

A scenic view of a mountain range with green hills and white clouds. The foreground shows a steep, green hillside with some trees. In the background, more hills are visible, partially obscured by a layer of white clouds. The sky is a pale, hazy blue.

KHNP Way to Sustainability, **TRUST**

2020 KHNP Sustainability Report



KOREA HYDRO & NUCLEAR POWER CO., LTD

About This Report

102-50, 102-51, 102-52, 102-53, 102-54, 102-56

In order to advance to a reliable global energy leader through economic, environmental, and social value creation, Korea Hydro & Nuclear Power Co., Ltd. (KHNP) discloses its sustainability goals and performance, and shares the future values and promises it aims to achieve with its stakeholders by publishing the sustainability report every year. This is KHNP’s eleventh sustainability report. It focuses on how the company’s management has changed and performed since 2019.

Reporting Principles

GRI (Global Reporting Initiative) Standards

Reporting Scope

Head office and all domestic and overseas offices of KHNP

Reporting Period

January 1 - December 31, 2019
(performance in the first half of 2020 partially included)

Reporting Cycle

Annual (previous report published in October 2019)

Assurance

Independent third-party assurance

Inquiry

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An energy leader making life prosperous with eco-friendly energy

KHNP support national economic development and citizens' well-being by stable energy supply

KNHP is reforming as total energy enterprise which building a trust from citizen and public enterprise which lead realization of social value. We work for social benefit and development of community.

About KHNP

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CEO Message

In line with rapidly changing trends in energy, we will expand our new growth businesses and venture into new future businesses based on our competitiveness edge in the field of nuclear power plant to build the foundation to become a company that lasts for millennia.



December 2020
President & CEO **Jae-hoon Chung**
Korea Hydro & Nuclear Power Co., Ltd. (KHNP)

KHNP is a comprehensive company that covers the full spectrum of nuclear power, hydropower and pumped-storage hydropower as well as new and renewable energy. As the largest energy company in Korea, responsible for about 27% of domestic electricity generation, we remain fully committed to making Korea a worry-free nation without any energy-related concerns. With our 11th Sustainability Report this year, we would like to share with you some of the key management directions we are seeking at KHNP.

First, safety is our top priority.

Safe operation of nuclear power plants is of the utmost priority that cannot be stressed enough. To ensure nuclear safety, we strive to build a healthy organization that encourages active communication and voluntary problem-solving among all employees. We are continuing to improve safety throughout all stages involving nuclear power plants—from construction to operation—with state-of-the-art technologies of the Fourth Industrial Revolution, such as big data, AI and IoT. We are also highly invested in managing difficult-to-predict disasters and occupational safety. As a result, we earned the highest grade of A in both the National Disaster Management Evaluation and the Government Evaluation of Disaster Response Training for Safer Korea by the Ministry of the Interior and Safety (MOIS).

Second, we are taking a leap forward to become a global energy company based on our advanced technology.

We are accelerating to expand and enter into overseas markets with our excellent technology in nuclear power plant construction and operation. We have continued to take on challenges in winning bids for overseas plants and engage in business in the maintenance and operations market by successfully carrying out the nuclear power plant construction and operation support project in the UAE as well as the hydropower projects in Nepal and Pakistan. In 2019, we have made preparations to launch the Research Institute for Nuclear Decommissioning and dedicated ourselves to developing technologies for commercializing nuclear decommissioning. We seek to make inroads into different parts of the world and create new added value across various fields, including nuclear power plant projects in the Czech Republic and El Dabaa, Egypt as well as overseas hydropower projects.

Third, we are taking the lead in realizing social values and communicating with our stakeholders.

We are conducting various support projects and social contribution activities to ensure mutual prosperity with local residents in areas where power plants are located and provide substantive support for regional development. We have established local cooperatives in nuclear power plant areas and implemented the “One PV Module Per Village” project, which contributed to revitalizing the local economy. In addition, we are committed to maintaining and advancing the industrial ecosystem by helping small and medium-sized enterprises find channels to sell their products for shared growth in the energy ecosystem, and expanding our support for equipment localization and financing. We will continue to listen to the voices of our stakeholders through various channels and fulfill our corporate social responsibility.

In line with rapidly changing trends in energy, we will expand our new growth businesses and venture into new future businesses based on our competitiveness edge in the field of nuclear power plant to build the foundation to become a company that lasts for millennia. We will reinforce next-generation hydrogen energy projects and rise as a leader in energy that paves the way for low carbon and green growth. In return for the unwavering support given by local residents and citizens alike, we will remain committed to being trusted by the people under the motto “Love KHNP, Wonderful KHNP.”

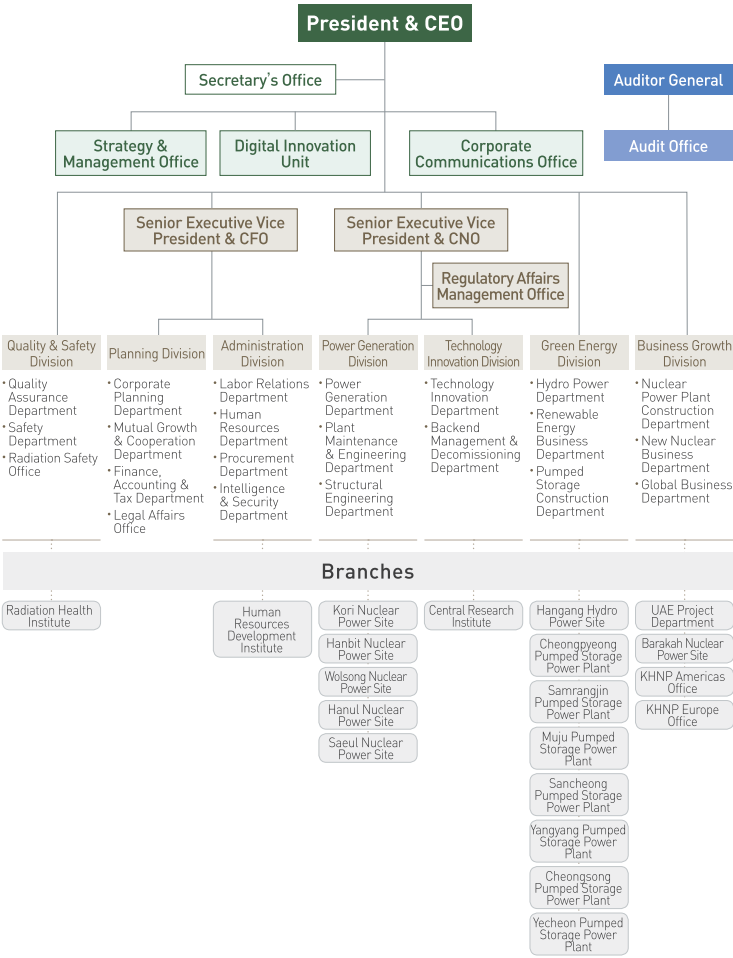
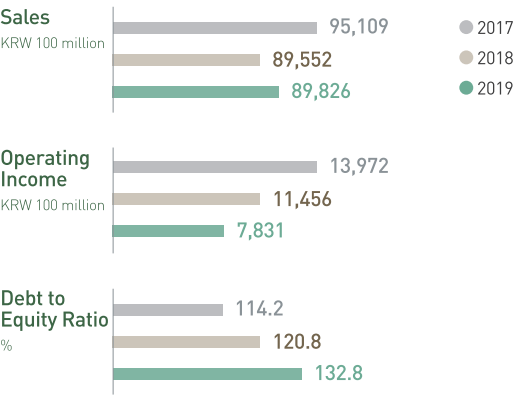
Thank you.

Introduction to KHNP

Korea Hydro & Nuclear Power Co., Ltd. (KHNP) has grown to be Korea’s largest electric power company that generates approximately 27% of the nation’s domestic electricity through its mission of, and pride in, “stable supply of electric power to enrich the lives of the people and to contribute to the growth of the national economy” as a driving force. Since KHNP first began the commercial operation of Kori 1 in April 1978, nuclear power plant-based power supply has been steadily increasing over the last 40 years to the point where three out of ten households in Korea are using electricity generated by nuclear power. KHNP is dedicating efforts to taking a leap towards a general energy supplier that encompasses not only nuclear power, but also a variety of new and renewable energy sources including hydro, pumped-storage, photovoltaic, and wind.

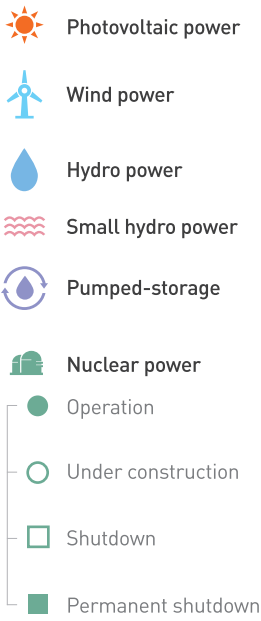
Company Overview

Company Name	Korea Hydro & Nuclear Power Co., Ltd.
Date of Establishment	April 2, 2001
Governing Organization	Ministry of Trade, Industry and Energy
Capital	KRW 1.212 trillion
President & CEO	Chung Jae-hoon
No. of Employees	12,459
Institution Type	Public enterprise
Major Functions	Development of electric power resources, power generation, R&D and affiliated businesses, overseas business
Headquarters	1655, Bulguk-ro, Yangbuk-myeon, Gyeongju-si, Gyeongsangbuk-do, Korea
Organization	[Headquarters] 7 divisions, 20 departments, 1 unit, and 6 offices [Branches] 6 nuclear power sites, 7 pumped-storage power plants, and 7 other branches



Main Businesses

As of December 2019, KHNP is operating 24 nuclear power plants, 36 hydro power/small hydro power plants, 16 pumped-storage power plants, 15 photovoltaic power plants, and one wind power plant. The total facility capacity is 28,590 MW, with the total generation capacity of 150,278 GWh.



History Until 1990

- 1978** Started commercial operation of Kori 1 (the world's 21st nuclear-powered country)
- 1983** Started commercial operation of Wolsong 1 and Kori 2
- 1985** Started commercial operation of Kori 3
- 1986** Started commercial operation of Kori 4 and Hanbit 1
- 1987** Started commercial operation of Hanbit 2
- 1988** Started commercial operation of Hanul 1
- 1989** Started commercial operation of Hanul 2

Until 2000

- 1995** Started commercial operation of Hanbit 3
- 1996** Started commercial operation of Hanbit 4
- 1997** Started commercial operation of Wolsong 2
- 1998** Started commercial operation of Wolsong 3
Korea's first standard nuclear power plant Hanul 3 started commercial operation
- 1999** Started commercial operation of Hanul 4 and Wolsong 4

Until 2011

- 2001** Launched Korea Hydro & Nuclear Power Co., Ltd. (separated from KEPCO)
- 2002** Started commercial operation of Hanbit 5 and 6
Developed next-generation reactor (APR1400)
- 2004** Completed ERP system
Founded KHNP Regional Volunteer Group
- 2005** Completed new and renewable energy power plants (Kori Wind Power Plant and Yeonggwang Solar Park) / Completed Hanul 5 and 6
- 2007** Obtained approval for continued operation of Kori 1
- 2010** Installed Shin-Kori 3 reactor (first APR1400 application)
- 2011** Started commercial operation of Shin-Kori 1 reactor (first OPR1000 application)
Officially launched Nuclear Safety & Security Commission

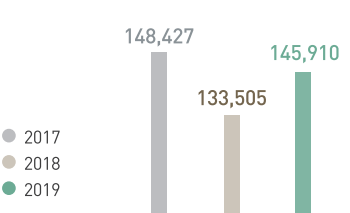
Until present

- 2012** Started commercial operation of Shin-Kori 2 and Shin-Wolsong 1
- 2013** Obtained license for safety analysis with Korean technology for the first time in heavy water reactor
- 2014** Obtained approval for Korean APR+ nuclear power plant standard design
- 2015** Obtained approval for continued operation of Wolsong 1
Started commercial operation of Shin-Wolsong 2
- 2016** Relocated head office to Gyeongju
- 2017** Completed Noeul Fuel Cell Power Plant / Permanently suspended operation of Kori 1, Korea's first NPP / Completed Kori Photovoltaic Power Plant
- 2018** Completed Chameliya Hydro Power Plant in Nepal
- 2019** Completed Photovoltaic Power Plant at Samnangjin Pumped-storage Power Plant / Started commercial operation of Shin-Kori 4
- 2020** Achieving the 2019 Government Management Evaluation "Grade A"

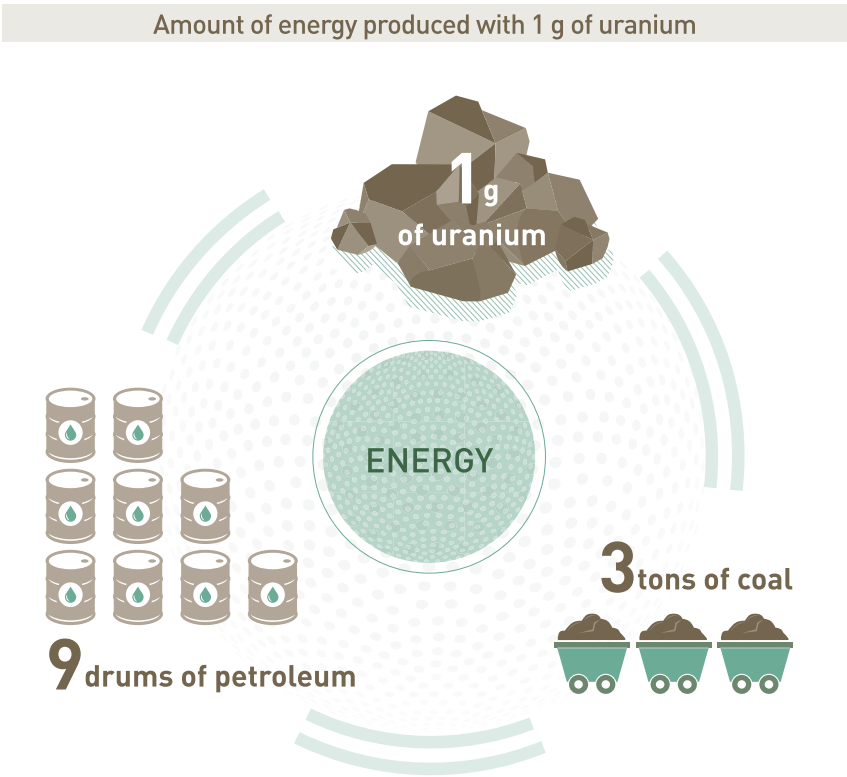
Nuclear Power: Safe Energy for Happy Society

27%
of the nation's electricity
produced through nuclear
power generation

Electricity Production through
Nuclear Power Generation
(Unit: GWh)



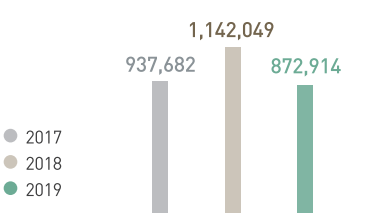
Nuclear power plants generate steam using an enormous amount of heat released from the nuclear fission of uranium in reactors and produce electricity by operating turbines using this energy. Nuclear energy is essential in countries with high energy dependency rate like Korea. Although the initial cost of building a nuclear power plant may be high, the fuel cost is low and nuclear energy does not emit greenhouse gas (GHG) and particulate matter, which are generated when fossil fuel is burned. Therefore, nuclear energy draws attention as an eco-friendly energy source. In 2019, KHNP generated a total of 145,910 GWh of electricity through nuclear power generation. Nuclear power is a key power generation source that accounts for approximately 27% of electricity generated in Korea.



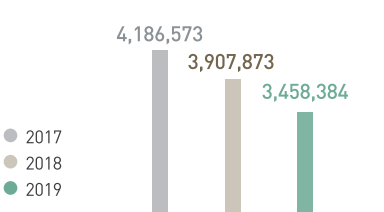
Hydro and Pumped-Storage Power: Reliable Energy to Ensure Stable Power Supply

52
hydro and pumped-storage
power plants currently in
operation

Electricity Production through
General Hydro Power Generation
(Unit: MWh)



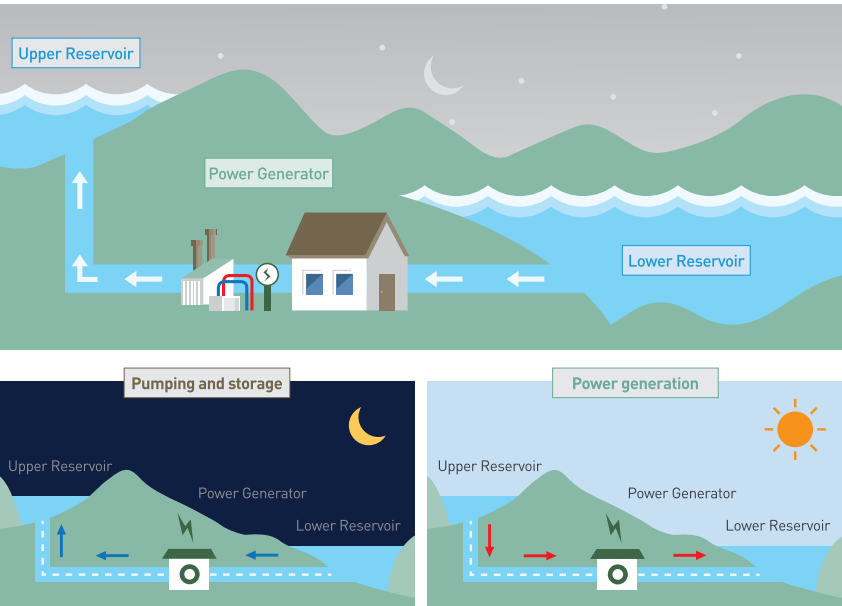
Electricity Production through
Pumped-Storage Power Generation
(Unit: MWh)



Pumped-storage power plants perform swift electricity generation as the process to start and stop the generation system only takes less than five minutes. With this strength, hydro power plants play an important role in stable operation of the nation's electric power supply system in case of unplanned auto-stop of large-scale plants. Starting with Boseong River Hydro Power Plant in 1937, KHNP, as Korea's largest hydro power generation company, is operating a total of 52 hydro power generation facilities (21 general hydro power plants, 15 small hydro power plants, and 16 pumped-storage power plants) as of December 2019. With its history of approximately 70 years and extensive experience, KHNP started hydro power generation business in countries where water power resources are abundant. In addition, according to an increase in the demand for new and renewable energy, KHNP is promoting to maximize the use of new and renewable energy by focusing on hydro power and small hydro power development in Korea.

Operation of Pumped-Storage Power Plant

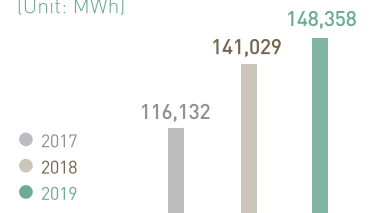
Pumping and storage operation is one of the methods of hydro power generation. A pumped-storage plant pumps up water from the lower reservoir to the upper reservoir at night when the electricity usage is relatively lower. Then it drops water to generate electricity during high-demand hours.



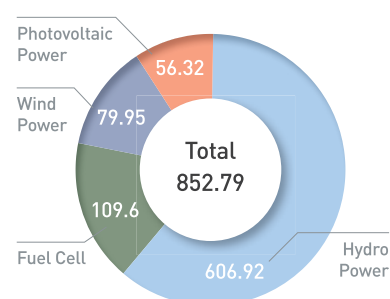
New and Renewable Energy: Clean Energy for the Nature

RPS implemented by
100% in 2019

Electricity Production Using New and Renewable Energy (Unit: MWh)

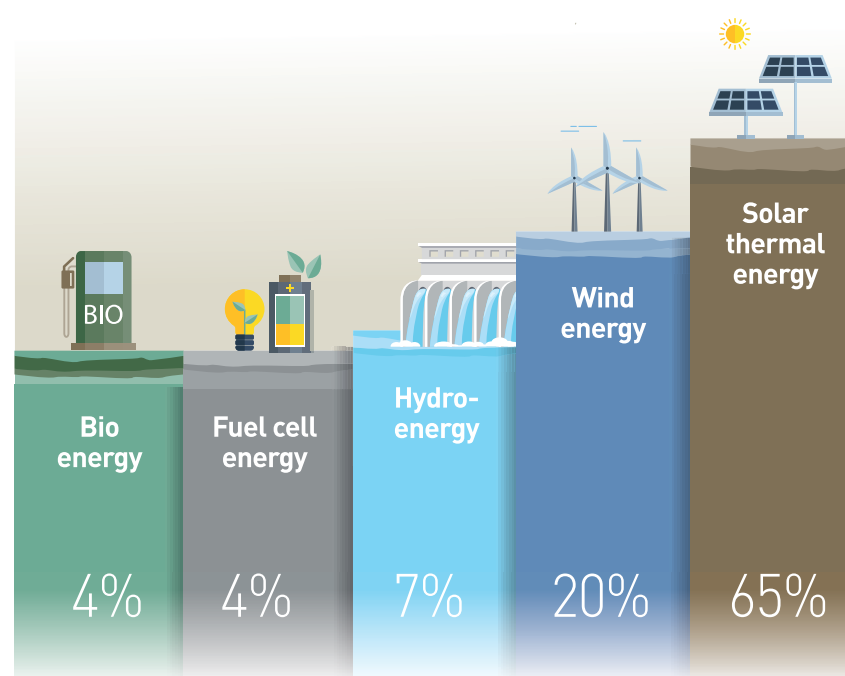


Operation of New and Renewable Energy Facilities in 2020 (Unit: MW)



The key energy sources across the world—petroleum, coal, and natural gas—are being gradually depleted. It is estimated that the current petroleum, coal, and natural gas reserve will last only for 50.2 years, 134 years, and 52.6 years, respectively. In order to comply with the government's policy of "20% of electricity generation through new and renewable energy by 2030," KHNP is actively promoting its new and renewable energy business as Korea's largest electric power company subject to the Renewable Portfolio Standard (RPS). KHNP, in particular, is making up for the weaknesses of renewable energy by constructing power generation facilities on abandoned land—such as an old salt pan or a junkyard—in order to minimize the negative effects caused by photovoltaic power generation facilities including damage to the environment and forest resources. With a goal of operating new and renewable energy facilities to a scale of 8.4 GW by 2031, KHNP will lead the clean energy business as Korea's largest new and renewable energy business operator.

