KOREA ELECTRIC POWER CORP
Form 20-F
April 30, 2018
Table of Contents

As filed with the Securities and Exchange Commission on April 30, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report

For the transition period from to

Commission File Number: 001-13372

KOREA ELECTRIC POWER CORPORATION

(Exact name of registrant as specified in its charter)

N/A	**The Republic of Korea**
(Translation of registrant s name into English)	***(Jurisdiction of incorporation or organization)***

55 Jeollyeok-ro, Naju-si, Jeollanam-do, 58217, Korea

(Address of principal executive offices)

Yoon Hye Cho, +82 61 345 4213, yoonhye.cho@kepco.co.kr, +82 61 345 4299

55 Jeollyeok-ro, Naju-si, Jeollanam-do, 58217, Korea

(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class:	**Name of each exchange on which registered:**
Common stock, par value Won 5,000 per share	**New York Stock Exchange***
	New York Stock Exchange

American depositary shares, each representing one-half of share of common stock

* Not for trading, but only in connection with the listing of American depositary shares on the New York Stock Exchange, pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

One Hundred Year 7.95% Zero-to-Full Debentures, due April 1, 2096

6% Debentures due December 1, 2026

7% Debentures due February 1, 2027

6 3/4% Debentures due August 1, 2027

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the last full fiscal year covered by the annual report:

641,964,077 shares of common stock, par value of Won 5,000 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Note Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days: Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files): Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Emerging Growth Company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

The term new or revised financial accounting standard refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes No

Table of Contents

TABLE OF CONTENTS

Table of Contents

Table of Contents

CERTAIN DEFINED TERMS AND CONVENTIONS

All references to Korea or the Republic in this annual report on Form 20-F, or this annual report, are references to the Republic of Korea. All references to the Government in this annual report are references to the government of the Republic. All references to we, us, our, ours, the Company or KEPCO in this annual report are references to K Electric Power Corporation and, as the context may require, its subsidiaries, and the possessive thereof, as applicable. All references to the Ministry of Trade, Industry and Energy and the Ministry of Strategy and Finance include the respective predecessors thereof. All references to tons are to metric tons, equal to 1,000 kilograms, or 2,204.6 pounds. Any discrepancies in any table between totals and the sums of the amounts listed are due to rounding. All references to IFRS in this annual report are references to the International Financial Reporting Standards as issued by the International Accounting Standard Board. Unless otherwise stated, all of our financial information presented in this annual report has been prepared on a consolidated basis and in accordance with IFRS.

In addition, in this annual report, all references to:

EWP are to Korea East-West Power Co., Ltd.,

KHNP are to Korea Hydro & Nuclear Power Co., Ltd.,

KOMIPO are to Korea Midland Power Co., Ltd.,

KOSEP are to Korea South-East Power Co., Ltd.,

KOSPO are to Korea Southern Power Co., Ltd., and

KOWEPO are to Korea Western Power Co., Ltd.,

each of which is our wholly-owned generation subsidiary.

FORWARD-LOOKING STATEMENTS

This annual report includes forward-looking statements (as defined in Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934), including statements regarding our expectations and projections for future operating performance and business prospects. The words believe, expect, anticipate, estimate, project similar words used in connection with any discussion of our future operation or financial performance identify forward-looking statements. In addition, all statements other than statements of historical facts included in this annual report are forward-looking statements. Although we believe that the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. We caution you not to place undue reliance on the forward-looking statements, which speak only as of the date of this annual report.

This annual report discloses, under the caption Item 3.D. Risk Factors and elsewhere, important factors that could cause actual results to differ materially from our expectations (Cautionary Statements). All subsequent written and

oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the Cautionary Statements.

Table of Contents

PART I

ITEM 1. *IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS*

Not applicable.

ITEM 2. *OFFER STATISTICS AND EXPECTED TIMETABLE*

Not applicable.

ITEM 3. *KEY INFORMATION*

Item 3.A. Selected Financial Data

The selected consolidated financial data set forth below as of and for the years ended December 31, 2013, 2014, 2015, 2016 and 2017 have been derived from our audited consolidated financial statements which have been prepared in accordance with IFRS.

You should read the following data with the more detailed information contained in Item 5. Operating and Financial Review and Prospects and our consolidated financial statements included in Item 18. Financial Statements. Historical results do not necessarily predict future results.

Consolidated Statement of Comprehensive Income (Loss) Data

	2013	2014	2015	2016	2017	2017
	(in billions of Won and millions of US$, except per share data)[1]					
Sales	53,713	57,123	58,582	59,763	59,336	$ 55,589
Cost of sales	50,596	49,763	45,458	45,550	52,099	48,809
Gross profit	3,117	7,360	13,124	14,213	7,237	6,780
Selling and administrative expenses	1,923	1,924	2,153	2,639	2,763	2,588
Other income	625	666	699	652	689	645
Other gains	129	107	8,611	70	157	147
Operating profit	1,948	6,209	20,281	12,296	5,320	4,984
Finance expense, net	(2,302)	(2,255)	(1,832)	(1,646)	(1,596)	(1,496)
Income (loss) before income taxes	(396)	4,229	18,656	10,513	3,614	3,386
Income tax (expense) benefit	571	(1,430)	(5,239)	(3,365)	(2,173)	(2,036)
Profit for the period	174	2,799	13,416	7,148	1,441	1,350
Other comprehensive income (loss)	186	(358)	34	(2)	(95)	(89)
Total comprehensive income	360	2,441	13,450	7,146	1,346	1,261
Profit attributable to:						
Owners of the Company	60	2,687	13,289	7,048	1,299	1,217
Non-controlling interests	114	112	127	100	142	133

Total comprehensive income attributable to:						
Owners of the Company	245	2,336	13,308	7,042	1,230	1,152
Non-controlling interests	115	105	142	104	116	109
Earnings per share						
Basic[(2)]	96	4,290	20,701	10,980	2,023	1.90
Earnings per ADS						
Basic[(2)]	48	2,145	10,351	5,490	1,012	0.95
Dividends per share	90	500	3,100	1,980	790	0.74

Table of Contents

Consolidated Statements of Financial Position Data

	As of December 31,					
	2013	2014	2015	2016	2017	2017
	(in billions of Won and millions of US$, except share and per share data)[1]					
Net working capital deficit[3]	(4,945)	(4,780)	(686)	(5,031)	(4,283)	$ (4,013)
Property, plant and equipment, net	129,638	135,812	141,361	145,743	150,882	141,355
Total assets	155,527	163,708	175,257	177,837	181,789	170,310
Total shareholders equity	51,451	54,825	67,942	73,051	72,965	68,358
Equity attributable to owners of the Company	50,260	53,601	66,634	71,724	71,682	67,156
Non-controlling interests	1,191	1,224	1,308	1,327	1,283	1,202
Share capital	3,210	3,210	3,210	3,210	3210	3,007
Number of common shares as adjusted to reflect any changes in capital stock	641,964,077	641,964,077	641,964,077	641,964,077	641,964,077	641,964,077
Long-term debt (excluding current portion)	52,801	55,720	50,907	44,700	45,624	42,743
Other long term liabilities	31,062	31,563	33,697	35,347	39,776	37,264

Notes:

(1) The financial information denominated in Won as of and for the year ended December 31, 2017 has been translated into U.S. dollars at the exchange rate of Won 1,067.4 to US$1.00, which was the Noon Buying Rate as of December 29, 2017.

(2) Basic earnings (loss) per share are calculated by dividing net income available to holders of our common shares by the weighted average number of common shares issued and outstanding for the relevant period. Basic earnings (loss) per ADS have been computed as if all of our issued and outstanding common shares are represented by ADSs during each of the years presented. Each ADS represents two common shares. Dilutive earnings (loss) per share were the same as basic earnings (loss) per share for the years ended December 31, 2013 through 2017 since

there were no potential dilutive instruments.

(3) Net working capital is defined as current assets minus current liabilities. For the periods indicated, current liabilities exceeded current assets, which resulted in working capital deficit for such periods.

Currency Translations and Exchange Rates

In this annual report, unless otherwise indicated, all references to Won, KRW or are to the currency of Korea, all references to U.S. dollars, Dollars, $ or US$ are to the currency of the United States of America; all references to or are references to the currency of the European Union; all references to Yen or ¥ are references to the currency of Japan; all references to A$ are to the currency of Australia; and all references to RMB are to the currency of the People s Republic of China. Unless otherwise indicated, all translations from Won to U.S. dollars were made at Won 1,067.4 to US$1.00, which was the noon buying rate of the Federal Reserve Board (the Noon Buying Rate) in effect as of December 29, 2017, which rates are available on the H.10 statistical release of the Federal Reserve Board. On April 16, 2018, the Noon Buying Rate was Won 1,071.6 to US$1.00. The exchange rate between the U.S. dollar and Korean Won may be highly volatile from time to time and the U.S. dollar amounts referred to in this annual report should not be relied upon as an accurate reflection of our results of operations. No representation is made that the Won or U.S. dollar amounts referred to in this annual report 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.

Table of Contents

The following table sets forth, for the periods and dates indicated, certain information concerning the Noon Buying Rate in Won per US$1.00.

Year Ended December 31,	At End of Period	Average[(1)]	High	Low
		(Won per US$1.00)		
2013	1,055.3	1,094.6	1,161.3	1,050.1
2014	1,090.9	1,054.0	1,117.7	1,008.9
2015	1,169.3	1,133.7	1,196.4	1,063.0
2016	1,203.7	1,160.5	1,242.6	1,090.0
2017	1,067.4	1,141.6	1,207.2	1,067.4
October	1,115.7	1,130.9	1,146.5	1,115.7
November	1,084.8	1,099.8	1,120.0	1,079.3
December	1,067.4	1,082.9	1,094.6	1,067.4
2018 (through April 16)	1,071.6	1,070.1	1,093.0	1,054.6
January	1,068.3	1,065.6	1,073.6	1,057.6
February	1,082.1	1,078.5	1,093.0	1,065.3
March	1,061.0	1,069.9	1,081.3	1,060.3
April (through April 16)	1,071.6	1,064.6	1,071.6	1,054.6

Source: Federal Reserve Board

Note:

(1) The average rates for annual and interim periods were calculated by taking the simple average of the Noon Buying Rates on the last day of each month during the relevant period. The average rates for the monthly periods (or a portion thereof) were calculated by taking the simple average of the daily Noon Buying Rates during the relevant month (or a portion thereof).

Item 3.B. Capitalization and Indebtedness

Not Applicable

Item 3.C. Reasons for the Offer and Use of Proceeds

Not Applicable

Item 3.D. Risk Factors

Our business and operations are subject to various risks, many of which are beyond our control. If any of the risks described below actually occurs, our business, financial condition or results of operations could be seriously harmed.

Risks Relating to KEPCO

Increases in fuel prices will adversely affect our results of operations and profitability as we may not be able to pass on the increased cost to customers at a sufficient level or on a timely basis.

In 2017, fuel costs constituted 31.7% of our cost of sales, and the ratio of fuel costs to our sales was 27.8%. Our generation subsidiaries purchase substantially all of the fuel that they use (except for anthracite coal) from suppliers outside Korea at prices determined in part by prevailing market prices in currencies other than Won. For example, most of the bituminous coal requirements (which accounted for approximately 52.2% of our fuel requirements in 2017 in terms of electricity output) are imported principally from Indonesia, Australia, Russia and, to a lesser extent, South Africa and others, which accounted for approximately 38%, 31%, 11%, 9% and

Table of Contents

11%, respectively, of the annual bituminous coal requirements of our generation subsidiaries in 2017. Approximately 82% of the bituminous coal requirements of our generation subsidiaries in 2017 were purchased under long-term contracts and the remaining 18% from the spot market. Pursuant to the terms of our long-term supply contracts, prices are adjusted periodically based on prevailing market conditions. In addition, our generation subsidiaries purchase a significant portion of their fuel requirements under contracts with limited duration. See Item 4.B. Business Overview Fuel.

The prices of our main fuel types, namely, bituminous coal, oil and liquefied natural gas, or LNG, fluctuate, sometimes significantly, in tandem with their international market prices. For example, the average daily spot price of free on board Newcastle coal 6300 GAR published by Platts increased from US$66.8 per ton in 2016 to US$88.3 per ton in 2017 and to US$93.4 per ton as of April 16, 2018. The prices of oil and LNG are substantially dependent on the price of crude oil, and according to Bloomberg (Bloomberg Ticker: PGCRDUBA), the average daily spot price of Dubai crude oil increased from US$41.4 per barrel in 2016 to US$53.1 per barrel in 2017 and to US$68.4 per barrel as of April 16, 2018. We cannot assure you that fuel prices will remain stable or will not significantly increase in the remainder of 2018 or thereafter. If fuel prices increase substantially in the future within a short span of time, our generation subsidiaries may be unable to secure requisite fuel supplies at prices commercially acceptable to them. In addition, any significant interruption or delay in the supply of fuel, bituminous coal in particular, from any of their suppliers may cause our generation subsidiaries to purchase fuel on the spot market at prices higher than the prices available under existing supply contracts, which would result in an increase in fuel costs.

Because the Government regulates the rates we charge for the electricity we sell to our customers (see Item 4.B. Business Overview Sales and Customers Electricity Rates), our ability to pass on fuel and other cost increases to our customers is limited. If fuel prices increase rapidly and substantially and the Government, out of concern for inflation or for other reasons, maintains the current level of electricity tariff or does not increase it to a level to sufficiently offset the impact of high fuel prices, the fuel price increases will negatively affect our profit margins or even cause us to suffer operating and/or net losses, and our business, financial condition, results of operations and cash flows would suffer.

The Government may also set or adjust electricity tariff rates to serve particular policy goals that may not be necessarily responsive to fuel price movements. For example, effective January 1, 2017, the Government made several adjustments to the existing rate structure in order to ease the burden of electricity tariff on residential consumers as well as promote the use of renewable energy. First, the progressive rate structure applicable to the residential sector, which applies a gradient of increasing tariff rates for heavier electricity usage, was changed from a six-tiered structure with the highest rate being no more than 11.7 times the lowest rate (which gradient system has been in place since 2005) into a three-tiered structure with the highest rate being no more than three times the lowest rate, in order to reflect the changes in the pattern of electricity consumption and reduce the electricity charges payable by consumers. Second, a new tariff structure was implemented to encourage energy saving by offering rate discounts to residential consumers that voluntarily reduce electricity consumption while charging special high rates to residential consumers with heavy electricity consumption during peak usage periods in the summer and the winter. Third, a temporary rate discount will apply during 2017 to 2019 to investments in environmentally friendly facilities such as energy storage systems, renewable energy and electric cars. The temporary rate discount to investments in energy storage systems and renewable energy was extended until 2020. Such adjustments may lower our revenues from the sale of electricity and accordingly have a material adverse effect on our results of operation, financial condition and cash flows.

In addition, partly because the Government may have to undergo a lengthy deliberative process to approve an increase in electricity tariff, which represents a key component of the consumer price index, the electricity tariff may not be adjusted to a level sufficient to ensure a fair rate of return to us in a timely manner or at all, and we cannot assure that any future tariff increase by the Government will be sufficient to fully offset the adverse impact on our results of

operations from current or potential rises in fuel costs. On the other hand, if fuel prices decrease, the public may demand a corresponding decrease in electricity tariff rates, and as a result the

Table of Contents

Government may decrease electricity tariff rates; however, we cannot assure you that the resulting tariff rate reduction will not be excessive and thus have a detrimental effect on our profit margins, results of operations or cash flows or that, if the fuel prices were to rise again subsequent to the tariff reduction, the tariff rates would be further adjusted upwards in a timely manner, in sufficient amounts or at all so as to fully offset the adverse impact from the increase in fuel prices.

