ENRICH THE WORLD WITH CLEAN ENERGY

EWP Sustainability Report 2019
Every year, Korea East-West Power publishes a sustainability report to disclose its sustainable management goals and performance achievements and to share with stakeholders the values pursued by Korea East-West Power and its commitments. This is the thirteenth sustainability report of Korea East-West Power, which highlights significant changes and performance achievements in management since the last report was published.

Scope and Period of the Report
The reporting period of this report is based on the fiscal year of 2018 (January 1, 2018 - December 31, 2018) and reports on the significant financial and non-financial performance results from during the reporting period. As for quantitative performance, the figures for 2016 to 2018 were used to identify trends in change, and some qualitative performance results include the details of the first half of 2019. The scope of report also includes the domestic and overseas operations of Korea East-West Power.

Preparation of the Report and Validation Standard
This report has been prepared in accordance with the core compliance method of the Global Reporting Initiative (GRI) Standard, which is an international reporting guideline for sustainable management. To enhance the reliability of the details reported, they were validated by a third-party institution, and the results of validation are made available in the third-party validation statement (pp.88-89).

Report Related Inquiries
The report may be reviewed in Korean and English or downloaded in PDF format from the Korea East-West Power’s website (www.ewp.co.kr). If you have any further questions about the report, please contact us.

Published by: Environment Management Department, Climate Change & Environment Division, Engineering Group, EWP
Address 395, Jongga-ro, Jung-gu, Ulsan, Korea (44543)
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About this Report

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Dear stakeholders,

Thank you very much for your interest in and support for the sustainable management activities of Korea East-West Power Corporation.

Korea East-West Power is an eco-friendly energy company which has the responsibility to supply clean power in a stable manner under the mandate of the state and the people. As a public enterprise leading Korea’s power generation industry, we are endeavoring to the greatest extent possible to achieve sustainable growth and create social and environmental values based on our mission.

This 13th sustainability management report discusses our economic, environmental and social activities, focusing on the social values which account for the characteristics of Korea East-West Power in a transparent manner.

The ‘corporate social responsibility’ of a company is newly defined as the concept of ‘social value’. Here, ‘social value’ refers to the value of making a contribution to the public interest and community development across all areas, such as society, economy, environment, and culture. Korea East-West Power has developed unique indicators to measure its performance in the area of social values, and is operating the ‘Korea East-West Power specific social value platform’ which can reflect these in the management activities. In addition to the monetary profits and expenses generated and incurred from and by undertaking corporate activities, external effects on the society as a whole were quantified in monetary terms, thereby creating KRW 366.4billion of social value in 2018. Moreover, we have decided to create a social value BI called ‘Energy Power Plant Full of Vitality’ which aims to create an economic symbiotic ecosystem, jointly resolve social issues, and strengthen sympathy and social exchanges, and are endeavoring to achieve KRW 2.5trillion of social value by 2022.

To contribute to building a clean air environment, Korea East-West Power is working to achieve a 45% reduction of air pollutants as of the end 2019 compared to 2015 levels by installing a combined denitrification facility for all units of combined cycle power plants, adding 1 stage of coal fired denitrification catalyst, and expanding the use of low coal and low sulfur oil. As well, we have acquired ISO 45001 (safety and health management system), a first for a power generation company in Korea. This is the latest international standard that is granted to companies equipped with a system for preventing and managing risks which may occur at the workplace. Through this, we will ensure that even more diverse efforts are made to prevent industrial accidents so that all Korea East-West Power workers, including those at partnering businesses, can work safely in a happy workplace.

Together with this, in order to take a significant leap forward to become a comprehensive energy company leading low carbon green management, we are implementing our own differentiated ‘RE3025’ implementation strategy to achieve an emissions reduction of 25%, which is 5% higher than the government’s new and renewable energy target, by 2030. In the process of converting our coal fired power generation into an eco-friendly energy source, we are also contributing to revitalizing the domestic economy, such as by expanding the use of domestic equipment and materials and by linking with local specialized industries. As such, we are doing the best we can to live up to our part of the contribution to the government’s 3020 implementation plan for renewable energy and to secure a future growth engine for Korea East-West Power.

At Korea East-West Power, we will continue to carry out our social responsibilities, and will communicate with our stakeholders regularly as we grow into a sustainable institution. We ask for your continuing interest and support.

Thank you.

October 2019
President of Korea East-West Power Corporation
Park Il-Jun
Introducing EWP

Business Portfolio

Introduction to Korea East-West Power

A Sustainable Value Creation Process

Business Ecosystem

Leading the 'Joint' Resolution of Social Issues

Strengthening the 'Sympathy' and Emotional Exchange

EWP Sustainability Management

EWP Social Value

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EWP Sustainability Report 2019

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Introduction to Korea East-West Power

A Sustainable Value Creation Process

Business Portfolio
Introduction to Korea East-West Power

Overview of the Company

Korea East-West Power is one of the six subsidiaries for power generation separated from the Korea Electric Power Corporation in 2001 in accordance with the Act on the Promotion of Restructuring of the Electric Power Industry of the Government.