KHNP's New and Renewable Energy Facility Capacity Goal by 2031



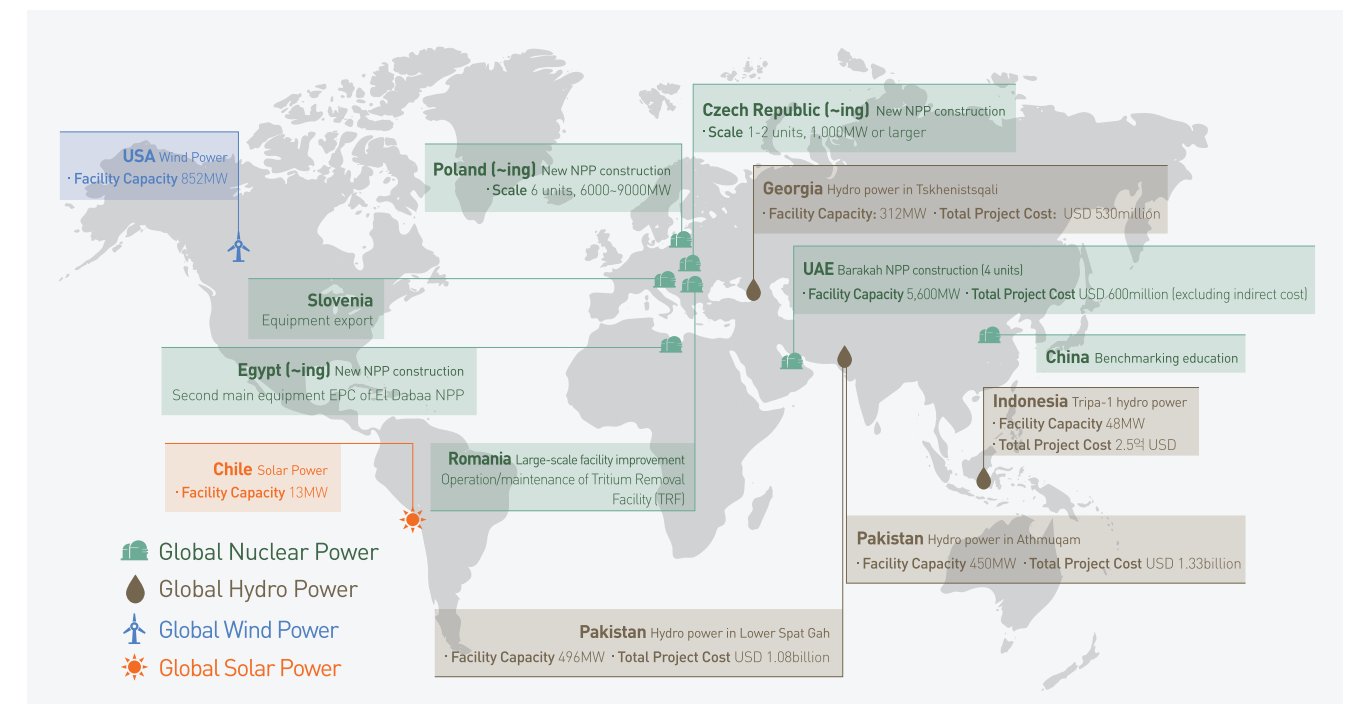
Overseas Business: Advancement to World's Best Energy Company

To become the world's
5th
nuclear power plant exporter



Based on its technological power recognized around the world, KHNP recorded the largest overseas order in 2019. Having concluded a maintenance contract for the Barakah Plant in the UAE, KHNP is playing a leading role throughout the life cycle of the nuclear power plant from design and construction to operation and maintenance. KHNP is continuously developing new markets by performing business activities that reflect the needs of each country, such as construction management consulting in Egypt and practical education for the regulatory personnel in Saudi Arabia. APR1400, Korea's next-generation reactor model that won the EUR certification in 2017, is recognized across the world of its safety as it also obtained the design certification from the Nuclear Regulatory Commission (NRC) of the U.S. Rather than dwelling on the current achievements, KHNP will prepare for a greater leap by preemptively responding to the changes in the global market.

KHNP in the world





An energy leader making life prosperous with eco-friendly energy

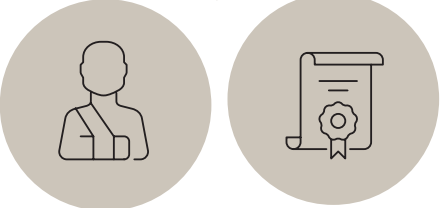
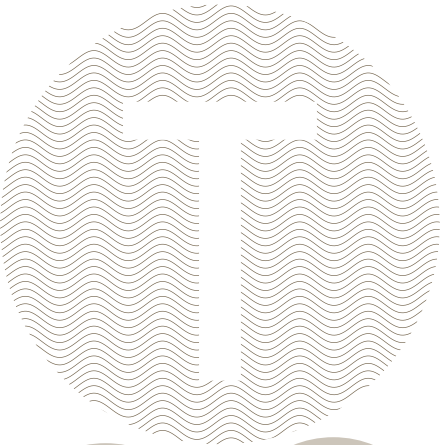
KHNP leads the future of clean energy

KHNP will seek for everywhere clean energy exist to shape a convenient and valuable world.

KHNP, the Energy Leader of the Future

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KHNP in Numbers



Deaths and accidents causing serious injuries in 2019
(including those of partners)

ZERO

— More information on page 34



Integrity survey by Anti-Corruption & Civil Rights Commission

Class 1

in policy assessment by customers

— More information on page 26



Sales from New and Renewable Energy Project

KRW **35.1** billion

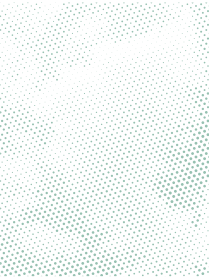
— More information on page 52



Certified as Family-friendly Company

9 years in a row

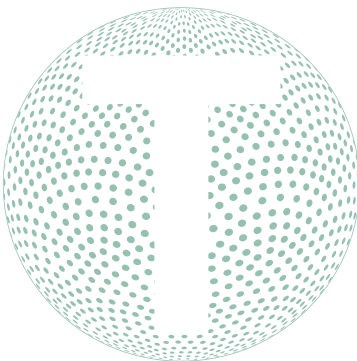
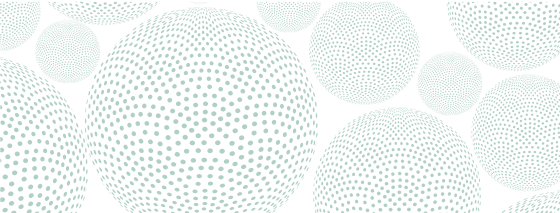
— More information on page 45



Win-Win Index satisfaction survey

93.4 points

— More information on page 47



No. of jobs created in the private sector

24,698

— More information on page 55

Sustainable Management Strategies

KHNP has reestablished the sustainable management strategy system based on its core values, “T.R.U.S.T.,” so as to become a trusted global energy leader through economic, environmental and social value creation. In order to enhance the execution of sustainable management, KHNP derived tasks and performance indicators in connection with its management strategies. Substantial measures are also taken to strengthen the degree of monitoring through active cooperation with working-level staff.

Mission	Prosperous life through eco-friendly energy
Vision	KHNP, a trusted global energy leader
Strategic Direction	To advance to a trusted global energy leader that contributes to national growth and happiness through economic, environmental and social value creation

TRUST

TRUST	Tasks
 True Integrity	Establishing Culture of Integrity and Ethics
	Spreading Corporate Culture of Respect for Human Rights
 Reliable Safety	National Safety and Risk Management
	Nuclear Plant Operation with Top Priority on Safety
	Cyber Security Management
 Utmost Excellence	Converting to Clean Energy
	Securing Global Technological Competitiveness
	Creating Outcomes from Overseas Business
 Shared Respect	Creating Good Workplace
	Fostering Professional Talents
	Shared Growth with Partners
 Tangible Social Value	Creating Social Values
	Minimizing Environmental Impact
	Shared Growth with Local Communities

United Nations Sustainable Development Goals (UN SDGs)

The United Nations Sustainable Development Goals (UN SDGs), which were announced in 2016 for the purpose of response to global economic, environmental and social issues, are the goals the global society must work together to achieve by 2030. KHNP is actively participating in fulfilling ten goals by implementing its sustainable management strategies based on the core value of TRUST.



Core value	Indicator	Unit	2017	2018	2019	2020 (Target)
True Integrity	Integrity index	Grade	2	1	2	1
	Assessment of anti-corruption plans	Grade	1	1	3	1
Reliable Safety	Unplanned auto-stops	Cases/unit	0.04	0.13	0.08	Under 0.30
	Radioactive dose of workers	Man-Sv/unit	0.30	0.36	0.28	0.34
	Comprehensive NPP safety performance index	Points	99.936	99.962	99.915	99.933
	Operating NPP safety management index	%	3.52	2.20	1.87	3.20
	Seismic performance improvement index	Cases	7	12	16	19
	Personal information leakage	Cases	0	0	0	0
Utmost Excellence	R&D investment	KRW 100 million	4,604	4,543	4,605	4,810
	Capacity of new and renewable energy facilities	MW	666	672	693	728
	Overseas sales	KRW 100 million	2,967	3,454	4,335	3,542
Shared Respect	Labor - management partnership index	Points	62	53	61	63
	Percentage of female managers	%	3.3	3.7	4.1	4.3
	HR support (including Atom Mentor system)	Persons	156	241	262	110
	Amount of purchase of products from SMEs	KRW 100 million	8,325	10,278	10,951	11,350
	Financial support to SMEs	KRW 100 million	1,181	1,139	1,333	1,500
	Shared growth index	Points	92.2	93.9	93.4	92.0
Tangible Social Value	Sharing Fund (Dandelion Spore Fund)	KRW 100 million	209	64	123	136
	Environmental performance index	Points	314.8	373.8	478.3	526.1
	Local residents' receptivity	Points	56	69	69	70

SOCIAL VALUE HIGHLIGHT

Overcoming COVID-19 through Joint Effort

KHNP Executives Donating Returned Wage

In order to share the pain experienced by local residents, such as difficulties in livelihood, caused by COVID-19, the executives and employees as well as the President of KHNP voluntarily returned 30% of their monthly wages over four months. With the financial resources secured, KHNP donated an emergency support fund of KRW 1 billion to Daegu City, Gyeongsangbuk-do Province, and Gyeongju City, and also delivered medical protective clothing, face masks, hand sanitizers, and health food products to support and encourage the medical staffs and paramedics fighting the disease at the front line.



Reviving Local Economy

KHNP contributes to reviving local economy by selling local food produced by farmers and fishermen at its headquarters building. KHNP also won the Prime Minister's Award for the "receipt - face mask exchange" campaign* at the Government Innovation Success Case Contest 2020 organized by the Ministry of Interior and Safety. This campaign was designed with the goal to revive local economy and protect national health by exchanging receipts of purchases made at the local stores with KF94 face masks. With around 20,000 consumers participating in the campaign, the amount of receipts exchanged for face masks added up to around KRW 1.5 billion. As such, it contributed to revitalizing the stagnant local economy by reviving consumer confidence that had been frozen since the outbreak of COVID-19.

* Campaign to revive the local economy while protecting health with face masks



Coronavirus disease-2019 (COVID-19), a novel virus reported for the first time in Wuhan, China in December 2019, has led to the declaration of pandemic, which implies a global spread of the virus, and is changing every aspect of our lives in the economic society. The economic and social uncertainty and the crisis situation caused by COVID-19 are expected to continue on into the future. In preparation for the prolonged economic stagnation at home and abroad, KHNP, as a public enterprise, strives to overcome COVID-19 through joint effort with the nation by supporting its partnering SMEs and the vulnerable class in the local community.



Supporting Local Restaurants through "Lunchbox Day" Program

KHNP has internally designated the "lunch box day" where employees order in lunch boxes to practice social distancing even during lunch break and also to practically support local restaurants in Gyeongju City to overcome the damages caused by COVID-19. KHNP has purchased lunch boxes worth approximately KRW 50 million from restaurants in Gyeongju. The title of this program will be changed to "dining out day" once the situation concerning COVID-19 settles down in the future.

Supporting the Vulnerable Class

KHNP provides support particularly to those who are suffering relatively larger damages from the prolongation of COVID-19. KHNP donated necessary goods for overcoming the pandemic to the vulnerable class in Gyeongju City that is in need of practical help—such as basic life recipients, households in crisis, and social welfare facilities.





Providing Emergency Financial Support to Partners

In order to support the nuclear power plant (NPP) industry that is experiencing financial difficulties as a result of COVID-19, KHNP identifies funding demand through an investigation on the status of damage targeting SMEs and operates an emergency funding support program to provide a loan for up to KRW 1 billion. Having established a loan fund to a scale of KRW 40 billion by entering into an agreement with Industrial Bank of Korea, KHNP loans out funds at low interest rates to its partnering SMEs of which sales have decreased by more than 20% since the outbreak. KHNP will continue listening to the voices in the field so as to help its valuable partners overcome the risks posed by COVID-19.

Supporting Contact-Free Working Environment for Partners

KHNP supports digitization of its partnering SMEs in order to help them create an environment for contact-free business activities. Through the “mobile talk” program, KHNP visited its partners and listened to their difficulties about the establishment of a remote working system although the necessity for such system is increasing due to the spread of COVID-19. Upon collecting the opinion, KHNP decided to support a total of nine partnering companies over the next two years by providing them with consulting service on digitization in the ERP, mobile, and security fields so as to help them improve their contact-free management capacity in preparation for the post-COVID-19 era, and supporting them in the establishment of contact-free working environment.



KHNP's Support for Local Community to Overcome COVID-19



INTERVIEW

Lee Yeong-ho, Director of Regional Cooperation Office, Mutual Growth & Cooperation Department, KHNP



In detail, a total of 1,440 employees voluntarily returned their wages to raise a fund of KRW 2.45 billion and, using this financial source, KRW 750 million was donated to the vulnerable class and KRW 1.79 billion was used in ethical consumption to support traditional markets and small businesses. In addition, KHNP is performing ethical consumption activities with a goal to spend KRW 2.2 billion by the yearend. A large number of employees are also participating in voluntary donation of a part of their bonus payments.

The aftermath of COVID-19 is expected to continue on into the future. Accordingly, KHNP will pursue to perform the local community support activities until the stagnant local economy is recovered, leading the way in overcoming the crisis together with local communities. It will also expand the creative consumption promotion activities, such as the “receipt – face mask exchange campaign” to exchange receipts of purchases made at local stores with KF94 face masks.

Mutual Growth & Cooperation Department of KHNP plans and implements projects for public interest in order to achieve win-win cooperation with local communities near its power generation plants. In 2020, especially, a focus was placed on systematic and swift support to help the local residents, SMEs, and merchants overcome the difficulties caused by prolongation of the COVID-19 pandemic.

Concurrently with the occurrence of the COVID-19 crisis, KHNP set a direction of support for local communities by reflecting the CEO's special instructions. At the same time as implementing various projects to support and lessen the burden of local communities, KHNP is promoting the KHNP 1339 Campaign* based on the labor – management joint effort in addition to donations using wages voluntarily returned by employees and ethical consumption.

* KHNP 1339 Campaign: A relay campaign aimed at revitalizing local economy where 1 person makes purchases at 3 or more traditional markets or small businesses, and designates 3 other people to do the same, amplifying the effect by 9 times

DONATE



Q — KHNP provided emergency financial supports to overcome the crisis caused by COVID-19 in the NPP industry. Which supports did the partnering SMEs receive?

As KHNP's tier-2 vendor, PROCO manufactures key equipment used in nuclear power plants. We, as other businesses, are experiencing difficulties this year due to COVID-19. However, through KHNP's COVID-19 loan support program, we were able to take out a loan in June this year and have been exempted of the interest payment for approximately KRW 5 million over six months since. The loan was obtained without much difficulty and KHNP's practical support helped us significantly in overcoming a crisis.

- Lee Yeon-suk, Assistant Manager,
PROCO Co., Ltd.

Hwashin Bolt Ind. manufactures bolts for nuclear power plants. We have been supplying products to KHNP for over 2 years. This year, delays in delivery and payment collection occurred quite frequently due to COVID-19. In addition, decreased number of flights led to increase in the expenses for air transportation, finally leading to a considerable rise in our export transportation cost and, eventually, overall financial difficulties. Under the circumstances, we were able to take out a loan of KRW 1 billion at a low interest rate in May this year through KHNP's Shared Growth Loan program.

- Heo Min-hu, Senior Manager,
Hwashin Bolt Ind. Co., Ltd.



Q — Which relationship does your organization have with KHNP and which support activities have been performed in relation to overcoming COVID-19?

In Gyeongju City, there are 28 children welfare centers where approximately 880 children from the vulnerable class and low-income families receive care and protection during after-school hours. Since 2018, KHNP has been providing support to the Association of Children Welfare Centers in Gyeongju, such as through donation of vehicles to help children travel to the welfare centers safely and financial assistance to provide children with healthy dinner menus. Also when COVID-19 broke out early this year, face masks were very expensive and difficult to purchase. At that time, no organization dared to support us. However, KHNP swiftly supported face masks and hand sanitizers for children, and we are very much grateful for this.

- Park Se-yeong, President, Association of
Children Welfare Centers in Gyeongju

KHNP entered into a business agreement with Gyeongju Community Rehabilitation Center in 2017. Over the years, it has been performing various social contribution activities for approximately 16,480 persons with disabilities living in Gyeongju City—such as a program to support vehicles to guarantee the mobility right of persons with disabilities, a program to share rice and side dishes to ensure healthy dietary life of the disabled who have limitations in performing daily activities—along with “Hope Talk! Rehabilitation Talk! Sharing Talk!” event aimed at promoting local community integration. This year, in particular, KHNP provided significant assistance by donating hygiene and disease control goods, such as face masks and hand sanitizers, to prevent and prepare for the spread of COVID-19.

- Lee Na-eun, Social Worker, Gyeongju
Community Rehabilitation Center



Q — In addition to the support for overcoming COVID-19, which supports do you expect from KHNP to achieve shared growth with the SMEs?

We have built a relationship of trust with KHNP for over ten years. Nevertheless, as KHNP's standard for qualified supplier registration is very strict, we feel that the entry barrier is still high. We hope that KHNP will provide benefits in relation to the qualified supplier certification to the companies it is maintaining partnerships over a long period of time.

- Lee Yeon-suk, Assistant Manager,
PROCO Co., Ltd.

In addition to the COVID-19 emergency financial support, KHNP provides us with export consulting service through its Productivity Partnership program. With KHNP's support, we could produce an actual prototype for export. Focusing on entering the overseas NPP market due to limitations in the domestic market, we would like additional assistance that will help reduce export risks posed by COVID-9, such as support for SMEs to take out the export insurance.

- Heo Min-hu, Senior Manager,
Hwashin Bolt Ind. Co., Ltd.



Q — As an organization based in Gyeongju region, which issues would you like to see KHNP focus on in the future?

It is especially encouraging for us that KHNP is very much interested in supporting children. With KHNP's educational support and investment, we have been providing English education to children over three years. In addition, the overseas English training program provided children with a valuable opportunity to practice speaking English abroad. The effects of education must be assessed from a long-term perspective and, in the assessment, the potential effects obtained by children, such as development of self-efficacy and self-esteem, beyond tangible outcomes of knowledge acquisition must be taken into consideration. We hope that KHNP will continue providing educational support for local children with a focus on the production of an outcome on a long-term basis.

- Park Se-yeong, President, Association of
Children Welfare Centers in Gyeongju

In addition to the donation of money and various goods, KHNP, along with the CEO and employees (executives), is active in performing voluntary services to fulfill its role and responsibility as a public enterprise that represents the region. This year, KHNP offered local products, such as rice and dried anchovies, and the employees of KHNP performed a volunteer work to cook and deliver side dishes for neighbors in need. As a general welfare center for the disabled that support rehabilitation and independence of persons with disabilities, Gyeongju Community Rehabilitation Center would like for KHNP to support a shuttle bus, which will improve the mobility of the center users, and a lifelong education program that will serve as a basis for assisting in the dreams and independence of the disabled. We hope that the quality of welfare service for the disabled in Gyeongju region will improve through active support in projects that require large financial resources.

- Lee Na-eun, Social Worker, Gyeongju
Community Rehabilitation Center



An energy leader making life prosperous with eco-friendly energy

KHNP is building much happiness through safe energy that makes a happy society

Based on KHNP 's main value, T.R.U.S.T., we set our projects and realize them through sustainable business.

5 Values Pursued with Stakeholders

1. True Integrity	25
2. Reliable Safety	31
3. Utmost Excellence	37
4. Shared Respect	43
5. Tangible Social Value	49

01 True Integrity

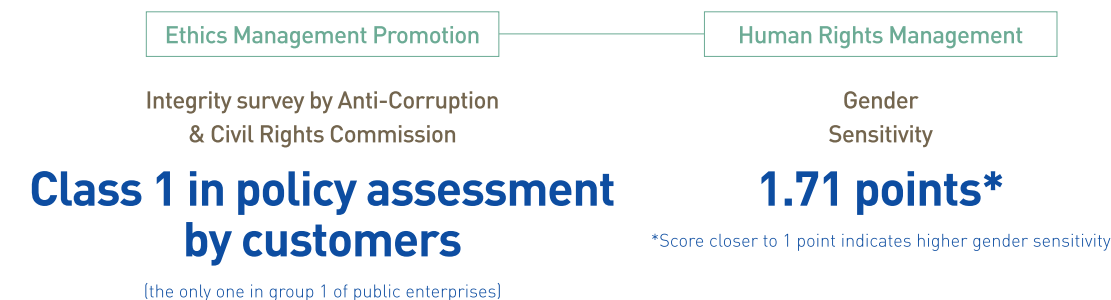


Sustainability Context

The companies in Korea are in an environment where it is difficult for them to achieve sustainable growth without the pursuit of profits, which is the proper goal of a business, and shared growth in an ethical level expected by the society. KHNP is internalizing the integrity and ethics culture by performing customized integrity activities, and promoting ethical management through effective internal control. In addition, KHNP is striving to improve human rights for its stakeholders, such as by advancing the human rights violation relief procedure based on the human rights management promotion system.



KHNP Approach



Social Values



Ethics Management



Equal Opportunity



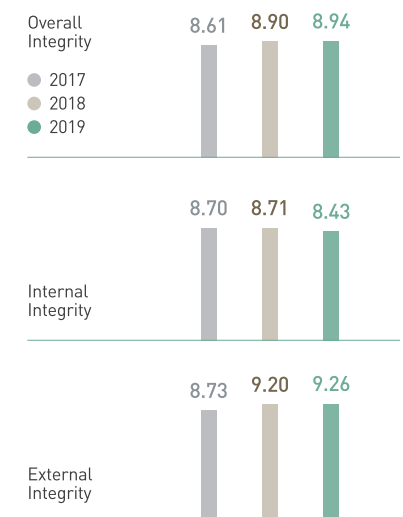
Local Community

Ethics Management Promotion

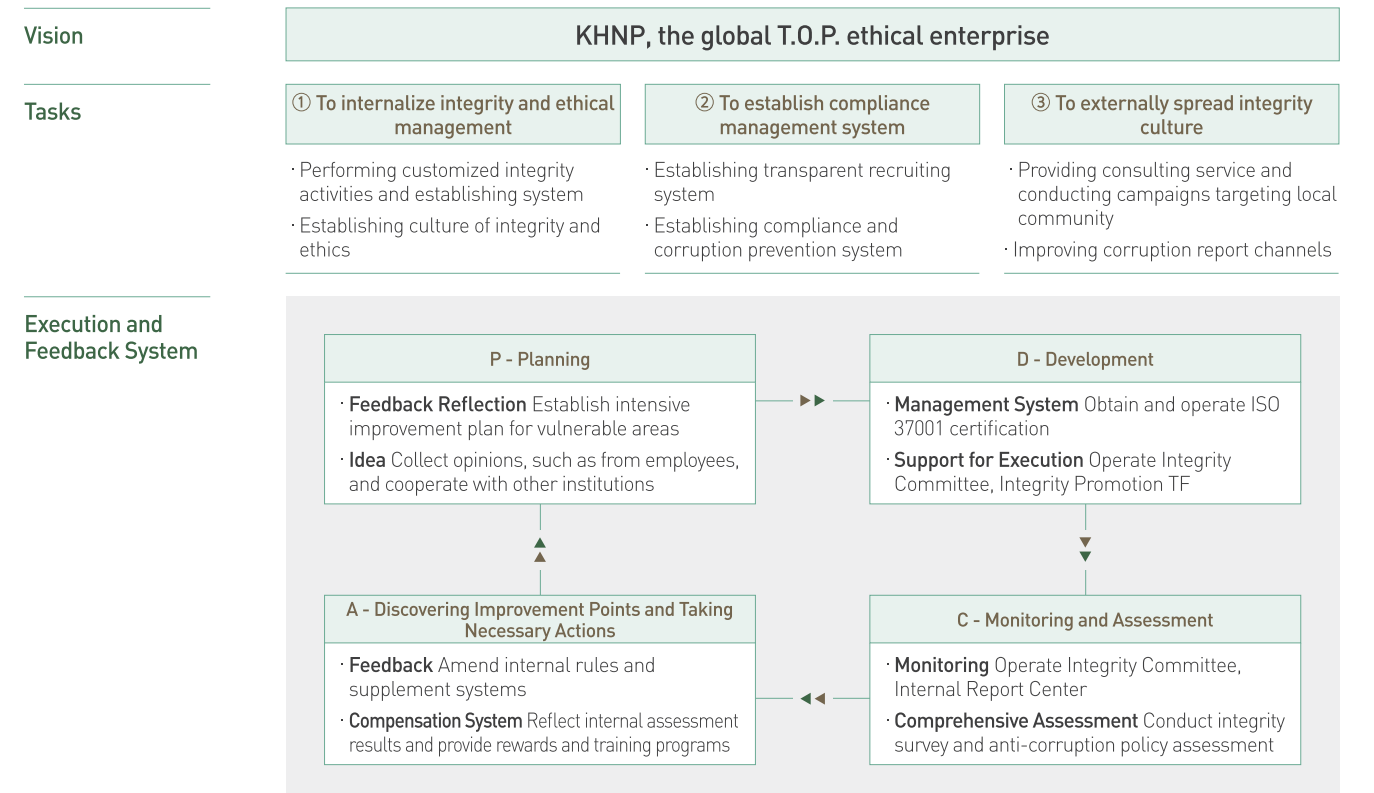
Deriving Improvement Areas to Ensure Integrity

KHNP's leap towards becoming a trusted energy company starts with the employees' integrity. At the integrity survey conducted in 2019, KHNP's overall score was higher by 0.64 point than the average of group 1 of public enterprises. However, the score in the category of internal integrity fell slightly. In an effort to improve the internal integrity, KHNP refrained from one-off events, and held events based on employee engagement in order to spread the integrity culture. In addition, according to the increased eye-level of employees, KHNP strengthened integrity leadership training targeting employees of 2nd level position and higher, strictly applied the principle of zero tolerance to major violation cases, and endeavored to effectively improve on vulnerable areas that had been found through integrity assessment through a link to the internal assessment.