The Government may adopt policy measures to substantially restructure the Korean electric power industry or our operational structure, which may have a material adverse effect on our business, operations and profitability.

From time to time, the Government considers various policy initiatives to foster efficiency in the Korean electric power industry, and at times have adopted policy measures that have substantially modified our business and operations. For example, in January 1999, with the aim of introducing greater competition in the Korean electric power industry and thereby improving its efficiency, the Government announced a restructuring plan for the Korean electric power industry, or the Restructuring Plan. For a detailed description of the Restructuring Plan, see Item 4.B. Business Overview Restructuring of the Electric Power Industry in Korea. As part of this initiative, in April 2001 the Government established the Korea Power Exchange to enable the sale and purchase of electricity through a competitive bidding process, established the Korea Electricity Commission to ensure fair competition in the Korean electric power industry, and, in order to promote competition in electricity generation, split off our electricity generation business to form one nuclear generation company and five non-nuclear generation companies, in each case, to be wholly owned by us. In 2002, the Government introduced a plan to privatize one of our five non-nuclear generation subsidiaries, but this plan was suspended indefinitely in 2004 due to prevailing market conditions and other policy considerations.

In August 2010, the Ministry of Trade, Industry and Energy announced the Proposal for the Improvement in the Structure of the Electric Power Industry, which was designed to promote responsible management by and improve operational efficiency of government-affiliated electricity companies by fostering competition among them. Pursuant to this proposal, while our six generation subsidiaries continued to be our wholly-owned subsidiaries, in January 2011 the six generation subsidiaries were officially designated as market-oriented public enterprises (same as us) under the Act on the Management of Public Institutions, whereupon the President of Korea appoints the president and the standing director who is to become a member of the audit committee of each such subsidiary; the selection of non-standing directors of each such subsidiary is subject to approval by the minister of the Ministry of Strategy and Finance; the president of each such subsidiary is required to enter into a management contract directly with the minister of the Ministry of Trade, Industry and Energy; and the Public Agencies Operating Committee (which is comprised largely of Government officials and those recommended by Government officials) conducts performance evaluation of such subsidiaries. Previously, our president appointed the president and the statutory auditor of each such subsidiary; the selection of non-standing directors of each such subsidiary was subject to approval by our president; the president of each such subsidiary entered into a management contract with our president; and our evaluation committee conducted performance evaluation of such subsidiaries. As a result of these changes, our six generation subsidiaries took on additional operational responsibilities and management autonomy with respect to construction and management of generation units and procurement of fuel, while we as the parent company continued to oversee and coordinate, among others, finances, corporate governance, overseas businesses, including nuclear export technology and overseas resource development, that jointly affect us and our generation subsidiaries. See also Item 16G. Corporate Governance The Act on the Management of Public Institutions Applications of the Act on Our Generation Subsidiaries,

In June 2016, the Government announced the Proposal for Adjustment of Functions of Public Institutions (Energy Sector) for the purpose of streamlining the operations of government-affiliated energy companies by discouraging them from engaging in overlapping or similar businesses with each other, reducing non-core assets and activities and

improving management and operational efficiency. The initiatives contemplated in this proposal that would affect us and our generation subsidiaries include the following: (i) the generation companies

Table of Contents

should take on greater responsibilities in overseas resource exploration and production projects as these involve procurement of fuels necessary for electricity generation while fostering cooperation among each other through closer coordination, (ii) KHNP should take a greater role in export of nuclear technology, and (iii) the current system of retail sale of electricity to end-users should be liberalized to encourage more competition. In accordance therewith, we transferred a substantial portion of our assets and liabilities in our overseas resource business to our generation subsidiaries as of December 31, 2016. In addition, pursuant to this Proposal, we considered a sale in the public market of a minority of our shares in our five non-nuclear generation subsidiaries, KEPCO KDN and KHNP. However, the planned sales have been put on hold, primarily due to prevailing market conditions. In any event, we plan to maintain a controlling stake in each of these subsidiaries.

Other than as set forth above, we are not aware of any specific plans by the Government to resume the implementation of the Restructuring Plan or otherwise change the current structure of the electric power industry or the operations of us or our generation subsidiaries materially in the near future. However, for reasons relating to changes in policy considerations, socio-political, economic and market conditions and/or other factors, the Government may resume the implementation of the Restructuring Plan or initiate other steps that may change the structure of the Korean electric power industry or the operations of us or our generation subsidiaries materially. Any such measures may have a negative effect on our business, results of operations and financial condition. In addition, the Government, which beneficially owns a majority of our shares and exercises significant control over our business and operations, may from time to time pursue policy initiatives that could directly or indirectly impact our business and operations, and such initiatives may vary from the interest and objectives of our other shareholders.

Our capacity expansion plans, which are principally based on projections on long-term supply and demand of electricity in Korea, may prove to be inadequate.

We and our generation subsidiaries make plans for expanding or upgrading our generation capacity and transmission infrastructure based on the Basic Plan Relating to the Long-Term Supply and Demand of Electricity, or the Basic Plan, which is generally revised and announced every two years by the Government. In July 2015, the Government announced the Seventh Basic Plan relating to the future supply and demand of electricity, focusing on stable supply of electricity and increasing the portion of low carbon electricity supply sources, among others. In December 2017, the Government announced the Eighth Basic Plan to revise the Seventh Basic Plan, for the former to be effective for the period from 2017 to 2031. The Eighth Basic Plan focuses on, among other things, (i) decreasing the reliance on nuclear and coal-based supply sources, (ii) increasing utilization of renewable energy sources and (iii) balancing the existing cost-based pool system of purchase of electricity with an environmentally-focused pool system, in order to increase utilization of LNG energy sources, which are cleaner but more expensive than nuclear or coal energy sources. Furthermore, the Eighth Basic Plan includes the following implementing measures: (i) six new nuclear generation units in a planning stage would not be constructed, (ii) extension of life of 10 decrepit nuclear generation units would not be granted, (iii) Wolsong #1 unit is not counted as part of domestic energy generation capacity, (iv) seven decrepit coal-fired generation plants will be retired by 2022, (v) six other coal-fired generation plants shall be converted to LNG fuel use and (vi) domestic renewable energy generation capacity shall be expanded to 58.5 gigawatts by 2030.

In January 2014, prior to the announcement of the Seventh Basic Plan, the Ministry of Trade, Industry and Energy adopted the Second Basic National Energy Plan following consultations with representatives from civic groups, the power industry and academia. The Second Basic National Energy Plan, which is a comprehensive plan that covers the entire spectrum of energy industries in Korea, covers the period from 2014 to 2035 and focuses on the following six key tasks: (i) shifting the focus of energy policy to demand management with a goal of reducing the growth of electricity demand by 15% by 2035 through efficiency enhancement programs compared to the projected growth in the absence of such efficiency enhancement programs, (ii) establishing a geographically decentralized electricity generation system so as to reduce transmission losses with a goal of supplying at least 15% of total electricity through

such system by 2035, (iii) applying latest greenhouse gas

Table of Contents

emission reduction technologies to newly constructed generation units in order to further promote safety and security, (iv) strengthening resource exploration and fuel procurement capabilities to enhance Korea s energy security, (v) ensuring stable supply of energy and increasing the portion of electricity supplied from renewable sources to 11% by 2035, (vi) reinforcing the system for stable supply of conventional energy, such as oil and gas, and (vii) introducing in 2015 an energy voucher system in lieu of a tariff discount system for the benefit of consumers in the low income group. In addition, the Second Basic National Energy Plan revised the target level of electricity generated by nuclear sources as a percentage of total electricity generated to 29%, compared to 41% under the First Basic National Energy Plan announced in 2008, which covered the period from 2008 to 2030. In March 2018, the Government announced its plan to establish the Third Basic National Energy Plan by the end of 2018.

We cannot assure that the Eighth Basic Plan, the Second Basic National Energy Plan, or their respective successor plans will successfully achieve their intended goals, the foremost of which is to ensure, through carefully calibrated capacity expansion and other means, balanced overall electricity supply and demand in Korea at affordable costs to end users while promoting efficiency and environmental friendliness in the consumption and production of electricity. If there is significant variance between the projected electricity supply and demand considered in planning our capacity expansions and the actual electricity supply and demand, or if these plans otherwise fail to meet their intended goals or have other unintended consequences, this may result in inefficient use of our capital, mispricing of electricity and undue financing costs on the part of us and our generation subsidiaries, among others, which may have a material adverse effect on our results of operations, financial condition and cash flows.

From time to time, we may experience temporary power shortages or circumstances bordering on power shortages due to factors beyond our control, such as extreme weather conditions. Such circumstances may lead to increased end-user complaints and greater public scrutiny, which may in turn require us to modify our capacity expansion plans, and if we were to substantially modify our capacity plans, this might result in additional capital expenditures and, as a result, have a material adverse effect on our results of operations, financial condition and cash flows.

Although the Government makes significant efforts to encourage conservation of electricity, including through public education campaigns, there is no assurance that such efforts will have the desired effect of substantially reducing the demand for electricity or improving efficient use thereof.

We are subject to various environmental regulations and related government initiatives, including in relation to climate change, which could cause significant compliance costs and operational liabilities.

We are subject to national, local and overseas environmental laws and regulations, including increasing pressure to reduce emission of carbon dioxide from our electricity generation activities as well as our natural resource development endeavors overseas. Our operations could expose us to the risk of substantial liability relating to environmental, health and safety issues, such as those resulting from the discharge of pollutants and carbon dioxide into the environment and the handling, storage and disposal of hazardous materials. We may be responsible for the investigation and remediation of environmental conditions at current or former operational sites. We may also be subject to related liabilities (including liabilities for environmental damage, third party property damage or personal injury) resulting from lawsuits brought by governments or private litigants. In the course of our operations, hazardous wastes may be generated, disposed of or treated at third party-owned or -operated sites. If those sites become contaminated, we could also be held responsible for the cost of investigation and remediation of such sites for any related liabilities, as well as for civil or criminal fines or penalties.

We intend to fully comply with our environmental obligations. However, our environmental measures, including the use of, or replacement with, environmentally friendly but more expensive parts and equipment and budgeting capital expenditures for the installation or modification of such facilities, may result in increased

Table of Contents

operating costs and liquidity requirement. The actual cost of installation, replacement, modification and/or operation of such equipment and related liquidity requirement may depend on a variety of factors that are beyond our control. There is no assurance that we will continue to be in material compliance with legal or regulatory requirements or satisfy social norms and expectations in the future in relation to the environment, including in respect of climate change.

In recent years, partly driven by growing public awareness and sensitivity toward climate change and other environmental issues as well as in an effort to capture the economic and social potential associated with renewable energy and new energy -related industries (such as smart grids, energy storage systems and electrical vehicles, among others), the Government has introduced and implemented a number of new measures designed to reduce carbon emission, minimize environmental damage and spur related business opportunities. Some key examples of such Government initiatives pertinent to our and our generation subsidiaries operations are as follows:

Carbon Emission Trading System, Related Emission Reduction Targets and the Greenhouse Gas Reduction Roadmap. In accordance with the Act on Allocation and Trading of Greenhouse Gas Emission Allowances, enacted in March 2013, the Government is currently in the process of implementing a carbon emission trading system under which the Government will allocate the amount of permitted carbon emission to companies by industry and a company whose business emits more carbon than the permitted amount may purchase the right to emit more carbon through the carbon emission trading exchange. This system is expected to be implemented in three stages. During the first phase (2015 to 2017), the Government set up and made a test run of the trading system to ensure its smooth operation; during this phase, the carbon emission rights were allocated without charge. During the second phase (2018 to 2020), the system will be applied to a limited scope of industries and companies, where the carbon emission right will be allocated at a relatively low price, but not freely. The amount of required reduction for the second phase of 2018 to 2020 is expected to be determined by June 2018. During the third phase (2021 to 2025), the Government plans to run the system on an expanded scale with aggressive carbon emission reduction targets. In December 2016, the Government announced the Climate Change Response Initiatives and 2030 National Greenhouse Gas Reduction Roadmap, which set forth the carbon emission trading system as one of the primary means to reach the emission and greenhouse gas reduction targets of the policies. The 2030 National Greenhouse Gas Reduction Roadmap sets forth a national reduction target of greenhouse gas by 219 million tons in the aggregate, amounting to a 25.7% reduction by 2030. The roadmap also set forth reduction targets for eight domestic sectors and the first three sectors with the largest reduction targets are electricity generation, industry and buildings. Our business is classified as part of the electricity generation sector, for which greenhouse gas reduction of 64.5 million tons is requested by year 2030. We are aiming to contribute to 80% of such reduction target for the sector, while such reduction target may change pursuant to an amendment to the 2030 National Greenhouse Gas Reduction Roadmap which the Government is expected to announce in 2018. Adhering to such emission and greenhouse gas reduction requirement is expected to result in our incurring significant compliance costs.

Regulation of Decrepit Coal-Fired Generation Units. As a measure to address the high level of particulate matter pollution, the Government temporarily suspended the operations of eight coal-fired generation units that are 30 years or older throughout the month of June 2017. Subsequently, in July 2017, two of these units were shut down completely and one unit switched fuel from coal to wood pallets. As part of the Comprehensive Measures against Particulate Matter and the Eighth Basic Plan, announced by the Government in September 2017 and December 2017, respectively, the Government set forth the following

policy directions relating to coal-fired generation units: (i) two coal-fired generation units scheduled for construction and four existing coal-fired generation units shall convert to LNG fuel use, (ii) in principle, construction of new coal-fired generation units shall not be planned, (iii) seven of the coal-fired generation units that are 30 years or older will be shut down on an accelerated schedule, (iv) coal-fired generation units that are 30 years or older shall temporarily cease operations from March through June of each year, (v) coal-fired generation units shall be put through comprehensive functional and environmental upgrades and (vi) coal-fired generation units shall be

Table of Contents

subject to emission standards that are twice as more rigorous than the current standards to be in effect by the first half of 2018. Although such plans may be subject to change, compliance with such measures is expected to result in our incurring significant costs, including in connection with adherence to more stringent particulate matter pollution regulations, retrofitting and overall replacement of environmental facilities.

Coal Consumption Tax. In January 2014, largely based on policy considerations of tax equity among different fuel types as well as environmental concerns, the Ministry of Strategy and Finance announced that, effective July 1, 2014, consumption tax will apply to bituminous coal, which previously was not subject to consumption tax unlike other fuel types such as LNG or bunker oil. Pursuant to the amended Individual Consumption Tax Act effective as of April 1, 2018, which involved an increase of the unit tax rate for coal by Won 6 across the board, the base tax rate (which is subject to certain adjustments) is Won 36 per kilogram for bituminous coal; however, due to concerns on the potential adverse effect on industrial activities, the applicable tax rate is applied differently based on the net heat generation amount. The currently applicable tax rate for bituminous coal is Won 33 per kilogram for net heat generation of less than 5,000 kilocalories, Won 36 per kilogram for net heat generation of 5,000 to 5,500 kilocalories and Won 39 per kilogram for net heat generation of 5,500 kilocalories or more. In contrast, the currently applicable tax rate for LNG is Won 60 per kilogram. Since bituminous coal currently represents the largest fuel type for our electricity generation, accounting for approximately 52.2% of our entire fuel requirements in 2017 in terms of electricity output, we expect the coal consumption tax thereon will result in an increase of our overall fuel costs.

