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2019-2020 ESG REPORT Sustainability Report

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#### **About This Report**

#### **About This Report**

This report is the eighth sustainability report from KEPCO Plant Service & Engineering Co., Ltd. (hereinafter referred to as "KEPCO KPS"). KEPCO KPS publishes a sustainability report on a biennial basis, with the aim of describing our performance in terms of the economy, the environment and our social responsibilities, while giving our stakeholders a good understanding of our efforts in the area of sustainability management.

#### **Reporting Principles**

This report has been prepared in accordance with the Core option of the Global Reporting Initiative's (GRI) Sustainability Reporting Standards, and reflects the requirements of ISO 26000 and the ten principles of the UN Global Compact (UNGC). The financial information included in this report has been prepared in accordance with Korean International Financial Reporting Standards (K-IFRS), and financial performance is reported based on the consolidated financial statements.

#### **Reporting Period and Scope**

The reporting period is from January 1, 2019 to December 31, 2020. In terms of quantitative performance, data from the past three years have been provided in this report to show yearly trends, while data from the first half of 2021 have been included for certain qualitative performance metrics. This report covers the economic, social, and environmental activities and outcomes of KEPCO KPS headquarters, its 62 business sites in Korea and 14 overseas sites and offices.

#### Assurance

The financial information included in this report has been audited by an independent auditing company. To ensure its objectivity, fairness and reliability, the contents of this report have been verified by an independent certification body, the Korean Society of Strategic Management, which is a third-party organization with no ties to KEPCO KPS.

#### Inquiries

This report is published in Korean and English, and both versions are available on the KEPCO KPS website as well as the websites of GRI and the UN Global Compact. We listen to the voices of our stakeholders via our website, email, and various other channels.

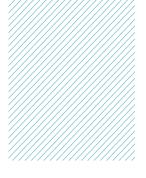
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#### Cover story

With a goal of "be-loved sustainable company with green energy", it presents the future of KEPCO KPS to be grown into the sustainable company based on the value of accompanied growth.

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# Message from the CEO



Dear valued customers. shareholder, KEPCO KPS employees, partners, and other stakeholders. I would like to take this opportunity to convey my sincere gratitude to you for your continued support and interest in KEPCO KPS.

Since its foundation in 1984, KEPCO KPS has played a pivotal role in securing the safety of the power industry and enhancing the reliability of power generation facilities. By enabling a stable power supply across the country through professional maintenance services for Korea's core thermal, nuclear, and hydro power generation facilities, as well as transmission and substation facilities, we have contributed to national economic development and enhanced the quality of people's lives.

In the aftermath of the recent global economic downturn, the power industry is continuing to experience low growth. Uncertainties in the market are also increasing due to paradigm shifts in the energy industry, such as energy conversion and digital transformation. Despite these challenges in our internal and external business environments, our annual sales have grown continuously since they first passed the KRW 1 trillion mark in 2012. In 2020, our sales and operating income reached KRW 1.3032 trillion and KRW 135.4 billion, respectively.

Pursuant to Vision 2030, our mid-to-long-term corporate strategy, we will strengthen the business aspect of institution and become a sustainable company focused on ESG management system.

#### First, we will lead the ESG management in public corporation.

For strengthening the establishment of ESG based management system, safety-first management, expansion of green business, and innovative management, we newly reorganized our organization as of November 2021. We newly established "ESG department", an exclusive organization for ESG management, and constituted "ESG Committee" as a sub-committee under the BOD to confirm the promotion plan of ESG management. Moreover, we expand and re-organize the "Green growth division" to foster the eco-friendly business as a future core new growth business, and the safety-first management is the management policy in priority, and we are planning to establish "Zero accident workplace" with our best capability.

#### Second, we will strengthen the competitiveness in core business.

Overseas, our nuclear power plant maintenance business in the United Arab Emirates (UAE), the first Korean export of a nuclear power plant, is being executed in a stable manner, while our thermal power plant O&M businesses in India, Pakistan, Jordan, and other parts of the world are yielding successful results. We partner with domestic small and mediumsized enterprises (SMEs) for overseas businesses to facilitate their entry into the global market and create jobs. Always mindful of the fundamental principle that companies do not exist without their customers, we engage in a range of business activities that are focused on creating value for customers. By providing meticulous services to client companies in the area of their power generation facility needs, we will improve the efficiency of their facilities and enhance performance reliability.

#### Third, we will find a power of future new growth.

We are investing our efforts in developing a profit-sharing business model to promote the renewable energy industry. In addition, with the expansion of energy conversion and eco-friendly power generation, we are trying to gain the upper hand in the nuclear decommissioning business by developing the necessary technologies, cooperating with advanced companies, and fostering talent. As it becomes more and more difficult to construct new power plants, the importance of improving the performance of aging power generation facilities and environmental facilities has come to the fore. With this in mind, we are focusing on improving the performance of aging thermal power plants as a next-generation business by utilizing our competencies in facility diagnostics, while contributing to creating value for our customers by substituting power plant construction.

#### Fourth, we will create the social value of coexistence.

KEPCO KPS leads in the creation of social value with KPS-Faraday School, S-Sure, KPS-CARE, etc. We have established a transparent response scheme based on our anti-bribery management system in order to ensure that a workplace culture of transparent and ethical management can take root. Also, we actively work to create quality jobs by transitioning contingent workers to permanent employees and expanding the hiring of local labor force. We play a leading role in creating a sound industrial ecosystem that is built on sharing and co-existence to achieve shared growth with our SME partner companies. In 2020, we made a difference to the communities in which we do business through a wide range of social value generation activities in economic, social, and environmental areas. Our achievements have led to us being selected as a sector leader by DJSI (Dow Jones Sustainability Indices) Korea for a twelfth consecutive year and as a No. 1 company in the Korean Standard-Quality Excellence Index, appointed as an excellent quality competitiveness enterprise, certified as the best institution of Best HRD, winning a grand prize of Korea social contribution, and becoming certified as a public sector leader in human resource development.

Going forward, we will achieve a balance in our economic and social performance so that we may fulfill our social responsibilities and roles as a major public enterprise in power industry, in addition to disclosing our activities in a transparent manner to reach further achievements and outcomes. We ask for your continued support in building a bright sustainable future for KEPCO KPS.

Thank you.

November 2021 CEO Kim, Hong-Yeon

#### KEPCO KPS 2019-2020 Sustainability Report

# **KEPCO KPS Profile**

#### Taking a Leap Toward Becoming a No. 1 Global Power Facility Maintenance Industry "Platform Company"

Over the past 37 years, KEPCO KPS has grown into a leading company in the field of power plant facility maintenance through relentless efforts in technological advancement and fostering talents. Our technological expertise has also been widely recognized in overseas markets.

Date of Foundation	CEO	Capital	No. of Employees	Primary Authority	Location of Headquarters
April 1, 1984	Kim, Hong-Yeon	KRW 9 billion	6,614	Ministry of Trade, Industry and Energy (MOTIE)	211 Munhwa-ro, Naju-si, Jeollanam-do, Republic of Korea

Personnel

\* Based on the capacity as of 1<sup>st</sup> quarter of 2021

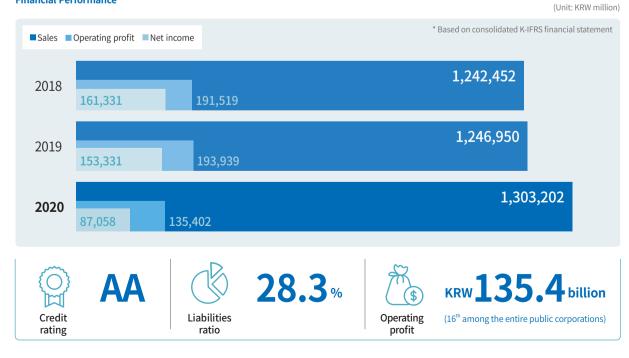
#### **Shareholder Composition**

KEPCO General investors and foreign investors
 National pension Employee ownership
 (Unit: %)
 38.1
 10.4
 0.5

\* As of 2<sup>nd</sup> quarter of 2021

	Category	Personnel	Description
C	Technology Solution Center	176	R&D, Maintenance Solutions
ore Tech	Nuclear Power Maintenance Engineering Center	229	Maintenance of core nuclear facility, engineering
logy O	Power Plant Maintenance Engineering Center	103	Gas turbine, steam turbine component regeneration service
	Technical support center	268	Maintenance technical support and facility diagnosis
zation	Human Resources Development Center / Korea Atomic Energy Research Institute	79	Education training planning, fostering talented personnel
			* As of 2 <sup>nd</sup> quarter of 2021

Financial Performance



#### **Organizational Status**

Headquartered in Naju, Jeollanam-do, KEPCO KPS op in Korea and 14 overseas sites.

			Presi	dent & CEO		Exec	cutive Auditor
	Quality & Manag	ement Dept.		_		Audit &	Inspection Dept.
Business Management Div. Power Generation Business Div. Nuclear Power Business Div. Green Growth Division							
General Affairs Dept.	Coexistence Inn	ovation Div.		ency & Safety gement Dept.		iclear Power Business Dept. Overseas Nuclear Power	New Business Development Dept.
Information & Communica Security Dept.	ation Corporate Plar	ining Dept.		ation Business Dept. ver Business Dept.	Overseas Nuclear Power Business Dept.		Green New Deal Business Dept.
ESG Innovation Departm	Human Resou		Overseas Power G				
		peration bept.			_		
Thermal Power	Overseas Sites/Offices	Electric Pow	er Offices	Nuclear Power		Pumped Storage Power	Special Sites
23 sites	14 sites	6 site	es	14 sites		7 sites	12 sites
Seoincheon, Boryeong, Samcheonpo, Taean, Dangjin, Yeosu, Incheon, Pyeongtaek, Busan, Jeju, Gunsan, Ulsan, Namjeju, Samcheok, Shin-boryeong, Seoul, Seoincheon, Donghae, Ilsan, Andong, Bundang	Overseas Sites UAE(UAE Headquarters), India(Chanderiya, Bhavnagar, Dariba, TSPL), Madagascar(Ambatovy), Jordan(Al-manakher), Uruguay(Tigre), Pakistan(Daharki, LEPCL), Bangladesh(Meghnaghat) Overseas Offices India Office, South Africa Office, Indonesia Office	Seoul, Daejeon Busan, Daegu,	Gwangju V V H	iori 1/2/3, Volseong 1/2/3, Volseong 1/2/3, Ianwool 1/2/3, iaewool 1, iaewool 2 Trial Operatio		Cheongpyeong, Muju, Samnangjin, Yangyang, Cheongsong, Sancheong, Yecheon	Business Management Div. Human Resources Development Center Nuclear Power Business Div. Nuclear Power Maintenance Engineering Center, Korea Atomic Energy Research Institute, Technology Solution Center Power Generation Business Div. Power Plant Maintenance Engineering Center, Hwaseong, Dongtan, Paju Green Growth Div. External Businesses Center, Pocheon, Anyang, Dongducheon

#### **Major Business Areas**

KEPCO KPS is a public enterprise that provides comprehensive services related to the diagnostics and performance improvement of power plant facilities, power generation facilities at home and abroad, renewable EPC, industrial facilities, and transmission & substation facilities. We also operate the Power Plant Maintenance Engineering Center for the maintenance and repair of core components of power generation facilities, the Nuclear Power Maintenance Engineering Center, and the Technology Solution Center for the development of core technologies. At the same time, we are engaged in renewable energy businesses involving solar and wind power.

Category	Major Clients	Sales	Sales ratio	Description	
Thermal Power	5 local public power	465,865	35.86	<ul> <li>Routine maintenance and construction, planned preventive maintenance and construction, renovation, and test drive maintenance of thermal power facilities in Korea</li> </ul>	
Plant	companies in Korea			<ul> <li>Repair of high temperature components of gas turbines, etc.</li> </ul>	
Nuclear / Hydro Power Plant	Korea Hydro & Nuclear Power Co., LTD.	431,796	33.23	<ul> <li>Routine maintenance and construction, planned preventive maintenance and construction, renovati and test drive maintenance of nuclear / hydro power facilities in Korea</li> <li>Implementation of advanced practical technologies for nuclear power plant maintenance, as well as development and commercialization of independent technologies, etc.</li> </ul>	
Power Transmission and Substation	KEPCO	81,042	6.24	<ul> <li>Maintenance of power transmission lines and live wires, HVDC facility inspection and maintenance, general supervision of electrical work, etc.</li> </ul>	
External Businesses	Korea District Heating Corp., private power companies, etc.	164,984	12.70	<ul> <li>Maintenance of power generation facilities in Korea owned by entities other than KEPCO</li> <li>Renewable energy businesses, etc.</li> <li>Research and technology-related services, etc.</li> </ul>	
Overseas Businesses	Power companies in Korea and overseas (UAE, etc.)	155,499	11.97	Operation / Maintenance of power generation facilities overseas     KEPCO KPS PHILIPPINES CORP	
	Total	1,299,186	100		

Headquartered in Naju, Jeollanam-do, KEPCO KPS operates four divisions and 16 departments in its headquarters, in addition to 62 offices

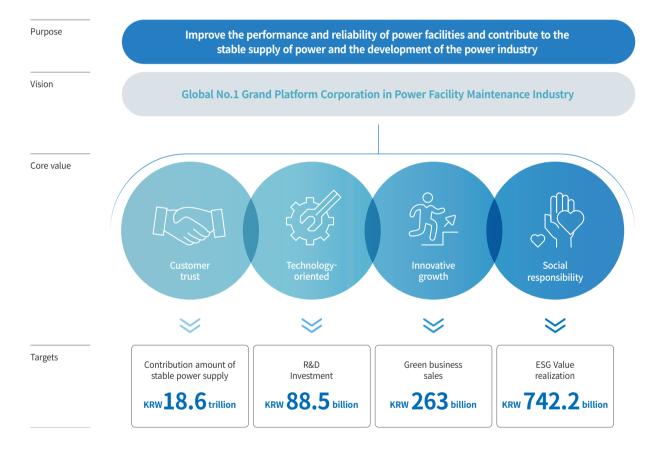
\* Separate standard in 2020

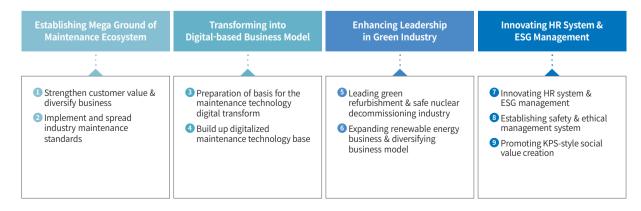
#### KEPCO KPS 2019-2020 Sustainability Report

# **VISION 2030**

#### **Overview**

KEPCO KPS established "Vision 2030," a mid-to-long term strategic management plan for its leap toward becoming a grand platform company in the power facilities maintenance industry. We are focusing the capabilities of our employees to see the changes of environment in power industry and to prepare the future, and will lead to establish the eco-system that shares the value with stakeholders in power facilities maintenance industry.





# **History and Performance**

#### **Overview**

development of expert technology.





#### KEPCO KPS was established in 1984 as a technical expert company in power facility maintenance, and we have been devoted to the maintenance of power and industrial facilities to lead the development of industry and country as become a world-leading grand platform corporation in the power facility maintenance industry. Also, we use our accumulated technology and know-hows to contribute for ensuring the stable supply of high-quality power to the public, and continuously promote technical independence and the

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INTRODUCTION

# **BUSINESS OVERVIEW**

**KEPCO KPS** will **take a leap** toward a future of challenge and innovation!

New Growth Business Area

Core Business Area

Power Plant Total Service Thermal Power Maintenance Nuclear Power Maintenance Transmission Maintenance Hydro Power Maintenance Renewable energy businesses Nuclear decommissioning businesses Performance improvement business Overseas businesses KEPCO KPS, a world-leading grand platform corporation in the power facility maintenance industry, takes responsibility for maintaining Korea's power industry, core to the development of the national economy, and provides a total solution for the maintenance, diagnosis, and performance improvement of domestic and international power facilities as well as renewable energy and transmission facilities.

We maximize customer value with the most advanced technology, and bring a new future to our customers through the innovation of our maintenance industry.

# Core Business Area

#### Summary of Power Plant Total Service



KEPCO KPS performs high-quality maintenance on domestic and international power / industrial facilities, including head office, thermal power / hydro, nuclear, transmission, and special sites for the maintenance / management of power facilities, a core of Korea's key national industries.

We also strive to ensure a stable power supply by operating offices nationwide to prevent breakdown and ensuring the swift repair of power transmission equipment.

#### **Routine Maintenance**

We check facilities daily for abnormalities through preventive maintenance, predictive maintenance, corrective maintenance, etc., and when any are found, they are resolved immediately in the operation status to secure the reliability of facility operation.

#### **Scheduled Preventive Maintenance**

The disassembly and inspection of various equipment and facilities are performed while the operation of the power generation facility is suspended in accordance with the power plant mid-to-long term maintenance plan, related legislation, and technology specifications.

Using our accumulated maintenance technology, experts in each field, tools & equipment, etc., a systematic preliminary preparation plan is established to ensure the provision of a highquality maintenance service.

KEPCO KPS contributes to improving the facility use ratio by reducing failure / suspension of facilities through scheduled preventive maintenance, as well as reducing power plant operation costs by optimizing the work period.



#### **Trial Operation Maintenance**

We participate in trial operation maintenance during the trial operation period, which is the final stage of power plant construction, to help ensure the integrity of facilities after commercial operation.

We perform preventive inspections after installation is completed and until the time of commercial operation to ensure efficient maintenance / management, support testing on various systems and devices, and perform emergency restoration work on machinery and electric / measurement facilities when necessary during the trial operation period.

Also, we develop a maintenance procedure manual and prepare for commercial operation with the systematic management of the initial material for trial operation of devices, such as vibration measurement, etc.

#### Performance Diagnosis of Power Plant and Life Span Evaluation

A power plant facility has its own performance and life span for each product. But the life span of devices can differ depending on how they are managed through the operation and maintenance of a facility.

KEPCO KPS strives to ensure profits for our customers by increasing efficiency through diagnosing the performance of facilities, extending facility life span, and providing information for the improvement of facilities.

We calculate the residual life span of aging facilities such as turbine, boiler, etc. through our world-class power plant diagnosis evaluation technology, and suggest ways to extend facility life spans. In addition, we identify various types of technical problems such as false operation of facility, abnormal sign, failure, etc. and lead the optimization of facilities by providing a forecasting & diagnosis service, etc. using interpretation technology.

# **Core** Business Area



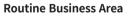
#### Provision of High-Quality Maintenance Service

We provide differentiated maintenance services through failure prevention activities based on the Plan-Do-Check-Action (PDCA) cycle. We offer high-quality maintenance services using the maintenance technology and experts we employ in diverse fields, and contribute to the creation of customer value through reducing power plant operation costs by reducing failure / suspension of facilities during operation.

> Summary of Thermal Power Maintenance

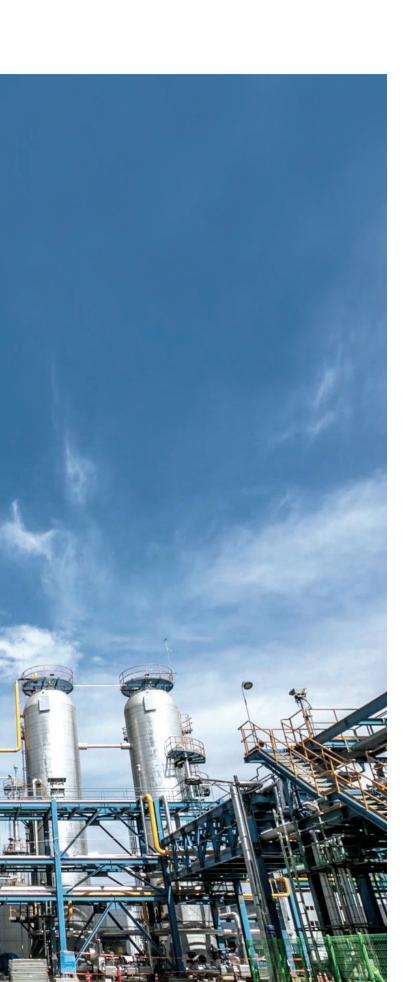
KEPCO KPS performs the integrity evaluation, life span diagnosis, and maintenance on the core facilities of thermal powers plant based on the most advanced diagnosis technology, cutting-edge equipment, and experts, and provides optimized solutions for the stable operation of customer facilities by analyzing technical problems in various types of failure, false operation, abnormal signs, etc.

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Since its foundation in 1984, KEPCO KPS has played a pivotal role in securing the safety of the power industry and enhancing the reliability of power generation facilities.

We secured the reliable operation of facilities through providing professional maintenance services that include preventive maintenance, predictive maintenance, corrective maintenance, etc. of thermal power plants, and have contributed to improving quality of life and the development of the national economy by providing power stably throughout the nation.



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# Core Business Area

#### Summary of Nuclear Power Maintenance

KEPCO KPS uses its years of maintenance experience and skilled engineers to improve the quality of nuclear power plants through the maintenance and engineering of core power plant facilities.

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We also have a system for prompt emergency restoration to prepare for unforeseen emergency situations.

#### **Routine Business Area**

KEPCO KPS provides high-quality maintenance services such as routine maintenance, scheduled preventive maintenance, etc. for the 24 nuclear power plants operated in Korea.

In addition, we have 6,280 maintenance procedure manuals to guide in the testing, inspection and maintenance qualification and the performance assurance of nuclear power plants based on our advanced nuclear power plant maintenance system, and operate a total of 514 training courses to develop expert power plant maintenance engineers based on SAT (Systematic Approach to Training) corresponding to the international standard.

We also operate qualification within the business (195 types) and have a support organization system for the research and support of power plant facility technology.

In addition, we have secured the superiority of our maintenance quality by acquiring a certificate in the field of KEPIC MN·EN·MH and KEPIC Nuclear Production.<sup>1)</sup>

1) Certification of capability to maintain and to apply the nuclear power quality assurance program in accordance with conditions of Korea Electric Power Industry Code (KEPIC): MN (nuclear machinery), EN(nuclear electricity), MH (Nuclear air conditioning)





#### **Special Businesses**

Holding the manufacturer's source technology based on the Nuclear Power Maintenance Engineering Center (NMEC), we have strengthened our strategic alliance with overseas advanced manufactures such as GE, Westinghouse, etc. to secure core technologies in advance, and lead the maintenance market of nuclear plants in operation.

We also provide inspection, diagnosis, and maintenance services for nuclear reactor / nuclear power plant fuel facility, steam generator, nuclear reactor coolant pump and motor, major system valves, etc. based on the technical capability of our experts in each field, with specialized ultra-precision technology and cutting-edge equipment.

KEPCO KPS contributes to the stable operation of nuclear power plants and the stable supply of power through the improvement and replacement of facilities, inspection and maintenance of internal components of nuclear reactors, and quality verification of nuclear power plant components and nuclear decommissioning technology as nuclear power plants reach their end-of-life.

Major Services

Total maintenance in machinery, electricity,

and control and engineering service

Installation and construction of main device in

machine, electricity in hydro power plants

Modernization work of hydro power plants

# Core Business Area

### Summary of Transmission Maintenance

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We provide total maintenance services for transmission sites and substations, including maintenance of transmission lines and live wires, HVDC transformer maintenance and performance diagnostics, as well as construction and safety diagnostics for transmission lines. Also, we operate business sites across the country and strive to provide a stable power supply year-round through our emergency restoration service, which guarantees a prompt response in the event of an unforeseen incident.

Maintenance of transmission lines

Major Services

Maintenance of live wires with ultra-high-voltage

Construction of transmission lines

Maintenance of HVDC transformers

Summary of Hydro Power Maintenance

KEPCO KPS provides a total maintenance solution for 11 hydro power generation facilities among a total of 16 hydro power plants, beginning with Cheongpyeong on Oct. 1979. Also, we provide the best technical service for the modernization of domestic hydro power generation facilities based on our accumulated technology and capabilities, and strive to increase value for our customers.



# New Growth **Business** Area

#### **Business Area**

KEPCO KPS provides a one-stop service from the design of power generation facilities with renewable energy such as solar, wind, etc., to the procurement of equipment, construction work, maintenance of power plants, etc. based on our know-how in power generation facility maintenance as a public energy corporation.

#### **Business Field**

Solar power, wind power, fuel cell, bio and related research and development.

#### Renewable Energy Business Area



Summary of renewable energy business area

KEPCO KPS is establishing renewable energy business systems such as solar, wind, bio, etc. and promoting EPC<sup>1)</sup> and O&M<sup>2)</sup> business based on our accumulated and outstanding technical capability and know-how.

We invest in the future of humanity by expanding our profit-centered EPC services for renewable energy, developing investment businesses, and strengthening R&D in renewable energy.

1) Engineering Procurement Construction 2) Operation & Maintenance





#### Fuel Cell Businesses

Fuel cell power plant	Facility capacity	Work performed	Ordering Party
Dongtan Site	11.44MW	Routine maintenance	Korea District Heating Corp.
Bundang Site	30.79MW	Routine maintenance	Korea South-East Power Co., Ltd.
Ulsan Site	2.8MW	Routine maintenance	Korea East·West Power Co., Ltd.
Incheon Site	15.84MW	Routine maintenance	Korea Midland Power Co., Ltd.
Seo-Incheon Site	58.72MW	Routine maintenance	Korea Southern Power Co., Ltd.
Seoul Site	6MW	Routine maintenance	Korea Midland Power Co., Ltd.