Integrity survey by Anti-Corruption & Civil Rights Commission
(Unit: Points)



KHNP Ethical Management Promotion System 102-16



Operating Effective Internal Control System

KHNP is operating internal control system based on the analysis of changes and risks in its management environment. The risk profile that defines 369 social risk factors including 47 social responsibility risks is reflected in the internal control system. KHNP has also strengthened audit activities, such as in promoting budget-related activities and new businesses.

Reestablishment of Internal Control System based on Ethical Risk Analysis (2019 - 2021)			
Environmental Analysis	Government Policies	Internal Environment	Employee Needs
	<div>· Emphasize social responsibilities of public enterprise</div> <div>· Strengthen prior consulting and exemption system</div>	<div>· Increase new and renewable energy business</div> <div>· Blind spot for internal control existing</div>	<div>· Strengthen role of preventative audit</div> <div>· Improve acceptance of audit results</div>
Vision	Innovative audit to create future value of KHNP based on principles and trust		
Strategic Direction	Prevent management systems and administer autonomous internal control	Establish social responsibility fulfillment and anti-corruption management system	Lead civil service culture to focus on duties and strengthen audit capacity
Primary Tasks	<div>· Strengthen risk-based audit activities</div> <div>· Strengthen autonomous compliance system</div>	<div>· Prevent violation against social responsibilities</div> <div>· Strengthen systematic anti-corruption activities</div>	<div>· Introduce prior consulting and audit system</div> <div>· Strengthen expertise and independence</div>

KHNP Activities in 2020 to Strengthen Audit Expertise and Independence

Strengthening Expertise	Strengthening Independence
<div>· Utilizing expert groups by KHNP function in order to improve audit expertise and quality</div> <div>· Promoting participation of employees subject to salary peak system as auditors in audit kickoff meeting</div> <div>· Establishing 「Mobile Inspection Manual」</div> <div>· Operating TF audit team to take actions at the appropriate time in case of power generation/facility accident</div> <div>· Strengthening fairness through expert consultation in the Excellence Audit Contest</div> <div>· Operating quality TF to upwardly standardize audit quality</div> <div>· 18 employees acquiring audit expert license through customized training by career stage</div>	<div>· Improving audit independence index through external diagnosis (improving 14 items in three areas, including the classification system and evaluation items)</div> <div>· Independently operating audit organization, personnel, and assessment program</div> <div>· Improving checklist for recruitment process</div> <div>· Inspecting independence through persons in charge of independence confirmation</div> <div>· Reflecting auditor disqualification and exclusion system in the code of conduct for auditors</div> <div>· Securing budget for audit activities by 100%</div> <div>· Selecting 14 excellent auditors through auditor contest</div>

Transparent Recruiting System

In order to restore the decreased reliability of the recruitment process, which was caused by employment-related corruption cases of public enterprises, and meet the demand for supplementation of human resources, KHNP has been striving to hire qualified personnel based on its fair recruiting system. As a result of fully implementing the government’s employment corruption improvement plan and improving corruption risks by internal recruitment stage, KHNP recorded 0 case of employment-related corruption case in 2019. KHNP is dedicating earnest effort to fundamentally preventing employment-related corruption by conducting inspections on each stage of recruitment process and applying the human error prevention manual.

Establishing Fair Trade Order

In order to improve transparency in the entire process of procurement, KHNP discovers possible risk factors in procurement stages, introduces the relevant systems, and thus prevents the supplier selection and contract-related risks. In addition, KHNP has internally developed a system to detect the signs of collusion, and uses the system to check on possible bid rigging by suppliers based on the big data analysis. In 2019, KHNP analyzed 3,167 suspected bid rigging cases, and thus contributed to creating a fair competitive environment.

Phase	Supplier Management	Price Estimation	Contract Supervision	Delivery of Items
Ethical Risk	<div>· Vulnerability in information disclosed by suppliers</div>	<div>· Difficulty to guarantee ethical practice of price investigator</div>	<div>· Possible dispute over responsibilities during follow-up procedure after contract signing</div>	<div>· Insufficient systemization of process for import and export items</div>
KHNP Response	<div>· Review qualification of supplier for registration</div>	<div>· Check and adjust estimated price</div>	<div>· Prepare calculation statement, administer construction completion settlement</div>	<div>· Introduce AEO system*, pay tariffs</div>
	<div>· Separate safety/non-safety level supplier review criteria</div> <div>· Notify qualification review criteria for supplier registration in the system</div>	<div>· Develop system to check price reference and estimate trend</div> <div>· Strengthen price fairness, such as by revising actual price bidding rate</div>	<div>· Block dispute on responsibilities by systematizing calculation statement submission</div> <div>· Specify payment due date and required documents in contract</div>	<div>· Guarantee import/export item safety management standard as the first public enterprise</div> <div>· Inspect appropriateness of taxes paid and finalize tax amount at an initial phase</div>

* AEO (Authorized Economic Operator): This is a system where the Korea Customs Service reviews and certifies law observance, internal control system, financial integrity, and safety management according to the accredited standards. Introduced by World Customs Organization (WCO) in 2001, this system is being implemented in approximately 170 countries.

Implementing Comprehensive Action to Eradicate Power Overuse

In order to comply with the government’s comprehensive action to eradicate power overuse, KHNP established an internal guideline by reflecting its characteristics and the types of power overuse. A questionnaire survey was conducted targeting employees and suppliers on the experience of impersonal treatment, disadvantages in work, and demand for personal benefits. Then, based on the survey result, cases of complaints and disciplinary actions, and interviews, the status of power overuse was analyzed. 1,618 employees and 1,762 partners participated in the survey and based on the analysis result, corrective actions for power overuse were developed. KHNP also improved subcontracting practices and prevented delay in payment of wages to workers by introducing the next-generation payment monitoring system (PMS), which enables monitoring on the details of subcontracting payments.

Strengthening Transparent Record Management System

For responsible management of records, KHNP strengthened record management based on the three basic principles of “authenticity, integrity, and reliability” according to the Public Records Management Act. KHNP designates records that are considered highly valuable for preservation and use once a year according to the important record classification system, which it established as the first among public enterprises. In 2019, KHNP digitized 838 volumes of non-electronic records, and thus prevented damage and loss of information. In addition, KHNP Recorder, a voluntary learning group, was established. By inviting external experts, KHNP supported education to improve the employees’ capacity in the area of record management, such as for production system data and personal information. As a result of the efforts, KHNP was selected as a successful case by the record management committee of the subsidiaries.

Human Rights Management

Human Rights Management Promotion System

With the level of interest in labor and human rights increasing across the world, the human rights-related legislations are being promoted and the government-level human rights management manual is being suggested. With a goal to advance to a leading organization in human rights management, KHNP reestablished the human rights management promotion system and derived key tasks for 2019. In particular, KHNP conducts human rights conditions survey and impact assessment with a focus on monitoring human rights violation cases so as to remove blind spots in human rights protection.

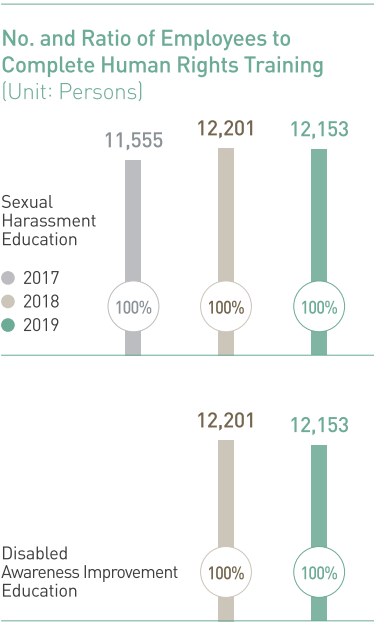
Human Rights Management Promotion System			
Human Rights Management Goal	A global energy leader that leads human rights management		
Tasks of 2019	Strengthen human rights management system	Establish culture to respect human rights	Advance relief procedure
	<ul style="list-style-type: none">· Conduct survey on human rights conditions and assess impact on human rights· Develop mid to long-term road map for human rights management	<ul style="list-style-type: none">· Internally and externally spread culture to respect human rights· Remove blind spots for human rights protection	<ul style="list-style-type: none">· Assess human rights violation relief procedure· Amend grievance resolution-related regulations

Preemptively Conducting Survey on Human Rights Conditions

KHNP dedicated efforts to understanding its current position in human rights management by conducting an online survey and an in-depth interview with help from external experts targeting employees, partners and local residents. According to the result of the survey on human rights conditions, a majority of the stakeholders responded that KHNP is “doing well” in human rights protection. In addition, KHNP re-examined the human rights violation prevention training, complaint handling, and power overuse inspection system in order to eradicate the human rights violation cases, and derived inspection of the related human rights regulations and monitoring system as an improvement task.

Respect of Human Rights for Employees

KHNP provides education and promotes a campaign to internalize the culture to respect human rights, such as to give consideration to the relatively vulnerable within the workplace. A company-wide and small-scale human rights education programs were provided with human rights experts invited from outside. In 2019, a total of 3,046 employees completed the training. The labor union operates an internal labor human rights consulting center. It also held the 119 Campaign to improve the workplace get-together culture. KHNP also improved the work environment and welfare for the vulnerable in the workplace, such as by providing office equipment customized to the disabled employees, Mom’s Package to the pregnant employees, and starting support for the educational expenses and congratulatory/consolatory expenses for the non-regular employees.



Respect of Human Rights for Partners

KHNP strives to remove blind spots in human rights protection and spread human rights management targeting its partners. KHNP conducted a questionnaire survey to understand the status of power overuse targeting its employees and partners. It also established an internal guideline to eradicate power overuse and revised 13 clauses in the contractor agreement that are in violation of labor rights. In addition, to ensure safe work environment for the employees of partners, KHNP gives them the right to refuse work, which allows them to stop an operation immediately when they feel any danger, and operates the safety consulting center.

Respect of Human Rights for Local Community

With a goal to spread the culture to respect human rights and support the neglected in the local community, KHNP designated the 20 days from September 16, 2019 as the “Human Rights Week” and offered a range of programs including human rights music concert, photo exhibition, and magic show to the employees and local residents during this period. In November 2019, KHNP invited around 100 people with visual and hearing disabilities who experience difficulty enjoying cultural benefits and screened a “barrier-free” movie for them.

* This is a movie that can be enjoyed by persons with disabilities. It provides subtitles for those with hearing disabilities and voice commentary for the visually impaired.



▲ Barrier-free film watching

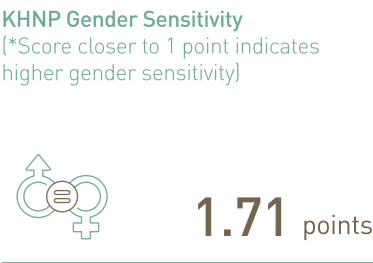
Preventing Sexual Harassment and Sexual Violence

KHNP holds a year-round campaign to eradicate sexual harassment and violence. It also provides special education to employees in the management position along with online/offline education to all employees in order to create a safe workplace. As a result of implementing the “119 principle for get-together culture,” which is aimed at fundamentally improving the workplace get-together culture, all employees pledged to follow the principle, and 93% of employees responded that the healthy get-together culture is helpful in preventing sexual harassment. KHNP expanded the scope of reporting for the gender equality as well as sexual harassment and violence-related complaints by operating the HR Ombudsman system and the complaint review committee. At the survey on gender sensitivity, which was conducted for the first time in 2019, KHNP scored an average of 1.71 points.

* A campaign to promote healthy get-together culture (once a month with one type of drink until 9 p.m.)

Advancing Human Rights Violation Relief Procedure

KHNP conducted an objective assessment on its human rights violation relief procedure and operation status through an external agency specializing in the area. As a result of the assessment, the necessity to establish a set of uniformed criteria for investigation and disciplinary actions according to the severity of human rights violation case, and online/offline promotion of the human rights violation relief system was raised. Accordingly, KHNP appointed one complaint handling officer each from the labor and management at each operation and fully amended the complaint handling guideline in order to ensure fair complaint handling and review for relief according to the established criteria.



02 Reliable Safety



Sustainability Context

With safety as the top priority, KHNP has been striving to internalize the safety culture and continuously detecting areas requiring improvement through safety inspection of nuclear power plants in Korea and abroad. As a result, it was ranked the 2nd in the WANO safety performance assessment, winning recognition of its safe nuclear power plant operating capacity across the world. KHNP will continue improving its disaster response capacity to ensure national safety, and also strengthen comprehensive safety competency, such as by enhancing safety of workers and bolstering cyber security.



KHNP Approach



Social Values



Safety



Local Community

National Safety and Risk Management

Disaster Management System

With protection of national safety and lives of individual people as a core value, KHNP operates its disaster management system. KHNP is making utmost efforts to establish the safety culture by managing various risk factors that cause general and radioactive disasters in each power plant.

Target	To safely protect the nation and workers from disasters and accidents at operations	
Tasks	Strengthen disaster response capacity <ul style="list-style-type: none">Adjust disaster management R&R for headquarters and operations by disaster typeStrengthen disaster response capacity centering on human resources, systems and cooperation	Protect lives and property of people <ul style="list-style-type: none">Secure safety that meets the public eye-levelProvide disaster response to ensure safety for residents living near power plants
	Make efforts to prevent occupational accidents <ul style="list-style-type: none">Secure systematic safety management competencyPromote intensive safety management centering on power plantsPromote active safety communication of the management	Improve facility safety management <ul style="list-style-type: none">Strengthen capacity to respond to extreme conditions at nuclear power plantsSecure safety of power generation damsInspect safety of general facilities, such as office building, and respond to climate change

Disaster Response Capacity and Information Disclosure

Strengthening Response to Extreme Conditions

KHNP is strengthening its response to secure stability of nuclear power plants even in extreme disaster situations. It developed the multi-functional flood gate, which won the international certification and patent as the first in Korea, to ensure safety of power plants in case of natural disasters, such as earthquake, tsunami, and fire. Equipped with not only seismic performance to withstand earthquake, but also waterproof function for up to 10 m under the water and fire-resistant function, the flood gate was installed in 319 locations as of October 2019, protecting essential safety facilities of nuclear power plants. KHNP also detected vulnerabilities by conducting a stress test (ST) on power plants against extreme conditions that can occur once every 10,000 years. In addition, assuming failure of safety facilities in nuclear power plants, it secured an accident management system centering on separate portable facilities.

NPP Information Disclosure

KHNP opened the “NPP Operating Information Portal,” an integrated web portal for nuclear power plant information disclosure, in order to improve accessibility to information on power plants. This portal provides a range of information from real-time power plant safety index to operating status and latest news. When a radioactive emergency occurs in a power plant, it informs the nearby shelters and emergency instructions to ensure safety of local residents. At the same time, KHNP strengthened communication with the public by providing content on nuclear power that is useful and easy to understand, such as videos of disaster prevention training and radioactive waste management status.

Level A
in National
Infrastructure Disaster
Management
Assessment (MOTIE)

Guarantee of Workers’ Safety

Strengthening Safety and Health of Employees

Expanding Innovative Safety Infrastructure

KHNP creates a safe work environment by developing innovative technologies based on the Fourth Industrial Revolution and applying them to each power plant. In the fuel recharge tanks, which cannot be accessed by human due to the risk of radioactive exposure, robots for inspection of high radiation zone are used. The underwater environment in radioactive hazard zones is remotely inspected. In 2019, robots were used to inspect Shin-Kori 1 and Hanul 3. In addition, to swiftly identify the location of workers and secure golden time for rescue when an accident occurs, KHNP developed a workers’ location tracking system using Beacon*. Recognizing people accessing dangerous areas through Beacon, the system provides real-time information to the situation room.

* Beacon: A Bluetooth-based system to check the location of workers

Introducing Robots for High-risk Operations

KHNP purchases, develops, and introduces underwater drones and robots to the work environment subject to high risk, such as radioactive exposure. The robots for high-risk operations, which are used to identify situations in areas of low accessibility and execute operations in radioactive-contaminated zones during nuclear power plant decommissioning, secure safety of workers and realize a safe workplace.



► NUVIDA



Drone for inspection in radioactive/hazard zone
· Purchased and in use (Saeul 1, Hangang Hydro Power Site, Wolsong 2, Hanbit 3)
· To be purchased (Shin-Hanul 1)



► TRUST



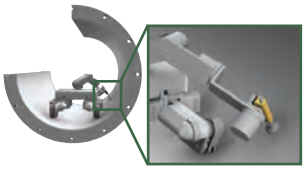
Emergency action to control valves in high radioactive/closed zone
· R&D and prototype production completed
· Control code used in development of other robots



► Automated facility for primary side filter replacement



Robot to prevent radioactive exposure of workers in high radioactive zone
· Final assessment following field performance verification (Apr. 2020)



► PRIME*



Robot to remotely inspect seawater pipeline for safety class
· Research project commenced, prototype production in progress
· Field performance verification scheduled (Hanbit 3, Feb. 2021)

* PRIME: Pipe Robot with Inspection, Modularity, Extensibility

Internalizing Safety Culture Centering on Power Plants

KHNP strives to create a safe workplace by internalizing field-centered safety culture. First, KHNP won recognition of its safety management capacity in Korea and abroad by obtaining the international standard for safety and health management system (ISO45001), the top-tier international certification in the field of safety and health. Second, KHNP is performing safety management activities optimized to the field, such as to expand workers’ right to refuse work and strengthen management of new workers. As a result, it recorded zero accident causing death and serious injury in 2019. KHNP will continue creating a workplace where the highest priority is placed on workers’ life and safety by promoting systematic safety management.

Activities to Internalize Safety Culture		
Participation by Experts and the Public · Deriving field safety-related successful cases and improvement items from Korea Industrial Safety Association, civic groups, and workers’ representative, etc.	Workers’ Right to Refuse Work · Establishing education for workers’ protection prior to operation as a mandatory program and installing/ attaching banners and stickers on sites · Accepting workers’ demand 100%	Strengthened Management of New Workers · Providing customized training to new workers who have been working for less than six months · Restricting high-risk jobs and ensuring operation by a team of 2 workers

Creating Safe Work Environment for Partners

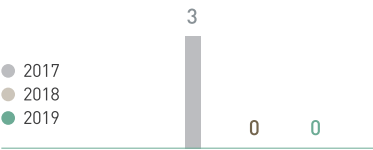
Joint Safety Improvement with Partners

In order to more actively identify and implement safety improvement items from the standpoint of partners that are working in the field, KHNP conducts field safety inspections jointly with safety managers and employees of partners. Through an intensive field occupational safety inspection conducted with partners, which was led by Hanul Power Site and Saeul Power Site, 12 success cases, such as to place lifesaving equipment, and 28 improvement cases, such as defective anchoring of work stand, were identified and handled. As a result of the joint effort with partners to improve work sites, KHNP recorded 0 accident causing serious injury of the employees of partners.

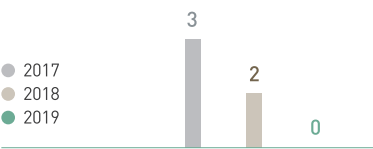
Activating Safety Communication of the Management

KHNP is dedicating the utmost effort to creating a safe work environment for its partners. In August 2019, KHNP held a “talk to achieve zero occupational accident and eradicate power overuse” with 46 partners. Through this talk, KHNP collected the partners’ opinions about difficulties experienced in the field at the same time as providing explanations about its safety management improvement plan. KHNP also internalized safety culture by organizing workshops and safety training programs with partners, and publishing and sharing “monthly safety magazine” to deliver the safety-related news. In 2019, with its efforts to ensure safe work environment for partners recognized, KHNP obtained Class S, the highest class, in the safety and health cooperation program organized by the Ministry of Employment and Labor.

Accidents Causing Death (Unit: Cases)



Serious Occupational Accidents (Unit: Cases)



Radiation Safety Management

Systematizing Occupational Dose Reduction

For intensive management of workers’ occupational dose, KHNP has established and is implementing a systematic occupational dose reduction plan to cover not only the headquarters, but also branches. Based on the three promotional directions to improve occupational dosage system, develop technologies, and reduce radiation source within the system, and four detailed tasks, KHNP established a mid to long-term occupational dose reduction plan. As a result of the effort for dose reduction, which was led by the headquarters, such as to set the annual dosage targets, inspect monthly performance using the “radiation safety system,” and establish the annual “radiation safety management plan” by power plant, KHNP achieved the world’s lowest level** in occupational radiation dose of workers.

* man-Sv: When a number of people in a group are exposed to radiation, this figure indicate s the sum of occupational dose of individuals within the group.
** Based on World Association of Nuclear Operators (WANO)

Improving Workers’ Occupational Dose Management System

In order to establish the culture to place the highest priority on reducing radiation exposure of its workers, KHNP reduced radiation dose in work spaces and prevented unnecessary exposure. The occupational dose standard of the ALARA Committee was downwardly adjusted from 200mSv to 50mSv. In addition, KHNP is developing wireless automatic radiation dosimeter for real-time exposure dosage monitoring of workers. Moreover, KHNP reduced radiation dose in old systems by substituting radiation sources (nickel and cobalt, etc.) accumulated in the pipeline with the coolant-type zinc, and removing them through the purification system. As a result of the efforts to reduce radiation dosage, the workers’ exposure dose target was lowered by 18%.

