
| | Hanhwa Solar Power Private equity investment trust |
| | Bigeum Resident Solar Power Generation Co., Ltd. |
| | Digital Innovation Growth Fund |
| | Gangneung Sacheon Fuel Cell Co., Ltd. |
| | Chuncheon Green Energy Co., Ltd. |
| Joint ventures | Waterbury Lake Uranium Limited Partnership |
| | Cheongsong Noraesan Wind Power Co., Ltd. |
| | Saemangeum Solar Power Co., Ltd. |
| | KAS INVESTMENT I LLC |
| | KAS INVESTMENT II LLC |
| | Guadalupe Solar SpA |
| Other related parties | Korea Midland Power Co., Ltd. |
| | Korea East-West Power Co., Ltd. |
| | Korea South-East Power Co., Ltd. |
| | Korea Western Power Co., Ltd. |
| | Korea Southern Power Co., Ltd. |
| | KEPCO Engineering & Construction Inc. |
| | KEPCO Plant Service & Engineering Co., Ltd. |
| | KEPCO Nuclear Fuel Co., Ltd. |
| | KEPCO Knowledge, Data & Network Co., Ltd. |
| | Korea Power Exchange |
| | YTN Co., Ltd. |
| | Korea Development Bank |
| | HeeMang Sunlight Power Co., Ltd. |
| | Korea Gas Corporation |
| | Energy Infra Asset Management Co., Ltd. |
| | Nawah Energy Company and others. |

^(*) Korea Imouraren Uranium Investment Corp. and Jeju Solarone Co., Ltd. are excluded from related parties of the Group due to disposal for the year ended December 31, 2021.

The transactions with related parties for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | | Sales a | nd oth | ners | Purchases and others | | | | |
|---|--|---|---------------|--------|------------|----------------------|-----------|---|-----------|--|
| Related party | Transaction | | 2021 | | 2020 | | 2021 | | 2020 | |
| Korea Electric Power Corporation | Sales of electricity and others | ₩ | 9,825,455 | ₩ | 10,240,565 | ₩ | 777,055 | ₩ | 744,309 | |
| D 0 5 0 | Dividends paid | | - | | - | | 279,779 | | 106,675 | |
| Busan Green Energy Co., Ltd. Noeul Green Energy Co., | REC Purchases | | - | | - | | 18,996 | | 18,678 | |
| Ltd. Korea Offshore Wind | REC Purchases. | | - | | - | | 10,014 | | 10,634 | |
| Power Co., Ltd. | Service income | | 170 | | 194 | | - | | - | |
| Saemangeum Solar Power Co., Ltd. KEPCO ES Co., Ltd. (formerly KEPCO Energy | Service income and others / Rental fee | | 1,141 | | 2,846 | | 5 | | - | |
| Solution Co., Ltd.) Gwangyang Green Energy | Service income | | 9 | | 148 | | - | | - | |
| Co., Ltd. Hanhwa Solar Power Private equity investment | Service income | | 483 | | 20 | | - | | - | |
| trust KEPCO Solar Co., Ltd. Bigeum Resident Solar Power Generation Co., | Dividend income Service income | | 399 - | | 291 117 | | - | | - | |
| Ltd. Korea East-West Power | Interest income | | 753 | | 84 | | - | | - | |
| Co., Ltd. Korea Western Power Co., | RPS sales income | | 210 | | 462 | | - | | - | |
| Ltd. KEPCO Plant Service & Engineering Co., Ltd. | Commission fees Other income/ Cost of construction | | - | | - | | - | | 91 | |
| KEPCO Engineering & Construction Inc. | services, etc. Other income/ Cost of technique | | 1,179 | | 4,992 | | 532,387 | | 536,602 | |
| KEPCO Knowledge, Data & Network Co., Ltd. | services, etc. Information and communication | | 4,607 | | 58 | | 194,752 | | 217,439 | |
| KEPCO Nuclear Fuel Co., Ltd. | consigned service costs, etc. Consignment education income/ | | 17 | | - | | 44,321 | | 49,122 | |
| | Nuclear power plant fuel purchase, etc. | | - | | 812 | | 247,782 | | 294,203 | |
| Korea Power Exchange | Commission fees, etc. | | - | | - | | 15,928 | | 15,996 | |
| Korea Development Bank | Interest income /Interest expenses | | 23 | | 29 | | 1,250 | | 1,288 | |
| YTN Co., Ltd. | Advertisement expenses | | _ | | _ | | 166 | | 118 | |
| Nawah Energy Company | • | | 00.450 | | 00.054 | | 100 | | 110 | |
| Guadalupe Solar SpA | Service income Interest income | | 86,456 104 | | 96,354 | | - | | - | |
| Energy Infra Asset | | | 104 | | - | | - 0.057 | | 4 740 | |
| Management Co., Ltd. | Interest expense | | - | · | | | 2,657 | | 1,740 | |
| | | W | 9,921,006 | W | 10,346,972 | W | 2,125,092 | W | 1,996,895 | |

Receivables and payables arising from related party transactions as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | Т | rade receivabl | es and | others | Trade payables and others | | | | | |
|---|---------------------------------|-----|-------------------|--------|-------------------|---------------------------|--------------------|-----|-------------------|--|--|
| Related party | Transaction | Dec | ember 31, 2021 | Dec | ember 31, 2020 | De | cember 31, 2021 | Dec | ember 31, 2020 | | |
| Korea Electric Power | Trade receivables | ₩ | 927,393 | ₩ | 1,141,409 | ₩ | | ₩ | - | | |
| Corporation | Non-trade receivables, | | | | | | | | | | |
| | and others | | 516,921 | | 471,985 | | - | | - | | |
| | Other payables and | | | | | | | | | | |
| | others | | - | | - | | 123,818 | | 128,851 | | |
| Saemangeum Solar Power | | | 4.000 | | 0.444 | | | | | | |
| Co., Ltd. | Non-trade receivables | | 4,268 | | 3,141 | | - | | - | | |
| Gwangyang Green Energy | Nam tanda sanais alalah | | 532 | | 4.050 | | | | | | |
| Co., Ltd. | Non-trade receivables | | 532 | | 1,356 2 | | - | | - | | |
| KEPCO Solar Co., Ltd. KEPCO ES Co., Ltd. | Non-trade receivables | | - | | 2 | | - | | - | | |
| (formerly KEPCO Energy | | | | | | | | | | | |
| Solution Co., Ltd.) | Non-trade receivables | | _ | | 36 | | _ | | _ | | |
| Noeul Green Energy Co., | Non-trade receivables | | _ | | 30 | | _ | | _ | | |
| Ltd. | Non-trade receivables | | 1,169 | | 969 | | _ | | _ | | |
| Busan Green Energy Co., | Tron trade receivables | | 1,100 | | 000 | | | | | | |
| Ltd. | Non-trade receivables | | 20,658 | | 13,946 | | _ | | _ | | |
| Korea Offshore Wind | | | 20,000 | | .0,0.0 | | | | | | |
| Power Co., Ltd. | Trade receivables | | 101 | | _ | | _ | | _ | | |
| Bigeum Resident Solar | Trade receivables | | 922 | | 3,500 | | - | | _ | | |
| Power Generation Co., | | | | | -, | | | | | | |
| Ltd. | Loans and others | | 11,497 | | - | | - | | - | | |
| Korea Western Power Co., | | | | | | | | | | | |
| Ltd. | Other payables | | - | | - | | - | | 100 | | |
| Korea East-West Power | | | | | | | | | | | |
| Co., Ltd. | Non-trade receivables | | - | | 113 | | - | | - | | |
| KEPCO Plant Service & | Non-trade receivables | | | | | | | | | | |
| Engineering Co., Ltd. | and others | | 2,150 | | 21 | | - | | - | | |
| | Other payables and | | | | | | | | | | |
| | others | | - | | - | | 12,031 | | 49,322 | | |
| KEPCO Engineering & | Other payables and | | | | | | | | | | |
| Construction Inc. | others | | - | | - | | - | | 6,176 | | |
| KEPCO Knowledge, Data | Other payables and | | | | | | | | 0.044 | | |
| & Network Co., Ltd. | others | | - | | - | | - | | 2,044 | | |
| KEPCO Nuclear Fuel Co., | Trade payables and | | | | | | 25 444 | | E7 011 | | |
| Ltd. | others | | - | | - | | 25,444 | | 57,911 | | |
| Korea Power Exchange Korea Development Bank | Other payables Prepaid expenses | | - 785 | | 906 | | 1,628 | | 1,073 | | |
| Korea Development Bank | Borrowings | | 700 | | 906 | | 121,030 | | 124,173 | | |
| | Accrued expenses | | - | | - | | 21,053 | | 124,173 | | |
| Nawah Energy Company | Trade receivables | | 73,784 | | 49,280 | | 21,000 | | 21 | | |
| Guadalupe Solar SpA | Loans | | 3,367 | | +3,200 | | _ | | | | |
| Caddalape Coldi Op/ (| Advance received | | | | _ | | 27 | | _ | | |
| Energy Infra Asset | | | | | | | 21 | | | | |
| Management Co., Ltd. | Borrowings | | <u> </u> | | | | 55,000 | | 46,877 | | |
| | | ₩ | 1,563,547 | ₩ | 1,686,664 | ₩ | 360,031 | ₩ | 416,548 | | |

Financial transactions with related parties for the years ended December 31, 2021 and 2020 are as follows: (Korean won in millions)

(i) Loans and capital investments

| | | | 2021 | | | |
|----------------|--|---|-----------------|------------|----------|-------------------|
| | | | Trans | action | | Cash |
| | Company name | | oans | Repayments | | contribution |
| Associates | Gwangyang Green Energy Co., Ltd. | ₩ | - | ₩ | - 4 | ₩ 24,800 |
| | Godeok Clean Energy Co., Ltd. | | - | | - | 3,730 45 |
| | Jeju Solarone Co., Ltd.(*) Bigeum Resident Solar Power | | 11 010 | | - | 45 |
| | Generation Co., Ltd. Digital Innovation Growth Fund | | 11,212 | | - | 10.000 |
| | Gangneung Sacheon Fuel | | - | | - | 10,000 |
| | Cell Co., Ltd Chuncheon Green Energy | | - | | - | 1,950 |
| Joint ventures | Co., Ltd. Saemangeum Solar Power | | - | | - | 3,400 |
| | Co., Ltd. | | - 0.000 | | - | 1 |
| | Guadalupe Solar SpA | ₩ | 3,360 14,572 | W | <u> </u> | 1,397 W 45,323 |

^(*) This entity is excluded from related parties of the Group due to disposal for the year ended December 31, 2021. The above transactions include only transaction details before being excluded from related parties.

| | | | 2020 | | | | |
|----------------|-----------------------------|---|------------|------------|---|---|--------------|
| | | | Trans | action | | | Cash |
| | Company name | E | Borrowings | Repayments | | | contribution |
| Associates | Jeju Solarone Co., Ltd. | ₩ | = | ₩ | - | ₩ | 161 |
| | Bigeum Resident Solar Power | | | | | | |
| | Generation Co., Ltd. | | 3,500 | | - | | 1 |
| | Korea Nuclear Partners Co., | | | | | | |
| | Ltd. | | - | | - | | 247 |
| | Hanhwa Solar Power | | | | | | |
| | Private equity investment | | | | | | |
| | trust | | - | | - | | 294 |
| Joint ventures | Saemangeum Solar Power | | | | | | |
| | Co., Ltd. | | - | | - | | 16,399 |
| | KAS INVESTMENT I LLC | | - | | - | | 23,437 |
| | KAS INVESTMENT II LLC | | - | | - | | 23,343 |
| | | ₩ | 3,500 | ₩ | - | ₩ | 63,882 |

(ii) Borrowings

| | | | | | 20 | 021 | | | | | | |
|--------|--|----------------|----|----------|----|-----------|----|-----------|---|--------|-----|-----------|
| | Company name | Type | Ji | anuary 1 | Вс | orrowings | Re | epayments | | Others | Dec | cember 31 |
| Others | Korea Development | Facility loan | ₩ | 24,173 | W | - | ₩ | (3,143) | ₩ | - | W | 21,030 |
| | Bank (*1,2) Energy Infra Asset Management Co., | Operating loan | | 100,000 | | 100,000 | | (100,000) | | - | | 100,000 |
| | Ltd. (*1,2) | Facility loan | | 46,877 | | 8,123 | | - | | - | | 55,000 |
| | | | ₩ | 171,050 | ₩ | 108,123 | ₩ | (103,143) | ₩ | - | ₩ | 176,030 |

(*1) Details of collaterals pledged for related parties are described in Note 40.

(*2) The interest expense recognized by the borrowing transaction with the related parties is \(\psi_3,907\) million.

| | | | | | 20 |)20 | | | | | | |
|--------|--------------------|----------------|----|----------|----|----------|----|-----------|---|--------|-----|----------|
| | Company name | Type | Ji | anuary 1 | Вс | rrowings | Re | epayments | | Others | Dec | ember 31 |
| Others | Korea | Facility loan | ₩ | 27,175 | ₩ | - | ₩ | (3,002) | ₩ | _ | ₩ | 24,173 |
| | Development | | | | | | | | | | | |
| | Bank (*1,2) | Operating loan | | 100,000 | | 100,000 | | (100,000) | | - | | 100,000 |
| | Energy Infra Asset | | | | | | | | | | | |
| | Management Co., | | | | | | | | | | | |
| | Ltd. (*1,2) | Facility loan | | - | | 46,877 | | - | | | | 46,877 |
| | | | ₩ | 127,175 | ₩ | 146,877 | ₩ | (103,002) | ₩ | - | W | 171,050 |

(*1) Details of collaterals pledged for related parties are described in Note 40.

Compensations to key management personnel of the Company for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | 2020 | |
|---------------------|---|-------|------|-----|
| Salaries | ₩ | 957 | ₩ | 939 |
| Retirement benefits | | 50 | | 48 |
| | ₩ | 1,007 | ₩ | 987 |

Details of collateral provided to related parties as of December 31, 2021 are as follows (Korean won in millions):

| Provided by | Provided to | Assets pledged(*) | Credit limit | Financial institution |
|--------------------|----------------------|------------------------------|--------------|--------------------------|
| Korea Hydro & | Korea Offshore Wind | Korea Offshore Wind Power | | Woori Bank and |
| Nuclear Power Co., | Power Co., Ltd. | Co., Ltd. Shares | ₩ 21,436 | others |
| Ltd. | Noeul Green | Noeul Green Energy Co., Ltd. | | Hana Bank and |
| | Energy Co., Ltd. | Shares | 3,809 | others |
| | Busan Green | Busan Green Energy Co., | | Shinhan Bank |
| | Energy Co., Ltd. | Ltd. Shares | 5,033 | and others |
| | Godeok Clean Energy | Godeok Clean Energy Co., | | Kookmin Bank |
| | Co., Ltd. | Ltd. Shares | 4,301 | and others |
| | Cheongsong Noraesan | Cheongsong Noraesan Wind | | Woori Bank and |
| | Wind Power Co., Ltd. | Power Co., Ltd. Shares | 4,106 | others |
| | Gwangyang Green | Gwangyang Green Energy | | Shinhan Bank |
| | Energy Co., Ltd. | Co., Ltd. Shares | 25,465 | and others |
| | | | | |

(*) As of December 31, 2021, the entire shares held by the Group are pledged as collateral to the financial institutions.

^(*2) The interest expense recognized by the borrowing transaction with the related parties is \(\pm3,028\) million.

Details of derivatives transactions with related parties as of December 31, 2021 are as follows (USD, HKD and CHF in thousands, Korean won in millions, KRW/USD, KRW/HKD, KRW/CHF):

| | | | Contract amoun | | | ıt | Contract inte | | | |
|------------------|---------------------------|--|----------------|---------|-----|---------|---------------|---------|---|------------------------|
| | Counter party (*) | Contract year | | Pay | Re | eceive | Pay | Receive | | ontract nange rate_ |
| Currency swap | Korea Development Bank | 2015.06.15~ 2025.06.15 2017.07.25~ | KRW | 111,190 | USD | 100,000 | 2.62% | 3.25% | ₩ | 1,111.90 |
| | | 2017.07.25~ 2027.07.25 2018.04.03~ | KRW | 111,610 | USD | 100,000 | 2.31% | 3.13% | | 1,116.10 |
| | | 2028.03.13 2018.07.25~ | KRW | 108,600 | HKD | 800,000 | 2.69% | 3.35% | | 135.75 |
| | | 2023.07.25 2019.07.19~ | KRW | 170,280 | USD | 150,000 | 2.15% | 3.75% | | 1,135.20 |
| | | 2027.07.19 2021.04.27~ | KRW | 119,978 | CHF | 100,000 | 1.43% | 0.05% | | 1,199.78 |
| | | 2026.04.27 | KRW | 111,400 | USD | 100,000 | 0.93% | 1.25% | | 1,114.00 |

^(*) The Group recognized a gain on valuation of derivate instruments of Ψ 62,734 million from the derivative transactions above. It also recognized a gain on transactions of derivative instruments of Ψ 15,644 million and a loss on transactions of derivative instruments of Ψ 1,677 million.

39. Supplementary cash flow information

Significant non-cash transactions for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | 2021 | | 2020 |
|---|---|-----------|---|-----------|
| Transfer of long-term borrowings and bonds to current portion | ₩ | 1,475,818 | ₩ | 1,171,988 |
| Transfer of provisions for decommissioning costs to current portion | | 517,894 | | 54,471 |
| Transfer of construction-in-progress to property, plant and equipment | | 1,010,353 | | 431,255 |
| Recognition of assets retirement costs based on provision for restoration | | 2,356,805 | | 880,628 |
| Transfer of spent fuel management charges to accrued expenses | | 455,401 | | 395,921 |
| Transfer of inventories to storage of nuclear power fuel | | 908,841 | | 1,055,974 |
| Transfer of long-term advanced payments to right-of-use assets | | 102,420 | | 207,947 |

Changes in liabilities arising from financing activities for the years ended December 31, 2021 and 2020 are as follows (Korean won in millions):

| | 2021 | | | | | | | | |
|---|------------------------|--------------|----------------|-------------|---------------------------|--------------------------|------------------------|--|--|
| | | Cash | n flow | 1 | е | | | | |
| Current portion | January 1 | Decrease | Increase | Acquisition | Exchange rate fluctuation | Others | December 31 | | |
| Current portion of lease liabilities Lease | ₩ 20,645 | ₩ (19,348) | ₩ - | ₩ - | ₩ - | ₩ 13,775 | ₩ 15,072 | | |
| liabilities | 148,503 | - | - | 20,292 | 64 | (34,615) | 134,244 | | |
| Short-term borrowings Current portion | 340,000 | (456,324) | 984,038 | - | (686) | - | 867,028 | | |
| of long-term borrowings Long-term | 19,063 | (19,131) | - | - | - | 36,979 | 36,911 | | |
| borrowings | 295,654 | - | 63,868 | - | 132 | (36,910) | 322,744 | | |
| Current portion of bonds Bonds Dividends | 1,152,802 9,379,109 | (1,154,000) | - 1,349,015 | - | (191) 263,265 | 1,438,907 (1,431,671) | 1,437,518 9,559,718 | | |
| payable Derivative | - | (279,779) | - | - | - | 279,779 | - | | |
| instruments | (24,806) | (6,355) | 72,407 | (9) | - | (340,936) | (299,699) | | |
| | W11,330,970 | W(1,934,937) | W 2,469,328 | ₩ 20,283 | W 262,584 | ₩ (74,692) | ₩ 12,073,536 | | |

39. Supplementary cash flow information (cont'd)

| | | Cash | flow | | Non-cash chang | е | | | | |
|--|----------------------|--------------|----------------|---------------------|---------------------------|--------------------------|------------------------|--|--|--|
| | January 1 | Decrease | Increase | Acquisition | Exchange rate fluctuation | Others | December 31 | | | |
| Current portion of lease liabilities Lease | ₩ 20,223 | ₩ (31,050) | ₩ - | ₩ - | ₩ - | ₩ 31,472 | ₩ 20,645 | | | |
| liabilities | 138,581 | - | - | 38,354 | (377) | (28,055) | 148,503 | | | |
| Short-term borrowings Current portion | 210,000 | (1,017,750) | 1,147,750 | - | - | - | 340,000 | | | |
| of long-term borrowings Long-term | 18,253 | (18,253) | - | - | - | 19,063 | 19,063 | | | |
| borrowings Current portion | 147,917 | - | 166,800 | - | - | (19,063) | 295,654 | | | |
| of bonds Bonds Dividends | 499,811 9,579,579 | (500,000) | - 1,116,881 | - | 66 (172,303) | 1,152,925 (1,145,048) | 1,152,802 9,379,109 | | | |
| payable Derivative financial | - | (106,684) | - | - | - | 106,684 | - | | | |
| instruments | (112,652) | (11,582) | 26,878 | | | 72,550 | (24,806) | | | |
| | W10,501,712 | ₩(1,685,319) | W 2,458,309 | W 38,354 | W (172,614) | ₩ 190,528 | ₩ 11,330,970 | | | |

40. Commitment and contingencies

Ongoing litigations as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | Decemb | December 31, 2021 | | | December 31, 2020 | | | |
|----------------------|----------------|-------------------|-------------|----------------|-------------------|-------------|--|--|
| | Litigations in | | | Litigations in | | | | |
| | progress | Litiga | ation value | progress | Litig | ation value | | |
| Pending lawsuits (*) | 83 cases | ₩ | 113,367 | 88 cases | ₩ | 101,954 | | |

(*) Details of ongoing litigations as of December 31, 2021 are as follows (Korean won in millions):

| Court | Complainant | The accused | Contents | L | itigation cost | Progress situation |
|------------------------------|-----------------------------|-----------------|-------------------------------------|----|-------------------|--------------------|
| Seoul High Court | OO Kwon and | THE accused | 2 Wages(*) | W | 35,920 | The second trial |
| ocour riigir oourt | 918 others | | 2 ***ages() | ** | 00,020 | The second than |
| Supreme Court | OO Kim and | | 4 Wages(*) | | 1,288 | The third trial |
| and others | 58 others | | 3 () | | • | / The first trial |
| Daegu District | OO Ki and | | Wage(*) | | 225 | The first trial |
| Court | 8 others | | | | | |
| Daegu District | OO Lim and | | Wage(*) | | 60 | The first trial |
| Court | 11 others | | 6.14 / (#) | | | - |
| Daegu District | OO Lee and | | 2 Wages(*) | | 270 | The first trial |
| Court | 4 others | | | | 200 | The first trial |
| Seoul Central District Court | OO Kang and 1,172 others | The Controlling | 2 Wages(*) | | 290 | The first trial |
| Daegu District | OO Choi and | Company | 8 Salary peak(*) | | 27,885 | The first trial |
| Court and others | 309 others | | o calary peak() | | 27,000 | THE MOUNTAIN |
| Seoul High Court | OO Kim and | | 5 Wages(*) | | 2,965 | The second trial |
| and others | 7 others | | 3.1() | | , | / The first trial |
| Seoul Central | OO Kang and | | 1 Retirement pension | | 16,530 | The first trial |
| District Court | 3,909 others | | | | | |
| Seoul High Court | S&TC and others | | 1 Cancellation of vendor's contract | | 2,391 | The second trial |
| Seoul High Court | OO Hong and | | 56 cases, including | | 25,543 | Lawsuit pending |
| and others | 64 others | | compensation for damages | | | |

^(*) As of December 31, 2021, the Group has a total of 12 ordinary wage-related lawsuits, 8 salary peak system-related lawsuits and 5 other wage-related lawsuits pending at the Seoul High Court and others. On February 3, 2017, 2 cases were judged in the first trial; on December 31, 2017, 1 case was in the second trial and some of the plaintiffs won. The Group has paid the liability related to ordinary wages in 2017 and determines that the contingent liability associated with this case will not be significant.

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Notes to the consolidated financial statements for the years ended December 31, 2021 and 2020

40. Commitment and contingencies (cont'd)

The Group has reserved \$\pmu\$16,755 million of provisions for litigation in respect to current ongoing litigations. Although the final results cannot be predicted for case other than cases for which provisions for litigation are recognized, management expects that the outcome of the lawsuit will not have a significant impact on the Group's operations or financial status.

A group of plaintiffs (consisting of 2,166 individuals) filed a lawsuit against Nuclear Safety and Security Commission ("NSSC") regarding NSSC's approval on May 18, 2015 of extending the operation of Wolsong Unit 1 nuclear power plant. The NSSC won the case after the appeal was dismissed on May 29, 2020. Also, Greenpeace and others filed an administrative litigation against the NSSC requesting cancellation of the construction permit of Shin-Kori Units 5 and 6, and the plaintiffs lost in the litigation based on the court trial on February 14, 2019. In response, the plaintiff filed an appeal on March 18, 2019, but on April 29, 2021, the case was closed after receiving a decision to dismiss the trial. In response, the plaintiff filed an appeal and is currently undergoing a third trial at the Supreme Court. The Group is participating in these litigations as a stakeholder with the permission of the Court.

The Group determined that there is no present obligation regarding the payment of the periodic pre-work for main facilities by a particular client in relation to the Shin-Hanul Units 3 and 4 as of December 31, 2021. In addition, the Group determines that the probability of winning a lawsuit in the future is higher than that of losing it. Furthermore, the Group cannot reliably estimate the amount required to meet the obligations as of December 31, 2021.

As of December 31, 2021, the Group was sued by 3,909 people for "Commitment to contributions in retirement pension and claims for severance pay" and is in the process of the first trial. The Group has recognized a provision for litigation of \$411,730 million.

40. Commitment and contingencies (cont'd)

Lines of credit provided by financial institutions as of December 31, 2021 are as follows (Korean won in millions, USD and EUR in thousands):

| Description | Financial institution | Curroney | Limit | Currency | Outstanding amount |
|---------------------------------|------------------------------------|-----------------|---------|----------|--------------------|
| Commitments on Bank-overdraft | Woori Bank | Currency KRW | 50,000 | KRW | amount |
| Communicities on Bank-overdian | Nonghyup Bank | KRW | 100,000 | KRW | 100,000 |
| | Hana Bank | KRW | 50.000 | KRW | 100,000 |
| | Kookmin Bank | KRW | 100,000 | KRW | _ |
| | Korea Development | | | | |
| | Bank | KRW | 100,000 | KRW | 100,000 |
| Trade finance | Mistui Sumitomo Bank | USD | 100,000 | USD | - |
| | The Export-Import Bank of Korea | USD | 100,000 | USD | - |
| | Singapore | | 450,000 | | 62.000 |
| | Development Bank | USD | 150,000 | USD | 63,200 |
| | Societe Generale | USD | 100,000 | USD | - |
| | Standard Chartered | USD | 150,000 | USD | - |
| | Kookmin Bank | USD | 100,000 | USD | - |
| | Shinhan Bank | USD | 50,000 | USD | 5,119 |
| | Credit Agricole | USD | 100,000 | EUR | 71,544 |
| Certification of payment on L/C | Nonghyup Bank | USD | 50,000 | EUR | 540 |
| Certification of performance | National Bank of | | | | |
| guarantee on contract | Pakistan | USD | 477 | USD | _ |
| | Hana Bank | KRW | 1,000 | KRW | 213 |
| | Seoul Guarantee | | 15 | | |
| | Insurance Company | USD | | USD | - |
| | Nonghyup Bank | USD | 20,000 | EUR | 631 |
| Loan limit | Korea Development | | 251,600 | | 121,354 |
| | Bank and others | KRW | 251,000 | KRW | 121,334 |
| | Kookmin Bank | | 230,800 | | 230,800 |
| | and others | KRW | 250,000 | KRW | 230,000 |
| | Woori Bank | | 3,600 | | _ |
| | and others | KRW | 0,000 | KRW | |
| | Industrial Bank of | | 4,000 | | _ |
| | Korea and others | KRW | | KRW | |
| | Woori Bank | KRW | 1,600 | KRW | - |
| Limit amount available for card | Nonghyup Card Co., | | 13,004 | | 2,673 |
| | Ltd. | KRW | | KRW | |
| | Woori Card Co., Ltd. | KRW | 4,400 | KRW | 2,856 |
| Others | Industrial Bank of | | 20,020 | | _ |
| | Korea | KRW | | KRW | |
| | Shinhan Bank | KRW | 10,000 | KRW | - |
| | Hana Bank | KRW | 8,000 | KRW | - |
| | Nonghyup Bank | KRW | 25,000 | KRW | - |
| | Woori Bank | KRW | 5,000 | KRW | - |

40. Commitment and contingencies (cont'd)

The Group voluntarily suspended operations of the Gangneung hydroelectric generating plant, with a carrying amount of \$\footnothe{W}68,674\$ million as of December 31, 2021, to improve the quality of water used in generating electricity. The expenses related to the suspension of operations of \$\footnothe{W}44\$ million and depreciation on the utility plant amounting to \$\footnothe{W}3,621\$ million are charged to other expenses for the year ended December 31, 2021. Regarding the improvement of water quality, the results of damages compensation for the local residents cannot be reasonably estimated, and the Group is under negotiations with Gangneung City and related stakeholders to restart the Gangneung hydroelectric generating plant as of December 31, 2021.

Major contracts related to constructions:

Agreements for the purchase of property, plant and equipment as of December 31, 2021 and 2020 are as follows (Korean won in millions)

(*) The above amount is the total business standard amount of the construction work. The amount related to construction work of Shin-Kori units (#3,4) was excluded from the amount as of December 31, 2020.

Contractual amounts for construction of Shin-Kori units (#5,6) and Shin-Hanul units (#1,2) as of December 31, 2021 and 2020 are as follows (Korean won in millions):

| | | December 31, 2021 | | | | December 31, 2020 | | | |
|---|---------------------|-------------------|---|-------------------|---------------------|-------------------|-------------------|-----------|--|
| | Contractual amounts | | | Remaining balance | Contractual amounts | | Remaining balance | | |
| Construction of Shin-Kori units (#5,6) Construction of Shin-Hanul | ₩ | 9,800,424 | ₩ | 3,479,667 | ₩ | 8,625,387 | ₩ | 3,256,117 | |
| units (#1,2) | | 9,745,123 | | | | 9,443,635 | | 160,512 | |
| | ₩ | 19,545,547 | ₩ | 3,479,667 | ₩ | 18,069,022 | W | 3,416,629 | |

The Group has various purchase commitments for uranium, and the details of the major contracts as of December 31, 2021 are as follows:

| | Contract Year | Quantity |
|-----------------------------------|---------------|-----------------|
| Concentrate | 2020~2030 | 32,435 Ton U3O8 |
| Transformation | 2020~2030 | 18,088 Ton U |
| Enrichment | 2020~2030 | 17,667 Ton SWU |
| Fabrication (light-water reactor) | 2021~2022 | 805 Ton U |
| Fabrication (heavy-water reactor) | 2021~2022 | 405 Ton U |
| Fabrication (initial core) | 2014~2024 | 415 Ton U |

40. Commitment and contingencies (cont'd)

Details of collateral provided by the Group for long-term borrowings as of December 31, 2021 are as follows (Korean won in millions):

| _ | Туре | Loar | n amounts | Lo | oan limit | а | aximum mount aranteed | Financial institution |
|------------------------------|---------------|------|-----------|----|-----------|---|-----------------------------|------------------------------|
| Long-term | | | | | | | | Korea Development |
| borrowings (*1) Long-term | Facility loan | ₩ | 121,355 | ₩ | 251,600 | ₩ | 327,080 | Bank and others Kookmin Bank |
| borrowings (*2) | Facility loan | | 230,800 | | 230,800 | | 276,960 | and others |
| | | ₩ | 352,155 | ₩ | 482,400 | W | 604,040 | |

(*1) As of December 31, 2021, all shares of Gyeonggi Green Energy Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above by shareholders, including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledge for plants and other pledges were established.

(*2) As of December 31, 2021, all shares of Incheon Fuel Cell Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above by shareholders, including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledge for plants and other pledges were established.

Uncertainties relating to Covid-19:

In order to prevent the spread of Covid-19, various prevention and control measures including restrictions on movement are being implemented worldwide, and as a result, the global economy is widely affected. In addition, the government has announced various support measures to cope with the impact of Covid-19.

The effect of Covid-19 is mainly on impairment of inventories, property, plant and equipment and intangible assets, recognition of provisions and the realizability of deferred tax assets. The Group prepared its consolidated financial statements by reasonably estimating the impact of Covid-19 on the Group. However, in Covid-19 circumstances, there is an uncertainty exist in estimating the duration of Covid-19 and its impact on the Group.

41. Events after the reporting period

(1) After the end of the reporting period, the Group issued new bonds for the purpose of using them for debt repayments, and details of the issuance are as follows (Korean won in millions):

| | Issue | Maturity | Interest rate | | Amount |
|----------------------|------------|------------|---------------|---|---------|
| Corporate bond #63-1 | 2022.02.17 | 2027.02.17 | 2.81% | ₩ | 40,000 |
| Corporate bond #63-2 | 2022.02.17 | 2042.02.27 | 3.04% | | 60,000 |
| Corporate bond #63-3 | 2022.02.17 | 2052.02.27 | 2.97% | | 50,000 |
| Corporate bond #64-1 | 2022.03.11 | 2042.03.11 | 3.10% | | 70,000 |
| Corporate bond #64-2 | 2022.03.11 | 2052.03.11 | 3.02% | | 80,000 |
| | | | | ₩ | 300,000 |

(2) Uncertainties relating to the current conflict in Ukraine

The ongoing armed conflict in Ukraine area which began in February 2022 and international sanctions imposed against Russia may impact sanctioned entitles, entities doing business with Ukraine or Russia as well as entities exposed directly or indirectly to industries or economy of Ukraine or Russia. The events described above represent non-adjusting events after the reporting period. The Group cannot make a reasonable estimation of financial impact of the recent conflict in Ukraine in the future.



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Independent auditor's report

The Shareholder and Board of Directors Korea Hydro & Nuclear Power Co., Ltd.

Opinion

We have audited the consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (the "Group"), which comprise the consolidated statements of financial position as of December 31, 2020 and December 31, 2019, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2020 and December 31, 2019, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

Basis for opinion

We conducted our audit in accordance with Korean Auditing Standards ("KGAAS"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements, and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of matter

We draw attention to Note 2 to the consolidated financial statements, which describes that the Group has prepared the Group's consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS") where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. Our opinion is not modified in respect of this matter.



Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KGAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KGAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due
 to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence
 that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material
 misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion,
 forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are
 appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of
 the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including
 the disclosures, and whether the consolidated financial statements represent the underlying transactions and
 events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business
 activities within the Group to express an opinion on the consolidated financial statements. We are responsible
 for the direction, supervision and performance of the group audit. We remain solely responsible for our audit
 opinion.