Renewable Portfolio Standard. Under this program, each of our generation subsidiaries is required to generate a specified percentage of total electricity to be generated by such generation subsidiary in a given year in the form of renewable energy or, in case of a shortfall, purchase a corresponding amount of a Renewable Energy Certificate (a form of renewable energy credit) from other generation companies whose renewable energy generation surpass such percentage. The target percentage was 3.0% in 2015, 3.5% in 2016, 4.0% in 2017, 5.0% in 2018 and will incrementally increase to 10.0% by 2023. Fines are to be levied on any subsidiary that fails to do so in the prescribed timeline. In 2016, all six of our generation subsidiaries met the target through renewable energy generation and/or the purchase of a Renewable Energy Certificate. Compliance by our generation subsidiaries of the 2017 target is currently under evaluation, and if any generation subsidiary is found to have failed to meet the target for 2017 or for subsequent years, such generation subsidiary may become subject to fines. Additionally, as the target percentage is subject to change, changes to the target percentage may result in additional expenses for our generation subsidiaries.

Renewable Energy 3020 Plan. In December 2017, the Ministry of Trade, Industry and Energy announced the Renewable Energy 3020 Plan, an initiative to increase the generation and use of renewable energy on a nationwide basis. The Government plans to increase the required percentage of total electricity to be generated from renewable energy sources from 7% in 2016 to 10.5% and 20% by 2022 and 2030, respectively. Moreover, the Government plans to increase the domestic renewable energy generation capacity to 63.8 gigawatts by 2030 through the expansion of solar and wind power generation capacities to 36.5 gigawatts and 17.7 gigawatts, respectively, by 2030.

New Energy Industry Fund. In January 2016, the Ministry of Trade, Industry and Energy announced an initiative to promote the new energy industry by creating the New Energy Industry Fund, which is made up

of funds sponsored by government-affiliated energy companies. We contributed Won 500 billion to the funds in 2016. The purpose of these funds is to invest in substantially all frontiers of the new energy industry, including renewable energy, energy storage systems, electric vehicles, small-sized self-sustaining electricity generation grids known as micro-grids , among others, as well as invest in start-up companies, ventures, small- to medium-sized enterprise and project businesses that engage in these businesses but have not previously attracted sufficient capital from the private sector.

Environmental and safety considerations in electricity supply and demand planning. In March 2017, the Electricity Business Act was amended to the effect that starting in June 2017, future national

Table of Contents

planning for electricity supply and demand in Korea should consider the environmental and safety impacts of such planning. However, to-date, no specific guidelines have been provided by the Government as to how to implement this provision, and it is therefore difficult to assess in advance what impact such provision will have on our business, results of operations or financial condition.

Complying with these Government initiatives and operating programs in furtherance thereof has involved and will likely involve significant costs and resources on our part. We and our generation subsidiaries could also become subject to substantial fines and other forms of penalties for non-compliance. We expect that the additional costs associated with implementing and operating these programs and otherwise complying with these programs will be covered by a corresponding increase in electricity tariff. However, there is no assurance that, particularly given the wide-ranging policy priorities for the Government, it will in fact raise the electricity tariff to a level sufficient to fully cover such additional costs, do so on a timely basis or at all. If the Government does not do so or provide us and our generation subsidiaries with other forms of assistance to offset the costs involved, our results of operation, financial condition and cash flows may be materially and adversely affected.

See Item 4.B. Business Overview Environmental Programs.

We may require a substantial amount of additional indebtedness to refinance existing debt and for future capital expenditures.

We anticipate that a substantial amount of additional indebtedness will be required in the coming years in order to refinance existing debt, make capital expenditures for construction of generation plants and other facilities and/or make acquisitions, invest in renewable energy and the new energy industry projects and fund our overseas businesses. In 2015, 2016 and 2017, our capital expenditures in relation to the foregoing amounted to Won 15,750 billion, Won 13,950 billion and Won 13,711 billion, respectively, and our budgeted capital expenditures for 2018, 2019 and 2020 amount to Won 15,816 billion, Won 17,180 billion and Won 17,580 billion, respectively.

While we currently do not expect to face any material difficulties in procuring short-term borrowings to meet our liquidity and short-term capital requirements, there is no assurance that we will be able to do so. We expect that a portion of our long-term debt will need to be paid or refinanced through foreign currency-denominated borrowings and capital raising in international capital markets. Such financing may not be available on terms commercially acceptable to us or at all, especially if the global financial markets experience significant turbulence or a substantial reduction in liquidity or due to other factors beyond our control. If we are unable to obtain financing on commercially acceptable terms on a timely basis, or at all, we may be unable to meet our funding requirements for capital expenditures or debt repayment obligations, which could have a material adverse impact on our business, results of operations and financial condition.

In light of the general policy guideline of the Government for public institutions (including us and our generation subsidiaries) to reduce their respective overall debt levels, we and our generation subsidiaries have, in consultation with the Government and as approved by the Public Agencies Operating Committee, previously set for 2017 target debt-to-equity levels and undertaken various programs to reduce debt and improve the overall financial health. For further information, see Item 4.B. Business Overview Debt Reduction Program and Related Activities. Despite our best efforts, however, for reasons beyond our control, including macroeconomic environments, government regulations and market forces (such as international market prices for our fuels), we cannot assure whether we or our generation subsidiaries will be able to successfully reduce debt burdens or otherwise improve our financial health to a level contemplated by the Government or to a level that would be optimal for our capital structure. If we or our generation subsidiaries fail to do so or the measures taken by us or our generation subsidiaries to reduce debt levels or improve financial health have unintended adverse consequences, such developments may have an adverse effect on our business, results of operations and financial condition.

11

Table of Contents

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

The Won has fluctuated significantly against major currencies from time to time. Even slight depreciation of Won against U.S. dollar and other foreign currencies may result 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 Won, generally in U.S. dollars. Changes in foreign exchange rates may also impact the cost of servicing our foreign currency-denominated debt. As of December 31, 2017, 19.4% of our long-term debt (including the current portion but excluding issue discounts and premium) without taking into consideration of swap transactions, was denominated in foreign currencies, principally U.S. dollars. In addition, even if we make payments in Won for certain fuel materials and equipment, some of these fuel materials may originate from other countries and their prices may be affected accordingly by the exchange rates between the Won and foreign currencies, especially the U.S. dollar. Since the substantial majority 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 Won against the U.S. dollar or other major foreign currencies will have a material adverse effect on our profitability and results of operations.

We may not be successful in implementing new business strategies.

As part of our overall business strategy, we plan to (i) strengthen competitiveness in our core operations by enhancing efficiency of our generation, transmission and distribution networks and related facilities, (ii) expand and develop new businesses by diversifying our overseas business and actively addressing climate change, (iii) create a platform for future growth by developing an ecosystem focused on new energy technologies, and (iv) strengthen our management system for sustainable growth.

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

- new and expanded business activities may require unanticipated capital expenditures and involve additional compliance requirements;
- new and expanded business activities may result in less growth or profit than we currently anticipate, and there can be no assurance that such business activities will become profitable at the level we desire or at all;
- certain of our new and expanded businesses, particularly in the areas of renewable energy, require substantial government subsidies to become profitable, and such subsidies may be substantially reduced or entirely discontinued;
- we may fail to identify and enter into new business opportunities in a timely fashion, putting us at a disadvantage vis-à-vis competitors, particularly in overseas markets; and
- we may need to hire or retrain personnel to supervise and conduct the relevant business activities.

As part of our business strategy, we may also seek, evaluate or engage in potential acquisitions, joint ventures, strategic alliances, restructurings, combinations, rationalizations, divestments or other similar opportunities. 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 what we originally anticipated. In addition, we regularly review the profitability and growth potential of our existing and new businesses. As a result of such review, we may decide to exit from or to reduce the resources that we allocate to new or existing ventures in the future. There is a risk that these ventures may not achieve profitability or operational efficiencies to the extent originally anticipated, and we may fail to recover investments or expenditures that we have already made. Any of the foregoing may have a material adverse effect on our reputation, business, results of operations, financial condition and cash flows.

Table of Contents

We plan to pursue overseas expansion opportunities that may subject us to different or greater risks than those associated with our domestic operations.

While our operations have, to-date, been primarily based in Korea, we and our generation subsidiaries may expand, on a selective and opportunistic basis, overseas operations in the future. In particular, we and our generation subsidiaries may further expand our project portfolio to include the construction and operation of conventional thermal generation units, nuclear generation units and renewable energy power plants, transmission and distribution and (primarily through our generation subsidiaries) mining and development of fuel sources.

Overseas operations often involve risks that are different from those we face in our domestic operations, including the following:

- 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.

Furthermore, while we seek to enter into overseas business opportunities in a prudent manner, some of our new international business ventures carry inherent risks that are different from our traditional business of electricity power

generation, transmission and distribution. While the overseas businesses in the aggregate currently do not comprise a material portion of our overall business, as we are relatively inexperienced in these new types of overseas businesses, the actual revenues and profitability from, and investments and expenditures into, such ventures may be substantially different from what we plan or anticipate and may have a material adverse impact on our overall business, results of operations, financial condition and cash flows.

An increase in electricity generated by and/or sourced from private power producers may erode our market position and hurt our business, growth prospects, revenues and profitability.

As of December 31, 2017, we and our generation subsidiaries owned approximately 70.3% of the total electricity generation capacity in Korea (excluding plants generating electricity for private or emergency use). New entrants to the electricity business will erode our market share and create significant competition, which could have a material adverse impact on our financial condition and results of operations.

In particular, we compete with independent power producers with respect to electricity generation. The independent power producers accounted for 22.9% of total power generation in 2017 and 29.7% of total generation capacity as of December 31, 2017. As of December 31, 2017, there were 17 independent power

Table of Contents

producers in Korea, excluding renewable energy producers. Private enterprises became permitted to own and operate coal-fired power plants in Korea only after the Ministry of Trade, Industry and Energy approved plans for independent power producers to construct coal-fired power plants under the Sixth Basic Plan announced in February 2013. Under the Eighth Basic Plan announced in December 2017, (i) six coal-fired units under construction with aggregate generation capacity of 6,260 megawatts are scheduled to be completed between 2021 and 2022, and (ii) two coal-fired units scheduled for construction shall be converted to LNG fuel use. Currently there are no additional plans for construction of coal-fired power plants by independent power producers beyond 2022. While it remains to be seen whether construction of these generation units will be completed as scheduled, if these units were to be completed as scheduled and/or independent power producers are permitted to build additional generation capacity (whether coal-fired or not), our market share in Korea may decrease, which may have a material adverse effect on our results of operations and financial condition.

In addition, under the Community Energy System adopted by the Government in 2004, a minimal amount of electricity is supplied directly to consumers on a localized basis by independent power producers outside the cost-based pool system used by our generation subsidiaries and most independent power producers to distribute electricity nationwide. The purpose of this system is to geographically decentralize electricity supply and thereby reduce transmission losses and improve the efficiency of energy use. These entities do not supply electricity on a national level but are licensed to supply electricity on a limited basis to their respective districts under the Community Energy System. As of March 31, 2018, the aggregate generation capacity of suppliers participating in the Community Energy System amounted to less than 1% of that of our generation subsidiaries in the aggregate. We currently do not expect the Community Energy System to be widely adopted, especially in light of the significant level of capital expenditure required for such direct supply. However, if the Community Energy System is widely adopted, it may erode our currently dominant market position in the generation and distribution of electricity in Korea and may have a material adverse effect on our business, results of operations and financial condition.

Our market dominance in the electricity distribution in Korea also may face potential erosion in light of the recent Proposal for Adjustment of Functions of Public Institutions (Energy Sector) announced by the Government in June 2016. This proposal contemplates a gradual opening of the electricity trading market to the private sector although no detailed roadmap has been provided for such opening. It is currently premature to predict to what extent, or in what direction, the liberalization of the electricity trading market will happen. Nonetheless, any significant liberalization of the electricity trading market may result in substantial reduction of our market share in electricity distribution in Korea, which would have a material adverse effect on our business, results of operation and cash flows.

See also Item 4.B. Business Overview Competition.

Labor unrest or increases in labor cost may adversely affect our operations.

We and each of our generation subsidiaries have separate labor unions. As of December 31, 2017, approximately 69.0% of our and our generation subsidiaries employees in the aggregate were members of these labor unions. Since a six-week labor strike in 2002 by union members of our generation subsidiaries in response to a proposed privatization of one of our generation subsidiaries, there has been no material labor dispute. However, we cannot assure you that there will not be a major labor strike or other material disruptions of operations by the labor unions of us and our generation subsidiaries if the Government resumes privatization or other restructuring initiatives or for other reasons, which may adversely affect our business and results of operations.

Furthermore, the Government, as part of a response to low fertility amidst an aging population in Korea and to make the lives of workers more stable, has pledged to reduce the number of non-permanent workers and increase the employment of permanent workers, in part by transitioning from non-permanent to permanent many positions in the

public sector. According to guidelines announced by the Government in July 2017, we plan to

Table of Contents

finalize measures, by the end of 2018, to transition non-permanent positions to permanent positions, including types and number of non-permanent positions to be transitioned and conditions of transition. Although a majority of our and our generation subsidiaries workforce are permanent employees, approximately 31.7% of the workforce consists of non-permanent positions that are part-time or outsourced. If we or our generation subsidiaries, as a result of these Government policies or otherwise, are required to or decide to transition non-permanent positions to permanent positions, this may result in increased labor costs for us or our generation subsidiaries and may have a material adverse impact on us or our generation subsidiaries financial condition and results of operations.

Operation of nuclear power generation facilities inherently involves numerous hazards and risks, any of which could result in a material loss of revenues or increased expenses.

Through KHNP, we currently operate 24 nuclear-fuel generation units. Operation of nuclear power plants is subject to certain hazards, including environmental hazards such as leaks, ruptures and discharge of toxic and radioactive substances and materials. 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. Nuclear power has a stable and relatively inexpensive cost structure (which is least costly among the fuel types used by our generation subsidiaries) and is the second largest source of Korea s electricity supply, accounting for 26.8% of electricity generated in Korea in 2017. Due to significantly lower unit fuel costs compared to those for thermal power plants, our nuclear power plants are generally operated at full capacity with only routine shutdowns for fuel replacement and maintenance, with limited exceptions.

From time to time, our nuclear generation units may experience unexpected shutdowns or maintenance-related stoppage. For example, following an earthquake in the vicinity in September 2016, four nuclear generation units at the Wolsong site were shut down for approximately three months as part of a preventive and safety assurance program although these units were not directly affected by the earthquake. Furthermore, the utilization rates of our nuclear generation units fell in 2017 as our nuclear generation units stopped operation for safety and maintenance inspection more frequently in 2017 as compared to 2016, due to the Government s strengthening of safety enhancement measures. We expect the utilization of our nuclear generation units will be similarly affected in 2018. Any prolonged or substantial breakdown, failure or suspension of operation of a nuclear unit could result in a material loss of revenues, an increase in fuel costs related to the use of alternative power sources, additional repair and maintenance costs, greater risk of litigation and increased social and political hostility to the use of nuclear power, any of which could have a material adverse impact on our financial condition and results of operations.