Key Management Indicators

- **Date of Founding**: April 1, 2001
- **Basis of Founding**: Article 1 of the Electric Power Industry Restructuring Act (Revised Electric Power Industry Restructuring Act, December 23, 2000)
- **Key Industry**: Power Resource Generation
- **Location of Headquarters**: 395, Janggyeong, Jung-gu, Ulsan, Korea
- **Competent Authority**: Ministry of Trade, Industry and Energy
- **President**: Park Min Jun
- **Number of Employees**: 2,450 people

Organizational Structure

Korea East-West Power maintains a three-hq system consisting of the Planning Group, Engineering Group, and Business Development Group, while reconceiving the Climate Change & Environment Division into a separate organization under the Engineering Group to reflect its commitment to protecting the environment. In addition, we are strengthening the role of Safety & Quality Management Division to create a safe workplace.

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**Table: Key Management Indicators**

<table>
<thead>
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**Social Values Promotion Division**

- Open Innovation Department
- Creative Education Department
- Social Contribution Department
- Ethics & Compliance Department

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**Business development Group**

- Environmental Management: Environmental Management Department / Environmental Management Department
- Financial Management: Financial Management Department / Financial Management Department
- Planning: Planning Department / Planning Department

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**Engineer Group**

- Business Development Department / New Energy Business Development Department / New Power Plant Business Development Department
- Environmental Management: Environmental Management Department / Environmental Management Department
- Financial Management: Financial Management Department / Financial Management Department
- Planning: Planning Department / Planning Department

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**Human Resource Group**

- Environmental Management: Environmental Management Department / Environmental Management Department
- Financial Management: Financial Management Department / Financial Management Department
- Planning: Planning Department / Planning Department

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**Improved Coal Fired Power Development**

- Environmental Management: Environmental Management Department / Environmental Management Department
- Financial Management: Financial Management Department / Financial Management Department
- Planning: Planning Department / Planning Department

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**New Energy**

- Solar Energy
- Wind Energy
- Energy Management
- Renewable Energy

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**Renewable Energy**

- Solar Energy
- Wind Energy
- Energy Management
- Renewable Energy

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**Electricity Generation**

- Global Business 1 - Global Business 2
- Global Business 2 - Global Business 1
- Global Business 1 - Global Business 2
- Global Business 2 - Global Business 1

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**History**

- **1898.01** Founded Hansung Electric Power, the first electric power company in Korea
- **1943.08** Founded Doshan Electric Power Co., Ltd., Korea
- **1961.07** Founded Namnara Electric Power Co., Ltd.
- **2001.04** Separated into Korea East-West Power Co., Ltd.
- **2014.06** Relocated headquarters to Ulsan Innovation City

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**Highlighted Sustainable Management Performance**

- **2007** Won the BSIC Hall of Fame Award
- **2008** Won the 2007 Republic of Korea Technological Innovation Award
- **2009** Won the Grand Prize for the 4th Green Technology Innovation Award
- **2010** Won the Grand Prize for the 4th Green Technology Innovation Award
- **2011** Won the 2011 Grand Prize for the 2011 Global Compact Eco-friendly Division
- **2012** Gained the Highest Rating for Disaster Management Evaluation (Class A)
- **2013** Won the 15th Excellent Business for Child Delivery Friendly Policy
- **2014** Won the 6th Excellent Business for Energy Champion
- **2015** Won the Prime Minister of Korea's Economic Leader for the National Infrastructure System
- **2016** Won the Prime Minister's Award for the National Infrastructure System
- **2017** Acquired the Certification of Excellent Workplace for Energy Champion (Most Certified Workplace for Public Enterprise)

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**EWP Sustainability Report 2019**

**Structure**

- **Department**
  - Human Resources Development Department
  - Technology Department
  - Safety & Quality Management Division

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**Economy**

- **2007** Won the BSIC Hall of Fame Award
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**Environment**

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**Society**

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- **2012** Gained the Highest Rating for Disaster Management Evaluation (Class A)
Korea East-West Power operates power plants at Dangjin Coal-Fired Power Headquarters, Ulsan Coal-Fired Power Headquarters, Honam Coal-Fired Power Headquarters, Donghae Bio Fire Coal-Fired Power Headquarters, and Ilsan Coal-Fired Power Headquarters to develop and grow power generation resources and supply stable electric power. The installed capacity is approximately 11,190.4MW, which accounts for 9.2% of the domestic electric power. Out of the total installed capacity, the installed capacity for renewable energy such as mini hydro power, photovoltaic power, fuel cell, wind power, and biomass is 78.5MW, which accounts for 0.7% of the total installed capacity.

Korea East-West Power demonstrates its competitiveness by entering into overseas markets based on its accumulated experiences and technologies. In the United States and Jamaica, we operate approximately 752 MW-sized power plants, which include eco-friendly power generation using biomass and natural gases. In Indonesia, Jamaica, Guam, Chile, and Myanmar, new business developments of Korea East-West Power are actively underway. In particular, the distributed photovoltaic power generation business, which will be established in Chile, will be recognized as a Clean Development Mechanism business* and will also be recognized for the reduction of approximately 1.6 million tons of greenhouse gas emissions over the next 10 years, thereby securing performance achievements in the Emissions Trading System.