#### Solar Power Business

Name of business	Performance period	Facility capacity	Facility location	Business Area
Yeongwol Solar Power	Nov. 2012 ~ May 2018	38.9MW	Yeongwol, Gangwon-do	Electric / transmission construction + O&M
Geogeum Solar Power	Nov. 2012 ~ present	25MW	Goheung, Jeonnam	EPC + O&M
Sin-Boryeong Coal Storage Solar Power	Apr. 2016 ~ Jun. 2016	2.9MW	Boryeong, Chungnam	Construction work
Daedong Marine Solar Power	Dec. 2016 ~ present	2MW	Hampyeong, Jeonnam	Grid connection work + routine maintenance + delivery of equipment
Dangjin Coal Storage Solar Power	Mar. 2017 ~ Jun. 2017	3.4MW	Dangjin, Chungnam	Construction work

\* Other: Routine maintenance of solar power & ESS power generation facility of power plant (solar power facility capacity of 107.5MW and ESS facility capacity of 48.3MW)

#### Wind Power Businesses

Name of business	Performance period	Facility capacity	Business Area
Yangyang Wind Power Plant	Nov. 2012 ~ present	3MW	Routine maintenance
Jisan Wind Power Plant	Nov. 2015 ~ Sept. 2019	3MW	Routine maintenance

#### Other renewables businesses

- Technical service of the analysis of the feasibility of renewables business in Jeonnam region, Jeonnam Development Corporation (Aug. 2018 ~ Dec. 2021) • Ansan-si Hydrogen Model City Business (Jul. 2020 ~ Dec. 2022)



# New Growth **Business** Area

#### 1. System Decontamination

System decontamination, which is carried out to remove the activation oxide, etc. accumulated within the nuclear reactor coolant system, is essential to minimize the radiation exposure of workers prior to the decommissioning of a nuclear power plant.

We are in the process of developing our business of domestically manufacturing equipment and technology with the minimization of secondary waste as a goal based on the ALARA<sup>1)</sup> concept regarding nuclear reactor coolant systems, chemical / volume control, removal of residual heat and safe injection systems, etc.

#### 2. Equipment Decontamination

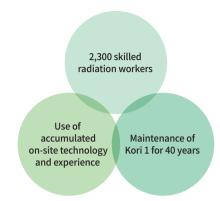
Equipment decontamination is a process to reduce the quantity of waste by removing radioactive contamination from a facility, structure, etc. contaminated by radioactive substances through a physical / chemical method.

We establish verification systems for the development of technology such as portable remote control blasting robot decontamination, chemical decontamination, etc., and develop the process technology.

We also have developed regenerative electrolytic decontamination technology and secured the decontamination technology that is needed upon nuclear power plant dismantling, such as an electrolytic decontamination pilot process device to decontaminate the inside of a device by using mobile robot, etc.

1) As Low As Reasonably Achievable

#### Nuclear Decommissioning Business Area



#### 3. Large Radioactive Device Decommissioning

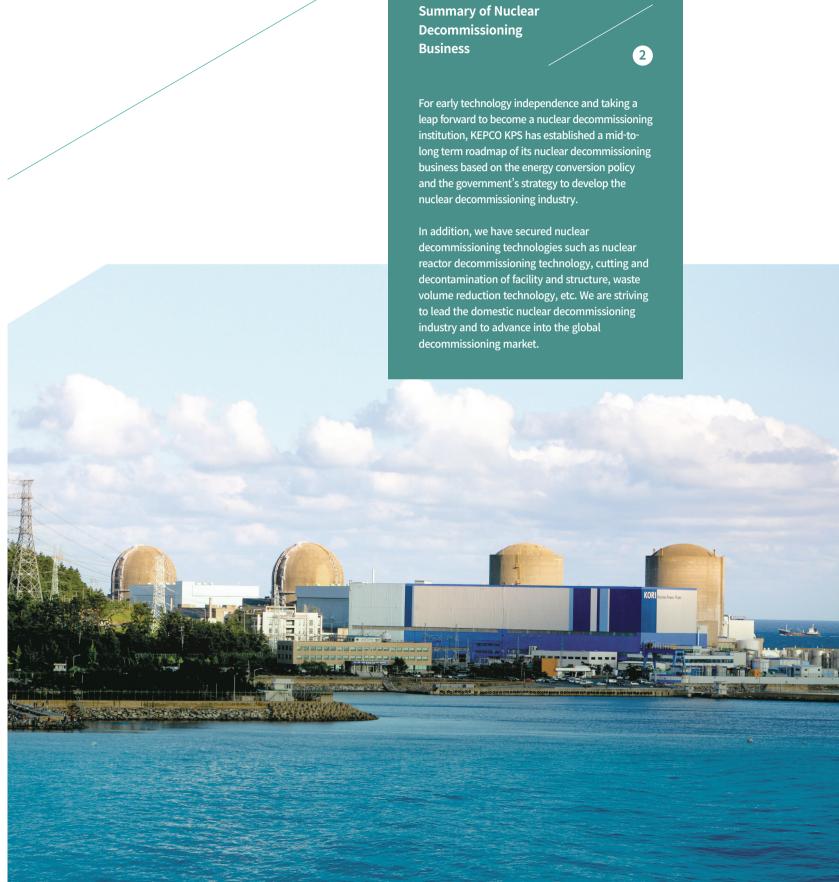
A large radioactive device like a steam generator is difficult to dismantle within the nuclear reactor building, so it is transported to an external waste processing facility and dismantling is performed after taking preliminary measures such as decontamination, packaging, etc. We secured appropriate and effective technology for the processing of large radioactive devices using a remote cutting technology based on our experience of performing large radioactive device replacement work.

#### 4. Nuclear Reactor Decommissioning

Dismantling the nuclear reactor container and its inner components is a core technology of decommissioning, involving remote control, precise diagnosis, high-radioactive shielding, etc., and it requires the verification test in accordance with various cutting process scenarios. KEPCO KPS has developed a highload multi-degree end effector for handling and cutting under harsh environments such as highly radioactive, underwater, and remote control, and has a large water tank. We are in the process of realizing 3D simulation of cutting and dismantling processes, establishment of mock-up for verification, protection of radiation, and establishment of a safety management plan, and would like to contribute to safe dismantling by using our own technologies.

#### 5. Processing of Radioactive Waste

The processing of the radioactive and combustible waste generated upon the decommissioning of a nuclear plant, such as metal, concrete, decontamination waste solutions, etc., shall be processed / disposed of under the radioactive waste processing system. KEPCO KPS prepares for safe and economical decommissioning based on processing the waste solution generated during the dismantling work, reducing waste volume through induction heating and procuring plasma torch fusion & processing technology, while fostering expert personnel in facilities maintenance and operation.



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# New Growth **Business** Area

### Summary of Performance **Improvement Business**

Since the deterioration of domestic and international power generation facilities is progressing rapidly, we are replacing and improving the core of deteriorated power generation facilities or parts of major facilities to increase facility efficiency and output as well as to engage in the performance improvement business, with the goal of extending facility life spans.

NOWLFU UNI

#### Effects of Performance Improvement Business

#### 1. Extension of Life Span

The average life span of a power generation facility is approx. 30 years. However, this can be extended by an average of more than 10 years through the performance improvement business, which replaces and improves the major components of a deteriorated power generation facility through the power generation facility life span evaluation and diagnosis of residual life span.

#### 2. Capacity Increase

When output decreases due to aging of power generation facilities, the output can be improved by more than 5~10% through performance improvement business that increase facility capacity.

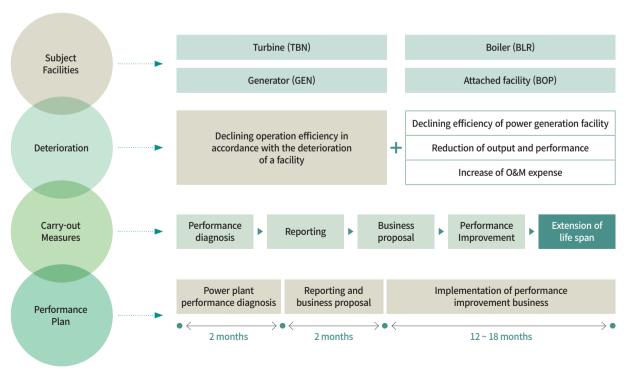
#### 3. Efficiency Improvement

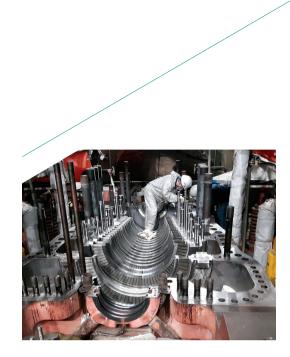
There is a rapid reduction in power generation efficiency in the power generation facility through the optimized concept design for 20 years after the operation of facility, and the efficiency has been increased for more than 2~5% with the performance improvement business through the optimized design of concept design.

#### 4. Reliability Improvement

We strive to support a stable power supply and reduced production costs through the procurement of reliability and integrity close to the design life span with the improvement of facility performance in accordance with the cost reduction in power generation.

#### **Business Summary**





# New Growth **Business** Area

#### **Diversification of Overseas Business Model**

We are in the process of recovery businesses such as performance improvement business, etc. based on facility diagnosis and solutions that take advantage of our strengths as a company in order to meet the needs of the rapidly changing overseas power generation service market.

Also, we are working to diversify our business model such as long-term O&M business development, etc. through equity investment as well as the performance of full O&M businesses including the supply of material, OH, and simple O&M businesses. In addition, we are deploying a strategy for the expansion of business and advancement into new markets through a close market analysis and systematic marketing activities.

#### UAE Nuclear Power Plant

We participated in the KEPCO Consortium to win a nuclear power plant at UAE in 2009, and won the trial operation maintenance business for the early stage of nuclear power plants at the UAE in 2013, and plan to engage in the trial operation maintenance in phase until the completion of No. 4 power plant.

Also, we won the "UAE Nuclear Power Plant Maintenance (LTMSA)" as a 'team Korea' consortium on Jun. 2019, and plan to play the core role in the operation of UAE nuclear power plants based on APR1400 nuclear power plant technology and maintenance experience.

We are striving to reinforce our overseas competitiveness and to take a leap forward as a global maintenance company based on the successful performance of our UAE nuclear power plant maintenance business.

#### Summary of **Overseas Business**

After the thermal power scheduled preventive maintenance business of BSPS of Irag in 1982, KEPCO KPS advanced into the overseas O&M market starting with the O&M business of India's GMR Diesel power plant in 1998.

In 2014, sales of overseas business exceeded KRW 100 billion, and its ratio in our sales has grown by more than 10% to become a core strategic business.

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4

#### **Strengthening Global Partnerships**

We achieve price competitiveness through shortening our time required for procurement from overseas and reducing distribution costs, etc. by using our domestic and international supply chain network. Also, we establish a cooperative relationship with local companies in the areas where we operate to increase our potential of winning overseas business, and try to provide better service to our customers. To this end, we continuously work to establish supply chains with nuclear power cooperative companies. We will continue to establish a supply network for power generation facilities and materials to secure domestic and international partner companies such as manufacturers, distribution companies, etc. needed for our performance improvement business.

#### **Overseas Businesses**

Name of country	Description of work	Facility capacity (MW)	Construction period
	Chanderiya Thermal Power O&M	248	2004~ 2020 (16 years)
India	Jharsuguda Thermal Power O&M	1,215	2008~ 2020 (12 years)
IIIuid	Bhavnagar Thermal Power O&M	500	2021~ 2035 (14 years)
	Dharavi Thermal Power O&M	174	2019~ 2023 (4 years)
Jordan	Al-manakher Diesel O&M	573	2013~ 2039 (26 years)
Bangladesh	Meghnaghat Combined O&M	335	2013~ 2022 (9 years)
Madagascar	Ambatovy Thermal Power O&M	172	2009~ 2021 (12 years)
Philippine	Ilijan Combined Routine Maintenance	1,200	2020~ 2022 (2 years)
Pakistan	Daharki Combined O&M	175	2009~ 2027 (18 years)
Pakislari	LEPCL Thermal Power O&M	660	2020~ 2031 (11 years)
Uruguay	Tigre Combined O&M	531	2015~ 2023 (8 years)
	BNPP Trial Operation Maintenance	5,600	2013~ 2022 (9 years)
UAE	UAE Nuclear Power Plant Maintenance(LTMSC)	5,600	2019~ 2024 (5 years)

# BUSINESS ACHIEVEMENT





10 Core Performances in 2020 KEPCO KPS Innovation Plan

30p

32p



Power Generation Maintenance Service and Strengthening the Leadership





Expansion of Green and New Business

37р

Secure Global Competitiveness

38p

#### KEPCO KPS 2019-2020 Sustainability Report

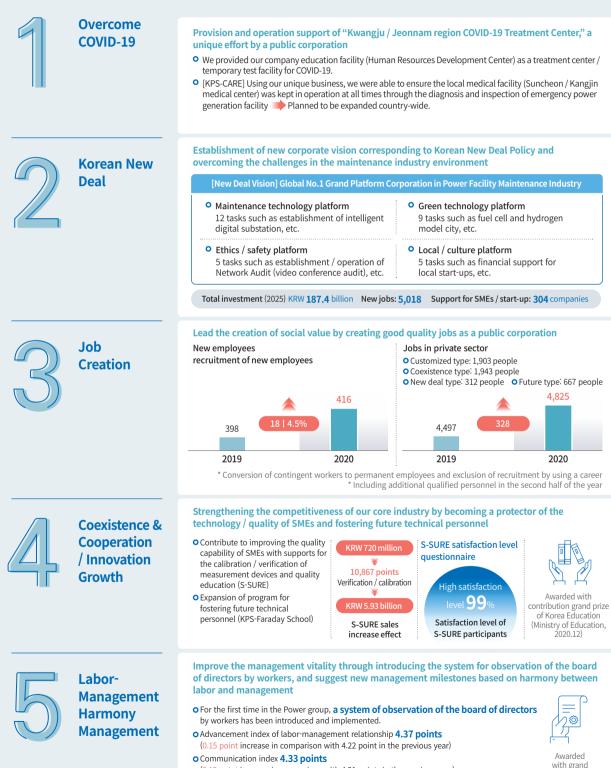
# 10 Core Performances in 2020



prize of labor

management

cooperation



- (0.12 point increase in comparison with 4.21 points in the previous year)
- Establish cooperative labor-management relationship with communication and cooperation,
- such as the conclusion of peaceful labor agreement for 19 consecutive years, etc.



# Safety-first Management



Power

Generation

**Business** 

Maintenance

- Zero-defect maintenance Natural disaster
- COVID-19

#### Successful initial operation and maintenance of UAE nuclear power plant / expansion of overseas maintenance market, and expansion of leading power of "Korean maintenance technology"

- Nuclear power
- Hydro / thermal power

#### Emergency support for customer companies with overseas technology suspended due to COVID-19, and advancement to Green New Deal business

- Replacement technology Performance Improvement
- Green New Deal







# Business



Achieved 'quality grand slam' for the first time with customer · problem solving-centered improvement activity • Awarded presidential prize (Gold prize 3, Silver prize 1, Bronze prize 1) in Quality Control Circles • Korea Quality Grand Prize, Korea Service Grand Prize Hall of Fame, Quality

Competitiveness Excellent Company Hall of Fame • Selected as No. 1 Company on Korean Standard-Quality Excellence Index (KSQEI), Global Quality Management Grand Prize



5 Presidential Prizes

#### Perform a unique role in national maintenance and perfect restoration after disaster, ensuring reliability of power facilities

Realization of zero-defect maintenance such as compliance with scheduled preventive maintenance period in 67 power plants, and shortening of its period (105 days / effects of 1.462GW), etc.

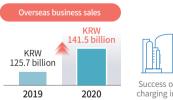
Request from customer company for emergency restoration after to the suspension of power generation in Gori due to the typhoon

Minimization of maintenance vacuum on behalf of technician of overseas manufacturer



Achievement of successful initial fuel charging of exported nuclear power plant (UAE) and highest sales

Despite COVID-19 situation, active advancement of overseas business / securing of existing customers

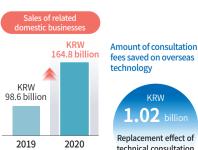




Filling technology vacuum left by overseas manufacturers due to COVID-19 (saving KRW 1.02 billion in foreign currency)

Performance improvement business of POSCO Gwangyang No. 1 (KRW 33.5 billion), replacement of gas turbine in Yeosu Factory of LG Chemical (KRW 3.5 billion)

Ansan-si Hydrogen Model City Business, fuel cell power generation business in Naiu Innovative industrial complex (20MW), resident-oriented Namjung wind power business (58.8MW)

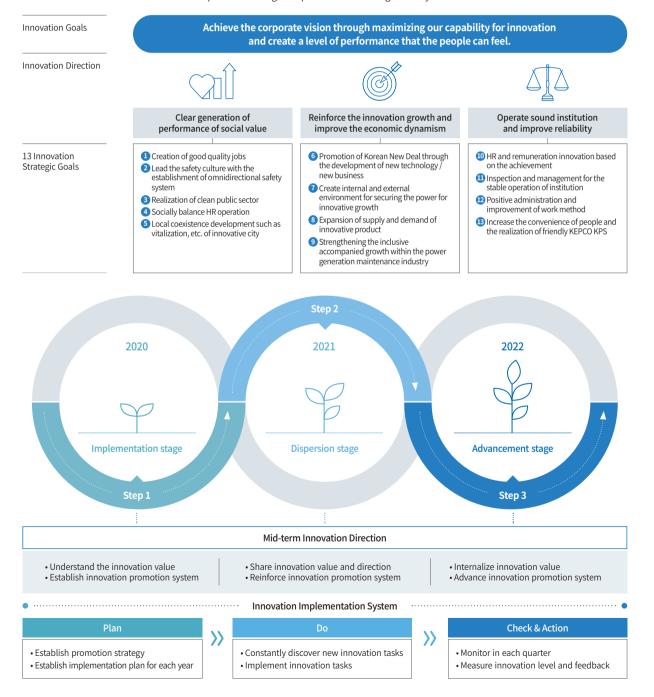


# **KEPCO KPS Innovation Plan**



#### **Summary of Innovation Plan**

We have established an innovation plan with goals of generating performance and achieving the corporate vision through maximizing our capability for innovation, and contribute to improving the quality of life of stakeholders by securing an approach to sustainable development through ESG management and KPS-New Deal. Also, we plan to identify the major indexes on each innovation task and establish a clarified KPI to reinforce our inspections through the performance management system.





#### 2020 Core tasks and Achievement 自通 Mutual development of Lead the Korean New Deal region such as vitalization, etc. through the development of new of innovation city technology / new business Fostering the customized talent through Development and installation of digital safety KPS-Faraday School equipment such as digitalization, new noncontact technology, etc. 2 Support the strengthening of the quality capability through S-Sure business Break the recession in the maintenance market. **3** Provision of COVID-19 residential treatr through the expansion of new growth businesses. lay the foundation for new green power and temporary inspection facility • Vitalization of the economy in transferred area **5** Support the disadvantaged groups in local nmunity using maintenance expert technology Major Performance Support on inspection and treatment of COVID-19 Establishment of digital power plant Joint research and development 1,239 people Promotion of domestic production of Effects of increasing sales of SMEs power generation components **KRW 5.9 billion** using of 3D printing Diagnosis effects on the emergency power Safety inspection of nuclear reactor generation facility in medical institution using the intelligent maintenance robot KRW 2.3 billior Class 2 integrity level (excellent) Operation of VR safety experience education sponsored by Anti-Corruption & Civil Rights facility Approved as authenticated institution for the contribution to the local Participation in hydrogen model city community sponsored at Ansan-si by Ministry of Health and Welfare Support on the quality improvement of SMEs Promotion of fuel cell power generation 353 companies in Naju innovative industrial complex Participate in the joint establishment Sponsored the scholarship to Meister High School of nuclear plant decommissioning **KRW 222 million** research institution Performance improvement business Energy saving through "light sharing" solar panel of low-output / low-efficiency KRW 134 million plant facility

33

## Power Generation Maintenance Service and Strengthening the Leadership



#### **Strategic Directions**

With the government's energy conversion policies such as the 9<sup>th</sup> Electricity Demand and Supply Plan, the domestic maintenance market is expected to undergo a slight decline due to the rapid growth of eco-friendly / low-carbon businesses. Despite such difficulties, KEPCO KPS will use its competitive advantages to reinforce its market leadership, while working relentlessly to enhance customer satisfaction by innovating customer-centered services.

#### **Reinforcing Leadership in the Maintenance Market**

KEPCO KPS provides on-site maintenance (routine and planned preventive maintenance) as well as high-quality total maintenance service combined with engineering technique services, using the highly-skilled maintenance personnel and extensive maintenance data we have accumulated through decades of experience in the domestic maintenance market for thermal, nuclear, hydro power generation facilities and transmission & substation facilities.

#### **Developing Power Plant Maintenance Infrastructures**

KEPCO KPS is developing maintenance service infrastructures to provide high-quality services. Our Power Plant Maintenance Engineering Center is equipped with state-of-the-art facilities for rehabilitation maintenance of high gas turbines, steam turbines and generators. Our Nuclear Power Technology Service Center is in charge of the engineering of core facilities in nuclear power plants, in addition to laying the groundwork to export our technological expertise in nuclear maintenance to overseas markets.

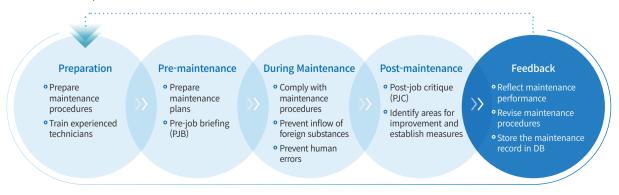
#### Strengthening System-centered Maintenance Activities

We are reinforcing system-based maintenance activities in line with customer demands and in preparation for changes in the energy market environment. In the nuclear power industry, we ensure the quality of our maintenance services by acquiring certifications related to legal safety standards and technical requirements in accordance with the Korea Electric Power Industry Code (KEPIC). In the general industry, we apply the latest technical standards and operate an ISO-based quality management system across the company. We also strive to reach our organizational goals by applying a process approach method that incorporates the Plan-Do-Check-Act (PDCA) cycle and risk-based thinking.



#### **Establishing a Power Generation Facility Diagnostics Process**

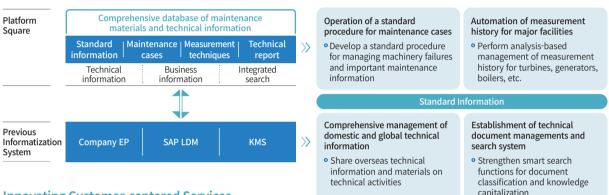
By systematizing our facility diagnostics techniques, we are establishing optimal infrastructures for reinforcing preventive maintenance activities. In particular, our power plant maintenance work is optimized to establish a unique maintenance process only for KEPCO KPS. Also, we realize maintenance that is close to the perfection in our maintenance business through continuous self-diagnosis and amendment of our procedure manual.



#### Building a Comprehensive Database of Technical Information and Other Knowledge Infrastructures

The maintenance experience we have accumulated over the past 35 years is an asset and competitive edge unique to KEPCO KPS. We have been building and managing a comprehensive platform of maintenance materials and technical information. This wealth of information enables us not only to proactively respond to machinery failures through predictive diagnostics and diagnostics evaluation based on maintenance materials and records, but also to offer optimal maintenance technologies that are attuned to the needs of our client companies.

#### **Comprehensive Technical Information Database System**



#### **Innovating Customer-centered Services**

We carry out a wide range of activities to go beyond satisfying our customers' needs in order to deliver the highest-quality customer service. We develop technologies that enable us to maximize customer satisfaction by ensuring thorough quality management and innovating customercentered services, and strive to reinforce our customer satisfaction activities by opening our ears to the voices of customers.

#### Establishing the Basis for Customer-centered Service

We have established and published the Customer Charter, as well as the Core Service Standards and the Customer Service Standards, which we share among our employees. We also carry out various activities to firmly establish and improve a culture of customer satisfaction, not only throughout the duration of electrical maintenance but also after service delivery. Our customer satisfaction index has climbed continuously for five consecutive years.

#### Service Innovation

By setting customer-centered service innovation as a major strategic task, we undertake various activities to innovate our customer service. We hold customer workshops and operate a customer advisory board in order to strengthen communication with our customers and secure our employees' competence by inviting a CS expert lecturer for the improvement of our employees' customer service capabilities.

#### **KEPCO KPS Customer Service Innovation Activity**

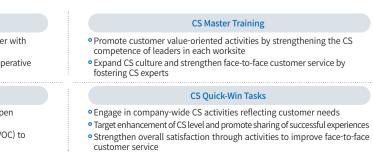
#### **Customer Workshop**

- Maximize customer service improvement by working together with customers to improve customer service
- Improve customer relationship by forming an amicable, cooperative relationship with customers

#### **Customer Advisory Board**

- Help customers to better understand KEPCO KPS through open
- Identify areas for improvement and voice of the customer (VOC) to improve our CS activities





# **Power Generation Maintenance Service** Innovation and Strengthening the Leadership



#### **Strengthening Quality Competitiveness**

Improving maintenance quality and strengthening quality competitiveness is an important management issue with a direct impact on customer satisfaction. KEPCO KPS always fulfills our responsibility to ensure the quality of our services, and we are highly regarded by external institutions for our quality competitiveness.

#### Maior Performance

Accomplishment of "Grand Slam" in quality management innovation, a first in Korea

- Korea Quality Grand Prize, Korea Service Grand Prize the Hall of Fame, Quality Competitiveness Excellent Company the Hall of Fame
- No. 1 Company on Korea Quality Satisfaction Index, Presidential Award of Quality Control Circles, Global **Ouality Management Grand Prize**

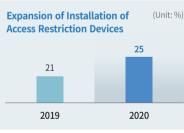
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#### **Delivering Reliable and Responsible Maintenance Service**

By securing the safety of power generation facilities through responsible maintenance, we will enhance public acceptance of power generation facilities and establish a safety-first maintenance culture. To train nuclear safety experts, build / operate a maintenance quality monitoring system, and establish maintenance work procedures, we have been operating the OH Review Team, and have held a number of campaigns.