In addition, heightened concerns regarding the safety of operating nuclear generation units could impede with our ability to operating them for an extended period of time or at all. For example, the nuclear power plant at Wolsong #1 unit began operations in 1982 and ended its operations in 2012 pursuant to its 30-year operating license. In February 2015, the Nuclear Safety and Security Commission (NSSC) evaluated the safety of operating Wolsong #1 unit and approved its extended operation until November 2022. However, a civic group filed a lawsuit to annul such decision, and in February 2017, the Seoul Administrative Court ruled against the NSSC. The NSSC appealed this decision, and the civic group filed an injunction to suspend the operation of the Wolsong #1 unit. The civic group s injunction was denied in July 2017. KHNP, which currently is operating the unit pursuant to the NSSC s initial decision, has joined this lawsuit. As of December 31, 2017, the book value of property, plant and equipment and provision for decommissioning costs of Wolsong #1 unit was Won 608 billion and Won 642 billion, respectively. We cannot assure you whether the courts will ultimately rule to grant the extension of life for Wolsong #1. In addition, it is reported that the Government will announce its decision by the first half of 2018 regarding the timing of the shutdown of Wolsong #1 unit. If Wolsong #1 unit is prohibited from operation, we may incur significant losses in connection with the property, plant and equipment of Wolsong #1 unit. In addition, the amount of provision may increase significantly, and the timing of actual cash outflows may be accelerated. There are seven other nuclear generation units whose life

under their initial operating license

Table of Contents

will expire in the next nine years, or by 2027. Thus, if the courts or the Government were to ultimately decide against the extension of life for Wolsong #1, we may find it more difficult to have the life of other nuclear units extended as well. The failure to extend the life of these units would result in a loss of revenues from such units and the increase in our overall fuel costs (as nuclear fuel is the cheapest compared to coal, LNG or oil), which could adversely affect our results of operation and financial condition. Furthermore, in September 2016, Greenpeace and 559 Korean nationals brought a lawsuit against the NSSC to revoke the permit the NSSC granted to KHNP in relation to the construction of Shin-Kori #5 and #6 nuclear generation units. This case is currently pending at the Seoul Administrative Court. If the construction of these new nuclear units is prohibited, we will experience a loss of revenues and an increase in fuel costs, which could adversely affect our results of operation and financial condition.

In order to prevent damages to the nuclear facilities such as a result of the tsunami and earthquake in March 2011 in Japan, KHNP prepared a comprehensive safety improvement plan including, but are not limited to, installing additional automatic shut-down 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 the radiology emergency medical system. All follow-up measures were finalized in December 2015. KHNP also developed 10 additional supplementary safety measures by analysis of overseas plants and its current operations and implemented eight of such measures in 2017, with the two remaining measures to be implemented by 2020. However, there is no assurance that a similar or worse natural disaster may require the adoption and implementation of additional safety measures, which may be costly and have a material adverse impact on our financial condition and results of operations.

While releasing its five-year national governance plan in July 2017, the new Government led by President Moon Jae-in announced reforms indicating a shift away from previous energy policies. Subsequently, the Government unveiled its roadmap to denuclearization and shift in energy sources in October 2017 and announced the Eighth Basic Plan to implement such roadmap in December 2017. The Eighth Basic Plan focuses on, among other things, (i) decreasing the reliance on nuclear and coal-based supply sources, (ii) increasing utilization of renewable energy sources and (iii) balancing the existing cost-based pool system of purchase of electricity with an environmentally-focused pool system, in order to increase utilization of LNG energy sources, which are cleaner but more expensive than nuclear or coal energy sources. Accordingly, six new nuclear generation units in a planning stage (Shinhanwool #3 and #4, Chunji #1 and #2 and Singyu #1 and #2) would not be constructed, while five new nuclear plants under construction (Shin-Kori #4, #5, #6, Shin-Hanul #1 and #2) shall begin operation by 2023 upon completion of the construction. Future extensions of life of decrepit nuclear generation units would not be granted and the proportion of renewable energy sources would be increased. Such Government policies or any changes thereto may affect existing plans of our or our generation subsidiaries and have a material adverse impact on our or our generation subsidiaries financial condition and results of operations.

The construction and operation of our generation, transmission and distribution facilities involve difficulties, such as opposition from civic groups, which may have an adverse effect on us.

From time to time, we encounter social and political opposition against construction and operation of our generation facilities (particularly nuclear units) and, to a lesser extent, our transmission and distribution facilities. For example, we recently faced intense opposition from local residents and civic groups to the construction of transmission lines in the Milyang area, which we resolved through various compensatory and other support programs. Such opposition delayed the schedule for completion of this project. Although we and the Government have undertaken various community programs to address concerns of residents in areas near our facilities, civic and community opposition could result in delayed construction or relocation of our planned facilities, which could have a material adverse impact on our business and results of operations.

16

Table of Contents

Our risk management policies and procedures may not be fully effective at all times.

In the course of our operations, we must manage a number of risks, such as regulatory risks, market risks and operational risks. Although we devote significant resources to developing and improving our risk management policies and procedures 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 in all market environments or against all types of risk, including risks that are unidentified or unanticipated, such as natural disasters or employee misconduct. For example, in May 2013, the Nuclear Safety and Security Commission (NSSC) of Korea discovered that certain parts used in several of our then-operating nuclear generation units had been supplied based on forged testing results. This discovery led to full internal investigation and investigation by the Prosecutor s Office, which in turn led to prosecutions and convictions of several current and former employees of KHNP on related and separate bribery charges, as well as termination of the then-president of KHNP as part of a broad disciplinary action. The incident also led to suspended operation of the related nuclear generation units for several months pending safety inspection. A similar incident involving forged testing results and bribery occurred also in November 2012. We and KHNP have fully cooperated with the authorities in terms of investigations as well as remedial and preventive measures, including enhanced internal compliance policies and procedures. We also believe we and our subsidiaries 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 that could cause harm to our reputation and operation will not happen in the future, including due to factors beyond our control.

Our risk management procedures may not prevent losses in debt and foreign currency positions.

We manage interest rate exposure for our debt instruments by limiting our variable rate debt exposure as a percentage of our total debt and closely monitoring the movements in market interest rates. We also actively manage currency exchange rate exposure for our foreign currency-denominated liabilities by measuring the potential loss therefrom using risk analysis software and entering into derivative contracts to hedge such exposure when the possible loss reaches a certain risk limit. To the extent we have unhedged positions or our hedging and other risk management procedures do not work as planned, our results of operations and financial condition may be adversely affected.

The amount and scope of coverage of our insurance are limited.

Substantial liability may result from the operations of our nuclear generation units, the use and handling of nuclear fuel and possible radioactive emissions associated with such nuclear fuel. KHNP carries insurance for its generation units and nuclear fuel transportation, and we believe that the level of insurance is generally adequate and is in compliance with relevant laws and regulations. In addition, KHNP is the beneficiary of Government indemnity which covers a portion of liability in excess of the insurance. However, such insurance is limited in terms of amount and scope of coverage and does not cover all types or amounts of losses which could arise in connection with the ownership and operation of nuclear plants. Accordingly, material adverse financial consequences could result from a serious accident or a natural disaster to the extent it is neither insured nor covered by the government indemnity.

In addition, our non-nuclear generation subsidiaries carry insurance covering certain risks, including fire, in respect of their key assets, including buildings and equipment located at their respective power plants, construction-in-progress and imported fuel and procurement in transit. Such insurance and indemnity, however, cover only a portion of the assets that these generation subsidiaries own and operate and do not cover all types or amounts of loss that could arise in connection with the ownership and operation of these power plants. In addition, unlike us, our generation subsidiaries are not permitted to self-insure, and accordingly have not self-insured, against risks of their uninsured

assets or business. Accordingly, material adverse financial consequences could result from a serious accident to the extent it is uninsured.

Table of Contents

In addition, because neither we nor our non-nuclear generation subsidiaries carry any insurance against terrorist attacks, an act of terrorism would result in significant financial losses. See Item 4.B. Business Overview Insurance.

We may not be able to raise equity capital in the future without the participation of the Government.

Under applicable laws, the Government is required to directly or indirectly own at least 51% of our issued capital stock. As of March 15, 2018, the last day on which our shareholders registry was closed, the Government, directly and through Korea Development Bank (a statutory banking institution wholly owned by the Government), owned 51.1% of our issued capital stock. Accordingly, without changes in the existing Korean law, it may be difficult or impossible for us to undertake, without the participation of the Government, any equity financing in the future.

We may be exposed to potential claims made by current or previous employees for unpaid wages for the past three years under the expanded scope of ordinary wages and become subject to additional labor costs arising from the broader interpretation of ordinary wages under such decision.

Under the Labor Standards Act, an employee is legally entitled to ordinary wages. Under the guidelines previously issued by the Ministry of Employment and Labor, ordinary wages include base salary and certain fixed monthly allowances for work performed overtime during night shifts and holidays. Prior to the Supreme Court decision described below, many companies in Korea had typically interpreted these guidelines as excluding from the scope of ordinary wages fixed bonuses that are paid other than on a monthly basis, namely on a bi-monthly, quarterly or semi-annual basis, although such interpretation had been a subject of controversy and had been overruled in a few court cases.

In December 2013, the Supreme Court of Korea ruled that regular bonuses fall under the category of ordinary wages on the condition that those bonuses are paid regularly and uniformly, and that any agreement which excludes such regular bonuses from ordinary wage is invalid. One of the key rulings provides that bonuses that are given to employees (i) on a regular and continuous basis and (ii) calculated according to the actual number of days worked (iii) that are not incentive-based must be included in the calculation of ordinary wages. The Supreme Court further ruled that in spite of invalidity of such agreements, employees shall not retroactively claim additional wages incurred due to such court decision, in case that such claims bring to employees unexpected benefits which substantially exceeds the wage level agreed by employers and employees and cause an unpredicted increase in expenditures for their company, which would lead the company to material managerial difficulty or would be a threat to the existence of the company. In that case, the claim is not acceptable since it is unjust and is in breach of the principle of good faith.

As a result of such ruling by the Supreme Court of Korea, we and our subsidiaries became subject to a number of lawsuits filed by various industry-wide and company-specific labor unions based on claims that ordinary wage had been paid without including certain items that should have been included as ordinary wage. In July 2016, the court ruled against us, and in accordance with the court s ruling, in August 2016 we paid Won 55.1 billion to the employees for three years of back pay plus interest. As of December 31, 2017, 49 lawsuits were pending against our subsidiaries for an aggregate claim amount of Won 170 billion, for which our subsidiaries set aside an aggregate amount of Won 56 billion to cover any potential future payments of additional ordinary wage in relation to the related lawsuits. We cannot presently assure you that the court will not rule against our subsidiaries in these lawsuits, or that the foregoing reserve amount will be sufficient to cover the amounts payable under the court rulings.

Additionally, since the issue of determining which labor costs should be additionally included as part of ordinary wages has not been fully resolved by the courts reviewing the lawsuits to which our subsidiaries are a party and other ordinary wage lawsuits filed against other companies, we cannot presently assure you that there will not be additional

lawsuits in relation to ordinary wages and that we or our subsidiaries may not become

Table of Contents

liable for greater amount of damages as a result of these lawsuits. Furthermore, court decisions or labor legislations expanding the definition of ordinary wages may prospectively increase the labor costs of us and our subsidiaries. As a result, there can be no assurance that the above-described lawsuits and circumstances will not have a material adverse effect on our results of operations. See Item 8.A. Consolidated Statements and Other Financial Information Legal Proceedings.

We are subject to cyber security risk.

Recently, our activities have been subject to an increasing risk of cyber-attacks, the nature of which is continually evolving. For example, in December 2014, KHNP became subject to a cyber terror incident. According to the 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 former KHNP employees and threatened to shut down certain of KHNP s 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 and our generation subsidiaries, which could have a material adverse impact on our business, financial condition and results of operations.

We engage in limited activities relating to Iran and may become subject to sanctions under relevant laws and regulations of the United States and other jurisdictions as a result of such activities, which may adversely affect our business and reputation.

The U.S. Department of the Treasury s Office of Foreign Assets Control, or OFAC, administers and enforces certain laws and regulations (which we refer to as the OFAC sanctions) that impose restrictions upon activities or transactions within U.S. jurisdiction with certain countries, governments, entities and individuals that are the subject of OFAC sanctions, including Iran. Even though non-U.S. persons generally are not directly bound by OFAC sanctions, in recent years OFAC has asserted that such non-U.S. persons can be held liable on various legal theories if they engage in transactions completed in part in the United States or by U.S. persons (such as, for example, wiring an international payment that clears through a bank branch in New York). The European Union also enforces certain laws and regulations that impose restrictions upon nationals and entities of, and business conducted in, member states with respect to activities or transactions with certain countries, governments, entities and individuals that are the subject of such laws and regulations, including Iran. The United Nations Security Council and other governmental entities also impose similar sanctions.

In addition to the OFAC sanctions described above, the United States also maintains indirect sanctions under authority of, among others, the Iran Sanctions Act, the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, or CISADA, the National Defense Authorization Act for Fiscal Year 2012, or the NDAA, the Iran Threat Reduction and Syria Human Rights Act of 2012, or ITRA, various Executive Orders, the Iran Freedom and Counter-Proliferation Act of 2012, or IFCA, and the Countering America s Adversaries Through Sanctions Act, or CAATSA. These indirect sanctions, which we refer to collectively as U.S. secondary sanctions, provide authority for the imposition of U.S. sanctions on foreign parties that provide services in support of certain Iranian activities in the energy, shipping and military sectors, among others.

On July 14, 2015, the so-called P5+1 powers (consisting of the United States, the United Kingdom, Germany, France, Russia, and China) and the European Union, or the EU, entered into an agreement with Iran known as the Joint Comprehensive Plan of Action Regarding the Islamic Republic of Iran s Nuclear Program, or the JCPOA. The JCPOA

is intended to significantly restrict Iran s ability to develop and produce nuclear weapons. Upon implementation of the JCPOA on January 16, 2016 the United States, the EU, and the UN suspended certain nuclear-related sanctions against Iran following an announcement by the International Atomic Energy Agency that Iran had fulfilled its initial obligations under the JCPOA.

Table of Contents

The U.S. secondary sanctions that were suspended on January 16, 2016 have not been repealed. Rather, certain waivers of statutory provisions were put into place, certain Presidential Executive Orders were revoked, and certain persons were removed from the relevant U.S. sanctions lists. Under the JCPOA, sanctions may be re-imposed if the United States or any other member of the P5+1 or the EU invokes provisions of the JCPOA for the re-imposition of sanctions. Additionally, the United States, the EU, or the UN may impose new sanctions against Iran or against persons conducting business in Iran even while the JCPOA remains in force.

Violations of OFAC sanctions via transactions with a U.S. jurisdictional nexus can result in substantial civil or criminal penalties. A range of sanctions may be imposed on companies that engage in sanctionable activities within the scope of U.S. secondary sanctions, including, among other things, the blocking of any property subject to U.S. jurisdiction in which the sanctioned company has an interest, which could include a prohibition on transactions or dealings involving securities of the sanctioned company or the sanctioned company effectively losing access to the U.S. financial system.

In Iran, we are currently engaged in limited business activities, none of which has progressed beyond the development stage. Our activities in Iran are coordinated by a representative office located in Tehran, Iran. None of our activities in Iran involve U.S. persons or our U.S. affiliates. Our counterparties in the projects described below are mostly Iranian governmental entities or Iranian state-owned enterprises.

We have not realized any revenue or profit from our activities in Iran. We also have not to-date made any investments in Iran, other than fees paid to our service providers in Iran for us to carry out certain of the projects listed below and expenses to run our representative office in Tehran in the ordinary course of business.

A summary of our current projects in Iran follows.