*Clean Development Mechanism (CDM) business: Refers to the business by which developed countries invest in developing countries to secure performance achievements in reducing greenhouse gas emissions as per the Kyoto Protocol.
Korea East-West Power is implementing its 3025 Policy by which it will raise the ratio of installed capacity for renewable energy from the government’s target of 20% to 25% by investing approximately KRW 23 trillion by 2030 with the aim to become a comprehensive energy enterprise leading low-carbon green management. In the process of converting the coal-fired power generation into an eco-friendly energy source, Korea East-West Power is contributing to the facilitation of domestic economy by expanding on the use of domestic equipment and materials and building connections with local specialized industries. Furthermore, we are creating an energy ecosystem with a focus on realizing social values to ensure increased acceptance among residents of new and renewable energy and the returning of the generated profits to the region.

**GREEN Energy and Renewable Energy**

**Business for the Future**

Korea East-West Power is constructing and operating photovoltaic power generation facilities using a roof top method which does not cause environmental damage by utilizing existing buildings, while driving the growth of the photovoltaic industry through joint developments with private companies.

- Busan Shinseki Photovoltaic Power 20MW
- Dangjin 2 And First Floating Photovoltaic Power 3.5MW
- Dangjin Coal Yard Photovoltaic Power 3.4MW
- Dangjin Sewage Treatment Plant Photovoltaic Power 345MW
- Yeosu Dangjin Port Industrial Complex Photovoltaic Power 2.5MW
- Suwon Sewage Treatment Plant Photovoltaic Power 1.5MW
- Dangjin Waste Landfill Photovoltaic Power 1.1MW
- Yeosu Jintang Logistics Photovoltaic Power 1.2MW
- Dangjin Floating Photovoltaic Power 1MW
- Dangjin Photovoltaic Power 1MW
- Donghae Photovoltaic Power 1MW
- Dangjin Parking Lot Photovoltaic Power 1MW
- Dangjin National Wastehouse Photovoltaic Power 0.7MW
- Urban Photovoltaic Power 0.54MW
- Urban G Integrated Roofing Photovoltaic Power 0.49MW
- Myeongjoo Hope Light Photovoltaic Power 0.29MW
- Iksan Photovoltaic Power 0.15MW

Total Photovoltaic Power Generation Volume 41.4MW

Korea East-West Power is focused on onshore wind power development and is also contributing to the development of domestic onshore and offshore wind power industrial technologies by undertaking wind power R&D tasks in the west coast region and participating in the construction of offshore wind power complexes, among others.

- Younggwan Wind Power 45.1MW
- Younggwan Baekse Wind Power 48.9MW
- Younggwan Offshore Wind Power 34.0MW
- Gymgegg Wind Power Phase 2 20.7MW
- Honam Wind Power 20.7MW
- Gymgegg Wind Power 16.8MW
- Younggwan Jintang Wind Power 3MW

Total Wind Power Generation Volume 180.1MW

Korea East-West Power is focused on securing new growth engines by developing domestic and overseas fuel cell businesses and entering into O&M businesses by securing independent technological prowess through the implementation of O&M technology transfers for the new technology fuel cell area.

- Ilsan Combined Heat & Power Plant 2.4MW
- Ilsan Combined Heat & Power Plant 2.4MW
- Ulsan Fuel Cell 2.8MW

Total Fuel Cell Power Generation Volume 16.1MW

Korea East-West Power is constructing and operating a 30MW wood chip biomass power plant, and is also cooperating with local governments for the first time in Korea to develop a 10MW-class biomass power generation business using iron slag as a fuel.

- Dangjin Wood Pellet 70MW
- Donghwa Wood Fuel-Firing 62MW
- Ulsan Bio Honey Oil 49MW
- Seokmun Business 38MW
- Donghwa Wood Chip Biomass Power Plant 30MW
- Seogang Sludge 1 10MW
- Seogang Sludge 2 20MW

Total Biomass Power Generation Volume 268.9MW

Korea East-West Power operates the small hydro power generation facilities utilizing wastewater released from Dangjin Thermal Power Plant.

- Dangjin Small Hydro Power Plant 1 2.4MW
- Dangjin Small Hydro Power Plant 2 2.3MW
- Total Small Hydro Power Generation Volume 4.7MW

Total Small Hydro Power Generation Volume 8.2MW

Korea East-West Power is implementing its 3025 Policy by which it will raise the ratio of installed capacity for renewable energy from the government’s target of 20% to 25% by investing approximately KRW 23 trillion by 2030 with the aim to become a comprehensive energy enterprise leading low-carbon green management. In the process of converting the coal-fired power generation into an eco-friendly energy source, Korea East-West Power is contributing to the facilitation of domestic economy by expanding on the use of domestic equipment and materials and building connections with local specialized industries. Furthermore, we are creating an energy ecosystem with a focus on realizing social values to ensure increased acceptance among residents of new and renewable energy and the returning of the generated profits to the region.