* An organization established for efficient fulfillment of “as low as reasonably achievable”

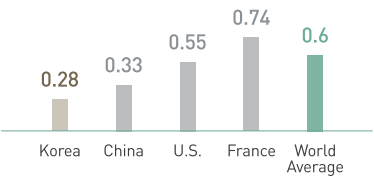
Preventing Excessive Radiation Dosage of Workers

The Nuclear Safety Act prescribes the maximum radiation dosage of radiation workers as 100mSv over five years with the annual dosage not exceeding 50mSv. KHNP has been managing safety of its workers by internally setting the annual radiation dosage as 20mSv/y. In 2019, KHNP established a system for real-time notification of the risk of exceeding radiation limit, and sent text messages to workers when the radiation dose reached 10mSv/y (1st) and 15mSv/y (2nd). As such, KHNP improved safety management infrastructure with the focus placed on workers’ safety.

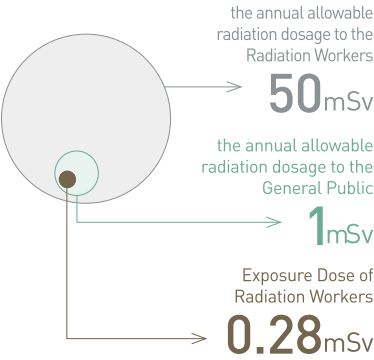
Health Management for Employees of Partners

KHNP is striving to create a safe work environment by expanding the scope of its responsibility for safety to include the employees of partners engaging in radiation operations in the field. KHNP provided general health examination to cover 47 items to the employees of all partners working in controlled areas. In addition, it supported the operation of a health management program through a technical support agreement for health management with KEPCO KPS, and provided free health examination including medical consultation to approximately 2,000 workers of its partners.

Radiation Dosage by Country
(Unit: man-Sv */Unit)



Exposure Dose of Radiation Workers
(Unit: mSv/person)



Free General Health Examination



Cyber Security Management

Strengthening Cyber Risk Response Capacity

With cyber threats to nuclear power facilities continuously increasing, KHNP enhanced the performance of its artificial intelligence-based cyber threat analysis system in order to strengthen response to external cyber threats. As the analysis of unknown external attacks and internal irregularities has been strengthened, KHNP can respond more effectively to cyber threats. In addition, KHNP strengthened the network incident analysis capacity by operating a forensic system* in its internal Internet network and that of partners. In 2019, KHNP fundamentally blocked hacking attempts targeting itself and partners, and thus recorded zero case of cyber incident.

*System to analyze digital device information, such as log, etc.

Improving Personal Information Management Standard

In line with the government’s strengthened personal information protection assessment criteria, KHNP bolstered security throughout the life cycle of personal information, such as from collection and use to provision and destruction. KHNP diagnosed its personal information protection management status through experts’ advice and developed an advanced management plan. It also established a personal information protection system that conforms to the national standard by obtaining the personal information management system (PIMS) certification for its website as well as bidding and access management system. At the same time, the personal information management status inspection was expanded from the inspection targeting headquarters to a company-wide inspection. Accordingly, the number of training sessions to enhance employees’ security awareness was increased from one to 17 per year, which led to improving the employees’ voluntary protection of the company’s information assets. In 2019, with its efforts for security improvement recognized, KHNP won the highest class in personal information protection assessment of the Ministry of Interior and Safety for the fifth year.

Using Biometric Technology

KHNP introduced a biometric system with safety secured through the acquisition of an international standard in order to maximize security of its information system and convenience of users. Having started the biometric system operation following a number of tests, KHNP will expand the application to the mobile office, mobile messenger, and remote workplace support system, and thus establish the safest and most convenient security system in the era of the Fourth Industrial Revolution.

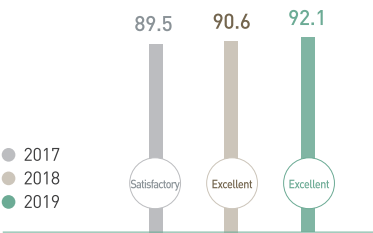
K-cyber Security Challenge 2019
Cyber Security Big Data Challenge



No. of personal information leakage



MOTIE Information Security Audit
(Unit: points)



03 Utmost Excellence



Sustainability Context

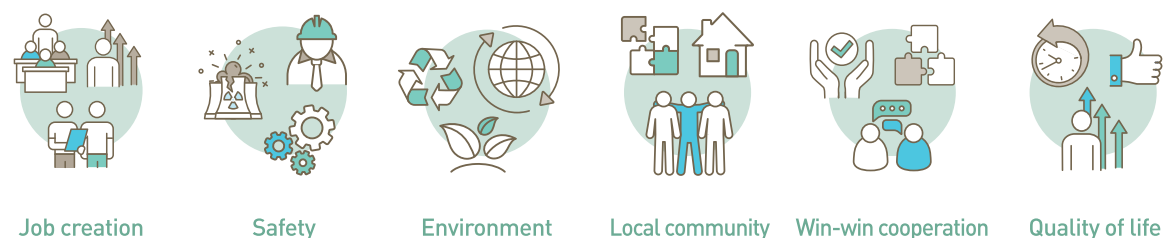
The convergence between advanced technologies, which are the fruits of the Fourth Industrial Revolution that is symbolized with hyper-connectivity, hyper-intelligence, and hyper-predictability, and power generation business considerably improves the efficiency of system, operation and production. KHNP is operating NPPs more safely and efficiently by accurately diagnosing the site through application of the state-of-the-art technologies to intelligent NPPs at each stage of the plant life cycle, such as construction, operation, maintenance, and decommissioning. KHNP will solidify its position as the “global energy leader” by developing the world-leading technological power and expanding entry to overseas nuclear and hydro power plant market.



KHNP Approach



Social Values



Stable Power Supply

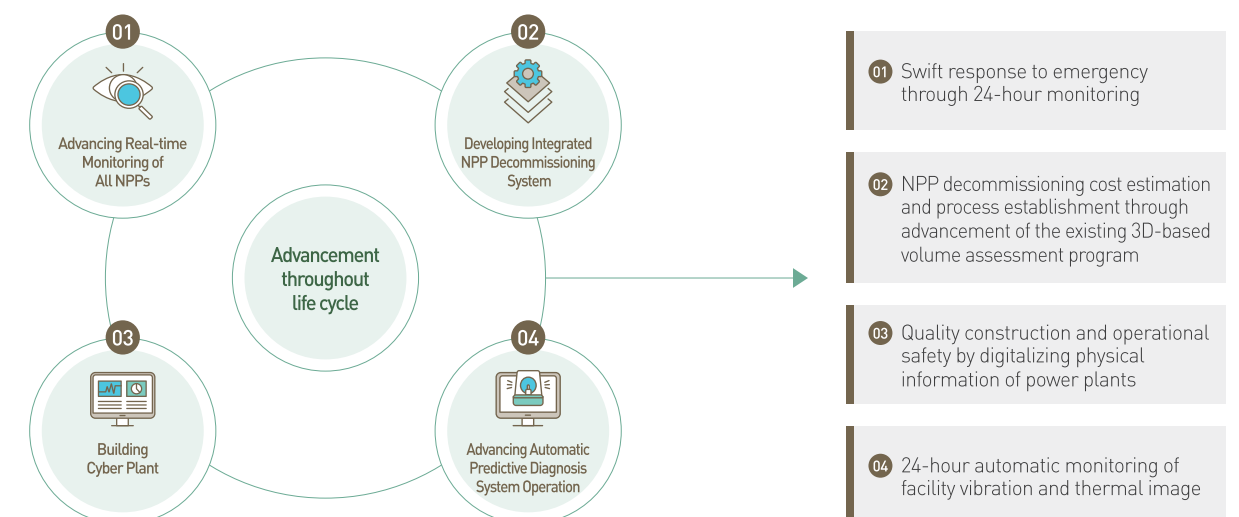
Strengthening Expertise for Key Business

KHNP R&D Direction

Major countries operating NPPs, such as the U.S., Japan and those in Europe, are focusing on technological development to strengthen safety of NPPs. KHNP is also promoting to develop the latest safety technologies using technologies of the Fourth Industrial Revolution with a goal to resolve the public concern and restore their trust in nuclear power generation by preferentially implementing R&D projects to improve safety of NPPs. KHNP will lead the promotion of general energy business by introducing safety technologies that meet the public eye-level and developing new technologies to discover income sources for the future.

Advancing Key NPP Business throughout Life Cycle through Convergence of the Fourth Industrial Technologies

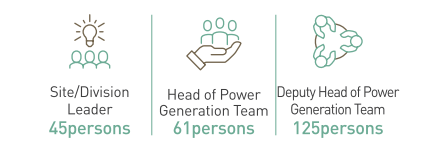
KHNP plans to further strengthen its monitoring and analysis functions by applying the key Fourth Industrial Revolution technologies for each stage of the NPP life cycle. In 2017, KHNP applied the Fourth Industrial Revolution technologies, such as automatic predictive diagnosis system, smart E-Tower, and cyber plant, to NPPs as the first in the world. Through application of the technologies, KHNP is developing intelligent NPPs with efficiency and safety maximized. KHNP will continue leading the Fourth Industrial Revolution for NPP industry of not only Korea, but also across the world by promoting innovation and R&D.



Developing Nuclear Power Leadership Education Program

KHNP developed the nuclear power leadership education program in order to improve leadership specialized to NPP operation, and strengthen emergency response capacity. KHNP provided the leadership education to key managers, such as the heads and deputy heads of power generation teams, through the general leadership training program targeting all job groups. In addition, KHNP organized and provided an educational program comprising of the sharing of key experiences in NPP operation, case study, and safety culture, that is aimed at ensuring safe operation of NPPs and increasing emergency response capacity.

Nuclear Power Leadership Education in 2019



Improved Competitiveness for Future Growth

Strengthening Leading Technological Competitiveness

KHNP's Digital Transformation Promotion System

To optimize energy efficiency at power plants, KHNP is operating the digital transformation promotion system based on the three tasks which are: to build standard infrastructure, utilize the Fourth Industrial Revolution technologies, and establish an operation innovation system.

Digital Transformation Promotion System			
Goal	To achieve the highest stability and efficiency by establishing digital-based smart plant		
Tasks	Establishing standard infrastructure	Using technologies of the Fourth Industrial Revolution	Building operation innovation system
	· Establishing wireless communication infrastructure · Establishing digital twin-platform	· Advancing early warning function, automatic facility failure prediction and diagnosis system · Improving high-risk work environment	· Standardizing power plant facility maintenance and establishing integrated management system

Third-generation Korean NPP Model

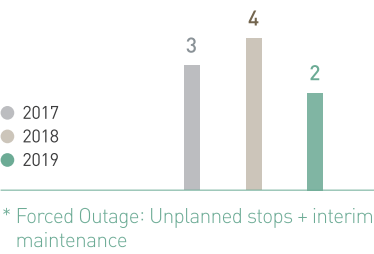
With a goal to stabilize national power supply, demonstrate Korea's nuclear power technologies and construction capacity, and strengthen the foundation for overseas project winning, KHNP promoted the completion of Shin-Kori 3 and 4 to which APR1400*, the third-generation Korean NPP model, was applied for the first time through an investment of approximately KRW 7.5 trillion. The plants were successfully completed in August 2019, 12 years since the commencement of construction. The commercial operation of Shin-Kori 3 and 4—which contain the history of a new light water reactor model (APR1400) development started with a goal of technological independence in 1992—proved to the world that it has been a NPP project of the highest standard. With Shin-Kori 3 and 4, KHNP secured a basis for additional overseas market entry following the UAE. The amount of electricity generated by Shin-Kori 3 and 4 is 20.8 billion kWh per year, which represents 3.7% of the nation's total power generation volume. With over 4.2 million people participating in the construction, this project also contributed to job creation.

* APR1400: Advanced Power Reactor 1400

Reducing Forced Outage through E-Tower Advancement

Since 2016, KHNP has been operating the E-Tower, a general power plant operating center, in order to ensure swift support for and resolution of issues upon occurrence as well as efficient monitoring of a multiple number of plants. E-Tower is a control tower that enables swift response to various emergency situations with the functions of 24-hour remote monitoring on all NPPs and early warning. In 2019, KHNP, with the effort to advance its monitoring capacity—such as by securing pilot operation and low-output and control rod deviation monitoring ability, developing new NPP monitoring system and integrated monitoring platform, and unifying data management through programming language standardization—detected 413 cases of NPP failure signs, and thus prevented loss by approximately KRW 54.4 billion. In addition, KHNP won recognition of its excellence across the world by being selected as a success case in the WANO CPR.

Forced Outage* Reduction Cases



Improving Facility Reliability with Automatic Facility Failure Prediction and Diagnosis Technology

With the number of NPPs that have been in operation for over 20 years increasing, the necessity of systematic facility management and technologies has been raised. KHNP preemptively prevents facility failure by developing the automatic prediction and diagnosis system based on the Fourth Industrial Revolution technologies. Facility defects are automatically predicted and diagnosed 24 hours prior to their occurrence through big data analysis based on the artificial intelligence. When a failure of a facility is predicted, the cause is analyzed, and a handling action is derived so as to improve safety and reliability of the facility. The number of facilities subject to prediction and diagnosis will be expanded from 3,734 in 2019 to 6,892 in 2020 and again to 14,600 by 2021. KHNP built an integrated prediction and diagnosis center (AIMD*) in September 2020 to monitor and diagnose facility failures real-time. Following a pilot operation period, the center operation will begin in 2022 to contribute to improving facility reliability.

* AIMD: Artificial Intelligence Monitoring & Diagnosis Center



▲ Inside of Integrated Prediction and Diagnosis Center (AIMD)



Energy Conversion with NPP Decommissioning Technologies

KHNP expects that the NPP decommissioning business will be a growth engine for the future as the number of NPPs will decrease in line with the government's energy conversion policy. Accordingly, KHNP established a NPP decommissioning business road map to preemptively prepare for the expansion of nuclear decommissioning business and global decommissioning market. In 2019, KHNP secured six NPP decommissioning technologies including the large-area radioactive meter, and decommissioning process difficulty evaluation system. In addition, as the bill for the nuclear decommissioning research center establishment was passed through the extraordinary BOD meeting in August 2020, KHNP will accelerate the securing of commercialization technologies necessary for NPP decommissioning.

Category		2017~2020	2021~2030	2031~2034
Domestic nuclear decommissioning	Kori 1	Preparation for decommissioning/management of spent fuel	Establishment of waste treatment facility, decontamination/removal	Site restoration
	Wolsong 1	Preparation for decommissioning/management of spent fuel	Decontamination, removal, waste treatment	Site recycling
Ecosystem establishment	Early-stage market creation, fostering of new and professional human resources, strengthening of domestic and international cooperative system, establishment of NPP decommissioning research center, development of and entry to overseas decommissioning market			Promotion to win overseas contracts
Strategy	Advancement of NPP decommissioning capacity	Establishment of NPP decommissioning ecosystem	Development of overseas NPP decommissioning market	
Tasks	· Advance technological, equipment, human capacity · Promote decommissioning of Kori 1 and Wolsong 1	· Place orders at an earlier phase, promote domestic and international technology sharing · Establish NPP decommissioning research center	· Participate in decommissioning project in Canada · Participate in joint project with COG	

Expanding Global Market Entry

Achieving Record Largest Overseas Orders

KHNP achieved the record largest overseas orders by diversifying strategies to win overseas projects. KHNP is expanding orders for NPP projects abroad by publicizing its world-class technological power with Team Korea at the lead. In 2019, KHNP recorded KRW 433.5 billion in overseas sales by strengthening exchange with local governments, developing reactor models to meet the needs of ordering countries, establishing detailed project-winning strategies, such as to promote joint market entry with domestic partners, and actively performing project-winning activities led by the CEO.

Overseas Orders (6 countries)]

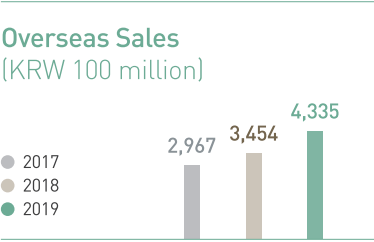
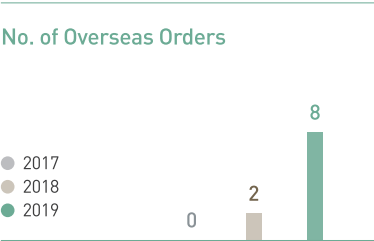
UAE	Egypt	Romania (2 projects)	Canada	Saudi Arabia (2 projects)	China
Long-term Maintenance Contract	Construction Management Consulting	Engineering Service, Equipment Export	Support for Heavy Water Reactor Decommissioning	Education of Regulatory Personnel	Benchmarking Education

Participating in All Areas of NPP Project in the UAE

Having successfully won a maintenance project (LTMSA) from the Barakah Plant operator in the UAE, KHNP will play a leading role throughout the life cycle of the plant from plant design and construction to operation and maintenance. With an inspection response team dispatched to the project site, the working-level staffs of both companies built a friendly relationship by engaging in discussions as frequently as necessary. Following an inspection of NPPs in Korea by the ordering company, through which KHNP’s technological power and strengths of Team Korea were demonstrated, the maintenance project contract was signed. Through successful implementation of the Barakah NPP project, KHNP recorded accumulated sales of KRW 2.6 trillion and created 1,477 overseas jobs by 2020, and thus fulfilled its social responsibility as a public enterprise. KHNP plans to prepare a foundation for its growth engine by strengthening the long-term cooperative relationship with the UAE and discovering new profit-making businesses abroad.

Obtaining International Certification for Korean NPP Model

KHNP obtained the standard design certificate for the third-generation Korean NPP model (APR1400) from the Nuclear Regulatory Commission (NRC) of the U.S. This is the first case in the world for a nuclear reactor developed in a country other than the U.S. to receive this certificate and with the certification, the safety of APR1400 has been verified. It also allows the construction and operation of this plant model in the U.S. Following the acquisition of the EUR certification, which is required for business operators in Europe, in 2017, APR1400 received the world’s two leading certifications. With this, KHNP secured a bridgehead for entry into the global NPP market including the U.S. and Eastern Europe.



▲ APR1400 NRC Design

Developing New Markets

KHNP is continuously promoting new market development by performing NPP business development and order receiving activities with different needs of each country reflected. In Egypt, KHNP entered into an NPP construction management consulting contract and secured a basis for winning an order for the secondary EPC project of the EL-Dabba NPP. In Saudi Arabia, it provides practical education for construction and inspection operations to the regulatory personnel and establishing a foundation for market entry by applying for standard design approval on the Korean small reactor model. In Romania, KHNP demonstrated its supply capacity by implementing a technical service project for a radioactive waste repository. In addition, KHNP secured a foundation for new market development and order receiving by strengthening cooperation with NPP operators around the world, such as Czech Republic, Poland, Kazakhstan, and Bulgaria.



▲ Supporting professional ice hockey team in the Czech Republic

Entering Overseas New and Renewable Energy Market

KHNP is diversifying its investment method in order to successfully enter new and renewable energy market abroad and secure business development opportunities. KHNP was the first to successfully enter the large-scale wind power generation market in North America by organizing a consortium with domestic financial institutions and taking over 49.9% shares of the four large-scale onshore wind power generation complexes with a total facility capacity of 852 MW in the U.S. The power generation complexes have been operated for several years and are in a long-term power purchase agreement with a U.S. company along with an O&M contract with an international operation and maintenance service provider. Therefore, KHNP can expect stable investment profits over the next 25 years in addition to a foundation on which it can secure operating expertise by participating in the plant operation. Moreover, KHNP was also the first to officially enter the South American market by entering into a shareholder agreement for joint investment in photovoltaic power generation business in Chile. Chile is known to be an attractive country for investment as small-scale power generators can create stable profits based on the government policy. When the Clean Development Mechanism (CDM) is applied, KHNP can secure certificated emissions reduction (CER), and thus expect additional profits. At the same time, this project, which is promoted jointly with the Korean SMEs that produce and export instruments and equipment, is anticipated to serve as a leading case of KHNP-style green New Deal policy promotion to contribute to sales increase and job creation for the SMEs.

04 Shared Respect

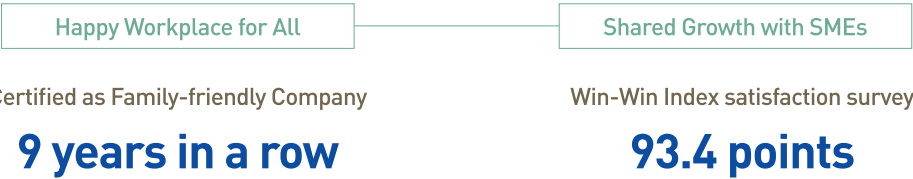


Sustainability Context

KHNP strives to create a culture where all its members respect one another in order to secure the world’s top-class technological power and increase the capacity to realize integrity management. KHNP secures future talents through fair recruitment and creates a happy workplace by supporting the employees’ growth and work and life balance. In addition, it supports the partners’ domestic and international market development and improved technological competitiveness of SMEs based on the shared growth strategy system. As such, KHNP is dedicating efforts to creating an energetic ecosystem in the NPP industry.



KHNP Approach



Social Values



Equal opportunity



Win-win cooperation



Quality of life

Happy Workplace for All

Securing Talents for the Future

Fair Recruitment and Performance Assessment

In order to secure talents centering on their job competency, KHNP provides fair opportunities according to a reasonable recruiting procedure. In addition, it established a transparent recruiting process by collecting opinions of new employees and job interviewers. With the blind recruiting process strengthened and the application target expanded to both regular positions and temporary workers, information relating to the candidates’ qualification is excluded from the job applications. And to thoroughly block information, the procedure has been changed for the candidates to submit supporting documents after their interview screening. As a result of an external audit on employment in 2019, no corruption-related case was detected. The score of new employees’ satisfaction with the recruiting process increased from last year to 4.28 points.

Improvement on Corruption Risks by Recruiting Stage

Stage	Strengthened Regulations
Planning	When a plan is established or changed, it is reflected in the regulations, such as internal control and restricted competitive employment procedure, etc.
Member Selection	Selection by director of headquarters → random number drawing with attendance by audit division, removal/evasion system installed
Pass/Fail Decision	Attendance by audit division in each screening stage, double-check by committee and auditor at final decision
Follow-up Management	Employment of relative announced, employment corruption victim relief procedure prepared

Effort to Foster Female Leaders

The number of female employees and executives in KHNP is gradually increasing. However, the rates of female employees and executives in office positions and technical positions vary widely as 37% and 9.9% respectively. To resolve gender inequality in technical positions, KHNP expanded the gender equality recruiting goal for technical positions, allocated female employees to key positions in power generation and maintenance field, and strengthened appointment of female managers to major positions. KHNP also established a mid to long-term goal for female manager and executive appointment and has continuously performed activities for system and awareness improvement to create a working environment of gender equality. In 2019, 24.8% of college graduates employed for technical positions were female and 20 women on career disruption were recruited. As a result, KHNP produced its first female power generation shift team leader.

Supporting Employees’ Growth

KHNP has developed and is providing various educational programs to support the growth of its employees. It supports the growth of employees into experts by providing them with the job-related competency development programs and also helps the employees achieve work-life balance and manage their career through the change management and future design programs according to their life cycle.