We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ernst Joung Han Young

March 11, 2021

This audit report is effective as of March 11, 2021, the independent auditor's report date. Accordingly, certain subsequent events or circumstances, which may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of financial position as of December 31, 2020 and 2019 (Korean won in millions)

| | Notes | | 2020 | 2019 | |
|--|-------------|---|------------|------|------------|
| Assets | | | | | |
| Current assets: | 5.07 | | 0.40.070 | | 0.4.0.4.0 |
| Cash and cash equivalents | 5,37 | ₩ | 316,072 | ₩ | 34,916 |
| Current financial assets, net | 6,9,37 | | 402,101 | | 245,495 |
| Trade and other receivables, net | 7,37 | | 1,382,498 | | 1,302,267 |
| Inventories | 10 | | 5,111,674 | | 4,827,523 |
| Income tax receivables | | | 1 | | 718 |
| Current non-financial assets | 11 | | 114,668 | | 129,420 |
| Non-current assets held for sale | 13,34 | | - | | 23,002 |
| Total current assets | , | | 7,327,014 | | 6,563,341 |
| Non-current assets: | | | | | |
| Non-current financial assets, net | 6,8,9,37 | | 1,167,684 | | 1,216,125 |
| Non-current trade and other receivables, net | 7.37 | | 49.795 | | 50.023 |
| Property, plant and equipment, net | 13,15,19,22 | | 51,501,703 | | 49,961,204 |
| Intangible assets, net | 14,15,22 | | 136,550 | | 123,367 |
| Investments in associates and joint ventures | 12 | | 180,923 | | 122,873 |
| Deferred tax assets | 33 | | 1,488,615 | | 1,242,010 |
| Non-current non-financial assets | 11 | | 432,102 | | 463,779 |
| Total non-current assets | • • | | 54,957,372 | | 53,179,381 |
| Total assets | | ₩ | 62,284,386 | ₩ | 59,742,722 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of financial position as of December 31, 2020 and 2019 (cont'd)

(Korean won in millions)

| | Notes | | 2020 | | 2019 |
|--|--|---------|---|----------|--|
| Liabilities Current liabilities: Trade and other payables Current financial liabilities, net Income tax payable Current non-financial liabilities Current provisions Total current liabilities | 17,19,37 6,16,18,37 33 23 21 | ₩ | 1,157,933 1,512,327 268,465 101,605 962,583 4,002,913 | ₩ | 1,037,572 728,260 204,284 59,118 825,404 2,854,638 |
| Non-current liabilities: Non-current trade and other payables Non-current financial liabilities, net Non-current non-financial liabilities Employee benefit obligation Non-current provisions Total non-current liabilities Total liabilities | 17,19,37 6,16,18,37 23 20 21 | <u></u> | 2,442,577 9,698,563 5,065 280,584 19,648,709 32,075,498 36,078,411 | <u>₩</u> | 2,536,913 9,734,782 5,065 321,216 18,624,231 31,222,207 34,076,845 |
| Equity Share capital Retained earnings Other components of equity Equity attributable to owners of the parent Non-controlling interests Total equity Total liabilities and equity | 24 25 26 | ₩ | 10,704,515 15,518,793 (44,466) 26,178,842 27,133 26,205,975 62,284,386 | ₩ | 10,704,515 14,972,697 (39,900) 25,637,312 28,565 25,665,877 59,742,722 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of comprehensive income for the years ended December 31, 2020 and 2019 (Korean won in millions)

| | Notes | | 2020 | | 2019 |
|--|--|----------|--|--------------|---|
| Sales Cost of sales Gross profit | 4,27 35 | <u>₩</u> | 9,999,713 8,467,070 1,532,643 | W | 8,982,626 7,976,250 1,006,376 |
| Selling and administrative expenses Operating profit | 28,35 | | 216,809 1,315,834 | | 223,316 783,060 |
| Other income Other expenses Other gains (losses), net Finance income Finance expenses Loss on investments in associates and joint ventures, net Profit before income tax | 29 29 30 6,31,37 6,32,37 12 | | 61,394 172,730 (55,589) 260,528 638,765 (4,636) 766,036 | | 44,773 177,868 11,448 266,383 647,525 (6,436) 273,835 |
| Income tax expense Profit for the year | 33 | W | 148,094 617,942 | W | 27,289 246,546 |
| Other comprehensive income (net of tax): Other comprehensive income not to be reclassified to profit or loss in subsequent periods: Remeasurement gain on defined benefit plans Share of loss of associates and joint ventures Loss on valuation of financial assets at fair value through other comprehensive income Other comprehensive income to be reclassified to | 33 20 8,26 | W | 30,569 (1) (2,763) | ₩ | 34,184 (28) (885) |
| profit or loss in subsequent periods: Gain (loss) from translation of foreign operations Share of other comprehensive income (loss) of associates and joint venture | 26 12,26 | | (998) (770) | | 2,085 1,505 |
| Other comprehensive gain, net of tax Total comprehensive income, net of tax | 12,20 | ₩ | 26,037 643,979 | W | 36,861 283,407 |
| Profit (loss) for the year attributable to: Owners of the parent Non-controlling interests | | W | 622,218 (4,276) 617,942 | W W | 274,860 (28,314) 246,546 |
| Total comprehensive income (loss) for the year attributable to: Owners of the parent Non-controlling interests | | W | 648,245 (4,266) 643,979 | W | 311,734 (28,327) 283,407 |
| Earnings per share in Korean won: Basic earnings per share | 36 | ₩ | 2,566 | ₩ | 1,134 |

| | SI | nare capital | | Retained earnings | | Other omponents of equity | th | Equity ributable to e owners of the parent | c | Non- controlling interest | т | otal equity |
|---|-----|--------------|-----|-------------------|-----|---------------------------|-----|---|-----|---------------------------------|-----|-------------|
| As of January 1, 2019 | ₩ | 10,704,515 | ₩ | 14,663,667 | ₩ | (42,605) | ₩ | 25,325,577 | W | 56,871 | ₩ | 25,382,448 |
| Total comprehensive income (loss) | | | | | | | | | | | | |
| Profit (loss) for the year | | - | | 274,861 | | - | | 274,861 | | (28,313) | | 246,548 |
| Items that will not to be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Remeasurement gain (loss) on defined benefit plans | | - | | 34,197 | | - | | 34,197 | | (13) | | 34,184 |
| Share of loss of associates and joint ventures, | | | | | | | | | | | | |
| net of tax | | - | | (28) | | - | | (28) | | - | | (28) |
| Loss on valuation of financial assets at fair value | | | | | | | | | | | | |
| through OCI | | - | | - | | (885) | | (885) | | - | | (885) |
| Items that may be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Gain from translation of foreign operations | | - | | - | | 2,085 | | 2,085 | | - | | 2,085 |
| Share of other comprehensive loss of | | | | | | | | | | | | |
| associates and joint ventures | | - | | - | | 1,504 | | 1,504 | | - | | 1,504 |
| Transactions with owners of the parent | | | | | | | | | | | | |
| recognized directly in equity: | | | | | | | | | | | | |
| Paid-in capital increase of subsidiaries | | - | | - | | | | - | | 21 | | 21 |
| As of December 31, 2019 | ₩ | | ₩ | 14,972,697 | ₩ | | ₩ | 25,637,311 | ₩ | | ₩ | 25,665,877 |
| As of January 1, 2020 | W | 10,704,515 | ₩ | 14,972,697 | ₩ | (39,900) | ₩ | 25,637,312 | ₩ | 28,565 | ₩ | 25,665,877 |
| Total comprehensive income (loss) | | | | | | | | | | | | |
| Profit (loss) for the year | | - | | 622,218 | | - | | 622,218 | | (4,276) | | 617,942 |
| Items that will not to be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Remeasurement gain on defined benefit plans | | - | | 30,563 | | - | | 30,563 | | 6 | | 30,569 |
| Share of loss of associates and joint ventures, | | | | | | | | | | | | |
| net of tax | | - | | (1) | | - | | (1) | | - | | (1) |
| Loss on valuation of financial assets at fair value | | | | | | | | | | | | |
| through OCI | | - | | - | | (2,763) | | (2,763) | | - | | (2,763) |
| Items that may be reclassified to | | | | | | | | | | | | |
| profit or loss in subsequent periods: | | | | | | | | | | | | |
| Gain (loss) from translation of foreign operations | | - | | - | | (1,002) | | (1,002) | | 4 | | (998) |
| Share of other comprehensive loss of | | | | | | | | | | | | |
| associates and joint ventures | | - | | - | | (770) | | (770) | | - | | (770) |
| Transactions with owners of the parent | | | | | | | | | | | | |
| recognized directly in equity: | | | | | | | | | | | | |
| Paid-in capital increase of subsidiaries | | - | | - | | - | | - | | 19 | | 19 |
| Changes in consolidation scope | | - | | . . | | - | | - | | 2,815 | | 2,815 |
| Dividends | | - | | (106,675) | | - | | (106,675) | | - | | (106,675) |
| Others | *** | | 777 | (9) | 777 | (31) | *** | (40) | 777 | | *** | (40) |
| As of December 31, 2020 | ₩ | 10,704,515 | ₩ | 15,518,793 | ₩ | (44,466) | ₩ | 26,178,842 | ₩ | 27,133 | ₩ | 26,205,975 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2020 and 2019

(Korean won in millions)

| | | 2020 | | 2019 |
|---|----|-----------|----|-----------|
| Operating activities | | | | |
| Profit for the year | ₩ | 617,942 | ₩ | 246,548 |
| Adjustments for: | | | | |
| Income tax expense | | 148,094 | | 27,289 |
| Depreciation of property, plant and equipment | | 2,346,537 | | 2,182,320 |
| Amortization of nuclear fuel | | 1,206,193 | | 1,077,979 |
| Amortization of intangible assets | | 30,653 | | 27,284 |
| Depreciation of idle assets | | 6,604 | | 6,542 |
| Impairment losses on property, plant and equipment | | - | | 3,819 |
| Retirement benefit expense | | 94,234 | | 132,390 |
| Provision for other allowance for doubtful accounts | | - | | 49,252 |
| Loss on investments in associates and joint ventures, net | | 4,637 | | 6,436 |
| Loss on disposal of property, plant and equipment | | 78,179 | | 17,294 |
| Loss on disposal of intangible assets | | - | | 773 |
| Loss from inventory obsolescence | | 28 | | 56 |
| Loss on disposals of inventories | | 34,865 | | 7,467 |
| Provision for greenhouse gas emission | | 927 | | _ |
| Provisions for decommissioning costs | | 216,747 | | 449,326 |
| Provisions for litigation | | 11,730 | | 10 |
| Other provisions | | 178,353 | | 9,063 |
| Provisions for employee benefits | | 283,295 | | 214,215 |
| Interest expense | | 513,195 | | 519,291 |
| Loss on sale of financial assets | | - | | 1,612 |
| Loss on valuation of financial assets at fair value through | | E1E | | |
| profit or loss | | 515 | | 1,513 |
| Loss on valuation of derivative instruments | | 101,150 | | 2 402 |
| Loss on transactions of derivative instruments | | 11,386 | | 2,193 |
| Loss on foreign currency translation | | 15,783 | | 108,077 |
| Loss on foreign currency transactions | | - | | 15,870 |
| Loss from lease cancellation | | - | | 14 |
| Miscellaneous non-operating losses | | 2 | | 81,304 |
| Gain on disposals of property, plant and equipment | | (4,428) | | (2,114) |
| Gain on disposals of inventories | | - (0) | | (106) |
| Gain on valuation of inventories | | (9) | | - |
| Reversal of impairment loss on inventories | | (2,203) | | - |
| Reversal of impairment loss on property, plant and equipment | | - | | (16,692) |
| Gain on assets contributed | | - | | (115) |
| Interest income | | (24,988) | | (37,605) |
| Dividend income | | (5,269) | | (7,390) |
| Gain on sale of financial assets | | (484) | | (1,212) |
| Gain on valuation of financial assets at fair value through profit or loss | | (5,037) | | (4,113) |
| Gain on valuation of derivative instruments | | (13,107) | | (169,279) |
| Gain on transactions of derivative instruments | | (26,878) | | (44,503) |
| Gain on foreign currency translation | | (186,128) | | (3,805) |
| Reversal of provisions for litigation | | (25) | | (480) |
| Gain from lease cancellation | | (6) | | (20) |
| Gain from lease cancellation Gain on disposals of non-current assets held for sale | | (4,457) | | (20) |
| Cain on disposais of hon-canonicassots hold for sale | W | 5,010,088 | W | 4,653,955 |
| | ** | 0,010,000 | ** | ₹,000,000 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2020 and 2019 (cont'd)

(Korean won in millions)

| | | 2020 | | 2019 |
|---|---|-------------|---|-------------|
| Changes in operating assets and liabilities: | | (440.00=) | | (400.000) |
| Current trade receivables | ₩ | (112,985) | ₩ | (100,006) |
| Current other receivables | | (5,099) | | (42,464) |
| Current accrued income | | (11,987) | | 128,301 |
| Current advanced payments | | (24,777) | | (1,570) |
| Current prepaid expenses | | 19,705 | | 45,976 |
| Contract assets | | 2,151 | | 15,193 |
| Other current non-financial assets | | (4,345) | | (2,322) |
| Inventories | | (1,372,804) | | (1,447,233) |
| Current trade payables | | 112,629 | | 23,140 |
| Current other payables | | (292,553) | | (232,775) |
| Current accrued expenses | | (388,787) | | (388,701) |
| Current leasehold deposits received | | (3) | | (24) |
| Current other deposits received | | (3,188) | | 899 |
| Current withholdings | | 5,738 | | (2,919) |
| Current advance received | | 1,243 | | 143 |
| Non-current other payables | | 21,984 | | (13,898) |
| Other current non-financial liabilities | | 35,391 | | (72,963) |
| Other non-current non-financial assets | | 115 | | - |
| Provisions for power plant regional support program | | (42,935) | | (48,390) |
| Provisions for employee benefits | | (247,548) | | (218,226) |
| Provisions for litigation | | (9,389) | | - |
| Provisions for decommissioning cost of nuclear plants Provisions for disposal of low and | | (47,734) | | (33,658) |
| intermediate-level radioactive waste | | (67,048) | | (6,479) |
| Provisions for others | | (2,018) | | - |
| Non-current employee benefit obligation | | (170) | | (9) |
| Payment of retirement benefits | | (30,548) | | (22,691) |
| Changes in plan assets | | (72,251) | | (89,590) |
| onangeo in plan doode | | (2,537,213) | | (2,510,266) |
| Interest received | | 20,752 | | 33,765 |
| Interest paid | | (346,921) | | (344,305) |
| Dividends received | | 2,545 | | 975 |
| Income tax paid | | (340,403) | | (245,416) |
| Net cash flows provided by operating activities | W | 2,426,790 | W | 1,835,256 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2020 and 2019 (cont'd)

(Korean won in millions)

| | 2020 | | 2019 |
|--|------------------|---|-------------|
| Investing activities | | | |
| Acquisition of current financial asset at fair value | | | |
| through profit or loss \tag{\psi} | (1,661,157) | ₩ | (35,731) |
| Proceeds from disposal of current financial assets | | | |
| at fair value through profit or loss | 1,530,077 | | 251,903 |
| Acquisition of short-term financial assets | (22,002) | | (92,000) |
| Proceeds from disposal of short-term financial instruments | 20,000 | | 80,239 |
| Acquisition of short-term loans | (61,500) | | (66,485) |
| Collection of short-term loans | 61,878 | | 66,768 |
| Increase in current guarantee deposits | (132,852) | | (128,000) |
| Collection of current guarantee deposits | 131,186 | | 135,656 |
| Acquisition of non-current financial assets at fair value | | | |
| through profit or loss | (324,273) | | (235,604) |
| Proceeds from disposal of non-current financial assets | | | |
| at fair value through profit or loss | 295,960 | | 212,849 |
| Acquisition of non-current financial assets at fair value | | | |
| through other comprehensive income | (3,400) | | <u>-</u> |
| Acquistion of long-term financial assets | (37,818) | | (94,842) |
| Proceeds from disposal of long-term financial instruments | 30,088 | | 90,274 |
| Increase in long-term loans | (15,317) | | (10,634) |
| Collection of long-term loans | 13,880 | | 9,198 |
| Increase in long-term guarantee deposits | (34,102) | | (40,948) |
| Collection of long-term guarantee deposits | 54,580 | | 62,526 |
| Payment of non-current advanced payments | (137,051) | | (133,292) |
| Acquisition of investments in associates and joint ventures | (67,481) | | (20,062) |
| Proceeds from disposal of investments in associates and joint ventures Proceeds from disposal of non-current assets held for sale | s 99 27,459 | | - |
| Acquisition of land | | | - |
| Proceeds from disposal of land | (9,339) 6,118 | | 2,060 |
| Acquisition of buildings | (2,976) | | (32) |
| | 995 | | 1,849 |
| Proceeds from disposal of buildings | | | |
| Acquisition of structures | (6) | | (5) |
| Proceeds from disposal of structures | - | | 494 |
| Acquisition of machinery | (17,115) | | (4,594) |
| Proceeds from disposal of vehicles | 61 | | 38 |
| Acquisition of vehicles | (1,068) | | (1,711) |
| Proceeds from disposal of fixtures and furniture | 11 | | - |
| Acquisition of fixtures and furniture | (46,533) | | (33,684) |
| Proceeds from disposal of tools | 7 | | 1 |
| Acquisition of tools | (5,211) | | (9,547) |
| Acquisition of construction-in-progress | (2,481,690) | | (2,567,985) |
| Acquisition of intangible assets | (32,375) | | (30,965) |
| Net cash flows due to changes in consolidation scope | 2,239 | | - |
| Net cash flows used in investing activities ₩ | (2,918,628) | ₩ | (2,592,266) |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Consolidated statements of cash flows for the years ended December 31, 2020 and 2019 (cont'd)

(Korean won in millions)

| | | 2020 | | 2019 |
|--|-------------------------|-------------|-------------------------|-----------|
| Financing activities | | | | |
| Proceeds from short-term borrowings | $\overline{\mathbf{W}}$ | 1,147,751 | $\overline{\mathbf{W}}$ | 321,338 |
| Repayment of short-term borrowings | | (1,017,750) | | (111,338) |
| Repayment of current portion of long-term borrowings | | (18,253) | | (17,477) |
| Repayment of current portion of long-term bonds | | (500,000) | | (641,300) |
| Proceeds from bonds issuance | | 1,116,881 | | 1,098,344 |
| Proceeds from long-term borrowings | | 166,800 | | - |
| Dividends paid | | (106,675) | | - |
| Settlement of derivative instruments | | 15,296 | | 57,626 |
| Decrease in lease liabilities | | (31,050) | | (26,277) |
| Paid-in capital increase of subsidiaries | | 19 | | 21 |
| Net cash flows provided by financing activities | · | 773,019 | | 680,937 |
| Net foreign exchange difference | | (25) | | 25 |
| Net increase (decrease) in cash and cash equivalents | · | 281,156 | | (76,048) |
| Cash and cash equivalents at the beginning of year | | 34,916 | | 110,964 |
| Cash and cash equivalents at the end of year | ₩ | 316,072 | W | 34,916 |

1. General information of the Company

1.1 The parent company

Korea Hydro & Nuclear Power Co., Ltd. ("KHNP" or the "Company") was incorporated on April 2, 2001 through the spin-off of the power generation division of Korea Electric Power Corporation ("KEPCO") in accordance with the Act on Promotion of Restructuring the Electric Power Industry. As of December 31, 2020, KHNP owns and operates 24 nuclear generating units (23,250MW), 36 hydroelectric generating units (607MW), 16 pumped-storage facilities (4,700MW) and 32 new renewable energy generating units (48MW). As of December 31, 2020, KHNP's generation capacity is 28,605MW.

As of December 31, 2020, KEPCO holds 100% of KHNP's outstanding shares.

1.2 Consolidated subsidiaries

Details of consolidated subsidiaries as of December 31, 2020 and 2019 are as follows:

| | | | Percentage of ownership | | | |
|--|---------------------------------|----------|-------------------------|----------------------|--|--|
| Company | Key operating activities | Location | December 31, 2020 | December 31, 2019 | | |
| KHNP Canada Energy Ltd. | Overseas Investment | Canada | 100.00% | 100.00% | | |
| Gyeonggi Green Energy Co., Ltd. | Electricity and heat generation | Korea | 62.01% | 62.01% | | |
| Korea Imouraren Uranium Investment Corp. | Overseas Investment | France | 100.00% | 100.00% | | |
| Korea Waterbury Uranium Limited Partnership | Overseas Investment | Canada | 70.00% | 70.00% | | |
| Incheon Fuel Cell Co., Ltd. | Electricity and heat generation | Korea | 60.00% | 60.00% | | |
| First Keepers Co., Ltd. | Facility management | Korea | 100.00% | 100.00% | | |
| Secutec Co., Ltd. | Facility security | Korea | 100.00% | 100.00% | | |
| KHNP USA LLC(*) | Overseas Investment | USA | 100.00% | - | | |
| Energy Innovation Growth Fund 1 (*) | Investment Trust | Korea | 67.42% | - | | |

^(*) This entity is newly included as a subsidiary of the Group due to new investments during the year ended December 31, 2020.

1. General information of the Company (cont'd)

1.2 Consolidated subsidiaries (cont'd)

Summarized financial information of subsidiaries as of December 31, 2020 and for the years ended is as follows (Korean won in millions):

| Company | A | Assets | Liabilities | | Revenue | Net income (loss) | | |
|---|---|---------|-------------|---------|---------|-------------------|---|---------|
| KHNP Canada Energy Ltd. | ₩ | 63,794 | ₩ | 26 | ₩ | - | ₩ | (7) |
| Gyeonggi Green Energy Co., Ltd. | | 265,768 | | 240,366 | | 64,660 | | (9,968) |
| Korea Imouraren Uranium Investment Corp. | | 13,955 | | 123 | | - | | (675) |
| Korea Waterbury Uranium Limited Partnership | | 20,908 | | 165 | | - | | (76) |
| Incheon Fuel Cell Co., Ltd. | | 192,184 | | 170,976 | | - | | (979) |
| First Keepers Co., Ltd. | | 13,981 | | 12,234 | | 68,538 | | 2,994 |
| Secutec Co., Ltd. | | 11,473 | | 9,771 | | 62,256 | | 1,609 |
| KHNP USA LLC | | 464 | | 23 | | 229 | | 119 |
| Energy Innovation Growth Fund 1 | | 8,412 | | 1 | | 25 | | (201) |

Significant restrictions related to subsidiaries are as follows:

| | Significant Restrictions in Details |
|------------------------------------|---|
| Gyeonggi Green Energy Co., Ltd. | Acquisition or disposal of assets by more than \text{W35} billion, change in the capacity of cogeneration units (except for the change due to performance Improvement of equipment or maintenance) will require unanimous consent |
| Incheon Fuel Cell Co., Ltd. | of all directors. Acquisition or disposal of assets by more than \(\pi\)20 billion, change in the capacity of cogeneration units (except for the change due to performance improvement of equipment or maintenance) will require unanimous consent of all directors. |

2. Basis of preparation

2.1 Statement of compliance

The consolidated financial statements of Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries (collectively referred to as the "Group") have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions pursuant to the *Act on the Management of Public Institutions* and the Decree on Accounting for Public Corporations and Quasi-governmental Institutions. In compliance with Article 2, Paragraph 5 of the regulations above, for those matters not specified in the regulations and standard above, the consolidated financial statements of the Group have been prepared in accordance with Korean International Financial Reporting Standards ("KIFRS"), a standard adopted in accordance with International Financial Reporting Standards by the Korean Accounting Standards Board. There are no important matters that have been applied differently from KIFRS under the Regulation.

The consolidated financial statements were authorized for issue by the Board of Directors on February 08, 2021, which will be submitted for approval to the shareholders' meeting to be held on March 26, 2021.

2.2 Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except for the following material items in the statement of financial position:

- ✓ Derivative financial instruments are measured at fair value
- √ Financial assets at fair value through other comprehensive income are measured at fair value.
- ✓ Financial assets at fair value through profit or loss are measured at fair value
- ✓ Liabilities for defined benefit plans are recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

2.3 Functional and presentation currency

The financial statements of the Group are prepared in functional currency of the respective operation. These consolidated financial statements are presented in Korean won, which is the Group's functional currency and the currency of the primary economic environment in which the Group operates.

2.4 Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with KIFRS requires management to make estimates and assumptions based on management's best judgment that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. At the end of the reporting period, if estimates and assumptions based on management's best judgment differ from the actual environment, actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

The followings are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

(i) Early shutdown of Wolsong unit 1 nuclear power plant and changes in new nuclear power plants construction

The 30-year designed life of Wolsong unit 1 nuclear power plant of the Group had expired on November 20, 2012. On February 27, 2015, however, approval from the Nuclear Safety and Security Commission (NSSC) was received to continue its operation until November 20, 2022.

2.4 Use of estimates and judgments (cont'd)

According to the Eighth Basic Plan for Electricity Supply and Demand announced by the Ministry of Trade, Industry and Energy, Wolsong unit 1 nuclear power plant was excluded from the supply facility and decided on the closing time during the first half of 2018. On June 15, 2018, the board of directors of the Company has decided to shut down the Wolsong unit 1 assessing comprehensively the feasibility of continuing operation, such as economic efficiency and regional acceptance. On December 24, 2019, the Nuclear Safety and Security Commission (NSSC) deliberated and voted on a proposed change in the operation of the Wolsong unit 1, and finalized the change in operation (permanent suspension).

In addition, the board of directors of the Company has also decided to discontinue the construction of Cheonji unit 1 and 2 and Daejin unit 1 and 2 pursuant to the follow-up measures of government policy. For this reason, the Group recognized impairment loss and other expenses, as of December 31, 2018. Among the new nuclear power plants under construction as of December 31, 2020, Shin-Hanul unit 3 and 4, which were approved for power generation business, are not included in the decision to suspend construction approved by the board of directors of the Company. However, considering the decision to shut down Wolsong unit 1 and suspended construction of Cheonji unit 1 and 2 and Daejin unit 1 and 2, it is highly likely that the construction of Shin-Hanul unit 3 and 4 will be suspended according to the government's policy. For this reason, the Group recognized impairment loss, as of December 31, 2018 as the Group believes that there was a significant change in its operating environment as of the date of the board of directors' decision.

The Korean government plans to refund to the Group for reasonable expenditures incurred in relation to the phase-out of nuclear power plants in accordance with the energy transformation policy established by Korean government. In doing so, the Korean government is considering to use available resources including utilizing relevant funds to make the refund. Also, Korean government plans to establish relevant legal basis of providing refund including basis, procedures, etc.

As of December 31, 2020, there is no indication that the impairment loss of the above-mentioned property, plant and equipment is no longer present or may have been reduced.

(ii) Useful lives of property, plant and equipment, estimation on provision for decommissioning costs

The Group reviews the estimated useful lives of property, plant and equipment at the end of each annual reporting period. Management's judgments could affect the determination of estimated economic useful lives.

The Group is required to record a liability for the dismantling (demolition) of nuclear power plants and disposal of spent fuel and low and intermediate radioactive wastes. The Group records the present value of estimated decommissioning costs as a liability in the period in which the Group incurs a legal obligation associated with the retirement of long-lived assets that result from acquisition, construction, development and/or normal use of the assets. When there is a possibility that resources may be leaked to fulfill the obligation, and the amount required to fulfill the obligation can be estimated reliably, it is recognized as a liability. The measurement of such liability is subject to change based on change in estimated cash flow, inflation rate, discount rate, and passage of time.

(iii) Income tax expense

The Group recognized current and deferred income tax based on the best estimate for the income tax effects expected to be borne as a result of business activities up to the end of the reporting period. Actual future tax liability may not be consistent with the recognized assets and liabilities and this difference may affect current and deferred tax assets and liabilities at the time the final tax effect is finalized.

2.4 Use of estimates and judgments (cont'd)

(iv) Valuations of financial instruments at fair values

When measuring the fair value of an asset or a liability, the Group uses inputs that are not based on observable market data. Information about the assumptions made in measuring fair values and sensitivity analysis on the fair value of financial instruments are included in Note 38. The management believes that methods and assumptions in measuring the fair value of an asset or a liability are appropriate.

(v) Defined benefit liabilities

The Group offers its employees defined benefit plans. The cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. For actuarial valuations, certain inputs such as discount rates and future salary increases are estimated. Defined benefit plans contain significant uncertainness in estimations due to its long-term nature.

2.5 Changes in accounting policies

The Group applied the standards and amendments effective for the fiscal year beginning on or after January 1, 2020. The Group has not early adopted standards, interpretations and amendments that have been issued but are not yet effective.

(i) Amendments to KIFRS 1103- Definition of a Business

The amendment to KIFRS 1103 *Business Combinations* clarifies that to be considered a business, an integrated set of activities and assets must include, at a minimum, an input and a substantive process that, together, significantly contribute to the ability to create output. Furthermore, it clarifies that a business can exist without including all of the inputs and processes needed to create outputs.

These amendments had no significant impact on the consolidated financial statements of the Group, but may impact future periods should the Group enter into any business combinations.

(ii) Amendments to KIFRS 1107, KIFRS 1109, KIFRS 1039 - Interest Rate Benchmark Reform

The amendments to KIFRS 1109 and KIFRS 1039 *Financial Instruments: Recognition and Measurement* provide a number of reliefs, which apply to all hedging relationships that are directly affected by interest rate benchmark reform. A hedging relationship is affected if the reform gives rise to uncertainty about the timing and/or amount of benchmark-based cash flows of the hedged item or the hedging instrument.

These amendments had no significant impact on the consolidated financial statements of the Group.

(iii) Amendments to KIFRS 1001 and KIFRS 1008 Definition of Material

The amendments provide a new definition of material that states, "information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity." The amendments clarify that materiality will depend on the nature or magnitude of information, either individually or in combination with other information, in the context of the financial statements. A misstatement of information is material if it could reasonably be expected to influence decisions made by the primary users.

These amendments had no significant impact on the consolidated financial statements of the Group.

2.5 Changes in accounting policies (cont'd)

(iv) Conceptual Framework for Financial Reporting issued on March 29, 2018

The Conceptual Framework is not a standard, and none of the concepts contained therein override the concepts or requirements in any standard. The purpose of the Conceptual Framework is to assist the KASB in developing standards, to help preparers develop consistent accounting policies where there is no applicable standard in place and to assist all parties to understand and interpret the standards. This will affect those entities which developed their accounting policies based on the Conceptual Framework. The revised Conceptual Framework includes some new concepts, updated definitions and recognition criteria for assets and liabilities and clarifies some important concepts.

These amendments had no significant impact on the consolidated financial statements of the Group.

2.6 Presentation of Financial statements

The Group subdivides and prepares the accounts presented in the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

3. Significant Accounting Policies

The significant accounting policies applied by the Group in preparation of these consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, except for those as disclosed in note 2.5.

3.1 Basis of consolidation

(i) Business combinations

The Group accounts for business combinations using the acquisition method when control is transferred to the Group except for acquisitions from entites or business under common control.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed income or loss in the period in which costs is incurred and service is provided, except if related to issue debt or equity securities are recognized in accordance with KIFRS 1032, 'Financial Instruments: Presentation' and KIFRS 1039, Financial Instruments: Recognition and Measurement.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. Replacement awards, which is part of the consideration transferred to the acquiree, and remuneration for service after business combination are determined based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(ii) Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the date of acquisition.

Changes in the Group's interest in subsidiary that do not result in a loss of control are accounted for as equity transactions.

(iii) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns f'rom its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

(iv) Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

3.1 Basis of consolidation (cont'd)

(v) Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and joint ventures.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and joint ventures are accounted for using the equity method. They are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

(vi) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(vii) Acquisitions from entities under common control

The assets and liabilities acquired under business combinations under common control are recognized at the carrying amounts recognized previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is recognized as part of other capital adjustments.

3.2 Revenue from contracts with customers

The Group recognizes revenue by applying the five-step approach (Step 1: Identify the contract(s) with a customer, Step 2: Identify the performance obligations in the contract, Step 3: Determine the transaction price, Step 4: Allocate the transaction price to the performance obligations in the contract, Step 5: Recognize revenue when performance obligation is satisfied).

Identify the performance obligations in the contract

The Group identifies the power supply in the power exchange under the Power Market Operating Rules as a single performance obligation as a series of distinct goods or services. In addition to power supply, the Group carries out other projects such as revenue from overseas projects through contracts with customers and identifies performance obligations that are distinct from each contract.

Variable consideration

If the consideration in a contract includes a variable amount, the transaction price consists of fixed and variable consideration. The Group estimates an amount of variable consideration by using the expected value method that the Group expects to better predict the amount of consideration to which it will be entitled, and includes in the transaction price some or all of an amount of variable consideration only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The consideration received or expected to be received which the Group does not expect to obtain rights for are recognized as a refund liability.

3.2 Revenue from contracts with customers (cont'd)

Allocate the transaction price to the performance obligations in the contract

The Group allocates the transaction price based on the relative stand-alone selling price to the various performance obligations identified in a single contract.

Performance obligations satisfied over time

The Group provides power over time. The Group recognized revenue by dividing the performance of the performance obligation according to the progress rate calculated on a reasonable basis.

3.3 Leases

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group uses the definition of a lease in KIFRS 1116.

(i) As a lessee

At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate. The Group adjusts interest rates from various external financial information to reflect the terms of the lease and the characteristics of the lease asset and calculates the incremental borrowing rate.

3.3 Leases (cont'd)

Lease payments included in the measurement of the lease liability comprise the following:

- Fixed payments, including in-substance fixed payments;
- Variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date:
- Amounts expected to be payable under a residual value guarantee; and
- The exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised insubstance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset or it is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

The Group presents right-of-use assets that do not meet the definition of investment property separately from the other assets in 'property, plant and equipment' in the consolidated statement of financial position, and lease liabilities in 'trade and other payables' in the statement of financial position.

The Group has elected not to recognize right-of-use assets and lease liabilities for leases of low-value assets and short-term leases. The Group recognizes the lease fee associated with such a lease as an expense in accordance with the straight-line method over the lease term.

(ii) As a lessor

At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classified the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies KIFRS 1115 to allocate the consideration in the contract.

The Group applies the derecognition and impairment requirements in KIFRS 1119 to the net investment in the lease. The Group further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

3.4 Foreign currencies

(i) Foreign currency transaction

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are retranslated to the functional currency using the reporting date's exchange rate. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are retranslated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary assets and liabilities denominated in foreign currencies that are measured at historical costs are retranslated to the functional currency at the exchange rate at the dates of the transactions.

Both the foreign currency differences arising at the time of settlement of monetary items and the foreign currency differences arising from the conversion of monetary items are recognized in profit or loss. If gains or losses arising from non-monetary items are recognized in other comprehensive income, the exchange rate fluctuation effects included in the gains and losses are also recognized in other comprehensive income, and if they are recognized in profit or loss, the exchange rate fluctuation effect is also recognized in profit or loss.

(ii) Overseas business establishment

If the functional currency of a foreign operation is different from the presentation currency of the Group, the management performance and financial status are converted into the presentation currency according to the following methods. If the functional currency of a foreign operation is not the currency of the hyperinflationary economy, the assets and liabilities in the statement of financial position (including the comparative statement of financial position) are converted to the closing exchange rate at the end of the relevant reporting period, and the income and expenses of the statement of comprehensive income (including the comparative statement of comprehensive income) are converted to the exchange rate at the date of the transaction, and the foreign exchange differences arising from the currency are recognized in other comprehensive income.

The fair value adjustment for the carrying amount of goodwill and assets and liabilities arising from the acquisition of a foreign operation is regarded as assets and liabilities of a foreign operation and is presented in the functional currency of a foreign operation, and the closing exchange rate is applied to the Won along with other assets and liabilities of a foreign operation.

When disposing of a foreign operation, the accumulated foreign exchange differences related to a foreign operation recognized as a separate capital item from other comprehensive income are reclassified from equity to profit or loss at the time of recognition of the foreign operation's disposal gains or losses. When a subsidiary, including a foreign operation, is partially disposed of, its proportionate share of the accumulated foreign exchange differences recognized in other comprehensive income is reverted to the non-controlling interest of the foreign operation, and in other cases, only its proportionate share is reclassified to profit or loss among the accumulated foreign exchange differences recognized in other comprehensive income when the foreign operation is partially disposed of.

3.5 Borrowing costs

The Group capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Group borrows funds specifically for the purpose of obtaining a qualifying asset, the Group determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. To the extent that the Group borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Group shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Group that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Group capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.

3.6 Government grants

Government grants are not recognized unless there is reasonable assurance that the Group will comply with the grant's conditions and that the grant will be received.

Government grants whose primary condition is that the Group purchase, construct or otherwise acquire long-term assets are deducted in calculating the carrying amount of the asset. The grant is recognized in profit or loss over the life of a depreciable asset as a reduction to depreciation expense.

Government grants which are intended to compensate the Group for expenses incurred are recognized as other income (government grants) in profit or loss over the periods in which the Group recognizes the related costs as expenses. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in income or loss in the period in which they become receivable.

3.7 Employee benefits

(i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss.

(ii) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods, less the fair value of any related assets. Remeasurements are recognized in profit or loss in the period in which they arise.

(iii) Retirement benefits: Defined contribution plans

When an employee has rendered service to the Group during a period, the contributions owed to the defined contribution plan in exchange for the service is recognized in profit or loss unless it is included in the cost of the asset. The Group recognizes the contribution payable to a defined contribution plan in exchange for that service as an accrued expense, after deducting any contributions already paid. If the contributions already paid exceed the contribution due for service before the end of the reporting period, the Group recognizes that excess as an asset (prepaid expense) to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

(iv) Retirement benefits: Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation is performed annually by an independent actuary using the projected unit credit method. Any asset resulting from this calculation is limited to unrecognized actuarial losses and past service cost, plus the present value of available refunds and reductions in future contributions to the plan.

Remeasurements of net defined benefit liabilities, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments, net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss in curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

3.8 Income taxes

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

The interest and fines related to income taxes are applied to KIFRS 1012 Income Taxes if they are determined to income tax and applied to KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* if they are not.

(i) Current income tax

Current income tax is the expected income tax payable or receivable on the taxable profit or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of previous years. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit of future periods, and non-taxable or non-deductible items from the accounting profit.

(ii) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities. The Group recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes a deferred tax asset for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current income tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current income tax liabilities and assets on a net basis.

3.9 Property, plant and equipment

Property, plant and equipment are initially measured at cost. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and, when the Group has an obligation to remove the asset or restore the site, an estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent to initial recognition, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.

Property, plant and equipment, except for land, are depreciated over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed, either on a straight-line basis or on a Unit-of-production basis.

A component that is significant compared to the total cost of property, plant and equipment is depreciated over its separate useful life.

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized in profit or loss

The estimated useful lives and depreciation methods of the Group's property, plant and equipment are as follows:

| | Method | (years) |
|--|--------------------|------------|
| Buildings | Straight-line | 8 ~ 32 |
| Structures | Straight-line | 8 ~ 50 |
| Machinery | Straight-line | 6 ~ 32 |
| Vehicles | Straight-line | 4 |
| Right of Use | Straight-line | 1 ~ 65 |
| Asset retirement costs of nuclear power plants | Straight-line | 30, 40, 60 |
| Asset retirement costs of spent fuel | Unit-of-production | - |
| Loaded nuclear fuel | Unit-of-production | - |
| Loaded heavy water | Straight-line | 30 |
| Others | Straight-line | 4 ~ 9 |

The estimated residual value, useful lives and the depreciation method are reviewed at least at the end of eac h reporting period and, if expectations differ from previous estimates, the changes are accounted for as changes in accounting estimates.

3.10 Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value of intangible assets is zero. However, as there are no foreseeable limits to the periods over which some of other intangible assets are expected to be available for use, this intangible asset is determined as having an indefinite useful life and not amortized.