**Introducing EWP**

**EWP Social Value**

**Building a ‘Symbiotic’ Business Ecosystem**

**Leading the ‘Joint’ Resolution of Social Issues**

**Strengthening the ‘Sympathy’ and Emotional Exchange**

**EWP Sustainability Management**

**Appendix**
A Sustainable Value Creation Process

Eco-friendly energy company to enrich the world

Input Value

Social Value
- Budget for accompanied growth project: KRW 43.3 billion
- Annual investment for social contribution activities: KRW 1.3 billion
- Hours of volunteer work per person: 27.35 hours

Value of Innovation
- Annual R&D investment: KRW 30.29 billion

Value of Human Resources
- Training hours per capita: 252 hours
- Education and training costs per capita: KRW 3.6 million
- Users of flexible working system: 2,229 employees
- Participation in safety culture: 4.55 points

Value of Innovation
- Annual R&D investment: KRW 30.29 billion

Financial Value
- Assets: KRW 8.7444 trillion
- Equity: KRW 4.6519 trillion
- Liabilities: KRW 4.0925 trillion

Output Value

Economic Value
- Corporate and local taxes: KRW 20 billion
- Employees' salaries: KRW 248.7 billion
- Shareholder dividends: KRW 1 billion
- Community donations: KRW 3.8 billion

Environmental Value
- Air pollutant emissions: SOx (10,932 tons), NOx (13,308 tons), Dust (523 tons)
- Waste recycling ratio: 76%
- Renewable energy power generation: 458,420 MWh

Social Value
- Smart factory supported SMEs: 44
- Energy welfare for the marginalized: 621 households

Value of Human Resources
- Newly hired: 144 people
- Average number of years of continuous service: 16.1 years
- Accident and mortality rate: 0

Value of Innovation
- Jobs created: 552 public sector jobs, 425 private sector jobs
- Savings in bituminous coal procurement: KRW 37 billion
- Power generation facilities' failure and breakdown rate: 0.027%
Social Value Platform of Korea East-West Power

Korea East-West Power has finally decided on its brand identity in the social value area, which is ‘A Vibrant Energy Power Plant’ of ‘Symbiosis, Collaboration and Empathy.’ By setting the goals which translate social value performance achievements into monetary values, we endeavor to secure objectivity and effectiveness in realizing social values. As a public enterprise for energy, we will contribute to the development of communities such as job creation and economic revitalization, and also take the lead in resolving social issues.

Social Value Performance

Korea East-West Power has converted intangible social value creation performance achievements into monetary values for the increased imminence of performance and has also motivated people internally. The performance measurement indicators consist of six indicators centered on the main business and six common indicators, and in 2018, we have created a social value performance of KRW 364.4 billion. Such performance measurement efforts facilitate setting clear goals and rolling out activities for the future social value creations, and also provide enhanced services to the people through ex post evaluations.

**Goals for Social Values KPIs (Unit) Performance Result in 2018**

<table>
<thead>
<tr>
<th>Social Value</th>
<th>KPI/Goal</th>
<th>2018 Performance Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to national income</td>
<td>Creation of direct jobs (people)</td>
<td>KRW 977</td>
</tr>
<tr>
<td>Strengthening of value chain competiveness</td>
<td>Investment value of mutual growth (KRW 100 million)</td>
<td>KRW 95 billion</td>
</tr>
<tr>
<td>Revitalization of regional economy</td>
<td>Investment value of social contribution (KRW 100 billion)</td>
<td>KRW 45.8 billion</td>
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**Goals for Social Values KPIs (Unit) Performance Result in 2017**

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<tr>
<td>Contribution to national income</td>
<td>Creation of direct jobs (people)</td>
<td>KRW 826.1 billion</td>
</tr>
<tr>
<td>Strengthening of value chain competiveness</td>
<td>Investment value of mutual growth (KRW 100 million)</td>
<td>KRW 90.5 billion</td>
</tr>
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<td>Contribution to national income</td>
<td>Creation of direct jobs (people)</td>
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Thinking About the Future of Employees at the Crossroads of Energy Conversion

Korea East-West Power organizes and operates the ‘EWP Future Joint Committee of Labor and Management’ with the goal of facilitating a safe and clean environment, good jobs, social responsibility and economy for realizing its people-centric social values. The joint Declaration of Labor and Management is evidentiary of our intention and commitment to set an example for coexistence of labor and management based on a future-oriented and sound labor management culture.

In 2019, we introduced a flexible working hours system through a labor management agreement in order to improve the long term working culture for employees and to allow for them to live life away from work after working hours. Furthermore, we have incorporated provisions for improving working conditions in the collective agreement to ensure that a work and family balance can be maintained through the annual leave pre-use system.

Underlying such improvement of the working environment is the effort in communication by Korea East-West Power to heed to the various voices of its employees. To encourage communication between the headquarters and the business locations, the chairman of labor union has visited all business locations in Ulsan, Dangjin, Honam, Donghae, and Ilian, and has met the workers in person and communicated with them via meetings for onsite communication. Furthermore, through such communication channels as the Future Committee and the Job Committee, we are continuing to establish the labor management relations of coexistence while pursuing the labor management relations of cooperation and participation.

Look Inside 1

Pil Seung-Heon
Chairman of the Labor Union

As of the end of 2018, Korea East-West Power’s labor union subscription rate was 97.9%, with a total of 1,745 employees subscribed. The labor union of Korea East-West Power strives to perform its social responsibilities as a public enterprise while prioritizing the rights and interests of its members.