We have entered into cooperation agreements with Tavanir, an Iranian state-owned electricity provider, under which we will carry out (i) a pilot advanced metering infrastructure (AMI) project, (ii) a project for modeling the installation of energy storage systems in Iran and (iii) a project for temporarily leasing our thermo auto analysis diagnosis system for free of charge. AMI enables checking the electricity usage amount remotely. The project is being conducted in Pak Dasht City and Hormuz Island, Iran. This pilot project involves installing approximately 2,500 smart meters. The development and production of AMI equipment and materials are complete, and we have obtained permission from the Ministry of Trade, Industry and Energy of Korea to export the equipment. We shipped the AMI equipment and materials to Iran in September 2017 and completed the installation in December 2017. We completed the trial run of the AMI system in March 2018 and we plan to hand over the operation of the system to Tavanir by May 2018. As for the project for the energy storage systems in Iran, we are currently in the process of collecting requisite data for the project, having selected the parties to participate in the installation of the energy storage systems. We plan to lease our thermo auto analysis diagnosis system to Tavanir for free of charge, for approximately two months ending in May 2018, after which we will retrieve the equipment to Korea.

We are in the process of negotiating various agreements with Tavanir under which we would provide consulting services relating to (i) installation of a distribution management system in Iran and (ii) development of a clean development mechanism (CDM) for the recovery and recycling of the sulfur hexafluoride gas in Iran for purposes of carbon emission reduction.

We are in the process of negotiating an agreement with Niroo Research Institute, a research organization affiliated with the Ministry of Energy of Iran, under which we would provide consulting services relating to improvement of Iran s electricity demand through load management, efficiency improvement and tariff system improvement.

We have participated in a feasibility study of the proposed adoption by Tavanir of a 765 kV electricity transmission network. Our task involved reviewing Tavanir s feasibility report. A final report summarizing our review of the feasibility report and a technical review of the transmission network was submitted in February 2017.

Table of Contents

We engaged Mehr Renewable Energy Company for project design documentation services to register with United Nations Framework Convention on Climate Change our CDM business to be conducted in Iran.

We are in the process of negotiating a contract with Thermal Power Plant Holding Company of Iran under which we would build and operate combined cycle power plants at Zanjan and Neyzar, Iran.

We have submitted a draft proposal to the Ministry of Energy of Iran under which we would provide consulting services in relation to establishment of information and communication technology infrastructure in Iran.

We have submitted a draft proposal to the Iran Energy Efficiency Organization under which we would provide consulting services in relation to AMI security in Iran in December 2016.

We are in the process of conducting a feasibility study for a solar power project in Iran.

We are in the process of reviewing the feasibility of the rehabilitation of an old power plant in Iran.

KOWEPO is currently pursuing a build, operate and transfer project relating to a 500 megawatts combined cycle power plant in Sirjan, Kerman in Iran, through a consortium with Daewoo E&C, a Korean construction company, and Gohar Energy, an Iranian energy company. The consortium is currently in the process of preparing an application to Thermal Power Plant Holdings, a holding company for a state-run Iranian thermoelectric power plant, for the project.

Korea Electric Power Research Institute, which is operated by us, has entered into cooperation agreements with Iran s Niroo Research Institute regarding various joint research and development efforts relating to power plants, renewable energy, smart grids and other energy-related technologies.

To the extent any of our subsidiaries have dealings in or relating to Iran, we have internal policies and procedures, as well as a monitoring system, which are designed to prevent and detect violations of applicable laws, including applicable sanctions laws. We do not believe that our current activities relating to Iran violate OFAC sanctions or are sanctionable under U.S. secondary sanctions, and in any event, we believe we are in compliance with applicable sanctions laws. We believe we are not in violation of any laws concerning re-exports of U.S.-origin goods to Iran. Moreover, to the extent our activities were sanctionable under those U.S. secondary sanctions programs that were lifted pursuant to the JCPOA, we may face U.S. secondary sanctions if such sanctions are re-imposed.

There can be no assurances that the relevant relief pursuant to the JCPOA will continue to be available in the future, and even if it does, there is no guarantee that our activities relating to Iran will not be found to violate the OFAC sanctions or involve sanctionable activities under U.S. secondary sanctions, or that any other government will not determine that our activities violate applicable sanctions of other countries. Laws related to Iran sanctions are complex, dynamic, and subject to evolving interpretations by the regulatory authorities. The re-imposition or snap-back of U.S. sanctions pursuant to the JCPOA could also occur, and the scope of re-imposed sanctions would be determined at that time.

Certain institutional investors, including state and municipal governments in the United States and universities, as well as financial institutions, have proposed or adopted initiatives regarding investments in companies that do business with countries that are the target of OFAC sanctions, including Iran. Accordingly, as a result of our activities related to Iran, certain investors may not wish to invest in our shares or ADSs or do business with us. In September 2016, the New Jersey Department of the Treasury s Division of Investment notified of its preliminary determination of divestment pursuant to the New Jersey divestment laws. Such preliminary determination was reversed in February 2017 after we explained such determination was based on incorrect information about our business in Iran. As of February 2018, we were listed on the Iowa Public Employees Retirement System s (IPERS) Iran Prohibited Companies List. Such divestment initiatives and the decision not to invest in, or to divest from our shares or ADSs may have a material negative impact our reputation and the value of our shares or ADSs.

Violations of sanctions can result in penalties or other consequences adverse to us. Certain of our counterparties may be subjected to sanctions. If we violate sanctions, we may ourselves be subjected to sanctions or penalties. Our business and results of operations may be adversely affected or we may suffer reputational

Table of Contents

damage. In addition, such sanctions may prevent us from consummating or continuing any of the projects we are currently pursuing in Iran, which could adversely affect our results of operations. Also, at any time, certain investors may divest their interests in our shares if we are found to have violated or are suspected of violating applicable sanctions law arising from our operation in a sanctioned country such as Iran.

We purchase goods and services from Russia and those activities may be adversely impacted in a material manner by economic sanctions concerning Russia imposed by the United States and other jurisdictions.

The United States and the European Union have imposed economic sanctions concerning Russia. OFAC sanctions concerning Russia, *inter alia*, block the property of certain designated individuals and entities, target certain sectors of the Russian economy and prohibit certain transactions with certain targeted persons in targeted sectors of the Russian economy, and restrict investment in and trade with the Crimea region of Ukraine. Additionally, non-U.S. persons that engage in certain prohibited transactions concerning Russia or with certain sanctioned Russian persons or entities may be subject to secondary sanctions. In August 2017, the United States Congress passed CAATSA, which introduced a host of new U.S. secondary sanctions concerning Russia including, *inter alia*, for certain dealings with the Russian energy sector, support for Russia s energy export pipelines and engaging in a significant transaction with a person that is part of, or operates for or on behalf of, Russia s defense or intelligence sectors. Additionally, a non-U.S. person that knowingly facilitates a significant transaction or transactions for or on behalf of any person subject to sanctions imposed by the U.S. with respect to the Russian Federation or any child, spouse, parent, or sibling of such a sanctioned person may also be subject to secondary sanctions.

In 2017, we purchased 11% of our bituminous coal requirements from Russia. Additionally, we also purchase uranium and uranium separation services from a Russian supplier. In 2017, the total value of all goods and services purchased from Russia was approximately US$1 billion.

Risks Relating to Korea and the Global Economy

Unfavorable financial and economic conditions in Korea and globally may have a material adverse impact on us.

We are incorporated in Korea, where most of our assets are located and most of our income is generated. As a result, we are subject to political, economic, legal and regulatory risks specific to Korea, and our business, results of operations and financial condition are substantially dependent on the Korean consumers demand for electricity, which are in turn largely dependent on developments relating to the Korean economy.

The Korean economy is closely integrated with, and is significantly affected by, developments in the global economy and financial markets. In recent years, adverse conditions and volatility in the worldwide financial markets, fluctuations in oil and commodity prices and the general weakness of the global economy have contributed to the uncertainty of global economic prospects in general and have adversely affected, and may continue to adversely affect, the Korean economy, which in turn could adversely affect our business, financial condition and results of operations. As the Korean economy is highly dependent on the health and direction of the global economy, the prices of our securities may be adversely affected by investors reactions to developments in other countries. In addition, due to the ongoing volatility in the global financial markets, the value of the Won relative to the U.S. dollar has also fluctuated significantly in recent years, which in turn also may adversely affect our financial condition and results of operations.

Factors that determine economic and business cycles in the Korean or global economy are for the most part beyond our control and inherently uncertain. In light of the high level of interdependence of the global economy, any of the foregoing developments could have a material adverse effect on the Korean economy and financial markets, and in

turn on our business and profitability.

Table of Contents

More specifically, factors that could have an adverse impact on Korea s economy in the future include, among others:

increases in inflation levels, volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates (particularly against the U.S. dollar), interest rates, stock market prices and inflows and outflows of foreign capital, either directly, into the stock markets, through derivatives or otherwise, including as a result of increased uncertainty in the wake of a referendum in the United Kingdom in June 2016 that voted in favor of exiting from the European Union, commonly known as Brexit ;

difficulties in the financial sectors in Europe, China and elsewhere and increased sovereign default risks in select countries and the resulting adverse effects on the global financial markets;

adverse developments in the economies of countries and regions to which Korea exports goods and services (such as the United States, Europe, China and Japan), or in emerging market economies in Asia or elsewhere that could result in a loss of confidence in the Korean economy, including potentially as a result of the Brexit;

social and labor unrest or declining consumer confidence or spending resulting from lay-offs, increasing unemployment and lower levels of income;

uncertainty and volatility and further decreases in the market prices of Korean real estate;

a decrease in tax revenues and a substantial increase in the Government s expenditures for unemployment compensation and other social programs that together could lead to an increased Government budget deficit;

political uncertainty, including as a result of increasing strife among or within political parties in Korea, and political gridlock within the government or in the legislature, which prevents or disrupts timely and effective policy making to the detriment of Korean economy, as well as the impeachment and indictment of the former president following a series of scandals and social unrest, which also involved the investigation of several leading Korean conglomerates and arrest of their leaders on charges of bribery and other possible misconduct;

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, including as a result of any potential renegotiation of free trade agreements, or the ongoing tension between Korean and China in relation to the decision to allow deployment by the United States of the Terminal High Altitude Defense system known as THAAD in Korea;

increases in social expenditures to support the aging population in Korea or decreases in economic productivity due to the declining population size in Korea;

any other development that has a material adverse effect in the global economy, such as an act of war, the spread of terrorism or a breakout of an epidemic such as SARS, avian flu, swine flu, Middle East Respiratory Syndrome, ebola or Zika virus, or natural disasters, earthquakes and tsunamis and the related disruptions in the relevant economies with global repercussions;

hostilities involving oil-producing countries in the Middle East and elsewhere and any material disruption in the supply of oil or a material increase in the price of oil resulting from such hostilities; and

an increase in the level of tensions or an outbreak of hostilities in the Korean peninsula or between North Korea and the United States.

Any future deterioration of the Korean economy could have an adverse effect on our business, financial condition and results of operations.

Table of Contents

Tensions with North Korea could have an adverse effect on us and the market value of our shares.

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 continues to be uncertainty regarding the long-term stability of North Korea s political leadership since the succession of Kim Jong-un to power following the death of his father in December 2011, which has raised concerns with respect to the political and economic future of the region. In February 2017, Kim Jong-un s half-brother, Kim Jong-nam, was reported to have been assassinated in an international airport in Malaysia.

In addition, there continues to be heightened security tension in the region stemming from North Korea s hostile military and diplomatic actions, including in respect of its nuclear weapons and long-range missile programs. Some examples from recent years include the following:

In November 2017, North Korea conducted a test launch of another intercontinental ballistic missile, which, due to its improved size, power and range of distance, may potentially enable North Korea to target the United States mainland.

Recently, on September 3, 2017, North Korea conducted its sixth nuclear test, claiming it had tested a hydrogen bomb that could be mounted on an intercontinental ballistic missile. In response, on September 12, 2017, the United Nations Security Council unanimously adopted a resolution imposing additional sanctions on North Korea including new limits on gas, petrol and oil imports, a ban on textile exports and measures to limit North Korean laborers from working abroad.

On August 29, 2017, North Korea tested an intermediate-range ballistic missile which flew directly over northern Japan before landing in the Pacific Ocean. In response, the United Nations Security Council unanimously adopted a statement condemning such launch, reiterating demands that North Korea halt its ballistic missile and nuclear weapons programs.

On July 4, 2017, North Korea tested its first intercontinental ballistic missile. In response, the U.S. government and the Government both issued statements condemning North Korea and conducted a joint military exercise on July 5, 2017. On July 28, 2017, North Korea tested a second intercontinental ballistic missile which landed in the Sea of Japan, inside Japan s Economic Exclusion Zone. In response, on August 5, 2017, the United Nations Security Council unanimously adopted a resolution that strengthened sanctions on North Korea. The resolution includes a total ban on all exports of coal, iron, iron ore, lead, lead ore and seafood, which is expected to reduce North Korea s export revenue by a third each year.

In March 2017, North Korea launched four mid-range missiles, which landed off the east coast of the Korean peninsula.

On September 9, 2016, North Korea conducted its fifth nuclear test, which has been the largest in scale among North Korea s nuclear tests thus far. According to North Korean announcements, the test was

successful in detonating a nuclear missile. The test created a sizable earthquake in South Korea. In response, in February 2017 the U.N. Security Council adopted Resolution 2321 (2016) against North Korea, the purpose of which is to strengthen its sanctions regime against North Korea and to condemn North Korea s September 9, 2016 nuclear test in the strongest terms.

On February 10, 2016, in retaliation of North Korea s recent launch of a long-range rocket, South Korea announced that it would halt its operations of the Kaesong Industrial Complex to impede North Korea s utilization of funds from the industrial complex to finance its nuclear and missile programs. In response, North Korea announced on February 11, 2016 that it would expel all South Korean employees from the industrial complex and freeze all South Korean assets there.

On February 7, 2016, North Korea launched a rocket, claimed by them to be carrying a satellite intended for scientific observation. The launch was widely suspected by the international community to

Table of Contents

be a cover for testing a long-range missile capable of carrying a nuclear warhead. On February 18, 2016, the President of the United States signed into law mandatory sanctions on North Korea to punish it for its recent nuclear and missile tests, human rights violations and cybercrimes. The bill, which marks the first measure by the United States to exclusively target North Korea, is intended to seize the assets of anyone engaging in business related to North Korea s weapons program, and authorizes US$50 million over five years to transmit radio broadcasts into the country and support humanitarian assistance projects. On March 2, 2016, the United Nations Security Council voted unanimously to adopt a resolution to impose sanctions against North Korea, which include inspection of all cargo going to and from North Korea, a ban on all weapons trade and the expulsion of North Korean diplomats who engage in illicit activities. Also, on March 4, 2016, the European Union announced that it would expand its sanctions on North Korea, adding additional companies and individuals to its list of sanction targets. On April 1, 2016, North Korea fired a short-range surface-to-air missile in apparent protest of these sanctions adopted by the United States and the United Nations Security Council.

On January 6, 2016, North Korea announced that it had successfully conducted its first hydrogen bomb test, hours after international monitors detected a 5.1 magnitude earthquake near a known nuclear testing site in the country. The claims have not been verified independently. The alleged test followed a statement made in the previous month by Kim Jong-un, who claimed that North Korea had developed a hydrogen bomb.

In August 2015, two Korean soldiers were injured in a landmine explosion near the South Korean demilitarized zone. Claiming the landmines were set by North Koreans, the South Korean army re-initiated its propaganda program toward North Korea utilizing loudspeakers near the demilitarized zone. In retaliation, the North Korean army fired artillery rounds on the loudspeakers, resulting in the highest level of military readiness for both Koreas. High-ranking officials from North and South Korea subsequently met for discussions and entered into an agreement on August 25, 2015 intending to deflate military tensions.

From time to time, North Korea has fired short- to medium-range missiles from the coast of the Korean peninsula into the sea. In March 2015, North Korea fired seven surface-to-air missiles into waters off its east coast in apparent protest of annual joint military exercises being held by Korea and the United States.