The estimated useful lives and amortization methods of the Group's intangible assets with finite useful lives are as follows:

| | Method | Useful lives (years) |
|---|---------------|-------------------------|
| Software | Straight-line | 4 |
| Industrial rights | Straight-line | 5, 10 |
| Development cost | Straight-line | 5 |
| Loading and unloading facilities rights | Straight-line | 20 |
| Others | Straight-line | 5 ~ 50 |

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

(i) Research and development

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

On the other hand, the cost of development recognized as an asset is directly deducted from the acquisition cost by applying the cost model, and the accumulated amortization and accumulated impairment losses are amortized over the expected duration of economic benefits from the time the development is completed to be used and calculated as cost of sales. The Group conducts an annual impairment test for the development cost recognized as an asset during the development period.

(ii) Subsequent expenditures

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which they relate. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

3.11 Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from construction contracts, employee benefits, inventories, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

Management estimates the recoverable amount of an individual asset. If it is impossible to measure the individual recoverable amount of an asset, then management estimates the recoverable amount of cash-generating unit ("CGU"). For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of an asset or CGU is the greater of its value-in-use and its fair value less costs to sell. The Group determined that individual operating entities are CGUs. The value-in-use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

3.12 Inventories

The cost of inventories is based on the weighted average principle, and includes expenditures for acquiring the inventories, conversion costs and other costs incurred in bringing them to their existing location and condition.

Inventories are measured at the lower of cost and net realizable value. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories arising from an increase in net realizable value is recognized as a reduction in the amount of inventories recognized as a cost of goods sold in the period in which the reversal occurs.

3.13 Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

When some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement shall be recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

A provision is used only for expenditures for which the provision was originally recognized.

3.13 Provisions (cont'd)

Provision for decommissioning costs of nuclear power plants

The Group recognizes provisions for the estimated cost of removing, dismantling, or restoring the site to its original state after the end of economic use of the nuclear power plant.

Provision for disposal of spent nuclear fuel

Under the Radioactive Waste Management Act, the Group is levied to pay the spent nuclear fuel fund for the management of spent nuclear fuel. The Group recognizes the provision at the present value of the payments.

Provision for low and intermediate radioactive wastes

Under the Radioactive Waste Management Act, the Group recognizes the provision for the disposal of low and intermediate radioactive wastes in best estimate of the expenditure required to settle the present obligation.

Provisions for power plant regional support program

Power plant regional support programs consist of scholarship programs to local students, local economy support programs, local culture support programs, environment development programs, and local welfare programs. The Group recognizes the provision in relation to power plant regional support program at the estimated cash outflows as required by related laws and regulations.

3.14 Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits with maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value, and are used by the Group in the management of its short-term commitments. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares when it has a short maturity with a specified redemption date.

3.15 Non-derivative financial assets

(i) Recognition and Initial measurement

Trade receivable and issued debt securities are initially recognized at the time of issue. Other financial assets or financial liabilities are recognized becomes a party to the contractual provisions of the instrument.

With the exception of trade receivables that do not contain a significant financing component, the Group initially measures a financial asset at its fair value. Upon initial recognition, financial assets and financial liabilities are measured at their fair value plus, in the case of a financial asset or financial liabilities not at fair value through profit or loss, transaction costs that are directly attributable to the asset's acquisition or issuance.

3.15 Non-derivative financial assets (cont'd)

(ii) Classification and subsequent measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

Financial assets are not reclassified unless there is a change in business model, and if there is a change in business model, all financial assets are reclassified at the beginning of the subsequent reporting period.

The Group measures financial assets at amortized cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

The Group measures debt instruments at fair value through OCI if both of the following conditions are met:

- > The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under KIFRS 1032 Financial Instruments: *Presentation and are not held for trading*. The classification is determined on an instrument-by-instrument basis.

Financial assets not measured at amortized cost or fair value through other comprehensive income are measured fair value through profit or loss. These financial assets include derivative assets. Financial assets initially measured at amortized cost or fair value through other comprehensive income; may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch. But once classification is designated, it cannot be subsequently changed. The classification is determined on an instrument-by-instrument basis.

The Group assesses the level of a portfolio of financial assets in a way that best reflects how the business model is managed. Accordingly, the Group considers the following information:

- The stated policies and objectives of the portfolio and the operation of those policies in practice. These include whether management's strategy focuses on earning contractual interest income, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of any related liabilities of expected cash outflows or realizing cash flows through the sale of the assets;
- How the performance of the portfolio is evaluated and reported to the Group's management;
- The risk that affect the performance of the business model (and the financial assets held within that business model) and how those risks are managed;
- The frequency, volume and timing of sales of financial assets in prior periods, the reasons for such sales and expectations about future sales activity.

A portfolio of financial assets that meets the definition of short-term trading or whose performance is evaluated on a fair value basis is measured at fair value through profit or loss. The principal is defined as the fair value at the initial recognition of the financial assets. Interest is comprised of time value of money, value for the credit risk associated with principal and other costs such as basic financing risks and costs.

3.15 Non-derivative financial assets (cont'd)

When assessing whether contractual cash flows consist solely of payments for principal and interest, the Group takes into account contractual terms. If the financial assets include contractual terms that change the timing or amount of cash flows in the contract, it is necessary to determine whether the cash flows that may occur during the period of the financial assets consist solely of principal payments.

The Group consider the followings:

- Conditions that change the amount or timing of cash flows
- Provision to adjust contractual nominal interest rate, including variable interest rate characteristics
- Characteristics of repayment and maturity extension.

The amount of the repayment represents the interest on the principal and remaining balance, and if it includes reasonable additional compensation for the early settlement of the contract, early repayment characteristics are consistent with the conditions under which principal and interest that paid on a particular day.

In addition financial assets acquired at a significantly discount or additional premium, the amount of repayments consists substantially of contractual principal and interest amounts, and the characteristics of fair value at initial recognition is insignificant, the Group determined that these conditions are satisfied.

(iii) Derecognition of financial assets

The Group derecognizes non-derivative financial assets when the contractual rights to the cash flows from the financial asset expire, or the Group transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in a transferred financial asset that is created or retained by the Group is recognized as a separate asset or liability.

If the Group retains substantially all the risks and rewards of ownership of the transferred financial assets, the Group continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.

(iv) Offsetting a financial asset and a financial liability

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

3.16 Non-derivative financial liabilities

The Group classified non-derivative financial liabilities into financial liabilities at fair value through profit or loss or as other financial liabilities in accordance with the substance of the contractual arrangement and the definition of financial liabilities. The Group recognized financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instruments.

3.16 Non-derivative financial liabilities (cont'd)

(i) Financial liabilities at fair value through profit or loss

Financial liabilities are classified as at financial liabilities at fair value through profit or loss when the financial liability is either held for trading or it is designated as financial liabilities at fair value through profit or loss. Financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs are recognized in profit or loss when incurred.

(ii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method, with interest expense recognized on an effective yield basis.

(iii) Elimination of financial liabilities

The Group eliminates financial liabilities only when the contractual obligation of the financial liability is fulfilled, canceled or expires. When the contractual terms of a financial liability change and the cash flows change substantially, the Group eliminates the existing liabilities and recognizes the new financial liabilities as fair value based on the new contract.

The difference between the book value and the value paid (including transferred non-cash assets and liabilities incurred) when removing financial liabilities is recognized as the profit and loss for the period.

3.17 Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are accounted for as described below.

(i) Hedge accounting

The Group holds forward exchange contracts, interest rate swaps, currency swaps and other derivative contracts to manage interest rate risk and foreign exchange risk. The Group designated derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions, together with the methods that will be used to assess the effectiveness in offsetting changes in fair values or cash flows of the hedged item.

(ii) Other derivative financial instruments

Changes in the fair value of other derivative financial instrument not designated as a hedging instrument are recognized immediately in profit or loss.

3.18 Emission rights

The Group accounts for greenhouse gases emission right and the relevant liability as below pursuant to the Act on Allocation and Trading of Greenhouse Gas Emission.

(i) Greenhouse gases emission right

Greenhouse gases emission right consists of emission allowances which are allocated from the government free of charge or purchased from the market. The cost includes any directly attributable costs incurred during the normal course of business.

Emission rights held for the purpose of performing the obligation is classified as intangible asset and the portion to be submitted to the government within one year from the end of the reporting period is classified as current assets. Emission rights classified as intangible asset is initially measured at cost and after initial recognition, are carried at cost less accumulated impairment losses.

The Group derecognizes an emission right asset when the emission allowance is unusable, disposed or submitted to government in which the future economic benefits are no longer expected to be probable.

(ii) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. Emission liability is recognized when it is probable that outflows of resources will be required to settle the obligation and the costs required to perform the obligation are reliably estimable. Emission liability is an amount of estimated obligations for emission rights to be submitted to the government for the performing period. The emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession and the unit price for such emission rights in the market at the end of the reporting period. The Group derecognizes an emission liability when the emission allowance is submitted to government.

3.19 Impairment of financial assets

The Group recognizes loss allowance for expected credit losses on the following assets.

- Amortized cost of a financial asset
- Financial liability measured at fair value through other comprehensive income
- Contract assets as defined in KIFRS 1115

The Group measures loss allowance for expected credit losses, except for the following financial assets measured at the expected credit loss of 12 months.

- Debt securities whose credit is determined to be at low risk at the end of the reporting period
- Other debt securities and bank deposits that do not have a significant increase in credit risk (i.e. default risk arising over the expected life of the financial asset)

The Group has chosen to measure the loss allowance at an amount equal to lifetime expected credit losses for the trade receivables, contract assets and lease receivables that contain a significant financing component. When determining whether the credit risk of a financial asset has significantly increased since the initial recognition and when estimating expected credit losses, the Group considers information that can be used and reasonably supported, without undue cost or effort. This includes qualitative and quantitative information and analysis based on past experience and known credit ratings of the Group, including future-oriented information.

The Group assumes that the credit risk of a financial asset is significantly increased when past due days exceeds 30 days.

The Group considers a default on the financial asset if:

- If the debtor does not engage in any activity with the Group and is not likely to fully fulfill the credit obligations to the Group

3.19 Impairment of financial assets (cont'd)

The Group considers the credit risk to be low if the credit risk rating of the debt securities is at the level understood internationally by the definition of "investment grade".

Lifetime ECL is resulted from all possible default events over the expected life. A financial 12-month ECLs is resulted from possible default events within the 12 months after the reporting date (Or if the expected life of the instrument is less than 12 months).

The longest period to consider when measuring expected credit losses is the longest term for which the Group is exposed to credit risk.

(i) Measurement of expected credit loss

Expected credit loss is a probability weighted estimate of credit loss. Credit loss is measured as the present value of all cash deficiency (i.e. the difference between all contract cash flows that are expected to be paid and all contract cash flows that are expected to be received). Expected credit losses are discounted at the effective interest rate of the financial asset.

(ii) Credit-impaired financial assets

At the end of each reporting period, the Group assesses the financial assets measured at amortized cost and other comprehensive income - whether the creditworthiness of the debt securities measured at fair value has been impaired. If there is more than one event that adversely affects the estimated future cash flows of a financial asset, the financial asset is impaired.

The evidence that the credit of a financial asset is impaired includes the following observable information:

- Significant financial difficulties of issuer or borrower
- Breach of contract, such as default or delinquency over 90 days
- Inevitable mitigation of initial borrowing conditions for economic or contractual reasons related to the borrower's financial difficulties
- Possibility of bankruptcy of borrowers or other possibility of financial restructuring
- Due to financial difficulties, the active market for the financial assets is extinguished

(iii) Presentation of provision for credit loss on statement of financial position

The allowance for losses on financial assets measured at amortized cost is deducted from the carrying amount of the asset.

The allowance for losses on debt securities measured at fair value through other comprehensive income is recognized in other comprehensive income instead of reducing the carrying amount of the asset.

(iv) Write-off

If there is no reasonable expectation of recovery of all or part of the contract cash flows of a financial asset, the asset is derecognized. For individual customers, the Group derecognizes the carrying amount if the financial asset is overdue for more than 180 days based on historical experience with the recovery of similar assets and assesses whether there is a reasonable expectation of recovery for the enterprise customer, evaluate timing and amount separately. The Group does not expect that proceeds recovered will be significant. However, derecognized financial assets can be subject to collection activities in accordance with the collection procedure of the amount due to the Group.

3.20 Equity capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares and share options are recognized as a deduction from equity, net of any tax effects.

3.21 Finance income and finance costs

Finance income comprises interest income on funds invested (including financial assets measured at fair value through other comprehensive income), dividend income, gains on the disposal of financial assets measured at fair value through other comprehensive income, changes in the fair value of financial assets at fair value through profit or loss, and gains on hedging instruments that are recognized in profit or loss. Interest income is recognized as it accrues in profit or loss, using the effective interest method. Dividend income is recognized in profit or loss on the date when the Group's right to receive payment is established, which in the case of quoted securities is the ex-dividend date.

Finance costs comprise interest expense on borrowings, unwinding of the discount on provisions, dividends on preference shares classified as liabilities, changes in the fair value of financial assets at fair value through profit or loss, impairment losses recognized on financial assets, and losses on hedging instruments that are recognized in profit or loss. Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognized in profit or loss using the effective interest method.

3.22 Earnings per share

The Group presents basic earnings per share data for its ordinary shares. Basic earnings per share is calculated by dividing the profit or loss attributable to ordinary shareholder of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

3.23 Non-current assets held for sale

Non-current assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal group that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell. The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal group) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized in accordance with KIFRS No. 1036, 'Impairment of Assets'.

In the case where a situation that was previously considered unlikely occurred during the first year and noncurrent assets that were previously scheduled to be sold were not sold until the end of the period, the period of sale is extended if necessary measures are taken during the first year to respond to the change in circumstances and active attempts to sell them to reasonable prices under the changed circumstances.

3.24 Standards issued but not yet effective

The following new standards and amendments to existing standards have been published for annual periods beginning after January 1, 2020, and the Group has not early adopted them.

(i) Amendments to KIFRS 1001: Classification of Liabilities as Current or Non-current

The amendments to paragraphs 69 to 76 of KIFRS 1001 clarify the following requirements for classifying liabilities as current or non-current.

- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That terms of a liability that only if an embedded derivative in a convertible liability is itself an equity instrument do not affect its classification

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and must be applied retrospectively. The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

(ii) Reference to the Conceptual Framework - Amendments to KIFRS 1103

The amendments are intended to replace a reference to the Framework for the Preparation and Presentation of Financial Statements, issued in 1989, with a reference to the Conceptual Framework for Financial Reporting issued in March 2018 without significantly changing its requirements. The Board also added an exception to the recognition principle of KIFRS 1103 to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* or KIFRS 2121 *Levies*, if incurred separately. At the same time, the Board decided to clarify existing guidance in K IFRS 1103 for contingent assets that would not be affected by replacing the reference to the Framework for the Preparation and Presentation of Financial Statements. The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and apply prospectively.

(iii) Property, Plant and Equipment: Proceeds before Intended Use - Amendments to KIFRS 1016

The amendments are intended to prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendment is effective for annual reporting periods beginning on or after January 1, 2022 and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment. The amendments are not expected to have a material impact on the Group.

3.25 Standards issued but not yet effective (cont'd)

(iv) Onerous Contracts - Costs of Fulfilling a Contract - Amendments to KIFRS 1037

The amendments specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments apply a "directly related cost approach". The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

The amendments are effective for annual reporting periods beginning on or after January 1, 2022. The Group will apply these amendments to contracts for which it has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments.

(v) KIFRS 1101 First-time Adoption of International Financial Reporting Standards – Subsidiary as a first-time adopter

The amendment permits a subsidiary that elects to apply paragraph D16(a) of KIFRS 1101 to measure cumulative translation differences using the amounts reported by the parent, based on the parent's date of transition to KIFRS. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(a) of KIFRS 1101.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted.

(vi) KIFRS 1109 Financial Instruments – Fees in the '10 per cent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Group will apply the amendments to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment. The amendments are not expected to have a material impact on the Group.

(vii) COVID-19-Related Rent Concessions (Amendment to KIFRS 1116)

The amendments eased the application of lessee's lease modification accounting in KIFRS 1116 for rent concessions as a direct consequence of the COVID-19 pandemic.

As a practical expedient, a lessee may elect not to assess whether a rent concession related to the COVID-19 pandemic is a lease modification. A lessee that makes this election shall account for any change in lease payments resulting from the rent concession the same way it would account for the change applying this Standard if the change were not a lease modification. The amendment is effective for annual reporting periods beginning on or after June 1, 2020 with earlier adoption permitted. The amendments are not expected to have a material impact on the Group.

4. Segment information

The Group's segments are determined based on components of the Group that are engaged in revenue generating activities and for which discrete financial information is available that is regularly reported to the Chief Operating Decision Maker ("CODM") for the purpose of resource allocation and assessment of performance. Under KIFRS 1108 *Operating Segments*, the Group's segment consists of electric power generation (nuclear power and others) and other business responsible for overseas. The price of transactions between reportable segments is determined based on the market transaction price applied to independent third-party transactions. Each segment is the basis for reporting the Group's primary segment information and the accounting policies for each reportable segment are the same as those described in the summary of significant accounting policies.

The following table presents revenue and operating profit from the reportable segments for the years ended December 31, 2020 and 2019 (Korean won in millions):

| | December 31, 2020 | | | | | | |
|---|--|---|----------------------------------|----|---|---|--|
| | Electric power generation | | Others | | Consolidation adjustments | | onsolidated totals |
| Revenue from external customers Intersegment revenue | ₩ 9,999,388 4,212 | ₩ | 325 130,723 | ₩ | (134,935) | ₩ | 9,999,713 |
| Segment revenue | ₩ 10,003,600 | ₩ | 131,048 | ₩ | (134,935) | ₩ | 9,999,713 |
| Segment operating profit (loss) Other income (expenses), net Other profit (loss), net Finance income Finance costs Gain (loss) on investments in associates and joint ventures, net | 1,336,534 (114,231) (55,595) 261,363 638,701 | | 4,838 (753) 29 30 67 | | (25,538) 3,649 (23) (865) (3) | | 1,315,834 (111,335) (55,589) 260,528 638,765 |
| Income tax expense (benefit) | 152,677 | | 314 | | (4,897) | | 148,094 |
| Devenue from | Electric power generation | | Decembe Others | Co | (, , , | C | onsolidated totals |

| | December 31, 2019 | | | | | | | |
|--|-------------------|---|---|---------------------------------------|---|--------------------------------|---|--|
| | | Electric power generation | | Others | | Consolidation adjustments | | onsolidated totals |
| Revenue from external customers Intersegment revenue | ₩ | 8,982,533 256 | ₩ | 94 27 | ₩ | (283) | ₩ | 8,982,627 |
| Segment revenue | ₩ | 8,982,789 | ₩ | 121 | ₩ | (283) | ₩ | 8,982,627 |
| Segment operating profit (loss) Other income (expenses), net Other profit (loss), net Finance income Finance costs Gain (loss) on investments in | | 785,860 (83,739) 11,424 266,389 647,524 | | (2,887) (49,351) 24 13 19 | | 88 (5) - (19) (18) | | 783,061 (133,095) 11,448 266,383 647,525 |
| associates and joint ventures, net Income tax expense (benefit) | | (73,508) 27,299 | | | | 67,072 (10) | | (6,436) 27,289 |

For the years ended December 31, 2020 and 2019, depreciation and amortization expenses for electric power generation projects (nuclear power and others) are \(\psi_3,582,667\) million and \(\psi_3,287,618\) million, respectively, and depreciation and amortization expenses for other business segments amount to \(\psi_800\) million and \(\psi_400\) million, respectively.

4. Segment information (cont'd)

Details of assets and liabilities by operating segments as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | |
|-----------------------------------|----------------------------|---|-----------------|--------------------|--------------|--|--|--|
| | Electric power | | | Consolidation | Consolidated | | | |
| | generation | | Others | adjustments | totals | | | |
| Total assets | ₩ 62,317,705 | ₩ | 132,987 | ₩ (166,30 | 62,284,386 | | | |
| Total liabilities | 36,063,808 | | 22,344 | (7,74 | 36,078,411 | | | |
| | | | Decembe | | | | | |
| | Electric power | | | Consolidation | | | | |
| | generation | | Others | adjustments | totals | | | |
| Total assets Total liabilities | ₩ 59,787,314 34,076,828 | ₩ | 82,743 3,351 | ₩ (127,33 (3,33 | | | | |

The Group is headquartered in Korea, with substantially all of its assets located in Korea and substantially all of its revenue is generated domestically.

For the years ended December 31, 2020 and 2019, the Group recognized total revenues of W9,999,713 million and W8,982,627 million, respectively. Also, the Group recognized total revenues from KEPCO, the Group's largest customer, of W9,857,571 million and W8,880,264 million, respectively. There is no single other customer that accounts for more than 10% of the consolidated sales for 2020 and 2019.

5. Cash and cash equivalents

Cash and cash equivalents as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | De | cember 31, 2020 | De | December 31, 2019 | | |
|---|----|--------------------|----|----------------------|--|--|
| Cash equivalents | ₩ | 2,074 | ₩ | 3,505 | | |
| Short-term instruments classified as cash equivalents | | 313,998 | | 31,411 | | |
| | ₩ | 316,072 | ₩ | 34,916 | | |

Restricted cash and cash equivalents as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Decer | nber 31, | De | cember 31, |
|---|-------|----------|----|------------|
| | 2 | 020 | | 2019 |
| Short-term instruments classified as cash equivalents | ₩ | 6,694 | ₩ | 12,781 |

6. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | December | 31, 2020 | | December 31, 2019 | | | |
|---|---|------------------------|----------|---|-------------------|-------------|---------|--|
| | | Current Non-current(*) | | | Current | Non-current | | |
| Financial assets designated as at fair value through profit or loss: Financial assets designated as at fair value through profit or loss(*) | ₩ | - | 204,726 | ₩ | - | ₩ | 150,916 | |
| Financial assets at fair value through profit or loss: | | | | | | | | |
| Derivative assets | | 18,274 | 30,794 | | - | | 120,133 | |
| Beneficiary certificate(*) | | - | 149,777 | | - | | 155,449 | |
| Other(*) | | 160,600 | 222,978 | | 29,520 | | 235,604 | |
| Subtotal | | 178,874 | 403,549 | | 29,520 | | 511,186 | |
| Total | ₩ | 178,874 | 608,275 | ₩ | 29,520 | ₩ | 662,102 | |

^(*) As of December 31, 2020, the Group invested \,\text{\psi-577,481} million in financial assets exclusively for payment of decommissioning costs of nuclear power plants. These are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to December 31, 2020. Therefore, these assets have been categorized as non-current assets.

6. Financial assets at fair value through profit or loss (cont'd)

Details of derivative instruments as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | December 31, 2019 | | | | |
|---------------------------|-------------------|--------|----|-------------------|---|---------|---|------------|
| | Current | | No | Non-current | | Current | | on-current |
| Derivative assets: | | | | | | | | |
| Foreign currency forwards | ₩ | 18,274 | ₩ | - | ₩ | - | ₩ | 43,931 |
| Foreign currency swaps | | - | | 30,794 | | - | | 76,202 |
| | | 18,274 | | 30,794 | | - | | 120,133 |
| Derivative liabilities: | | | | | | | | |
| Foreign currency forwards | | 462 | | - | | 196 | | - |
| Foreign currency swaps | | | | 23,801 | | - | | 7,286 |
| | ₩ | 462 | ₩ | 23,801 | ₩ | 196 | ₩ | 7,286 |
| | | | | - , | | | | |

Details of foreign currency forwards contracts as of December 31, 2020 are as follows (Korean won in millions, USD in thousands, KRW/USD)

| | | | - | Amount of | Contractual foreign | | |
|----------------------------------|--------------------------------|-----------------------|-----|-----------|---------------------|---------|---------------|
| | Counterparty Period | | | Pay | R | eceive | exchange rate |
| | Hana Bank | 2014.04.10~2021.07.12 | KRW | 55,120 | USD | 52,000 | 1,060.00 |
| | Hana Bank | 2014.04.28~2021.07.12 | KRW | 50,784 | USD | 48,000 | 1,058.00 |
| Held for | Bank of America | 2014.04.29~2021.07.12 | KRW | 105,400 | USD | 100,000 | 1,054.00 |
| trading Hana Bank (*) Hana Bank | Hana Bank | 2014.05.09~2021.07.12 | KRW | 104,600 | USD | 100,000 | 1,046.00 |
| | Hana Bank Korea Development | 2017.12.22~2021.07.12 | KRW | 105,079 | USD | 100,000 | 1,050.79 |
| | Bank | 2017.12.27~2021.07.12 | KRW | 104,849 | USD | 100,000 | 1,048.49 |
| | Shinhan Bank | 2020.11.25~2021.01.29 | KRW | 895 | USD | 809 | 1,106.50 |
| | Woori Bank | 2020.12.28~2021.01.28 | KRW | 53,371 | USD | 48,790 | 1,093.88 |
| | Shinhan Bank | 2020.12.29~2021.01.25 | KRW | 27,776 | USD | 25,379 | 1,094.44 |

^(*) The Group contracted derivative financial instruments for the purpose of hedging risk but classified them as derivative financial instruments held for trading, since those derivatives do not meet the applicable requirements of applying hedge accounting under KIFRS 1109 *Financial Instruments*.

6. Financial assets at fair value through profit or loss (cont'd)

Details of foreign currency swap contracts as of December 31, 2020 are as follows (Korean won in millions, USD, HKD, CHF in thousands, KRW/USD, KRW/HKD, KRW/CHF):

| | | | Amount o | of contract | Interest rate | e of contract | Contractual foreign exchange |
|----------------|---|-----------------------|-------------|-------------|---------------|---------------|------------------------------|
| - | Counterparty | Period | Pay | Receive | Pay | Receive | rate |
| | Citibank | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| JP Morgan | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 | |
| | Bank of America | 2012.09.12~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | Shinhan Bank | 2016.12.21~2022.09.19 | KRW 112,930 | USD 100,000 | 2.79% | 3.00% | 1,129.30 |
| | Hana Bank | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.87% | 3.00% | 1,117.70 |
| | Standard Chartered | 2012.10.26~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 |
| | HSBC | 2012.11.01~2022.09.19 | KRW 111,770 | USD 100,000 | 2.89% | 3.00% | 1,117.70 |
| | Deutsche Bank Nomura Financial Investment (Korea) | 2012.12.28~2022.09.19 | KRW 55,885 | USD 50,000 | 2.79% | 3.00% | 1,117.70 |
| | Co., Ltd. Korea Development | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.60% | 3.25% | 1,111.90 |
| | Bank | 2015.06.15~2025.06.15 | KRW 111,190 | USD 100,000 | 2.62% | 3.25% | 1,111.90 |
| Held for | Woori Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 |
| trading (*) | Hana Bank | 2015.06.15~2025.06.15 | KRW 55,595 | USD 50,000 | 2.62% | 3.25% | 1,111.90 |
| () | Woori Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.25% | 3.13% | 1,116.10 |
| | Bank | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 |
| | Hana Bank Korea Development | 2017.07.25~2027.07.25 | KRW 111,610 | USD 100,000 | 2.31% | 3.13% | 1,116.10 |
| | Bank | 2018.04.03~2028.03.13 | KRW 108,600 | HKD 800,000 | 2.69% | 3.35% | 135.75 |
| | Shinhan Bank Korea Development | 2018.04.03~2028.03.13 | KRW 115,387 | HKD 850,000 | 2.66% | 3.35% | 135.75 |
| | Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.15% | 3.75% | 1,135.20 |
| | Woori Bank | 2018.07.25~2023.07.25 | KRW 170,280 | USD 150,000 | 2.18% | 3.75% | 1,135.20 |
| | Hana Bank | 2018.07.25~2023.07.25 | KRW 113,520 | USD 100,000 | 2.17% | 3.75% | 1,135.20 |
| | Shinhan Bank | 2018.07.25~2023.07.25 | KRW 227,040 | USD 200,000 | 2.17% | 3.75% | 1,135.20 |
| | Citibank Korea Development | 2019.07.19~2024.07.19 | KRW 239,956 | CHF 200,000 | 1.44% | 0.00% | 1,199.78 |
| | Bank | 2019.07.19~2027.07.19 | KRW 119,978 | CHF 100,000 | 1.43% | 0.05% | 1,199.78 |

^(*) The Group contracted derivative financial instruments for the purpose of hedging risk but classified them as derivative financial instruments held for trading, since those derivatives do not meet the applicable requirements of applying hedge accounting under KIFRS 1109 *Financial Instruments*.

6. Financial assets at fair value through profit or loss (cont'd)

Gain (loss) on valuation and transaction of derivatives (not designated as in hedging relationships) for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Gain (loss) | aluation | | Gain (loss) on transaction | | | | |
|----------------------------------|---|----------------------|------------|-------------------|----------------------------|-------------------|---|-----------------|--|
| | _ | 2020 | . <u> </u> | 2019 | | 2020 | | 2019 | |
| Currency forwards Currency swaps | ₩ | (26,120) (61,923) | ₩ | 31,130 138,149 | ₩ | (2,521) 18,013 | ₩ | 1,130 41,180 | |
| | ₩ | (88,043) | ₩ | 169,279 | ₩ | 15,492 | ₩ | 42,310 | |

7. Trade and other receivables

Trade and other receivables as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | r 31, 2020 | | December 31, 2019 | | | | | | |
|--|--------------|---------------------------------|--|-----------------|-------------------|---------------------------------|--|-----------------|--|--|--|
| | Gross amount | Allowance for doubtful accounts | Amortization of present value discount | Carrying amount | Gross amount | Allowance for doubtful accounts | Amortization of present value discount | Carrying amount | | | |
| Current assets: Trade receivables Other | ₩ 1,196,755 | ₩ - | ₩ - | ₩ 1,196,755 | ₩ 1,087,325 | ₩ - | ₩ - | ₩ 1,087,325 | | | |
| receivables | 189,164 | (3,185) | (237) | 185,742 | 218,597 | (3,185) | (470) | 214,942 | | | |
| | 1,385,919 | (3,185) | (237) | 1,382,497 | 1,305,922 | (3,185) | (470) | 1,302,267 | | | |
| Non-current assets: Other | | | | | | | | | | | |
| receivables | 50,322 | | (526) | 49,796 | 50,925 | | (902) | 50,023 | | | |
| | W 1,436,241 | ₩ (3,185) | ₩ (763) | W 1,432,293 | ₩ 1,356,847 | W (3,185) | ₩ (1,372) | ₩ 1,352,290 | | | |

Other receivables as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | December 31, 2020 | | | | | | | | December 31, 2019 | | | | | | | |
|-------------------------------------|---|-------------------|------------|-----------------|-----|--------------|-----|---------------------------------|-----|--|-----|---------|-----------------|---------|-----|---------|--|
| | Allowance for doubtful present valu Gross amount accounts discount | | sent value | Carrying amount | | Gross amount | | Allowance for doubtful accounts | | Amortization of present value discount | | | Carrying amount | | | | |
| Current assets: Non-trade | 14/ | 00.074 | 147 | (0.405) | 14/ | | 14/ | 00.400 | 14/ | 00.704 | 14/ | (0.405) | 14/ | | 10/ | 77.500 | |
| receivables Accrued | ₩ | 92,371 | ₩ | (3,185) | ₩ | - | ₩ | 89,186 | ₩ | 80,721 | ₩ | (3,185) | ₩ | - | ₩ | 77,536 | |
| income Guarantee | | 51,634 | | - | | - | | 51,634 | | 74,618 | | - | | - | | 74,618 | |
| deposits Other current | | 42,017 | | - | | (237) | | 41,780 | | 60,227 | | - | | (470) | | 59,757 | |
| receivables | | 3,142 | | - | | - | | 3,142 | | 3,031 | | - | | - | | 3,031 | |
| | | 189,164 | | (3,185) | | (237) | | 185,742 | | 218,597 | | (3,185) | | (470) | | 214,942 | |
| Non-current assets: Guarantee | | | | | | | | | | | | | | | | | |
| deposits | | 50,322 | | | | (526) | | 49,796 | | 50,925 | | _ | | (902) | | 50,023 | |
| | ₩ | 239,486 | ₩ | (3,185) | ₩ | (763) | ₩ | 235,538 | ₩ | 269,522 | ₩ | (3,185) | ₩ | (1,372) | W | 264,965 | |

Trade and other receivables are measured at amortized cost. For electricity sales revenue, the average trade receivables turnover is 2 business days from the date of the revenues generated. Interest is charged on trade receivables after 2 business days from due date based on interest rates of overdue open market loans.

7. Trade and other receivables (cont'd)

Aging analysis of the trade receivables as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | De | De | ecember 31, 2019 | |
|---|----|-----------|---------------------|-----------|
| Receivables (not overdue, not impaired) | ₩ | 1,196,755 | ₩ | 1,087,325 |
| Receivables (overdue, not impaired) | | - | | - |
| Receivables (other) | | 1,196,755 | | 1,087,325 |
| Less: allowance for doubtful accounts | | - | | - |
| Less: present value discount | | - | | - |
| | ₩ | 1,196,755 | ₩ | 1,087,325 |

Aging analysis of other receivables as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Dec | ember 31, 2020 | De | cember 31, 2019 |
|---|-----|-------------------|----|--------------------|
| Receivables (not overdue, not impaired) | ₩ | 236,301 | ₩ | 266,337 |
| Receivables (overdue, not impaired) | | - | | - |
| Receivables (other) | | 3,185 | | 3,185 |
| 0~60 days | | - | | - |
| 60~90 days | | - | | - |
| 90~120 days | | - | | - |
| 120~365 days | | - | | - |
| Over 365 days | | 3,185 | | 3,185 |
| | | 239,486 | | 269,522 |
| Less: allowance for doubtful accounts | | (3,185) | | (3,185) |
| Less: present value discount | | (763) | | (1,372) |
| | ₩ | 235,538 | ₩ | 264,965 |

Changes in the allowance for doubtful accounts for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 20 | 20 | | 2019 | | | | | |
|-------------------------------------|---|-------------------------------------|----|------------|-------------------|---|-------------------|-------------|--|--|
| | | Trade Other receivables Receivables | | | Trade receivables | i | Other receivables | | | |
| Beginning balance Bad debt expenses | ₩ | - | ₩ | 3,185 - | ₩ | - | ₩ | 3,185 51 | | |
| Write-offs | | - | | - | | - | | (51) | | |
| Ending balance | ₩ | - | ₩ | 3,185 | ₩ | - | ₩ | 3,185 | | |

8. Financial assets at fair value through other comprehensive income

Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | | | 2020 | | | | | | |
|---|-----|-----------------------|-------|---------|-----------|--------|-----------------------------|-------------------------|----------------------|---------------|--------|---------|-------------|-----------|
| | J | January 1 Acquisition | | sitions | Disposals | | Gain (loss) on valuation | | Impairment losses | | Others | | December 31 | |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | ₩ | 31,828 | ₩ | - | ₩ | - | ₩ | 19,843 | ₩ | - | ₩ | (1,793) | ₩ | 49,878 |
| Unlisted equity securities | | 199,996 | | - | | - | | (23,903) | | - | | 7,400 | | 183,493 |
| | ₩ | 231,824 | ₩ | - | ₩ | - | ₩ | (4,060) | ₩ | - | ₩ | 5,607 | ₩ | 233,371 |
| Non-current financial assets at fair value through other comprehensive income | w | 231,824 | ₩ | _ | ₩ | _ | W | (4,060) | W | _ | W | 5,607 | ₩ | 233,371 |
| comprehensive meome | *** | 201,024 | ** | | ** | | ** | (4,000) | ** | | ** | 3,007 | ** | 200,071 |
| | | | | | | | | 2019 | | | | | | |
| | J | anuary 1 | Acqui | sitions | Disp | oosals | | n (loss) on aluation | | irment ses | | Others | Dec | cember 31 |
| Equity securities: | | | | | | | | | | | | | | |
| Listed equity securities | ₩ | 35,861 | ₩ | - | ₩ | - | ₩ | (6,864) | ₩ | - | ₩ | 2,831 | ₩ | 31,828 |
| Unlisted equity securities | | 194,103 | | - | | - | | 5,893 | | - | | - | | 199,996 |
| | ₩ | 229,964 | ₩ | - | ₩ | - | ₩ | (971) | ₩ | - | ₩ | 2,831 | ₩ | 231,824 |
| Non-current financial assets at fair value through other | | | | | | | | | | | | | | |
| comprehensive income | ₩ | 229,964 | ₩ | - | ₩ | - | ₩ | (971) | ₩ | - | ₩ | 2,831 | ₩ | 231,824 |

8. Financial assets at fair value through other comprehensive income (cont'd)

Details of financial assets at fair value through other comprehensive income as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | | | | | |
|--------------------------|-------------------|-----------|------|------------|--------|----------|------------|---------|--|--|--|--|
| | | | A | cquisition | (| Carrying | | | | | | |
| | Shares | Ownership | cost | | amount | | Fair value | | | | | |
| Listed securities: | | | | | | | | | | | | |
| Fission Uranium Corp. | 700,000 | 0.14% | ₩ | 325 | ₩ | 233 | ₩ | 233 | | | | |
| Denison Mines Corp. | 58,248,500 | 9.30% | | 36,799 | | 41,751 | | 41,751 | | | | |
| Fission 3.0 Corp. | 75,000 | 0.05% | | 36 | | 6 | | 6 | | | | |
| Energy Fuel Inc. | 1,711,814 | 1.31% | | 3,414 | | 7,888 | | 7,888 | | | | |
| | | | | 40,574 | | 49,878 | | 49,878 | | | | |
| Unlisted securities: | | | | | | | | | | | | |
| Korea Power | | | | | | | | | | | | |
| Exchange(*1) | - | 14.28% | | 18,263 | | 31,935 | | 31,935 | | | | |
| SET Holding(*1) | 1,100,220 | 2.50% | | 229,255 | | 143,765 | | 143,765 | | | | |
| HeeMang Sunlight Power | | | | | | | | | | | | |
| Co., Ltd.(*2) | 78,600 | 8.33% | | 393 | | 393 | | 393 | | | | |
| SGC Green Power Co., | | | | | | | | | | | | |
| Ltd.(*2) | 580,000 | 5.00% | | 2,900 | | 2,900 | | 2,900 | | | | |
| Ihsung CNI Co., Ltd.(*2) | 13,526 | 18.22% | | 3,000 | | 3,000 | | 3,000 | | | | |
| H robotics Co., Ltd(*2) | 9,192 | 4.55% | | 1,000 | | 1,000 | | 1,000 | | | | |
| Goodtcells Co., Ltd(*2) | 11,364 | 0.34% | | 500 | | 500 | | 500 | | | | |
| | | | | 255,311 | | 183,493 | | 183,493 | | | | |
| | | | ₩ | 295,885 | ₩ | 233,371 | ₩ | 233,371 | | | | |

^(*1) The Group has estimated the fair value by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended December 31, 2020.