In line with the government’s plan to close aged coal power plants due to the recent issue of fine dust, Korea East-West Power’s Honam Thermal Power Plant and Ulsan Steam Power Plant will shut down their operations. As new construction of coal-fired power plants is not allowed, and as facility performance improvement projects to enhance environmental effects and economy are also not allowed, Korea East-West Power is faced with the crisis of laying off full-time employees and employment stability.

Korea East-West Power has endeavored to produce safe and clean power according to the needs of the people by reducing air pollutants by 35.9% in 2018 and increasing the installed capacity of new renewable energy power generation by 9.3% year on year. We must continue our efforts to take a leap to become an eco-friendly energy company and to prepare a system for job stabilization to prepare for the future of both employees and citizens.

For the sustainable growth of Korea East-West Power, we must establish a new corporate culture in which respecting the people, communities, and the labor force based on a sound labor management culture. Furthermore, we should empathize with residents by resolving current issues of the local communities where power plants are located and also minimize environmental risks by applying the latest technologies to power generation facilities, thereby ensuring the job security of employees through attracting new power plants.
The First Power Plant in Korea to Acquire ISO 45001 Certification

Korea East-West Power acquired ISO 45001 (Safety and Health Management System) certification for the first time as a power company in 2019. The Safety and Health Management System is the latest certification system of international standards with which the government announced measures to strengthen workplace safety for public enterprises and actively stressed on the introduction by public enterprises. It is conferred to companies equipped with systems preventing and managing risks, which may arise at workplaces, in advance.

Korea East-West Power posted an accident rate of 0.16% in 2017, and posted 0.13% in 2018. Since 2018, we have introduced the ‘Safety Call’ system, which is an official safety communication channel, to create a safe working environment for the workers so that experienced workers can voluntarily report on risks and also request for temporary suspension of work for the purpose of protection. All workers entering and exiting the Korea East-West Power’s workplaces are guaranteed the rights and special conditions for safety contracts through the Safety Call.

Korea East-West Power has newly installed the organization and system to prevent industrial accidents with the mindset that the workers of partnering businesses are the family of EWP. In order to prevent accidents caused by the coal facility conveyor belt, we have developed a ‘conveyor access control system’ through which warnings are immediately issued whenever danger to workers is detected by infrared rays.

Korea East-West Power will continue with its best efforts in tandem with its partnering businesses to reaffirm our commitment to prioritizing safety following acquisition of ISO 45001 certification and to create a culture of safety.
The World Wide Fund for Nature (WWF) is an environmental NGO conducting the largest scale of environmental conservation activities that founded its Korea Headquarters in 2014. The Korea Headquarters has set the goal to reduce the corporations’ greenhouse gas emissions based on climate science, while conducting activities to protect endangered marine creatures and implementing climate and energy programs to achieve conversion to renewable energy.

First of all, I would like to sincerely welcome the completion of the floating photovoltaic power facilities of Korea East-West Power. The conversion from fossil fuel-based energy sources to clean renewable energy sources is a global trend to realize a low-carbon society and to respond to the climate crisis. Regarding onshore photovoltaic power, it is difficult to resolve the inevitable environmental impact and conflict with local residents. It is a good idea to utilize the idling cinder landfill as a photovoltaic power facility in the small land we have, and we hope to expand it together with other ash pond facilities. However, managing the environmental impact of the landfilled cinder should not be neglected.

In developed countries, renewable energy has already passed grid parity* and reached a point where it is cheaper than conventional coal, oil and nuclear energy. In Korea, this price reversal is one that has been expected, and Korea East-West Power’s investment in renewable energy facilities not only raises the social value of the company, but is also a strategic decision needed for the company’s survival in the long term. I hope that the company will focus on expanding the renewable energy business portfolio in line with the vision of Korea East-West Power, an eco-friendly energy company enriching the world.

Increasing Environmental Effect with Floating Photovoltaic Power Plant Using Ash Ponds

Recently, following the government’s renewable energy expansion policy and the accompanying efforts to supply renewable energy, some of the photovoltaic projects have been implemented indiscreetly, and consequently, deforestation has emerged as another environmental issue. In consideration of such, Korea East-West Power has planned a floating photovoltaic project by which power may be produced by utilizing the idling water surface of the ash pond reclaiming the cinders burned in the power production process to float the floating object and placing photovoltaic panels over it. In October 2018, Korea East-West Power held a ceremony for the completion of a 3.5MW-class floating photovoltaic power plant using ash pond for the first time in Korea. KRW 6.5billion in project expenses were invested in the floating photovoltaic power plant installed at Dangjin Thermal Power Plant, and moving forward, 4,500GWh of power is expected for production annually. This is equivalent to the volume of electricity which 1,600 households can use for a year. The floating photovoltaic power of Korea East-West Power has been measured to achieve a 1,700-ton reduction in greenhouse gas emissions. The completion of the floating photovoltaic power plant is positively evaluated because it offsets mixed views of the local residents concerning the construction of existing renewable energy power plants while making known Korea East-West Power’s commitment to the eco-friendly energy business.