#### Delivering High-quality Maintenance Service through Proactive Preventive Activities

We differentiate ourselves from our competitors in the private sector by minimizing machinery failure / suspension and delivering high-quality maintenance service. We improve maintenance quality through failure prevention activities based on the Plan-Do-Check-Action (PDCA) cycle. As a result, there are restrictions on preventive maintenance, but we have managed to keep the same level from year to year with efforts such as reinforcement of blind-spot management through the segmentation of management grade (grade  $5 \rightarrow 6$ ) on facilities with risk, expansion of the installation of access restriction device, etc.



#### **KEPCO KPS Failure Prevention Management Process**



#### **Developing an Emergency Recovery Service System**

The core of power generation facility maintenance service is delivering a rapid rehabilitation service. KEPCO KPS offers enhanced reliability for our customers by providing an emergency rehabilitation service that is supported by emergency rehabilitation systems in each region and facility. In 2020, there was no stop-fail caused by errors attributable to KEPCO KPS. At the same time, we enhanced our clients' facility operation rates by achieving 100% zero-defect maintenance.

## **Expansion of Green and New Business**

#### **Strategic Directions**

KEPCO KPS established the future growth business strategy connected with the mid-to-long term company strategy, and based on this, established a detailed strategy to achieve KRW 2.1 trillion in sales by 2025 and expand the new growth business ratio up to 32.4%. To this end, we reinforce the core capability of future growth businesses such as energy conversion business model, etc. and realize the expansion of overseas business.

#### **Strengthening Future Growth Businesses**

#### Reorganizing the Organizational Structure to Strengthen Future Growth Businesses

To clarify the promotion duty of ESG management, new deal, and renewable energy, we established ESG Innovation Department and reorganized the new business division as green growth division. Also, we have set up the Technology Solution Center, a single R&D organization that will oversee technology planning, technical advisory work, and research / development at the company level, with the aim of strengthening our R&D planning and execution system.

#### **Strengthening Business Model in Performance Improvement Business**

In an effort to promote the performance improvement business, we have established long-term strategies and a step-by-step implementation system, in addition to building a consortium with MHPS, GE and other global companies in the field to strengthen our cooperation network. More recently, we have been carrying out activities to convert a currently people-based maintenance business into a technology-intensive engineering business. To that end, we have opened 18 outsourced training courses on performance improvement business, based on which we have trained 36 experts.

#### Expanding the Nuclear Decommissioning Business

Based on a Mid-to-Long-term Roadmap for Nuclear Decommissioning, we are securing domestically-developed original technologies and undertaking research projects for the safe decommissioning and rehabilitation of nuclear power plants. We have succeeded in the domestic development of technologies relating to reactors and reactor internals, in addition to achieving our current technology readiness level of 6 out of 9.

#### Vitalization of Hydrogen Industry

We implemented a hydrogen model city business for the whole cycle of the hydrogen ecosystem and the construction of infrastructure at a scale of KRW 4.58 billion in order to address the paradigm shift in cities, such as job reduction, environmental contamination, etc. in Ansan-si. We achieved an increase of employment (30,000 people), production (KRW 4.3 trillion), and added value (KRW 1.6 trillion), and successful dispersion is made corresponding to the green energy conversion policy.



#### KEPCO KPS 2019-2020 Sustainability Report

## **Secure Global Competitiveness**



100

0

750

2021 Goal

#### **Strengthening Global Businesses**

#### **Strategies to Expand Overseas Businesses**

By setting overseas business expansion as our core strategic target to secure future growth engines, we are expanding our business areas in the field of O&M (operation & maintenance) for large-scale thermal power plants and nuclear power generation. Our overseas sales in 2020 amounted to KRW 141.5 billion, 11% of total sales.

#### **Overseas Thermal Power Plant**

In the field of O&M for large-scale thermal power plants, we are strengthening our competitiveness in the global market by applying a hub and spoke model, in which we carry out sales activities in the spokes (nearby areas) centering around our hub office. At the same time, we will achieve qualitative growth by undertaking inspection and analysis on a quarterly basis for cost analysis and enhancement of our materials management efficiency to improve business profitability. In 2019, we won O&M project for Dariba thermal power plant (174MW) and a long-term TA service in Boleo, Mexico (2020) for KRW 2.8 billion, and we are expanding our influence in the field of overseas thermal power generation.

#### **Overseas Nuclear Power Plants**

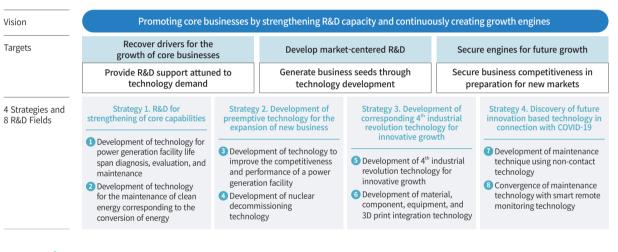
Through the successful completion of the nuclear power plant business in Barakah, the United Arab Emirates (UAE), we are advancing our competencies in the overseas maintenance business. To that end, in June 2019, we formed a consortium named Team Korea with Korea Hydro and Nuclear Power Co. (KHNP), winning a long-term maintenance service agreement (LTMSA) with the UAE for maintenance of the Barakah nuclear power plant, followed by a long-term maintenance service contract (LTMSC) in September between KEPCO KPS and KHNP. Through this business, we will further strengthen our competitiveness in winning overseas nuclear power plant maintenance businesses and promote our name in the global market by achieving zero-accident, zero-defect maintenance.



#### Strengthening R&D Capacity

#### Strategic Directions for R&D

With the aim of intensive development of core technology and technical independence, we carry out R&D in compliance with the government's R&D investment recommendations for each year (investing approx. 2.5% of sales amount), focusing in particular on research subjects, facilities, procurement of cutting-edge equipment, education and training of experts, etc. Moreover, for the expansion of our energy businesses such as reduction of carbon emissions, conversion of eco-friendly power generation, etc., we established the 2020 mid-to-long term strategic management plan and "12<sup>th</sup> mid-to-long term technology development road-map" that reflect changes in the domestic and international environment, and have specialized systems and processes with the appropriate R&D field for the business and duty of the organization granted to 4 centers under Technology Solution Center, a general department of R&D and 2 separate centers for leading R&D.



#### **R&D** Performance

In accordance with the mid-to-long term technology development plan, we invested approx. KRW 2.8 billion in 2020 to perform a total of 48 projects (38 of our own R&D projects and 10 consigned R&D projects), and as a result, secured a total of 15 power generation facility maintenance technologies (7 for general power generation facilities, 2 in thermal power, 3 in nuclear power, etc.)

General power generation facilitiesThermal powerNuclear powerTransmissionRenewable energyTotal7cases2cases3cases1cases2cases15cases
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#### Major R&D Performance

Category	Turbine rotor bending automatic peening calibration technology	Power generator maintenance technology using hydraulic	Phased-array inspection technology for boresonic examination of turbine rotor	Regenerative maintenance technology of high- temperature component of G-class gas turbine
	<b>•</b>	<b>•</b>	•	<b>•</b>
Technology Overview	<ul> <li>Automatic peening equipment to enable 5-axis control</li> <li>Rotor movement prediction program to enable estimation of the level of calibration</li> </ul>	<ul> <li>Assembly and disassembly system of hydraulic retaining ring</li> </ul>	<ul> <li>Development of manipulator for boresonic examination</li> <li>Phased-array ultrasonic and array eddy current test technology</li> </ul>	<ul> <li>Secure the welding technology for MHPS unique material</li> <li>Reliability of regenerative maintenance and verification of maintenance quality</li> <li>Secure the scope of regenerative maintenance (joint R&amp;D of Korea Western Power and power laboratory)</li> </ul>
Applicable Businesses	Calibration of mid-to-high pressure turbine rotor and large pump shaft	Service on power generator retaining ring and recoiling	Boresonic examination of standard nuclear plant and thermal power turbine rotor	High temperature component of M501G (11 units) (Gunsan, Pocheon Power, Seoul, Dongtan, Hanam)
Application Example	3 cases including Gunsan HIP rotor restoration	Recoiling of rotor of main turbine generator in Gumi STX	Precision diagnosis with boresonic examination in Hanwool 5 / 6	-

\* Based on the task completed in 2020

# SUSTAINABILITY MANAGEMENT



Sustainable Management Code

42p



ESG Management Strategy

44p



Materiality Analysis

46p

# Sustainable Management Code



# All employees of **KEPCO KPS**

pledge that as a No. 1 Global Power Facility Maintenance Industry "Platform Company," we shall fulfill our social responsibility and implement sustainable management from the perspective of the economy, the environment, society, and all stakeholders, to contribute to the sustainable development of our society, the nation, and humankind as well as our continuous development toward a world-leading comprehensive plant services company.



#### **Economy |** Sustainable Growth

We pledge to enhance the company's profitability by discovering new growth engines, and its corporate value by establishing a sound financial structure.

We pledge to lead the development of maintenance engineering technologies through continued technological innovations.

We pledge to improve management efficiency and secure a competitive edge through constant and selfinitiated management innovations.



#### **Environment |** Eco-friendliness

We pledge to apply environmentally-conscious technologies to make our maintenance services ecofriendly.

We pledge to contribute to solving future energy issues by developing renewable energy technologies.

We pledge to preserve the environment by addressing climate change issues in cooperation with KEPCOaffiliated companies.





#### Society | Integrity Management

We pledge to enhance transparency in our conduct of business, through stringent work processes and disclosure in accordance with ethical management principles.

We pledge to fulfill our corporate social responsibilities by actively implementing compassionate management.

We pledge to strengthen our partnerships with all stakeholders to promote mutual values.





#### **People |** People-oriented

We pledge to foster globally competent talents with a creative and professional mindset.

We pledge to enhance quality of life for employees by establishing a mutually beneficial labor-management culture and promoting employee welfare.

We pledge to implement human rights management by preventing accidents, improving employee health as well as the treatment of social minorities, and complying with various anti-discrimination principles.

# **ESG Management Strategy**



#### **Overview**

To improve the corporate value and to secure our reliability for our customers, the trend toward a management paradigm that emphasizes both financial performance and non-financial elements (environmental, social and governance) has gradually been strengthened. As a public corporation in charge of the power generation maintenance industry, we are strengthening ESG management to fulfill our social responsibility and are expanding the renewables business based on the global conversion to a low-carbon economy, as well as improving our value for our shareholders as a listed company.

ESG Vision	With green e	With green energy, becoming a beloved sustainable growth company							
Area	Environmental	Social	Governance						
ESG Goal	<ul> <li>Green sales ratio 15.4% (~2025)</li> <li>Net-Zero by 2050</li> </ul>	• Zero of fatal accidents • "Excellent" grade in shared growth evaluation	<ul> <li>No. 1 in integrity evaluation by Anti-corruption and Civil Rights Commission</li> <li>Grade "A" of ESG (Korea corporate governance)</li> </ul>						
12 Strategies	<ul> <li>Leading green management</li> <li>Expansion of eco-friendly business</li> <li>Expansion of low-carbon management</li> <li>Activation of circular economy</li> </ul>	<ul> <li>Safety-first management and systematic security management</li> <li>Maintenance industry and the creation of better quality jobs</li> <li>Shared growth of coexistence and activation of local cooperation</li> <li>Establishment of fair and happy organization culture</li> </ul>	<ul> <li>Strengthening the governance of the BOD</li> <li>Strengthening human rights and ethical management</li> <li>Diversification of channels for communication with shareholders and stakeholders</li> <li>Advancement of autonomous internal control process</li> </ul>						
		Internalization of ESG Management							
	1. Promote the management & business from the perspective of ESG	2. Advancement of risk management system	3. Improvement of consensus of ESG Management						

#### **ESG Governance**

KEPCO KPS operates an ESG management promotion governance system to support the performance and advancement of ESG management. We established an ESG Committee under the board of directors in 2021, and it performs consultation and diagnosis on ESG management from the board of directors with expertise. The overall ESG management business is exclusively undertaken by the Corporate Planning Department, which pursues the establishment and monitoring of ESG Strategic task and its principal performance index. In particular, we compose and operate an ESG-related consultative group joined by outside stakeholders for external communication related to ESG management.



Outside Communication Channe

• Public corporation integrity consultative group, citizens' advisory group for jobs, social value consultative group, local problem-solving platform, citizen participation innovation group, etc.

#### **Key ESG Performance Indicators**

KEPCO KPS establishes key performance indicators linked with our ESG strategy and operates a systematic organization performance management system. In particular, we try to enhance efficiency by setting annual targets and examining achievement rate / feedback.

Category	Key performance task	Performance Indicators	Unit		Targets	
Jucceony			onic	2021	2022	2023
	Establishment and implementation of mid-to-long term carbon neutral goal	Establishment of mid-to- long term plan	-	Opinion collection or consultation	Establishment of goal	Roling
	Reductions in each environment management field (water, waste, energy)	Establishment of reduction plan (water, waste, energy)	-	Establishment of reduction plan	Achievement of reduction goal in comparison with the previous year	Achievement of reduction goal comparison with the previous y
	Equity investment in marine wind power and O&M business	Business investment	KRW 100 million	-	-	250
	Development of LNG	Sales	KRW 100 million	898	916	935
	combined power generation facility maintenance technology	Investment (R&D)	KRW 100 million	8.55	8.87	5.4
	maintenance technology	Fostering the technical personnel	Person(s)	101	108	121
		Sales	KRW 100 million	50	232	1168
Ч.	Expansion of renewables business (fuel cell, etc.)	Business investment	KRW 100 million	31	48	294
Environmental	( , , ,	Investment (R&D)	KRW 100 million	1.5	3	6.5
nme	Strengthening of obsolete power plant	Performance improvement sales	KRW 100 million	167	84	215
ntal	performance improvement business	Investment (R&D)	KRW 100 million	6.24	7.53	4.05
	Establishment of foundation for nuclear	Technology investment	KRW 100 million	7.9	9.4	13.6
	decommissioning business	Technology level (TRL) <sup>1)</sup>	-	6.56	7.49	8.02
	Expansion of the purchase of eco-friendly	Introduction ratio of eco-friendly vehicle <sup>2</sup>	%	100	100	100
	products and facilities (introduction of eco- friendly vehicles, etc.)	Installation capacity of solar power	KW	93.6	Establishment of additional installation plan	Establishment of additional installation plan
	Strengthening of greenhouse gas reduction activity (data collection and implementation of $3^{rd}$ party verification)	Greenhouse gas emission reduction ratio <sup>3)</sup>	%	32	34	36
	Expansion of green product purchases	Purchase ratio	%	80	80	80
	Implementation of environmental education (environmental regulations, etc.)	Completion of environmental education	Hours	8	10	12
	and campaign (energy, waste, etc.)	No. campaigns	Times	2	3	3
	Strengthening the operation of the safety and health management system	Fatal accidents	Person(s)	0	0	0
	and health management system	Reduction of industrial accident (severity rate <sup>4</sup> ) No. of security incidents	- Cases	0.29	0.11	0.107
	Strengthening the capability to correspond with the information security	Evaluation <sup>5)</sup> of information security management status	-	Good	Good	Good
		Recruitment rate <sup>6)</sup> of jobs for youth	%	3	3	3
	Expansion of jobs for youth, local talent,	Recruitment rate <sup>7)</sup> of local talent	%	27	30	30
	and socially equitable hiring	Recruitment rate of socially equitable hiring (high school graduate)	%	7	10	15
Social	Outcomes of policy to convert contingent workers to permanent employees	No. of consultative group meetings of experts and labor/management (including a conference)	Times	10	Deriving agreements	-
=	Strengthening the partnership of shared growth with SMEs	Shared growth evaluation grade	-	Good	Good	Excellent
		(S-Sure) No. of supporting companies	Unit	270	280	300
	Continuous expansion of social value programs linked with business	(Faraday) Subjects of support	Person	500	500	1500
	programs inked with business	(KPS-CARE) Number of implementations	Times	6	12	15
	Establishment of fair HR system	Satisfaction level with HR system	Points	3.4	3.6	3.8
	Strengthening education for the improvement of employee capabilities in preparation for the future	Satisfaction level with education training <sup>8)</sup>	Points	4.02	4.02	4.02
		Attendance rate of non-executive directors	%	95	95	95
	New establishment and operation of ESG Committee within the board of directors	Non-executive directors' proposals	Cases	18	21	24
	commute warming board or directors	Adoption rate of non-executive directors' proposal	%	100	100	100
	Activation of the operation of BOD	Number of agenda items presented	Cases	50	55	60
	·	Number of female executives	Person(s)	1	1	2
Gov	Ethics compliance and the establishment of a fair trade culture	Integrity evaluation by Anti-corruption and Civil Rights Commission	Grade	1	1	1
Governance	Establishment of a corporate culture based on respect and consideration	Corporate culture index	-	90	90.5	91
nce	Strengthening the preliminary preventive anti-corruption management	Evaluation of anti-corruption measures	Grade	1	1	1
	Strengthening the risk management system such as business, finance, etc.	Management support satisfaction level	Point	90	91	92
	Zero unfaithful disclosure of Alio and expansion of preliminary information disclosure	IR performance <sup>9)</sup>	Unit	120	120	120
	Strengthening communication with customers and local communities	Customer satisfaction level	-	Best	Best	Best

1) Technology readiness level (introduced in 1989 by NASA, USA for the purpose of managing technology investment risk level), scope: 1~9 2) Purchased vehicles

3) Rate of reduction in comparison with the permitted standard

4) Indication method of accident occurrence rate to present the severity of the scale of accidents (Total lost work days  $\div$  Total number of hours worked  $\times$  1,000)

5) Implementing institution: National Intelligence Service, Ministry of Trade, Industry and Energy, Ministry of Public Administration and Security

6) Based on the prescribed number of relevant years

7) Based on the newly hired personnel

8) Based on a 5-point scale

9) Annual basis, including more than twice, 2022: Participation in domestic & international IR conference, 2023: Strengthening non-contact IR activities

# **Materiality Analysis**



#### **Overview**

KEPCO KPS has conducted a materiality analysis in order to identify issues requiring intensive management and to report the relevant performance in detail in the sustainability report. The materiality analysis was conducted in accordance with the principles regarding the determination of reporting contents provided in the Global Reporting Initiatives (GRI) Standards, a global standard for sustainability management reports, in order to ensure stakeholder inclusiveness, sustainability context, importance, and completeness.

#### Step 1. Creation of an Issue Pool

We composed 36 sustainable management issue pools based on internal issues related to the sustainability management of KEPCO KPS, while reflecting broader industrial issues such as global sustainability management guidelines, sustainability management trend within the industry, etc.

Analysis of International	Standards	Media Research and Benchmarking		Stakeholder Survey	
<ul> <li>We analyzed GRI Standards, ISO26000, UNGC, DJSI, SDGs, and other global standards and initiatives relating to sustainability management.</li> </ul>		<ul> <li>We analyzed 1,413 media articles related to sustainability management of KEPCO KPS for the period between Jan. 1, 2020 and Jun. 30, 2021.</li> <li>We benchmarked sustainability management reports of advanced companies in the same industry.</li> </ul>		• To collect the opinions of internal and external stakeholders, who have a material influence on the business of KEPCO KPS, the stakeholder survey was carried out on a total of 978 outside experts and internal employees for a period of 14 days from Sept. 7, 2021, and the sustainability management issues to be managed preferentially have been derived.	
P × Environmental	<ul> <li>Strengthening the</li> <li>Gaining the upper business</li> <li>Promote environm (preservation of e diversity)</li> </ul>	friendly renewables business green refurbishing of power generation facilities hand in & leading the nuclear decommissioning nent preservation activities in local communities cological system and protection of biological pollutant management (Water quality, air quality, nces, etc.)	• Le • Re m • W qu • Re	ompliance with environmental regulations eading environment management esponse to climate change (GHG reduction nanagement and implementation of targets) /ater risk management (Water consumption / uality management, etc.) ealization of resource circulation power plant ecycling of waste)	
Social	<ul> <li>Innovation of corpo (maternity protectic</li> <li>Establishment of a</li> <li>Strengthening the s and health activity</li> <li>Expansion of educa (fostering talent, inc strengthening their</li> <li>Respect for diversity (employment of pe</li> <li>Establishment of a</li> <li>Guarantee of basic forced labor, etc.)</li> </ul>	ing, improvement of the quality of work, etc.) rate culture on, work-life balance, etc.) win-win labor-management relationship afety management system and safety tion for the development of employee capabilities cluding power generation technicians, and capability) y and provision of equal opportunities rsons with disabilities, etc.) fair and transparent performance evaluation system labor rights (freedom of association, prohibition of nage caused to local communities by	pl. Inr Stt su Stt ar Es pr Es pe Stt Stt Stt	andling of complaints from local residents near power ants and encouragement of communication nplementation of strategic social contribution activities rengthening of CSR evaluation and management in upply chain rengthening of shared growth of partner companies, nd promotion of shared growth business with SMEs stablishment of human rights management system, nd strengthening the human rights due diligence ogram (including partner company) stablishment of a customer safety management and ersonal information protection system rengthening of information security management rengthening of compliance management rengthening of quality competitiveness for customer tisfaction	
Governance &	<ul> <li>Securing of future g technical competitive</li> <li>Pursuing expansion</li> </ul>	inning of new projects, etc.) rowth engines (developing new projects, securing veness, etc.) of overseas businesses hical management and anti-corruption activities	• Se op • Di • In	rengthening of proactive risk management ecuring of transparency and soundness in BOD peration iversification and activation of BOD composition provement of shareholder value (dividends) and versification of communication channels	

#### Step 2. Evaluation of Major Issues

and executive management.

#### Step 3. Selection of Material Issues (Materiality Analysis Matrix)

business impact.

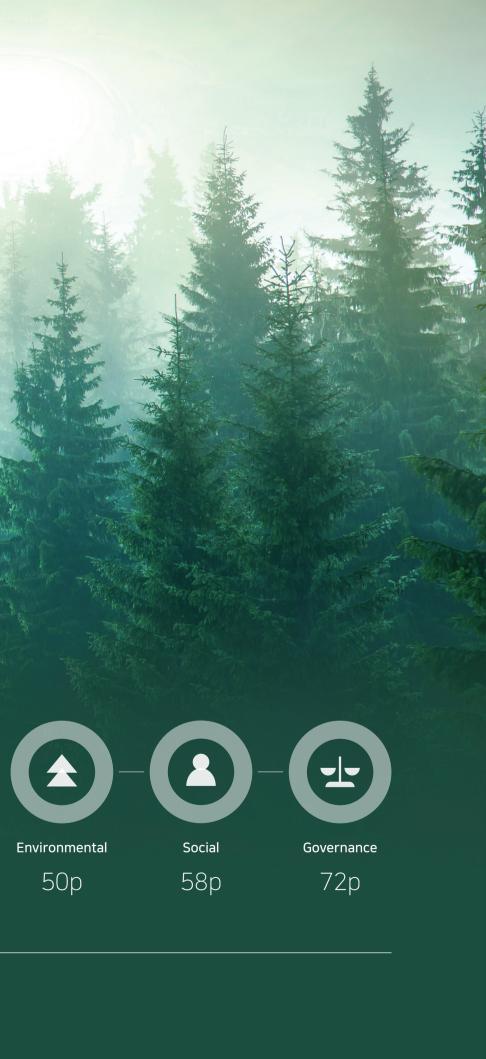


	Material Issue	Reporting Boundary						CDI
Category		Internal	Customers	Partner Companies	Local Communities	Shareholders & Investors	Reporting Page	GRI Index
1 Economy	Strengthening of ethical management and anti-corruption activities (including fair trade)	٠		•			80-81	205
2 Society	Strengthening the safety management system and safety and health activity	٠		٠			68-69	403
3 Environment	Leading environment management	٠		•	٠		56-57	302-306
4 Society	Creation of good quality jobs (direct & indirect hiring, improvement of the quality of work, etc.)	٠			•		60-61	401
5 Society	Expansion of education for the development of employee capabilities (fostering talent including power generation technicians, and strengthening their capabilities)	٠					62-63	404
6 Economy	Diversification and activation of BOD composition	٠				٠	74-76	102
Environment	Expansion of eco-friendly renewable business	٠	٠		٠		54-55	201
8 Economy	Securing future growth engines (developing new projects, securing technical competitiveness, etc.)	٠	٠		٠		20-27	102
9 Economy	Improvement of shareholder value (dividends) and diversification of communication channels	٠				٠	76-77, 90	102
10 Society	Implementation of strategic social contribution activities				٠		70-71	203

We have evaluated major issues based on social concerns and business impact following a review by sustainability management experts

We have selected 10 material issues to be dealt with in detail in this report by setting the boundaries based on social concern and

# ESG REPORT



# **Environmental Carbon Neutral Management**

#### **Correspondence for Climate Change**



In the global market, there has been a growing trend of an eco-friendly & low-carbon economic shift to respond to the climate crisis. In Korea, innovation toward carbon neutral has been emphasized, as evidenced by the various government-led declarations of Net-Zero (carbon neutral). By using our superior technical capabilities and our ability to promote cooperation, KEPCO KPS is engaged in a process of development and advancement of our renewable energy power generation business, which corresponds with the government's green energy conversion policy.

### Strengthening the **Eco-friendly Business**

KEPCO KPS is contributing to the nation-wide efforts to become a carbon neutral society by promoting "green business" and "low carbon business." We are actively pursuing renewable energy power generation businesses such as hydrogen, fuel cells, etc. along with the green energy conversion policy, and by using our O&M capability, we contribute to the spread of stable low-carbon & distributed power sources. In particular, we contribute to reducing carbon emissions by applying technology to improve the efficiency and performance of plant facilities used in carbon-intensive industries.