^(*2) This financial asset at fair value through other comprehensive income does not have a quoted market price in an active market, and its fair value cannot be reliably measured, therefore it is measured at cost.

8. Financial assets at fair value through other comprehensive income (cont'd)

| _ | December 31, 2019 | | | | | | | | | | |
|------------------------|-------------------|-----------------------|-----------------|------------|------------|----------|---------|---------|--|--|--|
| | | | Α | cquisition | | Carrying | | | | | |
| _ | Shares | Ownership cost amount | | amount | Fair value | | | | | | |
| Listed securities: | | | | | | | | | | | |
| Fission Uranium Corp. | 700,000 | 0.14% | ₩ | 325 | ₩ | 174 | ₩ | 174 | | | |
| Denison Mines Corp. | 58,248,500 | 9.87% | | 36,799 | | 27,885 | | 27,885 | | | |
| Fission 3.0 Corp. | 75,000 | 0.05% | | 36 | | 5 | | 5 | | | |
| Energy Fuel Inc. | 1,711,814 | 1.79% | | 3,414 | | 3,764 | | 3,764 | | | |
| | | | | 40,574 | | 31,828 | | 31,828 | | | |
| Unlisted securities: | | | | | | | | | | | |
| Korea Power | | | | | | | | | | | |
| Exchange(*1) | - | 14.28% | | 18,263 | | 32,738 | | 32,738 | | | |
| SET Holding(*1) | 1,100,220 | 2.50% | | 229,255 | | 166,865 | | 166,865 | | | |
| HeeMang Sunlight Power | | | | | | | | | | | |
| Co., Ltd.(*2) | 78,600 | 8.33% | | 393 | | 393 | | 393 | | | |
| | | | 247,911 199,996 | | | | 199,996 | | | | |
| | | | ₩ | 288,485 | ₩ | 231,824 | ₩ | 231,824 | | | |

^(*1) The Group has estimated the fair value by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at fair value through other comprehensive income for the year ended December 31, 2019.

9. Other financial assets

Other financial assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | 2020 | | Decembe | r 31, 2 | 31, 2019 | |
|-----------------------|--------|---------------------|------|---------|---------|---------|-------------|---------|
| | | Current Non-current | | | | Current | Non-current | |
| Financial instruments | ₩ | 212,159 | ₩ | 258,656 | ₩ | 210,626 | ₩ | 250,463 |
| Loans | | 11,068 | | 67,382 | | 5,349 | | 71,735 |
| | ₩ 223, | | ₩ | 326,038 | ₩ | 215,975 | ₩ | 322,198 |

Details of financial instruments as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | 020 | December 31, 2019 | | | | |
|--------------|---|------------------------|-----|-------------------|---|---------|-------------|---------|
| | | Current Non-current(*) | | | | Current | Non-current | |
| Time deposit | ₩ | 2,159 | ₩ | 138,656 | ₩ | 626 | ₩ | 100,463 |
| Others | | 210,000 | | 120,000 | | 210,000 | | 150,000 |
| | ₩ | 212,159 | ₩ | 258,656 | ₩ | 210,626 | ₩ | 250,463 |

^(*) As of December 31, 2020, the Group set aside \(\pmu\)258,282 million for decommissioning costs for nuclear power plants. These funds are financial assets that cannot be used for any other purposes with a restricted access period exceeding 12 months subsequent to December 31, 2020. Therefore, these assets have been categorized as non-current assets.

^(*2) This financial asset at fair value through other comprehensive income does not have a quoted market price in an active market, and its fair value cannot be reliably measured, therefore it is measured at cost.

9. Other financial assets (cont'd)

Detail of loans as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | , 2020 | December 31, 2019 | | | | | |
|------------------------------|---|---------|--------|-------------------|---|---------|---|-------------|--|
| | | Current | | Non-current | | Current | | Non-current | |
| Loans for tuition(*1) | ₩ | 6,745 | ₩ | 68,889 | ₩ | 4,375 | ₩ | 73,725 | |
| Loans for housing(*2) | | 598 | | 4,958 | | 737 | | 4,476 | |
| Other loans(*3) | | 3,816 | | - | | 320 | | 320 | |
| Less: present value discount | | (91) | | (6,465) | | (83) | | (6,786) | |
| | ₩ | 11,068 | | 67,382 | ₩ | 5,349 | ₩ | 71,735 | |

- (*1) The annual interest rate on loans for tuition is 0%, under a condition for installment repayment for seven years with a three-year grace period.
- (*2) The annual interest rate on loans for housing is 0% to 3.11%, under the condition of a 15 to 20-year installment repayment.
- (*3) The annual interest rate on other loans is 0% to 4.60%, under a condition for installment repayment for 5 years with a 5-year grace period.

Details of loans as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | Pre | sent value | Allowa | ince for | | |
|-------------------|---|----------|-----|------------|-------------|----------|-------|-------------|
| | P | ar value | (| discount | bad debts | | Carry | ring amount |
| Loans for tuition | ₩ | 75,634 | ₩ | (6,556) | ₩ | - | ₩ | 69,078 |
| Loans for housing | | 5,556 | | - | | - | | 5,556 |
| Other loans | | 3,816 | | - | | - | | 3,816 |
| | ₩ | 85,006 | ₩ | (6,556) | ₩ | - | ₩ | 78,450 |
| | | | | Decembe | er 31, 2019 |) | | |
| | | | Pre | sent value | Allowa | ince for | | |
| | Р | ar value | (| discount | bad | debts | Carry | ring amount |
| Loans for tuition | ₩ | 78,100 | ₩ | (6,849) | ₩ | - | ₩ | 71,251 |
| Loans for housing | | 5,213 | | · _ | | - | | 5,213 |
| Other loans | | 640 | | (20) | | - | | 620 |
| | ₩ | 83,953 | ₩ | (6,869) | ₩ | - | ₩ | 77,084 |

10. Inventories

Inventories as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | December 31, 2019 | | | | | | |
|-----------------------------|-------------------|-----------|---------------------|---|--------------------|-------------------|------------------|-----------|---------------------|---|--------------------|-----------|
| | Acquisition cost | | Valuation allowance | | Carrying amount | | Acquisition cost | | Valuation allowance | | Carrying amount | |
| Raw materials | ₩ | 2,993,063 | ₩ | - | ₩ | 2,993,063 | ₩ | 2,924,522 | ₩ | - | ₩ | 2,924,522 |
| Supplies Inventories-in- | | 1,828,611 | | - | | 1,828,611 | | 1,647,320 | | - | | 1,647,320 |
| transit | | 290,000 | | - | | 290,000 | | 255,681 | | _ | | 255,681 |
| | ₩ | 5,111,674 | ₩ | - | ₩ | 5,111,674 | ₩ | 4,827,523 | ₩ | - | ₩ | 4,827,523 |

11. Non-financial assets

Non-financial assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | 2020 | December 31, 2019 | | | | | |
|-------------------|---|---------|------|-------------------|---|---------|-------------|---------|--|
| | (| Current | No | on-current | | Current | Non-current | | |
| Advanced payments | ₩ | 34,421 | ₩ | 410,101 | ₩ | 10,363 | ₩ | 442,748 | |
| Prepaid expenses | | 50,180 | | 8,294 | | 73,285 | | 7,742 | |
| Others(*) | | 30,067 | | 13,707 | | 45,772 | | 13,289 | |
| | ₩ | 114,668 | ₩ | 432,102 | ₩ | 129,420 | ₩ | 463,779 | |

^(*) The Group recognizes an impairment loss of \u220449,201 million as there is objective evidence of impairment on rights of Orano Expansion's equity.

12. Investments in associates and joint ventures

Investments in associates and joint ventures as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | |
|--|---------------------------------|----------|-----------|----------|---------------------------------|------------|----------|---------|
| | | | Reporting | Owner- | Acquisition | | Carrying | |
| Company | Key operating activities | Location | Date | ship | cost | | amount | |
| <associates></associates> | | | | | | | | |
| Korea Offshore Wind Power | Offshore wind resources | | | | | | | |
| Co., Ltd.(*1) | development | Korea | Dec. 31 | 12.50% | ₩ | 26,600 | ₩ | 20,884 |
| Noeul Green Energy Co., Ltd. | Electricity and heat generation | Korea | Dec. 31 | 29.00% | | 1,740 | | 4,197 |
| Busan Green Energy Co., Ltd. | Electricity and heat generation | Korea | Dec. 31 | 29.00% | | 5,243 | | 8,778 |
| Korea Nuclear Partners | Electric material agency | Norea | Dec. 51 | 23.0070 | | 3,243 | | 0,770 |
| Co., Ltd. | Electric material agency | Korea | Dec. 31 | 28.98% | | 537 | | 200 |
| KEPCO Solar Co., Ltd. (Ex- | Photovoltaic power | rtorou | 200.01 | 20.0070 | | 001 | | 200 |
| Solar School Plant Co., Ltd.) | generation electricity | | | | | | | |
| (*1,6) | resources development | Korea | Dec. 31 | 8.38% | | 16,750 | | 17,365 |
| KEPCO Energy Solution | Energy-efficient equipment | | | | | • | | • |
| Co., Ltd.(*1) | investment services business | Korea | Dec. 31 | 8.33% | | 25,000 | | 25,808 |
| Gwangyang Green Energy | Biomass generation | | | | | | | |
| Co., Ltd. | | Korea | Dec. 31 | 20.00% | | 2,000 | | 925 |
| Hanhwa Solar Power Private | Investment trust | | | | | | | |
| equity investment trust | | Korea | Dec. 31 | 49.00% | | 7,300 | | 7,325 |
| Godeok Clean Energy | Electricity and heat | | D 04 | 04.000/ | | 4 000 | | 000 |
| Co., Ltd.(*2) | generation | Korea | Dec. 31 | 61.00% | | 1,830 | | 960 |
| Bigeum Resident Solar | Photovoltaic power | | | | | | | |
| Power Generation Co., Ltd. (*5) | generation | Korea | Dec. 31 | 29.90% | | 1 | | |
| Jeju Solarone Co., Ltd. | Photovoltaic power | Korea | Dec. 31 | 29.90% | | I | | - |
| (*1,5) | generation electricity | | | | | | | |
| (1,5) | resources development | Korea | Dec. 31 | 10.00% | | 161 | | 160 |
| | | | 200.0. | . 0.00,0 | | 87,162 | | 86,602 |
| <joint ventures=""></joint> | | | | | | 07,102 | | 00,002 |
| | Harris and a second | | | | | | | |
| Waterbury Lake Uranium Limited Partnership(*3) | Uranium resources development | Canada | Dec. 31 | 33.10% | | 20,753 | | 19,796 |
| Cheongsong Noraesan Wind | Wind power generation | Canada | Dec. 31 | 33.10% | | 20,755 | | 19,790 |
| Power Co., Ltd. | Willia power generation | Korea | Dec. 31 | 29.01% | | 3,200 | | 3,453 |
| Saemangeum Solar Power | Solar power generation | Norea | Dec. 51 | 29.0170 | | 3,200 | | 3,433 |
| Co., Ltd.(*4) | Solai powei generation | Korea | Dec. 31 | 81.00% | | 26,399 | | 24,292 |
| KAS INVESTMENT I LLC | Overseas Investment | Rorca | DC0. 01 | 01.0070 | | 20,000 | | 27,202 |
| (*5,7) | | USA | Oct. 7 | 29.89% | | 23,437 | | 23,437 |
| KAS INVESTMENT II LLC | Overseas Investment | | | | | -, -:- | | -, - |
| (*5,7) | | USA | Oct. 7 | 29.89% | | 23,343 | | 23,343 |
| | | | | | | 97,132 | | 94,321 |
| | | | | | ₩ | 184,294 | W | 180,923 |
| | | | | | | .5-1,2-0-1 | | 100,020 |

^(*1) Although the Group holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates, as the Group determines that it could exercise significant influence over the investee.

^(*2) Although the Group holds 61% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. But the investee has been classified as an investment in associates, as the Group determines that it could exercise significant influence through participation in the board of directors over the investee.

^(*4) The Group's voting right over the investee is 81% based on the shareholders' agreement and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

^(*5) This entity is newly included as associates and joint ventures of the Group due to new investments during the year ended December 31, 2020.

^(*6) During the year ended December 31, 2020, Solar School Plant Co., Ltd. was renamed as KEPCO Solar Co., Ltd.

^(*7) The final settlement of the joint venture's financial statements was not completed before the Group's financial statements date, so the financial statements of October 7, the date of establishment, were used.

12. Investments in associates and joint ventures (cont'd)

| | December 31, 2019 | | | | | | | |
|--|---------------------------------|----------|-----------|---------|-------------|---------|---------------|----------|
| | | | Reporting | Owner- | Acquisition | | | Carrying |
| Company | Key operating activities | Location | Date | ship | cost | | amount | |
| <associates></associates> | 0.5 | | | | | | | |
| Korea Offshore Wind Power | Offshore wind | | | | | | | |
| Co., Ltd.(*1) | resources | Korea | Dec. 31 | 12.50% | W | 26,600 | ₩ | 21,081 |
| Noeul Green Energy Co., Ltd. | development | Korea | Dec. 31 | 12.50% | ₩. | 26,600 | VV | 21,001 |
| Noedi Green Energy Co., Etd. | generation | Korea | Dec. 31 | 29.00% | | 1,740 | | 6,611 |
| Busan Green Energy | Electricity and heat | rtorca | 200.01 | 20.0070 | | 1,1 10 | | 0,011 |
| Co., Ltd. | generation | Korea | Dec. 31 | 29.00% | | 5,243 | | 10,636 |
| Korea Nuclear Partners | Electric material agency | | | | | , | | • |
| Co., Ltd. | | Korea | Dec. 31 | 29.00% | | 290 | | - |
| Solar School Plant Co., Ltd. | Photovoltaic power | | | | | | | |
| (*1) | generation electricity | | | | | | | |
| | resources | 1/ | Dec. 21 | 0.200/ | | 16.750 | | 17 007 |
| KEPCO Energy Solution | development Energy-efficient | Korea | Dec. 31 | 8.38% | | 16,750 | | 17,207 |
| Co., Ltd.(*1) | equipment | | | | | | | |
| 30., <u>2.</u> (1) | investment services | | | | | | | |
| | business | Korea | Dec. 31 | 8.33% | | 25,000 | | 25,504 |
| Gwangyang Green Energy | Biomass generation | | | | | | | |
| Co., Ltd. | | Korea | Dec. 31 | 20.00% | | 2,000 | | 948 |
| Hanhwa Solar Power Private | Investment trust | | | | | | | |
| equity investment trust(*5) | Clasticity and back | Korea | Dec. 31 | 49.00% | | 7,105 | | 7,126 |
| Godeok Clean Energy Co., Ltd.(*2,5) | Electricity and heat generation | Korea | Dec. 31 | 61.00% | | 1,830 | | 1,830 |
| Co., Ltd.(2,5) | generation | Notea | Dec. 31 | 01.00% | | | | |
| <joint ventures=""></joint> | | | | | | 86,558 | | 90,943 |
| | Harden and a second | | | | | | | |
| Waterbury Lake Uranium Limited Partnership(*3) | Uranium resources development | Canada | Dec. 31 | 33.41% | | 20,753 | | 20,562 |
| Cheongsong Noraesan Wind | Wind power generation | Callaua | Dec. 31 | 33.4170 | | 20,755 | | 20,302 |
| Power Co., Ltd. | willia power generation | Korea | Dec. 31 | 29.01% | | 3,200 | | 3,044 |
| Saemangeum Solar Power | Solar power generation | rtoroa | 200.01 | 20.0170 | | 0,200 | | 0,011 |
| Co., Ltd.(*4,5) | | Korea | Dec. 31 | 81.00% | | 10,000 | | 8,324 |
| | | | | | | 33,953 | | 31,930 |
| | | | | | ₩ | 120,511 | W | 122,873 |
| | | | | | | | _ | |

^(*1) Although the Group holds less than 20% equity interest in the investee, the investee has been classified as an investment in associates, as the Group determines that it could exercise significant influence over the investee.

^(*2) Although the Group holds 61% equity interest in the investee, it has no control because it has a decision-making right of less than 50%. But the investee has been classified as an investment in associates, as the Group determines that it could exercise significant influence through participation in the board of directors over the investee.

^(*4) The Group's voting right over the investee is 81% based on the shareholders' agreement and it does not have sole control of the decision-making body for the relevant activities. Therefore, the investee has been classified as an investment in joint ventures.

^(*5) This entity is newly included as a joint venture of the Group due to new investments during the year ended December 31, 2019.

Changes in investments in associates and joint ventures for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | - | | 01 (" | 2020 | | | | |
|--------------------------------|-----------|-------------|------------------------|-------------------|-----------|-----------|-------------|--|
| | January 1 | Acquisition | Share of profit (loss) | Changes in equity | Disposals | Others | December 31 | |
| Associates> | January 1 | Acquisition | (IOSS) | equity | Disposais | Others | December 31 | |
| orea Offshore | | | | | | | | |
| Wind Power | | | | | | | | |
| Co., Ltd. | ₩ 21,081 | ₩ - | ₩ (197) | ₩ - | ₩ - | ₩ - | ₩ 20,884 | |
| oeul Green Energy Co., Ltd. | 6,611 | _ | (2,414) | _ | _ | _ | 4,197 | |
| ısan Green | 0,011 | | , , | | | | 4,107 | |
| Energy Co., Ltd. | 10,636 | - | (1,860) | - | - | 2 | 8,778 | |
| orea Nuclear Partners | | | | | | | | |
| Co., Ltd. | _ | 247 | (43) | _ | _ | (4) | 200 | |
| PCO Solar | | | (- / | | | () | | |
| o., Ltd. (Ex- | | | | | | | | |
| olar School | 47.007 | | 450 | | | | 47.005 | |
| lant Co., Ltd.) | 17,207 | - | 158 | - | - | - | 17,365 | |
| EPCO Energy Solution | | | | | | | | |
| Co., Ltd. | 25,504 | _ | 307 | _ | _ | (3) | 25,808 | |
| vangyang | | | | | | (-) | | |
| Green Energy | | | | | | | | |
| Co., Ltd. | 948 | - | (23) | - | - | - | 925 | |
| anhwa Solar | | | | | | | | |
| Power Private equity | | | | | | | | |
| nvestment | | | | | | | | |
| rust | 7,126 | 294 | 296 | - | (99) | (292) | 7,325 | |
| odeok Clean | | | | | ` , | , , | | |
| Energy | | | (0.4.4) | | | (0.0) | | |
| ., Ltd. | 1,830 | - | (844) | - | - | (26) | 960 | |
| geum Resident Solar | | | | | | | | |
| Power | | | | | | | | |
| Generation | | | | | | | | |
| o., Ltd. | - | 1 | (1) | - | - | - | - | |
| u Solarone | | 161 | | | | (4) | 160 | |
| o., Ltd. ergy | - | 161 | - | - | - | (1) | 160 | |
| novation | | | | | | | | |
| rowth Fund 1 | | | | | | | | |
| *) | | 3600 | 2 | | | (3,602) | | |
| | 90,943 | 4,303 | (4,619) | | (99) | (3,926) | 86,602 | |
| oint ventures> | | | | | | | | |
| terbury Lake | | | | | | | | |
| ranium Limited | | | | () | | | 40 =00 | |
| artnership | 20,562 | - | 4 | (770) | - | - | 19,796 | |
| eongsong oraesan | | | | | | | | |
| Vind Power | | | | | | | | |
| o., Ltd. | 3,044 | - | 409 | - | - | - | 3,453 | |
| emangeum | | | | | | | | |
| olar Power | 0.004 | 10.000 | (404) | | | | 04.000 | |
| Co., Ltd. NS | 8,324 | 16,399 | (431) | - | - | - | 24,292 | |
| NVESTMENT | | | | | | | | |
| LLC | - | 23,437 | - | - | - | - | 23,437 | |
| S | | • | | | | | • | |
| NVESTMENT II | | | | | | | | |
| _C | | 23,343 | | | | | 23,343 | |
| | 31,930 | 63,179 | (18) | (770) | | | 94,321 | |
| | ₩ 122,873 | ₩ 67,482 | ₩ (4,637) | ₩ (770) | ₩ (99) | ₩ (3,926) | ₩ 180,923 | |

^(*) Energy Innovation Growth Fund 1 has been replaced by a subsidiary from the investment in associates.

| | | | | | | | | 2019 | | | | | | |
|-----------------------------|----|----------|----|-----------|-----|------------------------|----|------------------|-------|------|----|----------|-----|----------|
| | i | anuary 1 | Ac | quisition | Sha | re of profit (loss) | С | hanges in equity | Dispo | sals | | Others | Dec | ember 31 |
| <associates></associates> | | andany i | | 44.0.4.0 | | (.000) | | oquity | | | - | 0 11.0.0 | | |
| Korea Offshore | | | | | | | | | | | | | | |
| Wind Power Co., Ltd. | ₩ | 22,467 | ₩ | | ₩ | (1,386) | ₩ | | ₩ | | ₩ | | ₩ | 21,081 |
| Noeul Green | ** | 22,407 | ** | - | ** | (1,300) | ** | - | ** | - | ** | - | ** | 21,001 |
| Energy Co., Ltd. | | 8,016 | | - | | (1,395) | | - | | - | | (10) | | 6,611 |
| Busan Green | | | | | | | | | | | | | | |
| Energy Co., Ltd. | | 12,537 | | - | | (1,885) | | - | | - | | (16) | | 10,636 |
| Korea Nuclear Partners | | | | | | | | | | | | | | |
| Co., Ltd. | | 175 | | _ | | (175) | | _ | | _ | | _ | | _ |
| Solar School | | 170 | | | | (110) | | | | | | | | |
| Plant Co., Ltd. | | 16,994 | | - | | 214 | | - | | - | | (1) | | 17,207 |
| KEPCO Energy | | | | | | | | | | | | | | |
| Solution | | 05 074 | | | | 22.4 | | | | | | (4) | | 25 504 |
| Co., Ltd. Gwangyang | | 25,271 | | - | | 234 | | - | | - | | (1) | | 25,504 |
| Green Energy | | | | | | | | | | | | | | |
| Co., Ltd. | | 1,206 | | _ | | (258) | | _ | | _ | | _ | | 948 |
| Hanhwa Solar | | | | | | ` ′ | | | | | | | | |
| Power Private | | | | | | | | | | | | | | |
| equity | | | | | | | | | | | | | | |
| investment trust | | | | 7,105 | | 21 | | | | | | | | 7,126 |
| Godeok Clean | | - | | 7,105 | | 21 | | - | | - | | - | | 7,120 |
| Energy | | | | | | | | | | | | | | |
| Co., Ltd. | | - | | 1,830 | | | | - | | - | | | | 1,830 |
| | | 86,666 | | 8,935 | | (4,630) | | - | | - | | (28) | | 90,943 |
| <joint ventures=""></joint> | | | | | | | | | - | | | | | |
| Waterbury Lake | | | | | | | | | | | | | | |
| Uranium Limited | | | | | | | | | | | | | | |
| Partnership | | 19,032 | | - | | 22 | | 1,508 | | - | | - | | 20,562 |
| Cheongsong Noraesan | | | | | | | | | | | | | | |
| Wind Power | | | | | | | | | | | | | | |
| Co., Ltd. | | 2,073 | | 1,127 | | (152) | | (4) | | _ | | _ | | 3,044 |
| Saemangeum | | , | | , - | | (/ | | (' / | | | | | | -,- |
| Solar Power | | | | | | | | | | | | | | |
| Co., Ltd. | | - | | 10,000 | | (1,676) | | - | | - | | | | 8,324 |
| | | 21,105 | | 11,127 | | (1,806) | | 1,504 | | - | | | | 31,930 |
| | ₩ | 107,771 | ₩ | 20,062 | ₩ | (6,436) | ₩ | 1,504 | ₩ | - | ₩ | (28) | ₩ | 122,873 |

The summary financial information of investments accounted for using the equity method as of December 31, 2020 and 2019 and for the years ended 2020 and 2019 are as follows (Korean won in millions):

| | To | tal assets | То | tal liabilities | | Revenue | Ne | t profit (loss) | | | | |
|--|----|------------|----|-----------------|---|---------|----|-----------------|--|--|--|--|
| <associates></associates> | - | | | | | | | · , , , , | | | | |
| Korea Offshore Wind Power | | | | | | | | | | | | |
| Co., Ltd. | ₩ | 354,643 | ₩ | 187,576 | ₩ | 26,838 | ₩ | 98 | | | | |
| Noeul Green Energy Co., Ltd. | | 116,929 | | 102,457 | | 27,486 | | (8,303) | | | | |
| Busan Green Energy Co., Ltd. | | 170,261 | | 139,995 | | 40,241 | | (6,422) | | | | |
| Korea Nuclear Partners | | | | | | | | | | | | |
| Co., Ltd. | | 1,350 | | 105 | | 1,062 | | (150) | | | | |
| KEPCO Solar Co., Ltd. (Ex- | | | | | | | | | | | | |
| Solar School Plant Co., Ltd.) | | 230,290 | | 22,946 | | 3,933 | | 1,887 | | | | |
| KEPCO Energy Solution | | | | | | | | | | | | |
| Co., Ltd. | | 313,791 | | 4,101 | | 5,585 | | 3,685 | | | | |
| Gwangyang Green Energy | | 00.004 | | 04.005 | | | | (4.40) | | | | |
| Co., Ltd. | | 28,634 | | 24,095 | | - | | (113) | | | | |
| Hanhwa Solar Power Private | | 45 457 | | 200 | | 004 | | 000 | | | | |
| equity investment trust | | 15,157 | | 206 | | 634 | | 603 | | | | |
| Godeok Clean Energy | | 1 640 | | 65 | | | | (4.202) | | | | |
| Co., Ltd. | | 1,640 | | 00 | | - | | (1,382) | | | | |
| Bigeum Resident Solar Power Generation Co., Ltd. | | 11,164 | | 11,551 | | | | (309) | | | | |
| Jeju Solarone Co., Ltd. | | 1,608 | | 11,331 | | - | | | | | | |
| <pre><joint ventures=""></joint></pre> | | 1,000 | | 14 | | - | | (4) | | | | |
| Waterbury Lake | | | | | | | | | | | | |
| Uranium Limited Partnership | | 59,885 | | 77 | | _ | | _ | | | | |
| Cheongsong Noraesan Wind | | 00,000 | | | | | | | | | | |
| Power Co., Ltd. | | 55,460 | | 43,771 | | 7,411 | | 2,039 | | | | |
| Saemangeum Solar Power | | , | | -, | | , | | , | | | | |
| Co., Ltd. | | 34,363 | | 4,180 | | - | | (532) | | | | |
| KAS INVESTMENT I LLC | | 78,410 | | - | | - | | - | | | | |
| KAS INVESTMENT II LLC | | 78,096 | | - | | - | | - | | | | |

| | December 31, 2019 Total assets Total liabilities Revenue Net profit (loss) | | | | | | | | | | | | | |
|------------------------------|---|-------------------|---------|-------------------|--|--|--|--|--|--|--|--|--|--|
| | Total assets | Total liabilities | Revenue | Net profit (loss) | | | | | | | | | | |
| <associates></associates> | | | | | | | | | | | | | | |
| Korea Offshore Wind Power | | | | | | | | | | | | | | |
| Co., Ltd. | ₩ 283,774 | ₩ 115,128 | ₩ - | ₩ (11,090) | | | | | | | | | | |
| Noeul Green Energy Co., Ltd. | 137,370 | 114,578 | 36,435 | (4,810) | | | | | | | | | | |
| Busan Green Energy Co., Ltd. | 173,537 | 136,857 | 52,256 | (6,496) | | | | | | | | | | |
| Korea Nuclear Partners | | | | | | | | | | | | | | |
| Co., Ltd. | 928 | 375 | 1,441 | (50) | | | | | | | | | | |
| Solar School Plant Co., Ltd. | 208,730 | 3,269 | 1,962 | 2,553 | | | | | | | | | | |
| KEPCO Energy Solution | | | | | | | | | | | | | | |
| Co., Ltd. | 308,188 | 2,142 | 2,843 | 2,805 | | | | | | | | | | |
| Gwangyang Green Energy | | | | | | | | | | | | | | |
| Co., Ltd. | 28,816 | 24,164 | - | (1,007) | | | | | | | | | | |
| Hanhwa Solar Power Private | | | | | | | | | | | | | | |
| equity investment trust | 14,559 | 15 | 59 | 44 | | | | | | | | | | |
| Godeok Clean Energy | | | | | | | | | | | | | | |
| Co., Ltd. | 3,000 | - | - | - | | | | | | | | | | |
| <joint ventures=""></joint> | | | | | | | | | | | | | | |
| Waterbury Lake | | | | | | | | | | | | | | |
| Uranium Limited Partnership | 61,548 | 4 | - | - | | | | | | | | | | |
| Cheongsong Noraesan Wind | | | | | | | | | | | | | | |
| Power Co., Ltd. | 51,247 | 40,969 | - | (549) | | | | | | | | | | |
| Saemangeum Solar Power | | | | | | | | | | | | | | |
| Co., Ltd. | 13,740 | 3,270 | - | (1,875) | | | | | | | | | | |

13. Property, plant and equipment

Property, plant and equipment as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | | | | | | |
|------------------------------|-------------------------|----------------|----------|---------------------|--------------|--------------------------|-------------------------|-----------------------------------|-----------|---------------|--|-----------|--|
| | Ac | quisition cost | G | overnment grants | | Accumulated depreciation | | ccumulated mpairment losses | Cai | rrying amount | | | |
| Land | ₩ | 2,651,211 | ₩ | - | ₩ | - | ₩ | - | ₩ | 2,651,211 | | | |
| Buildings | | 8,216,677 | (542) | | | (3,393,668) | (1,896) | | | 4,820,571 | | | |
| Structures | | 4,766,505 | | (8,882) | | (2,298,060) | | (360) | | 2,459,203 | | | |
| Machineries | | 25,920,881 | | (8,878) | | (12,054,717) | | (386,807) | | 13,470,479 | | | |
| Ships | | 1,647 | | - | | (1,393) | | - | | 254 | | | |
| Vehicles | | 70,810 | | (47) | | (48,525) | | - | | 22,238 | | | |
| Fixtures and furniture | | 551,430 | | (162) | | (446,147) | | (36) | | 105,085 | | | |
| Tools | | 465,580 | | (152) | | (388,362) | (6) | | | 77,060 | | | |
| Construction-in- progress | | 15,999,833 | | - | - | | (154,729) | | | 15,845,104 | | | |
| Right-of-use assets | | 2,413,381 | | - (490,919) - | | - | | | 1,922,462 | | | | |
| Asset retirement costs | | 12,035,896 | - | | (4,507,004) | | - (4,507,004) (146,423) | | (146,423) | | | 7,382,469 | |
| Others | | 14,330,335 | <u> </u> | | (11,584,768) | | <u> </u> | | | 2,745,567 | | | |
| | ₩ 87,424,186 ₩ (18,663) | | | | ₩ | (35,213,563) | ₩ | (690,257) | ₩ | 51,501,703 | | | |

| | December 31, 2019 | | | | | | | | | | | | | |
|---------------------------|-------------------|----------------|-----------------------------------|----------|---------------|--------------|----|-----------|---|------------|--|--|--|--|
| | Ac | quisition cost | ccumulated mpairment losses | Cai | rrying amount | | | | | | | | | |
| Land | ₩ | 2,633,130 | ₩ | - | ₩ | - | ₩ | - | ₩ | 2,633,130 | | | | |
| Buildings | | 8,091,275 | | (603) | | (3,082,141) | | (1,896) | | 5,006,635 | | | | |
| Structures | | 4,702,636 | | (9,473) | | (2,128,509) | | (360) | | 2,564,294 | | | | |
| Machineries | | 25,540,726 | | (10,833) | | (11,059,601) | | (386,807) | | 14,083,485 | | | | |
| Ships | | 1,444 | | - | | (1,244) | | - | | 200 | | | | |
| Vehicles | | 55,503 | | (105) | | (39,910) | | - | | 15,488 | | | | |
| Fixtures and furniture | | 497,837 | | (178) | | (402,760) | | (36) | | 94,863 | | | | |
| Tools Construction-in- | | 416,515 | | (338) | | (356,344) | | (7) | | 59,826 | | | | |
| progress | | 13,949,399 | | - | | - | | (154,729) | | 13,794,670 | | | | |
| Right-of-use assets | | 2,169,766 | | - | | (390,988) | | - | | 1,778,778 | | | | |
| Asset retirement costs | | 11,443,100 | | - | | (3,985,450) | | (146,422) | | 7,311,228 | | | | |
| Others | | 13,275,414 | | | | (10,656,807) | 7) | | | 2,618,607 | | | | |
| | ₩ | 82,776,745 | ₩ | (21,530) | ₩ | (32,103,754) | ₩ | (690,257) | ₩ | 49,961,204 | | | | |

13. Property, plant and equipment (cont'd)

Changes in property, plant and equipment for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | 2 | 020 | | | | | | |
|---------------------|----------------------|------------|----|---------------|---|----------------|-------|--------------|---|-----------------|-------|-------------------------|--|
| | | | | cquisitions/ | | | | | | | | | |
| | | January 1 | Ca | apitalization | | Disposals | | Depreciation | | Others | De | ecember 31 | |
| Land | ₩ | 2,633,130 | ₩ | 9,339 | ₩ | (2,393) | ₩ | - | ₩ | 11,135 | ₩ | 2,651,211 | |
| Buildings | | 5,007,238 | | 2,976 | | (7,661) | | (324,496) | | 143,057 | | 4,821,114 | |
| (Government | | | | | | | | | | | | | |
| grants) | | (603) | | - | | - | | 60 | | - | (543) | | |
| Structures | | 2,573,768 | | 6 | | (536) | | (169, 172) | | 64,019 | | 2,468,085 | |
| (Government | | | | | | , , | | , , , | | | | | |
| grants) | | (9,474) | | - | | - | | 592 | | - | | (8,882) | |
| Machineries | | 14,094,318 | | 102,546 | | (67,444) | | (1,143,684) | | 493,621 | | 13,479,357 | |
| (Government | | | | | | , , | | , , , | | | | | |
| grants) | | (10,833) | | - | | - | | 1,955 | | - | | (8,878) | |
| Ships | | 200 | | - | | - | (106) | | | 160 | | 254 | |
| Vehicles | | 15,592 | | 1,095 | | (7) | | (9,645) | | 15,250 | | 22,285 | |
| (Government | | , | | ŕ | | () | | (, , | , | | , | | |
| grants) | | (104) | | - | | - | | 83 | | (26) | | (47) | |
| Fixtures and | | | | | | | | | | | | | |
| Furniture | | 95,040 | | 46,595 | | (28) | | (51,637) | | 105,245 | | | |
| (Government | | | | | | | | | | | | | |
| grants) | | (177) | | - | | - | | 80 | | (63) | | (160) | |
| Tools | | 60,165 | | 5,217 | | (144) | | (39,744) | | 51,717 | | 77,211 | |
| (Government | | | | | | | | | | | | | |
| grants) | | (339) | | - | | - | | 192 | | (4) | | (151) | |
| Construction- | | | | | | | | | | | | | |
| in-progress(*1) | 13,794,670 2,481,690 | | | | | - | | - | | (431,256) | | 15,845,104 1,922,462 | |
| Right-of-use assets | | | | | | (2,010) (100,9 | | | | 00,967) 218,919 | | | |
| Asset retirement | | | _ | | | | | (000 000) | | | | | |
| costs | | 7,311,228 | | | | (177) | | (809,209) | | 880,627 | | 7,382,469 | |
| Others(*2) | 111 | 2,618,607 | | - | | (583) | 100 | (928,431) | | 1,055,974 | | 2,745,567 | |
| | ₩ | 49,961,204 | ₩ | 2,677,206 | ₩ | (80,983) | W | (3,574,129) | ₩ | 2,518,405 | ₩ | 51,501,703 | |

^(*1) Other increases or decreases in construction-in-progress include \(\psi 332,893\) million in borrowing cost capitalization.