In the future, Korea East-West Power will continue to diversify eco-friendly power sources by collaborating with the Korea Rural Community Corporation to promote an 80MW-class ‘Lake Daeho Floating Photovoltaic Power Project’ and a 200MW-class ‘Floating Offshore Wind Farm Complex’ using Donghae’s gas field infrastructures, consistent with the government’s renewable energy policy.

The World Wide Fund for Nature (WWF) is an environmental NGO conducting the largest scale of environmental conservation activities that founded its Korea Headquarters in 2014. The Korea Headquarters has set the goal to reduce the corporations’ greenhouse gas emissions based on climate science, while conducting activities to protect endangered marine creatures and implementing climate and energy programs to achieve conversion to renewable energy. First of all, I would like to sincerely welcome the completion of the floating photovoltaic power facilities of Korea East-West Power. The conversion from fossil fuel-based energy sources to clean renewable energy sources is a global trend to realize a low-carbon society and to respond to the climate crisis. Regarding onshore photovoltaic power, it is difficult to resolve the inevitable environmental impact and conflict with local residents. It is a good idea to utilize the idling cinder landfill as a photovoltaic power facility in the small land we have, and we hope to expand it together with other ash pond facilities. However, managing the environmental impact of the landfilled cinder should not be neglected.

In developed countries, renewable energy has already passed grid parity* and reached a point where it is cheaper than conventional coal, oil and nuclear energy. In Korea, this price reversal is one that has been expected, and Korea East-West Power’s investment in renewable energy facilities not only raises the social value of the company, but is also a strategic decision needed for the company’s survival in the long term. I hope that the company will focus on expanding the renewable energy business portfolio in line with the vision of Korea East-West Power, an eco-friendly energy company enriching the world.

*Grid parity: The balance point between renewable energy generation costs and conventional fossil energy generation costs.
In 2008, Korea East-West Power founded the SME Council for the first time as a public enterprise, and has consistently worked with domestic SMEs to develop domestic and overseas sales channels, research and develop localization, support acquiring patents and certifications, and to pursue onsite validation projects. In particular, we are promoting various support projects, including quality consulting services for SMEs in order to expand their market entry opportunities for SME products having the feasibility to enter the global markets based on excellent technologies. Korea East-West Power supports accompanied entry overseas by using the power generation company’s brand in consideration of the difficulty in gaining overseas export opportunities for the SMEs with relatively smaller delivery performance for the power companies. The average sales of the companies participating in the Korea East-West Power’s SME Council have grown by 20% annually over the past 10 years, and their exports overseas have increased five times, from KRW 60billion to KRW 400billion at the present. Moving forward, Korea East-West Power will accompany SMEs in entering overseas markets and will play a leading role in securing national competitiveness in the energy market. In an effort to form a corporate ecosystem for coexistence, Korea East-West Power has won the status of ‘excellent’ institution (highest rating) for the mutual growth assessment sponsored by the Ministry of SMEs and Startups for six consecutive years from 2009 to 2014, and has won eight awards, which is the most among public enterprises, by being awarded the status two years in a row in 2017 and 2018. In addition, we have executed the ‘Business Agreement for Joint Support of SMEs for Overseas Entry’ with KOrita, which we believe will revamp the efforts of Korea East-West Power’s partnering SMEs to enter overseas markets.

Growing Together by Providing Support for the SME Market

In 2016, we executed a business agreement with Korea East-West Power’s Win-Win Growth Center and successfully developed a preventive diagnostic system related to partial discharge, and we are exporting the system to the Middle East, including Saudi Arabia. As a start-up, it was not easy for us to compete with large domestic and overseas companies from the beginning. In particular, the entry barriers of the power industry were very high for companies which lacked any track record in installation and operation for public enterprises. Through the research tasks of Korea East-West Power, we were able to develop a system for detecting partial discharge signals for transformers and providing signals to the working level officers to prevent accidents such as fire, explosion and power failure, and the fact that we were able to build test beds at power plants such as Dangjin and Donghae was a decisive area of support leading to our market development.

Following the successful completion of the research tasks of Korea East-West Power and its onsite installation, the revenues related to partial discharge grew by approximately 500%, primarily due to the Saudi Arabian power authority. The standard design was made to use the partial discharge monitoring products of APM Technologies across all substations within Saudi Arabia, and we have also executed long-term agreements with the Saudi Arabian power authority to provide transformer inspection services for the next three years along with the sales of the system.

We believe that supporting and nurturing venture companies and SMEs faced with difficulties in entering the market despite having sufficient technical skills is one of the responsibilities of public enterprises. We look forward to Korea East-West Power continuing to discover significant tasks required at power generation sites, providing test beds, and providing support for promotional activities for overseas buyers, thereby helping to build a virtuous cycle which will lead to exports and sales expansion for small- and medium-sized ventures. Furthermore, we hope that we will join forces in promoting Korea’s technological capabilities in the global arena by publishing papers on the results of joint R&D and participating in overseas conferences together.
Adding Light to Society with Solar Energy

Korea East-West Power has institutionalized energy efficiency promotion and selected and implemented the six strategic tasks* in line with the three key directions of 'Energy Efficiency', 'Social Value of Energy', and 'New Industry of Energy'. The task of supplying photovoltaic energy to the energy-poor is one of these, and is a most representative social contribution activity which has highlighted the achievements of Korea East-West Power.