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Strengthening the **Environmental Management System** 

In forming our eco-friendly business portfolio, we actively reflect the government's major policies, including reduction of greenhouse gas emissions, expansion of renewable energy, and reduction of energy consumption. Also, to strengthen our environmental management system, we manage our business sites in an eco-friendly manner through energy / resource optimization. Moreover, KEPCO KPS, a provider of power generation facilities and maintenance services, recognizes that the need to preserve the environment and the threat of climate change are major business risks, and we incorporate these into major policies in the company-wide promotion of sustainable management. All of us will lead the way to fulfill our eco-friendly responsibility and show our true values in accordance with the environmental policy.



26.1% reduction Greenhouse gas emissions



Introduction of eco-friendly electric & hydrogen vehicles





## ISO 14001

**Environment Management** System Certification



## **Correspondence for Climate Change**



#### **Correspondence for Carbon Neutral**

In the global market, there has been a growing trend of an eco-friendly & low-carbon economic shift to respond to the climate crisis. In Korea, innovation toward carbon neutral has been emphasized, as evidenced by the various government-led declarations of Net-Zero (carbon neutral), as well as declarations by major financial companies of joining Powering Past Coal, etc. We try to contribute to reducing carbon emission through our upstream-centered eco-friendly business, even though its influence on direct carbon emissions is insignificant due to the characteristics of the maintenance industry. Using the superior technical capability and active cooperation promotion capability of KEPCO KPS, we are in the process of developing and advancing the renewable energy power generation business, which corresponds with the government's green energy conversion policy.



• Establishment of the basis of carbon neutral promotion • Expansion of the purchase of eco-friendly products • Expansion of renewables business in preparation for energy conversion • Strengthening KPS carbon reduction business

(performance improvement business, nuclear decommissioning)

and facilities (introduction of eco-friendly vehicles, etc.) • Strengthening greenhouse gas emission reduction activity

#### **Climate Management System**

We are expanding our use of experts in the promotion of carbon neutral. We have a system that manages company-wide carbon emission goals and performance to report to the ESG Committee under the BOD. In the future, opinions will be collected from outside environment experts, and we will pursue cooperative activities to jointly develop low carbon & eco-friendly new technologies with cooperative companies. We include the purchase performance of so-called "green technology development products," which are certified green products in the commercialization of green technology as per Article 32 of the Framework Act on Low Carbon, Green Growth, in our internal management evaluation index. This system is implemented for all sites and operates as a differential payment system by linking financial compensation to the result of the evaluation. Moving forward, we will attempt to reduce climate change and our environmental influence by reflecting performance based on the relevant indexes in our HR records.

#### Management of Climate Change Risks and Opportunities

#### • Risks

To address climate change, the government is promoting the expansion of renewable energy power generation facilities and the reduction of Korea's dependency on fossil fuel, etc. with policies such as early closure of coal thermal power generation facilities, suspension of additional supply of nuclear power plants, etc. With the maintenance market for thermal power and nuclear facilities expected to shrink, KEPCO KPS is establishing its own 'New Deal' vision and promoting the expansion of its business area toward green businesses such as hydrogen fuel cells, pumped storage power generation, etc., while working to secure the basis for new businesses including renewable energy, performance improvement business, nuclear decommissioning, etc. by establishing a road-map for future strategic technologies.

#### Opportunity

While the aforementioned risks are expected, the scale of the renewable energy market has been continuously increasing with the government's policy of expanding the renewable energy supply and reducing greenhouse gas. The government has set a power generation goal of 20% renewable energy in Korea by 2030, and we are using this policy-level opportunity to try to expand the O&M service and the construction work of renewable energy power plants such as solar power, wind power, fuel cell, etc. We expect this will create a positive financial influence with an annual scale of KRW 11.4 billion for at least a decade.

#### **Greenhouse Gas Goal and Index Management**

For the management of greenhouse gas emissions from workplaces, KEPCO KPS establishes and operates the goal based on the average rate of greenhouse gas emission for 3 consecutive years from 2007 to 2008 within the National GHGs Management System (NGMS). Based on the relevant standard, we have established the goal of a 30% reduction by 2020 through a 2% reduction each year from 2016, and as of now, we have achieved a reduction of 26.21%, or 5,077tCO<sub>2</sub>-eq.

#### Greenhouse Gas and Energy Saving Efforts

We deploy a range of greenhouse gas and energy saving efforts. We establish and operate a management system to check the fuel consumption and greenhouse gas emission of vehicles & buildings in each workplace in real time and establish an energy goal for each workplace to link its performance with internal evaluation. The introduction of eco-friendly electric & hydrogen vehicles increased by 167% in 2020 compared to 2019, while the installation of LED lighting in office building also expanded by approx. 73.9% compared to 2019.

#### **Greenhouse Gas Emissions Reduction Activities**

• Establishment of management system for full-time monitoring of greenhouse gas

#### **Greenhouse Gas Emission**

Category	Unit	2018	2019	2020
Direct emission (Scope 1)		2,178	2,372	2,777
Indirect emission (Scope 2)	tCO <sub>2</sub> -eq	3,617	3,472	3,935
Total emission (Scope 1+2)		5,795	5,844	6,712

\* Based on consolidated domestic and international workplaces

#### **Energy Use and Purchase**

	Category	Unit	2018	2019	2020
	Fuel purchase and consumption	MWh	1,129	1,006	1,091
Non-renewable	Electricity purchase		5,158	5,059	4,837
energy	Purchase of other energy such as steam, heating, cooling, etc.		14.5	11.6	10.9
	Total consumption		6,302	6,077	5,939
Total renewable energy purchase and production		MWh	530	542	285
Total energy consumption		WIWII	6,832	6,619	6,224

\* Based on consolidated domestic and international workplaces



• Linkage of energy goal and use performance of each workplace with the internal evaluation

# **Eco-friendly Business**



#### **Strategies**

KEPCO KPS contributes to Korea-wide efforts to become a Net-Zero society by selecting and promoting "green business" and "low carbon business." We are actively pursuing renewable energy power generation businesses such as hydrogen, fuel cells, etc. as part of the green energy conversion policy, and by using our O&M capability, we contribute to the spread of stable low-carbon & distributed power sources. In particular, we contribute to reducing carbon emissions by applying technology to improve the efficiency and performance of plant facilities used in carbon-intensive industries.

#### **Renewable Energy Power Generation Business**

KEPCO KPS's renewable energy power generation business is composed of green hydrogen, fuel cell, wind power generation, etc. and we are in the course of business development and expansion. Through the hydrogen model city in Ansan-si as of Aug. 2020, we attempted to establish and spread the hydrogen ecosystem through the first production of green hydrogen in Korea. Moreover, we add the value of coexistence along with the creation of environmental value through fuel cells by promoting renewable energy development cooperative businesses with SMEs and local governments. In the area of wind power generation, a business to apply a resident participated & profit shared business model is underway at Yeongdeok, Gyeongsangbuk-do, etc., and we expect it to create annual carbon emission reduction effects of 57,000 tCo,-eq.

#### **Business Using O&M Capability**

KEPCO KPS, an expert in the maintenance of facilities of power generation infrastructure, modified the direction of its O&M business performance strategy to reflect the change in the energy paradigm from thermal power & nuclear power plant to renewable energy power generation. By using our company's expert infrastructure, we provide a maintenance support network service linked with renewable operation sites nationwide, and deploy separate and dedicated O&M personnel to expand the maintenance of renewable power generation facilities. Through this modified O&M strategy, the facility capacity was expanded to 302.8MW in 2020, a 40% increase compared to the previous year, and we expect that the reliability on O&M in renewable facilities will be increased.

#### Low-carbon Conversion Business

In an environment that is emphasizing the conversion to the renewable energy business, we can expect to play a stable role in the conversion to a carbon neutral society by improving the efficiency and performance of existing power generation facilities. KEPCO KPS has engaged in the power plant facility performance improvement business and gas turbine replacement in Gwangyang Iron and Yeosu industrial complex, respectively. Both of these ventures have proven that the output and efficiency of power generation facilities have increased, which has significant value, and we expect to create an annual environmental value of approx. KRW 4.36 billion<sup>1)</sup> for Gwangyang Iron, and of KRW 3.1 billion<sup>2)</sup> for Yeosu industrial complex. We contribute to promoting the low-carbon conversion of our society such as through concluding agreements to secure technical capability on a global scale, implementing on-site education and training, etc.

1) CO<sub>2</sub> reduction (144,443tCO<sub>2</sub> / year)  $\times$  carbon credit price in 2020 (KRW 30,181 / tCO<sub>2</sub>) 2) CO<sub>2</sub> reduction (101,071tCO<sub>2</sub> / year)  $\times$  carbon credit price in 2020 (KRW 30,181 / tCO<sub>2</sub>)





# Eco Biz. Highlight

#### KEPCO KPS promotes a profit sharing business model for the wind power generation business with the participation of residents

KEPCO KPS has designed and promoted a profit-sharing business model, a recent global trend in business, with its wind power generation business. This project, with a total business cost of KRW 150 billion, is promoted in Namjung-myeon, Yeongdeok, Gyeongsangbuk-do, and its total scale is 58.8MW. A profit sharing business model will be pursued after the resident cooperative is established and 4% of total project costs will be donated as a bond, and when additional profits are generated by selling REC<sup>3</sup>, a certain amount will be paid as dividends. The relevant project has an economic profitability with annual carbon emission reduction effects of 5.7tCO<sub>2</sub>-eq, which is equivalent to a 98.6% reduction in comparison with coal-based thermal power.

#### Joint development model of profit shared Namjung Wind power generation business



#### KEPCO KPS is using its unique technical capability to aim toward a carbon neutral society

Due to its nature as a business focused on maintenance, KEPCO KPS has a low relationship with direct carbon emission. But as our customers' projects can involve large-scale carbon emission, we contribute indirectly to reducing the environmental influence through performance improvements of facilities and the provision of high-efficiency components. In the performance improvement business of Gwangyang Iron, which proceeded for 2 months from Oct. 2020, we contributed to creating an annual environment value of KRW 4.36<sup>4</sup> by showing the performance improvement effects achieved by a 10 MW increase in comparison with the previous output. Meanwhile, the replacement of a gas turbine & power generator of Company L in Yeosu, which proceeded until Feb. 2021 from Mar. 2020, has shown an increased efficiency of approx. 28MW, which is equivalent to a carbon reduction of 100tCO<sub>2</sub>-eq.

#### Performance improvement of power generation within Gwangyang Iron



3) Renewable Energy Certificate 4) CO<sub>2</sub> reduction (144,443tCO<sub>2</sub> / year) × carbon credit price in 2020 (KRW 30,181 / tCO<sub>2</sub>)



55



Namjung Wind

power generation

private company development

#### Coal thermal nower generation

#### **Replacement of gas turbine &** power generator in Yeosu, Company L

## **Environment Management**



#### **Environment Management System**

In forming our eco-friendly business portfolio, we actively reflect the government's major policies, including reduction of greenhouse gas emissions, expansion of renewable energy, and reduction of energy consumption. Also, to strengthen our environmental management system, we manage our business sites in an eco-friendly manner through energy & resource optimization.



#### **Environment Policy**

KEPCO KPS, a provider of power generation facilities and maintenance services, recognizes that the preservation of the environment and climate change are major business risks, and is driving a major policy of promoting company-wide sustainable management in response. All of us will lead the way to eco-friendly responsibility to unleash the intrinsic value in accordance with the environment policy.

Sustainable Management Code Environment Policy We pledge to apply environmentally-conscious technologies to make our maintenance services eco-friendly.
 We pledge to contribute to solving future energy issues by developing renewable energy technologies.
 We pledge to preserve the environment by addressing climate change issues in cooperation with KEPCO-affiliated companies.

#### **Environmental Management Certification System**

Every year, KEPCO KPS completes the certification of the environment management system (ISO 14001) at all Power Plant Maintenance Engineering Centers subject to EMS management and performs company-wide environment management activities based on the system. In 2018, we modified our environment management manual and waste management procedure manual, etc. to establish and operate an optimized environment management system.

#### **Environmental Influence Reduction Effort**

With our environment information disclosure system, KEPCO KPS transparently discloses information on our environmental influence each year, including greenhouse gas emissions, energy consumption, water consumption, waste discharge, etc.

#### Waste Management

Though we do not work on our own facilities, KEPCO KPS asks all staff to keep the slogan "think of our customers' facility as our own" in mind in order to make an effort to achieve environmental responsibility in the supply network. In this regard, we have established a system that is focused on handling waste generated on maintenance work sites, while strictly treating by-products discharged from power plants according to environmental guidelines. At the same time, we carry out various environment protection activities, such as scrap paper and toner recycling as well as waste sorting and collection, linking them with our corporate culture.

#### Harmful Substance Management

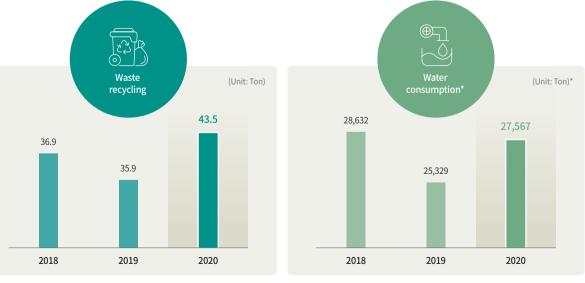
Any harmful substances that are inevitably used and generated during the management activity of KEPCO KPS are listed in the management registry based on the MSDS<sup>11</sup> regarding harmful chemical substances from the purchase stage, a process which is managed transparently under the control and procedures of the person in charge of environmental management. Pursuant to the Chemical Control Act, all workers receive safety training on harmful chemical substances, while employees in charge of handling and managing chemical substances are required to undergo safety training, enabling them to take appropriate measures in emergency situations. We provide a MSDS for each of the harmful chemical substances used on work sites so that our workers are given hazard information in advance, in addition to offering systematic training to enable them to perform their work safely.

#### Water Usage Management

KEPCO KPS uses the public water supply only, so there is no source of water affected by water intake. The wastewater we discharge from the workplace is either self-processed by a wastewater treatment facility at the relevant workplace, or a consignment process is carried out by an expert processing company. The quality of water discharged after wastewater treatment is systematically measured and managed by a professional water quality monitoring company twice in the first and second half of each year, to ensure that it does not exceed 80% of the permitted effluent levels. To comply with the Basel Convention, we do not use any substances that deplete the ozone layer such as CFCs, and there were no reported violations of environmental law during the reporting period of Jan. 2019 to the present time.

#### Air and Soil Pollutant Management

To carry out air pollution prevention activities in a systematic manner, we have assigned dedicated personnel on each business site. When there are government announcements regarding fine dust reduction measures, we implement an "alternate no-driving day" system and minimize work involving harmful substances, and at the Power Plant Maintenance Engineering Center (type 4 air quality control business site), we make sure that discharged pollutants do not exceed the effluent standards by attaching discharge measurement equipment. In addition, we operate filter dust collectors and absorption equipment, in addition to performing atmospheric environment measurements in accordance with the Clean Air Conservation Act.



\* Head office consumption

1) Material Safety Data Sheet (MSDS): A document that contains information on the names of chemical substances or products containing chemical substances, physiochemical properties, harmfulness / hazardousness, emergency guidelines in case of fire / explosion, environmental impact, etc.

# **Social Value Creation Management**

Creation of Good Quality Jobs



KEPCO KPS provides good quality jobs with strategic goals to create sustainable jobs corresponding to the Korean New Deal in the post COVID-19 era. Also, we establish detailed strategic task and performance indicators (KPI) to carry out regular monitoring. In addition, we have established a mid-to-long-term road map to create jobs and are implementing a systematic job creation plan in the public sector and private sector and will try to create better jobs in the future.

## Safety and Health Management System

With the goal of recording "zero" fatal accidents, KEPCO KPS maintains its readiness for all types of accidents and injuries that may occur at any time. We establish a safe working environment with a highly organized industrial safety and health system, and work to maintain regular communication related to the safety and health of labor-management and the advancement of a prevention-centered safety management system.

### Mutual Growth and Cooperation

KEPCO KPS tries to establish a culture of mutual growth and cooperation. With "the systematic promotion of shared growth through the coexistence & cooperation" as a goal, we are leading the way to establishing an ecosystem of shared growth in order to spread safety-first management in SMEs, improve capabilities, and establish the basis for sustainable growth, including through the expansion of domestic & international sales channels. Our support for partner companies is an essential element of shared growth. We will grow together with our partner companies through education, sharing of intellectual property, and growth support.

#### Social Contribution Activities

KEPCO KPS establishes a company-wide social contribution promotion plan each year. We operate 4 strategies: carrying out pro-bono activity using maintenance technology, making a social contribution for coexistence with local communities, collaborating with institutions related to social contribution, and preparing a basis for the qualitative growth of our social contribution activities to improve the local community and our social capability based on the funds raised by employee and company donations.

### Information Security Management System

Through system-based information security management activities, we have achieved "zero" cyber infringement accidents and personal information leaks. Going forward, we will continue to recognize customer information protection as an important management issue, and consistently carry out related activities through a concrete implementation system and strategic activities based on performance indicators.





Ocase fatal accidents in 2 consecutive years



Ocase

Cyber-infringement incidents and personal information leakages



## ISO 45001

Safety and Health System Certification

# **Creation of Jobs**



#### **Creation of Good Quality Jobs**

KEPCO KPS is providing good quality jobs with the strategic goal of creating sustainable job corresponding to the Korean New Deal in the post COVID-19 era. We set the strategic direction of strengthening the job-centered implementation system, creating good quality public jobs, expanding principal jobs in the power generation maintenance business, and creating future jobs for innovative growth, as well as carrying out the detailed strategic tasks and meeting the performance indicators (KPI) for achievement monitoring. In addition, we have established a mid-to-long term road-map to create jobs and are carrying out a systematic job creation plan in the public sector and private sector and will continuously try to create better jobs in the future.



#### Mid-to-long-term Road Map for Job Creation

Roadma	p >>>	2020	>> 2021~2022	>> 2023~2024
Impleme System	entation	Promote public participation type jobs and strengthen collaboration	Spread good examples, such as through job achievement forum, etc.	Operate a sustainable job creation platform
Public Se	ector	Establishment of affiliates and conversion of service workers	Completion of power generation maintenance conversion and normalization of operation	Strengthening the capability of conversion force and the improvement of service quality
	Customized- type	Expansion of safe jobs and investment of existing maintenance industry	Expansion of overseas advancement and PS-type maintenance jobs	Conversion of jobs in preparation for change in the energy industry
Private	Coexistence- type	Financial supports for companies in crisis and accompanied winning of bids	Technical cooperation and sharing the achievement with SMEs	Leading sound industrial ecosystem and jobs
Sector	New Deal- type	KPS New Deal linked green business and digital technology related jobs	Investment in green industry and the expansion of jobs using digital innovative technology such as maintenance big data, etc.	Creation of technology for new growth and jobs in fusion-type energy industry
	Future- type	Support employment stability and disadvantaged groups in local community	Operate regional specialized talent fostering program	Establish and spread future talent fostering infrastructure
Goals		5,129 jobs (343 public sector, 4,786 private sector)	10,971 jobs (1,261 public sector, 9,710 private sector)	10,754 jobs (592 public sector, 10,162 private sector)
Perform	ance	5,332 jobs	-	-

#### **Job Creation for Young Adults**

With the emerging social problem of unemployment among young people, KEPCO KPS is making an effort to hire more young people. In the past 5 years, we have contributed to job creation for young people by hiring 2,070 new employees, recruiting 416 of these in 2020, which is equivalent to 5.4% of total employment, exceeding the government's goal of 3%. We also offered 393 youth internships.

Hiring New Employee	S		Creation of Private J	obs	
	2019	2020		2019	2020
	398 persons 🕨	<b>416</b> persons		4,497 jobs 🕨	<b>4,825</b> jobs

\* Conversion of contingent workers to permanent employees and exclusion of recruitment by using a career \* Including additional qualified personnel in the second half of the year

#### Conversion of contingent workers to permanent employees through the establishment of KPS Partners and improvement of treatment

We recognize that the conversion of contingent workers to permanent employees is a part of company-wide human-centered management and social responsibility management and have been working to achieve this with zero corruption in hiring through the establishment of KPS Partners. In addition, we are creating new jobs and increasing the salaries of low-income workers in converted jobs to improve employment stability and worker treatment. Pursuant to government policy and the realization of our mid-to-long term management strategy, we will create good quality jobs in a range of areas.

#### Strengthening of Fair Hiring and Expansion of Information Disclosure

At KEPCO KPS, our biggest assets are talents with high technology skills and a sense of duty. We are pursuing a fair hiring system that will realize sustainable management based on a people & technology-centered corporate culture to disclose the hiring procedure transparently and recruit new talent to KEPCO KPS based on a blind recruitment system.

#### **Document and Written Examination**

In the application screening process, Al hiring has been introduced to prevent human prejudice and error, in addition to checking for plagiarism, redundancy of contents, etc., all of which is strengthening the transparency of our hiring. Also, we are pursuing a reasonable and fair hiring system through disclosing the qualification average of written examination and qualification limit in 2019 and the processing standard for a tie in 2020.

#### **Interview Screening**

To strengthen fairness, KEPCO KPS has adopted a blind recruitment system for all interview screening. We use a range of methods to achieve this, such as the implementation of education for candidate of interview member through the outside expert, inspection of blind recruitment system at the interview site, assignment of interview number by lottery on the interview date, etc. In addition, we survey the employee in subject of avoidance among interview members to exclude in advance, in order to strengthen the fairness. Moving forward, we will adopt this approach to recruitment in all processes related to recruitment for youth internships, as well as new and career employees.

#### **Secure Social Fairness-oriented Talent**

KEPCO KPS considers the socially vulnerable and pursues an approach to recruitment that creates social value. We continuously invest in finding and securing talent from various backgrounds, through approaches such as granting an additional 5% on the written examination to patriots and veterans, persons with disabilities, low-income individuals, and local talents; this approach is to be expanded to North Korean refugees and children from multi-cultural families, recruitment support for women whose careers may have stalled, persons with disability, high school graduates, etc. KEPCO KPS is actively investing in discovering and securing talents from diverse backgrounds.

#### Non-discrimination Policy and Program

KEPCO KPS pursues the equal treatment of all its employees as well as job-seekers. We proactively worked to eliminate unreasonable discrimination elements through holding a gender equality conference, and are continuous working to improve the human rights of women through gender sensitivity and gender equality awareness surveys within the organization, and also try to prevent any unreasonable treatments of employees through operating a program to improve recognition of the disabled, etc.

through the establishment of KPS Partners

Conversion of contingent workers to



# Recruitment in consideration of diversity in 3 years

Category	2018	2019	2020
New personnel	477	713	386
Young	281	639	341
Female	65	280	68
Disabled	3	4	2
Local talent not from the metropolitan area	369	520	270
Local talent from the transferred area	82	158	85
High school graduates	171	114	102

## Human Resource Management



#### **Capacity Development of Employees**

KEPCO KPS has established the concept of talent as "Global ACE (Globally Advanced Customer-centered Expert)" to support the continuous capability development of employees. We focus on the specialization and advancement of our engineers through in-house education, consignment education of domestic and international institutions, overseas education, encouragement of self-development, etc. as well as the operation of the most elite talent fostering program for the best technology. In particular, we foster expert talent in preparation for the future of work, such as new businesses, 4<sup>th</sup> industrial revolution, etc. through a customized education program.

#### Human Resources Development Center

The Human Resources Development Center offers education and training programs covering both theory and practice with a cuttingedge lecture room facility, faculty laboratory, practice room, living center, and other incidental facilities. It continuously works to develop technology through the introduction and research of new technology, practical programs based on the latest technology, development of audio-visual education material, etc. In addition, we operate the leadership center and thermal power center to foster global talent and support the capability development of employees.



• Basic course for qualified personnel	
<ul> <li>Leadership intensified course</li> </ul>	
<ul> <li>Leadership maintenance course</li> </ul>	

**Thermal Power Center** 

• Duty basic course • Practical work course Expert course • Engineering process education program

#### **Operation of In-house Qualification System**

KEPCO KPS provides an in-house qualification system to measure the technical capability of employees and foster their expertise in their duties. The in-house qualification system was recognized by the Ministry of Labor as an in-house qualification test system for the technology improvement of workers in 2000 and is currently operated in a total of 5 areas including machinery, electricity, measurement, nuclear fuel, and special field. And It consists of 4 grades: general engineer (406 persons), special engineer (277 persons), pre-supervisor (237 persons), and supervisor (112 persons) and 195 subjects.

#### Deduction of HRD Strategic Task to Achieve the Management Strategy

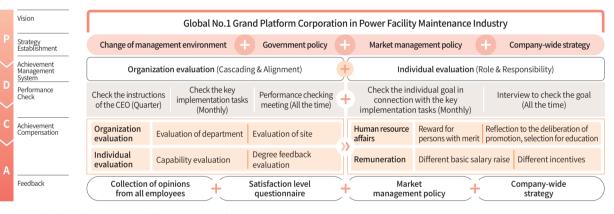
Concept of	Global ACE(Globally Advanced, Client oriented, Expert)					
Talent, HRD Mission	Fostering principal talents with perfect technical capabilities, and pride and expertise as power plant solution providers					
	Management Environment	Organization Needs	Personal Needs			
Environment and Needs Analysis	<ul> <li>Change of customer due to the energy conversion</li> <li>Introduction of 4<sup>th</sup> industrial revolution</li> <li>Demand for the creation of social value</li> </ul>	<ul> <li>Needs systematic safety education (safety)</li> <li>Prepare the measure for evaluation process (leadership)</li> <li>Expansion of education opportunity for personnel in administration</li> </ul>	<ul> <li>Establishment of self-development plan (Every Aug.)</li> <li>Satisfaction level survey regarding education system (Every Sept.)</li> <li>→ Requires continuous reinforcement of job competency education.</li> </ul>			
	Advancement of Education Infrastructure	Promotion of Coexistence & Cooperation	Secure the Capability to Lead the Future			
HDR Strategic Task	<ul> <li>Establishment of smart learning system to realize self-driven learning</li> <li>Preparation of basis for VR education corresponding to 4<sup>th</sup> industrial revolution</li> </ul>	<ul> <li>Spread of safety culture for the prevention of accidents</li> <li>Realization of social value based on the education infrastructure</li> <li>Internally strengthen the 2<sup>nd</sup> life design program</li> </ul>	<ul> <li>Advancement of leadership capability on each class</li> <li>Realization of field-centered duty education</li> <li>Expand the job competency education in administration</li> </ul>			

#### **Fair Performance Evaluation and Compensation**

The fairness of a performance evaluation and compensation system have a direct influence on the capability development and working attitude of employees. For the development and work efficiency of employees, the most valuable asset of KEPCO KPS, we have worked to establish a fair and transparent performance evaluation and compensation system.