^(*2) Other increases or decreases in others are the amount replaced by the stored nuclear fuel in the inventory.

13. Property, plant and equipment (cont'd)

| | | | | 2 | 019 | | | |
|----------------------------------|------------------------|---------------------------------------|---------------------------------|------------|------------------------|-----------------------|------------------------|-------------------------|
| | January 1 | Changes in accounting standards | Acquisitions/ Capitalization | Disposals | Depreciation | Impairment losses(*1) | Others | December 31 |
| Land(*2) | ₩ 2,598,422 | ₩ - | ₩ - | ₩ (710) | ₩ - | ₩ - | ₩ 35,418 | ₩ 2,633,130 |
| Buildings (Government | 4,654,533 | - | 32 | (5,555) | (313,365) | - | 671,593 | 5,007,238 |
| grants) | (362) | - | - | - | 59 | - | (300) | (603) |
| Structures (Government | 2,664,279 | - | 5 | (755) | (169,606) | - | 79,845 | 2,573,768 |
| grants) | (10,066) | - | - | - | 592 | - | - | (9,474) |
| Machineries (Government | 12,471,993 | - | 4,595 | (12,515) | (1,160,336) | - | 2,790,581 | 14,094,318 |
| grants) | (12,922) | - | - | - | 2,089 | - | - | (10,833) |
| Ships | 299 | - | - | - | (99) | - | - | 200 |
| Vehicles (Government | 7,426 | - | 1,711 | - | (6,303) | - | 12,758 | 15,592 |
| grants) Fixtures and | (182) | - | - | - | 81 | - | (3) | (104) |
| furniture (Government | 106,445 | - | 33,684 | (70) | (57,697) | - | 12,678 | 95,040 |
| grants) | (180) | - | - | - | 84 | - | (81) | (177) |
| Tools (Government | 69,685 | - | 9,548 | (17) | (32,957) | - | 13,906 | 60,165 |
| grants) Construction- | (527) | - | - | - | 197 | - | (9) | (339) |
| in-progress(*3) Finance lease | 14,538,979 | - | 2,567,985 | - | - | 12,874 | (3,325,168) | 13,794,670 |
| Assets Right-of-use | 676,981 | (676,981) | - | - | - | - | - | - |
| assets Asset retirement | - | 818,652 | 23,157 | (773) | (88,860) | - | 1,026,602 | 1,778,778 |
| costs Others(*4) | 5,515,550 2,328,103 | - | - | - | (629,990) (838,870) | - | 2,425,668 1,129,374 | 7,311,228 2,618,607 |
| | ₩ 45,608,456 | ₩ 141,671 | ₩ 2,640,717 | ₩ (20,395) | ₩ (3,294,981) | ₩ 12,874 | ₩ 4,872,862 | W 49,961,204 |

^(*1) The impairment losses of property, plant and equipment primarily resulted from Wolsong unit 1 (₩1,808 million), Shin-Hanul units 3 and 4 (₩2,011 million) and reversal of impairment loss in relation to Wolsong unit 1 ₩16,693 million.

^{(*2) \}times23,002 million transferred to assets held for sale during the year ended December 31, 2019.

^(*3) Other increases or decreases in construction-in-progress include \(\psi 324,459\) million in borrowing cost capitalization.

^(*4) Other increases or decreases in others are the amount replaced by the stored nuclear fuel in the inventory.

14. Intangible assets

Intangible assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| December 31, 2020 | | | | | | | | | | | | |
|-------------------|--------|---------------|---|-----------|---------|-------------|------|------------|--------|----------|--|--|
| | | | | | | | | ccumulated | | | | |
| | | | G | overnment | | cumulated | ir | mpairment | | Carrying | | |
| | Acq | uisition cost | | grants | an | nortization | | losses | | amount | | |
| Computer software | ₩ | 119,087 | ₩ | (126) | ₩ | (85,481) | ₩ | - | ₩ | 33,480 | | |
| Industrial rights | | 2,742 | | - | | (2,055) | | - | | 687 | | |
| Development cost | | 172,001 | | (11) | | (151,708) | | - | | 20,282 | | |
| Intangible assets | | | | | | | | | | | | |
| under development | | 28,704 | | - | | - | | - | | 28,704 | | |
| Land use rights | | 2,706 | | - | | (1,347) | | - | | 1,359 | | |
| Goodwill | | 176 | - | | | - | | - | | 176 | | |
| Others | | | | | | | | | | | | |
| Loading and | | | | | | | | | | | | |
| unloading | | | | | | | | | | | | |
| facilities rights | | 26,282 | | - | | (5,926) | 5) - | | | 20,356 | | |
| Dam use rights | 6,274 | | | - | (1,901) | | - | | | 4,373 | | |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 | | |
| Others | 56,063 | | | (29,729) | | | | | 26,334 | | | |
| | ₩ | 415,193 | ₩ | (137) | ₩ | (278,147) | ₩ | (359) | ₩ | 136,550 | | |

| | December 31, 2019 | | | | | | | | | | | | | |
|---------------------------------------|-------------------|---------------|---|-----------|----------|-------------|----|------------|--------|----------|--|--|--|--|
| | | | | | | | A | ccumulated | | | | | | |
| | | | G | overnment | | ccumulated | ii | mpairment | | Carrying | | | | |
| | Acq | uisition cost | | grants | ar | mortization | | losses | | amount | | | | |
| Computer software | ₩ | 102,623 | ₩ | (190) | ₩ | (69,906) | ₩ | - | ₩ | 32,527 | | | | |
| Industrial rights | | 2,358 | | - | | (1,805) | | - | | 553 | | | | |
| Development cost Intangible assets | | 170,551 | | (15) | | (140,950) | | - | | 29,586 | | | | |
| under development | | 13,007 | | - | | - | | - | | 13,007 | | | | |
| Land use rights | | 2,706 | | - | | (1,088) | | - | | 1,618 | | | | |
| Others | | | | | | | | | | | | | | |
| Loading and unloading | | | | | | | | | | | | | | |
| facilities rights | | 26,283 | | - | | (4,613) | | - | | 21,670 | | | | |
| Dam use rights | | 6,274 | | - | | (1,756) | | - | | 4,518 | | | | |
| Memberships | | 1,158 | | - | | - | | (359) | | 799 | | | | |
| Others | | 45,841 | _ | - | (26,752) | | | | 19,089 | | | | | |
| | ₩ 370,801 ₩ (205) | | | | | (246,870) | ₩ | (359) | ₩ | 123,367 | | | | |

14. Intangible assets (cont'd)

Changes in intangible assets for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | | | 2020 | | | | | | |
|--|----|---------|--------|-----------|----------|---|----|------------|----------|----|---|----------|-----|----------|
| | | | Acqu | uisition/ | | | | | Impairme | nt | | | | |
| | Ja | nuary 1 | Capita | alization | Disposal | | Am | ortization | losses | | | Others | Dec | ember 31 |
| Computer software (government | ₩ | 32,717 | ₩ | 6,554 | ₩ | - | ₩ | (15,582) | ₩ | - | ₩ | 9,917 | ₩ | 33,606 |
| grants) | | (190) | | - | | - | | 64 | | - | | - | | (126) |
| Industrial rights Development | | 553 | | - | | - | | (250) | | - | | 384 | | 687 |
| cost (government | | 29,601 | | - | | - | | (10,758) | | - | | 1,450 | | 20,293 |
| grants) Intangible assets under | | (15) | | - | | - | | 4 | | - | | - | | (11) |
| development | | 13,007 | | 25,821 | | - | | - | | - | | (10,124) | | 28,704 |
| Land use rights | | 1,618 | | - | | - | | (259) | | - | | - | | 1,359 |
| Goodwill | | - | | | | - | | - | | - | | 176 | | 176 |
| Others Loading and unloading facilities rights | | 21,670 | | - | | _ | | (1,314) | | _ | | - | | 20,356 |
| Dam use rights | | 4,518 | | _ | | _ | | (145) | | _ | | _ | | 4,373 |
| Memberships | | 799 | | _ | | _ | | - | | _ | | _ | | 799 |
| Others | | 19,089 | | _ | | _ | | (2,976) | | _ | | 10,221 | | 26,334 |
| | ₩ | 123,367 | ₩ | 32,375 | ₩ | _ | ₩ | (31,216) | ₩ | _ | ₩ | 12,024 | ₩ | 136,550 |

| | | | | | | | | 2019 | | | | | | |
|---------------------------------------|----|---------|-----|-------------|----------|---|----|------------|------|--------|---|---------|-----|----------|
| | | | Acc | quisition/ | | | | | Impa | irment | | | | |
| | Ja | nuary 1 | Cap | italization | Disposal | | Am | ortization | los | sses | | Others | Dec | ember 31 |
| Computer software (government | ₩ | 23,912 | ₩ | 16,372 | ₩ | - | ₩ | (13,195) | ₩ | - | ₩ | 5,628 | ₩ | 32,717 |
| grants) | | (276) | | - | | - | | 98 | | - | | (12) | | (190) |
| Industrial rights Development | | 779 | | - | | - | | (226) | | - | | - | | 553 |
| cost (government | | 33,089 | | - | | - | | (11,290) | | - | | 7,802 | | 29,601 |
| grants) Intangible assets under | | (20) | | - | | - | | 5 | | - | | - | | (15) |
| development | | 8,150 | | 14,593 | | - | | - | | - | | (9,736) | | 13,007 |
| Land use rights | | 1,876 | | - | | - | | (258) | | - | | - | | 1,618 |
| Others Loading and unloading | | | | | | | | | | | | | | |
| facilities rights Dam use | | 22,984 | | - | | - | | (1,314) | | - | | - | | 21,670 |
| rights | | 4,663 | | - | | - | | (145) | | - | | - | | 4,518 |
| Memberships | | 799 | | - | | - | | - | | - | | - | | 799 |
| Others | | 19,618 | | | | _ | | (2,580) | | - | | 2,051 | | 19,089 |
| | ₩ | 115,574 | ₩ | 30,965 | ₩ | - | ₩ | (28,905) | ₩ | - | ₩ | 5,733 | ₩ | 123,367 |

15. Borrowing costs

Borrowing costs capitalized for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Dec | De | cember 31, 2019 | |
|--|-----|---------|--------------------|---------|
| Amount of capitalization: | | | | |
| Construction-in-progress | ₩ | 343,431 | ₩ | 346,992 |
| Intangible assets under development and others | | 332,893 | | 324,459 |
| | ₩ | 10,538 | ₩ | 22,533 |
| Capitalization ratio | | 3.16% | | 3.43% |

16. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | December 31, 2020 | | | | December 31, 2019 | | | |
|------------------------|----|-------------------|-------------|--------|---------|-------------------|-------------|-------|--|
| | Cı | ırrent | Non-current | | Current | | Non-current | | |
| Held for trading | | | | | | | | | |
| Derivative instruments | ₩ | 462 | ₩ | 23,801 | ₩ | 196 | ₩ | 7,286 | |

17. Trade and other payables

Trade and other payables as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | , 2020 | December 31, 2019 | | | | |
|-----------------------------|---|---------------------|--------|-------------------|---------|-----------|-------------|-----------|
| | | Current Non-current | | | Current | | lon-current | |
| Trade payables | ₩ | 260,003 | ₩ | - | ₩ | 146,052 | ₩ | - |
| Other payables(*) | | 494,643 | | 2,294,074 | | 491,055 | | 2,398,333 |
| Accrued expenses | | 379,161 | | - | | 373,570 | | - |
| Leasehold deposits received | | 1,486 | | - | | 1,489 | | - |
| Other deposits received | | 1,995 | | - | | 5,183 | | - |
| Lease liabilities | | 20,645 | | 148,503 | | 20,223 | | 138,580 |
| | ₩ | 1,157,933 | ₩ | 2,442,577 | ₩ | 1,037,572 | ₩ | 2,536,913 |

^(*) $\mbox{$W$2,275,851$}$ million and $\mbox{$W$2,453,365$}$ million are other payables related to fuel management charges spent as of December 31, 2020 and 2019, respectively, which are to be paid out in installments over a 15-year period from 2014.

18. Borrowings and bonds

Borrowings as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | ecember 31, 2019 |
|---|----------------------|------------|---|---------------------|
| Current liabilities: | | | | |
| Short-term borrowings | ₩ | 340,000 | ₩ | 210,000 |
| Current portion of long-term borrowings | | 19,063 | | 18,253 |
| Current portion of bonds | | 1,154,000 | | 500,000 |
| Less: discount on bonds | | (1,198) | | (189) |
| | | 1,511,865 | | 728,064 |
| Non-current liabilities: | | | | |
| Long-term borrowings | | 295,654 | | 147,917 |
| Bonds | | 9,403,477 | | 9,610,555 |
| Add: premium on bonds | | 1,366 | | 1,696 |
| Less: discount on bonds | | (25,734) | | (32,672) |
| | | 9,674,763 | | 9,727,496 |
| | ₩ | 11,186,628 | ₩ | 10,455,560 |

Short-term borrowings as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| Financial institution | Туре | Rate | Interest rate | Maturity | De | cember 31, 2020 | Dec | cember 31, 2019 |
|-------------------------|------------|-------|---------------|------------|----|--------------------|-----|--------------------|
| Korea Development | | - | - | | | | | |
| Bank | Overdraft | Fixed | 1.98% | 2020.01.13 | ₩ | - | ₩ | 100,000 |
| Nonghyup Bank | Overdraft | Fixed | 2.17% | 2020.01.07 | | - | | 100,000 |
| Kookmin Bank | Overdraft | Fixed | 2.41% | 2020.01.07 | | _ | | 10,000 |
| KB SECURITIES Co., | Short-term | | | | | | | -, |
| Ltd. | Bond | Fixed | 1.35% | 2021.01.22 | | 50,000 | | - |
| NH INVESTMENT & | Short-term | | | | | | | |
| SECURITIES Co., Ltd. | Bond | Fixed | 1.35% | 2021.01.22 | | 50,000 | | - |
| Kyobo Securities | Short-term | | | | | | | |
| Co., Ltd. | Bond | Fixed | 1.35% | 2021.01.22 | | 30,000 | | - |
| DB Financial Investment | Short-term | F | 4.050/ | 0004 04 00 | | 40.000 | | |
| Co., Ltd. | Bond | Fixed | 1.35% | 2021.01.22 | | 10,000 | | - |
| Nonghyup Bank | Overdraft | Fixed | 1.42% | 2021.01.07 | | 100,000 | | - |
| Korea Development | | | | | | | | |
| Bank | Overdraft | Fixed | 1.53% | 2021.01.07 | | 100,000 | | |
| | | | | | ₩ | 340,000 | ₩ | 210,000 |

18. Borrowings and bonds (cont'd)

Long-term borrowings as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| Financial institution | Туре | Rate | Interest rate | Maturity | December 31, 2020 | December 31, 2029 |
|---|---------------------------------------|----------|----------------|------------|----------------------|-------------------|
| Korea Energy Agency | Resource | | Treasury notes | | | |
| | development loan | Floating | (3M)-2.25% | 2024.09.15 | ₩ 676 | ₩ 856 |
| Korea Energy Agency | Resource | | Treasury notes | | | |
| | development loan | Floating | _(3M)-2.25% | 2025.03.15 | 2,400 | 2,966 |
| Korea Energy Agency | Resource | | Treasury notes | | | |
| К | development loan | Floating | (3M)-2.25% | 2025.12.15 | 905 | 1,086 |
| Korea Energy Agency | Resource | Flaction | Treasury notes | | 4 4 4 5 | 4 445 |
| Samsung Life | development loan | Floating | (3M)-2.25% | - | 4,445 | 4,445 |
| Insurance Co., Ltd. | Encility Ioan | Fixed | 4.60% | 2028.06.24 | 11,089 | 12,465 |
| Samsung Fire & | Facility loan | rixeu | 4.00% | 2020.00.24 | 11,009 | 12,400 |
| Marine Insurance | | | | | | |
| Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 19,405 | 21,815 |
| KB Insurance Co., Ltd. | • | | 4.60% | | • | • |
| Hyundai Marine & Fire | Facility loan | Fixed | 4.00% | 2028.06.24 | 18,296 | 20,568 |
| Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 16,632 | 18,698 |
| DB Insurance Co., Ltd. | Facility loan | Fixed | 4.60% | 2028.06.24 | 11,088 | 12,466 |
| Hana Bank | • | | | | | |
| | Facility loan | Fixed | 4.60% | 2028.06.24 | 11,088 | 12,466 |
| Korea Development Bank | Encility Ioan | Fixed | 4.60% | 2028.06.24 | 24,173 | 27,175 |
| Samsung Life | Facility loan | rixeu | Corporate | 2020.00.24 | 24,173 | 21,175 |
| Insurance Co., Ltd. | Facility loan | Floating | bonds+1.1% | 2028.06.24 | 11,088 | 12,466 |
| Shinhan Bank | r domey loan | riodanig | Corporate | 2020.00.21 | 11,000 | 12,100 |
| Jan. | Facility loan | Floating | bonds+1.1% | 2028.06.24 | 16,632 | 18,698 |
| Kookmin Bank | , , , , , , , , , , , , , , , , , , , | 3 | 91-Day CDs | | -, | , |
| | Facility loan | Floating | + 1.79% | 2031.06.30 | 30,186 | - |
| Korean Federation of | - | | | | | |
| Community Credit | | | | | | |
| Cooperatives | Facility loan | Fixed | 3.60% | 2031.06.30 | 21,133 | - |
| KB life Insurance Co., | | | 0.000/ | | 40.000 | |
| Ltd. | Facility loan | Fixed | 3.60% | 2031.06.30 | 16,902 | - |
| Samsung Fire & Marine | Engility Joan | Fixed | 3.60% | 2031.06.30 | 16 002 | |
| Insurance Co., Ltd. Energy Infra Asset | Facility loan | Fixed | 3.00% | 2031.00.30 | 16,902 | - |
| Management Co., Ltd. | Facility loan | Fixed | 3.60% | 2031.06.30 | 12,377 | _ |
| Energy Infra Asset | r domey loan | Tixed | 0.0070 | 2001.00.00 | 12,011 | |
| Management Co., Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,500 | _ |
| KB Asset Management | , | | | | - 1, | |
| Co., Ltd. | Facility loan | Fixed | 6.00% | 2037.03.31 | 34,800 | |
| | | | | | 314,717 | 166,170 |
| | Less: current | portion | | | (19,063) | (18,253) |
| | 2000. 00/10/10 | | | | | |
| | | | | | ₩ 295,654 | 147,917 |

18. Borrowings and bonds (cont'd)

Bonds in Korean won as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Issue | Maturity | Rate | Interest rate | December 31, 2020 | December 31, 2019 |
|----------------------|------------|------------|-------|---------------|----------------------|----------------------|
| Corporate bond #9-1 | 2009.10.16 | 2024.10.16 | Fixed | 5.72% | 30,000 | 30,000 |
| Corporate bond #9-2 | 2009.10.16 | 2029.10.16 | Fixed | 5.74% | 70,000 | 70,000 |
| Corporate bond #11 | 2009.11.06 | 2029.11.06 | Fixed | 5.84% | 100,000 | 100,000 |
| Corporate bond #14 | 2010.04.20 | 2020.04.20 | Fixed | - | - | 100,000 |
| Corporate bond #17-1 | 2010.12.10 | 2020.12.10 | Fixed | - | - | 80,000 |
| Corporate bond #17-2 | 2010.12.10 | 2040.12.10 | Fixed | 5.06% | 100,000 | 100,000 |
| Corporate bond #26-1 | 2011.03.25 | 2021.03.25 | Fixed | 4.66% | 100,000 | 100,000 |
| Corporate bond #26-2 | 2011.03.25 | 2031.03.25 | Fixed | 4.89% | 100,000 | 100,000 |
| Corporate bond #27-2 | 2011.04.15 | 2021.04.15 | Fixed | 4.68% | 100,000 | 100,000 |
| Corporate bond #27-3 | 2011.04.15 | 2031.04.15 | Fixed | 4.88% | 100,000 | 100,000 |
| Corporate bond #28 | 2011.07.01 | 2026.07.01 | Fixed | 4.56% | 100,000 | 100,000 |
| Corporate bond #29-2 | 2011.12.08 | 2021.12.08 | Fixed | 4.04% | 100,000 | 100,000 |
| Corporate bond #29-3 | 2011.12.08 | 2031.12.08 | Fixed | 4.26% | 100,000 | 100,000 |
| Corporate bond #30-2 | 2012.01.19 | 2022.01.19 | Fixed | 4.04% | 120,000 | 120,000 |
| Corporate bond #30-3 | 2012.01.19 | 2032.01.19 | Fixed | 4.24% | 50,000 | 50,000 |
| Corporate bond #31-2 | 2012.03.20 | 2022.03.20 | Fixed | 4.15% | 100,000 | 100,000 |
| Corporate bond #31-3 | 2012.03.20 | 2032.03.20 | Fixed | 4.32% | 150,000 | 150,000 |
| Corporate bond #32-2 | 2012.04.26 | 2022.04.26 | Fixed | 3.97% | 90,000 | 90,000 |
| Corporate bond #32-3 | 2012.04.26 | 2032.04.26 | Fixed | 4.14% | 130,000 | 130,000 |
| Corporate bond #33-1 | 2012.05.18 | 2022.05.18 | Fixed | 3.82% | 100,000 | 100,000 |
| Corporate bond #33-2 | 2012.05.18 | 2032.05.18 | Fixed | 4.01% | 100,000 | 100,000 |
| Corporate bond #34-1 | 2012.07.13 | 2022.07.13 | Fixed | 3.54% | 90,000 | 90,000 |
| Corporate bond #34-2 | 2012.07.13 | 2032.07.13 | Fixed | 3.71% | 100,000 | 100,000 |
| Corporate bond #35-2 | 2013.01.18 | 2023.01.18 | Fixed | 3.15% | 90,000 | 90,000 |
| Corporate bond #35-3 | 2013.01.18 | 2033.01.18 | Fixed | 3.32% | 100,000 | 100,000 |
| Corporate bond #36-2 | 2013.03.28 | 2023.03.28 | Fixed | 2.98% | 100,000 | 100,000 |
| Corporate bond #36-3 | 2013.03.28 | 2033.03.28 | Fixed | 3.19% | 100,000 | 100,000 |
| Corporate bond #37-2 | 2013.04.26 | 2023.04.26 | Fixed | 2.93% | 100,000 | 100,000 |
| Corporate bond #37-3 | 2013.04.26 | 2033.04.26 | Fixed | 3.12% | 120,000 | 120,000 |
| Corporate bond #38-2 | 2013.07.19 | 2023.07.19 | Fixed | 3.62% | 100,000 | 100,000 |
| Corporate bond #38-3 | 2013.07.19 | 2033.07.19 | Fixed | 3.88% | 90,000 | 90,000 |
| Corporate bond #39-2 | 2013.10.18 | 2023.10.18 | Fixed | 3.71% | 90,000 | 90,000 |
| Corporate bond #40-2 | 2013.11.22 | 2023.11.22 | Fixed | 3.92% | 140,000 | 140,000 |
| Corporate bond #41-2 | 2014.01.17 | 2024.01.17 | Fixed | 3.86% | 130,000 | 130,000 |
| Corporate bond #42-2 | 2014.04.25 | 2024.04.25 | Fixed | 3.68% | 100,000 | 100,000 |
| Corporate bond #42-3 | 2014.04.25 | 2034.04.25 | Fixed | 3.89% | 100,000 | 100,000 |
| Corporate bond #43-2 | 2014.12.18 | 2024.12.18 | Fixed | 2.80% | 220,000 | 220,000 |
| Corporate bond #43-3 | 2014.12.18 | 2034.12.18 | Fixed | 3.07% | 90,000 | 90,000 |
| Corporate bond #44-1 | 2015.06.29 | 2020.06.29 | Fixed | - | - | 60,000 |
| Corporate bond #44-2 | 2015.06.29 | 2025.06.29 | Fixed | 2.70% | 40,000 | 40,000 |
| Corporate bond #44-3 | 2015.06.29 | 2035.06.29 | Fixed | 2.94% | 150,000 | 150,000 |
| Corporate bond #45-1 | 2017.04.27 | 2020.04.27 | Fixed | - | - | 140,000 |
| Corporate bond #45-2 | 2017.04.27 | 2027.04.27 | Fixed | 2.44% | 50,000 | 50,000 |
| Corporate bond #45-3 | 2017.04.27 | 2037.04.27 | Fixed | 2.60% | 110,000 | 110,000 |

Korea Hydro & Nuclear Power Co., Ltd. and its subsidiaries Notes to the final consolidated financial statements for the years ended December 31, 2020 and 2019

| 21. Borrowings and b | | | | | December 31, | De | cember 31, |
|----------------------|--------------|--------------|--------|---------------|--------------|-----|------------|
| | Issue | Maturity | Rate | Interest rate | 2020 | | 2019 |
| Corporate bond #46-1 | 2017.09.18 | 2020.09.18 | Fixed | - | ₩ - | ₩ | 70,000 |
| Corporate bond #46-2 | 2017.09.18 | 2027.09.18 | Fixed | 2.37% | 80,000 | | 80,000 |
| Corporate bond #46-3 | 2017.09.18 | 2047.09.18 | Fixed | 2.41% | 150,000 | | 150,000 |
| Corporate bond #47-1 | 2017.10.17 | 2020.10.17 | Fixed | - | - | | 50,000 |
| Corporate bond #47-2 | 2017.10.17 | 2027.10.17 | Fixed | 2.50% | 70,000 | | 70,000 |
| Corporate bond #47-3 | 2017.10.17 | 2047.10.17 | Fixed | 2.47% | 80,000 | | 80,000 |
| Corporate bond #48-1 | 2018.03.13 | 2021.03.13 | Fixed | 2.40% | 160,000 | | 160,000 |
| Corporate bond #48-2 | 2018.03.13 | 2023.03.13 | Fixed | 2.70% | 20,000 | | 20,000 |
| Corporate bond #48-3 | 2018.03.13 | 2028.03.13 | Fixed | 2.86% | 30,000 | | 30,000 |
| Corporate bond #48-4 | 2018.03.13 | 2048.03.13 | Fixed | 2.94% | 90,000 | | 90,000 |
| Corporate bond #49-1 | 2018.05.11 | 2021.05.11 | Fixed | 2.37% | 70,000 | | 70,000 |
| Corporate bond #49-2 | 2018.05.11 | 2038.05.11 | Fixed | 2.90% | 170,000 | | 170,000 |
| Corporate bond #49-3 | 2018.05.11 | 2048.05.11 | Fixed | 2.88% | 60,000 | | 60,000 |
| Corporate bond #50-1 | 2018.06.05 | 2021.06.05 | Fixed | 2.30% | 30,000 | | 30,000 |
| Corporate bond #50-2 | 2018.06.05 | 2038.06.05 | Fixed | 2.84% | 200,000 | | 200,000 |
| Corporate bond #50-3 | 2018.06.05 | 2048.06.05 | Fixed | 2.81% | 70,000 | | 70,000 |
| Corporate bond #51-1 | 2018.10.26 | 2021.10.26 | Fixed | 2.01% | 50,000 | | 50,000 |
| Corporate bond #51-2 | 2018.10.26 | 2048.10.26 | Fixed | 2.25% | 50,000 | | 50,000 |
| Corporate bond #52-1 | 2019.06.05 | 2024.06.05 | Fixed | 1.74% | 40,000 | | 40,000 |
| Corporate bond #52-2 | 2019.06.05 | 2039.06.05 | Fixed | 1.81% | 120,000 | | 120,000 |
| Corporate bond #52-3 | 2019.06.05 | 2049.06.05 | Fixed | 1.82% | 140,000 | | 140,000 |
| Corporate bond #53-1 | 2019.10.16 | 2024.10.16 | Fixed | 1.53% | 60,000 | | 60,000 |
| Corporate bond #53-2 | 2019.10.16 | 2039.10.16 | Fixed | 1.59% | 100,000 | | 100,000 |
| Corporate bond #53-3 | 2019.10.16 | 2049.10.16 | Fixed | 1.58% | 90,000 | | 90,000 |
| Corporate bond #54-1 | 2019.11.27 | 2022.11.27 | Fixed | 1.60% | 50,000 | | 50,000 |
| Corporate bond #54-2 | 2019.11.27 | 2039.11.27 | Fixed | 1.76% | 70,000 | | 70,000 |
| Corporate bond #54-3 | 2019.11.27 | 2049.11.27 | Fixed | 1.70% | 70,000 | | 70,000 |
| Corporate bond #55-1 | 2020.04.02 | 2040.04.02 | Fixed | 1.80% | 50,000 | | |
| Corporate bond #55-2 | 2020.04.02 | 2050.04.02 | Fixed | 1.80% | 50,000 | | - |
| Corporate bond #56-1 | 2020.04.28 | 2025.04.28 | Fixed | 1.62% | 60,000 | | - |
| Corporate bond #56-2 | 2020.04.28 | 2040.04.28 | Fixed | 1.81% | 90,000 | | - |
| Corporate bond #56-3 | 2020.04.28 | 2050.04.28 | Fixed | 1.83% | 150,000 | | - |
| Corporate bond #57-1 | 2020.05.25 | 2025.05.25 | Fixed | 1.38% | 100,000 | | |
| Corporate bond #57-2 | 2020.05.25 | 2040.05.25 | Fixed | 1.57% | 70,000 | | - |
| Corporate bond #57-3 | 2020.05.25 | 2050.05.25 | Fixed | 1.59% | 80,000 | | |
| Corporate bond #58-1 | 2020.06.15 | 2025.06.15 | Fixed | 1.34% | 80,000 | | |
| Corporate bond #58-2 | 2020.06.15 | 2040.06.15 | Fixed | 1.63% | 70,000 | | _ |
| Corporate bond #58-3 | 2020.06.15 | 2050.06.15 | Fixed | 1.66% | 100,000 | | |
| Corporate bond #59-1 | 2020.11.23 | 2025.11.23 | Fixed | 1.47% | 60,000 | | |
| Corporate bond #59-2 | 2020.11.23 | 2040.11.23 | Fixed | 1.80% | 70,000 | | |
| Corporate bond #59-3 | 2020.11.23 | 2050.11.23 | Fixed | 1.78% | 90,000 | | |
| Corporate bond #05-0 | 2020.11.23 | 2000.11.20 | i ixeu | | 7,290,000 | | 6,670,000 |
| | Loop: disco- | int on bonds | | | | | |
| | | unt on bonds | | | (12,884) | | (11,542) |
| | Less: curr | ent portion | | | (609,834) | 101 | (499,811) |
| | | | | | ₩ 6,667,282 | ₩ | 6,158,647 |

18. Borrowings and bonds (cont'd)

Foreign bonds as of December 31, 2020 and 2019 are as follows (Korean won in millions, USD, HKD, CHF in thousands):

| | | | | | | Decembe | 2020 | | December | 31, 2019 | | |
|--|--|--|---|---|---------------------------------|---|------|---|--------------------------|---|----|---|
| | Issue | Maturity | Rate | Interest rate | | oreign urrency | е | Won quivalents | | Foreign currency | ec | Won quivalents |
| Global bond #3 Global bond #4 Global bond #7 Global bond #8 Global bond #9 | 2011.07.13 2012.09.19 2015.06.15 2017.07.25 2018.07.25 | 2021.07.13 2022.09.19 2025.06.15 2027.07.25 2023.07.25 | Fixed Fixed Fixed Fixed Fixed | 4.75% 3.00% 3.25% 3.13% 3.75% | USD USD USD USD USD | 500,000 750,000 300,000 300,000 600,000 | ₩ | 544,000 816,000 326,400 326,400 652,800 | USD USD USD USD | 500,000 750,000 300,000 300,000 600,000 | ₩ | 578,900 868,350 347,340 347,340 694,680 |
| Foreign FRN 1 Swiss franc bond#1 | 2018.03.13 | 2028.03.13 | Fixed Fixed | 3.35% | HKD CHF | 1,650,000 | | 231,578 246,866 | HKD CHF | 1,650,000 | | 245,289 239,104 |
| Swiss franc bond #2 | 2019.07.19 | 2027.07.19 | Fixed | 0.05% | CHF | 100,000 | | 123,433 3,267,477 | CHF | 100,000 | | 119,552 3,440,555 |
| | Add: pre | mium on bonds | | | | | | (14,048) | | | | 1,696 |
| | Less: dis | count on bonds | | | | | | 1,366 | | | | (21,319) |
| | Less: o | current portion | | | | | | (542,968) | | | | |
| | | | | | | | ₩ | 2,711,827 | | | ₩ | 3,420,932 |

As of December 31, 2020 and 2019, the plans to repay the borrowings and bonds payables are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | | |
|--------------------|-------------------|-----------|------|---------------|-------|------------|--|--|--|
| | В | orrowings | | Bonds | Total | | | | |
| Within 1 year | ₩ | 359,063 | ₩ | 1,154,000 | ₩ | 1,513,063 | | | |
| Within 1 ~ 5 years | | 147,399 | | 4,152,066 | | 4,299,465 | | | |
| Afterward | | 148,255 | | 5,251,411 | | 5,399,666 | | | |
| | ₩ | 654,717 | ₩ | 10,557,477 | ₩ | 11,212,194 | | | |
| | | | Dece | mber 31, 2019 | 9 | | | | |
| | В | orrowings | | Bonds | | Total | | | |
| Within 1 year | ₩ | 228,252 | ₩ | 500,000 | ₩ | 728,252 | | | |
| Within 1 ~ 5 years | | 81,462 | | 4,761,034 | | 4,842,496 | | | |
| Afterward | | 66,456 | | 4,849,521 | | 4,915,977 | | | |
| | ₩ | 376,170 | ₩ | 10,110,555 | ₩ | 10,486,725 | | | |

19. Leases

The amount of right-of-use assets for the year ended December 31, 2020 and 2019 is as follows (Korean won in millions):

| | - | Acquisition cost | | 2020 Accumulated depreciation | | Carrying amount |
|--|----|---|----|--|----|---|
| Land Buildings Structures Vehicles Machinery Other right-of-use assets | ₩ | 14,949 42,666 2,190,147 7,639 20,578 137,402 | ₩ | (792) (31,411) (436,329) (5,012) (6,938) (10,437) | ₩ | 14,157 11,255 1,753,818 2,627 13,640 126,965 |
| | ₩_ | 2,413,381 | ₩_ | (490,919) | ₩ | 1,922,462 |
| | _ | | | 2019 | | |
| | | Acquisition cost | | Accumulated depreciation | | Carrying amount |
| Land Buildings Structures Vehicles Machinery Other right-of-use assets | ₩ | 13,018 29,429 1,985,549 4,331 19,878 117,561 | ₩ | (363) (14,429) (366,831) (1,783) (2,738) (4,844) | ₩_ | 12,655 15,000 1,618,718 2,548 17,140 112,717 |
| | ₩ | 2,169,766 | ₩ | (390,988) | ₩ | 1,778,778 |

Change in right-of-use assets for the year ended December 31, 2020 and 2019 is as follows (Korean won in millions):

| | | 2020 | | | | | | | | | |
|------------------------------|---|--------------------|-----------------|-------------|---------------------|----------------|------------------|--|--|--|--|
| | | January 1 | Increase | Decrease | Depreciation | Others | December 31 | | | | |
| Land Buildings | ₩ | 12,655 ₩ 15,000 | 270 ₩ 12,490 | - ₩ (39) | (429) ₩ (16,983) | 1,661 ₩ 787 | 14,157 11,255 | | | | |
| Structures | | 1,618,718 | · | (1,9̈71)́ | (70,536) | 207,607 | 1,753,818 | | | | |
| Vehicles | | 2,548 | 2,814 | - | (3,229) | 494 | 2,627 | | | | |
| Machinery Other right-of-use | | 17,140 | 139 | - | (4,197) | 558 | 13,640 | | | | |
| assets | _ | 112,717 | 12,029 | <u> </u> | (5,593) | 7,812 | 126,965 | | | | |
| | ₩ | 1,778,778 W | 27,742 ₩ | (2,010) W | (100,967) W | 218,919 W | 1,922,462 | | | | |

| | | | | | 2019 | | | |
|--|---|-------------------------|--|-------------------------------|-----------------------------------|--|-------------------------------|--|
| | | January 1 | Accounting Policy Change Effect | Increase | Decrease | Depreciation | Others | December 31 |
| Land Buildings Structures(*) Vehicles Machinery Other right-of- | ₩ | - W - - - - | 10,337 W 25,711 676,981 1,969 3,838 | 3,867 - 2,362 15,970 | - W (773) - - | (14,429) (64,701) (1,783) (2,740) | (149) 1,007,211 - 72 | 15,000 1,618,718 2,548 17,140 |
| use assets | | - - | 99,817 | 353 | | (4,844) | 17,391 | 112,717 |
| | ₩ | <u>-</u> ₩ | 818,653 W | 23,157 W | <u>(773)</u> ₩ | (88,860) W | 1,026,601 W | 1,778,778 |

^(*) The structures of Ψ 676,981 million was replaced by a right-of-use asset from a financial lease asset due to a change in accounting standards.