Life Cycle Education Program

Education	Performance in 2019
Job competency development	Operated 156 learning clubs relating to major duties, participation by 862 employees
Support for degree acquisition	Participation by 536 employees in degree acquisition support program, job-related licenses obtained by 565 employees
Education for childbirth and childcare period	Provided work-life balance education to 203 employees with pregnancy, reinstatement, and career break.
Education for retirement period	Provided education on adaptation to change and future planning to 615 employees on salary peak



Zero employment-related corruption case through prevention of illegal intervention in recruiting process

Employment Goal	Female Manager	Female Executive
'19	4.1%	1 person
'20	4.3%	1 person
'21	4.8%	2 person
'22	5.3%	3 person
'23	6.0%	3 person

Increase in the Number of Female Managers



145('18)
▶ 163('19)

Keeping Work - Life Balance

As efficient time management is demanded in line with the government’s expansion of 52-hour work week system and increase in the importance of work-life balance, KHNP has established a system to support the employees’ work-life balance and is striving to create a culture for establishment of the system. KHNP spreads the programs of family-friendly system targeting employees to improves the method of operation, prevents inefficient way of working, and thus increasing the employees’ satisfaction and work efficiency.

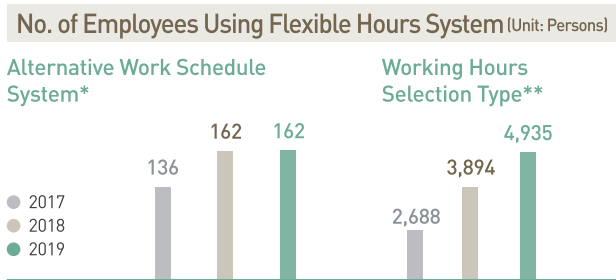
KHNP Work-Life Balance Promotion System			
Goal	To increase concentration on work and job satisfaction by improving work culture to achieve work-life balance		
Directions	Spread work-life balance culture	Increase job efficiency by improving method of operation	Create culture to increase concentration on work
Tasks	<ul style="list-style-type: none">· Improve system and implement programs for employees in childbirth/childcare period· Support customized competency development education	<ul style="list-style-type: none">· Improve system to reduce overtime work hours· Perform activities to improve on inefficient operations	<ul style="list-style-type: none">· Increase use of various forms of work· Increase concentration on work by improve method of operation

Increasing Use of Childcare Leave

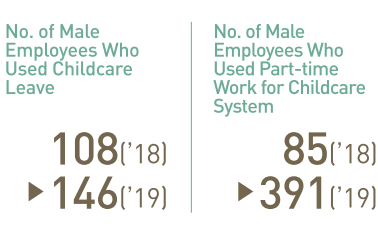
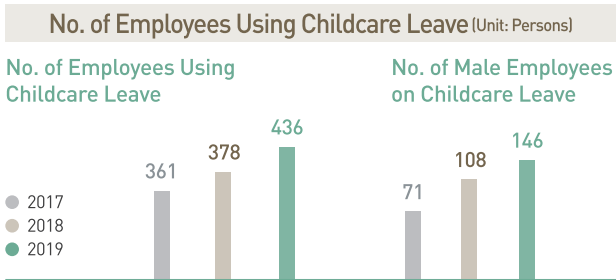
KHNP strengthened flexibility of the system use by allowing employees to split the period of leave two times as opposed to once in the past. KHNP also introduced a system for employees to take out the family care leave for up to ten days. It also increased the period of paid leave for spouse’s childbirth up to ten days. As a result of the efforts, the number of KHNP employees on childcare leave increased from 378 in 2018 to 436 in 2019 and 33.4% of them being male employees. Moreover, the number of employees who adjust the time to start and end their work in a unit of 30 minutes, increased considerably from 122 in 2018 to 561 in 2019.

Improving Overtime Work Cap System

KHNP systematically manages overtime work hours of its employees to create the culture of efficient working and promote the employees’ work-life balance. In the past, overtime work hours and quota were uniformly distributed within the total amount per year. Since May 2019, however, the total amount of annual overtime work hours has been distributed by team unit. Having arranged for individual employees to establish their overtime work plan and obtain approval on it, KHNP eradicated unnecessary overtime work and spread the culture of concentrative work. In addition, KHNP installed the labor-management TF for compensatory leave system. As a result of supporting efficient work hour management for employees, the average overtime work hours per person decreased from 89.3 hours in 2018 to 82 hours in 2019.



* To select working hours within a range of 15 - 30 hours
** To adjust time to start and end work



Certified as Family-friendly Company for **9 years** in a row by the Ministry of Gender Equality and Family

Certified as **Mother-friendly Workplace** by UNICEF Korea

Programs for Employees’ Health

By interviewing employees in various positions and generation groups, KHNP identified the difficulties experienced by its members and promoted the implementation of a customized welfare system. KHNP introduced the mobile brainwave test and sleep programs in order to manage stress levels of employees on shift works or that have been working in the company for less than five years. It also started a group program and a psychotherapy service to care for employees experiencing stress in the course of their adaptation to the organization. Psychotherapy experts visited employees working in the UAE and other overseas or remote areas including Hanul Site and provided customized counseling service in addition to the tracking of employees in high-risk group. In addition, Happy Hour, a wellness program designed for the employees working at Hanul Site and their families, was held 12 times a year to help employees working in remote areas enjoy relaxation and relieve stress.

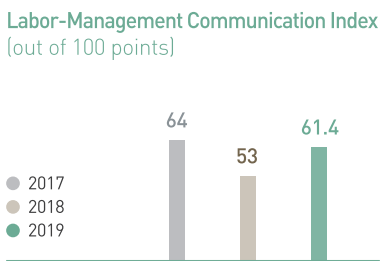
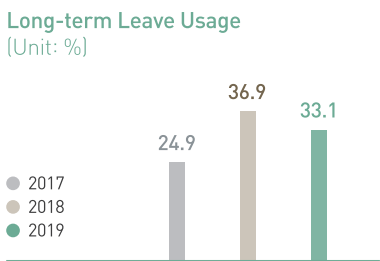
Realizing Corporate Culture of Communication

Two-way Communication for Organizational Diagnosis

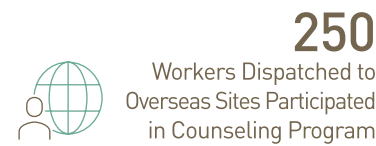
KHNP strives to minimize difficulties its employees can experience due to rapid reorganization of the office. In the even-numbered years, the organization is diagnosed objectively by external experts and, in the odd-numbered years, the organization is internally diagnosed through field interviews. Through this system, improvement tasks relating to the organizational and HR management are derived each year. The improvement tasks derived through the diagnosis are as follows: First, the directivity of organizational management must be shared with and agreed on by employees through active communication and cooperation. Second, conformance of the diagnosis result must be increased through interviews on operational analysis targeting 32 divisions of the Headquarters through cooperation with HR division. Third, the diagnosis result must be effectively reflected in the organizational redesign through a decision-making meeting led by the CEO along with the development of organizational improvement plans under supervision of the director of Headquarters.

Guaranteeing Employees’ Right to Participate in Management

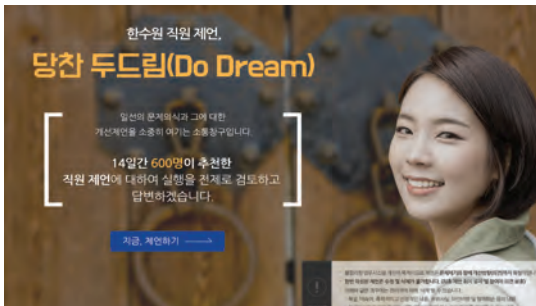
KHNP operates a company policy suggestion channel by an online platform to collect opinions of its members and guarantee worker’s right to engage in management. In 2019, The Future Policy Group, which consists of 400 employees aged 45 years or younger, conducted an open-ended discussion to improve HR. As a result, they deduced 31 tasks and 25 of them were reflected in management. Do Dream, a work improvement suggestion system through which all employees can freely exchange and share their opinions, was established by benchmarking the National Petition system of Cheongwadae. A suggestion that is agreed on by 600 employees within 14 days is reviewed and officially answered by the respective division. In 2019, 15 out of 165 suggestions were officially answered and ten of them were reflected in the company’s business management.



Mental Health Support Program*



* Targeting Headquarters and 3 branches



▲ Do Dream online platform

Shared Growth with SMEs

Shared Growth Strategy System

KHNP identified the needs in the field and set the direction of shared growth promotion by collecting opinions of its partnering SMEs through various channels. KHNP set the creation of energetic NPP ecosystem based on win-win cooperation as its shared growth promotion goal, and thus supported productivity improvement and market development of SMEs. It also established strategic tasks with a focus on business diversification, such as decommissioning business, and ensuring of liquidity for NPP industry partners that are in need of financial support to overcome COVID-19 and promote overseas market entry.

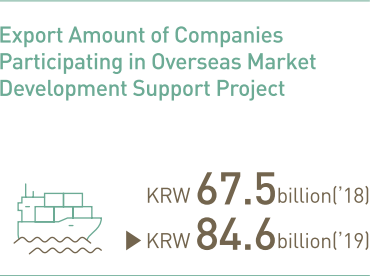
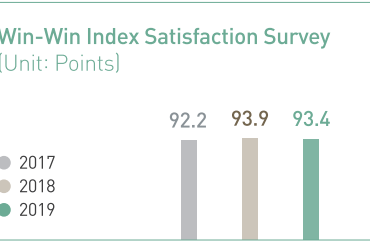
Internal and External Environment	External Environment <ul style="list-style-type: none">· Energy conversion (NPP reduction by stage)· Difficulty in supply due to export regulations· Management difficulty experienced by SMEs (economic stagnation)	Internal Environment <ul style="list-style-type: none">· Continued supplier breakaway expected· Insufficient substantial supporting plans· Lack of key supplier sorting and management system	Needs of Partnering SMEs <ul style="list-style-type: none">· To prepare measures for response to and resolution of energy conversion· To expand market development support and purchase· To expand support for corporate competitive power improvement
Goal	To create energetic NPP industry ecosystem through win-win cooperation with partnering SMEs		
Directions	To maintain NPP industry ecosystem	To cultivate environment for startups and innovation	To reduce gap between small and large enterprises
Tasks	<ul style="list-style-type: none">· Resolve complaints through active communication· Provide support to prevent supplier breakaway· Expand joint entry to new market/new industry	<ul style="list-style-type: none">· Promote part and equipment localization project· Establish base for innovative ecosystem· Foster local startups and venture companies	<ul style="list-style-type: none">· Expand benefit (cooperative benefit) sharing* system· Improve working conditions for employees of SMEs· Create environment for stable growth of SMEs

* Benefit Sharing: A system to share outcomes produced through joint effort in a method that has been decided in advance

Supporting Domestic and International Market Development

Supporting Overseas Marketing Routes for Equipment through Link to NPP Export

Since the NPP export to the UAE, KHNP has been striving for joint overseas market entry with its partnering SMEs by actively responding to the government’s policy to “activate export throughout NPP life cycle.” In 2019, KHNP implemented the “innovation partnership” project to support export consulting cost of approximately KRW 50 million for each of 25 SMEs in order to strengthen their export capacity. In addition, through the “overseas market development team” program, KHNP arranged meetings with potential buyers, such as key EPCs abroad, for 95 partners. KHNP also supported the production of overseas PR materials including translation of catalogs, websites, and manuals for 15 companies and the cost of participation in overseas fairs and PR booth installation for 21 companies. As a result of the activities, export amount of KHNP’s partners increased by 25% from the previous year.



Strengthening Competitiveness of SMEs

Leading Localization of Parts and Equipment

In response to Japan’s export regulatory measure in 2019, KHNP promoted localization of imported parts that are used in nuclear and hydro power plants. It also launched the “part and equipment localization TF” with a goal to achieve shared growth with SMEs. The TF will discover localization targets through internal and external contests and promote localization R&D projects with the partnering SMEs through the investment of KRW 100 billion on 100 tasks over the next three years depending on their feasibilities. In addition, KHNP held a purchase consulting event by applying the concept of TV home shopping as the first among public enterprises, and thus promoted and purchased various mechanical, electrical, and measuring parts produced by SMEs. Through the effort, KHNP supported marketing routes for R&D products and expanded the domestic market.



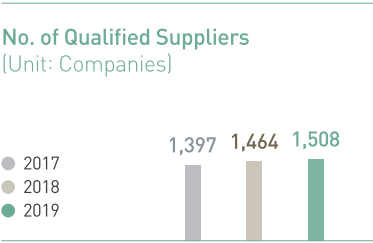
▲ Part and equipment localization

Expanding Support for Smart Factory Establishment

With the government announcing smart manufacturing innovation of SMEs as one of its key promotional tasks, support is provided with a goal of smart factory establishment by 50% of SMEs by 2022. In line with this trend, KHNP started the industrial innovation campaign in 2019 to improve production process and support smart factory establishment targeting 38 partnering SMEs. In 2020, the support amount per company was increased up to KRW 300 million. Currently, KHNP is supporting management techniques and production facilities for 32 SMEs, such as for the introduction of smart solutions with IoT and big data technologies applied, reduction of defect rate, cost reduction, and reduction of delivery period. KHNP will continue contributing to improving manufacturing innovation competitiveness of SMEs by increasing the support amount and targets.

Preparing Communication Channels with Partners

As sales and jobs in the nuclear field are expected to decrease in the mid to long-term, KHNP strives to maintain a healthy supply network by listening to the difficulties experienced by SMEs in order to keep the excellent suppliers and supporting the total amount of cost required for the suppliers to maintain their qualified supplier status. 126 out of 161 suggestions collected through CEO’s visits to and talks with partners have been handled. In addition, the amount of financial support for the cost of qualified supplier certification was expanded to the full amount. As a result, in 2019, the number of KHNP’s qualified suppliers increased by 3% from the previous year.



Performance of Active Communication with SMEs

Communication with Partners <ul style="list-style-type: none">· Visits by the CEO and management (48 times)· Talks with primary and secondary partners (9 times)· Talks with nuclear power-related organizations (4 times)	Identification of Needs <ul style="list-style-type: none">· Support for full amount of cost required in entering KHNP supply network· Necessary to expand support business of overseas market development team· Necessary to support liquidity of partners· Expansion of bidding opportunities for domestic companies	Resolution of Difficulties <ul style="list-style-type: none">· Support for full amount of cost required in qualified supplier certification· Development of supporting businesses for overseas market development· Emergency loan fund of KRW 40 billion to overcome COVID-19· Increase of loan fund by KRW 10 billion for secondary partners· Conversion of international bidding volume to domestic bidding
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05 Tangible Social Value



Sustainability Context

For sustainable growth, a business must fulfill its social responsibilities that are demanded and expected by stakeholders in addition to performing activities to pursue economic benefits. KHNP improves the quality of life of its stakeholders by creating new jobs and converting temporary positions to permanent ones. It also creates the eco-friendly culture through environmental management, practices sharing through social contribution, and promotes shared growth with partners. As such, KHNP performs responsible activities in order to spread positive impacts.



KHNP Approach



Social Values



Job creation



Safety



Environment



Local Community

Creating Social Values

Leading Social Value Creation

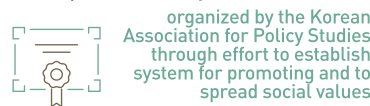
KHNP-type Social Value Strategy

Social values contribute to the public interest and community development in the areas of society, economy, environment, culture, etc. The social value KHNP can create is defined as “contribution to spreading happy energy through safe energy generation.” By linking its mid to long-term management strategies, innovation promotion plan, and the CEO’s management policy with the government projects, KHNP re-established its social value strategy system in 2019.

Installing Social Value Performance Measuring Indicators

In 2019, KHNP developed the Social Value Total Index (SVTI) by integrating social value-related assessment elements, and clearly set the goal for social value creation in order to secure objectivity and effectiveness of the values created. The SVTI comprises of 40 indicators in seven areas including job creation with consideration given to the level of importance of each value. KHNP set a quantitative goal to improve the SVTI score by 10% each year. In 2019, the SVTI goal and performance were 70.29 and 72.11 points respectively. As such, KHNP displayed a performance in excess of the goal.

Top Prize in Public Enterprises Policy Award in 2019



Strategies for Social Value Creation

Vision	General energy company that leads social value creation based on trust and communication				
Goal	BEST Social Value Creator, KHNP!				
Road Map	Establish foundation for social value promotion (~2019)		Establish differentiation points in social values promoted (~2021)		Spread social values throughout ecosystem (~2023)
	<ul style="list-style-type: none">· Diagnose level of current social values· Derive key social values and set road map strategic direction· Develop and operate Social Value Total Index	▶	<ul style="list-style-type: none">· Select representative tasks by field· Strengthen link to stakeholder needs· Increase completeness of Social Value Total Index	▶	<ul style="list-style-type: none">· Expand and manage value chain· Establish feedback system based on engagement and communication throughout project life cycle· Advance performance management system
Social Values	15 strategic tasks and 52 implementation tasks in four areas				
	Better Life - Value	Environment - Value	Safety First - Value	Together - Value	
Strategic Tasks by Field	<ul style="list-style-type: none">· Create innovative jobs that are close to people's lives· Support equity for the vulnerable class and promote social integration· Strengthen human rights and internalize ethical management· Improve quality of life of employees and increase their satisfaction	<ul style="list-style-type: none">· Expand rate of renewable energy use and innovate business model· Promote recycling business to resolve environmental issues through link to main business· Create clean work sites without particulate matters	<ul style="list-style-type: none">· Promote NPP safety throughout life cycle based on the Fourth Industrial Revolution· Strengthen disaster management system in all directions· Create work environment that prioritizes safety· Reorganize information security and facility protection system	<ul style="list-style-type: none">· Strengthen ecosystem for shared growth with SMEs· Increase partnership with local community· Establish stakeholder engagement and cooperation system· Strengthen public service through opening and sharing	
Key Performance Indicators	<ul style="list-style-type: none">· Number of jobs created in private sector· Rate of employment of talents in relocated regions	<ul style="list-style-type: none">· Expansion of the rate of renewable energy use· Contribution to resolving environmental issues through recycling used electric vehicle battery	<ul style="list-style-type: none">· Safety management index of NPPs in operation· Occupational safety management index	<ul style="list-style-type: none">· Energy Innovation and Growth Fund development· Survey on contribution of KHNP Headquarters to Gyeongju region	

Minimizing Environmental Impact

Environmental Management Promotion System

Climate change causes severe drought, heat wave, and flood, resulting in various environmental risks. Accordingly, the necessity of shift from eco-friendliness to green survival is being raised. In order to be reborn a general energy company that leads the virtuous cycle of energy business and environmental protection, and respond to climate change, KHNP has strengthened the water quality, air quality and resource circulation management systems, therefore establishing the environmental preservation promotion system.

KHNP Environmental Preservation Promotion System

Environmental Vision	To become a general energy company that promotes virtuous cycle of energy business and environment through eco-friendly growth		
Strategic Direction	Preserve environmental sustainability	Strengthen environmental management control system	Alleviate climate change risk at the right time
Tasks	<div>· Introduce wastewater ecotoxicity management system</div> <div>· Preemptively reduce particulate matter</div>	<div>· Strengthen environmental performance monitoring</div> <div>· Activate resource circulation</div>	<div>· Establish low-carbon economic infrastructure</div> <div>· Implement climate change measures at the appropriate time</div>

Responding to Climate Change

Establishing Climate Change Response System

In its supply process, nuclear energy does not emit greenhouse gas that causes global warming. KHNP actively participates in the global effort for GHG reduction by continuously supplying nuclear energy and promoting new and renewable energy business. In order to minimize the damage caused by climate change, KHNP established a comprehensive action plan for climate change adaptation, which will be applied until 2021. Through this plan, KHNP suggests eight response strategies and 13 detailed tasks in relation to the seven climate change factors, such as heat wave, cold wave, heavy rain, heavy snow, strong wind, drought, and sea level rise. In 2019, KHNP developed an e-learning content to improve climate change awareness of its employees as the first among public enterprises. In 2020, the education target was expanded to the employees of partners, and thus the base for awareness of climate change adaptation was widened.

KHNP Green Bond Issued and Transferred to Global ESG Bond Index

As the first non-financial public enterprise, KHNP issued green bond to a scale of \$600 million in 2018, and thus successfully attracted investors from the U.S., Europe and Asia. In 2019, the green bond issued by KHNP was transferred to the MSCI ESG Index*, one of the world's three social responsibility investment indicators.

* MSCI Barclays Aggregate Global ESG Bind Index

GHG Reduction Effect of Nuclear Power Generation
(When replaced with flaming coal)

109.87million tCO₂/year

GHG Reduction Effect of New and Renewable Energy

Wind power generation
86,694tCO₂/year

Photovoltaic power generation
6,319tCO₂/year

Promoting New and Renewable Energy Business

KHNP New and Renewable Energy 3020 Road Map

KHNP is strengthening its business strategies in order to successfully implement RE 3020* and swiftly produce outcomes and also developing a business model to expand the new and renewable energy facilities. Reflecting changes in its policies, such as the hydrogen economy activation policy and wind power generation activation plan announced in 2019, KHNP segmented the strategies by new and renewable energy source through selection and concentration.

* A plan to increase new and renewable energy facility capacity from the current 2.7% of KHNP's total facility capacity to 24% by 2030

New and Renewable Energy Facility Capacity (Excluding Hydro Power)
(Unit: MW)



Category	Business Strategy by Power Generation Source	Promotion Details	Promotion Performance in 2019
Photovoltaic Power	<div>· Dominate business through selection and concentration</div>	<div>· Promote photovoltaic energy business at the appropriate time</div> <div>· Develop business using salt-damaged farmlands and salt farm sites</div>	<div>· 12.6 MW completed including photovoltaic facility for Hyundai Motor Company</div>
Wind Power	<div>· Develop business reflecting policy changes</div>	<div>· Simultaneously promote onshore and offshore wind power business</div> <div>· Develop business near NPPs and along the East Coast</div>	<div>· Onshore wind power facility completed in Cheongsong (19.2 MW)</div> <div>· Offshore wind power facility completed on Southwest Coast (60 MW)</div>
Fuel Cell	<div>· Secure residents' acceptance and develop technologies</div>	<div>· Resolve conflict with local residents through communication</div> <div>· Establish basic plan for KHNP's hydrogen business</div>	<div>· Fuel cell facility (40 MW) construction in Incheon resumed</div> <div>· R&D to secure hydrogen technologies commenced</div>

Building the World's Largest Floating Photovoltaic Power Generation Complex in Saemangeum

KHNP is installing the world's largest floating photovoltaic power generation facility on the water of Saemangeum Seawall in Jeollabuk-do Province. The Saemangeum floating photovoltaic power generation facility with a capacity of 300 MW is scheduled for completion in 2022. This is a 2.1 GW system link project and the world's largest photovoltaic power generation complex that is 9.6 times the size of Yeouido will also be established. Having set the West Coast and South Coast zones centering on the Saemangeum region as a base for its new and renewable energy business, KHNP will establish a business model to maximize benefits to the local government and residents by sharing the plant operating profits with the residents of three cities around Saemangeum and revitalizing local economy through encouragement of participation by local SMEs.

Promoting Collaborative-type Photovoltaic Business

Through collaboration with Ulsan City and Hyundai Motor Company, KHNP is installing a photovoltaic power generation facility on an idle site, such as the waiting yard for finished vehicles. While maintaining the functions of the waiting yard, a photovoltaic panel is installed at the top of the existing structure. This way, usefulness of the site is increased and, at the same time, finished vehicles can be protected from sunlight and rain. KHNP plans to install a photovoltaic facility to a scale of 27 MW inside Hyundai Motor Company Ulsan Plant first and then promote expansion of photovoltaic power generation capacity to 100 MW using available sites in the seven plants of Hyundai Motor Company, such as parking lots of vehicle release yards. As such, KHNP developed a win-win model between a public enterprise and a private company.