#### Improvement of Performance Management System

KEPCO KPS recognizes the importance of fair and comprehensive achievement management, and has established a system that is divided into the organization evaluation and individual evaluation in consideration of various elements such as government policy, change of management environment, etc. We are trying to establish a more efficient performance management system with specific measures such as the operation of an appeal system for the improvement of fairness, use of the result of degree feedback system as a material for the deliberation of promotion, establishment of improvement plan of degree feedback system to induce improvements in employee capabilities, etc.



#### **Strengthening the Reasonable Compensation**

For the past 2 years, KEPCO KPS has worked to improve the satisfaction level of employees by strengthening reasonable compensation through approaches such as the establishment of an achievement-centered HR innovation policy, acceleration of reorganization to the duty-centered remuneration system, strengthening of winning new orders and budget saving, etc.

Establishment of achievement-centered	
<ul> <li>Deduction of achievement-oriented improvement measures such as work efficiency rating, promotion, re-deployment, etc.</li> <li>Design unique career development plan (CDP) for duty- oriented life cycle</li> </ul>	

#### **Organizational Culture**

#### Horizontal Organization Culture

KEPCO KPS is actively working to establish a horizontal organization culture. In 2019, we implemented a number of millennial employee management suggestions, such as CEO's food truck and Safe SMS, and in 2020, collected the opinions of workers to reflect the different values among generations with the corporate culture improvement promotion plan and the operation of a technical information DB system.

#### Activation of Labor-management Communication

In 2020, we commenced the "Fun labor-management communication program" to improve the quality of communication with experiencetype labor-management communication programs such as the Joint Dokdo solar power and diesel power generation facility safety diagnosis program, Dokdo and Ulleungdo environment cleaning activity, etc. Also, we worked to boost communication among employees in various positions by implementing a "labor-management respect day" for the establishment of a new labor-management culture.



## **Coexistence & Cooperation**



#### **Shared Growth Implementation System**

KEPCO KPS is working to establish a culture of mutual growth and cooperation. With "the systematic promotion of shared growth through coexistence & cooperation" as a goal, we are leading the way to establishing an ecosystem of shared growth for the spread of safety-first management in SMEs. improvement of capabilities, establishment of a basis for sustainable growth, etc. including the expansion of domestic & international sales channels.

#### Leading a Shared Growth Culture

KEPCO KPS operates a major government project promotion department as an organization dedicated to shared growth, and instructs and inspects the status of safety and safety and health management of workers in SMEs, etc. through the "Door-to-door safety guidance inspection." We also provide education support to private maintenance companies for safety and technical capability improvements to share our maintenance safety infrastructure and system for shared growth. We provide education to improve the quality systems of SMEs and foster expert personnel, and offer opportunities for SMEs to grow by transferring our power generation plant technology. In addition, we establish the vision of "strengthening the independence basis of SMEs by spreading of the value of coexistence", and promote 4 strategies and 15 implementation tasks to realize the vision such as strengthening the shared growth system, etc.

#### **Support for Partner Companies**

Support for our partner companies is an essential element of shared growth. Education, sharing intellectual property, and support for the growth of our partner companies, who have been suffering from the COVID-19 situation, are a valuable investment for KEPCO KPS, and we will make efforts to promote shared growth with our partner companies in the future.

#### **Education Support**

Since the previous group education is difficult to continue due to COVID-19, KEPCO KPS provides safe and convenient education continuously to partner companies. We implemented IELTS language education for 4 weeks with our video teleconference system, provided on-line education courses related to safety for 313 persons, and strengthened education on safety and health by donating 208 safety education manuals. In addition, we provide practical and intensified education courses for our partner companies in power generation facility maintenance through the KEPCO KPS training facility.



#### Establishment of Sharing Platform through the Use of Intellectual Property on Safety and Quality

The use of intellectual property secures the economic feasibility of intellectual property operation and promotes the technical cooperation. As part of our business, we have established a sharing platform to use intellectual property related to the safety and quality more efficiently. We offer a customized education materials management system for life-cycle and the development and operation of education applications, and provide an education curriculum for private maintenance technicians and an individually customized education service using phased application. In addition, we contribute to preventing accidents at work through education on life-cycle and an information analysis service in the field of safety, health, and accident, and provide active support to partner companies seeking to develop and operate their own safety and health management systems.

#### Supports Related to COVID-19

KEPCO KPS contributes the talent and consultation on the quality system for 6 of its partner companies, and also has extended the effective period of registration of partner companies having financial difficulties due to COVID-19 from 3 years to 4 years, and strengthened their quality capabilities by providing quality assurance practice 11 times to 106 companies. In addition, we have achieved the goal of "Zero forgery / falsification" by strengthening the efficiency of our purchase verification management system and thorough verification of quality document, and established a system to proactively address management difficulties of partner companies in preparation for a post COVID-19 era.

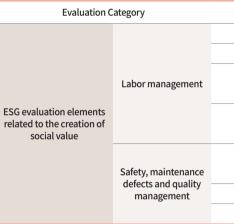
Quality assurance practice with 106 companies

#### Support for the Growth of SMEs

KEPCO KPS actively supports the growth of SMEs. We seek shared advancement to overseas markets with SMEs to expand the sales routes, and help to sell excellent SME products through various channels by supporting purchase counseling, sales channel support, etc. In addition, we take social responsibility as a public corporation through purchasing products manufactured by socially & financially disadvantaged SMEs, female-led companies, companies that employ the disabled, etc. We will work to spread a culture of coexistence & cooperation with SMEs through the expansion of investment, strengthening of private partnerships, strengthening of supports, etc.

#### **Sustainability Management of Partner Companies**

Our partner companies are the principal business partners of KEPCO KPS. To truly achieve sustainable management, sustainability not just in our business, but in all areas, shall be pursued to manage the sustainability of our partner companies. KEPCO KPS works for sustainable management with others such as through ESG evaluations related to the creation of social value, selection of outstanding partner companies, consideration of ESG evaluation elements upon the re-agreement and purchase of product, etc.



#### **Selecting Outstanding Partner Companies**

We select outstanding partner companies in the order of highest points earned within the top 20% of partner companies with a total score of 80 points or higher. Weak partner companies, on the other hand, are those with a total score under 70 points. Partner companies with two or more safety accidents requiring a recovery period of at least four days (or one safety accident involving death) in a given year, and those that violate the Code of Conduct for Partner Companies, will be excluded from being selected as an outstanding partner company.

#### **Preferential Treatment**

- Additional points for reputation evaluation when re-registering as a partner company

Evaluation Standard	Standard Score			
Payment of appropriate labor costs	10	10		
Delay in payment of labor costs	5	5		
A	Power generation	5		
Annual turnover ratio in personnel	Transmission and substation	5		
Laboration of sets	Power generation 5			
Labor input rate	Transmission and substation	10		
land and the fat and the	Power generation	10		
Inadequate safety management	Transmission and substation	5		
Maintenance defects	5			
Quality management status	5			



# Information Protection



#### **Strategic Directions**

At the advent of the Industry 4.0 era, businesses and public enterprises are coming up with their own measures to address personal information leaks. KEPCO KPS recognizes the risks relating to personal information protection and cyber security accidents as a major management issue, and has established an information security system accordingly. At the same time, we spare no effort in enhancing the security safety of our ICT infrastructures.

#### **Establishing an Information Security Management System**

Through system-based information security management activities, we have achieved "zero" cyber infringement accidents and personal information leaks. Going forward, we will continue to recognize customer information protection activities as an important management issue, and carry out relevant activities in a consistent manner through a concrete implementation system and strategic activities based on performance indicators.

Goals	Achieve management goals by having "zero" cyber security infringement accident			Cases of cyber security incidents	
Strategy	Strengthen information security management system	Enhance security safety of ICT infrastructures	Internalize a culture of personal information and security	and personal information leakage	
Implementation	<ul> <li>Improve the effectiveness of information security management</li> <li>Increase manpower and improve work competencies</li> </ul>	<ul> <li>Achieve smart work security infrastructure</li> <li>Strengthen security system for accessing enterprise portal</li> </ul>	<ul> <li>Improve personal information management system</li> <li>Create a culture of practicing information security</li> </ul>	On Information Security Evaluation by the National Intelligence Service	
Performance Indicators	Information Security Status Evaluation by the National Intelligence Service	Cyber infringements and personal information leakage accidents	Personal information management evaluation by the Ministry of Interior and Safety	<b>77</b> points	

#### **Establishing and Revising Standards Regarding Information Security Work**

We encourage information security managers to comply with security guidelines by presenting accurate standards based on which information security is to be handled. We have also strictly defined the standards based on which an information security violation is determined, and established measures for risks of differing levels. Furthermore, we have established security management standards for our information systems and new standards for managing business continuity, thereby providing accurate guidelines to information security managers.

#### **Enhancing the Safety of Infrastructure Security**

We are strengthening the security management systems in each of our business sites by advancing security infrastructures, in addition to proactively managing and preventing potential cyber infringement accidents by taking swift responses such as installing detection and defense solutions against WebShell attacks, operating Internet management systems, and managing firewalls.

#### **Establishing Security Infrastructures**

Strengthening the authentication security system for accessing information systems	<ul> <li>• Enterprise portal (EP) 2-factor authentication: ID / PWD + OTP</li> <li>• Enterprise portal (EP) authentication stages: 4 stages on internal work network, 3 stages on external Internet network</li> </ul>	Professional Training Completed by Information Security Managers
Advancing the virtual private network (VPN)	<ul> <li>Dualization of VPN tools</li> <li>Strengthening of conditions for authorization / authentication</li> </ul>	Per person
Establishing security infrastructures in mobile offices	<ul> <li>O Introduction of mobile-exclusive networks and security tools (FW / data link, etc.)</li> <li>O Introduction of security solutions for mobile office enterprise applications (MDM / VPN, etc.)</li> </ul>	44.8 hours

#### **Managing Risks of Personal Information Leakage**

We prevent potential personal information leakages and related risks through system-based personal information protection activities. We have introduced a solution that manages all personal information files handled via our employees' computers by automatically encrypting them. In addition, we have developed and adopted a system that stores and continuously manages access information (account, date and time, access IP, work performed, etc.) when an employee accesses the internal personal information processing system. We proactively work to minimize potential personal information leaks by immediately destroying personal information after the legal retention period expires.

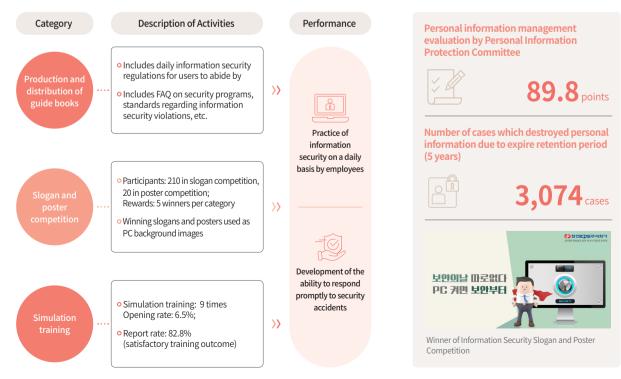
#### Forming a Consensus on Personal Information Protection among Employees

Along with system-based personal information management activities, we are undertaking a range of activities to build a consensus on personal information protection among our employees. Every year, we have distributed promotional leaflets and destroyed personal information considered to be unnecessary and excessive through the "Personal Information Clean Day" campaign. As well, certain business sites have made and distributed stickers and stamps to remind employees of their commitment to protecting personal information, as part of our efforts to build a workplace consensus on information security.

#### Internalizing a Culture of Information Security

For employees to internalize a culture of information security, it is extremely important for them to practice relevant activities in their daily routines and to develop the ability to respond promptly to security accidents. In this regard, we have printed information security guidebooks which include rules to abide by on a daily basis, FAQ on security programs, and standards regarding information security violations, and distributed these to our employees. In addition, we thoroughly prepare employees responsible for responding to security accidents through simulation training.

#### Activities to Internalize a Culture of Information Security among Employees



## Safety and Health



#### **Safety and Health Management System**

With the goal of recording "zero" fatal accidents, KEPCO KPS maintains its readiness for all types of accidents and injuries that may occur at any time. We establish a safe working environment with a highly organized industrial safety and health system, and work to maintain regular communication related to the safety and health of labor-management and the advancement of a prevention-centered safety management system.

Policies	Perfecta	&Pride, KPS		S Opens Safety Way ace, healthy worker, KEPCO KPS	with happy people
Strategic Goals	Safety-first Management		potential risk and strengthening the eliminary capability to prepare	Establishment of leadership and prompt response system	Organize the corresponding recovery organization on each site situation
Disaster and Safety Management	Pr	Prevention and Preparation		Correspondence and Recovery	
Implementation Tasks	<ul> <li>Secure safety first a safe management i</li> <li>Strengthening the executives to prom safety and health w</li> <li>Establish a safe env for a preemptive re COVID-19</li> </ul>	investment ability of oote the vork vironment	<ul> <li>IoT new technology safety equipment accident prevention work method</li> <li>Strengthening the compliance with basic safety procedures</li> <li>Secure the continuity of company business in preparation for disaster &amp; crisis (COVID-19)</li> </ul>	<ul> <li>Fostering expert personnel in disaster safety and strengthening responsive capability</li> <li>Strengthening the proactive and customized support system for disadvantaged groups</li> <li>Establishing emergency response system through spreading a culture of safety</li> </ul>	<ul> <li>Preliminary diagnosis of harmful and dangerous facility and improvement</li> <li>Establishment of collaboration system with related institutions and improvement of efficiency</li> <li>Strengthening the disaster safety response and recovery mobility</li> </ul>

#### Safety and Health Management System Certification

To establish a safety and health management system that meets international standards, KEPCO KPS renews the certificate and acquisition of ISO 45001, an international safety and health management certification system, every year. In 2020, all our business sites acquired this authentication, a first for a domestic power company group.



#### Safety and Health Management System

KEPCO KPS has a safety and health management system led by the CEO. In the safe working consultative group, members from labor and management including partner companies participate in taking measures to address harmful and dangerous elements and support safety and health, such as checking the industrial accident convalescence approval & refusal, applying a safety recognition wrist band during high-risk work, etc. Pursuant to this, we achieved 79.56 points on the safety and health management system, and 82.44 points for the improvement of safety and health system establishment level by implementing a safety consensus communication management strategy through a participation consultative group of 42 partner companies.

#### **Operating Model Safety Business Site**

We operate model safety business sites to perform on-site safety diagnostics and identify areas requiring improvement to ensure the safety of our employees. Related information is shared company-wide and reflected in our accident prevention activities. In 2020, cross-checking was performed through on-site inspections by the CEO and division heads and close inspection by internal and external experts, and the risk of danger was blocked through 215 separate expert safety diagnosis activities.

#### **Strengthening Disaster and Safety Management**

In order to strengthen disaster and safety management, we have revised our disaster response manual and procedures, and in 2020, carried out 85 emergency drills in association with other institutions. Internally, we also are strengthening our ability to respond to situations prompt and accurately and our organizational expertise through the reinforcement of personnel in the areas of safety management (151), disaster management (122), and health management (24). Furthermore, we expanded the existing disaster management-centered crisis management situation room to the disaster and safety and health integrated crisis management situation room to emphasize the need to strengthen safety and minimize the loss from industrial accident and facility failure, as well as to realize social value through support for private maintenance and coexistence & cooperation.

#### **Field-centered Safety and Health Program**

#### Strengthening the Field Safety Management System

As part of our field-centered accident prevention activities, we increased the safety management personnel in construction sites we ordered from 1 person to 4 people, and have strengthened the awareness of employees on the safety management by implementing SNS communication between the management and the staff at the construction site 38 times. Moreover, we are improving the safety level through establishing a comprehensive information system for construction sites and real-time safety monitoring, and achieve "Zero" accidents in our construction sites. In particular, we understand the fatigue workers can experience with a schedule of 52 hours per week, and have them work in groups of two in dangerous workplaces. We are working to improve the safety environment by collecting the opinions of employees through the labor-management consultative group, in addition to the emergency use of new personnel.

#### Safety Education

We have established our safety and health management system in accordance with the international standard to achieve efficient workplace safety and health management, and recently established the smart safety education through the introduction of a VR safety experience education facility. We make diverse efforts to assist our partners by introducing systematic management schemes. We support their competence-building in safety and health management and quality management, with the aim of securing reliability in each management area and increasing their corporate value in the mid-to-long term. In fact, we implemented safety education for private maintenance engineers (4 times, 67 people) and safety education of partner company (242 times, 3,392 people), and achieved "Zero" fatal accidents in 2 consecutive years and a safety culture awareness level of 87.4 points (2.7 point increase over the previous year) through spreading a culture of safety and improving awareness.

#### **Employee Health Promotion Programs**

Regarding the need for systematic management related to the mental health of employees, we examined the stress related to duties and implemented the duty stress measurement examination to improve the working environment and mental health, and working in collaboration with Naju National Hospital, operated an "Emotional Safety Healing Camp" for follow-up management of trauma related to industrial accident, at which a total of 20 people (7 more than in the previous year) participated in various arts and music therapies. Moreover, we supported the 2019 workplace mental health symposium through a collaboration with Naju National Hospital, and 20 health managers implemented mental health education for the prevention of duty stress. We promoted mental health improvement activity through the introduction and operation of EAP. Also, we established a policy for pregnant women, disabled, and short-term employees to protect workers from disadvantaged groups.

#### **Establishment of Safety and Health Culture**

We actively perform safety accident prevention activities through a range of customized safety education programs, such as "1 business site for 1 school," internships, etc. Based on a focused analysis of the causes of fatal accident in 37 high-risk transmission business sites, we provide customized safety education, and perform various activities such as comprehensive on-site safety management using the harmful and dangerous work class system, etc.



# Social Contribution



#### **Implementation System**

KEPCO KPS establishes a company-wide social contribution promotion plan each year. We operate 4 strategies: carrying out pro-bono activity using maintenance technology, making a social contribution for coexistence with local communities, collaborating with institutions related to social contribution, and preparing a basis for the qualitative growth of our social contribution activities to improve the local community and our social capability based on the funds raised by employee and company donations.

KEPCO KPS Growing with Local Communities			
Environmental Improvement in Local Communities	Safety Promotion for Local Residents	Invigorating Local Economies	
<ul> <li>Free provision of COVID-19 residential treatment center</li> <li>Support of KPS-Faraday School and</li> </ul>	<ul> <li>Free provision of residential treatment center</li> <li>Support of KPS-CARE and green</li> </ul>	<ul> <li>Implementation of financial support program for SMEs</li> <li>Implementation of S-Sure business</li> </ul>	
	<ul> <li>Environmental Improvement in Local Communities</li> <li>Free provision of COVID-19 residential treatment center</li> <li>Support of KPS-Faraday School and</li> </ul>	Environmental Improvement in Local Communities       Safety Promotion for Local Residents         • Free provision of COVID-19 residential treatment center       • Free provision of residential treatment center	

#### Hanmaeum Volunteer Group

As a public enterprise, fulfilling our social responsibilities and social contribution is a very important part of business for KEPCO KPS. KEPCO KPS operates Hanmaeum Volunteer Group, which invests time and resources for neighbors and local communities based on the slogan "A Sharing Love, A Unified World." In 2020, we undertook various activities for local community residents who were suffering due to the COVID-19 pandemic, including efforts to vitalize traditional marketplaces, smart device support for local disadvantaged groups, dream home project, support for recovery from flood accidents, etc., and were recognized for our local community contributions by the Ministry of Health and Welfare and Korea National Council on Social Welfare for 2 consecutive years, in 2019 and 2020. KEPCO KPS will implement continuous support and sharing for the development of local communities and social fairness in the future.



Emblem of Hanmaeum Volunteer Group

#### **Supports to Overcome COVID-19**

#### Free Provision of Residential Treatment Center

As a public corporation, KEPCO KPS provides a residential treatment center free of charge to residents of the Gwangju & Jeonnam region for the prevention and handling of COVID-19 in order to support social values that align with public needs. Also, we support personnel for the biological control center and security guards, and provided cultural books to support the emotional stability of quarantined residents to contribute to the local community.



#### **Implementation of Financial Support Programs for SMEs**

As a support to address short-term financial crises caused by COVID-19, KEPCO KPS supports the financing costs for SMEs and small local business owners to share difficulty in a national crisis. We provided KRW 166 million in support to a total of 98 SMEs and small local business owners damaged by COVID-19 in Gwangju & Jeonnam and Daegu & Gyeongbuk region in the form of loan interest payments using the IBK bank network.

### Support of KPS-CARE and Green Smart School

Due to the demand for expansion of facilities to avoid blackouts in medical institutions due to high numbers of COVID-19 patients, we assessed, disassembled and inspected the emergency diesel power generator at the public and private medical institutions in Gwangju & Jeonnam region to contribute the prevention of the spread of COVID and to strengthen the safety of the public. Also, with on-line learning expanding and the education environment for disadvantaged groups expected to be worsened due to the prolonged COVID-19 crisis, we expanded the digital education infrastructure and established an on-line learning environment for students in the Gwangju, Jeonnam, Naju area to contribute to achieving green smart schools, one of the 10 key tasks of the Korean New Deal.

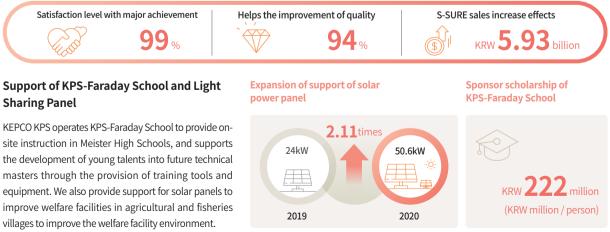
#### **Expansion of Profits Sharing Program**

We have adopted a profit-sharing system to encourage the development of new tools and equipment with SMEs and spread of a shared growth culture. We also have implemented a cooperative profit sharing system to improve the working environment of contingent workers to prevent accidents involving workers in partner companies due to the increased demand from the public and government to strengthen safety management.

- Strengthening growth role for the success of the New Deal policy
- Strengthening of profit sharing collaboration program with SMEs

#### Performance of S-SURE<sup>1)</sup> Business

Out of concern over the threats to SMEs related to the national power business and the shrinkage of the industrial economy due to COVID-19. we provided free inspection & verification of measurement devices and tools & equipment in a total of 10,867 units with 247 SMEs and power companies in Gwangju & Jeonnam and Daegu region. In addition, we provided 11 quality assurance capability reinforcement trainings covering quality assurance practice, etc. to 126 employees in 106 companies in response to the demand for SME support measures.



# **Sharing Panel**

**Reduction in Loan Interest of Company** with Damage KRW **1.66** millio

(financial support on local start-ups: Support of KRW 6.1 billion with 57 companies with loan, KRW 78 million of interest reduction)

# 03

# **Governance**

# **Ethical Integrity Management**



# Establishment of Governance

KEPCO KPS places the Board of Directors (BOD) at the center of its management affairs so that shareholders, the executive management, and corporate organizations such as audit institutions can appropriately exercise their rights and provide checks and balances against each other. We pursue management that benefits the external environment through initiatives such as the expansion of sustainable management by introducing the ESG system and addressing the increased social demand on autonomy and responsibility management, as well as the internal environment such as promotion of new growth business, etc.

### Establishment of Human Rights & Ethical Management System

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We have set "establishment of a global standard through the transparent and considerable management" as our ethical management vision, and are in the process of advancing our ethics and compliance management system to lead ethical management at a global level. We acquired ISO 37001, an anti-bribery management system certification, in 2017, and are actively engaged in activities to prevent corruption and establish a culture of integrity, one of which is identifying ethical risks in advance through our ethical risk prevention system.

### Setting of Risk Management Strategic Direction

Through systematic risk management, we identify potential risk factors and prevent risk situations in order to ensure flawless business operations. To this end, we are continuously expanding our risk management infrastructures in order to strengthen our financial soundness. We also implement proactive risk management through self-inspections and our internal control system.

# Stakeholder Communication and Participation

In an effort to strengthen our management activities based on stakeholder participation, KEPCO KPS listens closely to the opinions of the various stakeholders both directly and indirectly involved in our work, and reflects them in our management activities. We define our stakeholders as employees, labor unions, the government, the National Assembly, customers, partner companies, relevant institutions, the Korean public, local communities, and shareholders. We then categorize them into three types – i.e., participationtype, cooperation-type, and co-existence-type – and operate communication channels attuned to the needs and characteristics of each group.





### KRW 51.6 billion

Tendency of dividends on shareholders (Average of 55% in dividends tendency for 3 years)



# Establishment of **ESG committee**

within the BOD



Anti-bribery Management System Certification First for a public institution

### Governance

### **BOD Operation System**

KEPCO KPS places the Board of Directors (BOD) at the center of its management affairs so that shareholders, the executive management, and corporate organizations such as audit institutions can appropriately exercise their rights and provide checks and balances against each other. We pursue management that benefits the external environment through initiatives such as the expansion of sustainable management by introducing the ESG system and addressing the increased social demand on autonomy & responsibility management, as well as the internal environment such as promotion of new growth business, etc.