The energy-poor are the households which spend 10% or more of their household income on fuel costs, who are often living alone or receiving basic living stipends. In addition, many low income households who cut their energy costs dramatically because of their low income are often excluded from the energy-poor, so they are not easily identified statistically. Korea East-West Power participates in the Solar Energy of Love Committee, which was formed by nine organizations, including Korea East-West Power’s Ulsan Headquarters, the Korea Energy Agency, and KBS’ Ulsan Broadcasting Station, to help realize the universal energy welfare. Since 2011, we have supplied power free of charge to the underprivileged and welfare facilities to promote energy welfare and implemented the ‘Solar Energy of Love Supply Project’ supporting energy independence, reaching approximately KRW 1billion and serving 173 households to date.

In 2018, we installed a commercial photovoltaic power facility for HyeJinWon, a social welfare facility for the severely disabled and contributed to the financial independence of welfare facility. The photovoltaic power facility installed at HyeJinWon is of 15kW-class, and approximately 2kWh of electricity is expected for production per year, saving approximately KRW 4million in electricity bills. Moving forward, Korea East-West Power will create social values by practicing energy welfare and laying a foundation for supporting independence through the eco-friendly energy production to ensure that no one will be marginalized for energy in our society.
Building a ‘Symbiotic’ Business Ecosystem
Stabilization of Fuel Supply

Korea East-West Power uses a variety of fuels to generate electricity. We have diversified our supply channels to prevent issues with fuel supply and demand, and have reduced costs via the systematic monitoring of the fuel market.

Current Status of the Fuel Supply and Demand

Korea East-West Power uses a variety of fuels, including coal, heavy oil and LNG, to generate electricity, among which coal is most supplied. Korea East-West Power is expanding the supply of eco-friendly low-sulfur coal to help minimize the environmental impact of coal-fired power generation. In addition, we are increasing the proportion of domestically produced wooden pallets, which is a type of biomass, to help enhance the stability of supply and create an import substitution effect.

Efficiency of Inventory Management of Bituminous Coal

Korea East-West Power has achieved a stable power production by achieving efficiency for the inventory management of bituminous coal, which is the main fuel of coal-fired power generation. We have diversified our supplier country portfolio to prevent issues with supply and demand caused by the international market index. Consequently, we saved a total of KRW 14.7 billion in fuel procurement costs in 2018.

Reduced Cost of Purchasing Bituminous Coal

Korea East-West Power has developed a new solution to monitor changes in the bituminous coal market and to apply the optimal purchasing method thereby. This solution reflects the international market and supply and demand forecast for the bituminous coal, and we have participated in the new competitive biddings and adopted purchase methods linked to the international market index. Consequently, we saved a total of KRW 37 billion in fuel procurement costs in 2018.

Reducing Cost of Anthracite Procurement for Co-prosperity with Domestic Coal Industry

Donghae Coal-Fired power headquarter is the only plant to use domestic anthracite. Therefore, in order to maintain jobs in mining area and revitalize the local economy, we have actively accepted the high price of domestic coal compared with imported coal. Also, we have expanded the purchase standards of coal import as long as facility stability is maintained, in order to minimize the cost rise in fuel. As a result, we contributed to supporting the domestic coal industry and revitalizing the mining area by implementing 100% of the domestic coal quota while minimizing increase in purchase unit price.
Securing of Competitiveness in Energy Conversion

Korea East-West Power has devised the 3025 Roadmap to increase the share of renewable energy generation up to 25% by 2030. We are growing into a new energy company responsible for eco-friendly future business by developing various new renewable energy sources such as our large-scale wind power business, floating photovoltaic power business and hydrogen fuel cell business.

Roadmap for the Implementation of New Renewable Energy
Korea East-West Power has set a target, which is 9% higher than that for the government’s new renewable energy power generation volume. We will invest approximately KRW 2.3 trillion to expand the capacity of renewable energy sources, which was 514MW as of end 2018, to 7.21GW by 2030.

Renewable Energy Facility Expansion Plan

Formation of the Largest West Coast Wind Farm in Korea
111,000 tons of carbon dioxide reduced
Korea East-West Power is building large-scale wind and photovoltaic power plants to achieve the 3025 Roadmap. Younggwang Wind Power, which was completed in January 2019, is 79.8MW-class completing the formation of the largest 140MW-class west coast wind farm in Korea. Consequently, we are producing 260,000MWh of power annually and reducing carbon dioxide emissions by 111,000tons. In particular, Younggwang Wind Power Plant is Korea’s first farm-type wind farm which can grow rice while producing wind generated power, thereby contributing to increasing the profits of local farmers.

Eco-friendly Energy Production Together with Local Residents
Korea East-West Power began the construction of the 43.2MW-class Taebaek Gadeoksan Wind Power in 2018. Taebaek Gadeoksan Wind Power is the first large-capacity resident participation project by a public enterprise in which local residents share the business profits by owning a certain equity interest. Consequently, we have secured the acceptance of local residents and minimized delays due to opposition. With the start of the construction of Taebaek Gadeoksan Wind Power in a stable manner, we expect that the East Coast Wind Belt Project, which is a 600MW-class wind farm traversing the East Coast and Gangwon-do region, will proceed without issues.