North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted three rounds of nuclear tests between October 2006 to February 2013, which increased tensions in the region and elicited strong objections worldwide. In response, the United Nations Security Council unanimously passed resolutions that condemned North Korea for the nuclear tests and expanded sanctions against North Korea.

North Korea s economy also faces severe challenges, including severe inflation and food shortages, which may further aggravate social and political tensions within North Korea. In addition, reunification of Korea and North Korea could occur in the future, which would entail significant economic commitment and expenditure by Korea that may outweigh any resulting economic benefits of reunification. On April 27, 2018, North Korea s Kim Jong-un and the President of South Korea attended a summit held in the Demilitarized Zone of the Korean peninsula.

There can be no assurance that the level of tension on the Korean peninsula will not escalate in the future or that the political regime in North Korea may not suddenly collapse. Any further increase in tension or uncertainty relating to the military, political or economic stability in the Korean peninsula, including a breakdown of diplomatic negotiations over the North Korean nuclear program, occurrence of military hostilities, heightened concerns about the stability of North Korea s political leadership or its actual collapse, a leadership crisis, a breakdown of high-level contacts or accelerated reunification could have a material adverse effect on our business, financial condition and results of operations, as well as the price of our common shares and our American depositary shares.

Table of Contents

We are generally subject to Korean corporate governance and disclosure standards, which differ in significant respects from those in other countries.

Companies in Korea, including us, are subject to corporate governance standards applicable to Korean public companies which differ in many respects from standards applicable in other countries, including the United States. As a reporting company registered with the Securities and Exchange Commission and listed on the New York Stock Exchange, we are, and will continue to be, subject to certain corporate governance standards as mandated by the Sarbanes-Oxley Act of 2002, as amended. However, foreign private issuers, including us, are exempt from certain corporate governance standards required under the Sarbanes-Oxley Act or the rules of the New York Stock Exchange. We and our generation subsidiaries are also subject to a number of special laws and regulations to Government-controlled entities, including the Act on the Management of Public Institutions. For a description of significant differences in corporate governance standards, see Item 16G. Corporate Governance. There may also be less publicly available information about Korean companies, such as us, than is regularly made available by public or non-public companies in other countries. Such differences in corporate governance standards and less public information could result in less than satisfactory corporate governance practices or disclosure to investors in certain countries.

You may not be able to enforce a judgment of a foreign court against us.

We are a corporation with limited liability organized under the laws of Korea. Substantially all of our directors and officers and other persons named in this annual report reside in Korea, and all or a significant portion of the assets of our directors and officers and other persons named in this annual report and substantially all of our assets are located in Korea. As a result, it may not be possible for holders of the American depository shares to affect service of process within the United States, or to enforce against them or us in the United States judgments obtained in United States courts based on the civil liability provisions of the federal securities laws of the United States. There is doubt as to the enforceability in Korea, either in original actions or in actions for enforcement of judgments of United States courts, of civil liabilities predicated on the United States federal securities laws.

Risks Relating to Our American Depositary Shares

There are restrictions on withdrawal and deposit of common shares under the depositary facility.

Under the deposit agreement, holders of shares of our common stock may deposit those shares with the depositary bank s custodian in Korea and obtain American depositary shares, and holders of American depositary shares may surrender American depositary shares to the depositary bank and receive shares of our common stock. However, under current Korean laws and regulations, the depositary bank is required to obtain our prior consent for the number of shares to be deposited in any given proposed deposit which exceeds the difference between (i) the aggregate number of shares deposited by us for the issuance of American depositary shares (including deposits in connection with the initial and all subsequent offerings of American depositary shares and stock dividends or other distributions related to these American depositary shares) and (ii) the number of shares on deposit with the depositary bank at the time of such proposed deposit. We have consented to the deposit of outstanding shares of common stock as long as the number of American depositary shares outstanding at any time does not exceed 80,153,810 shares. As a result, if you surrender American depositary shares and withdraw shares of common stock, you may not be able to deposit the shares again to obtain American depositary shares.

Ownership of our shares is restricted under Korean law.

Under the Financial Investment Services and Capital Markets Act, with certain exceptions, a foreign investor may acquire shares of a Korean company without being subject to any single or aggregate foreign investment ceiling. As one such exception, certain designated public corporations, such as us, are subject to a 40% ceiling on acquisitions of shares by foreigners in the aggregate. The Financial Services Commission may

Table of Contents

impose other restrictions as it deems necessary for the protection of investors and the stabilization of the Korean securities and derivatives market.

In addition to the aggregate foreign investment ceiling, the Financial Investment Services and Capital Markets Act and our Articles of Incorporation set a 3% ceiling on acquisition by a single investor (whether domestic or foreign) of the shares of our common stock. Any person (with certain exceptions) who holds our issued and outstanding shares in excess of such 3% ceiling cannot exercise voting rights with respect to our shares exceeding such limit.

The ceiling on aggregate investment by foreigners applicable to us may be exceeded in certain limited circumstances, including as a result of acquisition of:

- shares by a depositary issuing depositary receipts representing such shares (whether newly issued shares or outstanding shares);
- shares by exercise of warrant, conversion right under convertible bonds, exchange right under exchangeable bonds or withdrawal right under depositary receipts issued outside of Korea;
- shares from the exercise of shareholders rights; or
- shares by gift, inheritance or bequest.

A foreigner who has acquired our shares in excess of any ceiling described above may not exercise his voting rights with respect to our shares exceeding such limit and the Financial Services Commission may take necessary corrective action against him.

Holders of our ADSs will not have preemptive rights in certain circumstances.

The Korean Commercial Code and our Articles of Incorporation require us, with some exceptions, to offer shareholders the right to subscribe for new shares in proportion to their existing ownership percentage whenever new shares are issued. If we offer any rights to subscribe for additional shares of our common stock or any rights of any other nature, the depositary bank, after consultation with us, may make the rights available to you or use reasonable efforts to dispose of the rights on your behalf and make the net proceeds available to you. The depositary bank, however, is not required to make available to you any rights to purchase any additional shares unless it deems that doing so is lawful and feasible and:

- a registration statement filed by us under the U.S. Securities Act of 1933, as amended, is in effect with respect to those shares; or
- the offering and sale of those shares is exempt from or is not subject to the registration requirements of the U.S. Securities Act.

We are under no obligation to file any registration statement with the U.S. Securities and Exchange Commission in relation to the registration rights. If a registration statement is required for you to exercise preemptive rights but is not filed by us, you will not be able to exercise your preemptive rights for additional shares and you will suffer dilution of your equity interest in us.

The market value of your investment in our ADSs may fluctuate due to the volatility of the Korean securities market.

Our common stock is listed on the KRX KOSPI Division of the Korea Exchange, which has a smaller market capitalization and is more volatile than the securities markets in the United States and many European countries. The market value of ADSs may fluctuate in response to the fluctuation of the trading price of shares of our common stock on the Stock Market Division of the Korea Exchange. The Stock Market Division of the Korea Exchange has experienced substantial fluctuations in the prices and volumes of sales of listed securities

Table of Contents

and the Stock Market Division of the Korea Exchange has prescribed a fixed range in which share prices are permitted to move on a daily basis. Like other securities markets, including those in developed markets, the Korean securities market has experienced problems including market manipulation, insider trading and settlement failures. The recurrence of these or similar problems could have a material adverse effect on the market price and liquidity of the securities of Korean companies, including our common stock and ADSs, in both the domestic and the international markets.

The Korean government has the ability to exert substantial influence over many aspects of the private sector business community, and in the past has exerted that influence from time to time. For example, the Korean government has promoted mergers to reduce what it considers excess capacity in a particular industry and has also encouraged private companies to publicly offer their securities. Similar actions in the future could have the effect of depressing or boosting the Korean securities market, whether or not intended to do so. Accordingly, actual or perceived actions or inactions by the Korean government may cause sudden movements in the market prices of the securities of Korean companies in the future, which may affect the market price and liquidity of our common stock and ADSs.

Your dividend payments and the amount you may realize in connection with a sale of your ADSs will be affected by fluctuations in the exchange rate between the U.S. dollar and the Won.

Investors who purchase the American depositary shares will be required to pay for them in U.S. dollars. Our outstanding shares are listed on the Korea Exchange and are quoted and traded in Won. Cash dividends, if any, in respect of the shares represented by the American depositary shares will be paid to the depositary bank in Won and then converted by the depositary bank into U.S. dollars, subject to certain conditions. Accordingly, fluctuations in the exchange rate between the Won and the U.S. dollar will affect, among other things, the amounts a registered holder or beneficial owner of the American depositary shares will receive from the depositary bank in respect of dividends, the U.S. dollar value of the proceeds which a holder or owner would receive upon sale in Korea of the shares obtained upon surrender of American depositary shares and the secondary market price of the American depositary shares.

If the Government deems that certain emergency circumstances are likely to occur, it may restrict the depositary bank from converting and remitting dividends in U.S. dollars.

If the Government deems that certain emergency circumstances are likely to occur, it may impose restrictions such as requiring foreign investors to obtain prior Government approval for the acquisition of Korean securities or for the repatriation of interest or dividends arising from Korean securities or sales proceeds from disposition of such securities. These emergency circumstances include any or all of the following:

- sudden fluctuations in interest rates or exchange rates;
- extreme difficulty in stabilizing the balance of payments; and
- a substantial disturbance in the Korean financial and capital markets.

The depositary bank may not be able to secure such prior approval from the Government for the payment of dividends to foreign investors when the Government deems that there are emergency circumstances in the Korean financial markets.

ITEM 4. ***INFORMATION ON THE COMPANY***

Item 4.A. History and Development of the Company

General Information

Our legal and corporate name is Korea Electric Power Corporation. We were established by the Government on December 31, 1981 as a statutory juridical corporation in Korea under the Korea Electric Power Corporation

Table of Contents

(KEPCO) Act as the successor to Korea Electric Company. Our registered office is located at 55 Jeollyeok-ro, Naju-si, Jeollanam-do, 58217, Korea, and our telephone number is 82-61-345-4213. Our website address is www.kepco.co.kr.

Our agent in the United States is Korea Electric Power Corporation, North America Office, located at 7th Floor, Parker Plaza, 400 Kelby Street, Fort Lee, NJ 07024.

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 acquired all the remaining shares of Korea Electric Company, Korea Electric Company was dissolved, and we were incorporated in 1981 and assumed the assets and liabilities of Korea Electric Company. We ceased to be wholly owned by the Government in 1989 when the Government sold 21% of our common stock. As of March 15, 2018, the last day on which our shareholders registry was closed, the Government maintained 51.1% ownership in aggregate of our common shares by direct holdings by the Government and indirect holdings through Korea Development Bank, a statutory banking institution wholly owned by the Government.

Under relevant laws of Korea, the Government is required to own, directly or indirectly, at least 51% of our capital. Direct or indirect ownership of more than 50% of our outstanding common stock enables the Government to control the approval of certain corporate matters relating to us that require a shareholders resolution, including approval of dividends. The rights of the Government and Korea Development Bank as holders of our common stock are exercised by the Ministry of Trade, Industry and Energy, based on the Government s ownership of our common stock and a proxy received from Korea Development Bank, in consultation with the Ministry of Strategy and Finance.

We operate under the general supervision of the Ministry of Trade, Industry and Energy. The Ministry of Trade, Industry and Energy, in consultation with the Ministry of Strategy and Finance, is responsible for approving, subject to review by the Korea Electricity Commission, the electricity rates we charge our customers. See Item 4.B. Business Overview Sales and Customers Electricity Rates. We furnish reports to officials of the Ministry of Trade, Industry and Energy, the Ministry of Strategy and Finance and other Government agencies and regularly consult with such officials on matters relating to our business and affairs. See Item 4.B. Business Overview Regulation. Our non-standing directors, who comprise a majority of our board of directors, must be appointed by the Ministry of Strategy and Finance following the review and resolution of the Public Agencies Operating Committee (which is established by law and chaired by the minister of the Ministry of Strategy and Finance and whose members consist of Government officials and others appointed by the President of the Republic based on recommendation by the minister of the Ministry of Strategy and Finance) from a pool of candidates recommended by the director nomination committee. Our president and standing directors who concurrently serve as members of our audit committee must be appointed by the President of the Republic upon the motion of the minister of the Ministry of Trade, Industry and Energy (in the case of our president) and the minister of the Ministry of Strategy and Finance (in the case of our standing directors who concurrently serve as members of the audit committee) and following the nomination by our director nomination committee, the review and resolution of the Public Agencies Operating Committee and an approval at the general meeting of shareholders. See Item 6.A. Directors and Senior Management Board of Directors and Item 16G. Corporate Governance The Act on the Management of Public Institutions).

Item 4.B. Business Overview

Introduction

We are an integrated electric utility company engaged in the transmission and distribution of substantially all of the electricity in Korea. Through our six wholly-owned generation subsidiaries, we also generate the

Table of Contents

substantial majority of electricity produced in Korea. As of December 31, 2017, we and our generation subsidiaries owned approximately 70.1% of the total electricity generation capacity in Korea (excluding plants generating electricity primarily for private or emergency use). In 2017, we sold to our customers 507,746 gigawatt-hours of electricity. We purchase electricity principally from our generation subsidiaries and, to a lesser extent, from independent power producers. Of the 520,230 gigawatt-hours of electricity we purchased in 2017, 28.1% was generated by KHNP, our wholly-owned nuclear and hydroelectric power generation subsidiary, 49.7% was generated by our wholly-owned five non-nuclear generation subsidiaries and 22.2% was generated by independent power producers that trade electricity to us through the cost-based pool system of power trading (excluding independent power producers that supply electricity under power purchase agreements with us). Our five non-nuclear generation subsidiaries are KOSEP, KOMIPO, KOWEPO, KOSPO and EWP, each of which is wholly owned by us and is incorporated in Korea. We derive substantially all of our revenues and profit from Korea, and substantially all of our assets are located in Korea.

In 2017, we had sales of Won 59,336 billion and net profit of Won 1,441 billion, compared to sales of Won 59,763 billion and net profit of Won 7,148 billion in 2016.

Our revenues are closely tied to demand for electricity in Korea. Demand for electricity in Korea increased at a compounded average growth rate of 1.7% per annum from 2013 to 2017, compared to the real gross domestic product, or GDP, which increased at a compounded average growth rate of 3.0% during the same period, according to the Bank of Korea. During 2017, the GDP growth rate was 3.1%, which was in tandem with the growth in demand for electricity in Korea during the same year, which also grew by 2.2%.

Strategy

As our overall strategy, we seek to become a leading global energy enterprise by enhancing our global competitiveness and strengthening our contribution to the global environmental campaigns through continued development of green and smart power-related technologies. We also aim to adapt to the growing uncertainties in the global economy by selectively pursuing new business opportunities and through development of innovative technologies. We evaluate and renew our mid- to long-term strategy every five years, and in 2015 established the Vision 2025 Mid- to Long-Term Strategy. Under this vision, we will aim for balanced growth among our domestic operations, overseas business and new energy industry initiatives.

Strengthen competitiveness in our core operations. We plan to enhance efficiency of our electricity generation, transmission and distribution networks and operation of related facilities. We will strategically focus on ensuring stable supply of electricity, making our electricity networks smarter and more intelligent through the use of advanced technology utilizing big data and the Internet of Things technology and creating new energy services related to our core operations in order to address changes in the business environment.

Expand and develop new businesses. In connection with our overseas business, we plan to selectively explore opportunities to develop renewable energy, smart transmission and distribution facilities and nuclear energy projects to diversify our businesses and provide suitable solutions meeting the different needs of various countries. Additionally, we plan to actively address climate change through the development of new energy related technologies such as smart grids and energy storage systems.