### Strategy and Tasks of the BOD



### **BOD Composition**

As of 2021, the Board of Directors (BOD) of KEPCO KPS is composed of nine directors, including four executive directors and five non-executive directors (including outside directors). The CEO / President of KEPCO KPS also holds the position of the Chair of the BOD in order to ensure responsible management. In appointing BOD members, we place no restrictions on gender, nationality, or age. Currently, there are eight male members and one female member of the BOD. Executive directors establish and execute the headquarters' goals, policies, and business plans within the management targets and directions of the company, and report the status of such work to the BOD at least once every quarter.



### Strengthening the Roles of the BOD

We are making a range of efforts to vitalize the BOD. We have increased the participation rate of non-executive directors by implementing a prior notification system whereby BOD members are notified of the Board's agenda and schedule in advance. Next, we have promoted communication with non-executive directors to expand their participation in the company's management activities. In addition, we have actively implemented management proposals made by non-executive directors, to facilitate their voluntary and active participation.

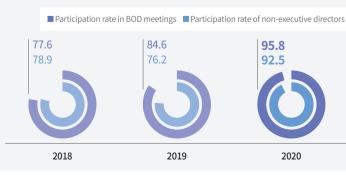
### Members of the BOD

Position	Name	Date of birth	Gender	Education background	Major career experiences	Term
President & CEO	Kim, Hong-Yeon	1958.03	Male	Ph.D. in Mechanical Engineering, Chungnam National University	(Former) CEO of Gwangyang Green Energy Co., Ltd.	2024.06.24
Business Management Division Head	Lee, Jin-Ho	1961.12	Male	MSc in Management, Korea University	(Former) Busan, Ulsan division head of Korea Electric Power Corporation	2022.09.14
Power Generation Business Division Head	Bong, Seok-Geun	1958.01	Male	MSc in Mechanical Engineering, Yonsei University	(Former) Head of Technology Solution Center, KEPCO KPS	2021.09.14
Nuclear Power Business Division Head	Hwang, In-Ok	1961.10	Male	MSc in Industrial System Engineering, Ajou University	(Former) Head of Nuclear Power Business Dept.	ept. 2022.09.14
Outside director	Choi, Soo-Mi	1970.11	Female	Ph.D. in Finance, Yonsei University	(Current) Professor of Business Management, Chungnam National University	2022.04.01
Outside director	Park, Jung-Il	1957.01	Male	Ph. D in electric engineering, Chosun University	(Former) CEO of Nara Engineering Consultant	2023.11.24
Outside director	Kim, Woo-Kyom	1953.09	Male	MSc in Electrical Engineering, Hanyang University	(Current) Director of Hwasin Power Tech Co., Ltd.	2022.10.08
Outside director	Choi, Yong-Sun	1977.07	Male	MSc in North Korean Studies, Kyungnam University	(Former) Administrator, Office of President	2023.11.24
Outside director	Kim, Yong-Seung	1976.04	Male	B.S. in Electronic Engineering, Chonnam National University	(Former) Administrator, Office of President	2023.08.01

### **Appointment of Directors**

We elect BOD members in accordance with the Act on the Management of Public Institutions and the procedures regarding the election of BOD members set forth in our Articles of Association. Candidates for CEO are first selected by open recruitment or recommendation, then recommended by an Executive Recommendation Committee consisting of non-executive directors (including outside directors) and civilian committee members, followed by the deliberation and resolution of the Public Institution Operation Committee and the General Shareholders' Meeting (GSM), until the final candidate is appointed by the President at the request of the Minister of Trade, Industry and Energy. The CEO serves a three-year term. Internal directors serve a two-year term and are appointed by the President following a resolution of the GSM. Non-executive (Outside) directors are recommended by the Executive Recommendation Committee, followed by the deliberation and resolution of the Public Institution Operation Committee and the resolution of the General Shareholders' Meeting (GSM), and then are appointed to serve a two-year term by the Minister of Economy and Finance. In order to secure the diversity and representativeness of BOD members, we have diversified institutions for candidate recommendation, requesting the Ministry of Personnel Management and the Ministry of Gender Equality and Family to recommend candidates. Furthermore, we have strengthened the independence of the Executive Recommendation Committee by precluding the participation of executive officers, in addition to including candidate evaluation criteria regarding the candidates' level of understanding and experience in the power or energy business in the Committee regulations.

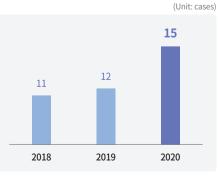
### **BOD Participation Rate**



\* As of November 2021





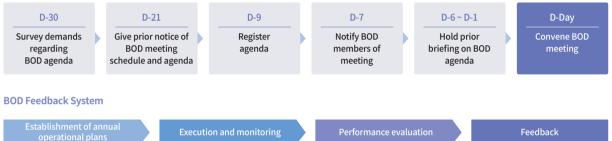


### Governance

### **Operation of BOD**

If important issues arise relating to sustainability management, the Corporate Planning Department manages such issues through the BOD or separate business reporting to the executive directors. When necessary, issues are brought before the BOD for discussion following prior announcement of the schedule and agenda. In 2020, the BOD discussed major issues such as the safety master plan, an operation plan for the nuclear plant supervision act, investment of allotted charges for nuclear decommissioning laboratory, enactment of executive censure regulation regarding the safety accident, investment of in-house working welfare funds, investment of coexistence & cooperation funds, amendment of the rules of employment, establishment of new deal vision, etc.

### **Operation Process of BOD**





### **Evaluation and Compensation of BOD Members**

The BOD deliberates with the Executive Recommendation Committee regarding a draft contract that sets forth concrete management goals to be achieved during the President's term as well as incentives, the results of which are reported to the Minister of Trade, Industry and Energy. Executive directors sign a performance contract with the President which includes material issues that need to be addressed during the given year, the performance of which is evaluated and reflected in determining their compensation. Non-executive directors may be provided with activity expenses and allowance, the standards for which are set by the President.

### **Conflict of Interest Prevention Process**

In accordance with the regulations of the Board and the Articles of Association, any director who has a special interest in a specific agenda item is precluded from participating in the resolution of said item, and such director is not counted as an incumbent director. Non-executive directors (including outside directors) are notified in advance of the agenda and date of BOD meetings, and provided with relevant materials to allow them to review the agenda in a timely manner, through various channels such as the director-exclusive company website.

### **Roles of Governance Organizations**

The executive management of KEPCO KPS oversees various aspects of management by operating several Committees, and holds consultations on a regular basis with stakeholders in these areas. In addition, the BOD convenes regularly to deliberate on company policies having economic, environmental, and social impacts, and reviews the risks and opportunities of major agenda items.

### **Communication and Engagement of Stakeholders**

### **Overview**

In an effort to strengthen our management activities based on stakeholder participation, KEPCO KPS listens closely to the opinions of various stakeholders both directly and indirectly involved in our work, and reflects them in our management activities. We define our stakeholders as employees, labor unions, the government, the National Assembly, customers, partner companies, relevant institutions, the Korean public, local communities, and shareholders. We then categorize stakeholders into three types - i.e., participation-type, cooperation-type, and co-existencetype – and operate communication channels attuned to the needs and characteristics of each group.

### **Reflecting Stakeholder Opinions on Management Activities**

### Selection and Implementation of Innovation Tasks through Public Idea Contests

We hold public idea contests among our stakeholders to derive innovation tasks, with the winner selected as an innovative task for KEPCO KPS to carry out. As an example, "local community education activity through the talent donation" was selected as a winner in 2019, and afterward, customized safety education such as "1 business site for 1 school safety education" was implemented.

### **Implementation Process of Public Idea Contests**



### **Communicating through Civil Participation Innovation Corps**

and relevant institutions.

### **Stakeholder Communication Channels**

	Participation-type	Cooperation-type	Co-existence-type
Stakeholder group	Employees     Labor union	• Government • National Assembly • Customers • Partner Companies and Relevant Institutions	Korean Public     Local Communities
Major Communication Channels and Performance	<ul> <li>Meetings on employee communication strategies (monthly)</li> <li>Labor-management conferences (4 times in 2020, 76 agenda items presented) and labor- management meetings at business sites (236 times in 2020)</li> <li>Non-contact video conference (1,982 hours in 2020)</li> <li>BOD (8 times in 2020, participation rate: 95.8%, 31 management proposals)</li> <li>Implementation of worker BOD observance system, a first for a power company group (Total 3 times)</li> </ul>	Customer Center (External customer satisfaction survey 96.2 points in 2020)     Integrity Conference of partner company (77 companies)	<ul> <li>Civil Participation Innovation Corps (Once in 2020)</li> <li>Idea contest (Once in 2019 ~ 2020) and questionnaire (once)</li> <li>Bitgaram credit course (participated in by 53 undergraduate students at 10 schools in 2020)</li> </ul>
Core Needs	Vision and value-sharing     Improvement of corporate culture     Improvement of work environment and building     of trust between labor and management	Cooperation regarding government policies     Provision of highest-quality service     Co-existence and shared growth     Business cooperation	<ul> <li>Fulfillment of public roles</li> <li>Provision of convenience to general public</li> <li>Invigoration of local economies</li> </ul>

Each year, we share our innovation plans and collect opinions through the Civil Participation Innovation Corps, consisting of citizens, experts

### **KEPCO KPS** 2019-2020 Sustainability Report

### Human Rights Management



### **Strategic Directions**

KEPCO KPS has established a human rights management road-map and promotion system based on our human rights vision, as "we aim for human dignity and value achievement," and in 2020 internalizes the human rights management through improving the human rights infringement remedy system and regulation maintenance, while preventing the human rights infringement risk by performing a human rights influence assessment to identify vulnerable elements.

### Human Rights Management Implementation System

Human Rights Vision	KEPCO KPS aims for human dignity and value achievement.						
Roadmap	Prepare the basis of execution (~2019)	Settlement of human rights management system (~2021)	Spread of human rights management (~2022)				
Implementa- tion Tasks	Strengthening the human rights management system	Internalizing a culture of respect for human rights	Advancement of relief procedure				
	<ul> <li>Improving human rights implementation system and addressing insufficiency in norms</li> </ul>	<ul> <li>Spreading a culture of respect for human rights</li> <li>Identifying and removing vulnerable elements</li> </ul>	<ul> <li>Expanding reporting system</li> <li>Expanding ombudsman personnel and strengthening its capability</li> </ul>				
Implementa- tion System	Norms	Exclusive organization	Resolution & relief · counseling				
lonoystem	<ul> <li>Human Rights Management Charter &amp; Code of Conduct</li> <li>Preventive response standard of harassment behavior within the workplace</li> <li>Preventive guidance of sexual harassment and violence</li> </ul>	<ul> <li>Overall management) Ethics &amp; system department</li> <li>(Execution) Counselor of Human Rights Counseling Center, ethics keeper</li> </ul>	<ul> <li>Human Rights Management Committee</li> <li>Sexual Harassment and Violence Deliberation Committee</li> <li>Committee to Investigate Harassment Behavior within the Workplace</li> </ul>				
Feedback System	Human rights impact assessment	Human rights management awareness level survey	Collection of opinions of stakeholders				

### Strengthening the Operation of Human Rights Management Committee

KEPCO KPS operates a Human Rights Management Committee, the president of which was changed from a division head to the CEO to strengthen its role as a control tower. Also, the number of outside members has been expanded, to improve the representation of stakeholders and the fairness of committee operations.

### **Strengthening the Human Rights Management Norm**

KEPCO KPS is strengthening the human rights management norms to prevent human rights infringements and to secure the fairness and speed of case processing.

Category	Description
Human Rights Manual	<ul> <li>Enactment and distribution of manual on the prevention of human rights violations within the workplace</li> <li>Sexual harassment, harassment within the workplace, definition of human rights management, corresponding procedure, and guidance of major cases</li> </ul>
Preventive Response Standard of Harassment Behavior within the Workplace	<ul> <li>Specify the regulation of investigation processing period (within 20 days)</li> <li>Secure the investigation expertise and fairness through the establishment of an investigation committee</li> </ul>
Sexual Harassment and Violence Preventive Guidance	<ul> <li>Reflect the government guidance and the amendment of preventive guidance of sexual harassment and violence</li> <li>Prevent secondary damage and measures to protect victims, and strengthen measures to prevent re-occurrence</li> <li>Expand the obligation of compliance by head of institution, and prepare case processing procedures related to executive</li> </ul>

### Human Rights Management Reporting Channel

In a Korean first, KEPCO KPS introduced 'Listen2me,' an app aiming to prevent workplace sexual harassment and violence, to allow the real-time reporting of sexual harassment situations, and established a cyber-human rights counseling and reporting center to streamline the reporting process. Based on the aforementioned example, we played the role of a counselor to establish reporting channels in other companies, and moving forward, will try to protect victims and prevent secondary damage through guaranteeing anonymity and continuously improving the human rights management reporting channel.

### **Human Rights Impact Assessment**

### **Enterprise-led Human Rights Impact Assessment**

This is an evaluation conducted across all corporate activities, which considers human rights management systems, employment, labor rights, occupational safety, supply networks, local residents, and other comprehensive areas.

### Human Rights Impact Assessment of Major Businesses

This is an evaluation conducted by an enterprise on its specific businesses, aimed at identifying and analyzing the potential negative impacts of its businesses on human rights to prevent or minimize them.

#### Human Rights Impact Assessment Process

Stage 1	Stage 2	Stage 3	Stage 4	Stage <b>5</b>
• Establish plans to conduct human rights assessment Establish human rights assessment plans including purpose, principles, evaluator, and budget	• Prepare a human rights assessment checklist Prepare a human rights assessment checklist based on the human rights management guidelines and checklist indicators provided by the National Human Rights Commission	<ul> <li>Submit evaluation materials to Human Rights Management Committee Department in charge of human rights management submits materials required for evaluating human rights assessment checklist to the Human Rights Management Committee</li> </ul>	• Conduct evaluation Human Rights Management Committee conducts an evaluation on the materials submitted using the checklist	• Report and disclose to executive management Department in charge of human rights management reports the evaluation results to executive management, and discloses the same on company website, by media, etc.

### **Settlement of Human Rights Respect Culture**

KEPCO KPS conducts a range of activities to promote the adoption of a culture of respect for human rights among its employees, customers, private companies, and local communities, and has been certified as a family-friendly company for 4 consecutive years.

### Human Rights Respect Program

	Category	Description
0	Employees	<ul> <li>Support for employee mental health support programs (employee, family of employee, partner company)</li> <li>Leave of absence system and flexible working hour system to improve employee work-and-life balance.</li> <li>Automatic parental leave, introduction of family care leave, shortening of working hours for pregnancy, etc.</li> <li>Improvement of welfare system for contingent workers (holiday system, clothing, welfare point system, etc.)</li> </ul>
0	Customers (Korean public)	<ul> <li>Preferential treatment for North Korean refugees and children from multi-cultural families upon the recruitment (additional points on written test)</li> <li>Increase the local talent employment objective system (30%, 6% up in comparison with the government goal)</li> <li>Employment and support of disabled athletes (19), and creation of work for the disabled</li> </ul>
	Private Company (Partner Company)	<ul> <li>Industrial safety education for private maintenance companies (67 people, 4 times)</li> <li>Implementation of support business for coexistence &amp; cooperation such as support on the acquisition of SMEs environment management system, safety and health management system certificate, etc. (15 companies)</li> </ul>
Î	Local Communities	<ul> <li>Implementation of safety education in a 1 business site for 1 school system (25 schools)</li> <li>Implement industrial safety and living safety education for students in vocational high school</li> <li>Identification and sharing of safety-threatening factors at transmission wire inspections</li> <li>Support for "Light Sharing Panel", a social welfare facility through cooperation of private and public sector (7 solar panels)</li> <li>Conclusion of agreement to improve the accounting transparency of public citizen association</li> </ul>

KEPCO KPS identifies and assesses actual and potential risks in our corporate activities that may have an impact on human rights.

### **Ethical Management**



We have set "establishment of a global standard through the transparent and considerable management" as our ethical management vision, and are in the process of advancing our ethics and compliance management system to lead ethical management at a global level. We acquired ISO 37001, an anti-bribery management system certification, in 2017, and are actively engaged in activities to prevent corruption and establish a culture of integrity, one of which is identifying ethical risks in advance through our ethical risk prevention system.

#### Ethical Management Implementation System

Ethics Vision	Establish the global standard through transparent and caring management					
Roadmap			Take a leap toward global ethical management (2019 ~ 2020)		Lead global ethical management (2021~)	
			system		of anti-corruption and integrity	
Strategic Tasks	Strengthening the ethics and compliance management system		gthening preventiveEstablishing a culture ofcorruption activitiesand strengthening its ca			Improvement of ethical and compliance achievement and spread
	system corruption risk ethical awareness		<ul> <li>Strengthening the integral</li> </ul>	institutions		
Implementation	Norms		Implementation Organization		Consultation and Cooperation	
System	Ethics Charter, Code of Ethics, Code Conduct for Employees, Executive E Integrity Agreement Regulation, etc Reporting processing standard of u solicitation and bribery Public interest reporting process an protection of reporter standard	Duty nfair	<ul> <li>Ethical Management Committee supervised by CEO</li> <li>Ethics System Dept., ethical keeper</li> <li>Audit Dept., promotional leader of anti- corruption and integrity</li> </ul>		<ul> <li>Consultation Committee of Ethical Management Division</li> <li>Public Enterprise Integrity Society Council</li> <li>Integrity Ombudsman &amp; Integrity Society Public-Private Council</li> <li>Bitgaram Integrity Cluster</li> </ul>	
Ethics Vision	Internal   Ethics, human rights management awareness level survey, self-integrity survey         External   Integrity evaluation and anti-corruption measure evaluation by Anti-corruption and Civil Rights Commission				•	

### **Realizing a Clean KPS through Ethical and Compliance Management**

### **Ethical Management Promotion Organization**

To prevent ethical risks, we operate a multi-faceted ethical management system. In 2020, we launched our Ethical Management Committee, and established the Ethics and Corporate Culture Committee, a sub-committee to promote ethical management within the BOD, to improve the participation level of management in the promotion of integrity policy. Also, we amended the regulations in HR, punishment and sanctions to employment corruption, as well as the recruitment management guidance to specify the detailed recruitment procedure, in order to respond to the changes in ethics-related legislation and government policy. As a result, we achieved 91.9 points in the ethics & human rights management awareness level survey.

### **Revision of Ethical Norms and Policies for Eliminating Corruption Risks**

Norms	HR Management & Reward / Punishment Regulations	Code of Conduct for Employees		
Description	<ul> <li>Inclusion of sexual offences as reasons for disqualification</li> <li>New establishment of disciplinary action standard for unfair solicitation, power harassment, and harassment in the workplace</li> </ul>	<ul> <li>Change of reporting standard of external lecture</li> <li>Compliance pledge on the prohibition of solicitation, and ethical legislation regarding employment</li> </ul>		

### ISO 37001 Anti-bribery Management System Certification

ISO 37001 is the anti-bribery management system standard published by the International Organization for Standardization (ISO), and sets forth the requirements to establish, implement, maintain and improve an anti-bribery management system in an organization. Since becoming the first organization in Korea to acquire ISO 37001 certification in April 2017, corruption risk indicators have increased by 3 times, from 34 in 2017 to 107 in 2020.

### **Operation of Communication Channel to Help Settle Ethical Management**

We have a range of systems in place to ensure that a culture of integrity firmly takes root at KEPCO KPS. Our ethical risk prevention efforts include operating a reporting center to encourage whistleblowing and reporting, as well as strengthening the anti-solicitation system and running the Red Whistle program which publishes casebooks on the Improper Solicitation and Graft Act.

### **Ethical Risk Prevention Communication Channel**

		_	
	Category		
	Red Whistle		This is operated b protects the anon
	Cyber Ethics Center		Ethics center to pr superiors, violatio
	Reporting Center of Solicitation Prohibition Act		Center for reportin
-	Public Interest Reporting Center		Center for reportin

### Improvement of Ethical Awareness and Spread of Ethics Culture

KEPCO KPS engages in a range of activities to build ethical awareness among employees and spread a workplace culture of ethics. We have developed customized education programs for various target groups to spread the integrity and ethics culture by working in cooperation with private institutions to improve the efficiency of education and to create an autonomous consensus of integrity and ethics.

### **Employee Ethics Education Program**



	Employee Customized Education		Consensus and Communication
All employees	Implementation of cyber integrity and ethics education (more than 7 hours per person)	Establish- ment of	Integrity and ethics campaign supervised by CEO "Happy food truck for employees" (2 times)
Life cycle	Integrity and ethics education for new employees, promoted employees (523 employees)	consensus	<ul> <li>Sharing an integrity message through the integrity spread relay of high executives</li> <li>Autonomous policy of anti-corruption and ethics idea contests</li> </ul>
Vulnerable duty	Integrity and ethics education for workers in areas vulnerable to corruption such as safety, overseas, etc. (173 employees)	Communi-	(350 cases)  Implementation of integrity human book, round-table open
Self- diagnosis	Implementation of quarterly self-inspection on harassment and self-diagnosis of integrity improve-		forum, and discussion of harassment cases • Implementation of gender equality awareness level survey and
On-site education	Implementation of anti-corruption and integrity education in rounds of business sites (16 times)	ment	gender equality conference • Designation and operation of "Day of mutual respect" on 22 <sup>nd</sup> of each month

### **Spread of Ethics Culture**

### Private Company

- Implementation of integrity dream project in private sector
- Support for on/off-line integrity education and the acquisition of ISO 37 · Listen to opinions on improvement through the integrity conference company (77 companies)
- Performed actual status investigation of power harassment in partner (investigation of experience, awareness, etc. of power harassment) • Dispatched integrity and ethics letter to partner company in vulnerable corruption

### Description

by an external institution rather than the in-house reporting center, and is a reporting center that nymity of reporters.

prevent unethical behaviors such as sexual harassment in workplace, inappropriate work orders by ion of employee Code of Conduct, etc.

ting unfair solicitation, bribery, etc. in accordance with the Solicitation Prohibition Act

ting behavior infringing health, safety, environment, consumer's benefit, and fair competition

	Sharing of Institution Cooperation			
37001 certificate	Bitgaram Integrity Practice Network	Public Enterprise Integrity Society Council		
etc. of partner	• Administrative institution in Gwangju & Jeonnam, public institutions, and 28	• 39 organizations under the supervision of Anti-Corruption and Civil Rights		
r company	social organizations - Host integrity cultural festival, etc.	Commission • Participation of public institution		
le period for	Sharing of integrity education and cultural activities	- Find integrity tasks, public promotion, etc.		

### **Risk Management**

Through systematic risk management, we identify potential risk factors in advance and prevent risk situations in order to ensure flawless business operations. To this end, we are continuously extending our risk management infrastructure to strengthen our financial soundness. We also perform proactive risk management through self-inspections and our internal control system.

### **Risk Management Strategic Direction**

By analyzing the current market environment, we are able to respond immediately to fast-changing risk situations. Based on the analysis of each market environment, we set different strategies, risk management targets and core risk indicators, making our risk management scheme more systematic. In particular, we use various IT systems, including the Enterprise Risk Management (ERM), the Enterprise Information System (EIS), the Enterprise Resource Planning (ERP), and the Internal Accounting system (ICAN), to ensure that we sense and respond to risks more accurately and promptly.

#### **Risk Management System**

Goal	Enhance soundness and stability of financial structure through proactive risk management, and strengthen the basis for future growth						
Environment Analyses	Overcome slowdown of sales growth and respond to sustained increase of fixed costs			Stabilize cash flow in response to prospects of slowdown			
	Minimize losses in investment business through rational decision-making			Maintain foreign exchange risk management system in preparation for expansion of overseas business			
Strategies	Monitor financial risks at all times considering core risk factors			Operate risk management system in response to perceived financial risks			
Risk Management	Manage financial risks by predicting risks and establishing response measures			Respond to future financial risks by operating risk management system			
Targets	Sales risk	Investment risk		Liquidity risk		Foreign currency risk	
Core Risk Indicators	Sales, cost of sales	New bus	iness investment risk	Liquidity ratio, trade receivables Exchange		Exchange fluctuations risk, VaR	
Systems and	Business Risk Deliberation Co	mmittee	Capital Budget Deliberation Committee		Foreign Exchange Risk Committee		
Regulations	Budget operation guidelines Capital operations ar			d accounts guidelines	Forei	gn exchange risk guidelines	
Management System	Enterprise Risk Management (ERM)	Enterprise Information System (EIS)		Enterprise Resource (ERP)	Planning	Internal Accounting system (ICAN)	

### **Business Risk Management**

### **Business Risk Deliberation Committee**

For the effective allocation of available resources and review of business-related risks, we operate the Business Risk Deliberation Committee. The committee deliberated on 14 agenda items in 2020, and the standard for appointment of outside members has been strengthened to reduce business risk and a disclosure standard for minutes has been prescribed to improve the fairness and transparency of business promotion.

### **Major Business Risks and Performance in 2020**

Supervising Department Strategic Business Support	Catego	ory	Risks Reviewed	Major Performance (Risk Reduction)	
Department, Business Management Headquarters Subject of Deliberation o Indirect investment businesses (equity investment, M&A, etc.)	Business (3)	<ul> <li>Halla Cement waste heat power generation business</li> <li>Withdrawal upon review of acquisition conditions regarding request for investment in the business developer's derivative products</li> <li>Deletion of clause regarding repayment of principal and interest by the ordering party by proxy in the event of failure to meet conditions, such as power generation amount</li> </ul>		Total KRW 43 billion KRW 3 billion KRW 40 billion	
<ul> <li>Domestic and international O&amp;M business for more than KRW 50 billion</li> <li>Conclusion of MOUs &amp; MOAs,</li> </ul>		Overseas Business		Total KRW 4.5 billion , year	
etc., business with contingent liabilities, etc	Non- business (11)		<ul> <li>An exclusive joint development agreement (JDA<sup>1)</sup>) with IHI regarding boiler section of POSCO Gwangyang performance improvement project</li> </ul>	Strategic cooperation with boiler manufactur	

1) Joint Development Agreement (JDA)

### **Capital Budget Deliberation Committee**

We operate the Capital Budget Deliberation Committee to support the efficient allocation of resources in order to ensure the maximum effect of capital investment through prior review and deliberation regarding the capital budget. We put our efforts to minimize the financial risks such as master plan for re-construction of employee residence in Hanwol (draft) in 2019, production of simulation equipment of steam generator of Korean standard nuclear power plant (draft) (2020), deliberation of capital budget (draft) in 2021, etc.