19. Leases (cont'd)

The amount of lease liabilities for the year ended December 31, 2020 and 2019 is as follows (Korean won in millions):

| , | | December 31, 2020 | | | December 31, 2019 | | | | |
|--|---|-----------------------------|---|---|-------------------|-----------------------------|---|---|--|
| | | Minimum lease payments | | Present value of minimum lease payments | | Minimum lease payments | | Present value of minimum lease payments | |
| Within 1 year Within 1 ~ 5 years Afterward | ₩ | 20,854 42,647 162,041 | ₩ | 20,645 41,926 106,577 | ₩ | 20,413 48,354 145,645 | ₩ | 20,223 44,736 93,845 | |
| | W | 225,542 | ₩ | 169,148 | ₩ | 214,412 | ₩ | 158,804 | |

Change in the liabilities related to lease contracts for the year ended December 31, 2020 and 2019 is as follows (Korean won in millions):

| | | | | | 2020 | | | | |
|-------------------|---|-----------|----------------------------|----------|------------|--------------|-----------|------------|------|
| | | January 1 | Increase | Decrease | e Depred | ciation_ | Others | December 3 | 31 |
| Lease liabilities | ₩ | 158,804 ₩ | 27,016 ¥ | ₩ (31,0 | 53)₩ | 3,472 ₩ | 10,909 ¥ | ¥ 169,14 | 48 |
| | - | Δ | ccounting | | 2019 | | | | |
| | - | January 1 | Policy Change Effect | Increase | Decrease | _Depreciatio | n Othe | Decem | nber |
| Lease liabilities | ₩ | - ₩ | 139,593 ₩ | 22,316 W | (26,276) W | 3,37 | 70 ₩ 19,8 | 801 ₩ 158 | ,804 |

The amount recognized in profit or loss by the Group in relation to the lease for the year ended December 31, 2020 and 2019 is as follows (Korean won in millions):

| | Decemb | ber 31, 2020 | December 31, 2019 | | |
|---|--------|--------------|-------------------|------------|--|
| Depreciation of right-of-use assets | ₩ | 100,539 | ₩ | 88,574 | |
| Interest on lease liabilities | | 3,472 | | 3,370 | |
| Expenses relating to short-term leases | | 598 | | 10,074 | |
| Expenses relating to leases of low-value assets Translation loss on lease liabilities | | 927 | | 774 423 | |
| Translation gain on lease liabilities | | (377) | | (5) | |
| Loss from lease cancellation | | - (0) | | 14 | |
| Gain from lease cancellation | | (6) | - | (20) | |
| | ₩ | 105,153 | ₩ | 103,204 | |

20. Retirement benefit obligations

20.1 Defined contribution plans

For the years ended December 31, 2020 and 2019, retirement benefit expenses of \(\pi\)34,509 million and \(\pi\)34,537 million, respectively, were recognized in the consolidated statements of comprehensive income and represent contribution amounts paid to retirement benefit plans in accordance with a ratio defined in retirement benefit plans. All the contribution amounts for the years ended December 31, 2020 have been paid.

Costs related to the defined contribution plans for the years ended December 31, 2020 and 2019 were recognized in profit or loss and others as follows (Korean won in millions):

| | 2020 | | | 2019 |
|---|------|--------|---|--------|
| Cost of sales | ₩ | 23,599 | ₩ | 23,196 |
| Selling and administrative expenses | | 1,330 | | 1,369 |
| Others (construction-in-progress, etc.) | | 9,580 | | 9,972 |
| | ₩ | 34,509 | W | 34,537 |

The principal assumptions as of December 31, 2020 and 2019 are as follows:

| | 2020 | 2019 |
|------------------------------------|---------------|---------------|
| Discount rate | 1.91% ~ 3.43% | 1.95% ~ 2.72% |
| Future salary and benefit increase | 2.00% ~ 5.95% | 2.00% ~ 5.95% |

Details of the Group's expense relating to its retirement benefit obligations for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | | 2019 |
|--------------------------------|---|----------|---|----------|
| Current service cost | W | 99,013 | ₩ | 93,689 |
| Past service cost | | - | | 49,830 |
| Interest cost | | 16,172 | | 18,355 |
| Expected return on plan assets | | (10,693) | | (9,911) |
| Transfer to others(*) | | (25,419) | | (35,816) |
| | ₩ | 79,073 | ₩ | 116,147 |

^(*) It is replaced by ordinary development expense and others (\(\psi\)15,161 million) and construction-in-progress (\(\psi\)10,258 million) for the year ended December 31, 2020.

20. Retirement benefit obligations (cont'd)

20.2 Defined benefit plans

Costs related to the defined benefit plans recognized in profit or loss for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | | 2019 |
|-------------------------------------|---|--------|---|---------|
| Cost of goods sold | ₩ | 74,588 | ₩ | 108,925 |
| Selling and administrative expenses | | 4,485 | | 7,222 |
| | ₩ | 79,073 | ₩ | 116,147 |

The amounts recognized in the consolidated statements of financial position related to retirement benefit obligations as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, | | | cember 31, |
|--|--------------|-----------|------|------------|
| | | 2020 | 2019 | |
| Present value of defined benefit obligations | ₩ | 875,575 | ₩ | 833,435 |
| Fair value of plan assets | | (596,538) | | (513,937) |
| Net defined benefit liability | ₩ | 279,037 | ₩ | 319,498 |

Changes in present value of retirement benefit obligations for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | 2020 | | | 2019 | | |
|----------------------|------|----------|---|----------|--|--|
| Beginning balance | ₩ | 833,435 | ₩ | 743,258 | | |
| Current service cost | | 99,013 | | 93,689 | | |
| Interest expense | | 16,172 | | 18,355 | | |
| Remeasurement | | (42,497) | | (49,006) | | |
| Actual payments | | (30,548) | | (22,691) | | |
| Past service cost | | - | | 49,830 | | |
| Ending balance | ₩ | 875,575 | ₩ | 833,435 | | |

20. Retirement benefit obligations (cont'd)

Changes in fair value of plan assets for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | | 2019 |
|--------------------------------|---|----------|---|----------|
| Beginning balance | ₩ | 513,937 | ₩ | 416,280 |
| Expected return on plan assets | | 10,693 | | 9,911 |
| Remeasurement | | (342) | | (1,844) |
| Contribution from the employer | | 94,158 | | 100,000 |
| Actual payments | | (21,908) | | (10,410) |
| Ending balance | ₩ | 596,538 | ₩ | 513,937 |

In addition, accumulated remeasurement gain amounting to \$429,329 million and remeasurement loss amounting to \$41,273 million was recognized in accumulated other comprehensive income as of December 31, 2020 and 2019.

Types of plan assets and fair value of plan assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Dec | ember 31, 2020 | Dec | cember 31, 2019 |
|-----------------------|-----|-------------------|-----|--------------------|
| Equity instruments | ₩ | 249,575 | ₩ | 185,881 |
| Liability instruments | | 56,126 | | 48,521 |
| Bank deposits | | 95,733 | | 24,248 |
| Others | | 195,104 | | 255,287 |
| | ₩ | 596,538 | ₩ | 513,937 |

Actual return on plan assets for the years ended December 31, 2020 and 2019 are \text{\$\psi\$}10,350 million and \text{\$\psi\$}8,067 million, respectively.

Remeasurement recognized in other comprehensive income for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | 2020 | | | 2019 |
|--|------|----------|---|-----------|
| Actuarial gains and losses arising from changes in | | | | |
| demographic assumptions | ₩ | - | ₩ | (101,826) |
| Actuarial gain or loss arising from changes in financial assumptions | | (4,080) | | 1,800 |
| Experience adjustments | | (38,417) | | 51,020 |
| Return on plan assets | | 342 | | 1,844 |
| · | ₩ | (42,155) | ₩ | (47,162) |

The amounts recognized in the consolidated statements of financial position related to employee benefits obligations other than retirement benefit obligation as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | ecember 31, 2020 | | cember 31, 2019 |
|--------------------------------------|---|---------------------|---|--------------------|
| Other employee benefit obligation | | | | |
| Long-term employee paid annual leave | ₩ | 1,547 | ₩ | 1,717 |

21. Provisions

Provisions as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | December 31, 2020 | | | December 31, 2019 | | | |
|--|---------|-------------------|-------------|--------------------------|-------------------|--------------|---|--------------------------|
| | Current | | N | Non-current | Current | | 1 | Non-current |
| Provisions for employee benefits | ₩ | 230,002 | ₩ | - | ₩ | 189,426 | ₩ | _ |
| Provisions for litigation Provisions for | | - | | 17,135 | | - | | 5,430 |
| decommissioning cost Nuclear plants | | 532,315 - | | 19,541,462 16,974,884 | | 477,844 - | | 18,618,802 15,994,039 |
| Fuel spent | | 487,529 | | 866,472 | | 401,741 | | 953,539 |
| Radioactive waste | | 44,786 | | 1,700,106 | | 76,103 | | 1,671,224 |
| Others | | 200,265 | | 90,112 | | 158,134 | | - |
| Provisions for power plant regional support program Provisions for renewable | | 144,272 | | - | | 140,133 | | - |
| energy portfolio standard | | - | | - | | - | | - |
| Others | | 55,066 | | 90,112 | | 18,001 | | - |
| Provisions for greenhouse gas emission | | 927 | · - <u></u> | - | | - | | |
| | ₩ | 962,582 | ₩ | 19,648,709 | ₩ | 825,404 | ₩ | 18,624,232 |

Changes in provisions for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | | | 2020 | | | | | | |
|--|-----|-----------|---|-----------|---|----------|---|-------------|---|----------|---|--------|------|------------|
| | J | anuary 1 | | Accrual | 7 | ransfer | F | Payment | F | Reversal | | Others | Dec | ember 31 |
| Provisions for employee benefits | ₩ | 189,426 | ₩ | 288,195 | ₩ | _ | ₩ | (247,619) | ₩ | | ₩ | - | ₩ | 230,002 |
| Provisions for litigation Provisions for | | 5,430 | | 21,119 | | - | | (9,389) | | (25) | | - | | 17,135 |
| decommissioning cost | 1 | 9,096,646 | | 1,097,374 | | 390,459 | | (510,702) | | - | | - | 2 | 20,073,777 |
| Nuclear plants | 1 | 5,994,039 | | 638,120 | | 390,459 | | (47,734) | | - | | - | 1 | 6,974,884 |
| Fuel spent | | 1,355,280 | | 394,642 | | - | | (395,921) | | - | | - | | 1,354,001 |
| Radioactive waste | | 1,747,327 | | 64,612 | | - | | (67,047) | | - | | - | | 1,744,892 |
| Others Provisions for power plant | | 158,134 | | 567,296 | | 461 | | (435,514) | | - | | - | | 290,377 |
| regional support program Provisions for renewable | | 140,133 | | 47,074 | | - | | (42,935) | | - | | - | | 144,272 |
| energy portfolio standard | | - | | 390,538 | | - | | (390,538) | | - | | - | | - |
| Others | | 18,001 | | 128,757 | | 461 | | (2,041) | | - | | - | | 145,178 |
| Provisions for greenhouse gas emission | | - | | 927 | | | | | | - | | - | | 927 |
| | ₩ 1 | 9,449,636 | ₩ | 1,973,984 | ₩ | 390,920 | ₩ | (1,203,224) | ₩ | (25) | ₩ | - | ₩ 2 | 20,611,291 |
| | | | | | | | | 2019 | | | | | | |
| | J | anuary 1 | | Accrual | | Transfer | | Payment | F | Reversal | | Others | Dece | ember 31 |
| Provisions for employee benefits | ₩ | 193,367 | ₩ | 214,285 | ₩ | - | ₩ | (218,226) | ₩ | - | ₩ | - | ₩ | 189,426 |
| Provisions for litigation Provisions for | | 5,900 | | - | | 10 | | - | | (480) | | - | | 5,430 |
| decommissioning cost | 1 | 6,239,571 | | 2,875,354 | | 397,960 | | (416,547) | | - | | 308 | 19 | ,096,646 |
| Nuclear plants | 1 | 3,388,134 | | 2,241,602 | | 397,960 | | (33,657) | | - | | - | 15 | ,994,039 |
| Fuel spent | | 1,291,354 | | 440,029 | | - | | (376,103) | | - | | - | 1 | ,355,280 |
| Radioactive waste | | 1,560,083 | | 193,723 | | - | | (6,787) | | - | | 308 | 1 | ,747,327 |
| Others Provisions for power plant | | 216,472 | | 261,705 | | - | | (329,557) | | - | | 9,514 | | 158,134 |
| regional support program Provisions for renewable | | 137,668 | | 41,341 | | - | | (48,390) | | - | | 9,514 | | 140,133 |
| energy portfolio standard | | 78,804 | | 202,363 | | - | | (281,167) | | - | | - | | - |
| Others | | - | _ | 18,001 | | - | _ | | | | | | | 18,001 |
| | ₩ 1 | 6,655,310 | ₩ | 3,351,344 | ₩ | 397,970 | ₩ | (964,330) | ₩ | (480) | ₩ | 9,822 | ₩ 19 | ,449,636 |
| | | | | | | | | | | | | | | |

Estimates of discount rates, inflation, etc. used by management to calculate the provision of decommissioning, restoration and cleanup costs are listed in Note 38.

22. Government grants

Government grants as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 3 ² 2020 | , December 31, 2019 |
|-------------------------------|---------------------------------|---------------------|
| Property, plant and equipment | | |
| Buildings | ₩ 54 | 12 ₩ 603 |
| Structures | 8,88 | 32 9,474 |
| Machineries | 8,8 | 78 10,833 |
| Vehicles | • | 17 104 |
| Fixtures and furniture | 10 | 52 177 |
| Tools | 1 | 52 339 |
| | 18,60 | 3 21,530 |
| Intangible assets | · | |
| Computer software | 1: | 26 190 |
| Development costs | | 11 15 |
| | 1; | 37 205 |
| | ₩ 18,8 | 00 ₩ 21,735 |
| | | |

Changes in government grants for the years ended December 31, 2020 and for 2019 are as follows (Korean won in millions):

| | 2020 | | | | | | | | | | |
|--------------------------------|------|-----------|---|-------------------------------|---|--------|---|------------|--|--|--|
| | | January 1 | | Depreciation/ Amortization | | Others | D | ecember 31 | | | |
| Property, plant and equipment: | | | | | | | | | | | |
| Buildings | ₩ | 603 | ₩ | (61) | ₩ | - | ₩ | 542 | | | |
| Structures | | 9,474 | | (592) | | - | | 8,882 | | | |
| Machineries | | 10,833 | | (1,955) | | - | | 8,878 | | | |
| Vehicles | | 104 | | (83) | | 26 | | 47 | | | |
| Fixtures and | | | | | | | | | | | |
| furniture | | 177 | | (79) | | 64 | | 162 | | | |
| Tools | | 339 | | (192) | | 5 | | 152 | | | |
| | | 21,530 | | (2,962) | | 95 | | 18,663 | | | |
| Intangible assets: | | | | | | | | | | | |
| Computer | | | | (64) | | | | | | | |
| software | | 190 | | ` , | | - | | 126 | | | |
| Development | | | | (4) | | | | | | | |
| costs | | 15 | | | | - | | 11 | | | |
| | | 205 | | (68) | | - | | 137 | | | |
| | ₩ | 21,735 | ₩ | (3,030) | ₩ | 95 | ₩ | 18,800 | | | |

22. Government grants (cont'd)

| | | | | 201 | 9 | | | | | | |
|-----------------------------------|---|---------------|---|--------------|---|--------|-------------|--------|--|--|--|
| | | Depreciation/ | | | | | | | | | |
| | | January 1 | | Amortization | | Others | December 31 | | | | |
| Property, plant and equipment: | | | | | | | | | | | |
| Buildings | ₩ | 362 | ₩ | (59) | ₩ | 300 | ₩ | 603 | | | |
| Structures | | 10,066 | | (592) | | _ | | 9,474 | | | |
| Machineries | | 12,922 | | (2,089) | | _ | | 10,833 | | | |
| Vehicles | | 182 | | (81) | | 3 | | 104 | | | |
| Fixtures and | | | | , | | | | | | | |
| furniture | | 180 | | (84) | | 81 | | 177 | | | |
| Tools | | 527 | | (197) | | 9 | | 339 | | | |
| | | 24,239 | | (3,102) | | 393 | | 21,530 | | | |
| Intangible assets: Computer | | | | | | | | | | | |
| software Development | | 276 | | (98) | | 12 | | 190 | | | |
| costs | | 20 | | (5) | | - | | 15 | | | |
| | | 296 | | (103) | | 12 | | 205 | | | |
| | ₩ | 24,535 | ₩ | (3,205) | ₩ | 405 | ₩ | 21,735 | | | |

23. Non-financial liabilities

Non-financial liabilities as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | December 31, 2020 | | | December 31, 2019 | | | |
|------------------|---|-------------------|---|-------------|-------------------|---------|---|-------------|
| | | Current | | Non-current | | Current | | Non-current |
| Advance received | ₩ | 2 | ₩ | - | ₩ | 2 | ₩ | - |
| Unearned revenue | | 1,614 | | - | | 371 | | - |
| Withholdings | | 46,593 | | - | | 39,253 | | - |
| Others | | 53,396 | | 5,065 | | 19,492 | | 5,065 |
| | ₩ | 101,605 | ₩ | 5,065 | ₩ | 59,118 | ₩ | 5,065 |

24. Share capital

Share capital as of December 31, 2020 and 2019 are as follows (Korean won in millions, except for number of shares and par value per share):

| | Number of shares authorized | Number of shares issued | Par value per share | December 31 | , 2020 | December | 31, 2019 |
|------------------|-----------------------------|-------------------------|---------------------|-------------|--------|----------|-----------|
| Common Stocks | 500,000,000 | 242,442,838 | ₩ 5,000 | ₩ 1,2 | 12,214 | ₩ | 1,212,214 |

Number of shares issued as of December 31, 2020 and 2019 are as follows:

| | December 31, | December 31, |
|-------------------------|--------------|--------------|
| | 2020 | 2019 |
| Number of shares issued | 242,442,838 | 242,442,838 |

Share premium as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | De | cember 31, | December 31, | | |
|--|----|------------|--------------|-----------|--|
| | | 2020 | 2019 | | |
| Paid-in capital in excess of par value | ₩ | 9,492,301 | ₩ | 9,492,301 | |

25. Retained earnings and dividends

Retained earnings as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, | | | ecember 31, | |
|----------------------------------|--------------|------------|------|-------------|--|
| | | 2020 | 2019 | | |
| Legal reserve(*) | ₩ | 606,107 | ₩ | 606,107 | |
| Voluntary reserves | | 10,125,036 | | 9,925,704 | |
| Unappropriated retained earnings | | 4,787,650 | | 4,440,886 | |
| | ₩ | 15,518,793 | ₩ | 14,972,697 | |

^(*) The Korean Commercial Code requires the Company to appropriate a legal reserve in an amount equal to at least 10% of cash dividends for each accounting period until the reserve equals 50% of capital stock. The legal reserve may be used to reduce a deficit or may be transferred to common stock in connection with a free issue of shares.

25. Retained earnings and dividends (cont'd)

Details of voluntary reserves as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | December 31, 2019 | | |
|--|----------------------|------------------------|----------------------|------------------------|--|
| Reserve for business expansion Others(*) | ₩ | 5,053,715 5,071,321 | ₩ | 5,053,715 4,871,989 | |
| () | ₩ | 10,125,036 | ₩ | 9,925,704 | |

(*) Prior to 2002, the Company appropriated certain tax-deductible benefits as reserve for business stabilization, for offsetting future deficit in accordance with the relevant tax laws. Due to the amendment of such tax laws on December 11, 2002, the reserve is no longer required. However, the Company continues to maintain such reserve on a voluntary basis.

Changes in retained earnings for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, | | De | ecember 31, |
|--|--------------|------------|----|-------------|
| | | 2020 | | 2019 |
| Beginning balance | ₩ | 14,972,697 | ₩ | 14,663,667 |
| Profit for the period attributable to owners of the parent | | 622,218 | | 274,861 |
| Dividends paid | | (106,675) | | - |
| Changes in retained earnings of equity method investees | | (1) | | (28) |
| Remeasurements of the defined benefit plan, net of tax | | 30,563 | | 34,197 |
| Other | | (9) | | <u>-</u> |
| Ending balance | ₩ | 15,518,793 | ₩ | 14,972,697 |

Dividends paid for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions, except for number of share and dividends for share):

| | | | 2020 Number of | | |
|--------------|-------------------------|-----------------|--------------------|---------------------|-----------|
| | Number of shares issued | Treasury stocks | dividend shares | Dividends for share | Dividends |
| Common stock | 242,442,838 | - | 242,442,838 | ₩ 440 | ₩ 106,675 |
| | | | | | |
| | | | 2019 | | |
| | | | Number of | | _ |
| | Number of | Treasury | dividend | Dividends for | |
| | shares issued | stocks | shares | share | Dividends |
| Common stock | 242,442,838 | - | 242,442,838 | ₩ - | ₩ - |

25. Retained earnings and dividends (cont'd)

Changes in remeasurements of the defined benefit plans for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 | | |
|-------------------------|---|----------|------|----------|--|
| Beginning balance | ₩ | (1,281) | ₩ | (35,477) | |
| Changes during the year | | 42,149 | | 47,173 | |
| Tax effect | | (11,586) | | (12,977) | |
| Ending balance | ₩ | 29,282 | ₩ | (1,281) | |

Statements of appropriation of retained earnings for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 |
|--|---|-----------|--------------|
| Retained earnings before appropriations Unappropriated retained earnings carried forward | | | |
| from the prior year | ₩ | 4,145,503 | 4,111,285 |
| Net income | | 647,641 | 306,007 |
| Remeasurements of the defined benefit plan , net of tax | | 30,552 | 34,218 |
| Others | | | |
| | | 4,823,696 | 4,451,510 |
| II. Transfer from voluntary reserves | | | |
| Reserves for business expansion | | <u> </u> | |
| | | | - |
| III. Total (I + II) | | 4,823,696 | 4,451,510 |
| IV. Appropriation of retained earnings | | | |
| Dividends | | 279,779 | 106,675 |
| Sinking fund reverses | | 367,862 | 199,332 |
| | | 647,641 | 306,007 |
| V. Unappropriated retained earnings to be carried over | | | |
| to the subsequent year $(III - IV)$ | ₩ | 4,176,055 | 4,145,503 |

The above statement of appropriation of retained earnings is based on the separate financial statements of the parent company.

26. Other components of equity

Other components of equity as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Dec | ember 31, 2020 | De | cember 31, 2019 |
|--------------------------------------|-----|-------------------|----|--------------------|
| Accumulated other comprehensive loss | ₩ | (44,133) | ₩ | (39,598) |
| Other capital adjustments | | (333) | | (302) |
| | ₩ | (44,466) | ₩ | (39,900) |

Changes in accumulated other comprehensive income (loss) for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | 20 | 20 | | | |
|---|---|--------------------------------------|--|------------------------------|--|-------------------------|---|------------------------------|
| | Gain (lo valuation value the other compreh incorporate) | n of fair irough er iensive | Share of compreh income (I associate joint ver | ensive loss) of es and | Gain (loss) f translation foreign operation | of | | Total |
| Beginning balance Change during the period Tax effect | ₩ | (41,067) (4,060) 1,297 | ₩ | (508) (770) | | 1,977 ,397) 395 | ₩ | (39,598) (6,227) 1,692 |
| Ending balance | ₩ | (43,830) | ₩ | (1,278) | ₩ | 975 | ₩ | (44,133) |
| | -0:4 | | | 20 | 19 | | | |
| | Gain (lo valuatior value th oth compreh inco | n of fair irough er nensive | Share of compreh income (I associate joint ver | ensive loss) of es and | Gain (loss) f translation foreign operation | of | | Total |
| Beginning balance Change during the period Tax effect | | (40,183) (971) 87 | ₩ | (2,012) 1,504 | ₩ 2 | (108) 2,895 (810) | ₩ | (42,303) 3,428 (723) |
| Ending balance | ₩ | (41,067) | ₩ | (508) | | 1,977 | ₩ | (39,598) |

Other capital adjustments as of December 31, 2020 and 2019 are as follows (Korea won in millions):

| | December 31, | | December 31 | |
|---|--------------|-------|-------------|-------|
| | | 2020 | 2019 | |
| Changes from paid-in capital increase of subsidiaries | ₩ | (333) | ₩ | (302) |

27. Revenue

Revenue for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| 2020 | | | | 20 | 19 | | |
|------|-----------|----------------------------------|--------------------------------|---|---|--|---|
| | Domestic | O\ | /erseas | | Domestic | Overse | eas |
| ₩ | 9,620,983 | ₩ | - | ₩ | 8,546,311 | ₩ | - |
| | 281,698 | | 97,007 | | 345,576 | | 90,740 |
| | 25 | | - | | - | | - |
| ₩ | 9,902,706 | ₩ | 97,007 | ₩ | 8,891,887 | ₩ | 90,740 |
| | ₩ | Domestic ₩ 9,620,983 281,698 25 | ₩ 9,620,983 ₩ 281,698 25 | Domestic Overseas ₩ 9,620,983 ₩ - 281,698 97,007 25 - | Domestic Overseas I ₩ 9,620,983 ₩ - ₩ 281,698 97,007 25 - | Domestic Overseas Domestic ₩ 9,620,983 ₩ - W 8,546,311 281,698 97,007 345,576 25 - | Domestic Overseas Domestic Overseas ₩ 9,620,983 ₩ - ₩ 8,546,311 ₩ 281,698 97,007 345,576 25 - - |

28. Selling and administrative expenses

Selling and administrative expenses for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 |
|---|----|-----------|---------|
| Salaries | ₩ | 53,689 ₩ | 48,697 |
| Retirement benefits | •• | 5,815 | 8,590 |
| Other employee benefits | | 10,061 | 9,967 |
| Insurance expenses | | 937 | 901 |
| Depreciation of property, plant and equipment | | 41,304 | 45,547 |
| Amortization of intangible assets | | 13,299 | 12,089 |
| Commission | | 37,224 | 42,414 |
| Advertisement | | 8,588 | 9,075 |
| Training | | 85 | 100 |
| Vehicles | | 107 | 143 |
| Publication expenses | | 465 | 380 |
| Business expenses | | 162 | 142 |
| Rent | | 7,910 | 10,720 |
| Communication | | 606 | 515 |
| Taxes and dues | | 2,036 | 1,543 |
| Supplies expenses | | 665 | 730 |
| Utilities | | 1,356 | 1,284 |
| Repairs | | 10,590 | 11,777 |
| Ordinary development expenses | | 3,217 | 1,196 |
| Travel expenses | | 840 | 1,159 |
| Clothing expenses | | 125 | 172 |
| Labor welfare fund contribution | | 261 | - |
| Subscription | | 200 | 82 |
| Others | | 17,267 | 16,093 |
| | ₩ | 216,809 ₩ | 223,316 |

Details of others of selling and administrative expenses for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | 2020 | | 2019 |
|-------------------|------|-----------|--------|
| Other wage | ₩ | 12,295 ₩ | 11,419 |
| Compliance costs | | 62 | 78 |
| Award costs | | 441 | 168 |
| Registration fees | | 278 | 270 |
| Litigation costs | | 2,939 | 2,698 |
| Meeting costs | | 1,252 | 1,460 |
| | ₩ | 17,267_ ₩ | 16,093 |

29. Other income and expenses

Details of other income for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 |
|------------------------------|---|---------------------|--------|
| Gain from assets contributed | ₩ | - ₩ | 115 |
| Reparations | | 37,407 | 16,106 |
| Rental income | | 4,603 | 5,708 |
| Others | | 19,384 | 22,844 |
| | ₩ | 61,394 _₩ | 44,773 |

Details of others in other income for the years ended December 31, 2020 and 2019 are as follows:

| | | 2020 | 2019 |
|---|---|----------|--------|
| Grants of development of vocational skills | ₩ | 284 ₩ | 1.247 |
| Gain on settlement of the grants | | 2,150 | 3,294 |
| Rent management fee | | 2,785 | 153 |
| Trustee training and technical support income | | 3,568 | 1,920 |
| Contract deposit recovered from termination of contract | | 314 | 436 |
| Others | | 10,283 | 15,794 |
| | ₩ | 19,384 ₩ | 22,844 |

Details of other expense for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 |
|-----------------------------|---|-----------|---------|
| Depreciation of idle assets | ₩ | 6,604 ₩ | 6,542 |
| Other bad debt expenses | | - | 49,252 |
| Donations | | 156,510 | 18,843 |
| Others | | 9,616 | 103,231 |
| | ₩ | 172,730 ₩ | 177,868 |

29. Other income and expenses (cont'd)

Details of others in other expense for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 |
|---|---|-------|------------------|
| Operating cost of the sports center | ₩ | 5,101 | ₩ 5,234 |
| Perform technical support costs | | 242 | 67 |
| Loss on settlement of research and development grants | | 720 | 554 |
| Maintenance expenses related to the idle assets | | 46 | 50 |
| Surcharge on taxes and dues | | 253 | - |
| Others | | 3,254 | 97,326 |
| | ₩ | 9,616 | ₩ <u>103,231</u> |

30. Other gains and losses

Other gains and losses for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | _ | December 31, 2020 | December 31, 2019 |
|--|---|-----------------------|-------------------|
| Gain on disposals of property plant and equipment Reversal of impairment loss | ₩ | 4,428 ₩ | 2,114 |
| on property, plant and equipment | | - | 16,692 |
| Gain on disposals of intangible assets | | - | - |
| Gain on foreign currency translations-unrealized(*) | | 1,372 | 1,831 |
| Gain on foreign currency transactions-realized(*) | | 13,723 | 13,924 |
| Gain on insurance transactions | | 40,665 | 13,211 |
| Others | | 11,976 | 3,086 |
| Loss on disposals of property, plant and equipment | | (78,179) | (17,294) |
| Loss on disposals of intangible assets | | - | (773) |
| Loss on impairment of property, plant and equipment | | - | (3,819) |
| Loss on foreign currency translations-unrealized(*) | | (3,264) | (1,088) |
| Loss on foreign currency transactions-realized(*) | | (11,416) | (8,899) |
| Others | - | (34,894) | (7,537) |
| | ₩ | (55,589) W | 11,448 |

^(*) Gain (loss) on foreign currency translations-unrealized and foreign currency transactions-realized arising from operating activities.

30. Other gains and losses (cont'd)

Details of other of other gains for the years ended December 31, 2020 and 2019 are as follows:

| | | 2020 | 2019 |
|---|---|----------|-------|
| Gain on valuation of inventories | ₩ | 9 ₩ | - |
| Gain on disposal of inventories | | - | 105 |
| Gain on reversal of inventories | | 2,203 | - |
| Gain on disposal of waste | | 5,288 | 2,935 |
| Gain from lease cancellation | | 6 | - |
| Gain on disposals of non-current assets held for sale | | 4,457 | - |
| Others | | 13 | 46 |
| | ₩ | 11,976_₩ | 3,086 |

Details of other of other losses for the years ended December 31, 2020 and 2019 are as follows:

| | | 2020 | 2019 | |
|---|---|------------------------|-------------------------|--|
| Loss on inventory obsolescence Loss on disposal of inventories Others | ₩ | (28) ₩ (34,866) | (56) (7,466) (15) | |
| | ₩ | (34,894) W | (7,537) | |

31. Finance income

Finance income for the years ended December 31, 2020 and 2019 are as follows:

| | | 2020 | 2019 |
|--|---|---------------------|---------|
| Interest income | ₩ | 24,988 W | 37,606 |
| Dividend income | | 5,269 | 7,390 |
| Gain on disposals of financial instruments assets | | 484 | 1,212 |
| Gain on valuation of financial assets at fair value through profit or loss | | 5,037 | 4,113 |
| Gain on valuation of derivative financial instruments | | 13,107 | 169,279 |
| Gain on transactions of derivative financial instruments | | 26,878 | 44,503 |
| Gain on foreign currency translation-unrealized(*) | | 184,756 | 1,974 |
| Gain on foreign currency transactions-realized(*) | | 8 | 307 |
| | ₩ | 260,527_₩ | 266,384 |

^(*) Gain on foreign currency translation-unrealized and foreign currency transactions-realized arising from financing activities.

Details of interest income included in finance income for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 | |
|---|---|----------------------|--------|--|
| Cash and cash equivalents | ₩ | 263 ₩ | 3,431 | |
| Financial assets at fair value through profit or loss | | 10,861 | 19,835 | |
| Financial instruments | | 10,294 | 10,837 | |
| Loans | | 1,486 | 1,431 | |
| Trade accounts and other receivables | | 2,084 | 2,072 | |
| | ₩ | 24,988_ W | 37,606 | |

32. Finance expenses

Finance expenses for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | 2020 | | 2019 | |
|---|------|----------------------|---------|--|
| Interest expense | ₩ | 513,195 ₩ | 519,291 | |
| Loss on disposals of financial instruments assets Loss on valuation of financial assets at fair value through | | - | 1,612 | |
| profit or loss | | 515 | 1,513 | |
| Loss on valuation of derivative financial instruments | | 101,150 | - | |
| Loss on transactions of derivative financial instruments | | 11,386 | 2,193 | |
| Loss on foreign currency translation-unrealized(*) | | 12,519 | 106,988 | |
| Loss on foreign currency transactions-realized(*) | | <u> </u> | 15,927 | |
| | ₩ | 638,765 W | 647,524 | |

^(*) Loss on foreign currency translation-unrealized and foreign currency transactions-realized arising from financing activities.

Details of interest expenses included in finance expenses for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 | |
|---|---|-----------|-----------|--|
| Short-term borrowings | ₩ | 1,460 ₩ | 19 | |
| Long-term borrowings | | 13,411 | 7,336 | |
| Bonds | | 340,363 | 343,570 | |
| Other financial liabilities(*) | | 501,392 | 515,358 | |
| | | 856,626 | 866,283 | |
| Less: capitalization of borrowing costs | | (343,431) | (346,992) | |
| | ₩ | 513,195_₩ | 519,291 | |

^(*) Interest expenses related to post-processing and recovery provisions of nuclear power plants are included.

33. Income tax expense

The components of income tax expense for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| Current income tax expense: $orall$ 394,699 $orall$ 223,094 Current income tax 405,135 302,204 Adjustment due to changes in estimates related to past (542) (65,410) | | | 2020 | | 2019 |
|--|--|---|-----------|---|-----------|
| | Current income tax expense: | ₩ | 394,699 | ₩ | 223,094 |
| Adjustment due to changes in estimates related to past (542) (65,410) | Current income tax | | 405,135 | | 302,204 |
| | Adjustment due to changes in estimates related to past | | (542) | | (65,410) |
| Income tax credited directly to equity (9,894) (13,700) | Income tax credited directly to equity | | (9,894) | | (13,700) |
| Deferred tax expense: (246,605) (195,805) | Deferred tax expense: | | (246,605) | | (195,805) |
| Changes in temporary differences (246,334) (195,805) | Changes in temporary differences | | (246,334) | | (195,805) |
| Changes in tax loss carryforwards (271) | Changes in tax loss carryforwards | - | (271) | | |
| Income tax expense $\underline{\mathbb{W}}$ 148,094 $\underline{\mathbb{W}}$ 27,289 | Income tax expense | ₩ | 148,094 | ₩ | 27,289 |

The income taxes calculated using the statutory tax rates differs from the actual amount for the years ended December 31, 2020 and 2019 for the following reasons (Korean won in millions):

| | | 2020 | | 2019 |
|--|---|----------|---|----------|
| Profit before income tax | ₩ | 766,036 | ₩ | 273,837 |
| Tax effect at the rate of 27.5% | | 210,660 | | 75,305 |
| Adjustments: | | | | |
| Effect of applying gradual tax rate | | (10,362) | | (10,373) |
| Non-taxable income | | (149) | | (15) |
| Non-deductible expense | | 871 | | 615 |
| Tax credits and deduction | | (40,569) | | (28,779) |
| Effect from recognizing deferred tax liabilities not recognized before | | 2,203 | | 31,389 |
| Others | | (14,018) | | 24,557 |
| | | (62,024) | | 17,394 |
| Adjustment for prior years | | (542) | | (65,410) |
| Income tax expense | ₩ | 148,094 | ₩ | 27,289 |
| Effective tax rate | | 19.33% | | 9.97% |

^(*) The effective tax rate for the years ended December 31, 2019 has not been calculated as it is negative.