▲ Roof-type photovoltaic power

Photovoltaic Business with Residents’ Participation Using Old Salt Farms

KHNP promotes a new photovoltaic power generation business based on the local residents’ participation using old salt farms for which the necessity to create a new income source is raised due to the fall of salt price. A photovoltaic power generation facility with a capacity of 200 MW will be installed by the end of 2022 on a salt farm site at Bigeum Island in Sinan-gun, Jeollanam-do Province. The residents of Bigeum-myeon will receive dividend income based on equity investment over the next 20 years. This is a green New Deal photovoltaic power generation business that is led by and provides an opportunity of direct investment to local residents. It is expected to activate local economy by increasing the residents’ income level.

Completion of Onshore and Offshore Wind Power Projects in Suitable Time

In 2019, KHNP completed the construction of a large-scale onshore wind power generation complex with a capacity of 19.2 MW, which enables power supply to approximately 16,000 households at the foot of Noraesan Mountain near its pumped-storage plant in Cheongsong, Gyeongsangbuk-do Province. KHNP also completed the construction of an offshore wind power generation facility along the Southeast Coast, which has been promoted jointly with KEPCO and five power generation companies since 2012. As such, KHNP concurrently promoted onshore and offshore wind energy development projects in the southwestern region, which provides an environmental advantage for wind power generation. Based on its experience of successful wind power facility construction, KHNP plans to expand wind power business in Hail of Goseong, East Gyeongju city, and Anma Island.



▲ Wind power development project in Cheongsong

Promoting ESS Business Using Used Electric Vehicle Battery as the First in Korea

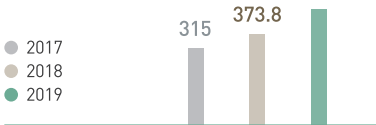
When the electric vehicle battery performance deteriorates, the vehicle mile reduces and the charging speed slows down. As the electric vehicle market is growing rapidly, the number of used batteries is also increasing. When exposed to the environment, lithium ion battery used in electric vehicles, which is categorized as a toxic substance by the National Institute of Environmental Research, can cause environmental issues as well as the risk of fire and electric shock. Therefore, a corrective action is required. KHNP is promoting a verification project to install ESS (energy storage system) to a scale of 2 MWh using used electric vehicle batteries by 2020. In addition, through a link to the photovoltaic power system to be established in the future, KHNP will work on a pilot project to install ESS to a scale of 10 MWh by the end of 2021. The combination of ESS to recycle used batteries and renewable energy power generation will lead to a virtuous cycle of resource use.

Creating Eco-friendly Work Sites

Complying with Environmental Laws and Minimizing Environmental Impact

In order to improve its company-wide environmental management competency by comparing environmental performances of each NPP site, KHNP comprehensively assesses 17 environmental management activities, such as in terms of violation of environmental laws, number of accidents, pollutant discharge amount, and waste recycling rate, and monitors the results annually. In 2019, the score of environmental management performance at all nuclear plants was 478.3 points, which increased by 27.9% from the previous year. In 2019, no environmental non-conformance case or accident occurred at the Kori, Saeul, Wolsong, Hanbit, and Hanul plants.

Environmental Management Performance for NPPs (Unit: points)



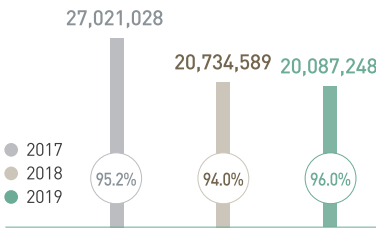
Turning Aquatic Organisms and Wastes into Fertilizer

KHNP categorizes wastes into general waste, designated waste, and construction waste, and thoroughly manage the entire waste treatment process from generation to final treatment. In 2019, KHNP started a business to recycle aquatic organisms flown in the seawater used at its NPPs as fertilizer. In the course of electric power generation, a large amount of seawater is collected to cool down the devices and steam from the turbine. In this process, a number of aquatic organisms and organic substances, such as jellyfish, are flown in, resulting in the inevitable generation of animal/plant wastes. The aquatic organisms not only increase the risk of output cutback and suspension of plant operation, but also cause bad odor in nearby areas. KHNP installed large nets and screens at the inlet of the intake pipeline to collect aquatic organisms, and turned them into eco-friendly compost through cooperation with a company specializing in the field. In case of Hanul Site, 191 tons of wastes were annually recycled into 38 tons of compost in 2019 and 2020. As such, KHNP protects the environment and reduces waste treatment cost by recycling wastes.

Reacquisition of Global Environmental Management System

KHNP won the international standard certification for its environmental management system for the first time in 2006. In 2018, it obtained the certification for conversion to the latest-standard environmental management system. In 2019, with its effort for successful implementation of 14 climate change adaptation tasks including the installation of saltwater desalination facility and safety inspection against extreme conditions recognized, KHNP won the Environmental Minister’s Award as an excellent organization for climate change adaptation (1st prize). Moreover, through the promotion of environmental improvement in sewage treatment facilities, KHNP’s Cheongpyeong Pumped-storage Power Plant was designated as the facility of a green company. In 2020, KHNP won the latest-standard environmental management system certification yet again based on its effort for environmental management performance control and environmental compliance management.

Green Product Purchases (Purchase Amount (Rate)) (Unit: KRW 1,000, %)



Contributing to Local Community

Strategy to Promote Job Creation

For sustainable job creation based on cooperation and sharing, KHNP re-established the five-year goal for each year and derived the promotional directions and strategic tasks by categorizing jobs into new employment, conversion to regular positions, and jobs in the private sector.

Vision	To lead social value by creating jobs based on the value of work		
Directions	Efficient recruiting	Conversion of temporary position to permanent position	Job creation in the private sector without a setback
Tasks	<div>Expand public job creation</div> <div><ul style="list-style-type: none">Dedicate effort to securing quota for new businessesMinimize difference between quota and current number of personnel through systematic HR managementExpand employment and secure positions by introducing various job types</div>	<div>Improve quality of sustainable employment</div> <div><ul style="list-style-type: none">Establish and operate strategies customized to job type through the labor-management-corporate councilsDevelop sustainable management system by establishing subsidiariesImprove treatment of employees subject to conversion</div>	<div>Create jobs linked to the main business</div> <div><ul style="list-style-type: none">Promote large-scale investment in key businessesContinuously secure future growth enginesStrengthen shared growth with SMEs and create environment to promote startupsDiscover local jobs</div>

Job Creation Performance

KHNP actively participates in the government’s employment policy, such as conversion of temporary positions to permanent ones and creation of jobs in the private sector. KHNP expanded social equity-type employment considering the vulnerable class. It also overcame the difficulties in conversion to permanent positions, such as the large number of target persons, which is around five times the average of other power generation companies, and 17 job types, successfully completing the conversion by 102% of the initial goal. To maintain the NPP industry ecosystem, it also promoted job matching in nuclear and radioactive field, supported startups of young people, and thus created jobs in the private sector.

Category	Description	No. of Jobs Created
New Employment	Young people	381
	Local talents in non-metropolitan areas	259
	Persons with disabilities	9
Conversion to Permanent Position	Achieving goal to agree on conversion to permanent positions through the labor-management-corporate councils operation Provide continuous support according to the promotion of subsidiary establishment	2,312
Jobs in Private Sector	Promoting job matching by holding job fair for nuclear power and radioactive field Fostering startups and social ventures established by young people in local communities	24,698

Goal to Create 100,000 Jobs in the Private Sector by 2023

Category	2019	2020	2021	2022	2023	Total
Direct jobs based on main business	17,370	18,719	17,455	17,295	15,401	86,240
Indirect jobs linked to main business	1,235	1,207	1,298	1,298	1,335	6,374
Total	18,605	19,926	18,754	18,593	16,737	92,614



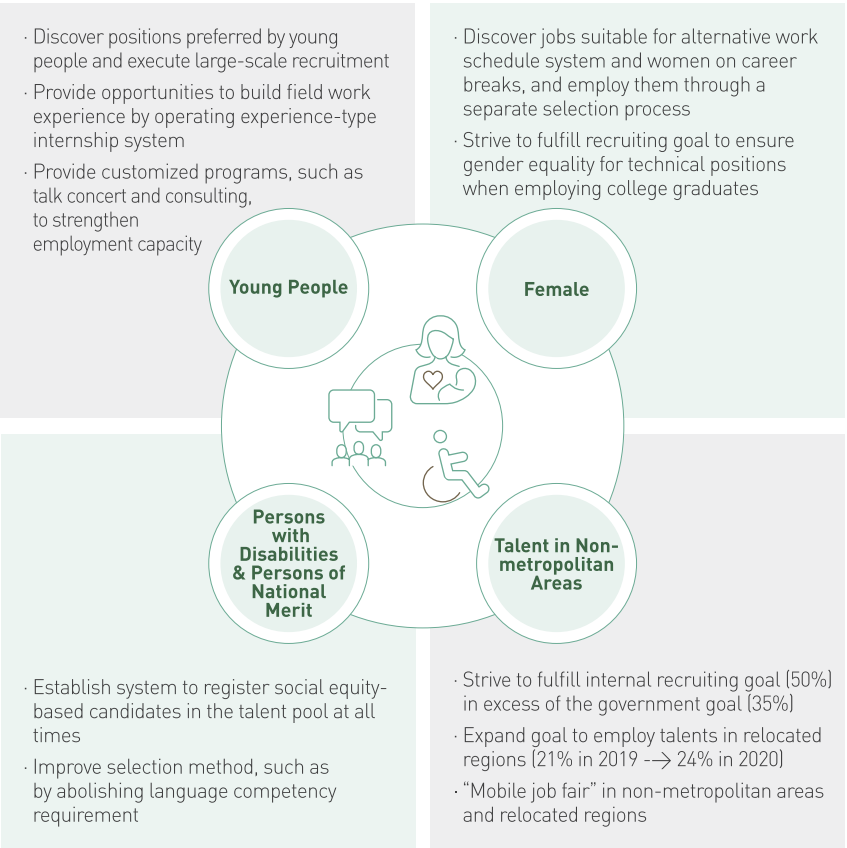
Top Prize

in Social Value - Public Enterprises Category

The Korean Association for Policy Studies

Job Expansion to Ensure Social Equity

By taking a step further from simply employing the vulnerable class, KHNP has established a recruiting process to employ talents that are suitable for each operation and supports capacity development of the recruited personnel.



Social Contribution Activities in Korea and Abroad

Streetlight Installation Project

KHNP promotes a project to install photovoltaic streetlights in low-security regions in order to prevent crimes in dark alleyways, and thus ensure safety of citizens. The streetlights are charged during daytime and lights up dark alleyways at night. The photovoltaic LED streetlight does not contain mercury, and thus is harmless to the environment. In addition, the amount of carbon emission is kept to a minimum. It is designed to not disturb the growth of animals and plants in nearby area as the brightness of light is adjusted after midnight. Once charged, it can be used for seven days even during the rainy season and on cloudy days. KHNP installed 332 streetlights in seven areas nationwide in 2019.



▲ Streetlight installation project

Daddy Long Legs Project

KHNP provides economic and emotional support to the children and youth of vulnerable class using donations voluntarily made by employees. In 2019, a total of 180 sponsors were invited through a new project and a monthly donation of KRW 300,000 each was delivered to ten children up to the age of 18 years.

Einstein Class

Einstein Class, which is a program where college students serve as mentors to support young people in areas near power plants with insufficient educational infrastructure, has been operated for ten years. It has now become KHNP’s representative social contribution activity. Up to 2019, 3,647 students received mentoring service through Einstein Class. The satisfaction rate of stakeholders was as high as 87%.

Talent Donation through Atom Engineering Camp

KHNP holds Atom Engineering Camp, a voluntary service program based on scientific and technological talent donation. This program is aimed at increasing elementary school students’ interest in and confidence for science. 35 employees of KHNP completed the training to hold scientific experiment class. Through the class, they taught the principles of hydro power generation to create electricity using the power of water. In 2019, Atom Engineering Camp was held five times with the participation of 511 students. The score of program satisfaction was 4.5 points, which indicates that the participants evaluated the difficulty level and benefits of the class positively. The employees of KHNP will continue performing activities to help students in local communities improve their scientific knowledge by combining their professional knowledge with excellent educational content.

Senior Volunteer Group

Senior Volunteer Group, which consists of the KHNP retirees and their spouses, performs activities to share warmth with the neighbors in need by using their accumulated experiences, knowledge, and professional skills. In 2019, KHNP Senior Volunteer group with approximately 150 members performed 151 activities 151 at the local children’s welfare centers and facilities for the disabled. The members provide service in various areas, such as holding handcraft and cooking classes, providing mentoring service to the youth, and inspecting electrical and gas safety.

Silver Cafe

Having recognized the increase of poverty of the elderly due to income crevasse in the aging society as a social issue, KHNP, through collaboration with the Korea Labor Force Development Institute for the Aged and the Gyeongju Senior Club, opened the first store of Silver Cafe in 2020. The first store was opened on Hwangnidan-gil Street with a large floating population and 12 elderly citizens were employed as baristas. KHNP is preparing for the opening of the second store in downtown of Gyeongju. KHNP anticipates that the Silver Cafe will contribute to job creation and economic stability of the aging population in areas near the power plants.



▲ Einstein Class 2019



▲ Atom Engineering Camp 2019



▲ Activities performed by Senior



▲ 1st store of KHNP Silver Cafe [Little Forest] Opening ceremony

Project to Prevent Disappearances

KHNP, through cooperation with Gyeongju Police Station, distributed 440 anti-wandering detectors for senior citizens suffering from dementia and persons with intellectual disabilities. With 150, 100, 150 and 40 units distributed in Gyeongju, Gochang, Jeongseon, and Yecheon respectively, the scale of this project increased from that of the previous year. As detection of the target persons is enabled through GPS attached to the detector, it contributes to preventing the disappearance of residents.

Project to Prevent Blindness and Promote Eyesight Recovery

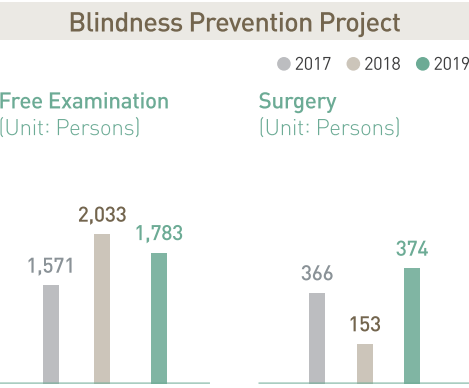
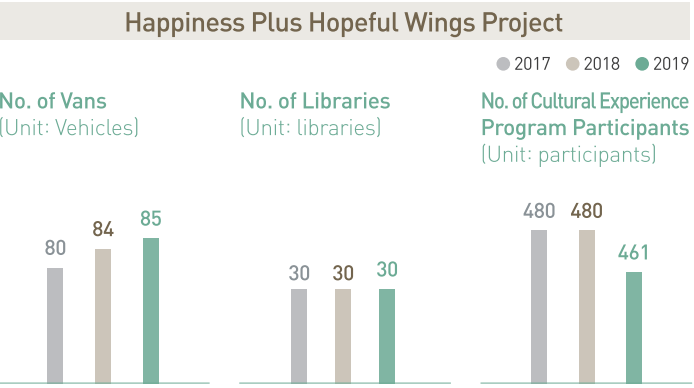
To improve medical welfare for the low-income class, KHNP implements the blindness prevention project targeting low-income class across the country. Since 2016, it has been providing financial support for the cost of surgery to low-income people facing the risk of blindness at the same time as promoting the early detection of cataracts, glaucoma, and retinal diseases through ophthalmologic diagnosis using advanced equipment. In 2019, a total of 1,783 residents in 11 areas underwent eye examination and 374 of them were provided with financial support of KRW 154 million for the cost of surgeries.

Happiness Plus Hopeful Wings Project

Happiness Plus Hopeful Wings is one of KHNP’s major social contribution projects to provide pleasant and safe learning space to children of low-income class and from local children welfare centers by installing libraries and donating vehicles to be used as school buses. In 2019, KHNP supported 85 vehicles for local children’s welfare centers to ensure safety of children and students using the facility. This is a program to provide substantial help to the parents and guardians of children who stay at the facility until late night. Over the last eight years, KHNP donated a total of 494 vehicles. KHNP also supported opening libraries in 30 local children’s welfare centers and provided a total of 21,722 books along with a book management program. Through this effort, KHNP improved the learning environment for children and enhanced their emotional stability.



▲ Happiness Plus Hope Wings vehicle





An energy leader making life prosperous with eco-friendly energy

KHNP will take social responsibility by communication and mutual growth

KHNP is operating wholesome corporate governance for sustainable growth by realizing economic, environmental, and social values. Besides, we shape a desirable management environment by communicating with our stakeholders.

Core Foundation of Sustainability Management

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Governance

Composition of the Board of Directors102-18, 102-22, 102-23, 102-24

The Board of Directors is KHNP’s supreme decision-making body with a right of supervision and performs both a review of major management strategies, while supervising overall business operations. As of June 2020, the KHNP Board of Directors consists of a total of 13 members, of which six are executive directors and seven are non-executive directors. Among them, one executive auditor and two non-executive auditors work in the Audit Committee. The Executive Recommendation Committee of KHNP is composed of non-executive directors and external members to ensure transparency. The Committee selects professionals from relevant fields who have no conflicts of interest with KHNP and recommends them as candidates for the positions of CEO, executive auditor, and non-executive directors. The BOD guarantees a three-year term for the CEO and a two-year term for other directors, while allowing them to serve consecutive terms on a yearly basis to encourage responsible decision-making. KHNP ensures the independence of the BOD by electing the chairperson among non-executive directors. The non-executive directors, which are appointed by the Minister of Economy and Finance, make up a majority of the BOD in accordance with pertinent regulations.

Board of Directors(As of June 30, 2020)

Name	Position and Post	Term	Classification
Chung Jae-hoon	Standing head of organization (President & CEO)	~2021.4.4	Executive Director
Park Seok-jin	Executive Auditor	~2021.5.14	
Kim Hyeong-seop	Director of Administration Division / Executive Vice President of Business	~2020.8.6	
Choi Nam-woo	Director of Power Generation Division / Executive Vice President of Technology	~2022.5.25	
Nam Yoh-Shik	Director of Quality and Safety Division	~2022.8.18	
Kim Sang-don	Director of Business Growth Division	~2021.8.13	
Lee Goang-Hee	Chairperson / Non-executive Director, Korea Institute for Advancement of Technology [KIAT]	~2021.8.11	Non-executive Director
Kim Kyu-ho	Current Graduate School President of Gyeongju University	~2020.5.9	
Kim Hae-chang	Professor of Environmental Engineering, Kyungsung university	~2021.5.9	
Lee Chang-ho	President of Korea National University of Welfare	~2021.8.11	
Kim Yoon-Suk	Director of Future Value Strategy Institute	~2021.8.11	
Lee Ju-shik	Director of the Sunil Accounting Firm	~2021.8.11	
Kim Hee-Kyung	Lawyer at Doyeong Law Firm	~2022.6.24	

BOD Performance

Classification	2017	2018	2019
No. of Meetings Held	13	12	9
Agendas Resolved	53	50	52
Agendas Reported	17	23	11
Amendment Agendas Resolved	0	0	4
Preliminary Deliberation Rate	100%	100%	100%
Non-executive Directors Participation Rate	96%	90%	89%

Remuneration and Compensation for Directors102-35, 102-36

The BOD remuneration limit complies with the Executive Wage Guideline of the Ministry of Economy and Finance through resolution by the General Shareholders’ Meeting. The total remuneration of the directors in 2019 was approximately KRW 1.285 billion and the remuneration for each director is dependent on a regular executive performance evaluation. For executive directors who receive remuneration above the standard level, the type, basis and total amount of remuneration are disclosed separately to ensure transparency.

(Unit: KRW 10,000)

Category	No. of People	Total Remuneration	Average Remuneration per Person	Remarks
Standing head of organization	1	23,170	23,170	Including bonus
Executive directors	5	86,394	17,279	Including bonus
Non-executive directors	7	18,965	1,897	KRW 2.5 million per month as service allowance

Composition and Key Activities of Subcommittees102-22

KHNP operates five subcommittees dedicated to the implementation of government policies and social value realization. The subcommittees deliberate on agendas in the respective areas of expertise centering on the fields of major and social experiences of their executive and non-executive directors. Each subcommittee contributes to activation of the BOD by expanding the roles of the non-executive directors to propose policies and provide management consulting.

Subcommittees and Associated Activities

Classification	Composition	Role/Field	Major Activities in 2019
Audit Committee	1 executive member 2 non-executive members	Accounting and business audit	· Deliberated on 17 cases including annual audit plan
Executive Recommendation Committee	4 non-executive members 3 external members	Recommendation of candidates for executives	· Recommended candidates for executive members of the Audit Committee and non-executive directors
Innovative Growth Committee	1 executive member 2 non-executive members	Power generation industry, Fourth Industrial Revolution	· Deliberated on ten cases including plan to take over shares of onshore wind power generation company in Germany
Social Value Committee	1 executive member 2 non-executive members	Culture and tourism, civic society	· Deliberated on 16 cases including conversion to regular positions and investment in subsidiaries
Financial Management Committee	1 executive member 2 non-executive members	Economic policy, financial and accounting	· Deliberated on 37 cases including mid to long-term financial management plan

Strengthening Expertise of and Communication with Non-executive Directors

KHNP receives consultation on major issues relating to the corporate operation from seven non-executive directors who possess seasoned experience in various fields including academic circles and the press. In 2019, KHNP held a joint talk with non-executive directors on seven subjects in order to help them improve their understanding of the company’s current issues. KHNP supports non-executive directors to strengthen their job competency and reflects their suggestions in its policies.

Sustainable Decision-making Process102-33, 102-34

The BOD prioritizes sustainability issues as its agendas and makes decisions considering sustainability. In 2019, KHNP resolved major issues relating to energy, local communities, and safety.

Decision-making Rooted in Sustainability

Date	Sustainability Issue	Details	Performance
2019. 04	Plan to raise Energy Innovation and Growth Fund (proposal)	Raised investment fund to a scale of KRW 50 billion for investment in NPP-related companies	Raised 1st Energy Innovation and Growth Fund to a scale of KRW 44.5 billion and commenced investment
2019. 05	Implementation of Happiness Plus Hopeful Wings and streetlight installation projects (proposal)	Support 85 vans for a community childcare center and install 330 streetlights	Practice KHNP local share growth management and leading social value
2019. 12	Adjustment in the plan for NNP head-quarter experimental industrial safety training center (proposal)	Confirm the construction plan for the industrial safety training center (Business budget: about KRW 24 billion)	Build a safety mindset for workers in KHNP and cooperative company by conducting experience education
2019. 12	The basic plan for photovoltaic power generation business in Cheolpa-ri, Uiseong (proposal)	Solar panel installation capacity: 40MW	Secure reliable renewable energy supply certificates (RECs)
2019. 12	Contribution to share growth fund for large and small business (proposal)	Contribute KRW 11.5 billion share growth funds to Korea Foundation for Cooperation of Large & Small business, Rural Affairs	Maintain large and small business and competitiveness of the industry

Risk Management

Risk Management System

With a goal to preemptively manage major risks that can exert significant impacts on the organization, KHNP selects eight key risk indicators, and digitizes and manages them by each stage of risk signs. For the key risk indicators, the result of monitoring conducted on a monthly basis is shared with the risk management team. As for significant risks, the status and response plan are reported to the management for swift decision-making.