Create a platform for future growth. We plan to develop an ecosystem focused on new energy technologies. We have established Bitgaram Energy Valley in Gwangju and Jeollanamdo with the goal of facilitating the growth of the new energy industry and creating a global energy hub. In addition, we have selected ten core electricity-related technologies (including energy storage systems and smart grid -related technologies), and we plan to focus on the development of high value-added technologies.

Strengthen our management system for sustainable growth. We will continue to develop an innovative working culture and management system to promote efficiency. We will also focus on creating a low-carbon clean energy business environment, fostering a common set of shared values with local communities and developing a sustainable energy business model.

Table of Contents

Government Ownership and Our Interactions with the Government

The KEPCO Act requires that the Government own at least 51% of our capital stock. Direct or indirect ownership of more than 50% of our outstanding common stock enables the Government to control the approval of certain corporate matters which require a shareholders resolution, including approval of dividends. The rights of the Government and Korea Development Bank as holders of our common stock are exercised by the Ministry of Trade, Industry and Energy in consultation with the Ministry of Strategy and Finance. We are currently not aware of any plans of the Government to cease to own, directly or indirectly, at least 51% of our outstanding common stock.

We play an important role in the implementation of the Government s national energy policy, which is established in consultation with us, among other parties. As an entity formed to serve public policy goals of the Government, we seek to maintain a fair level of profitability and strengthen our capital base in order to support the growth of our business in the long term.

The Government, through its various policy initiatives for the Korean energy industry as well as direct and indirect supervision of us and our industry, plays an important role in our business and operations. Most importantly, the electricity tariff rates we charge to our customers are regulated by the Government taking into account, among others, our needs to recover the costs of operations, make capital investments and recoup a fair return on capital invested by us, as well as the Government s overall policy considerations, such as inflation. See Item 4.B. Business Overview Sales and Customers Electricity Rates.

In addition, pursuant to the Basic Plan determined by the Government, we and our generation subsidiaries have made, and plan to make, substantial expenditures for the construction of generation plants and other facilities to meet demand for electric power. See Item 5.B. Liquidity and Capital Resources Capital Requirements.

Restructuring of the Electric Power Industry in Korea

On January 21, 1999, the Ministry of Trade, Industry and Energy published the Restructuring Plan. The overall objectives of the Restructuring Plan consisted of: (i) introducing competition and thereby increasing efficiency in the Korean electric power industry, (ii) ensuring a long-term, inexpensive and stable electricity supply, and (iii) promoting consumer convenience through the expansion of consumer choice.

The following provides further details relating to the Restructuring Plan.

Phase I

During Phase I, which served as a preparatory stage for Phase II and lasted from the announcement of the Restructuring Plan in January 1999 until April 2001, we undertook steps to split our generation business units off into one wholly-owned nuclear generation subsidiary (namely, KHNP) and five wholly-owned non-nuclear generation subsidiaries (namely, KOSEP, KOMIPO, KOWEPO, KOSPO and EWP), each with its own management structure, assets and liabilities. These steps were completed upon approval at our shareholders meeting in April 2001.

The Government s principal objectives in the split-off of the generation units into separate subsidiaries were to: (i) introduce competition and thereby increase efficiency in the electricity generation industry in Korea, and (ii) ensure a stable supply of electricity in Korea.

Following the implementation of Phase I, we have substantial monopoly with respect to the transmission and distribution of electricity in Korea.

31

Table of Contents

While our ownership percentage of our generation subsidiaries will depend on further adjustments to the Restructuring Plan to be adopted by the Government, we plan to retain 100% ownership of our transmission and distribution business.

Phase II

At the outset of Phase II in April 2001, the Government introduced a cost-based competitive bidding pool system under which we purchase power from our generation subsidiaries and other independent power producers for transmission and distribution to customers. For a further description of this system, see Purchase of Electricity Cost-based Pool System below.

Pursuant to the Electricity Business Act amended in December 2000, the Government established the Korea Power Exchange in April 2001. The primary function of the Korea Power Exchange is 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 Korea Electricity Commission in April 2001 to regulate the Korean electric power industry and ensure fair competition among industry participants. To facilitate this goal, the Korea Power Exchange established the Electricity Market Rules relating to the operation of the bidding pool system. To amend the Electricity Market Rules, the Korea Power Exchange must have the proposed amendment reviewed by the Korea Electricity Commission and then obtain the approval of the Ministry of Trade, Industry and Energy.

The Korea Electricity Commission s main functions include implementation of standards and measures necessary for electricity market operation and review of matters relating to licensing participants in the Korean electric power industry. The Korea Electricity Commission also acts as an arbitrator in tariff-related disputes among participants in the Korean electric power industry and investigates illegal or deceptive activities of the industry participants.

Privatization of Generation Subsidiaries

In April 2002, the Ministry of Trade, Industry and Energy released the basic privatization plan for five of our generation subsidiaries other than KHNP. Pursuant to this plan, we commenced the process of selling our equity 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. In November 2003, KOSEP submitted its application to the Korea Exchange for a preliminary screening review, which was approved in December 2003. However, in June 2004, KOSEP made a request to the Korea Exchange to delay its stock listing due to unfavorable stock market conditions at that time.

In accordance with the Proposal for Adjustment of Functions of Public Institutions (Energy Sector) announced by the Government in June 2016, we considered a sale in the public market of a minority of our shares in our five non-nuclear generation subsidiaries, KEPCO KDN and KHNP gradually. However, the planned sales have been put on hold, primarily due to prevailing market conditions. In any event, we plan to maintain a controlling stake in each of these subsidiaries.

Suspension of the Plan to Form and Privatize Distribution Subsidiaries

In 2003, the Government established a Tripartite Commission consisting of representatives of the Government, leading businesses and labor unions in Korea to deliberate on ways to introduce competition in electricity distribution, such as by forming and privatizing new distribution subsidiaries. In 2004, the Tripartite Commission recommended not pursuing such privatization initiatives but instead creating independent business divisions within us to improve operational efficiency through internal competition. Following the adoption of such recommendation by the

Government in 2004 and further studies by Korea Development Institute, in 2006 we created nine strategic business units (which, together with our other business units, were subsequently

Table of Contents

restructured into 14 such units in February 2012) that have a greater degree of autonomy with respect to management, financial accounting and performance evaluation while having a common focus on increasing profitability.

Initiatives to Improve the Structure of Electricity Generation

In August 2010, the Ministry of Trade, Industry and Energy announced the Proposal for Improvement in the Structure of the Electric Power Industry in order to resolve uncertainty related to restructuring plans for the electric power industry and maintain competitiveness of the electric power industry. Key initiatives of the proposal included the following: (i) maintain the current structure of having six generation subsidiaries and designate the six generation subsidiaries as market-oriented public enterprises under the Act on the Management of Public Institutions in order to foster competition among the generation subsidiaries and promote efficiency in their operations, (ii) clarify the scope of the business of us and the six generation subsidiaries (namely, that we shall manage the financial structure and governance of the six generation subsidiaries and nuclear power plant and overseas resources development projects, while the six generation subsidiaries will have greater autonomy with respect to construction and management of generation units and procurement of fuel), (iii) create a nuclear power export business unit to systematically enhance our capabilities to win projects involving the construction and operation of nuclear power plants overseas, (iv) further rationalize the electricity tariff by adopting a fuel-cost based tariff system in 2011 and a voltage-based tariff system in a subsequent year, and (v) create separate accounting systems for electricity generation, transmission, distribution and sales with the aim of introducing competition in electricity sales in the intermediate future.

In January 2011, the Ministry of Strategy and Finance created a joint cooperation unit consisting of officers and employees selected from the five thermal power generation subsidiaries in order to reduce inefficiencies in areas such as fuel transportation, inventories, materials and equipment and construction, etc. and allow the thermal power generation subsidiaries to continue utilizing the benefits of economy of scale after split off of our generation business units into separate subsidiaries. The purpose of the joint cooperation unit was to give greater autonomy to the generation subsidiaries with regard to power plant construction and management and fuel procurements, and thereby enhance efficiency in operating power plants. The main functions of the joint cooperation unit are as follows: (i) maintain inventories of bituminous coal through volume exchanges and joint purchases, (ii) reduce shipping and demurrage expenses through joint operation and distribution of dedicated vessels, (iii) reduce costs by sharing information on generation material inventories and (iv) sharing human resources among the five thermal power generation subsidiaries for construction projects, among other things.

Furthermore, in January 2011 the six generation subsidiaries were officially designated as market-oriented public enterprises, whereupon the President of Korea appoints the president and the statutory auditor of each such subsidiary; the selection of non-standing directors of each such subsidiary is subject to approval by the minister of the Ministry of Strategy and Finance; the president of each such subsidiary is required to enter into a management contract directly with the minister of the Ministry of Trade, Industry and Energy; and the Public Enterprise Management Evaluation Team which is established by the Public Agencies Operating Committee conducts performance evaluation of such subsidiaries. Previously, our president appointed the president and the statutory auditor of each such subsidiary; the selection of non-standing directors of each such subsidiary was subject to approval by our president; the president of each such subsidiary entered into a management contract with our president; and our evaluation committee conducted performance evaluation of such subsidiaries. For further details of the impact of the designation of our generation subsidiaries as market-oriented public enterprises, see Item 16G. Corporate Governance The Act on the Management of Public Institutions.

Proposal for Adjustment of Functions of Public Institutions (Energy Sector)

In June 2016, the Government announced the Proposal for Adjustment of Functions of Public Institutions (Energy Sector) for the purpose of streamlining the operations of government-affiliated energy companies by discouraging them from engaging in overlapping or similar businesses with each other, reducing non-core assets

Table of Contents

and activities and improving management and operational efficiency. The initiatives contemplated in this proposal that would affect us and our generation subsidiaries include the following: (i) the generation companies should take on greater responsibilities in overseas resource exploration and production projects as these involve procurement of fuels necessary for electricity generation while fostering cooperation among each other through closer coordination, (ii) KHNP should take a greater role in export of nuclear technology, and (iii) the current system of retail sale of electricity to end-users should be liberalized to encourage more competition. In accordance therewith, we transferred a substantial portion of our assets and liabilities in our overseas resource business to our generation subsidiaries as of December 31, 2016. In addition, this Proposal contemplated selling a minority stake in our generation subsidiaries and KEPCO KDN, but the planned sales have been put on hold, as discussed above in Privatization of Generation Subsidiaries.

Purchase of Electricity

Cost-based Pool System

Since April 2001, the purchase and sale of electricity in Korea is required to be made through the Korea Power Exchange, which is a statutory not-for-profit organization established under the Electricity Business Act with responsibilities 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 consist of our six generation subsidiaries, which were split-off from us in April 2001, and independent power producers, which numbered 17 (excluding renewable energy producers) as of December 31, 2017. We distribute electricity purchased through the Korea Power Exchange to end users.

Our Relationship with the Korea Power Exchange

The key features of our relationships with the Korea Power Exchange include the following: (i) we and our six generation subsidiaries are member corporations of the Korea Power Exchange and collectively own 100% of its share capital, (ii) three of the 11 members of the board of directors of the Korea Power Exchange are currently our or our subsidiaries employees, and (iii) one of our employees is currently a member in three of the key committees of the Korea Power Exchange that are responsible for evaluating the costs of producing electricity, making rules for the Korea Power Exchange and gathering and disclosing information relating to the Korean electricity market.

Notwithstanding the foregoing relationships, however, we do not have control over the Korea Power Exchange or its policies since, among others, (i) the Korea Power Exchange, its personnel, policies, operations and finances are closely supervised and controlled by the Government, namely through the Ministry of Trade, Industry and Energy, and are subject to a host of laws and regulations, including, among others, the Electricity Business Act and the Act on the Management of Public Institutions, as well as the Articles of Incorporation of the Korea Power Exchange, (ii) we are entitled to elect no more than one-third of the Korea Power Exchange directors and our representatives represent only a minority of its board of directors and committees (with the other members being comprised of representatives of the Ministry of Trade, Industry and Energy, employees of the Korea Power Exchange, businesspersons and/or scholars), and (iii) the role of our representatives in the policy making process for the Korea Power Exchange is primarily advisory based on their technical expertise derived from their employment at us or our generation subsidiaries. Consistent with this view, the Finance Supervisory Service issued a ruling in 2005 that stated that we are not deemed to have significant influence or control over the decision-making process of the Korea Power Exchange relating to its business or financial affairs.

Pricing Factors

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 the cost-based pool system,

Table of Contents

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).

Under the merit order system, the electricity purchase allocation, the system marginal price (as described below) and the final allocation adjustment are automatically determined based on an objective formula. The variable cost (including the adjusted coefficient as described below) and the capacity price are determined in advance of trading by the Cost Evaluation Committee, which is comprised of representatives from the Ministry of Trade, Industry and Energy, the Korea Power Exchange, us, generation companies, scholars and researchers. Accordingly, a supplier of electricity cannot exercise control over the merit order system or its operations to such supplier s strategic advantage.

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. We currently refer such marginal price as the system marginal price.

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 Korea Power Exchange to allocate which generation units will supply electricity for which hour and at what price. To elaborate, the projected demand for electricity for a given hour is determined by the Korea Power Exchange 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, seasonality and on-peak-hour versus off-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 Korea Power Exchange 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. We refer to the variable cost of the generation unit that is the last to receive the purchase order for such hour as the system marginal price, which also represents the highest 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 two months prior to such determination. The purpose of the merit order system is to encourage generation units to reduce its electricity generation costs by making its generation process more efficient, sourcing fuels from most cost-effective sources or adopting other cost savings programs.

The final allocation of electricity supply 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. This adjustment mechanism is designed to adjust for transmission losses in order to improve overall cost-efficiency in the transmission of electricity to end-users.

The price of electricity at which our generation subsidiaries sell electricity to us is determined using the following formula:

Variable cost + [System marginal price Variable cost] * Adjusted coefficient

35

Table of Contents

An adjusted coefficient applies in principle to all generation units operated by our generation subsidiaries and the coal-fired generation units operated by independent power producers. The adjusted coefficient applicable to the generation units operated by our 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 us compared to our generation subsidiaries. The purpose of the adjusted coefficient here is to prevent electricity trading from resulting in undue imbalances as to the relative financial results among generation subsidiaries as well as between us (as the purchaser of electricity) and our 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 us to end-users, on a non-consolidated basis our profitability will decline compared to that our generation subsidiaries since our generation subsidiaries are entitled to sell electricity to us at cost plus a guaranteed margin). In comparison, the adjusted coefficient applicable to the coal-fired generation units operated by independent power producers is determined to enable such independent power producers to recover the total costs of building and operating such units.

The adjusted coefficient applicable to our generation subsidiaries is currently set at the highest level for the marginal price of electricity generated using nuclear fuel, followed by coal and (depending the prevailing relative market prices) oil and/or LNG. 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, generation units receive payment in the form of capacity price, the purpose of which is to compensate them for the fixed costs of constructing generation facilities, provide incentives for construction of new generation units and maintain reliability of the nationwide electricity transmission network.

The capacity price is determined by the Cost Evaluation Committee as a function of the following factors: (i) reference capacity price, (ii) reserve capacity factor, (iii) time-of-the-day capacity coefficient and (iv) since October 2016, fuel switching factor. The reference capacity price and the time-of-the-day capacity coefficient are determined annually before the end of December for the subsequent 12-months period. The reserve capacity factor and the fuel switching factor are determined annually before the end of June for the subsequent 12-months period.

The reference capacity price refers to the 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. Accordingly, the reference capacity price currently ranges from Won 9.15 to 10.07 per kilowatt hour.