33. Income tax expense (cont'd)

Tax item recognized in other comprehensive income (loss) for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | _ | 2020 | | 2019 | |
|--|----|-------------------|---|----------------|--|
| Income tax credited directly to equity Tax items in other comprehensive income | | | | | |
| gain on valuation of financial assets at FVOCI Remeasurements of the defined benefit plan Loss (gain) on foreign currency translation differences of foreign | ₩ | 1,297 (11,586) | ₩ | 87 (12,977) | |
| operations | - | 395 | | (810) | |
| | ₩_ | (9,894) | ₩ | (13,700) | |

Details of the deferred tax assets (liabilities) as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | | | | |
|--------------------------------|---|------------------------|---|--|-------------------|--|
| | | Beginning balance | Amounts recognized in profit (loss) for the year | Amounts recognized in cumulative other comprehensive income (loss) | Ending balance | |
| Deferred tax by | | | | | | |
| temporary difference | | | | | | |
| Long-term employee benefits | ₩ | 146,768 W | 51,736 W | (11,586) ₩ | 186,918 | |
| Property, plant and equipment, | | | | | | |
| net | | (4,014,528) | (374,993) | - | (4,389,521) | |
| Intangible assets | | 233 | (54) | - | 179 | |
| Financial assets at fair value | | | | | | |
| through profit or loss | | (3) | - | - | (3) | |
| Financial assets at fair value | | | | | | |
| through other comprehensive | | | | | | |
| income | | 15,057 | 705 | 1,297 | 17,059 | |
| Provision | | 5,084,003 | 573,905 | - | 5,657,908 | |
| Accrued income | | (1,456) | (768) | - | (2,224) | |
| Advanced depreciation | | | | | | |
| provision | | (3,807) | (145) | - | (3,952) | |
| Tax loss carryforwards | | 303 | 271 | - | 574 | |
| Others | _ | 15,440 | 5,842 | 395 | 21,677 | |
| | ₩ | 1,242,010 W | 256,499 W | (9,894) ₩ | 1,488,615 | |

33. Income tax expense (cont'd)

| | | 2019 | | | | |
|--|----|-------------------|---|--|-------------------|--|
| | | Beginning balance | Amounts recognized in profit (loss) for the year | Amounts recognized in cumulative other comprehensive income (loss) | Ending balance | |
| Deferred tax by temporary difference | _ | | | | | |
| Long-term employee benefits Property, plant and equipment, | ₩ | 160,129 ₩ | (384) ₩ | <i>¥</i> (12,977) ₩ | 146,768 | |
| net | | (3,736,508) | (278,020) | - | (4,014,528) | |
| Intangible assets | | (2,486) | 2,719 | - | 233 | |
| Financial assets at fair value | | | | | | |
| through profit or loss | | (3) | - | - | (3) | |
| Financial assets at fair value through other comprehensive | | | | | | |
| income | | 14,784 | 186 | 87 | 15,057 | |
| Provision | | 4,590,640 | 493,363 | - | 5,084,003 | |
| Accrued income | | (1,544) | 88 | - | (1,456) | |
| Advanced depreciation | | | | | | |
| provision | | - | (3,807) | - | (3,807) | |
| Tax loss carryforwards | | - | 303 | - | 303 | |
| Others | _ | 21,193 | (4,943) | (810) | 15,440 | |
| | ₩_ | 1,046,205 W | 209,505 \ | <i>4</i> (13,700) ₩ | 1,242,010 | |

Deferred tax assets as of December 31, 2020 and 2019 are as follows (Korean won in million):

| | December 31, 2020 | | December 31, 2019 | |
|---------------------|-------------------|-----------|-------------------|-----------|
| Deferred tax assets | ₩ | 1,488,615 | ₩ | 1,242,010 |

The deductible temporary difference not recognized as deferred tax assets is $\mbox{$W$}$ 331,665 million as of December 31, 2020.

34. Non-current assets held for sale

Property, plant and equipment classified as non-current assets held for sale as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, | December 31, | |
|-------------------------------|--------------|--------------|----|
| | 2020 | 2019 | |
| Property, plant and equipment | ₩ - | ₩ 23,00 |)2 |

The Group had classified land for which it has entered into a sales contract from property, plant and equipment to non-current assets held for sale for the year ended December 31, 2019. The Group sold the land during the year ended December 31, 2020.

35. Expenses classified by nature

Expenses classified by nature for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | |
|---|----------------|---------------|-------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 513,375 | ₩ 513,375 |
| Salaries | 53,689 | 943,993 | 997,682 |
| Retirement benefits | 5,815 | 98,187 | 104,002 |
| Other employee benefits | 10,061 | 124,897 | 134,958 |
| Insurance expenses | 937 | 38,485 | 39,422 |
| Depreciation of property, plant and equipment | 41,304 | 2,276,000 | 2,317,304 |
| Amortization of nuclear fuel | - | 1,206,193 | 1,206,193 |
| Amortization of intangible assets | 13,299 | 6,535 | 19,834 |
| Commission | 37,224 | 178,801 | 216,025 |
| Provisions for decommissioning cost | - | 216,747 | 216,747 |
| Other provisions | - | 55,138 | 55,138 |
| Advertisement | 8,588 | 3,157 | 11,745 |
| Training | 85 | 781 | 866 |
| Vehicles | 107 | 515 | 622 |
| Publication expenses | 465 | 524 | 989 |
| Business expenses | 162 | 649 | 811 |
| Rent | 7,910 | 92,991 | 100,901 |
| Communication | 606 | 2,736 | 3,342 |
| Freight expenses | - | 122 | 122 |
| Taxes and dues | 2,036 | 304,410 | 306,446 |
| Supplies expenses | 665 | 4,613 | 5,278 |
| Utilities | 1,356 | 6,007 | 7,363 |
| Repairs | 10,590 | 1,494,507 | 1,505,097 |
| Ordinary development expenses | 3,217 | 435,777 | 438,994 |
| Travel expenses | 840 | 3,802 | 4,642 |
| Clothing expenses | 125 | 1,515 | 1,640 |
| Research and analysis expenses | - | 987 | 987 |
| Labor welfare fund contribution | 261 | 4,691 | 4,952 |
| Subscription | 200 | 11,410 | 11,610 |
| Others | 17,267 | 439,525 | 456,792 |
| | ₩ 216,809 | ₩ 8,467,070 | ₩ 8,683,879 |

35. Expenses classified by nature (cont'd)

| | | 2019 | |
|---|----------------|---------------|------------------------|
| | Selling and | | |
| | administrative | | |
| | expenses | Cost of sales | Total |
| Raw materials used | ₩ - | ₩ 607,833 | ₩ 607,833 |
| Salaries | 48,697 | 755,040 | 803,737 |
| Retirement benefits | 8,590 | 132,121 | 140,711 |
| Other employee benefits | 9,967 | 105,567 | 115,534 |
| Insurance expenses | 901 | 42,211 | 43,112 |
| Depreciation of property, plant and equipment | 45,547 | 2,111,249 | 2,156,796 |
| Amortization of nuclear fuel | - | 1,077,979 | 1,077,979 |
| Amortization of intangible assets | 12,089 | 5,079 | 17,168 |
| Commission | 42,414 | 198,544 | 240,958 |
| Provisions for decommissioning cost | - | 449,326 | 449,326 |
| Other provisions | - | 5,596 | 5,596 |
| Advertisement | 9,075 | 3,151 | 12,226 |
| Training | 100 | 1,462 | 1,562 |
| Vehicles | 143 | 404 | 547 |
| Publication expenses | 380 | 573 | 953 |
| Business expenses | 142 | 855 | 997 |
| Rent | 10,720 | 88,152 | 98,872 |
| Communication | 515 | 4,172 | 4,687 |
| Freight expenses | - | 131 | 131 |
| Taxes and dues | 1,543 | 276,938 | 278,481 |
| Supplies expenses | 730 | 1,875 | 2,605 |
| Utilities | 1,284 | 5,853 | 7,137 |
| Repairs | 11,777 | 1,199,315 | 1,211,092 |
| Ordinary development expenses | 1,196 | 483,221 | 484,417 |
| Travel expenses | 1,159 | 5,460 | 6,619 |
| Clothing expenses | 172 | 2,000 | 2,172 |
| Research and analysis expenses | - | 992 | 992 |
| Subscription | 82 | 10,756 | 10,838 |
| Others | 16,093 | 400,395 | 416,488 |
| | ₩ 223,316 | ₩ 7,976,250 | W 8,199,566 |

36. Earnings per share

Basic earnings per share for the years ended December 31, 2020 and 2019 are as follow (Korean won):

| | _ | December 31, 2020 | | December 31, 2019 | |
|--------------------------|---|-------------------|--------------------|-------------------|--|
| | | | | | |
| Basic earnings per share | ₩ | 2 | 2,566 W | 1,134 | |

Profit for the year attributable to owners of the parent and weighted average number of common shares outstanding for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | _ | December 31, 2020 | | December 31, 2019 | | |
|--|---|-------------------|---|-------------------|--|--|
| | | | | | | |
| Profit for the year attributable to owners of the parent | ₩ | 622,218 | ₩ | 274,861 | | |
| Weighted average number of common stock | | 242,442,838 | | 242,442,838 | | |

37. Categories of financial instruments

Details of categories of financial assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | | | | |
|---|--|------------------------------------|---|-------------|--|--|--|--|
| | Financial assets at fair value through profit or loss | Financial assets at amortized cost | Financial assets at fair value through other comprehensive income | Total | | | | |
| Current financial assets: | | | | | | | | |
| Cash and cash equivalents Current financial assets | ₩ - | ₩ 316,072 | ₩ - | ₩ 316,072 | | | | |
| Financial assets at fair value | | | | | | | | |
| through profit or loss | 160,600 | _ | _ | 160,600 | | | | |
| Loans | - | 11,068 | - | 11,068 | | | | |
| Short-term financial | | | | | | | | |
| instruments | - | 212,159 | - | 212,159 | | | | |
| Derivative assets | 18,274 | | <u> </u> | 18,274 | | | | |
| Total and allege as a broken | 178,874 | 223,227 | - | 402,101 | | | | |
| Trade and other receivables Subtotal | 178,874 | 1,382,497 | <u> </u> | 1,382,497 | | | | |
| Non-current financial assets: | 170,074 | 1,921,796 | - - | 2,100,670 | | | | |
| Non-current financial assets Non-current financial assets Financial assets at fair value through profit or loss Financial assets at fair value through other | 577,481 | - | - | 577,481 | | | | |
| comprehensive income | - | - | 233,371 | 233,371 | | | | |
| Loans | - | 67,382 | - | 67,382 | | | | |
| Long-term financial | | | | | | | | |
| instruments | | 258,656 | - | 258,656 | | | | |
| Derivative assets | 30,794 | | - | 30,794 | | | | |
| Trade and other received as | 608,275 | 326,038 | 233,371 | 1,167,684 | | | | |
| Trade and other receivables | 600 075 | 49,796 | 222 274 | 49,796 | | | | |
| Subtotal | 608,275 ₩ 787,149 | <u>375,834</u> ₩ 2,297,630 | 233,371 | 1,217,480 | | | | |
| Total | ₩ 787,149 | ₩ 2,297,630 | ₩ 233,371 | ₩ 3,318,150 | | | | |

37 Categories of financial instruments (cont'd)

| | December 31, 2019 | | | | | | | | |
|---|--|------------------------------------|---|------------------------|--|--|--|--|--|
| | Financial assets at fair value through profit or loss | Financial assets at amortized cost | Financial assets at fair value through other comprehensive income | Total | | | | | |
| Current financial assets: Cash and cash equivalents Current financial assets Financial assets at fair value | ₩ - | ₩ 34,916 | ₩ - | ₩ 34,916 | | | | | |
| through profit or loss | 29,520 | - | - | 29,520 | | | | | |
| Loans | · - | 5,349 | - | 5,349 | | | | | |
| Short-term financial | | 0.40.000 | | 0.40.000 | | | | | |
| instruments | | 210,626 | · | 210,626 | | | | | |
| Trade and other receivables | 29,520 | 215,975 1,302,267 | - | 245,495 1,302,267 | | | | | |
| Subtotal | 29,520 | 1,553,158 | | 1,582,678 | | | | | |
| Non-current financial assets: Non-current financial assets Financial assets at fair value | 29,020 | 1,000,100 | | 1,302,070 | | | | | |
| through profit or loss Financial assets at fair value through other | 541,969 | - | - | 541,969 | | | | | |
| comprehensive income | - | - | 231,825 | 231,825 | | | | | |
| Loans Long-term financial | - | 71,735 | - | 71,735 | | | | | |
| instruments | - | 250,463 | - | 250,463 | | | | | |
| Derivative assets | 120,133 | | | 120,133 | | | | | |
| | 662,102 | 322,198 | 231,825 | 1,216,125 | | | | | |
| Trade and other receivables | | 50,023 | | 50,023 | | | | | |
| Subtotal | 662,102 | 372,221 | 231,825 | 1,266,148 | | | | | |
| Total | ₩ 691,622 | ₩ 1,925,379 | ₩ 231,825 | ₩ 2,848,826 | | | | | |

37. Categories of financial instruments (cont'd)

Details of categories of financial liabilities as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | fair value | iabilities at through or loss | | ncial liabilities nortized cost | | Total |
|--|--|--|----------|--|-------|---|
| Current financial liabilities: | | | | | | |
| Current financial liabilities | | | | | | |
| Short-term borrowings | ₩ | - | ₩ | 340,000 | | 340,000 |
| Current portion of long-term borrowings | | - | | 19,063 | | 19,063 |
| Bonds | | - | | 1,152,802 | | 1,152,802 |
| Derivative liabilities | | 462 | | | | 462 |
| | | 462 | | 1,511,865 | | 1,512,327 |
| Trade and other payables | | - | | 1,157,933 | | 1,157,933 |
| Subtotal | | 462 | _ | 2,669,798 | | 2,670,260 |
| Non-current financial liabilities: | | | | | | |
| Non-current financial liabilities | | | | 00=0=4 | | 00=0=4 |
| Long-term borrowings | | - | | 295,654 | | 295,654 |
| Bonds | | - | | 9,379,109 | | 9,379,109 |
| Derivative liabilities | | 23,801 | _ | | | 23,801 |
| Too do and athermacinher | | 23,801 | | 9,674,763 | | 9,698,564 |
| Trade and other payables | | - 22 004 | | 2,442,577 | | 2,442,577 |
| Subtotal | 10/ | 23,801 | 10/ | 12,117,340 | | 12,141,141 |
| Total | ₩ | 24,263 | <u>₩</u> | 14,787,138 | ₩ | 14,811,401 |
| | Financial li fair value profit d | through | Financ | ber 31, 2019 cial liabilities ortized cost | | |
| Current financial liabilities: | pront | 1 1033 | at am | UI LIZEU CUSL | | Total |
| Current financial liabilities | | | | | | Total |
| | | | | | | Total |
| Snort-term porrowings | W | _ | ₩ | 210 000 | ₩ | |
| Short-term borrowings Current portion of long-term borrowings | ₩ | - | ₩ | 210,000 18,253 | ₩ | 210,000 |
| Current portion of long-term borrowings Bonds | ₩ | - - - | ₩ | 18,253 | ₩ | 210,000 18,253 |
| Current portion of long-term borrowings | ₩ | - - - 196 | ₩ | | ₩ | 210,000 |
| Current portion of long-term borrowings Bonds | ₩ | - - 196 | ₩ | 18,253 | ₩ | 210,000 18,253 499,811 196 |
| Current portion of long-term borrowings Bonds Derivative liabilities | W | | ₩ | 18,253 499,811 - 728,064 | ₩ | 210,000 18,253 499,811 196 728,260 |
| Current portion of long-term borrowings Bonds | ₩ | | ₩ | 18,253 499,811 - | ₩ | 210,000 18,253 499,811 196 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables | ₩ | 196 - | ₩ | 18,253 499,811 - 728,064 1,037,572 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal | ₩ | 196 - | ₩ | 18,253 499,811 - 728,064 1,037,572 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: | ₩ | 196 - | ₩ | 18,253 499,811 - 728,064 1,037,572 | W | 210,000 18,253 499,811 196 728,260 1,037,572 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: Non-current financial liabilities | ₩ | 196 - | ₩ | 18,253 499,811 - 728,064 1,037,572 1,765,636 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 1,765,832 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: Non-current financial liabilities Long-term borrowings | ₩ | 196 - | ₩ | 18,253 499,811 - 728,064 1,037,572 1,765,636 147,917 9,579,579 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 1,765,832 147,917 9,579,579 7,286 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities | ₩ | 196 - 196 | ₩ | 18,253 499,811 - 728,064 1,037,572 1,765,636 147,917 9,579,579 - 9,727,496 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 1,765,832 147,917 9,579,579 7,286 9,734,782 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities Trade and other payables | ₩ | 196 - 196 - - - 7,286 7,286 | ₩ | 18,253 499,811 - 728,064 1,037,572 1,765,636 147,917 9,579,579 - 9,727,496 2,536,913 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 1,765,832 147,917 9,579,579 7,286 9,734,782 2,536,913 |
| Current portion of long-term borrowings Bonds Derivative liabilities Trade and other payables Subtotal Non-current financial liabilities: Non-current financial liabilities Long-term borrowings Bonds Derivative liabilities | ₩ | 196 - 196 - - - 7,286 | ₩ | 18,253 499,811 - 728,064 1,037,572 1,765,636 147,917 9,579,579 - 9,727,496 | ₩ | 210,000 18,253 499,811 196 728,260 1,037,572 1,765,832 147,917 9,579,579 7,286 9,734,782 |

37. Categories of financial instruments (cont'd)

Gain (loss) by categories of financial instruments for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| Categories | ategories Description | | | | 2019 |
|--|--|---|-----------|---|-----------|
| Financial assets | Cash and cash equivalents-interest income | ₩ | 263 | ₩ | 3,431 |
| at amortized cost | Financial instruments-interest income | | 10,294 | | 10,837 |
| | Loans-interest income | | 1,486 | | 1,431 |
| | Trade and other receivables - interest income Gain (loss) on fluctuation of exchange rate in | | 2,084 | | 2,072 |
| Financial assets at | foreign currency, net Financial assets at fair value through profit or | | 900 | | (11,247) |
| fair value through | loss-valuation income | | 4,733 | | 2,600 |
| profit or loss | Financial assets at fair value through | | | | |
| | profit or loss-interest income | | 10,861 | | 19,835 |
| | Gain (loss) on sale of financial assets, net Gain (loss) on valuation of derivative | | 4,522 | | (400) |
| | instruments, net | | (71,065) | | 103,005 |
| | Gain on transactions of derivative instruments, | | | | |
| | net | | 26,878 | | 43,628 |
| | Dividend income | | 484 | | 6,984 |
| Financial assets at | Loss on valuation of fair value through other | | (4.000) | | (074) |
| fair value through other comprehensive | comprehensive income (before tax), net | | (4,060) | | (971) |
| income | Dividend income | | 535 | | 405 |
| Financial liabilities | Gain (loss) on valuation of derivative | | | | |
| measured at | instruments, net | | (16,978) | | 66,274 |
| fair value through | Loss on transactions of derivative instruments, | | (44.000) | | (4.040) |
| profit or loss Financial liabilities | net Gain (loss) on fluctuation of exchange rate in | | (11,386) | | (1,318) |
| at amortized cost | foreign currency, net | | 171,760 | | (103,619) |
| at annorated coot | Interest expense | | (122,277) | | (121,331) |
| | interest expense | | (122,211) | | (121,001) |

38. Risk management

38.1 Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue while maximizing the return to shareholder through the optimization of the debt and equity balance. The management of the Group regularly reviews the capital structure and maintains the optimal capital structure through short- and long-term capital borrowing and bond issuance.

The capital structure of the Group consists of net debt (offset by cash and bank balances) and equity. The Group's overall capital risk management strategy remains consistent with prior year.

Details of the Group's capital risk management items as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | De | ecember 31, 2020 | De | ecember 31, 2019 |
|---|----|---------------------|----|---------------------|
| Total borrowings | ₩ | 11,186,628 | ₩ | 10,455,560 |
| Cash and cash equivalents, etc.(*) | | 528,231 | | 245,543 |
| Net borrowings | | 10,658,397 | | 10,210,017 |
| Total shareholder`s equity | ₩ | 26,205,975 | ₩ | 25,665,877 |
| Ratio of net borrowings to total shareholder's equity | · | 40.67% | | 39.78 % |

(*) It consists of cash and cash equivalents and short-term financial instruments.

38.2 Financial risk management

The Group is exposed to various risks related to its financial instruments, such as, market risk (currency risk, interest rate risk, price risk) and credit risk. The goal of financial risk management is to reduce and eliminate the financial risks to acceptable levels by identifying sources of potential risks to the Group's financial performance.

The Group uses derivative financial instruments to hedge certain risk exposures. The Group's overall financial risk management strategy remains consistent with prior year.

38.2.1 Risk management policy

The Group's management is responsible for the establishment and supervision of the financial risk management system. The management established a risk management committee to develop and supervise the risk management policy of the Group. The committee regularly reports on its activities to the management. The Group is equipped with policies and procedures to control financial risks at the entity level. The Group continuously monitors the compliance with policies and procedures of risk management.

The Group's risk management policy is designed to identify and analyze the risks facing the Group, establish appropriate risk limits and controls, and ensure that the risks do not exceed the limits. Risk management policies and systems are regularly reviewed to reflect market conditions and changes in the activities of the Group.

38.2.2 Credit risk

Credit risk is the risk of finance loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Exposure to the risk is mainly arises from the Group's loan activities, as well as from derivatives and debt securities. There are also credit risks arising from financial guarantees and unused loan agreements. For banks and financial institutions, the credit risk from them is limited as the Group makes transactions with reputable financial instituions. For general accounts, the Group evalutates the customer's credit based on the customer's financial position, past experience, and other factors.

Credit risk management

The Group uses publicly available information and its own internal data related to trade receivables, to rate its major customers and to measure the credit risk that a counter party will default on a contractual obligation. As the majority of the Group's trade receivables are due from governmental entities (i.e. KEPCO and others), the Group does not have significant credit risk exposure. Regarding its debt securities, the Group continuously monitors credit ratings issued by credit agencies, and the Group's working capital (i.e. cash) is deposited at financial institutions with a high credit rating.

Impairment & allowance account

In accordance with the Group's policies, individual financial assets above the materiality amount are regularly reviewed. The allowance for individually reviewed trade receivable shall be determined by evaluating the loss incurred as of the end of the reporting period, which applies to all material trade receivable. For such assessment, the Group considers the amount of collateral obtained (including the recoverability) for the individual financial assets and the expected recoverable amounts.

The Group maximum exposure to credit risk as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, | | | cember 31, |
|---|--------------|-----------|---|------------|
| | | 2020 | | 2019 |
| Cash and cash equivalents | ₩ | 316,072 | ₩ | 34,916 |
| Financial instruments | | 470,815 | | 461,089 |
| Financial assets at fair value through profit or loss | | 738,081 | | 571,489 |
| Derivative assets | | 49,068 | | 120,133 |
| Loans | | 78,450 | | 77,084 |
| Trade and other receivables | | 1,432,293 | | 1,352,290 |

There were no financial assets (current or non-current) acquired or received as a result of exercise of rights to collaterals received or additionally obtained to adjust credit limits.

38.2.3 Market risk

Market risk is the risk that the Group's fair value of the financial instruments or future cashflows are effected by the changes in the market. Market risk consists of interest rate risk, currency risk and other price risk.

38.2.4 Sensitivity analysis

Major liabilities with uncertanties in underlying assumptions

(i) Defined benefit obligation

Changes in the Group's defined benefit obligation due to changes in underlying assumptions as of December 31, 2020 and 2019 are as follows:

| | | | 2020 | | | 2019 | | | |
|-----------------------------|--|----|----------|----|----------|------|----------|----|----------|
| Assumption | Accounts | 1% | increase | 1% | decrease | 1% | increase | 1% | decrease |
| Future salary increase rate | Defined benefit obligation Defined benefit | ₩ | 107,180 | ₩ | (91,734) | ₩ | 104,646 | ₩ | (89,459) |
| Discount rate | obligation | | (95,710) | | 114,669 | | (93,255) | | 111,917 |

(ii) Provision for decommissioning cost

Details of underlying assumptions used to estimate provision for decommissioning cost as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| Accounts | Assumptions | December 31, 2020 | December 31, 2019 |
|----------------|------------------------------|----------------------|----------------------|
| Nuclear plants | Inflation rate Discount rate | 1.07% 2.20% | 1.10% 2.43% |
| Fuel spent | Inflation rate Discount rate | 2.93% 4.49% | 2.93% 4.49% |

The following is a sensitivity analysis of provision for decommissioning cost assuming 0.1% increase or decrease in the underlying assumptions as of December 31, 2020 and 2019 (Korean won in millions):

| | | Decembe | r 31, 20 |)20 | December 31, 2019 | | | | |
|-----------------|------|-----------|----------|-----------|-------------------|------------|---------------|------------|--|
| | 0.1% | increase | 0.1% | decrease | 0.1 | % increase | 0.1% decrease | | |
| Discount rate: | | | | _ | | _ | | _ | |
| Nuclear plants | ₩ | (326,926) | ₩ | 336,928 | ₩ | (316,184) | ₩ | 325,828 | |
| Fuel spent | | (51,558) | | 53,571 | | (51,607) | | 53,621 | |
| Inflation rate: | | | | | | | | | |
| Nuclear plants | | 357,676 | | (347,450) | | 346,082 | | (336, 182) | |
| Fuel spent | | 54,345 | | (52,375) | | 54,396 | | (52,424) | |

38.2.4 Sensitivity analysis (cont'd)

Management judgment effected by uncertainties in underlying assumptions

(i) Foreign currency risk

The carrying amounts of the Group's foreign currency denominated monetary assets and monetary liabilities, excluding the Group's foreign subsidiary, as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | De | ecen | nber 31, 202 | 0 | | | | | |
|--|---|---------|---|-------------|---|-----------|-------|--------------|---|-----------|-----|------------|---|-------------|
| | | AED | | USD | | EUR | R HKD | | | CHF | Oth | Others (*) | | Total |
| Assets: Cash and cash equivalents | ₩ | 1,293 | ₩ | 384 | ₩ | 248 | W | | ₩ | | ₩ | 216 | ₩ | 2,141 |
| Trade and other receivables | • | 1,295 | • | 100,808 | | 138 | | - | | - | ** | 128 | | 101,074 |
| Loans | | | | - | | 68 | | | | | | | | 68 |
| Total assets denominated in foreign currency | | 1,293 | | 101,192 | | 454 | | - | | - | | 344 | | 103,283 |
| Liabilities: Trade and other payables | | 4,448 | | 171,847 | | 107,971 | | 409 | | 56 | | 6,979 | | 291,710 |
| Bonds Total liabilities | | | | 2,652,623 | | | | 231,426 | | 370,746 | | | | 3,254,795 |
| denominated in foreign currency | | 4,448 | | 2,824,470 | - | 107,971 | | 231,835 | _ | 370,802 | | 6,979 | | 3,546,505 |
| Net exposure | ₩ | (3,155) | ₩ | (2,723,278) | ₩ | (107,517) | ₩ | (231,835) | ₩ | (370,802) | ₩ | (6,635) | ₩ | (3,443,222) |

(*) Others include CAD, JPY, CZK, GBP, PHP and EGP.

| | | | | | De | ecem | ber 31, 201 | 9 | | | | | |
|--|---|---------|---------------|---------|----------|------|-------------|-----|-----------|---|---------|---|-------------|
| | | AED | USD | EUR HKD | | | CHF | Otl | hers (*) | | Total | | |
| Assets: Cash and cash equivalents Trade and other | ₩ | 2,258 | ₩ - | ₩ | 177 | ₩ | - | ₩ | - | ₩ | 225 | ₩ | 2,660 |
| receivables | | - | 90,568 | | - | | - | | - | | - | | 90,568 |
| Loans | | - | - | | 118 | | - | | - | | - | | 118 |
| Total assets denominated in foreign currency Liabilities: | | 2,258 | 90,568 | | 295 | | - | | - | | 225 | | 93,346 |
| Trade and other payables | | 10,824 | 67,781 | | 75,288 | | - | | 329 | | 4,304 | | 158,526 |
| Bonds | | | 2,816,593 | | | | 245,113 | | 359,226 | | _ | | 3,420,932 |
| Total liabilities denominated in foreign currency | | 10,824 | 2,884,374 | | 75,288 | | 245,113 | | 359,555 | | 4,304 | | 3,579,458 |
| Net exposure | ₩ | (8,566) | ₩ (2,793,806) | ₩ | (74,993) | ₩ | (245,113) | ₩ | (359,555) | ₩ | (4,079) | ₩ | (3,486,112) |

^(*) Others include CAD, JPY, CZK, PHP and GBP.

38.2.4 Sensitivity analysis (cont'd)

Currency exchange rates as of December 31, 2020 and 2019 are as follows (Korean won in each currency):

| | 203 | 20 | 2019 | | | | | |
|-----|---------------|---------------|---------------|---------------|--|--|--|--|
| | Average | Ending | Average | Ending | | | | |
| | exchange rate | exchange rate | exchange rate | exchange rate | | | | |
| USD | 1,180.05 | 1,088.00 | 1,165.65 | 1,157.80 | | | | |
| EUR | 1,345.99 | 1,338.24 | 1,304.81 | 1,297.43 | | | | |
| JPY | 11.051 | 10.543 | 1,069.76 | 1,063.47 | | | | |
| GBP | 1,513.05 | 1,482.40 | 1,487.83 | 1,518.69 | | | | |
| CAD | 879.91 | 853.30 | 878.54 | 886.56 | | | | |
| CHF | 1,257.34 | 1,234.33 | 1,173.43 | 1,195.52 | | | | |
| HKD | 152.14 | 140.35 | 148.78 | 148.66 | | | | |
| PHP | 23.78 | 22.66 | 22.52 | 22.80 | | | | |
| CZK | 50.90 | 51.04 | 50.84 | 51.05 | | | | |
| AED | 321.27 | 296.20 | 317.35 | 315.21 | | | | |
| FGP | 74 60 | 69 17 | _ | _ | | | | |

A sensitivity analysis on the Group's profit for the period assuming 10% increase or decrease in currency exchange rates as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | 202 | 20 | 2019 | | | | |
|---|--------------|--------------|--------------|--------------|--|--|--|
| | 10% increase | 10% decrease | 10% increase | 10% decrease | | | |
| Increase (decrease) of profit for the period Increase (decrease) of | (344,322) | 344,322 | (348,611) | 348,611 | | | |
| shareholder`s equity | (344,322) | 344,322 | (348,611) | 348,611 | | | |

Sensitivity analysis above is conducted for monetary assets and liabilities denominated in foreign currencies other than functional currency as of December 31, 2020 and 2019.

(ii) Interest rate risk

The Group is exposed to interest rate risk due to its borrowing with floating interest rates. An 1% increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

The Group's floating-rate long-term borrowings and bonds as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Dece | ember 31, | De | ecember 31, |
|--|------|-----------|----|-------------|
| | | 2020 | | 2019 |
| Long-term borrowings (including current portion) | ₩ | 69,938 | ₩ | 40,517 |

38.2.4 Sensitivity analysis (cont'd)

A sensitivity analysis on the Group's long-term borrowings and bonds assuming 1% increase or decrease in interest rates as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December | 31, 2020 | December : | 31, 2019 |
|--|--------------------|--------------------|--------------------|--------------------|
| | 1% points increase | 1% points decrease | 1% points increase | 1% points decrease |
| Increase (decrease) of profit for the period | (699) | 699 | (405) | 405 |
| Increase (decrease) of shareholder's equity | (699) | 699 | (405) | 405 |

To manage its interest rate risks, the Group in addition to maintaining an appropriate mix of fixed and floating rate borrowings, has entered into certain interest rate swap agreements.

38.2.5 Liquidity risk

The Group has established an appropriate liquidity risk management framework for the management of the Group's short, medium and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

In addition, the Group has established credit lines on its trade finance and bank overdrafts, and through payment guarantees it has received, it maintains an adequate credit (borrowing) facility. In addition, in case of major construction investment, the Group has the ability to use reserve cash or utilize long-term borrowings.

Details of remaining maturities of the Group's non-derivative financial liabilities based on agreement terms are as follows. The amount disclosed below represents the undiscounted cash flows the Group is obligated to pay in the future on the earliest repayment date:

Remaining maturities of the Group's non-derivative financial liabilities are as follows (Korean won in millions):

| | | | 2020 | | | |
|---|--------------|-------------|-------------|--------------|---|------------|
| | Under 1 year | 1~2 years | 2~5 years | Over 5 years | | Total |
| Borrowings and bonds Trade and other | ₩ 1,834,379 | ₩ 1,675,776 | ₩ 3,478,700 | ₩ 6,925,437 | ₩ | 13,914,292 |
| payables | 1,148,040 | 319,827 | 932,341 | 1,255,032 | | 3,655,240 |
| | ₩ 2,982,419 | ₩ 1,995,603 | ₩ 4,411,041 | ₩ 8,180,469 | ₩ | 17,569,532 |
| | | | 2019 | | | |
| | Under 1 year | 1~2 years | 2~5 years | Over 5 years | | Total |
| Borrowings and bonds Trade and other | ₩ 1,063,385 | ₩ 1,519,449 | ₩ 4,271,971 | ₩ 6,372,221 | ₩ | 13,227,026 |
| payables | 1,037,761 | 312,023 | 1,003,704 | 1,276,601 | | 3,630,089 |
| | ₩ 2,101,146 | ₩ 1,831,472 | ₩ 5,275,675 | ₩ 7,648,822 | ₩ | 16,857,115 |

38.2.5 Liquidity risk (cont'd)

As the Group manages its liquidity based on its net asset and net liability balances, the Group's liquidity risk management analysis includes its non-derivative financial assets.

Details of the Group's expected holding period of its non-derivative financial assets as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | [| Dece | mber 31, 2 | 020 | | | |
|--|----|------------|-----------|----------|--------------|-------------|-----|-----------|---|-----------|
| | Un | der 1 year | 1~5 years | | Over 5 years | | (*) | | | Total |
| Cash and cash equivalents Financial assets at fair value | ₩ | 316,072 | ₩ | - | ₩ | - | ₩ | - | ₩ | 316,072 |
| through profit or loss | | 160,600 | | - | | - | | 577,481 | | 738,081 |
| Financial instruments | | 212,159 | | - | | - | | 258,656 | | 470,815 |
| Financial assets at fair value through other comprehensive | | | | | | | | | | |
| income | | - | | - | | - | | 233,371 | | 233,371 |
| Loans | | 11,159 | | 24,368 | | 49,479 | | - | | 85,006 |
| Trade and other receivables | | 1,382,735 | | 50,323 | | - | | | | 1,433,058 |
| | ₩ | 2,082,725 | ₩ | 74,691 | ₩ | 49,479 | ₩ | 1,069,508 | ₩ | 3,276,403 |
| | | | | | ecen | nber 31, 20 |)19 | | | |
| | Un | der 1 year | 1. | ∼5 years | Ov | er 5 years | | (*) | | Total |
| Cash and cash equivalents Financial assets at fair value | ₩ | 34,916 | ₩ | - | ₩ | - | ₩ | - | ₩ | 34,916 |
| through profit or loss | | 29,520 | | - | | - | | 541,969 | | 571,489 |
| Financial instruments | | 210,625 | | - | | - | | 250,464 | | 461,089 |
| Financial assets at fair value through other comprehensive | | | | | | | | | | |
| income | | | | | | | | 231,825 | | 231,825 |
| Loans | | 5,433 | | 5,477 | | 73,044 | | - | | 83,954 |
| Trade and other receivables | | 1,302,737 | | 50,925 | | - | | - | | 1,353,662 |
| | ₩ | 1,583,231 | ₩ | 56,402 | ₩ | 73,044 | ₩ | 1,024,258 | ₩ | 2,736,935 |

^(*) Maturity period cannot be reasonably estimated.

Remaining maturities of Group's derivative financial liabilities as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | De | cem | ıber 31, 202 | 20 | | | |
|--------------|----|------------|---|-----------|------|--------------|----|------------|---|------------|
| | Un | der 1 year | | 1~2 years | 2 | ~5 years | Ov | er 5 years | | Total |
| Cash inflow | ₩ | 106,060 | ₩ | 837,909 | ₩ | - | ₩ | - | ₩ | 943,969 |
| Cash outflow | | (105,769) | | (862,463) | | - | | - | | (968, 232) |
| | ₩ | 291 | ₩ | (24,554) | ₩ | - | ₩ | - | ₩ | (24,263) |
| | | | | De | ecem | nber 31, 20 | 19 | | | |
| | Un | der 1 year | | 1∼2 years | 2 | ~5 years | Ov | er 5 years | | Total |
| Cash inflow | ₩ | 86,670 | ₩ | 60 | ₩ | 244,293 | ₩ | 122,064 | ₩ | 453,087 |
| Cash outflow | | (92,009) | | (5,190) | | (246,497) | | (116,873) | | (460,569) |
| | ₩ | (5,339) | ₩ | (5,130) | ₩ | (2,204) | ₩ | 5,191 | W | (7,482) |

38.3 Fair value estimate

The fair value of the Group's actively-traded financial instruments (i.e. financial assets at fair value through profit or loss and financial assets at fair value through other comprehensive income) is the based on the traded market-price as of the reporting period end. The fair value of Group's financial assets is determined by the closing purchase price disclosed at the end of the reporting

The fair values of financial instruments where no active market exists or where quoted prices are not otherwise available are determined by using valuation techniques. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the Group uses that technique.

For trade receivable and payable, the Group considers the carrying value, net of impairment, as fair value. While for disclosure purposes, the fair value of non-current financial liabilities is estimated by discounting a financial instruments with similar contractual cashflows based on the effective interest method.