Risk Level Diagnosis and Response

Sign of Risk	General (Appropriate / Attention)	Caution	Alert	Serious
Handling Action	· Monthly performance monitoring · Management status report to the committee	· Issue of warning to division in charge · Response plan report to the committee	· Issue of warning to division in charge · Report of handling action to the management	· Issue of warning to supervising division · Report to the management as frequently as necessary

KHNP Eight Key Risk Indicators

Sector	Key Risk Indicator	Safety (Goal)	Attention	Caution	Alert	Serious
Domestic NPPs	Usage rate of NPPs	Usage rate of 78.4% or higher	77.4%	75%	72.6%	Less than 72.6%
Construction	Completion of Shin-Kori 4	Completion in the third week of August	Delay by 1 month	Delay by 2 months	Delay by 3 months	Delay by 4 months
Raw materials	Economic fuel supply	92% or less of market price	96%	99%	100%	Over 100%
New and renewable energy	REC securing rate	88.8% or more of the required	90%	85%	80%	Less than 70%
Decommissioning business	NPP post-processing cost	Unit price maintained	100%	110%	130%	Over 130%
Market risk	Exchange rate, interest rate fluctuation	VaR, EaR, CFaR 15% or less	19%	23%	27%	Over 30%
	Global credit rating	Rating maintained	Drop by 1	Drop by 2	Drop by 3	Actual drop
Financial goal	Net income goal fulfilled	KRW 201 billion	77.4%	75%	72.6%	Less than 72.6%

Financial Risk Management

In order to maintain stability and integrity of its financial structure, KHNP reestablished the governance for financial risk management with the Financial Risk Management Committee, Exchange Risk Management Committee, and Investment Company Management Committee, and is operating a contingency plan by stage when a risk situation occurs. In 2019, with a goal to improve cost management system and enhance financial integrity, KHNP analyzed the cost structure according to the characteristics of each plant, such as nuclear, hydro and pumped-storage, and new and renewable energy power generation, and thus increased price competitiveness. It also saved labor cost by increasing efficiency of the organizational management. As a result of such effort, cost and expense reduction was achieved in excess of the original goal, resulting in the net profit of KRW 246.5 billion in 2019 as opposed to the deficit in the previous year.

Non-financial Risk Management

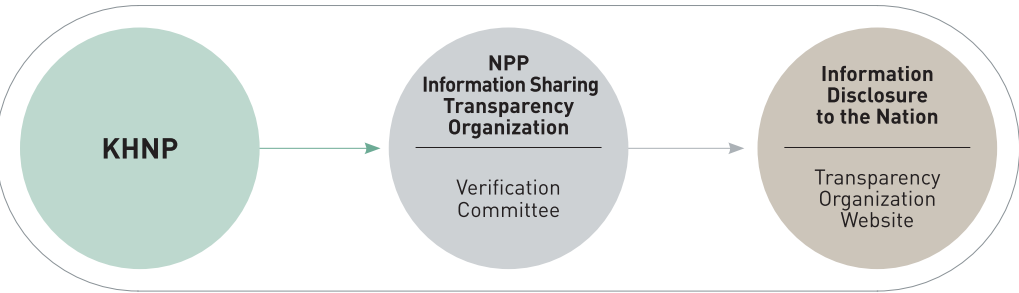
KHNP manages both financial and non-financial risk factors by establishing an integrated risk management system. In line with an increase in the public demand for strengthened government regulations for and reliability of NPPs, KHNP strives to win public confidence by achieving quality improvement of its NPPs. In 2019, in response to the contraction in Korea's NPP industry ecosystem and local economy, KHNP reestablished its organizational culture based on the core values, T.R.U.S.T. In addition, based on the global carbon-free trend and the demand for overseas NPP business, KHNP captured an opportunity for producing outcomes from its overseas business. At the same time, as the climate change risk aggravates, KHNP implemented a project for adaptation to extreme climate change for power plants at the appropriate time, and thus was ranked No. 1 among 48 public enterprises in successful implementation of the climate change adaptation measures. It also supported the installation of photovoltaic power generation facilities targeting the disabled and elderly, which are vulnerable to climate change.

Stakeholders Engagement

Communication by Stakeholder Group

KHNP categorized the people who affect its decision-making process or can be affected by its business activities as key stakeholders. By operating a number of communication channels, it established a strong relationship of trust with the stakeholders. KHNP also collects opinions of stakeholders through the channels. In particular, KHNP activates two-way communication with the nation by providing NPP safety information on a separate website.

NPP Information Disclosure



Communication Channels with and Expectations from Key Stakeholders

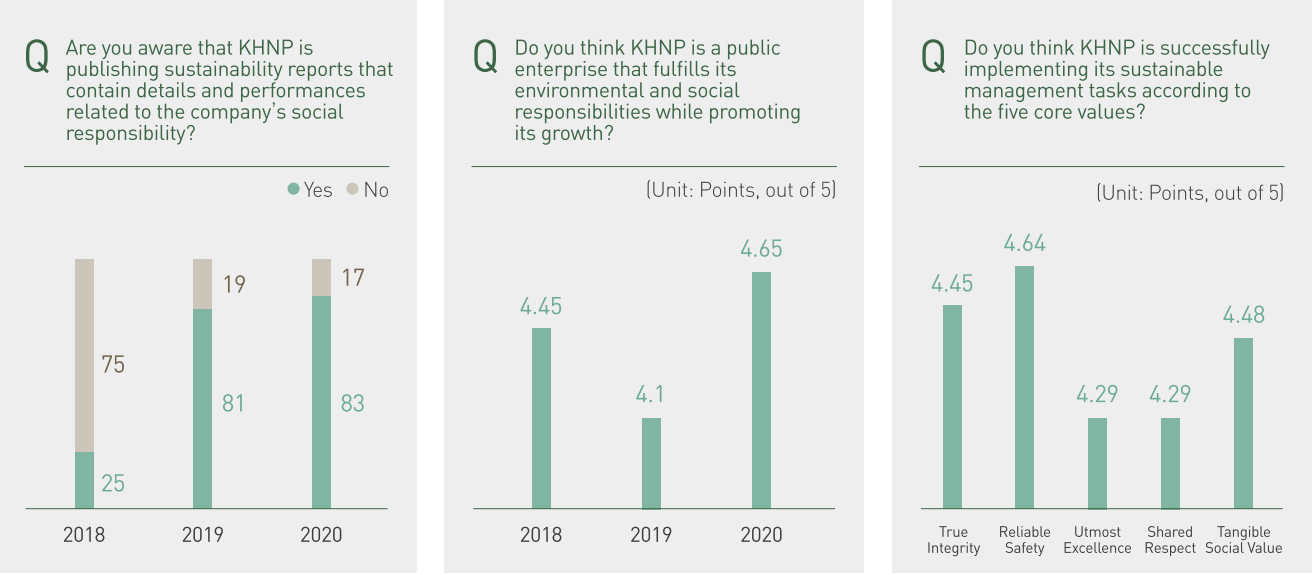
Key Stakeholders	Key Communication Channels	Areas of Interest	Communication Performance
1. Employees, labor union and non-regular workers	· Future Policy Group · Do Dream · CEO field management · Labor-management-corporate councils	· Suggest future strategy in line with the nuclear power phase-out trend · Alleviate burden of childcare and promote work-life balance · Improve treatment of non-regular workers and convert them to regular positions	· Reflected some valid policies out of 165 suggestions in total · Regular position conversion goal achieved by 102% (2,312 workers) · Welfare satisfaction improved [3.24 points in 2018 -> 3.42 points in 2019]
2. Partners	· Shared growth committee · Talk with CEO · Talk with representatives of nuclear power-related organizations	· Provide compensation for damages suffered by partners due to suspension of NPP construction · Plans to maintain required personnel and construction sites · Technical support to strengthen competitive power	· 126 out of 161 suggestions from partners handled (78%) · Number of qualified suppliers increased [1,465 in 2018 -> 1,508 in 2019]
3. Local Community / Public	· Local residents' group · Local committee · Private-public joint action committee · National idea contest · Civic inspection group · Civic participation group · Social media channel	· Preferentially select projects to support income creation · Implement projects to support local residents · Demand active communication with local governments · Provide easy-to-understand and interesting NPP information via online channels	· Highest point of local community acceptance achieved [69 points in 2019 -> 70.1 points in 2020] · Satisfaction with NPP information disclosure increased [63% in 2018 -> 73% in 2019] · YouTube subscribers increased by 835% [1,210 subscribers in 2018 -> 10,100 subscribers in 2019]
4. Government / National Assembly	· Explanatory data · On-site presentation	· Expand management-National Assembly communication on key issues · Expand information disclosure	· Activated two-way online communication channels · Established close cooperative relationship
5. Press / NGO	· Press release · Nuclear Power Academy	· Increased level of understanding of NPPs and provided related information · Provided accurate information swiftly on management issues, etc.	· Decreased negative coverage rate [8.0% in 2018 -> 7.2% in 2019] · Cases submitted to Press Arbitration Commission won by 100%

Materiality Assessment

Survey on Awareness of Sustainable Management

KHNP surveyed stakeholders’ awareness regarding sustainable management in order to assess the internal and external awareness of its efforts for sustainable management. As the key questions, overall recognition of the sustainability report publication and KHNP’s social responsibilities as well as the level of implementation of detailed tasks were surveyed.

Result of Stakeholders’ Awareness Survey



Response from Stakeholders by Each of Five Key Values

True Integrity

- Complying with labor standard for work by 52 hours a week in the headquarters and operations
- Need of systematic supplementation of overtime pay and leave
- Necessary to improve true integrity awareness of the high-ranking management
- Necessary to change corporate culture to focus excessively on performance
- Need of policy for punishment and prevention of secondary damages in relation to sexual harassment and bullying in workplace

Reliable Safety

- Necessary to create an environment where employees can focus on safety-related administrative and paper works as well as supervision
- Improvement on safety of partners that perform dangerous jobs in order to prevent accidents
- Necessary to develop plans for efficient and safe information access in order to ensure successful execution of operations by employees

Utmost Excellence

- Need of policy for preferential treatment of employees with licenses, such as industrial engineers and professional engineers
- Need of policy for active introduction of latest technologies and preferential treatment of technical human resources
- Need of study for permanent disposal of spent fuel (deep geological disposal, reactor for waste extinction, space disposal)

Shared Respect

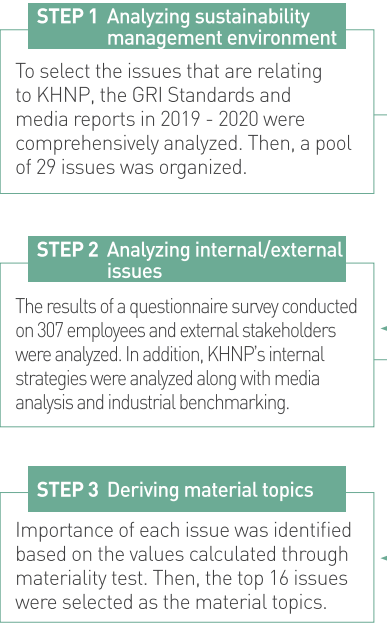
- Necessary to improve organizational culture so as to realistically implement the family-friendly management system
- Eradicating position-based top-down work culture and practice
- Need of assessment centering on competency for both male and female employees

Tangible Social Value

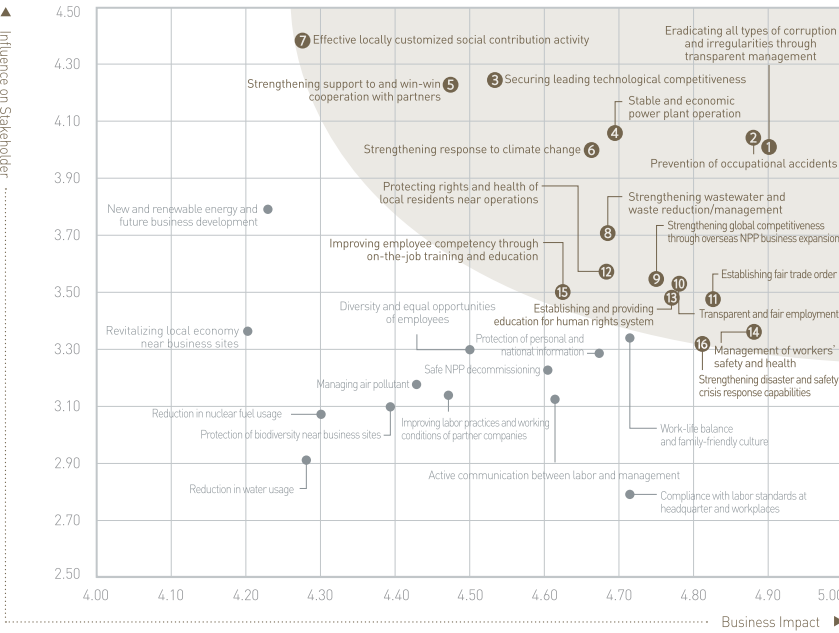
- Necessary to promote realistic reduction goal setting and optimization
- Necessary to allocate professional human resources for environmental management inside power plants
- Need of active publicity for KHNP's contribution to local communities
- Need of active response to negative press coverage

To identify key issues, KHNP analyzed its internal and external environments, and thus organized a pool of 29 issues from economic, environmental and social fields. Through the three-stage materiality test, the top 16 issues were selected as the material topics.

Material Topic Selection Process



Materiality Assessment Matrix



Material Topic

Category	Material Topic	Reporting Scope				
		Employees	Partners	Government / National Assembly	Press / NGO	Local residents / Public
True Integrity	1 Eradicating all types of corruption and irregularities through transparent management	●	●	●		
	11 Establishing fair trade order	●	●	●		
	13 Establishing and providing education for human rights system	●	●	●		
Reliable Safety	2 Prevention of occupational accidents	●	●	●		
	14 Management of workers' safety and health	●	●	●		
	16 Strengthening disaster and safety crisis response capabilities	●	●	●		●
Utmost Excellence	3 Securing leading technological competitiveness	●	●	●		
	4 Stable and economic power plant operation	●	●	●		
	9 Strengthening global competitiveness through overseas NPP business expansion	●	●	●		
Shared Respect	5 Strengthening support to and win-win cooperation with partners		●	●	●	
	10 Transparent and fair employment	●		●	●	●
	15 Improving employee competency through on-the-job training and education	●				
Tangible Social Value	6 Strengthening response to climate change	●		●	●	●
	7 Effective locally customized social contribution activity	●		●	●	●
	8 Strengthening wastewater and waste reduction/management	●		●	●	●
	12 Protecting rights and health of local residents near operations			●	●	●

Sustainability Performance Data

Financial Performances (Year on Year) 201-1

Economic Performances (Unit: KRW 100 million)			
Division	2017	2018	2019
Sales	95,109	89,552	89,826
Operating Income	13,972	11,456	7,831
Net income	8,618	-1,020	2,465
Overseas sales	2,967	3,822	3,542

Financial Position (Unit: KRW 100 million)			
Division	2017	2018	2019
Assets			
Current assets	57,693	66,377	65,633
Non-current assets	494,634	493,978	531,794
Total assets	552,327	560,355	597,427
Liabilities			
Current liabilities	27,339	25,396	28,546
Non-current liabilities	267,116	281,134	312,222
Total liabilities	294,455	306,530	340,768
Equity			
Paid-in capital	107,045	107,045	107,045
Surplus	150,844	146,637	149,727
Other equity	-17	143	-113
Total equity	257,872	253,825	256,659

Investment in R&D

Division	Unit	2017	2018	2019
Investment in R&D	KRW 100 million	4,604	4,543	4,605
R&D against net sales	%	4.8	5.1	5.5

Distribution of Economic Value 201-1

Division	Unit	2017	2018	2019
Government - Corporate tax payment (government subsidy)	KRW 100 million	2,798	1,888	2,710
Employees - Avg. compensation per employee	KRW 1,000	88,849	89,055	90,650
Local communities - Social contribution expenses: Dandelion Spore Fund	KRW 100 million	208.5	74.8	122.6
Suppliers - Subsidies for SMEs	KRW 10 million	547	682	815

Economy

Financial Stability

Financial Information (Unit: KRW 100 million)				
Division	Unit	2017	2018	2019
Interest coverage rate	Multiples	2.82	2.24	1.51
Reliance on borrowings	%	15.93	17.27	17.50
Liabilities rate	%	114.2	120.8	132.8
Total assets turnover rate	%	17.57	16.10	15.52

Credit Rating

Classification		2017	2018	2019
International credit rating	Moody's	Aa2	Aa2	Aa2
	S&P	AA	AA	AA
	Fitch	AA-	AA-	AA-
Domestic credit rating	Korea Ratings Korea Investors Service NICE Investors Service	AAA	AAA	AAA

Major Operating Performances

Classification	Unit	2017	2018	2019
NPP usage	%	71.2	65.9	70.6
No. of unplanned auto-stops	Cases (cases/unit)	1(0.04)	3(0.13)	2(0.08)
Power sales*	100 million kWh	1464.09	1321.35	1431.57
Investment in NPP construction	KRW 100 million	16,342	17,722	22,111

* Including pilot operation

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Major Environmental Performances

Energy Consumption by Business Site ¹⁾ 302-1 (Unit: TJ)			
Division	2017	2018	2019
Nuclear power sites	25,042	17,852	18,370
Pumped-storage plants	44,750	49,117	44,157
General hydro power plants	64	57	71
Other special business units	221	234	244
Total	70,077	67,260	62,842

Energy Consumption by Energy Source ¹⁾ 302-1 (Unit: TJ)			
Division	2017	2018	2019
Fuel	252	645	422
Electricity	69,823	66,613	62,419
Steam	2	2	1
Total	70,077	67,260	62,842

Water Consumption 303-7 (Unit: 1,000 tons)			
Division	2017	2018	2019
Total water consumption	6,810	8,391	7,578

Greenhouse Emissions by Business Site ²⁾ 305-1, 305-2 (Unit: 1,000 tCO2eq)			
Classification	2017	2018	2019
Nuclear power sites	872	931	952
Pumped-storage plants	2,560	2,387	2,146
General hydro power plants	3	3	3
Other special business units	10	12	12
Total	3,445	3,333	3,113

Direct/Indirect GHG Emissions ²⁾ 305-1, 305-2 (Unit: 1,000 tCO2eq)			
Classification	2017	2018	2019
Scope 1	54	97	81
Scope 2	3,391	3,236	3,032
Total emissions	3,445	3,333	3,113

Wastewater Discharge and Recycling 306-1				(Unit: 1,000m)
	Category	2017	2018	2019
Nuclear power sites	Wastewater discharge	3,673	3,612	3,315
	Recycled amount	389	582	624
	Recycling rate (%)	10.6	16.1	18.8

Emission of Water Pollutants 306-1				(Unit: kg*)
Category		2017	2018	2019
Nuclear power sites	Chemical Oxygen Demand (COD)	17,340	22,215	19,591
	Suspended Solids (SS)	2,326	3,869	3,963
	Total Nitrogen (T-N)	45,929	39,488	37,885

* Discharge concentration × amount of discharge

1) Calculated by total usage of renewable energy.
Calculated based on the national greenhouse gas emission trading system, resource: statement of greenhouse gas emission rate and energy usage.
For energy production in 2019, Nuclear power: 145,190Gwh/ General hydro power: 872,914Mwh/ pumped – storage: 3,458,384Mwh/ Renewable energy power: 148,358Mwh
2) Calculated based on the national greenhouse gas emission trading system, resource: statement of greenhouse gas emission rate and energy usage.

Environment

General Waste Treatment 306-2 (Unit: Tons)	
Category	2019
Recycling	5322.0
Incineration	477.4
Landfill	3332.2
Others	424.0
Total waste amount	9555.6

Designated Waste Treatment 306-2 (Unit: Tons)	
Category	2019
Recycling	1724.6
Incineration	280.5
Landfill	0.4
Others	132.6
Total waste amount	2138.1

Harmful Chemical Discharge 306-3 (Unit: Tons, cases)			
Division	2017	2018	2019
Chemical usage by nuclear power site	6,667	5,883	5,586
No. of harmful chemical discharges*	0	0	0

* Source: Chemical Safety Information Sharing System, National Institute of Chemical Safety

Eco-friendly Power Generation Plan				(Unit: GWh)
Classification		2017	2018	2019
Mandatory supply [A]		2,915	3,448	3,742
Carry-over [B]		450	444	369
Implementation performance	Photovoltaic	22	31	31
	Hydro	909	616	616
	Fuel cell	950	647	647
	Wind	-	-	-
	Geothermal	-	-	-
	Biomass	-	-	-
	External purchase	1,164	3,202	3,202
	Total [C]	3,045	4,496	4,496
Implementation performance for the year [D=C-B]		2,595	3,077	4,127
Implementation rate [E=D/A][%]		89.0	89.2	110

Green Product Purchase (Unit: KRW 1,000)			
Division	2017	2018	2019
Total purchase	28,394,883	22,057,152	20,932,378
Purchase of green products	27,021,028	20,734,589	20,087,248
Green product purchase ratio [%]	95.2	94.0	95.96

Employees

Human Resources and Recruitment 102-8, 401-1, 405-1 (Unit: Persons)			
Division	2017	2018	2019
Total*	11,870	12,068	12,178
Gender			
Male	10,474	10,600	10,659
Female	1,396	1,468	1,519
Female employee ratio [%]	12	14	14
Age group			
20s	2,109	2,033	1,994
30s	3,857	4,034	3,973
40s	3,335	3,368	3,502
50s & older	2,569	2,633	2,709
Region			
Korea	10,927	11,021	11,121
Overseas	943	1,047	1,057
Business site			
Headquarters	1,357	1,370	1,373
Nuclear power sites	7,965	8,009	8,082
Hydro power & pumped-storage	803	784	797
Other sites	1,745	1,905	1,926

Rank				
Executive	Total	6	6	6
	Male	6	6	6
	Female	-	-	-
1st level position	Total	181	196	181
	Male	181	194	179
	Female	-	2	2
2nd level position	Total	771	781	776
	Male	758	765	758
	Female	13	16	18
3rd level position	Total	2,795	2,850	2,948
	Male	2,701	2,736	2,818
	Female	94	114	130
4th level position	Total	6,563	6,751	6,781
	Male	5,600	5,745	5,763
	Female	963	1,006	1,018
Others	Total	1,554	1,484	1,486
	Male	1,228	1,154	1,135
	Female	326	330	351

* Total number of regular employment [excluding permanent contract employment]

Society

Division		2017	2018	2019
Employment type				
Regular employment*	Total	11,830	12,062	12,172
Permanent contract employment	Total	49	77	114
Non-regular employment	Total	225	162	167
Employees with disabilities**				
No. of employees with disabilities		399	417	418
Rate of employees with disabilities [%]		3.27	3.31	3.33
Employment and retirement				
New employees	Total	599.5	424	413.5
	Male	466	334	323.5
	Female	133.5	90	90
Regular retirement	Total	60	213	228
Voluntary retirement	Total	32	22	19
Turnover and retirement	Total	7	2	5
	Male	5	2	5
	Female	2	-	-

* No. of executives excluded
** Based on the Ministry of Employment and Labor data

Flexible Work Hours			(Unit: Persons)	
Division		2017	2018	2019
Alternative work schedule system		136	162	162
Flex time type		3,770	3,147	3,033
Flexible working system	Working hours selection type	2,688	3,894	4,935
	Compressed work time	82	83	54
Total no. of employees		6,676	7,286	8,184

Parental Leave			(Unit: Persons)	
Division		2017	2018	2019
Employees entitled to parental leave	Male	3,136	3,203	3,204
	Female	244	400	444
Employees that took parental leave	Male	71	108	146
	Female	290	270	290
Employees that returned to work after parental leave ended	Male	36	63	69
	Female	95	99	113
Employees that returned to work after parental leave ended and were still employed 12 months after their return to work	Male	35	63	69
	Female	95	97	113