Table of Contents

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 failing to meet the standard capacity reserve margin receive 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 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 our 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

In May 2014, the Electricity Business Act was amended to introduce a vesting contract system in determining the price and quantity of electricity to be sold and purchased between the purchaser of electricity (namely, us) and the sellers of electricity (namely, our generation subsidiaries and independent power producers). Under the vesting contract system, electricity generators using 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 (namely, us), which specifies, among other things, the quantity of electricity to be generated and sold at a particular generation unit and the price at which such electricity is sold, subject to certain adjustments.

The vesting contract system was introduced principally to prevent excessive profit-taking by low-cost producers of electricity using 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, which accounted for 1.8% of electricity purchased by us during such year. The rollout of the vesting contract system was further studied by a task force consisting of representatives from the Government, the Korea Power Exchange 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 revert to the adjusted coefficient-based electricity pricing adjustment mechanism.

Table of Contents

Power Trading Results

The results of power trading, as effected through the Korea Power Exchange, for our generation subsidiaries and independent power producers in 2017 are as follows:

	Items	Volume (Gigawatt hours)	Percentage of Total Volume (%)	Sales to KEPCO (in billions of Won)	Percentage of Total Sales (%)	Unit Price (Won/kWh)
Generation Companies	KHNP	146,221	28.1	9,113	21.0	62.33
	KOSEP	66,640	12.8	5,183	12.0	77.77
	KOMIPO	50,254	9.7	4,410	10.2	87.75
	KOWEPO	45,464	8.7	4,176	9.6	91.85
	KOSPO	47,659	9.2	4,347	10.0	91.22
	EWP	48,307	9.3	4,452	10.3	92.15
	Others[(1)]	115,685	22.2	11,662	26.9	100.81
	Total	520,230	100.0	43,343	100.0	83.31
Energy Sources	Nuclear	141,098	27.1	8,573	19.8	60.76
	Bituminous coal	224,834	43.2	17,755	41.0	78.97
	Anthracite coal	4,014	0.8	385	0.9	95.89
	Oil	5,735	1.1	949	2.2	165.40
	LNG	1,429	0.3	151	0.3	105.33
	Combined-cycle	116,111	22.3	13,012	30.0	112.07
	Hydro	2,255	0.4	219	0.5	96.95
	Pumped-storage	4,171	0.8	450	1.0	107.96
	Others	20,583	4.0	1,849	4.3	89.82
	Total	520,230	100.0	43,343	100.0	83.31
Load	Base load	360,356	69.3	25,938	59.8	71.98
	Non-base load	159,874	30.7	17,405	40.2	108.86
	Total	520,230	100.0	43,343	100.0	83.31

Note:

(1) Others represent independent power producers that trade electricity through the cost-based pool system of power trading (excluding independent power producers that supply electricity under power purchase agreements with us).

Power Purchased from Independent Power Producers Under Power Purchase Agreements

In 2017, we purchased an aggregate of 10,702 gigawatt hours of electricity generated by independent power producers under existing power purchase agreements. These independent power producers had an aggregate generation capacity of 6,257 megawatts as of December 31, 2017.

Power Generation

As of December 31, 2017, we and our generation subsidiaries had a total of 679 generation units, including nuclear, thermal, hydroelectric and internal combustion units, representing total installed generation capacity of 82,132 megawatts. Our thermal units produce electricity using steam turbine generators fired by coal, oil and LNG. Our internal combustion units use oil or diesel-fired gas turbines and our combined-cycle units are primarily LNG-fired. We also purchase power from several generation plants not owned by our generation subsidiaries.

Table of Contents

The table below sets forth as of and for the year ended December 31, 2017 the number of units, installed capacity and the average capacity factor for each type of generating facilities owned by our generation subsidiaries.

	Number of Units	Installed Capacity[1] (Megawatts)	Average Capacity Factor[2] (Percent)
Nuclear	24	22,529	71.2
Thermal:			
Coal	59	34,125	78.7
Oil	11	2,950	20.3
LNG	0	0	40.8
Total thermal	70	37,075	71.2
Internal combustion	214	339	16.7
Combined-cycle[3]	111	16,018	26.3
Integrated gasification combined cycle[4]	2	346	42.4
Hydro	79	5,351	11.2
Wind	56	137	17.3
Solar	102	120	13.6
Fuel cell	17	47	67.1
Biogas	3	160	53.1
Others[5]	1	10	44.9
Total	679	82,132	58.5

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 kilowatt hours of electricity generated in the indicated period divided by the total number of kilowatt hours that would have been generated if the generation units were continuously operated at installed capacity, expressed as a percentage. Average capacity factor of the nuclear and coal-fired generation units represents the mean value of applicable average capacity factor for each fiscal quarter, as there were numerous shutdown and construction of units.
(3) Involves generation through gas and oil.
(4) Involves generation through coal and gasified coal.
(5) Includes waste-to-energy.

The expected useful life of a unit, assuming no substantial renovation, is approximately as follows: nuclear, over 40 years; thermal, over 30 years; internal combustion, over 25 years; and hydroelectric, over 55 years. Substantial renovation can extend the useful life of thermal units by up to 20 years.

We seek to achieve efficient use of fuels and diversification of generation capacity by fuel type. In the past, we relied principally upon oil-fired thermal generation units for electricity generation. Since the oil shock in 1974, however, Korea s power development plans have emphasized the construction of nuclear generation units. While nuclear units are more expensive to construct than thermal generation units of comparable capacity, nuclear fuel is less expensive than fossil fuels in terms of electricity output per unit cost. However, efficient operation of nuclear units requires that such plants be run continuously at relatively constant energy output levels. As it is impractical to store large quantities of electrical energy, we seek to maintain nuclear power production capacity at approximately the level at which demand for electricity is continuously stable. During those times when actual demand exceeds the usual level of electricity supply from nuclear power, we rely on units fired by fossil fuels and hydroelectric units, which can be started and shut down more quickly and efficiently than nuclear units, to meet the excess demand. Bituminous coal is currently the least expensive thermal fuel per kilowatt-hour of electricity produced, and therefore we seek to maximize the use of bituminous

Table of Contents

coal for generation needs in excess of the stable demand level, except for meeting short-term surges in demand which require rapid start-up and shutdown. Thermal units fired by LNG, hydroelectric units and internal combustion units are the most efficient types of units for rapid start-ups and shutdowns, and therefore we use such units principally to meet short-term surges in demand. Anthracite coal is a less efficient fuel source than bituminous coal in terms of electricity output per unit cost.

Our generation subsidiaries have constructed and operated thermal and internal combustion units in order to help meet power demand. Subject to market conditions, our generation subsidiaries plan to continue to add additional thermal and internal combustion units. These units generally take less time to complete construction than nuclear units.

The high average age of our oil-fired thermal units is attributable to our reliance on oil-fired thermal units as the primary means of electricity generation until mid-1970s. Since then, we have diversified our fuel sources and constructed relatively few oil-fired thermal units compared to units of other fuel types.

The table below sets forth, for the periods indicated, the amount of electricity generated by facilities linked to our grid system and the amount of power used or lost in connection with transmission and distribution.

	2013	2014	2015	2016	2017	% of 2017 Gross Generation[1]
	(in gigawatt hours, except percentages)					
Electricity generated by us and our generation subsidiaries:						
Nuclear	138,784	156,407	164,762	161,995	148,426	26.8
Coal	201,119	203,765	207,533	207,912	227,186	41.0
Oil	13,941	6,838	8,822	13,055	5,242	0.9
LNG	3,526	568	222	369	220	0.04
Internal combustion	741	656	633	573	496	0.1
Combined-cycle	84,561	68,134	45,923	46,477	36,957	6.7
Hydro	5,679	5,976	4,424	4,835	5,263	1.0
Wind	155	148	181	186	209	0.04
Solar and fuel cells	251	422	420	908	2,485	0.4
Total generation by us and our generation subsidiaries	448,757	442,914	432,920	436,310	426,484	77.1
Electricity generated by IPPs:						
Thermal	55,923	63,088	72,316	83,789	103,745	18.7
Hydro and other renewable	12,468	15,968	17,106	20,342	23,238	4.2
Total generation by IPPs	68,391	79,056	89,422	104,131	126,983	22.9
Gross generation	517,148	521,970	522,343	540,441	553,467	100
Auxiliary use[2]	20,463	20,610	21,293	21,605	22,279	4.0
Pumped-storage[3]	5,408	6,644	4,824	4,716	5,477	1.0

Total net generation[4]	491,277	494,716	496,226	514,120	525,711	95.0
Transmission and distribution losses[5]	18,019	18,270	18,063	18,475	18,790	3.6

IPPs = Independent power producers

Notes:

(1) Unless otherwise indicated, percentages are based on gross generation.
(2) Auxiliary use represents electricity consumed by generation units in the course of generation.

Table of Contents

(3) Pumped storage represents electricity consumed during low demand periods in order to store water which is utilized to generate hydroelectric power during peak demand periods.
(4) Total net generation represents gross generation minus auxiliary and pumped-storage use.
(5) Transmission and distribution losses represents total transmission and distribution losses divided by total net generation.

The table below sets forth our total capacity at the end of, and peak and average loads during, the indicated periods.

	2013	2014	2015	2016	2017
			(Megawatts)		
Total capacity	82,296	93,216	94,102	100,180	116,657
Peak load	76,522	80,154	78,790	85,183	85,133
Average load	59,035	59,586	60,284	61,694	63,181

Korea Hydro & Nuclear Power Co., Ltd.

We commenced nuclear power generation activities in 1978 when our first nuclear generation unit, Kori #1, began commercial operation. On April 2, 2001, all of our nuclear and hydroelectric power generation assets and liabilities were transferred to KHNP.

KHNP owns and operates 24 nuclear generation units at four power plant complexes in Korea, located in Kori, Wolsong, Yonggwang (Hanbit) and Ulchin (Hanul), 51 hydroelectric generation units including 16 pumped storage hydro generation units as well as six solar generation units and one wind generation unit as of December 31, 2017.

The table below sets forth the number of units and installed capacity as of December 31, 2017 and the average capacity factor by types of generation units in 2017.

	Number of Units	Installed Capacity[(1)] (Megawatts)	Average Capacity Factor[(2)] (Percent)
Nuclear	24	22,529	71.2
Hydroelectric	51	5,306	11.0
Solar	6	21	16.1
Wind	1	1	4.5
Total	82	27,858	

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 kilowatt hours of electricity generated in the indicated period divided by the total number of kilowatt hours that would have been generated if the generation units were continuously operated at installed capacity, expressed as a percentage.

KHNP commenced commercial operation of Shin-Kori #3, with a 1,400 megawatt capacity, in December 2016. KHNP is currently building five additional nuclear generation units, three at the Shin-Kori and two at Shin-Hanul sites, each with a 1,400 megawatt capacity. KHNP expects to complete these units between 2018 and 2023. The initial phase of the decommissioning of Kori #1, which primarily involves safety inspections and the removal of spent fuels, has begun after its permanent shutdown in June 2017.

Table of Contents

Nuclear

The table below sets forth certain information with respect to the nuclear generation units of KHNP as of December 31, 2017.

Unit	Reactor Type[1] (Megawatts)	Reactor Design[2]	Turbine and Generation[3]	Commencement of Operations	Installed Capacity
Kori-2	PWR	W	GEC	1983	650
Kori-3	PWR	W	GEC, Hitachi	1985	950
Kori-4	PWR	W	GEC, Hitachi	1986	950
Shin-Kori-1	PWR	D, KEPCO E&C, W	D, GE	2011	1,000
Shin-Kori-2	PWR	D, KEPCO E&C, W	D, GE	2012	1,000
Shin-Kori-3	PWR	D, KEPCO E&C, W	D, GE	2016	1,400
Wolsong-1	PHWR	AECL	P	1983	679
Wolsong-2	PHWR	AECL, H, K	H, GE	1997	700
Wolsong-3	PHWR	AECL, H	H, GE	1998	700
Wolsong-4	PHWR	AECL, H	H, GE	1999	700
Shin-Wolsong-1	PWR	D, KEPCO E&C, W	D, GE	2012	1,000
Shin-Wolsong-2	PWR	D, KEPCO E&C, W	D, GE	2015	1,000
Hanbit-1	PWR	W	W, D	1986	950
Hanbit-2	PWR	W	W, D	1987	950
Hanbit-3	PWR	H, CE, K	H, GE	1995	1,000
Hanbit-4	PWR	H, CE, K	H, GE	1996	1,000
Hanbit-5	PWR	D, CE, W, KEPCO E&C	D, GE	2002	1,000
Hanbit-6	PWR	D, CE, W, KEPCO E&C	D, GE	2002	1,000
Hanul-1	PWR	F	A	1988	950
Hanul-2	PWR	F	A	1989	950
Hanul-3	PWR	H, CE, K	H, GE	1998	1,000
Hanul-4	PWR	H, CE, K	H, GE	1999	1,000
Hanul-5	PWR	D, KEPCO E&C, W	D, GE	2004	1,000
Hanul-6	PWR	D, KEPCO E&C, W	D, GE	2005	1,000
Total nuclear					22,529

Notes:

(1) PWR means pressurized light water reactor; PHWR means pressurized heavy water 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).

Table of Contents

The table below sets forth the average capacity factor and average fuel cost per kilowatt for 2017 with respect to each nuclear generation unit of KHNP.

Unit	Average Capacity Factor (Percent)	Average Fuel Cost Per kWh (Won)
Kori-1[(1)]	99.7	15.21
Kori-2	100.2	7.39
Kori-3	4.9	35.01
Kori-4	23.6	12.96
Shin-Kori-1	5.8	25.93
Shin-Kori-2	100.1	6.17
Shin-Kori-3	102.0	6.20
Wolsong-1	40.6	10.72
Wolsong-2	90.6	9.19
Wolsong-3	32.8	16.78
Wolsong-4	99.3	9.49
Shin-Wolsong-1	98.5	6.69
Shin-Wolsong-2	71.7	7.05
Hanbit-1	73.3	8.47
Hanbit -2	77.1	6.66
Hanbit -3	99.8	6.74
Hanbit -4	37.5	10.64
Hanbit -5	76.6	7.38
Hanbit -6	52.7	8.19
Hanul-1	75.3	7.23
Hanul-2	89.0	6.77
Hanul-3	92.4	6.89
Hanul-4	93.8	6.39
Hanul-5	76.3	6.73
Hanul-6	78.2	7.88
Total nuclear	71.2	10.29

Note:

(1) Kori-1 was permanently shutdown on June 18, 2017.

Under extended-cycle operations, nuclear units can be run continuously for periods longer than the conventional 12-month period between scheduled shutdowns for refueling and maintenance. Since 1987, we have adopted the mode of extended-cycle operations for all of our pressurized light water reactor units and plan to use it for our newly constructed units. The duration of shutdown for fuel replacement, maintenance and the evaluation period for approval to start after maintenance was 199.7 days per unit in 2017. In addition, KHNP s nuclear units experienced an average

of 0.13 unplanned shutdowns per unit in 2017. In the ordinary course of operations, KHNP s nuclear units routinely experience damage and wear and tear, which are repaired during routine shutdown periods or during unplanned temporary suspensions of operations. No significant damage has occurred in any of KHNP s nuclear reactors, and no significant nuclear exposure or release incidents have occurred at any of KHNP s nuclear facilities since the first nuclear plant commenced operation in 1978.

Table of Contents

Hydroelectric

The table below sets forth certain information relating to KHNP s pumped-storage and hydroelectric business units, including the installed capacity as of December 31, 2017 and the average capacity factor in 2017.

Location of Unit	Number of Units