38.3.1 Fair value and carrying amount

The fair value of financial assets and financial liabilities as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Decembe | r 31, | , 2020 | December 31, 2019 | | | | | |
|--|-----|-----------------------|-------|-----------------------|-------------------|-----------------------|---|-----------------------|--|--|
| | Car | rying amount | | Fair value | Ca | rrying amount | | Fair value | | |
| Financial assets at fair value: Financial assets at fair value through other | | | | | | | | | | |
| comprehensive income Financial assets at fair value | ₩ | 233,371 | ₩ | 233,371 | ₩ | 231,825 | ₩ | 231,825 | | |
| through profit or loss Derivative financial | | 738,081 | | 738,081 | | 571,489 | | 571,489 | | |
| instruments held for trading | | 49,068 | | 49,068 | | 120,133 | | 120,133 | | |
| | ₩ | 1,020,520 | ₩ | 1,020,520 | ₩ | 923,447 | ₩ | 923,447 | | |
| Financial assets at amortized cost: | | | | | | | | | | |
| Loans | ₩ | 78,450 | ₩ | 78,450 | ₩ | 77,084 | ₩ | 77,084 | | |
| Trade and other receivables | | 1,432,293 | | 1,432,293 | | 1,352,290 | | 1,352,290 | | |
| Cash and cash equivalents | | 316,072 | | 316,072 | | 34,916 | | 34,916 | | |
| Financial instruments | | 470,815 | | 470,815 | | 461,089 | | 461,089 | | |
| | ₩ | 2,297,630 | ₩ | 2,297,630 | ₩ | 1,925,379 | ₩ | 1,925,379 | | |
| Financial liabilities at fair value: Derivative financial | | | | | | | | | | |
| instruments held for trading Financial liabilities at amortized cost: | ₩ | 24,263 | ₩ | 24,263 | ₩ | 7,482 | ₩ | 7,482 | | |
| Unsecured bonds Short-term borrowings | ₩ | 10,531,911 340.000 | ₩ | 11,667,723 340.000 | ₩ | 10,079,390 210.000 | ₩ | 11,168,718 210.000 | | |
| • | | , | | , | | -, | | -, | | |
| Long-term borrowings | | 314,717 | | 314,717 | | 166,170 | | 166,170 | | |
| Trade and other payables | | 3,600,510 | | 3,600,510 | | 3,574,485 | | 3,574,485 | | |
| | ₩ | 14,787,138 | ₩ | 15,922,950 | ₩ | 14,030,045 | ₩ | 15,119,373 | | |

38.3.2 Interest rates used in calculating fair values

Interest rates used to discount expected cash flows were determined by adding credit spreads to government bond yields at the end of the reporting period.

38.3.3 Fair value hierarchy

The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, classified as Level 1, 2, or 3.

| | Useful life |
|---------|---|
| Level 1 | Unadjusted quoted prices in active markets for identical assets or liabilities. |
| Level 2 | Inputs other than quoted prices that are observable for the asset or liability either directly or |
| | indirectly. |
| Level 3 | Inputs that are not based on observable market data. |

Fair values of financial instruments by hierarchy level as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | Decembe | er 31 | , 2020 | | |
|--|---|---------|---|---------|-------|---------|---|---------|
| | | Level 1 | | Level 2 | | Level 3 | | Total |
| Financial assets at fair value: Financial assets at fair value through profit or loss Financial assets at fair value through other | ₩ | - | ₩ | 738,081 | ₩ | - | ₩ | 738,081 |
| comprehensive income Derivative financial | | 49,878 | | - | | 183,493 | | 233,371 |
| instruments held for trading Financial liabilities at fair value: | | - | | 49,068 | | - | | 49,068 |
| Derivative liabilities | | - | | 24,263 | | - | | 24,263 |
| | | | | Decembe | er 31 | , 2019 | | |
| | | Level 1 | | Level 2 | | Level 3 | | Total |
| Financial assets at fair value: Financial assets at fair value through profit or loss Financial assets at fair value through other | ₩ | - | ₩ | 571,489 | ₩ | - | ₩ | 571,489 |
| comprehensive income Derivative financial | | 31,829 | | - | | 199,996 | | 231,825 |
| instruments held for trading Financial liabilities at fair value: | | - | | 120,133 | | - | | 120,133 |
| Derivative liabilities | | - | | 7,482 | | - | | 7,482 |

The fair value of financial assets at fair value through other comprehensive income traded in the market is determined by the closing purchase price disclosed at the end of the reporting period, and the fair value of financial assets at fair value through other comprehensive income without marketability is determined by the fair value evaluation results from external assessment institutions. Financial assets measured at level 3 in the fair value hierarchy as of the end of the current term include investments in SET Holding and Korea Electric Power Exchange as described in Note 8. They were measured by estimating future cash flows in consideration of expected operating income and cost structure, and then were discounted by the weighted average capital costs considering capital structure, etc. In addition, the Group measured the fair value of the derivative using a cash flow discount model that reflected credit risk and used the inputs (credit risk, interest rate, and exchange rate) considering the key economic indicators and economic environment of the derivative to be assessed.

38.3.3 Fair value hierarchy (cont'd)

Changes in financial assets at fair value through other comprehensive income for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | | | | 2020 | | | | |
|---|----------|---------------------|-----|-----------------------|-------------|--------------------------|-----|---------|----------|------------|
| | | eginning palance | | quisition isposal) | | surement of ir values | | Others | Endi | ng balance |
| Financial assets at fair value through other comprehensive | \ | 024.005 | \A/ | 7 400 | \ A/ | (4.000) | 14/ | (4.704) | \ | 000 074 |
| income | ₩ | 231,825 | ₩ | 7,400 | ₩ | (4,060) | ₩ | (1,794) | ₩ | 233,371 |
| | | | | | | 2019 | | | | |
| | В | eginning | Ac | quisition | Meas | surement of | | | | |
| | | oalance | (D | isposal) | fa | ir values | | Others | Endi | ng balance |
| Financial assets at fair value through other comprehensive income | ₩ | 229,964 | ₩ | _ | ₩ | (971) | ₩ | 2,832 | ₩ | 231.825 |

39. Related party disclosures

Details of related parties as of December 31, 2020 are as follows:

| Relationship | Related party |
|--------------------------------|---|
| Parent company Subsidiaries | Korea Electric Power Corporation KHNP Canada Energy Ltd. |
| | Gyeonggi Green Energy Co., Ltd. |
| | Korea Imouraren Uranium Investment Corp. |
| | Korea Waterbury Uranium Limited Partnership |
| | Incheon Fuel Cell Co., Ltd. |
| | First Keepers Co., Ltd. |
| | Secutec Co., Ltd. |
| | KHNP USA LLC |
| | Energy Innovation Growth Fund 1 |
| Associates | Korea Offshore Wind Power Co., Ltd. |
| | Noeul Green Energy Co., Ltd. |
| | Busan Green Energy Co., Ltd. |
| | Korea Nuclear Partners Co., Ltd. |
| | KEPCO Solar Co., Ltd. (Ex-Solar School Plant Co., Ltd.) |
| | KEPCO Energy Solution Co., Ltd. |
| | Gwangyang Green Energy Co., Ltd. |
| | Hanhwa Solar Power Private equity investment trust |
| | Godeok Clean Energy Co., Ltd. Jeju Solarone Co., Ltd. |
| | Bigeum Resident Solar Power Generation Co., Ltd. |
| Joint ventures | Waterbury Lake Uranium Limited Partnership |
| Contraction Contraction | Cheongsong Noraesan Wind Power Co., Ltd. |
| | Saemangeum Solar Power Co., Ltd. |
| | KAS INVESTMENT I LLC |
| | KAS INVESTMENT II LLC |
| Other related parties | Korea Midland Power Co., Ltd. |
| · | Korea East-West Power Co., Ltd. |
| | Korea South-East Power Co., Ltd. |
| | Korea Western Power Co., Ltd. |
| | Korea Southern Power Co., Ltd. |
| | KEPCO Engineering & Construction Inc. |
| | KEPCO Plant Service & Engineering Co., Ltd. |
| | KEPCO Nuclear Fuel Co., Ltd. |
| | KEPCO Knowledge, Data & Network Co., Ltd. |
| | Korea Power Exchange |
| | YTN Co., Ltd. |
| | Korea Development Bank |
| | HeeMang Sunlight Power Co., Ltd. |
| | Korea Gas Corporation Energy Infra Asset Management Co., Ltd. |
| | Nawah Energy Company and others. |
| | rawan Energy Company and Officis. |
| | |

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The transactions with related parties for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | Sales a | nd oth | ers | | Purchases | and o | thers |
|-------------------------------------|------------------------------------|---|------------|--------|-----------|---|-----------|-------|-----------|
| Related party | Transaction | | 2020 | | 2019 | | 2020 | | 2019 |
| Korea Electric Power | Sales of electricity | | | | | | | | |
| Corporation | and others | ₩ | 10,240,565 | ₩ | 9,199,363 | ₩ | 744,309 | ₩ | 637,688 |
| | Dividend paid | | - | | - | | 106,675 | | _ |
| Busan Green Energy Co., | | | | | | | ,- | | |
| Ltd. | REC Purchases | | - | | - | | 18,678 | | 13,811 |
| Noeul Green Energy Co., | | | | | | | | | |
| Ltd. | REC Purchases. | | - | | - | | 10,634 | | 22,767 |
| Korea Offshore Wind Power Co., Ltd. | Service income | | 194 | | 238 | | | | |
| Saemangeum Solar Power | Service income | | 194 | | 230 | | - | | - |
| Co., Ltd. | Service income | | 2,846 | | 2,230 | | _ | | _ |
| KEPCO Energy Solution | | | , | | , | | | | |
| Co., Ltd. | Service income | | 148 | | 147 | | - | | - |
| Gwangyang Green Energy | | | | | | | | | |
| Co., Ltd. | Service income | | 20 | | 118 | | - | | - |
| Hanhwa Solar Power | | | | | | | | | |
| Private equity investment trust | Dividend income | | 291 | | | | | | |
| KEPCO Solar Co., Ltd. | Dividend income | | 291 | | - | | _ | | - |
| (Ex-Solar School Plant | | | | | | | | | |
| Co., Ltd.) | Service income | | 117 | | 132 | | - | | - |
| Bigeum Resident Solar | | | | | | | | | |
| Power Generation Co., | | | | | | | | | |
| Ltd. | Interest income | | 84 | | - | | - | | - |
| Korea South-East Power Co., Ltd. | Other sales, etc. | | | | 17 | | | | |
| Korea East-West Power | REC income | | - | | 17 | | - | | - |
| Co., Ltd. | /Commission fees | | 462 | | _ | | _ | | 56 |
| Korea Western Power Co., | Other sales | | | | | | | | |
| Ltd. | /Commission fees | | - | | 25 | | 91 | | - |
| Korea Southern Power | | | | | | | | | |
| Co., Ltd. | Other income | | - | | 3 | | - | | - |
| KEPCO Plant Service & | Other income/ Cost of construction | | | | | | | | |
| Engineering Co., Ltd. | services, etc. | | 4,992 | | 4,111 | | 536,602 | | 495,985 |
| KEPCO Engineering & | Other income/ | | 4,002 | | 7,111 | | 000,002 | | 400,000 |
| Construction Inc. | Cost of technique | | | | | | | | |
| | services, etc. | | 58 | | 17,102 | | 217,439 | | 244,391 |
| KEPCO Knowledge, Data | Information and | | | | | | | | |
| & Network Co., Ltd. | communication | | | | | | | | |
| | consigned service | | | | | | 40 122 | | 45.079 |
| KEPCO Nuclear Fuel Co., | costs, etc. Consignment education | | - | | - | | 49,122 | | 45,978 |
| Ltd. | income/ | | | | | | | | |
| | Nuclear power plant | | | | | | | | |
| | fuel purchase, etc. | | 812 | | 798 | | 294,203 | | 309,738 |
| Korea Power Exchange | Commission fees, | | | | | | | | |
| | etc. | | - | | - | | 15,996 | | 14,688 |
| Korea Development Bank | Interest income | | | | | | | | |
| VTN Co. 14d | /Interest expenses | | 29 | | 244 | | 1,288 | | 1,491 |
| YTN Co., Ltd. | Advertisement expenses | | | | | | 110 | | 98 |
| Nawah Energy Company | Advertisement expenses | | - | | - | | 118 | | 90 |
| Haman Energy Company | Service income | | 96,354 | | 90,434 | | _ | | _ |
| Energy Infra Asset | 22.1.00001110 | | 50,004 | | 30, 10 1 | | | | |
| Management Co., Ltd. | Interest expense | | - | | - | | 1,740 | | - |
| | | | | | | | | | |
| | | ₩ | 10,346,972 | ₩ | 9,314,962 | ₩ | 1,996,895 | ₩ | 1,786,691 |
| | | | | | | | | | |

Receivables and payables arising from related party transactions as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | | Trade receivab | le and | l others | | Trade payable | e and | others |
|--------------------------|---------------------|---|----------------|--------|-----------|---|---------------|-------|---------|
| Related party | Transaction | - | 2020 | | 2019 | | 2020 | | 2019 |
| Korea Electric Power | Trade receivables | ₩ | 1,141,409 | ₩ | 1,049,511 | ₩ | _ | ₩ | - |
| Corporation | Other receivables, | | | | | | | | |
| • | and others | | 471,985 | | 530,855 | | - | | - |
| | Other payables and | | | | | | | | |
| | others | | - | | - | | 128,851 | | 52,666 |
| Saemangeum Solar Power | | | | | | | | | |
| Co., Ltd. | Other receivables | | 3,141 | | 2,197 | | - | | - |
| Gwangyang Green Energy | | | | | | | | | |
| Co., Ltd. | Other receivables | | 1,356 | | 1,334 | | - | | - |
| KEPCO Solar Co., Ltd. | | | | | | | | | |
| (Ex-Solar School Plant | | | | | | | | | |
| Co., Ltd.) | Other receivables | | 2 | | 39 | | - | | - |
| KEPCO Energy Solution | | | | | | | | | |
| Co., Ltd. | Other receivables | | 36 | | 44 | | - | | - |
| Noeul Green Energy Co., | Other receivables | | 969 | | - | | - | | - |
| Ltd. | Other payables | | _ | | - | | - | | 1,855 |
| Busan Green Energy Co., | Other receivables | | 13,946 | | - | | - | | - |
| Ltd. | Other payables | | _ | | - | | - | | 606 |
| Korea Offshore Wind | | | | | | | | | |
| Power Co., Ltd. | Other receivables | | - | | 177 | | - | | - |
| Bigeum Resident Solar | | | | | | | | | |
| Power Generation Co., | | | | | | | | | |
| Ltd. | Loan | | 3,500 | | - | | - | | - |
| Korea Western Power Co., | | | | | | | | | |
| Ltd. | Other payables | | - | | - | | 100 | | - |
| Korea East-West Power | Other receivables | | 113 | | - | | - | | - |
| Co., Ltd. | Other payables | | - | | - | | - | | 61 |
| KEPCO Plant Service & | Other receivables | | | | | | | | |
| Engineering Co., Ltd. | and others | | 21 | | 17 | | - | | - |
| | Other payables and | | | | | | | | |
| | others | | - | | - | | 49,322 | | 11,360 |
| KEPCO Engineering & | Other receivables | | - | | 15,969 | | - | | - |
| Construction Inc. | Other payables and | | | | | | | | |
| | others | | - | | - | | 6,176 | | 6,594 |
| KEPCO Knowledge, Data | Other payables and | | | | | | | | |
| & Network Co., Ltd. | others | | - | | - | | 2,044 | | 3,587 |
| KEPCO Nuclear Fuel Co., | | | | | | | | | |
| Ltd. | Trade payables | | - | | - | | 57,911 | | 4,737 |
| Korea Power Exchange | Other payables and | | | | | | | | |
| | others | | - | | - | | 1,073 | | 1,105 |
| Korea Development Bank | Advanced payment | | 906 | | 1,026 | | - | | - |
| | Long and short-term | | _ | | _ | | 124,173 | | 127,175 |
| | borrowings | | | | | | , | | , |
| | Other payables | | | | | | 21 | | 24 |
| Nawah Energy Company | Trade receivables | | 49,280 | | 37,677 | | - | | - |
| Energy Infra Asset | | | | | | | | | |
| Management Co., Ltd. | Borrowings | | | | | | 46,877 | | |
| | | ₩ | 1,686,664 | ₩ | 1,638,846 | ₩ | 416,548 | ₩ | 209,769 |

Financial transactions with related parties for the year ended December 31, 2020 and 2019 are as follows: (Korean won in millions)

(i) Loans and capital investments

| | | | 2020 | | | | | |
|----------------|---------------------------------|----|------------|---------|------------|---|----|--------------|
| | | | Trans | action | า | | | Cash |
| | Company name | | Borrowings | | Repayments | | | contribution |
| Associates | Jeju Solarone Co., Ltd. | ₩ | - | ₩ | | - | ₩ | 161 |
| | Bigeum Resident Solar Power | | | | | | | |
| | Generation Co., Ltd. | | 3,500 | | | - | | 1 |
| | Korea Nuclear Partners Co., | | | | | | | |
| | Ltd. | | - | | | - | | 247 |
| | Hanhwa Solar Power | | | | | | | |
| | Private equity investment trust | | | | | | | 294 |
| Joint ventures | Saemangeum Solar Power | | - | | | - | | 294 |
| Joint Ventures | Co., Ltd. | | _ | | | _ | | 16,399 |
| | KAS INVESTMENT I LLC | | _ | | | _ | | 23,437 |
| | KAS INVESTMENT II LLC | | _ | | | _ | | 23,343 |
| | | ₩ | 3,500 | ₩ | | - | ₩ | 63,882 |
| | | | 00.40 | | | | | |
| | | | 2019 | | | | | |
| | | | | saction | | _ | | Cash |
| A : - 4 | Company name | | Borrowings | | Repayments | _ | | contribution |
| Associates | Hanhwa Solar Power | | | | | | | |
| | Private equity investment trust | ₩ | | ₩ | | _ | ₩ | 7,105 |
| | Godeok Clean Energy Co., | ** | _ | • | | _ | ** | 7,100 |
| | Ltd. | | _ | | | _ | | 1,830 |
| Joint ventures | Cheongsong Noraesan Wind | | | | | | | 1,000 |
| | Power Co., Ltd. | | - | | | - | | 1,127 |
| | Saemangeum Solar Power | | | | | | | |
| | Co., Ltd. | | - | | | _ | | 10,000 |
| | | ₩ | - | ₩ | | - | ₩ | 20,062 |

(ii) Borrowings

| | | | | | 20 | 20 | | | | | | |
|--------|--------------------|----------------|---|----------|----|----------|---|-----------|---|--------|----|-----------|
| | Company name | Type | J | anuary 1 | Вс | rrowings | R | epayments | | Others | De | cember 31 |
| Others | Korea | Facility loan | W | 27,175 | ₩ | - | ₩ | (3,002) | ₩ | - | ₩ | 24,173 |
| | Development | | | | | | | | | | | |
| | Bank (*1,2) | Operating loan | | 100,000 | | 100,000 | | (100,000) | | - | | 100,000 |
| | Energy Infra Asset | | | | | | | | | | | |
| | Management Co., | | | | | | | | | | | |
| | Ltd. (*1,2) | Facility loan | | - | | 46,877 | | - | | - | | 46,877 |
| | | | W | 127,175 | ₩ | 146,877 | W | (103,002) | W | - | ₩ | 171,050 |

^(*1) Details of collaterals pledged for related parties are described in Note 41.

^(*2) The interest expense recognized by the loan transaction with the related parties is \(\pi 3,028\) million.

| | | | | | 20 | 019 | | | | | | |
|--------|----------------------|----------------|----|---------|----|-----------|----|----------|---|--------|----|------------|
| | Company name | Туре | Ja | nuary 1 | Вс | orrowings | Re | payments | | Others | De | ecember 31 |
| Others | Korea Development | Facility Ioan | ₩ | 30,043 | ₩ | - | ₩ | (2,868) | ₩ | - | ₩ | 27,175 |
| | Bank(*) | Operating loan | | - | | 130,200 | | (30,200) | | - | | 100,000 |
| | | | ₩ | 30,043 | ₩ | 130,200 | ₩ | (33,068) | ₩ | - | ₩ | 127,175 |

(*) Details of collaterals pledged for related parties are described in Note 41.

Compensations to key executives of the Company for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | 2020 | 2019 | |
|---------------------|---|------|------|-----|
| Salaries | W | 939 | ₩ | 939 |
| Retirement benefits | | 48 | | 37 |
| | W | 987 | ₩ | 976 |

Details of collateral provided to related parties as of December 31, 2020 are as follows (Korean won in millions):

| | | | | Financiai |
|----------------------|---|--|--|--|
| Provided to | Assets pledged(*1) | Cr | edit limit | institution |
| Korea Offshore Wind | Korea Offshore Wind Power | 14/ | 20.004 | Woori Bank and |
| Noeul Green | Noeul Green Energy Co., Ltd. | ₩. | 20,884 | others Hana Bank and |
| Energy Co., Ltd. | Shares | | 4,197 | others |
| | 0 3 , | | 0 770 | Shinhan Bank |
| 0,7 | | | 0,770 | and others Woori Bank and |
| Wind Power Co., Ltd. | Power Co., Ltd. Shares | | 3,453 | others |
| | Power Co., Ltd. Noeul Green Energy Co., Ltd. Busan Green Energy Co., Ltd. Cheongsong Noraesan | Korea Offshore Wind Power Co., Ltd. Noeul Green Energy Co., Ltd. Busan Green Energy Co., Ltd. Cheongsong Noraesan Korea Offshore Wind Power Co., Ltd. Shares Noeul Green Energy Co., Ltd. Shares Busan Green Energy Co., Ltd. Shares Cheongsong Noraesan Wind | Korea Offshore Wind Power Co., Ltd. Noeul Green Energy Co., Ltd. Busan Green Energy Co., Ltd. Cheongsong Noraesan Korea Offshore Wind Power Co., Ltd. Shares Woeul Green Energy Co., Ltd. Shares Busan Green Energy Co., Ltd. Shares Cheongsong Noraesan Wind | Korea Offshore Wind Power Co., Ltd. Noeul Green Energy Co., Ltd. Busan Green Energy Co., Ltd. Cheongsong Noraesan Korea Offshore Wind Power Co., Ltd. Shares W 20,884 Noeul Green Energy Co., Ltd. Shares Busan Green Energy Co., Ltd. Shares 8,778 |

^(*1) As of December 31, 2020, the entire shares in related associates held by the Group are pledged as collateral to the financial institutions.

Details of derivatives transactions with related parties as of December 31, 2020 are as follows: (USD, HKD, CHF in thousands, Korean won in millions, KRW/USD, KRW/HKD, KRW/CHF)

| | | | | Contract | amour | nt | Contract into | | | |
|------------------|---------------------------|--|-----|----------|---------|---------|---------------|---------|------------------------|----------|
| | Counter party (*) | Contract year | Pay | | Receive | | Pay | Receive | Contract exchange rate | |
| Currency swap | Korea Development Bank | 2015.06.15~ 2025.06.15 2017.07.25~ | KRW | 111,190 | USD | 100,000 | 2.62% | 3.25% | ₩ | 1,111.90 |
| | | 2027.07.25 2018.04.03~ | KRW | 111,610 | USD | 100,000 | 2.31% | 3.13% | | 1,116.10 |
| | | 2028.03.13 2018.07.25~ | KRW | 108,600 | HKD | 800,000 | 2.69% | 3.35% | | 135.75 |
| | | 2023.07.25 2019.07.19~ | KRW | 170,280 | USD | 150,000 | 2.15% | 3.75% | | 1,135.20 |
| Currency | Korea Development | 2027.07.19 2017.12.27~ | KRW | 119,978 | CHF | 100,000 | 1.43% | 0.05% | | 1,199.78 |
| forward | Bank | 2021.07.12 | KRW | 104,849 | USD | 100,000 | - | - | | 1,048.49 |

^(*) The derivative transaction recognized a derivative valuation gain of ₩ 5,097 million and a derivative valuation loss of ₩ 16,893 million. It also recognized derivative transaction gains of ₩ 6,637 million and derivative transaction losses of ₩ 1,681 million.

40. Supplementary cash flow information

Significant non-cash transactions for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | _ | 2020 | 2019 |
|--|---|------------------------|-----------|
| Transfer of long-term borrowings and bonds to current portion Transfer of provisions for expenses of postprocessing, restoration, | ₩ | 1,171,988 W | 640,228 |
| purification to current portion | | 54,471 | 477,844 |
| Transfer of construction-in-progress to property, plant and equipment | | 431,255 | 3,261,888 |
| Recognition of assets retirement costs based on provision for restoration | | 880,628 | 2,425,668 |
| Transfer of spent fuel management charges to accrued expenses | | 395,921 | 376,103 |
| Transfer of inventories to storage of nuclear power fuel | | 1,055,974 | 1,129,374 |
| Transfer of long-term advance payments to right-of-use assets | | 207,947 | 1,007,212 |

Changes in liabilities arising from financing activities for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions):

| | | Cash | n flow | 1 | е | | |
|--|----------------------|--------------|----------------|-------------|---------------------------|--------------------------|------------------------|
| Oursell and the | January 1 | | Increase | Acquisition | Exchange rate fluctuation | Others | December 31 |
| Current portion of lease liabilities Lease | ₩ 20,223 | ₩ (31,050) | ₩ - | ₩ - | ₩ - | ₩ 31,472 | ₩ 20,645 |
| liabilities | 138,581 | - | - | 38,354 | (377) | (28,055) | 148,503 |
| Short-term borrowings Current portion | 210,000 | (1,017,750) | 1,147,750 | - | - | - | 340,000 |
| of long-term borrowings Long-term | 18,253 | (18,253) | - | - | - | 19,063 | 19,063 |
| borrowings Current portion | 147,917 | - | 166,800 | - | - | (19,063) | 295,654 |
| of bonds Bonds Dividends | 499,811 9,579,579 | (500,000) | - 1,116,881 | - | 66 (172,303) | 1,152,925 (1,145,048) | 1,152,802 9,379,109 |
| payable Derivative financial | - | (106,684) | - | - | - | 106,684 | - |
| instruments | (112,652) | (11,582) | 26,878 | | | 72,550 | (24,806) |
| | W10,501,712 | ₩(1,685,319) | W 2,458,309 | ₩ 38,354 | ₩ (172,614) | ₩ 190,528 | ₩ 11,330,970 |

40. Supplementary cash flow information (cont'd)

| | 2019 | | | | | | | |
|---|-------------|-------------|-------------|-------------|---------------------------|----------------------|---------------------|--|
| | | Cash | n flow | | | | | |
| | January 1 | Decrease | Increase | Acquisition | Exchange rate fluctuation | Others | December 31 | |
| Current portion of lease | \A/ | 10/ | 10/ | | 10/ | W 20 222 | | |
| liabilities Lease liabilities | ₩ - | ₩ - | ₩ - | ₩ - | | ₩ 20,223 (20,174) | ₩ 20,223 138,581 | |
| Short-term | - | , | - | 104,003 | 410 | (20,174) | , | |
| borrowings Current portion of long-term | - | (111,338) | 321,338 | - | - | - | 210,000 | |
| borrowings Long-term | 174,295 | (17,477) | - | - | - | (138,565) | 18,253 | |
| borrowings Current portion | 9,353 | - | - | - | - | 138,564 | 147,917 | |
| of bonds | 624,925 | (641,300) | - | - | 15,870 | 500,316 | 499,811 | |
| Bonds Derivative financial | 8,868,800 | - | 1,098,344 | - | 105,014 | (492,579) | 9,579,579 | |
| instruments | 41,311 | (2,193) | 59,819 | - | - | (211,589) | (122,652) | |
| | ₩ 9,718,684 | ₩ (798,576) | ₩ 1,479,501 | ₩ 184,605 | ₩ 121,302 | ₩ (203,804) | ₩ 10,501,712 | |

41. Commitment and contingencies

Ongoing litigations as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | Decemb | 020 | Decemb |)19 | | |
|----------------------|----------------|-----------------------|---------|----------------|-------|-------------|
| | Litigations in | | | Litigations in | | _ |
| | progress | ress Litigation value | | progress | Litig | ation value |
| Pending lawsuits (*) | 88 cases | ₩ | 101,954 | 85 cases | ₩ | 124,620 |

(*) Details of ongoing litigations as of December 31, 2020 are as follows (Korean won in millions):

| Court | Plaintiff | Defendant | Contents | L | itigation cost | Progress situation |
|---------------------------------|-----------------|-----------|--|---|-------------------|-----------------------------------|
| Seoul High Court | Individuals | | 2 Wages(*) | ₩ | 35,920 | The second trial |
| Supreme Court and others | Individuals | | 3 Wages(*) | | 1,258 | The third trial / The first trial |
| Daegu District Court | Individuals | | Wage(*) | | 225 | The first trial |
| Daegu District Court | Individuals | | Wage(*) | | 60 | The first trial |
| Daegu District Court | Individuals | Company | 2 Wages(*) | | 270 | The first trial |
| Daegu District Court and others | Individuals | Company | 7 Wages(*) | | 23,991 | The first trial |
| Seoul Central District Court | Individuals | | 1 Retirement pension | | 11,730 | The first trial |
| Seoul High Court | S&TC and others | | 1 Cancellation of vendor's contract | | 2,391 | The second trial |
| Seoul High Court and others | Individuals | | 70 cases, including compensation for damages | | 26,109 | Lawsuit pending |

^(*) As of December 31, 2020, the Group has a total of 16 ordinary wage-related lawsuits pending at the Seoul High Court and others. On February 3, 2017, 2 cases received their first trial and on December 31, 2017 1 case was in the second trial, and some of the plaintiffs won. The Group has paid the liability related to ordinary wages in 2017 and determines that the contingent liability associated with this case will not be significant.

The Group has reserved $\uppsi{4}17,135$ million of legal action provisions for current ongoing litigations. Although the final results cannot be predicted for case other than cases in which the legal action provisions are established, management expects that the outcome of the lawsuit will not have a significant impact on the Group's operations or financial status.

A group of plaintiffs (consisting of 2,166 individuals) filed a lawsuit against Nuclear Safety and Security Commission ("NSSC") regarding NSSC's approval on May 18, 2015 of extending the operation of Wolsong Unit 1 nuclear power plant. The NSSC won the case after the appeal was dismissed. Also, Greenpeace and others filed an administrative litigation against NSSC requesting cancellation of the construction permit of Shin-Kori Units 5 and 6, and the plaintiffs lost in the litigation based on the court trial on February 14, 2019. In response, the plaintiff filed an appeal on March 18, 2019, but on January 8, 2021, the plaintiff was rejected and lost the case. In response, the plaintiff filed an appeal and is currently undergoing a third trial at the Supreme Court. The Group is participating in these litigations as a stakeholder with the permission of the Court.

The Group determined that there is no present obligation regarding the payment of the periodic pre-work for main facilities by a particular client in relation to the Shin-Hanul Units 3 and 4 as of December 31, 2020. In addition, the Group determines that the probability of winning a lawsuit in the future is higher than that of losing it. Furthermore, the Group cannot reliably estimate the amount required to meet the obligations as of December 31, 2020.

As of December 31, 2020, the Group was sued by 3,910 people for "Implementation of contributions to retirement pension and claims for severance pay" and is in the process of the first trial and the Group has recognized a provision for litigation of \$41,730 million.

Lines of credit provided by financial institutions as of December 31, 2020 are as follows (Korean won in millions, USD, EUR in thousands):

| Description | Financial institution | Currency | Guarantee limit | Outstanding amount |
|--|--|----------|--------------------|--------------------|
| Commitments on Bank-overdraft | Woori Bank | KRW | 50,000 | - |
| | Nonghyup Bank | KRW | 100,000 | 100,000 |
| | Hana Bank | KRW | 50,000 | , |
| | Kookmin Bank | KRW | 100,000 | - |
| | Korea Development Bank | KRW | 100,000 | 100,000 |
| Trade finance | Mistui Sumitomo Bank | USD | 100,000 | - |
| | BNP Paribas | USD | 150,000 | - |
| | The Export-Import Bank of Korea | USD | 100,000 | - |
| | Singapore Development Bank | USD | 150,000 | - |
| | Societe Generale | USD | 100,000 | - |
| | Standard Chartered | USD | 150,000 | - |
| Certification of payment on L/C | Nonghyup Bank | USD | 50,000 | 2,085 |
| Certification of performance guarantee on contract | National Bank of Pakistan | USD | 302 | 302 |
| | Seoul Guarantee Insurance Company | USD | 138 | 138 |
| | Hana Bank | EUR | 100 | 100 |
| Loan limit | Korea Development Bank | KRW | 251,600 | 139,491 |
| | Kookmin Bank | KRW | 230,800 | 166,800 |
| | Woori Bank | KRW | 6,600 | - |
| | Industrial Bank of Korea | KRW | 3,000 | - |
| Certification of bidding | KEB Hana Bank | EUR | 2 | 2 |
| Limit amount available for card | Nonghyup Card Co., Ltd. | KRW | 13,004 | 2,549 |
| 0.11 | Woori Card Co., Ltd. | KRW | 4,100 | 2,828 |
| Others | Industrial Bank of Korea | KRW | 20,240 | 240 |
| | Shinhan Bank | KRW | 10,000 | - |
| | Hana Bank | KRW | 61,000 | - |
| | Nonghyup Bank | KRW | 50,000 | - |
| | Woori Bank | KRW | 10,000 | - |
| | Nonghyup Bank Seoul Guarantee Insurance | USD | 20,000 | - |
| | Company | USD | 207 | 207 |

The Group voluntarily suspended operations of the Gangneung hydroelectric generating plant, with a carrying amount of \$\pmu69,532\$ million as of December 31, 2020, to improve the quality of water used in generating electricity. The expenses related to the suspension of operations of \$\pmu46\$ million and depreciation on the utility plant amounting to \$\pmu6,604\$ million are charged to other expenses for the year ended December 31, 2020. Regarding the improvement of water quality, the results of damages compensation for the local residents cannot be reasonably estimated, and the Group is under negotiations with Gangneung City and related stakeholders to restart the Gangneung hydroelectric generating plant as of December 31, 2020.

Major contracts related to constructions:

Agreements for the purchase of property, plant and equipment as of December 31, 2020 and 2019 are as follows (Korean won in millions)

| | Dec | cember 31, | December 31, | | |
|---|-----|------------|--------------|------------|--|
| | | 2020 | | 2019 | |
| Agreements for the purchase of property, plant and equipment(*) | ₩ | 25,642,120 | ₩ | 24,430,487 | |

(*) The above amount is the total business standard amount of the construction work.

Contractual amounts for power plants either completed or not executed as of December 31, 2020 and 2019 are as follows (Korean won in millions):

| | December 31, 2020 | | | | December 31, 2019 | | | |
|---|---------------------|------------|-------------------|-----------|---------------------|------------|-------------------|-----------|
| | Contractual amounts | | Remaining balance | | Contractual amounts | | Remaining balance | |
| Construction of Shin-Kori units (#3,4)(*) Construction of Shin-Kori | ₩ | 7,573,098 | ₩ | - | ₩ | 7,498,951 | ₩ | - |
| units (#5,6) Construction of Shin-Hanul | | 8,625,387 | | 3,256,117 | | 8,625,387 | | 4,479,956 |
| units (#1,2) | | 9,443,635 | | 160,512 | | 8,306,149 | | |
| | ₩ | 25,642,120 | ₩ | 3,416,629 | ₩ | 24,430,487 | ₩ | 4,479,956 |

^(*) Construction of Shin-Kori units (#3,4) was completed during the year ended December 31, 2019.

The Group has various purchase commitments for uranium, and the details of the major contracts as of December 31, 2020 are as follows:

| | Contract Year | Quantity |
|-----------------------------------|---------------|-----------------|
| Concentrate | 2020~2030 | 32,435 Ton U3O8 |
| Transformation | 2020~2030 | 18,088 Ton U |
| Enrichment | 2020~2030 | 17,667 Ton SWU |
| Fabrication (light-water reactor) | 2019~2020 | 756 Ton U |
| Fabrication (heavy-water reactor) | 2019~2020 | 401 Ton U |
| Fabrication (initial core) | 2009~2024 | 415 Ton U |

Details of collateral provided by the Group for long-term borrowings as of December 31, 2020 are as follows (Korean won in millions):

| | Туре | Loa | Loan amounts | | Loan limit | | aximum mount aranteed | Financial institution |
|------------------------------|---------------|-----|--------------|---|------------|---|-----------------------------|-----------------------------------|
| Long-term borrowings (*1) | Facility loan | ₩ | 139,490 | ₩ | 251,600 | ₩ | 327,080 | Korea Development Bank and others |
| Long-term borrowings (*2) | Facility loan | | 166,800 | | 230,800 | | 276,960 | Kookmin Bank and others |
| | | ₩ | 306,290 | ₩ | 482,400 | ₩ | 604,760 | |

^(*1) As of December 31, 2020, all shares of Gyeonggi Green Energy Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above from shareholders including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledged for plants and other pledges were established.

Uncertainties relating to COVID19

In order to prevent the spread of COVID-19, various prevention and control measures including restrictions on movement are being implemented worldwide, and as a result, the global economy is widely affected. In addition, the government has announced various support measures to cope with the impact of COVID-19.

The effect of COVID 19 and the effect of the government support measures on future impairment of inventories, property, plant and equipment and intangible assets, recognition of provisions and the feasibility of deferred tax assets cannot be reasonably estimated as of December 31, 2020. Accordingly, such impact has not been reflected in the consolidated financial statements.

^(*2) As of December 31, 2020, all shares of Incheon Fuel Cell Co., Ltd., one of the Group's subsidiaries, were provided as collateral related to the long-term borrowings above from shareholders including the Group. Additionally, pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledged for plants and other pledges were established.

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