### Activities of the Capital Budget Deliberation Committee

Supervising Department Budget Management Team, Corporate Planning Department

#### Subject of Deliberation

 Annual capital budget • Capital budget exceeding a certain amount that has not vet been allocated

(Draft) Master plan for re-construction of employee residence in Hanwol

### **Advancement of Internal Control System**

In a first for a public corporation in Korea, KEPCO KPS established the "Network Audit (non-contact audit)" operation system to address the post COVID-19 era and the Korean New Deal requirements. Of 26 audits in 2020, 14 were a "Network audit" (53.8%), and we implemented the audit without any reduction in the annual audit plan due to COVID-19 and strengthened the internal control function. Through this noncontact audit system, KEPCO KPS saved approx. KRW 64 million in business trip expenses in 2020. Going forward, we will perform the audit based on the checklist by using S-Auditor and excellent talents from the audit department, and we plan to develop and to promote the AIbased internal audit system.

### **Expanding Internal Control Activities**

We carry out a range of activities to train expert auditors in our company, and run a study group for certified internal auditor (CIA) certification, encouraging relevant personnel to become professionally certified. At the same time, we also consistently offer professional training on auditor responsibilities and background knowledge, as well as integrity and ethics. We also established a dedicated department for internal accounting management to strengthen our control activities. With the professional auditors we have secured, we have enhanced the expertise of our auditing body and carry out prevention and improvement activities through post-audit management measures.

### **Enhancing the Expertise of the Auditing Body**

Auditor Capability &	S-Auditor	Audit Consultation Committee &	Independent Audit Consultation
Benchmarking		Integrity ombudsman	Agreement
<ul> <li>Strengthening the education support policy and expansion of study group operation         <ul> <li>Other public corporation benchmarking 17 cases</li> </ul> </li> </ul>	<ul> <li>Strengthening the audit expertise by advancement of S-Auditor operation</li> <li>Composition of experts in each field such as technician, tax accountant, etc. (150 persons)</li> <li>Use in the self-audit activity in specific and specialized areas (6 times, such as specific audit, etc.)</li> </ul>	<ul> <li>Expansion of Audit Consultation Committee operation (2 times → 3 times per year)</li> <li>Amendment of regulation for the clarification of role and the obligation of operation</li> <li>Complement the audit expertise through stable operation of integrity ombudsman</li> <li>Stable operation with scheduled meeting in each quarter (3 times → 4 times per year)</li> </ul>	<ul> <li>Independent audit consultation agreement with law office         <ul> <li>Secure the expertise and legitimacy of audit work with preliminary review of legal risk</li> </ul> </li> </ul>

Agenda (Draft) Production of simulation equipment of steam generator of (Draft) Capital budget plan in 2021 Korean standard nuclear power plant

# APPENDIX

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86p	I	ESG Performance
94p	I	Code of Conduct for Partner Companies
95p		UN Global Compact Principles
96p	I	GRI Standards Index
98p	I	Independent Assurance Statement
100p	I	Major Awards
101p	I	Memberships and Associations

### **Economic Performance**

### **Financial Statement**

### **Consolidated Financial Statement**

Category	2018	2019	2020
Assets			
Current assets	636,128,991,073	783,409,196,426	760,018,569,385
Cash and cash equivalents	38,461,477,917	26,266,467,489	35,422,241,726
Current financial assets	124,490,171,341	254,030,999,272	177,523,123,863
Trade receivables and other receivables	431,276,061,094	456,046,479,154	493,831,734,132
Inventories	1,389,970,203	1,438,757,792	23,774,630,902
Current corporate tax assets	7,584,470,073	12,804,574,132	18,903,446,074
Current non-financial assets	32,926,840,445	32,821,918,587	10,563,392,69
Non-current assets	644,792,383,784	576,024,128,218	589,850,522,06
Non-current financial assets	114,854,838,282	49,474,928,808	55,705,663,133
Long-term trade receivables and other receivables	50,808,245,775	46,114,782,906	45,837,410,990
Tangible assets	441,722,837,330	442,962,595,431	452,735,280,254
Intangible assets other than goodwill	9,146,018,921	8,986,400,905	8,356,953,91
Investments in affiliates and joint ventures	578,752,336	0	(
Deferred corporate tax assets	24,668,977,878	26,617,798,198	25,811,866,413
Non-current non-financial assets	3,012,713,262	1,867,621,970	1,403,347,36
Total assets	1,280,921,374,857	1,359,433,324,644	1,349,869,091,45
Debt			
Current liabilities	270,359,215,883	248,995,404,812	255,618,732,31
Trade payables and other liabilities	75,739,641,774	85,325,227,462	79,542,135,22
Current corporate tax liabilities	24,053,935,657	27,778,030,968	907,400,512
Current non-financial liabilities	61,268,416,081	51,701,669,150	77,818,903,65
Current provisions	109,297,222,371	84,190,477,232	97,350,292,93
Non-current liabilities	26,426,344,929	47,019,841,455	42,568,612,612
Long-term trade obligations and other liabilities	4,323,015	4,449,310,109	2,363,532,48
Employee payroll debt	25,544,965,882	39,813,506,487	15,429,562,21
Deferred corporate tax liabilities	95,172,124	0	340,020,43
Non-current provision	781,883,908	2,757,024,859	24,435,497,47
Total debt	296,785,560,812	296,015,246,267	298,187,344,93
Equity			
Capital attributable to the owners of the parent company	984,135,561,855	1,063,417,826,115	1,051,681,651,371
Issued capital	9,000,000,000	9,000,000,000	9,000,000,000
Capital	9,000,000,000	9,000,000,000	9,000,000,00
Retained earnings	976,218,318,829	1,055,101,667,040	1,043,358,433,303
Profit reserve	4,500,000,000	4,500,000,000	4,500,000,00
Voluntary reserve	769,544,872,340	834,060,000,000	911,500,000,00
Other statutory reserves	51,200,000,000	51,200,000,000	51,200,000,00
Undisposable retained earnings	150,973,446,489	165,341,667,040	76,158,433,30
Other capital components	-1,082,756,974	-683,840,925	-676,781,93
Accumulated other comprehensive income	-1,082,756,974	-683,840,925	-676,781,93
Non-controlling interest	252,190	252,262	95,14
Total capital	984,135,814,045	1,063,418,078,377	1,051,681,746,51
Total debt and capital	1,280,921,374,857	1,359,433,324,644	1,349,869,091,450

### Consolidated Statements of Comprehensive Income

Category	2018	2019	2020
Sales	1,242,452,044,205	1,246,949,702,480	1,303,201,766,114
Cost of sales	973,616,765,413	971,922,666,430	1,091,748,166,690
Gross profit	268,835,278,792	275,027,036,050	211,453,599,424
Selling and administrative expenses	77,316,188,992	81,087,572,106	76,051,645,281
Operating profit	191,519,089,800	193,939,463,944	135,401,954,143
Other revenue	11,898,281,765	1,527,217,557	16,676,492,781
Other costs	1,796,331,182	5,105,271,176	52,092,156,350
Other profit	2,147,816,368	1,824,572,579	7,640,882,766
Financial income	7,499,365,942	8,986,681,165	8,149,758,936
Finance cost	768,629,115	2,087,327,707	4,790,169,983
Profit and loss related to affiliates and joint ventures	924,717	-578,752,336	0
Net income before income tax	210,500,518,295	198,506,584,026	110,986,762,293
Corporate tax	49,169,540,805	45,175,253,248	23,928,450,434
Net income (loss)	161,330,977,490	153,331,330,778	87,058,311,859
Other comprehensive income (after tax)	-16,119,474,720	6,500,933,554	-12,394,643,717
Other comprehensive income not subsequently reclassified to profit or loss	-16,101,141,152	6,102,017,505	-12,401,540,660
Remeasurement factors for defined benefit plans	-16,101,141,152	6,102,017,505	-12,401,540,660
Other comprehensive income that may subsequently reclassified to profit or loss	-18,333,568	398,916,049	6,896,943
Gain or loss on overseas operations translation	-18,333,568	398,916,049	6,896,943
Total comprehensive income	145,211,502,770	159,832,264,332	74,663,668,142
Attribution of net income (loss)			
Quarterly net income (loss) attributable to the owner of the parent company	161,330,977,490	153,331,330,706	87,058,306,923
Quarterly net income (loss) attributable to non-controlling interests	23,936	72	4,936
Attribution of total comprehensive income			
Comprehensive income attributable to owners of the parent company	145,211,502,770	159,832,264,260	74,663,825,256
Comprehensive income attributable to non-controlling interests	145,211,478,834	72	-157,114
Earnings per share			
Basic earnings per share (Unit: KRW)	3,585	3,407	1,935
Diluted earnings per share (Unit: KRW)	3,585	3,407	1,935

(Unit: KRW)

### **Economic Performance**

### **Financial Statement**

### Consolidated Statement of Changes in Equity

					Equity		
		Capital att	ributable to the ov	wners of the pa	rent company		
Category		Capital	Retained earnings	Other capital components	Total capital attributable to the owners of the parent company	Non-controlling interest	Total capital
2018.01.01 (capital at the begin	nning)	9,000,000,000	896,758,027,041	-683,944,020	905,074,083,021	228,254	905,074,311,275
Adjustment for initial application	on of IFRS 1109 (after tax)	0	380,479,386	-380,479,386	0	0	(
Adjusted amount		9,000,000,000	897,138,506,427	-1,064,423,406	905,074,083,021	228,254	905,074,311,27
Changes in comprehensive income	Net income	0	161,330,953,554	0	161,330,953,554	23,936	161,330,977,49
Other comprehensive income not subsequently reclassified to profit or loss	Remeasurement component of net defined benefit liability	0	-16,101,141,152	0	-16,101,141,152	0	-16,101,141,15
Other comprehensive income that may subsequently reclassified to profit or loss	Gain or loss on overseas operations translation	0	0	-18,333,568	-18,333,568	0	-18,333,56
Transactions with shareholders recognized directly in equity	Dividend	0	-66,150,000,000	0	-66,150,000,000	0	-66,150,000,00
2018.12.31 (capital at the yeare	end)	9,000,000,000	976,218,318,829	-1,082,756,974	984,135,561,855	252,190	984,135,814,04
2019.01.01 (capital at the begin	nning)	9,000,000,000	976,218,318,829	-1,082,756,974	984,135,561,855	252,190	984,135,814,04
Adjustment for initial application	on of IFRS 1109 (after tax)	0	0	0	0	0	
Adjusted amount		0	0	0	0	0	
Changes in comprehensive income	Net income	0	153,331,330,706	0	153,331,330,706	72	153,331,330,77
Other comprehensive income not subsequently reclassified to profit or loss	Remeasurement component of net defined benefit liability	0	6,102,017,505	0	6,102,017,505	0	6,102,017,50
Other comprehensive income that may subsequently reclassified to profit or loss	Gain or loss on overseas operations translation	0	0	398,916,049	398,916,049	0	398,916,04
Transactions with shareholders recognized directly in equity	Dividend	0	-80,550,000,000	0	-80,550,000,000	0	-80,550,000,00
2019.12.31 (capital at the yeare	end)	9,000,000,000	1,055,101,667,040	-683,840,925	1,063,417,826,115	252,262	1,063,418,078,37
2020.01.01 (capital at the begin	nning)	9,000,000,000	1,055,101,667,040	-683,840,925	1,063,417,826,115	252,262	1,063,418,078,37
Adjustment for initial application	on of IFRS 1109 (after tax)	0	0	0	0	0	
Adjusted amount		0	0	0	0	0	
Changes in comprehensive income	Net income	0	87,058,306,923	0	87,058,306,923	4,936	87,058,311,85
Other comprehensive income not subsequently reclassified to profit or loss	Remeasurement component of net defined benefit liability	0	-12,401,540,660	0	-12,401,540,660	0	-12,401,540,66
Other comprehensive income that may subsequently reclassified to profit or loss	Gain or loss on overseas operations translation	0	0	7,058,993	7,058,993	-162,050	6,896,94
Fransactions with shareholders recognized directly in equity	Dividend	0	-86,400,000,000	0	-86,400,000,000	0	-86,400,000,00
2020.12.31 (capital at the yeare	and)	9 000 000 000	1,043,358,433,303	676 701 022	1,051,681,651,371	05 1/10	1,051,681,746,51

### **Consolidated Statement of Cash Flows**

	Category
Cash flow from operating activities	
Net income (loss)	
Adjustment for net income adjustme	ent
Corporate tax	
Interest expense	
Interest income	
Gain or loss on valuation of FVPL f	inancial assets
Gain or loss on disposal of FVPL fir	nancial assets
Net foreign currency translation ga	ain and loss
Loss on disposition of tangible ass	sets
Gain on disposition of tangible ass	sets
Retirement allowance	
Depreciation cost	
Amortization of intangible asset	
Loss on disposition of intangible a	ssets
Impairment loss on intangible ass	ets
Bad debt expense	
Settlement of employee benefit p	rovisions
Provision for litigation	
Reversal of litigation provisions	
Provision for onerous contract	
Reversal of provision for onerous of	contract
Provision for compensation for de	fects
Other provisions	
Reversal of other provisions	
Consignment project research rev	enue
Valuation profit and loss of joint ve	enture investment stoc
Loss on valuation of joint venture	investment stocks
Miscellaneous revenue	
Miscellaneous losses	
Changes in assets and liabilities due	to business activities
Decrease (increase) of trade receiv	ables
Decrease (increase) in unclaimed	construction
Decrease (increase) accounts rece	ivable
Decrease (increase) in advance pa	yment
Decrease (increase) of prepaid cos	t
Decrease (increase) in inventory	
Decrease (increase) in other curre	
Increase (decrease) in trade payab	oles
Increase (decrease) payables	
Increase (decrease) in accrued exp	benses
Increase (decrease) in rental depo	
Increase (decrease) in advance rec	ceived
Increase (decrease) in deposit rece	
Decrease (increase) in other curre	nt non-financial liabiliti
Increase (decrease) in litigation pr	ovisions
Use of provision for compensation	for defects

(Unit: KRW)

			( ,
	2018	2019	2020
	130,092,768,154	160,557,174,818	74,556,838,047
	161,330,977,490	153,331,330,778	87,058,311,859
	155,024,330,461	181,902,466,910	228,664,016,244
	49,169,540,805	45,175,253,248	23,928,450,434
	0	547,087,161	414,432,628
	-6,658,023,936	-7,842,692,238	-6,883,509,801
	128,056,877	-429,534,151	-404,010,118
	0	84,696,453	538,424,119
	-293,662,382	863,300,034	2,566,664,513
	640,345,150	192,993,658	81,225,343
	-719,828,565	-413,658,807	-3,714,412,604
	39,013,999,670	55,629,787,683	44,647,404,471
	36,658,628,011	40,912,083,505	40,235,825,620
	2,845,509,783	2,919,760,241	2,781,603,172
	-16,666,665	0	389,720,389
	0	21,666,660	0
	-1,710,891,250	7,550,319,279	-1,211,838,639
	47,587,839,710	35,140,798,518	94,515,504,255
	68,428,735	2,810,453,856	10,655,660
	-10,347,512,615	-835,312,905	-15,185,380,957
	210,261,000	0	858,560,038
	0	-311,382,969	0
	0	0	18,405,000
	0	0	46,696,685,128
	0	0	-1,266,829,771
	-1,550,769,150	-691,904,652	-224,282,053
(S	-924,717	232,101,178	0
	0	346,651,158	0
	0	0	-139,996,151
	0	0	10,715,568
	-149,297,750,297	-127,415,225,683	-194,672,035,543
	10,657,423,340	3,698,922,874	-20,816,138,981
	-43,654,946,464	-37,214,904,111	-18,235,486,345
	-977,196,297	1,661,481,914	-642,353,269
	13,140,202	-1,748,790,389	672,621,060
	3,973,907,308	1,955,291,650	159,929,126
	226,026,185	-48,787,589	-71,574,253
	-223,347,311	149,183,227	84,408,571
	2,323,591,268	-656,159,666	-3,085,771,855
	-1,604,495,579	-865,910,737	-2,114,144,686
	-4,786,687,307	8,065,498,467	-402,172,251
	3,000,000	0	0
	-5,906,539,069	3,753,892,310	5,085,301,278
	-3,038,381,074	-2,846,795,464	8,102,907,718
es	2,905,715,622	-10,471,117,291	12,944,528,841
	-165,578,518	-8,412,607,849	-31,360,276
	0	0	-18,405,000

### **Economic Performance**

**Financial Statement** 

**Consolidated Statement of Cash Flows** 

Category	2018	2019	2020
Increase (decrease) in employee benefit provisions	-60,049,984,660	-51,523,552,839	-90,312,553,801
Increase (decrease) in other current provisions	-5,661,803	0	-734,000,000
Increase (decrease) in retirement allowance liabilities	-28,311,262,720	-21,353,486,850	-21,294,025,380
Decrease (increase) in plan assets	-20,676,473,420	-11,557,383,340	-63,963,746,040
Decreased (increased) deposit	0	0	(
Interest receipt	3,549,174,209	4,121,563,736	5,454,458,335
Interest payment	0	-547,087,161	-127,424,585
Payment of corporate tax	-40,513,963,709	-50,835,873,762	-51,820,488,263
Cash flows from investing activities	-123,677,096,475	-88,660,682,238	27,046,726,697
Increase in short- and long-term financial products	-517,484,525,664	-349,888,767,045	-218,067,159,450
Increase in FVPL financial assets	0	-70,488,275,346	-193,664,627,200
Decrease in short- and long-term financial products	437,638,575,680	294,555,738,282	324,326,694,810
Decrease in FVPL financial assets	0	63,717,909,588	163,560,096,389
Acquisition of AC financial assets	-29,600,000	-35,490,000	-115,650,000
Disposition of AC financial assets	554,645,000	844,280,000	237,740,000
Acquisition of public bonds	0	0	(
Disposition of public bonds	0	0	(
Increase in loan	-12,750,563,822	-12,604,692,438	-31,810,330,284
Decrease in loan	11,108,388,196	10,515,075,486	25,895,724,266
Decrease in investment stocks in associates	41,446,800	0	(
Increase in deposit	-23,270,250,000	-29,717,815,594	-16,991,971,560
Decrease in deposit	27,295,268,404	35,047,907,317	19,863,000,000
Receiving (reimbursing) government subsidies	1,870,433,052	490,576,398	352,863,732
Acquisition of tangible assets	-48,352,432,915	-28,846,605,106	-49,535,134,517
Disposition of tangible assets	1,428,565,493	531,250,440	5,537,364,477
Acquisition of intangible assets	-1,727,046,699	-2,781,774,220	-2,541,883,960
Cash flows from financing activities	-66,150,000,000	-83,797,673,493	-90,152,292,034
Dividend payment	-66,150,000,000	-80,550,000,000	-86,400,000,000
Repayment of lease liabilities	0	-3,247,673,493	-3,752,292,034
Net increase or decrease in cash and cash equivalents before the effect of exchange rate fluctuations is reflected	-59,734,328,321	-11,901,180,913	11,451,272,710
Exchange rate fluctuation effect	120,161,364	-293,829,515	-2,295,498,473
Net increase or decrease in cash and cash equivalents	-59,614,166,957	-12,195,010,428	9,155,774,237
Cash and cash equivalents at the beginning	98,075,644,874	38,461,477,917	26,266,467,489
Cash and cash equivalents at the yearend	38,461,477,917	26,266,467,489	35,422,241,720

### Distribution of Economic Value

Category	Unit	2018	2019	2020
Financial cost (creditor)		6,653	7,290	6,466
Rent (lessor)	KRW million	27,528	20,339	22,834
Taxes and dues (government)	KRW Million —	3,464	3,662	4,116
Shareholder-related dividends		80,550	86,400	51.570

### **Research and Development**

	Category	Unit	2018	2019	2020
R&D personnel		Person	168	149	152
R&D costs		KRW million	17,887	25,502	27,093
R&D / sales ratio		%	2.25	2.05	2.09

### Society

### Personnel

Category	Item	Unit	2018	2019	2020
Devenenant	General permanent employees		5,965	6,371	6,350
Permanent	Indefinite term contract employees		9	0	0
Temporary			225	256	231
· ·	Male	Person —	5,686	5,840	5,800
	Female		288	531	550
Gender	Female manager		21	24	33
	Female manager ratio	%	2.3	2.6	3.5
	Female outside director ratio	%0	25	20	20
By age	Less than 30		771	1,086	1,045
	30 or more ~ Less than 50	Person	3,189	3,329	3,379
	50 or more		2,005	1,956	1,926

### Recruitment and retirement status

Category	Item	Unit	2018	2019	2020
Total new recruitment			477	713	386
	Female		65	280	68
	Local talents		82	158	85
Each recruitment	Disabled	Person	3	4	2
	High school graduates		171	114	102
	Patriots and veterans		9	14	11
Retirement status			271	288	358

### Wage Ratio

### Category Female wage ratio in comparison with male<sup>1)</sup>

1) Trend of increase / decrease of difference in average salary amount of male and female

### **Education Training**

Category	Unit	2018	2019	2020
Total number of people in education (overlapping accumulated total)	Person	25,466	27,262	28,626
Education hour per person	Hour / person	66.8	67.5	54.7
Education costs per person	KRW million / person	1.42	1.54	1.12
Human rights education hour	Hour / person	5	8	8

### **Operation of Maternity Protection System**

Category	
Leave before and after the child birth	
Subfertility leave	
Reduced working-hour system for childcare	
Return rate after paternity leave (male / female)	
Return rate after paternity leave (male / female)	

Unit	2018	2019	2020
%	70.05	71.43	57.47

Unit	2018	2019	2020
	14	16	13
Person	0	2	2
	5	6	3
%	95	98	98

### Society

Parental Leave

Category	Item	Unit	2018	2019	2020
	Total		1,359	1,361	1,347
Number of employees with rights of paternity leave (a)	Male		1,307	1,291	1,260
	Female		52	70	87
	Total		43	74	84
Number of employees granted with paternity leave (b)	Male		21	43	52
	Female	Derreen	22	31	32
Number of returned employees after the completion of parental leave (c)	Total	Person	42	73	83
	Male		20	42	51
	Female		22	31	32
	Total		41	73	81
Number of returned employees working for 12 months after the completion of parental leave (d)	Male		19	42	49
after the completion of parental leave (u)	Female		22	31	32
	Total rate		98	99	99
Return rate of employee granted with parental leave (c / b)	Male		95.2	97.7	98.1
	Female		100	100	100
	Total rate		95	99	96
Among the employee with parental leave, rate of employee, who worked for more than 12 months (d / b)	Male		90.5	97.7	94.2
who worked for more than 12 months (0 / D)	Female		100	100	100

### **Collective Agreement**

Category	Unit	2018	2019	2020
Number of persons in subject of joining the labor union	Person	4,686	5,149	5,095
Joining rate of labor union	%	100	100	100

### Safety Health

Category Item		Unit	2018	2019	2020
	Accident rate	%	0.122	0.126	0.088
Employees	Death rate per 10,000 workers	%00	1.52	0	0
Employees	LTIFR <sup>1)</sup>	Cases / KRW million	0.635	0.656	0.462
	OIFR <sup>2)</sup>	%	0.060	0.062	0.060
	Accident rate	%	0.048	0	0.052
Deuteneu Componies	Death rate per 10,000 workers	‰o	4.80	0	0
Partner Companies	LTIFR	Cases / KRW million	0.77	0	0.27
	OIFR	%	0	0	0
Number of industrial accidents		Case	9	7	8

1) LLost Time Injury Frequency Rate

2) Occupational Illness Frequency Rate = Number of case of occupational illness X 1,000,000 / total working hour
 \* In case of LTIFR / OFIR in subject of employees, an application & approval of industrial accident is possible for 3 years after the occurrence of accident, so upon the application & approval on the case occurred in the past, it would be included as an industrial accident of relevant year, so the number would be fluctuated.

### **Social Contribution**

Category	Unit	2018	2019	2020
Contribution (expenditure)	KRW 100 million	14	20	30
Volunteering hours of employees	Hour	99,902	83,446	69,729
Number of employees for volunteering	Person	27,231	23,508	19,555

Category	Unit	2018	2019	2020
Number of personal information infringement <sup>3)</sup>	Case	0	0	0

Personal information protection status

3) Violation cases of legislations (including fair trade, tax investigation, and rebate) related to the society such as product safety, industrial safety, health, etc.

### Environment

Greenhouse Gas Emission and Intensity

	Category	Unit	2018	2019	2020
Scope 1			2,178	2,372	2,777
Scope 2		tCO <sub>2</sub> -eq	3,617	3,472	3,935
Scope 1+2			5,795	5,844	6,712

### **Energy Consumption**

Category	ltem	Unit	2018	2019	2020
	Fuel purchase and consumption		1,129	1,006	1,091
	Electricity purchase		5,158	5,059	4,837
Non-renewable energy	Purchase of other energy such as steam, heating, cooling, etc.	 MWh	14.5	11.6	10.9
	Total consumption	Mivin –	6,302	6,077	5,939
Renewable energy	Total renewable energy purchase and production		530	542	285
Total energy consumption			6,832	6,619	6,224

### Water Consumption

Category	Unit	2018	2019	2020
Water consumption	Ton	28,632	25,329	27,567

### Waste Generation

Category	Unit	2018	2019	2020
Total waste generated		61.6	59.9	68.2
Total waste usage, recycling, and sales	Ton	36.9	35.9	43.5
Total amount of waste		24.7	24.0	24.7

### **Green Product Purchase**

Category	ltem	Unit	2018	2019	2020
Entire product	Purchase amount	KRW million	3,048	6,929	6,897
Crean product	Purchase amount	KRW million	2,654	6,359	6,037
Green product	Purchase ratio	%	87.1	91.8	87.5

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### **Chapter 1 General Provisior**

Article 1 (Scope of Application) This Code of Conduct (hereinafter "Code") sets forth the standards of conduct for companies to prevent corruption and create a transparent corporate culture, and applies to KEPCO KPS Co., Ltd. (hereinafter "KEPCO KPS" or the "Company"), its partner companies and their employees, agents, and subcontractors (hereinafter "Partner Companies").