Employee Training 404-1, 412-2					
Division		Unit	2017	2018	2019
Total no. of trainees	Total	Persons	23,466	22,332	26,546
	Male	Persons	21,152	20,136	23,232
	Female	Persons	2,314	2,196	3,314
Total education hours	Total	Hours	1,709,771	1,272,186	956,271
	Male	Hours	1,541,169	1,154,604	849,778
	Female	Hours	168,602	117,582	106,493
Total training expenditure (distribution based upon proportions of male and female employees)	Total	KRW 100 million	584	564	491
	Male	KRW 100 million	526	509	427
	Female	KRW 100 million	58	55	64
Average education expense per person	Internal training	KRW 1 million	2.54	2.29	1.05
	External training	KRW 1 million	2.29	1.75	0.80
Average training hours per person	Male	Hours	167	57	36.6
	Female	Hours	167	54	32.1
	Executive	Hours	68	43	7.75
	1st level position	Hours	65	69	14.9
	2nd level position	Hours	161	107	19.2
	3rd level position	Hours	126	98	24.3
	4th level position	Hours	228	129	44.3
No. and ratio of people to complete integrity training ¹⁾	Executive	Persons (%)	⁶ (100%)	⁶ (100%)	⁶ (100%)
	Employees	Persons (%)	10,821 (91.7%)	10,393 (95.2%)	11,727 (95%)
	Partners	Persons (%)	-	-	-
No. and ratio of people to complete human rights training ²⁾	Sexual harassment education	Persons (%)	11,555 (100%)	12,201 (100%)	12,153 (100%)
	The disabled education	Persons (%)	-	12,201 (100%)	12,153 (100%)

1) Result of anti-corruption education (including online education, collective education, consignment education) in 2019.1.1 ~2019. 12.31
2) Result of human right education in 2019.1.1 ~2019.12.31 (online education)

Current Status of Labor Union Registration 102-41				
Division	Unit	2017	2018	2019
No. of employees who have joined the labor union	Persons	7,397	7,386	8,329
Ratio of employees who have joined the labor union	%	63	60.8	68

* Any changes in collective agreements are announced within 14 days from the date on which the grounds occur

Partners

Support for SMEs and Social Enterprises (Unit: KRW 100 million)			
Division	2017	2018	2019
Purchase of products from SMEs	8,325	10,278	10,951
Purchase of products from social enterprises	173	241	261
Financial support for SMEs	1,181	1,139	1,333

Shared Growth (Unit: Points)			
Division	2017	2018	2019
Win-Win index	92.2	93.9	93.4

Occupational Accidents of Partners (Unit: Cases)			
Classification	2017	2018	2019
Major industrial accident	3	2	0
Accidents causing death	3	0	0

Local Community

Sharing Fund Use (Unit: KRW 100 million)			
Division	2017	2018	2019
Love Fund	10.7	10.8	10.03
Matching Grant	197.75	64.0	112.53
Total	208.5	74.8	122.56

Blindness Prevention Project (Unit: Persons)			
Division	2017	2018	2019
Free eye examination	1,571	2,033	1,783
No. of patients who received surgery	366	153	374











Happiness Plus Hopeful Wings Project (Unit: Vehicles, libraries, participants)			
Division	2017	2018	2019
No. of vans	80	84	85
No. of libraries	30	30	30
No. of cultural experience program participants	480	480	461










GRI Content Index














Universal Standards						
GRI Standard	Disclosure		ISO 26000	SDGs	Page	Verification
Organizational profile	102-1	Name of organization	Korea Hydro & Nuclear Power Co., Ltd.	6.3.10/6.4.1/6.4.2/6.4.3/6.4.4/6.4.5/7.8	5p	●
	102-2	Activities, brands, products and services	Development of electric power resources / Power generation and related businesses / R&D and affiliated businesses / Overseas businesses		5p	●
	102-3	Location of headquarters	1655, Bulguk-ro, Yangbuk-myeon, Gyeongju-si, Gyeongsangbuk-do, Korea		5p	●
	102-4	Location of operations	24 nuclear power sites, 36 hydro power sites, 16 pumped – storage power plants, 15 solar power plants, 1 wind power plants presented in the map		6p	●
	102-5	Ownership and legal form	A public enterprise under the Ministry of Trade, Industry and Energy		5p	●
	102-6	Market served	Power generation and electricity business (nuclear power and new and renewable energy)		6p	●
	102-7	Scale of the organization	· No. of employees: 12,459 · Sales: KRW 8,982.6 billion		5p	●
	102-8	Information on employees and other workers	Refer to Sustainability Performance Data, Society, Human Resources and Recruitment.		70p	●
	102-9	Supply chain	Conduct mutual growth projects to establish a healthy nuclear supply chain		47-48p	●
	102-10	Significant changes to the organization and its supply chain	No significant change		-	●
	102-11	Precautionary principle or approach	Risk management system and eight key risk indicators		63p	●
	102-12	External initiatives	Support UN Global Compact and UN SDGs		79p	●
	102-13	Membership of associations	Refer to Memberships		80p	●
Strategy	102-14	Statement from senior decision-maker	Refer to CEO's Message	4.7/6.2/7.4.2	3-4p	●
Ethics and integrity	102-16	Values, principles, standards, and norms of behavior	Refer to Ethics Management Promotion System	4.4/6.6.3	26p	●
	102-18	Governance structure	Operate the Board of Directors, the supreme decision-making body	6.2/7.4.3/7.7.5	61p	●
Governance	102-22	Composition of the highest governance body and its committees	Composition of BOD, Subcommittees		61p-62p	●
	102-23	Chair of the highest governance body	Composition of BOD		61p	●
	102-24	Nominating and selecting the highest governance body	Composition of BOD		61p	●
	102-33	Communicating critical concerns	Decision making Rooted in sustainability		62p	●
	102-34	Nature and total number of critical concerns	Decision making Rooted in sustainability		62p	●
	102-35	Remuneration policies	Remuneration and Compensation for Directors		61p	●
	102-36	Process for determining remuneration	Remuneration and Compensation for Directors		61p	●
	102-40	List of stakeholder groups	Employees, labor union, non-regular workers, partners, local residents, Government / National Assembly, press / NGO		64p	●
Stakeholder engagement	102-41	Collective bargaining agreements	Collective agreements apply to 68% of the total employees		71p	●
	102-42	Identifying and selecting stakeholders	Refer to Communication with Stakeholders		64p	●
	102-43	Approach to stakeholder engagement	Refer to Communication with Stakeholders		64p	●
	102-44	Key topics and concerns raised	Refer to Sustainability Material Topic		66p	●

GRI Standard				Disclosure	ISO 26000	SDGs	Page	Verification
Reporting Practice	102-45	Entities included in the consolidated financial statements		Refer to pages 47 - 48 of 2019 KHNP Business Report (http://www.khnp.co.kr/sub/main02.do?mnCd=FN02)	5.2/7.3.2/7.3.3/7.3.4		-	●
	102-46	Defining report content and topic boundaries		Refer to Sustainability Material Topic			66p	●
	102-47	List of material topics		Refer to Sustainability Material Topic			66p	●
	102-48	Restatements of information		Not applicable			-	●
	102-49	Changes in reporting		Refer to Sustainability Material Topic			66p	●
	102-50	Reporting period		From January 1, to December 31, 2019 [Major performances of 2020 included]			About This Report	●
	102-51	Date of most recent report		October 2019			About This Report	●
	102-52	Reporting cycle		December 2020, 11th report			About This Report	●
	102-53	Contact point for questions regarding the report		Planning Division, Corporate Planning Department, Korea Hydro & Nuclear Power Co., Ltd. [Tel. +82-54-704-4133]			About This Report	●
	102-54	Claims of reporting in accordance with the GRI Standards		Complying with GRI Standards Core option		7.5.3/7.6.2	About This Report	●
	102-55	GRI Context Index		Core indicator of general disclosures and topic-specific disclosures of material topics			72-76p	●
	102-56	External assurance		A third-party assurance conducted by BSI			77-78p	●

Topic Specific Standards

GRI Standard			Disclosure	ISO 26000	SDGs	Page	Verification
Topic 1: Eradicating all types of corruption and irregularities through transparent management							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.6.1-6.6.2/6.6.3		25p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures				71p	●
Topic 2: Prevention of occupational accidents							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.4.6/6.8.8		31p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
GRI 403: Occupational Health and Safety 2016	403-2	Types and rates of injury, occupational diseases, rate of absence or leave of absence, no. of occupational fatalities, etc.				34p, 71p	●
Topic 3: Securing leading technological competitiveness							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		-		37p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
-	-	Investment in R&D				68p	●
Topic 4: Stable and economic power plant operation							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		-		37p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
-	-	Unplanned auto-stops				16p	●
Topic 5: Strengthening support to and win-win cooperation with partners							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.6.1-6.6.2/6.6.3		43p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
-	-	Win-Win Index satisfaction survey				47p, 71p	●
Topic 6: Strengthening response to climate change							
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.5.4/6.5.5		49p	●
	103-2	The management approach and its components					
	103-3	Evaluation of the management approach					
GRI 302: Energy 2016	302-1	Energy consumption within the organization				69p	●
GRI 305: Emissions 2016	305-1	Direct GHG emissions				69p	●
	305-2	Indirect GHG emissions				69p	●

GRI Standard			Disclosure	ISO 26000	SDGs	Page	Verification		
Topic 7: Effective locally customized social contribution activity									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	6.3.9/ 6.5.1-6.5.2/ 6.5.3/6.8	  	49p	●			
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs			71p	●			
Topic 8: Strengthening wastewater and waste reduction/management									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary			6.5.3/6.5.4	   	49p	●	
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 306: Effluents and Waste 2016	306-1	Wastewater discharge and recycling	69p	●					
		Emission of water pollutants	69p	●					
	306-2	Waste by disposal method	69p	●					
	306-3	Significant spills	69p	●					
Topic 9: Strengthening global competitiveness through overseas NPP business expansion									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	-		37p	●			
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
-	-	Overseas sales			16p, 41p	●			
Topic 10: Transparent and fair employment									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	-		25p	●			
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
-	-	0 employment-related corruption case in 2019			27p, 44p	●			
Topic 11: Establishing fair trade order									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	-		25p	●			
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
-	-	Programs for anti-competitive behavior, anti-trust and monopoly practices			28p	●			
Topic 12: Protecting rights and health of local residents near operations									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	6.3.9/6.5.3/6.8	 	64p	●			
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 413: Local Communities 2016	413-2	Operations with significant actual and potential negative impacts on local communities			6p, 64p	●			

GRI Standard			Disclosure	ISO 26000	SDGs	Page	Verification		
Topic 13: Establishing and providing education for human rights system									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.3.5		25p	●		
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 412: Human Rights Assessment 2016	412-2	Training about human rights policies and procedures				29~30p, 71p	●		
Topic 14: Management of workers' safety and health									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.4.6/6.8.8		31p	●		
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 403: Occupational Health and Safety 2016	403-2	Types and rates of injury, occupational diseases, rate of absence or leave of absence, no. of occupational fatalities, etc.				34p, 71p	●		
Topic 15: Improving employee competency through on-the-job training and education									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		6.4.7	  	43p	●		
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee				71p	●		
Topic 16: Strengthening disaster and safety crisis response capabilities									
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary		-	 	31p	●		
	103-2	The management approach and its components							
	103-3	Evaluation of the management approach							
-	-	Comprehensive NPP safety performance index						16p	●
		Operating NPP safety management index						16p	●
		Seismic performance improvement index						16p	●
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed		6.8.1~6.8.2/ 6.8.3/6.8.7/ 6.8.9		68p	●		
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations (One case of fine for violating environmental regulation reported in Kori NPP in 2019)		4.6		54p	●		
GRI 401: Employment 2016	401-1	New employee hires and employee turnover		6.4.3		70p	●		
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees		6.2.3/6.3.7/ 6.3.10/6.4.3	 	70p	●		

Third-party Assurance Statement



To: The Stakeholders of Korea Hydro & Nuclear Power

Introduction and objectives of work

BSI Group Korea (hereinafter “the Assurer”) was asked to verify Korea Hydro & Nuclear Power Co., Ltd.’s ‘2020 KHNP Sustainability Report’ (hereinafter “the Report”). This assurance statement applies only to the relevant information contained in the scope of the assurance.

Korea Hydro & Nuclear Power Co., Ltd. is solely responsible for all information and assertion contained in the report. The responsibility of the assurer is to provide independent assurance statement with expert opinions to Korea Hydro & Nuclear Power’s executives by applying the verification methodology and to provide this information to all stakeholders of Korea Hydro & Nuclear Power.

Assurance Standard

This assurance was based on the AA1000AS (2008) Assurance Standard and the moderate level of Type 2 assurance in Economic Performance, Anti-corruption, Training and Education, Local Communities, Energy and GHG Emission that required reliability test of assertion, and for other information applied the Type 1 assurance to check the source and accuracy of the information. In addition, the assurer verified compliance with the principle of inclusivity, materiality, and responsiveness in accordance with the AA1000APS (2008) Assurance Principle Standard and verified that the contents of the report complied with the principle of Core option and in accordance with GRI standards.

Scope of Assurance

The scope of assurance applied to this report is as follows;

- Based on the period from January 1st to December 31st, 2019 included in the report, organizational changes and some qualitative activities will use 2020 data according to the report content;
- Appropriateness and consistency of processes and systems for data collection, analysis and review
- Major assertion included in the report such as sustainability management policies and objectives, business, performance, and materiality evaluation results included in material issues;
- Additional information other than the report is not included in the scope.

Methodology

As part of its independent assurance, the assurer has used the methodology developed to collect relevant evidence to comply with the verification criteria and to reduce errors in the reporting, and has performed the following activities;

- To determine verification priorities, review of materiality issue analysis process and verification of the results;
- System review for sustainability strategy process and implementation;
- Review the evidence to support the material issues through interviews with senior managers with responsibility for them;
- Verification of data generation, collection and reporting for each performance index

Our findings

On the basis of our methodology and the activities described above, it is our opinion that

- The information and data included in 2020 Korea Hydro & Nuclear Power Sustainability Report are accurate and reliable and the assurer cannot point out any substantial aspects of material with mistake or misstatement. The report provides sustainable management activities of Korea Hydro & Nuclear Power in a fair way;
- The information is expressed in a clear, easy-to-understand and easy-to-access manner, and it is expressed so that readers can have a balanced opinion on Korea Hydro & Nuclear Power’s sustainability management performance and has a system to ensure stakeholder participation;
- The Report properly reflects the organization’s alignment to and implementation of the AA1000 Assurance Standard (2008) principles of Inclusivity, Materiality and Responsiveness in its operations. Further detail is provided below.

AA1000 AccountAbility Principles Standard (2008)

• Inclusivity : Stakeholder participation

Korea Hydro & Nuclear Power has processes in place for engaging with key stakeholders including customers, shareholders and investors, suppliers, employees and local communities, and has undertaken stakeholder engagement activities. Also the report has communication channels for each stakeholder group and collecting various opinions.

• Materiality : Identification and reporting of material issues

The report addresses economic, environmental and social issues identified by Korea Hydro & Nuclear Power as high material. Korea Hydro & Nuclear Power identified impact issues and trend issues through evaluations consistent with the GRI materiality evaluation process and identified business impacts and stakeholder interests through stakeholder surveys to identify material issues and selected reporting criteria for prioritization.

• Responsiveness : Response to stakeholder in material issues

Korea Hydro & Nuclear Power has been responding to those issues it has identified as material and demonstrates this in its policies, objectives, indicators and performance targets. The reported information can be used by the organisation and its stakeholders as a reasonable basis for their opinions and decision-making.

Key areas for ongoing development

To the extent that the results of the verification are not affected, the following comments were made.

- In order to identify material issues, it is necessary to include a wider range of sustainability themes in the pool, and when selecting material topics, it is necessary to increase the proportion of external stakeholders so that issues with high social interest can be selected.
- Each field of the report describes a relatively positive aspect and expresses efforts to further develop it. At the same time, identifying issues with poor performance and disclosing specific plans to resolve them will help ensure the balance of the report.

Statement of independence and competence

The assurer is an independent professional services company that specializes in Quality, Health, Safety, Social and Environmental management with almost 120 years history in providing independent assurance services. No member of the assurance team has a business relationship with Korea Hydro & Nuclear Power We have conducted this verification independently, and there has been no conflict of interest. All assurers who participated in the assurance have qualifications as AA1000AS assurer, have a lot of assurance experience, and understand the BSI Group's assurance standard methodology.

Evaluation against GRI ‘In Accordance’ Criteria

The assurer confirmed that this report was prepared in accordance with the GRI Standards Core Option and the disclosures related to the following Universal Standards and Topic-specific Standards Indicators based on the data provided by Korea Hydro & Nuclear Power.

[Universal Standards]

Organisational Profile (102-1~13), Strategy (102-14), Ethics and Integrity (102-16), Governance (102-18/102-22~24/102-33~36), Stakeholder Engagement (102-40~44), Reporting practice (102-45~55)

[Topic-specific Standards]

Management Approach (103-1~3), Anti-corruption (205-2), Occupational Health and Safety (403-2), Energy (302-1), Emissions (305-1~2), Local Communities (413-1~2), Effluents and Waste (306-1~3), Human Rights Assessment (412-2), Training and Education (404-1), Economic Performance (201-1), Environmental Compliance (307-1), Employment (401-1), Diversity and Equal Opportunity (405-1)



15th Dec. 2020
BSI Group Korea
Managing Director Korea, **Peter Pu**

UNGC Advanced Level

In May 2007, KHNP joined the UN Global Compact, which is a voluntary corporate initiative that promotes social responsibility. We declared compliance with the 10 principles of human rights, labor, environment and anti-corruption and our achievement of fulfilling global responsibility are transparently disclosed to UNGC every year.

Topic		Principle	Page	GRI Disclosure
1	Strategies, Governance and Engagement	This integrated report (IR) describes that the corporate role and business are being operated in a sustainable way.	15-16p	GRI 102-2
2		This IR describes the value chain activities.	47-48p	GRI 102-2
3	Human Rights	This IR describes the company’s strong commitment, strategies and policies in the area of human rights.	29p	GRI 103-1
4		This IR describes an effective management system designed to integrate the company's human rights principles.	29p	GRI 103-1
5		This IR describes an effective monitoring and assessment mechanism for the integrated human rights principles.	29-30p	GRI 103-2
6	Labor	This IR describes the company's strong commitment, strategies and policies in the area of labor.	43p	GRI 103-1
7		This IR describes an effective management system designed to integrate the company's labor principles.	44-46p	GRI 103-2
8		This IR describes an effective monitoring and assessment mechanism for the integrated labor principles.	44-46p	GRI 103-3
9	Environment	This IR describes the company's strong commitment, strategies and policies in the area of environmental management.	49p	GRI 103-1
10		This IR describes an effective management system designed to integrate the company’s environmental principles.	51p	GRI 103-2
11		This IR describes an effective monitoring and assessment mechanism for the integrated environmental principles.	51-54p	GRI 103-3
12	Anti-corruption	This IR describes the company’s strong commitment, strategies and policies in the area of anti-corruption efforts.	25p	GRI 103-1
13		This IR describes an effective management system designed to integrate the company's anti-corruption principles.	26p	GRI 103-2
14		This IR describes an effective monitoring and assessment mechanism for the integrated anti-corruption principles.	26p	GRI 103-3
15	UN Goals and Issues	This IR describes the company's core business to support the goals and issues of the United Nations.	16p	GRI 102-12~13
16		This IR describes the strategic social investment and social contribution activities.	56-58p	GRI 413-1
17		This IR describes protection of the rights of and engagement in public policies by local community.	49p	GRI 203-1~2
18	Governance	This IR describes partnerships and collective actions.	80p	GRI 102-13
19		This IR describes the CEO's will and leadership.	4p	GRI 102-14
20		This IR describes appointment of executives and their supervision.	61p	GRI 102-18
21		This IR describes stakeholder engagement.	64p	GRI 102-40,42,43,44

* UNGC (UN Global Compact) Advanced Level: This is the criteria for fulfillment of social responsibilities and disclosure of the UN Global Compact, an initiative to encourage voluntary fulfillment of corporate social responsibilities. The UNGC Advanced Level comprises of 21 criteria in seven areas including strategies and operation, human rights, labor, environment, anti-corruption, UN goals and issues, and sustainable governance and leadership.



Awards

Date	Details	Awarded by
2019. 4	5th Korea Retirement Pension Award: Grand Prize	Maekyung Group
2019. 7	2019 Broadcast Advertising Award: Grand Prize	MTN (Money Today Broadcast)
2019.10	Security Award Korea 2019: Public Sector Grand Prize	Security Award Korea Committee
2019.11	Contribution to Small and Medium Business share growth fund: Presidential Award	Ministry of SMEs and Startups
2019.12	2019 Technology Commercialization Achievement Award: Ministerial Award	Korea Institute for Advancement of Technology

Memberships

Domestic				Overseas
Gyeongju Chamber of Commerce & Industry	Korea Asset Management Association	Korea Power Exchange (KPE)	Korea SMEs Trade Association (KOSTA)	CANDU Procurement Audit Committee (CANPAC)
Climate Change Center (CCC)	Korea Society of Energy & Climate Change (KOSECC)	Korea Standards Association (KSA)	The Korean Welding and Joining Society (KWJS)	CANDU Owners Group (COG)
Association of Public Institution Auditors of Korea	Women in Nuclear Korea (WIN)	Korea Society for Quality Management	Korean Society of Pressure Vessels and Piping (KPVP)	Framatome Owners Group (FROG)
The Korean Society of Mechanical Engineers (KSME)	The Institute of Internal Auditors (IIA) Korea	Institute of Nuclear Materials Management - Korea Chapter	Korea Coating Experts Society (KOCES)	International Hydropower Association (IHA)
Future Energy Policy Institute	Korea Radioactive Waste Society (KRS)	The Korean Society for New and Renewable Energy (KSNRE)	Korea Engineering & Consulting Association (KENCA)	Nuclear Energy Institute (NEI)
Korea Fisheries Resources Agency	Korea Industrial Technology Association (KOITA)	Korea Photovoltaic Industry Association (KOPIA)	Fuel Cell Industry Promotion Agency (FIPA)	Nuclear Procurement Issues Committee (NUPIC)
Korea Business Council for Sustainable Development (KBCSD)	Korea Smart Grid Association (KSGA)	The Korean Association for Radiation Protection (KARP)	Korea Wind Energy Industry Association (KWEIA)	Pressurized Water Reactor Owners Group (PWROG)
Korea Association for Radiation Application (KARA)	Korea Energy Foundation (KEF)	Korea Personnel Improvement Association (KPI)	UN Global Compact Network Korea	World Association of Nuclear Operators (WANO)
Korea New & Renewable Energy Association (KNREA)	Korea Institute of Nuclear Industry Promotion (KNP)	The Korean Society for Energy	Korean Tunneling and Underground Space Association (KTA)	World Nuclear Association (WNA)
Korea Atomic Industrial Forum (KAIF)	Korean Nuclear Society (KNS)	The Korean Association for Policy Studies (KAPS)	Korea Plant Industries Association (KOPIA)	World Nuclear Fuel Market (WNFM)
Korea Academy of Nuclear Safety (KANS)	Korea Electrical Manufacturers Association (KOEMA)	Korea Exchange (KRX)	Korea International Trade Association (KITA)	International System on Occupational Exposure (ISOE)
				OECD/NEA (Nuclear Energy Agency)

KHNP Way to Sustainability, **TRUST**

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