#### Chapter 2 Fair Job Performane

Article 2 (Attitude toward Job Performance) Partner Companies shall faithfully comply with the standards set forth herein, and encourage their employees, agents, and subcontractors to do the same.

Article 3 (Submission of Integrity Pledge Documents) Companies that wish to be registered as a Partner Company of KEPCO KPS under its "Operational Guidelines Regarding Partner Companies" shall, under all circumstances, submit the "Pledge of Compliance with the Code of Conduct for Partner Companies of KEPCO KPS" (Annex No. 1).

Article 3-2 (Reporting of Relationships of Personal Interest, etc.)

- (1) An employee of KEPCO KPS and any stakeholder whose job duties fall under any one of the following subparagraphs shall report the same in writing (including via electronic document; hereinafter the same) to the head of division in charge of the Code in accordance with Annex No. 2; Provided, however, that this shall not apply if the duty concerned is one of simple civil petition services designated by the Company on the grounds that fair job performance may be unaffected by such relationship:
- 1. Where a duty-related party is a relative within the fourth degree of relationship (relative under Article 767 of the Civil Act) of an employee of KEPCO KPS;
- 2. Where a duty-related party is a legal person or organization in which an employee of KEPCO KPS has worked within the past two years;
- 3. Where a duty-related party is a legal person or organization in which an employee of KEPCO KPS or his/her family member (family member under Article 779 of the Civil Act: hereinafter the same) is employed as an employee or an outside director:
- 4. Where an employee of KEPCO KPS or his/her family member is an agent of the dutyrelated party, provides consultation, advice, etc. to the duty-related party, or is affiliated with a legal person or organization that performs such agency, consultation, advice, etc.; or
- 5. Where an employee of KEPCO KPS or his/her family member is a legal person or organization that owns stocks, shares, capital, etc. of the ratio set forth in the
- following subparagraphs (hereinafter "special interest business operator"): A. Where 30% or more of the total issued stocks of a business operator are owned by the employee him/herself or his/her family member
- B. Where 30% or more of the total contributed shares of a business operator are owned by the employee him/herself or his/her family member; or
- C. Where 50% or more of the total capital of a business operator is owned by the employee him/herself or his/her family member
- 6. Where the duty-related person has had monetary transactions of KRW 3 million or more with an employee of KEPCO KPS;
- 7. Where the duty-related person has worked in the same department for five years with a retired employee of KEPCO KPS prior to his/her retirem
- 8. Where the duty-related person is deemed unfit for fair job performance due to continuous relationship with an employee of KEPCO KPS such as personal ties through school, hometown, religion, work, or colleagueship, etc.; or
- 9. Where the duty-related person is deemed unfit for fair job performance due to continuous relationship with an employee of KEPCO KPS since performing job duties such as decision-making or execution relating to licensing, contracts, policies, or business projects within the past two years, from which KEPCO KPS has directly benefitted.
- (2) In the case where a duty-related person or any person who has personal interests relating to job performance by an employee of KEPCO KPS falls under any one of the following subparagraphs, he/she may request measures such as re-allocation of job duties, etc., in writing in accordance with Annex 3, to the Code of Conduct manager.

#### Chapter 3 Ethical Standard

Article 4 (Restriction of Provision of Money and Other Valuables, Entertainment, Etc.) Employees of Partner Companies shall not provide any money and other valuables or entertainment of any kind to employees of KEPCO KPS.

Article 5 (Prohibition of Improper Mediation or Solicitation) Employees of Partner Companies shall not engage in improper mediation or solicitation that may hinder fair job performance by employees of KEPCO KPS.

Article 6 (Prohibition of Fair Trade Violations) Employees of Partner Companies shall not engage in bid rigging or illegal subcontracting with third parties.

Article 7 (Restriction of Illegal Conduct Using Information Relating to Job Duties) Employees of Partner Companies shall not leak internal information of KEPCO KPS or use such information to engage in profit-seeking activities such as stock investm

### Chapter 4 Social Standards

Article 8 (Entertainment Expense Limit) Entertainment may be provided within the limit of KRW 30,000 per person when inevitable in the course of performing one's duties, in which case provision of cash shall not be permitted

Article 9 (Establishment of a Sound Culture Regarding Congratulatory and Condolatory Events) Money and other valuables regarding congratulatory and condolatory events of KEPCO KPS employees shall not exceed the limit set forth in the Improper Solicitation and Graft Act.

Article 10 (Limitation of Golf and Speculative Entertainment Activities) Employees of Partner Companies shall not engage in golf or speculative entertainment activities (gambling, etc.) with employees of KEPCO KPS.

Article 11 (Limitation of Employment of Former KEPCO KPS Employees at Partner Companies, Etc.)

- (1) Partner Companies shall not employ any retired executives, or level-2 or higherranking employees of KEPCO KPS in the nuclear field, for a period of three (3) years wing the date of resignation (or in the case of public officials obliged under the Public Service Ethics Act to register their property, the date on which they were exempt from such obligation of property registration); Provided, however, that such shall not be the case when the said person has received the authorization of the Public Service Ethics Committee in the relevant jurisdiction.
- ② A Partner Company that has employed any retired executives, or level-2 or higher ranking employees of KEPCO KPS in the nuclear field after the period set forth in Paragraph (1) shall notify KEPCO KPS of the same within one (1) month of the employment date

Article 12 (Prohibition of Illegal Labor) Employees of Partner Companies shall not be provided with labor in violation of domestic or international laws

Article 13 (Environmental Protection) Employees of Partner Companies shall comply with the laws and international standards related to environmental protection.

### Chapter 5 Measures in Case of Violations, Etc

Article 14 (Reporting of Violations) Partner Companies shall provide education to their employees regarding this Code in order to create a transparent corporate culture, and report any violations they find in the course of performing their contracts to the Code of Conduct violation reporting website of the Anti-corruption and Civil Rights Commission (www.acrc.go.kr) or the sinmungo(e-petition board) on the KEPCO KPS website (www.kps.co.kr).

Article 15 (Measures in Case of Violations)

- ① KEPCO KPS may apply any one or more of the following items pursuant to its internal regulations upon any Partner Company that has violated Chapter 3 "Ethical
- Standards" or Articles 8 and 9 under Chapter 4 "Social Standards" of this Code: 1. Revocation of the status as a registered Partner Company or suspension of
- effect pursuant to Article 19.3 of the Operational Guidelines Regarding Partner Companies: 2. Cancellation or termination of contract upon deliberation of the Contract
- Deliberation Committee;
- 3. Reduction of points for violation of the Code of Conduct under the "reputation evaluation" item in eligibility evaluation pursuant to Article 100 (Determination of Successful Bidder in Competitive Tender) of the Contract Management Regulations: or
- 4. Restriction on eligibility for participation in tender for persons who have provided money and other valuables pursuant to Article 10 (Restriction on Eligibility for Participation in Tender for Improper Business Persons) of the Contract Management Regulations.
- (2) KEPCO KPS may apply the following sanctions against any Partner Company that has violated Article 11.1 of this Code pursuant to its internal regulations upon deliberation of the Partner Company Deliberation Committee:
- 1. Revocation of the status as a registered Partner Company or suspension of effect pursuant to Article 19.3 of the Operational Guidelines Regarding Partner Companies; or
- 2. Reduction of points for violation of the Code of Conduct under the "reputation evaluation" item in eligibility evaluation pursuant to Article 53 (Determination of Successful Bidder in Competitive Tender) of the Contract Management Regulations.

\* Revised on May 24, 2018 (8<sup>th</sup> revision)

### **UN Global Compact Principles**

### UNGC

Since signing the UN Global Compact, an international initiative based on corporate commitments to fulfill social responsibilities, KEPCO KPS has upheld its ten principles in four areas of human rights, labor, environment, and anti-corruption. We submit a Communication on Process (COP) on our actions each year, and plan to continue relevant activities in support of the UNGC principles.

Category	Principles	Pages
	Businesses should support and respect the protection of internationally proclaimed human rights; and.	78-79
Human Rights	2 Make sure that they are not complicit in human rights abuses.	78-79
	③ Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	78-79, 91
Labara	The elimination of all forms of forced and compulsory labour;	78-79, 91
Labor	S The effective abolition of child labour; and	78-79, 91
	6 The elimination of discrimination in respect of employment and occupation.	60-61
	Businesses should support a precautionary approach to environmental challenges;	52-57
Environment	③ Undertake initiatives to promote greater environmental responsibility; and	52-57
	Encourage the development and diffusion of environmentally friendly technologies	52-57
Anticorruption	igodot Businesses should work against corruption in all its forms, including extortion and bribery.	80-81

### **UN Sustainable Development Goals**

The UN 2030 Agenda for Sustainable Development contains 17 Sustainable Development Goals (SDGs) and 169 targets to guide the international community in order to overcome various issues between 2016 and 2030. The SDGs call upon governments, businesses and institutions to work together in resolving universal issues relating to poverty, diseases, education, women and children; environmental issues including climate change and water; as well as economic and social issues such as technology, living, employment and consumption. By developing various tasks to achieve the SDGs, we are striving to generate economic values as a company, and contribute to sustainable and equitable development of the international community.

	SDGs	KEPCO KPS' Activities	Pages
1 <sup>10</sup> 1507 <b>1:11 1:1</b>	1 No Poverty	<ul> <li>KPS-CARE support</li> <li>Implementation of financial support program</li> </ul>	71
3 RODUKATH ANDWELLEENS 	3 Good Health and Well-being	Free provision of residential treatment center	38, 70
	4 Good Quality Education	Support of Green Smart School, KPS-Faraday School	71
5	5 Gender Equality and Women Empowerment	<ul> <li>Support the recruitment of female with career breaks</li> <li>Survey on the level of awareness of gender equality</li> </ul>	61,64
	7 Affordable and Clean Energy	Support of "light sharing" panel	71
8 ECCREME CONTR	8 Decent Work and Economic Development	<ul> <li>Creation of jobs for youth</li> <li>Conversion for contingent workers to permanent employees through KPS Partners</li> </ul>	38, 60-61
13 contre The second se	13 Climate Action	<ul> <li>Renewable energy power generation business</li> <li>Low carbon conversion business</li> </ul>	54-55



### United Nations Global Compact



## **GRI Standards Index**

### Universal Standards (GRI 100)

TOPIC	No.	Standard Item	Pages	Note
	102-1	Name of organization	1,102	
	102-2	Activities, brands, products, and services	7, 12-27	
	102-3	Location of headquarters	6	
	102-4	Location of operations	7	
	102-5	Ownership and legal form	6-7	
	102-6	Markets served	7, 12-27	
Organizational profile	102-7	Scale of organization	6-7	
prome	102-8	Information on employees and other workers	91	
	102-9	Supply chain	7, 12-27	
_	102-10	Significant changes to organization and supply chain	-	No significant change
	102-11	Precautionary principle or approach	78-79, 94	
	102-12	External initiatives	95	
	101-13	Membership of associations	101	
Strategy	102-14	Statement from senior decision-maker	4-5	
Ethics and	102-16	Values, principles, standards, and norms of behavior	80	
integrity	102-17	Mechanisms for advice and concerns about ethics	80-81	
	102-18	Governance structure	74-76	
	102-22	Composition of the highest governance body and its committees	74-75	
Governance	102-23	Chair of the highest governance body	74-75	
_	102-24	Nominating and selecting the highest governance body	74-76	
	102-30	Effectiveness of risk management processes	82-83	
	102-40	List of stakeholder groups	77	
	102-41	Collective bargaining agreements	91	
Stakeholder —	102-42	Identifying and selecting stakeholders	77	
engagement	102-43	Approach to stakeholder engagement	46, 77	
	102-44	Key topics and concerns raised	47	
	102-45	Entities included in the consolidated financial statements	-	Annual Report
_	102-46	Defining report content and topic boundaries	46-47	
	102-47	List of material topics	47	
_	102-48	Restatements of information	-	No Restatements
_	102-49	Changes in reporting	2	GRI Standards
Reporting	102-50	Reporting period	2	
practice	102-51	Date of most recent report	-	Website
—	102-52	Reporting cycle	2	
	102-53	Contact point for questions regarding the report	2	
	102-54	Claims of reporting in accordance with the GRI Standards	2	
	102-55	GRI Index	96-97	
	102-56	External assurance	98-99	
	103-1	Explanation of the material topic and its Boundaries	46-47	
Management —	103-2	The management approach and its components	63	
Approach	103-3	Evaluation of the management approach	63	

### **Topic Specific Standards**

Economic Standards (GRI 200)

TOPIC	No.	Standard Item	Pages	Note
Economic	201-1	Direct economic value generated and distributed	7, 71, 86-90	
performance	201-2	Financial implications and other risks and opportunities due to climate change	52-53	
Indirect economic impacts	203-1	Infrastructure investments and services supported	70-71	
Anti-	205-1	Operations assessed for risks related to corruption	65	
corruption	205-2	Communication and training about anti-corruption policies and procedures	80-83, 94	

### Environment Standards (GRI 300)

TOPIC	No.	Standard Item	Pages Note
	302-1	Energy consumption within the organization	93
Energy	302-2	Energy consumption outside of the organization	93
	302-4	Reduction of energy consumption	56,93
Water	303-3	Water recycled and reused	57,93
	305-1	Direct (Scope 1) GHG emissions	53
Emissions	305-2	Indirect (Scope 2) GHG emissions	53
	305-5	Reduction of GHG emissions	53
Effluents and	306-3	Significant spills	57,93
Waste	306-4	Transport of hazardous waste	56-57, 93

### Social Standards (GRI 400)

TOPIC	No.	Standard Item	Pages	Note
Freedownerst	401-1	New employee hires and employee turnover	91	
Employment —	401-3	Parental leave	92	
	403-2	Hazard identification, risk assessment, and incident investigation	92	
Operational — — — — — — — — — — — — — — — — — — —	403-5	Worker training on occupational health and safety	68-69	
	403-6	Promotion of worker health	69	
Training and education	404-1	Average hours of training per year per employee	91	
Diversity and equal opportunity	405-1	Diversity of governance bodies and employees	75	
Human rights assessment	412-2	Employee training on human rights policies or procedures	79,81-83	
Local communities	413-1	Operations with local community engagement, impact assessments, and development programs	70-71	
Customer health and safety	416-1	Assessment of health and safety impacts of product and service categories	68-69	
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	66-67,92	

### Independent Assurance Statement

KOREAN SOCIETY OF STRATEGIC MANAGEMENT was commissioned by KEPCO KPS to conduct an independent assurance of its Sustainability Report 2019-2020 (the "Report"). The data and its presentation in the Report is the sole responsibility of the management of KEPCO KPS. KOREAN SOCIETY OF STRATEGIC MANAGEMENT has responsibility to provide an opinion of independent assurance in accordance with scope of assurance, based on standard, methodology and limitations stated in this Assurance Statement.

### **Scope and Standards**

This assurance was based on the AA1000AS v3 Assurance Standard. Our assurance team evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact, and we providing a Type 1, moderate level assurance. We also evaluated the reliability of the information and data provided using the Global Reporting Initiative (GRI) Index provided below.

### GRI Sustainability Reporting Standards

### Universal standards

Organizational Profile(102-1 to 13), Strategy(102-14), Ethics and Integrity(102-16, 17), Governance(102-18, 22, 23, 24, 30), Stakeholder Engagement(102-40 to 44), Reporting practice(102-45 to 56), Management Approach(103-1 to 3)

### Topic specific standards

Economic: 201-1, 2, 203-1, 205-1, 2
Environmental: 302-1, 2, 4, 303-3, 305-1, 2, 5, 306-3, 4
Social: 401-1, 3, 403-2, 5, 6, 404-1, 405-1, 412-2, 413-1, 416-1, 418-1

As for the reporting boundary, the engagement excludes the data and information of KEPCO KPS' partners, suppliers and any third parties.

### **Assurance Process and Limitations**

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, KOREAN SOCIETY OF STRATEGIC MANAGEMENT's Assurance Team reviewed the overall Report and materiality assessment methodology. We reviewed the evidence to support the material issues through interviewed people in charge of preparing the Report. We evaluated the reliability of the Report's performance data and conducted data sampling. Our assurance engagement is based on the assumption that the data and information provided by KEPCO KPS to us as part of our review are provided in good faith. To address this, we referred to independent external sources and public databases to challenge the quality and reliability of the information provided.

### Independence and Competency

The assurance team was organized in accordance with KOREAN SOCIETY OF STRATEGIC MANAGEMENT's internal regulations. KOREAN SOCIETY OF STRATEGIC MANAGEMENT has no conflict of interest which could threaten the independence and impartiality of verification, other than providing third-party audit services in KEPCO KPS business.

### Conclusion

We found that the Report applied the Core Option of the GRI Standards and nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

### Inclusivity

KEPCO KPS is actively identifying stakeholders and developed different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization is enabling stakeholder's participation in establishing an organization's material sustainability topics, and the developing strategic countermeasures.

### Materiality

KEPCO KPS has conducted the materiality assessment to prepare the Report. 'Business impact' such as peer review, international standards, internal strategy and 'stakeholder interest' are considered during the materiality assessment, issue pools were used on internal and external stakeholder survey to rate the material topics and 10 material topics are prioritized accordingly. We have not found any material topics left out in the process.

### Responsiveness

KEPCO KPS has established a communication process with stakeholders to respond to the needs, interests, and expectations of stakeholders that affect sustainability performance. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of KEPCO KPS' actions.

### Impact

KEPCO KPS identifies and monitors the direct ar extent possible.

### **Recommendation for improvement**

We recommend KEPCO KPS to entail more diverse stakeholder groups to take into account their interests in a timely manner.



KEPCO KPS identifies and monitors the direct and indirect impacts of material topics of stakeholders, and reporting them to the

Korean Society of Strategic Management President **Kim, Yang Min** 

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# Major Awards

# Memberships and Associations

2016	2016.02.	Grand Prize in the Public Enterprise Sector at the Korea Ethics Management Award
	2016.09.	1 <sup>st</sup> Place in Power Generation Facility Maintenance Service Sector by Korea Standard-Quality Excellence Index (KS-QEI) (5 consecutive years)
	2016.10.	Korea Financial Management Grand Prix, Best Public Enterprise Financial Structure Award (3 Consecutive Years)
	2016.10.	Sector Leader in "Commercial Service and Supply Industry" by DJSI Korea (8 Consecutive Years)
	2016.11.	Excellent Quality Competitiveness Enterprise (18 Consecutive Years)
	2016.12.	Grand Prize at "Korea's Best Workplace"
	2016.12.	Grade 1 in Public Enterprise Integrity Evaluation
2017	2017.04.	ISO 37001 Certified for Anti-bribery Management System (First Time in Korea)
	2017.07.	Certified as a Korea Service Quality Enterprise
	2017.09.	1 <sup>st</sup> Place in Power Generation Facility Maintenance Service Sector by Korea Standard-Quality Excellence Index (KS-QEI) (6 consecutive years)
	2017.10.	Korea Financial Management Grand Prix, Best Public Enterprise Financial Structure Award (4 Consecutive Years)
	2017.10.	Sector Leader in "Commercial Service and Supply Industry" by DJSI Korea (9 Consecutive Years)
	2017.11.	Excellent Quality Competitiveness Enterprise (19 Consecutive Years)
	2017.12.	Leader in Disaster Safety Management in 2017
	2017.12.	Grand Prize at the 12 Korea Social Contribution Award
2018	2018.09.	Certified as a Best Human Resource Development Institution in the Public Sector in 2018
	2018.09.	No. 1 in Korea Standard-Quality Excellence Index (KS-QEI) (7 Consecutive Years)
	2018.10.	Gold Award at the International Convention on Quality Control Circles (ICQCC)
	2018.10.	Sector Leader in "Commercial Service and Supply Industry" by DJSI Korea (10 Consecutive Years)
	2018.12.	Grand Prize at the 13 Korea Ecological Architecture and Environment Award, Architecture Section (Human Resource Development Center)
2019	2019. 05.	Certified for occupational safety and health management system (ISO 45001) and quality management system (ISO 9001)
	2019.10.	No. 1 in Korea Standard-Quality Excellence Index (KS-QEI) (8 Consecutive Years)
	2019.10.	Sector Leader in "Commercial Service and Supply Industry" by DJSI Korea (11 Consecutive Years)
	2019.11.	Selected as 1 <sup>st</sup> grade company with excellent quality competitiveness
	2019. 12.	Achieved 'Excellent' (Grade 2) in the 2019 Public Enterprise Integrity Evaluation
2020		
2020	2020. 02.	Received the Excellence Award in the conglomerate category at the Korea Labor-Management Cooperation Awards
	2020.10.	No. 1 in Korea Standard-Quality Excellence Index (KS-QEI) (9 Consecutive Years)
	2020.11.	Selected as 1st grade company with excellent quality competitiveness
	2020. 12.	Sector Leader in "Commercial Service and Supply Industry" by DJSI Korea (12 Consecutive Years)

Category	Name of Society / Association	Date	Purpo Membe	
	Korea Energy Foundation	1985.01.18.		
	Korean Institute of Electrical Engineers	2003. 03. 03.		
Power group (9)	Korea Electric Association	1984.08.17.		
	Korean Nuclear Society	1984.11.01.	KEPCO	
	Korea Project Management Association	1992. 04. 24.		
	Korea Academy of Nuclear Safety	2003.07.02.		
	Korea Atomic Industrial Forum	1984.07.11.		
	Korea Nuclear Association for International Cooperation	2011.04.21.		
	Korea Power Plant Maintenance Association	2008.01.02.		
	Korean Radioactive Waste Society	2018.01.24.	-	
	Korean Society for Nondestructive Testing	1985.01.04.		
	Korea Association of Standards & Testing Organizations	1995. 03. 08.		
Business performed	Korean Society of Mechanical Engineers	2017.06.13.	 qualifica mainta businessfounda	
	Korea Cogeneration Association	1996. 07. 25.		
	Korea District Heating & Cooling Association	2004. 10. 28.		
	Korean Welding and Joining Society	2012. 03. 22.		
	Korean Society for Noise and Vibration Engineering	2007.09.20.		
	International Contractors Association of Korea	1995. 04. 29.		
	Korea Wind Energy Industry Association	2018. 02. 26.		
	Korea Smart Grid Association	2016. 02. 12.		
(33)	Korea New and Renewable Energy Association	2005. 12. 27.		
	Korean Association for Radiation Application	1986.01.18.	-	
	Korean Society of Pressure Vessels and Piping	2004. 12. 29.	-	
	Korea Institute of Nuclear Industry Promotion	2019. 05. 16.	Suppo soci develop	
	Korea Water Power Industry Association	2019.06.17.		
	CIGRE KOREA	2004.03.11.	Mainta qualifica	
	Korea Railway Electrification Technical Association	2015. 03. 25.	mainta business- founda	
	Korea Railway Signal Engineering Association	2018.04.13.	Jounda	
	Conference of KNQA Winners	2016. 03. 02.	Suppo	
	Korean Society of Quality Management	2017.02.22.	soci develop	

ose of ership	Category	Name of Society / Association	Date	Purpose of Membership
	Business performed (33)	Korea Mech. Const. Contractors Association	1993.01.09.	Business license
		Korea Specialty Contractors Association	1999.07.31.	
		Korea Electrical Contractors Association	1985. 04. 29.	
		Korea Fire Facility Association	2001. 12. 07.	
) Group		Korea Engineering & Consulting Association	1993. 08. 05.	
		Korea International Trade Association	1994.08.08.	
		Electric Contractors' Financial Cooperative	1990. 12. 26.	
		Korea Facilities Construction Financial Cooperative	1992.09.08.	
		Engineering Guarantee Insurance	1993. 08. 05.	
		Korea Specialty Contractor Finacial Cooperative	2000.06.13.	
		Korea Electric Engineers Association	1997.09.05.	
		Fire Guarantee	2010. 12. 30.	
	Manage- ment (18)	Ethical Management CEO Club	2006.09.12.	Support for social development
		Korean Academy of Organization and Management	2020. 11. 12.	
		Korean Association for Public Enterprises	2017.06.22.	
aining		Korean Association for Public Administration	2017.06.30.	
ications, Itaining		UN Global Compact Network Korea	2007.09.17.	
s-related ations		Management Accounting Association of Korea	2009.06.02.	
		Jeonnam Employers Federation	2019. 10. 28. (rejoin)	
		Women Interested in Energy	2015.06.12.	
		Korean STANDARDS ASSOCIATION	1991.03.10.	
		Korea Service Management Society	2020.06.01.	
		Korea Trade-Investment Promotion Agency	1994. 08. 08.	Maintaining qualifications maintaining business-relate foundations
		Korea Public Institution Audit Council	2015.03.18.	Support for social
. (		Institute of Internal Auditors Korea	1985. 04. 02.	development
ort for cial opment		Korea Chamber of Commerce & Industry	1984. 04. 01.	Maintaining qualifications maintaining business-relate foundations
aining		Hanbit Energy Policy Forum	2017.01.09.	Support for social development
cations, aining		Korea Investor Relations Service	2011.01.11.	
s-related ations		Korea Listed Companies Association	2007. 12. 27.	Maintaining qualifications maintaining business-relate foundations
cial ppment		Korean Accounting Association	2010. 05. 06.	Support for social development