Building the Offshore Wind Power Plant
With the expansion of renewable energy, Korea East-West Power has installed and operated power plants such as Younggwang Wind Power and Gyeongju Wind Power, with unlimited capacity to use wind power which does not emit pollutants. In order to lead offshore wind power, which is attracting attention given its limited installation space and the lack of noise pollution, we have executed the ‘Donghwa 1 Floating Offshore Wind Power Project Implementation Consortium’. The 200MW-class floating offshore wind farm, which will be installed offshore in Ulsan, can utilize the rich wind resources of the vast sea, generate more electricity, and the offshore installation brings the advantage of minimizing risks such as grievances, fishing rights, and visual pollution.

Renewable Energy Capacity

Building a Hydrogen-Based Society
Korea East-West Power is pursuing a hydrogen based fuel cell project in order to pace with the government’s ‘hydrogen economy facilitation roadmap’ and successfully convert energy. In 2018, we began the construction of a 50.2MW-class hydrogen fuel cell project location, which is the largest in Korea. In particular, this location has the advantage of being able to economically utilize the byproducts of hydrogen generated in the petrochemical process for being formed within the plant of Hanwha Total, a petrochemical company. By 2030, Korea East-West Power will invest KRW 4 trillion to continue research related to hydrogen fuel cells and achieve an energy production volume of up to 1GW.

Conversion to Eco-Friendly Fuel
As the social demand for fine dust reduction continues to grow, Korea East-West Power is pursuing fuel conversion using LNG and renewable energy in lieu of coal for some coal-fired power plants. Dangjin Eco Power Co., Ltd., which is a coal-fired power plant, plans to convert into a natural gas power plant using LNG as a fuel source, and the existing site will be used for implementing new renewable power generation facilities such as photovoltaic and ESS. In addition, Honam’s aged coal-fired power plant will be converted into a natural gas power plant, while the idling site will be used as a biomass renewable power plant which uses unused forest byproducts as a fuel for conversion, thereby achieving conversion into an eco-friendly integrated energy complex.

Using Waste Resources to Develop Energy
Korea East-West Power is pursuing a livestock manure biomass development project to prevent the ‘soil and water pollutants caused by livestock manures’ and to achieve smooth livestock manure treatment to ‘increase the number of livestock animals for farmers’. To this end, we have conducted our own R&D on fuel development and combustion characteristics of livestock manure since 2018, and are working with the government and local governments to establish policies and to build a fuel supply and demand network, etc.
Leading the Fourth Industry in the Field of Power

Korea East-West Power is leading the Fourth Industrial Revolution in the power generation industry. We have declared the Industry 4.0 Implementation Master Plan and are pursuing the four largest strategic directions and ten largest tasks.

Industry 4.0 Master Plan
Industry 4.0 aims to create new businesses for the future such as the implementation of smart power plants and development of an integrated power generation operation platform by utilizing Korea East-West Power’s internal power generation system, professional manpower in power generation technology, operation-related know-how and a business database. Based on this master plan, Korea East-West Power will invest approximately KRW 62.8 billion by 2023 to create an economic value of approximately KRW 202.8 billion.

Construction of Integrated Platform for Power Generation
Operating a single power plant requires over 50,000 components, 500 sensors and hundreds of CCTV cameras. In order to operate a power plant stably and efficiently, it is essential to systematically and comprehensively manage large quantities of data and sensor-related systems across the whole power plant. Since 2017, Korea East-West Power has conducted an integrated platform for power generation operation technology to efficiently operate a power plant by applying IT-based technology, and demonstrated a turning point in the industry by utilizing Korea East-West Power’s internal power generation system, professional manpower in power generation technology, operation-related know-how and a business database.

Creation of Industry 4.0 Ecosystem via Entry into the ESS Solution Market
As the fourth industry and ICT-based industries become more active, the importance of energy storage devices (ESS), which can supply electricity efficiently, has also been pronounced. As a part of its consulting and solution products, Korea East-West Power has developed an ESS operating solution (MSP) which analyzes power usage patterns using Big Data and supports the optimization of ESS facilities. In 2018, we executed an agreement with Dongguk Steel to provide ESS MSP, which is expected to reduce electricity bills by a total of KRW 60 billion.

Implementation of Overseas Development Projects
The 200MW-class Indonesia Kassal-1 Fluidized Bed Power Plant, which is applying Korea East-West Power’s 25 years of know-how in power generation and process management, has achieved 98% of the overall process target and has been selected as an excellent power plant in the Asian region by the ‘Asian Power Awards’. In Jamaica, we built Jamaica’s first gas combined cycle power plant and succeeded in the first power reception* in 2018. Korea East-West Power plans to expand its overseas power generation capacity to 2,180MW by 2030 by continuously implementing overseas projects.

Share of Each Overseas Business Fuel

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Implementation of the Overseas Photovoltaic Business
Korea East-West Power has endeavored to implement the first overseas photovoltaic power business in Chile. The project, which is jointly conducted with Daedim Energy, is expected to be conducted as distributed photovoltaic power with a total installed capacity of 100MW across twelve business locations in central and northern Chile. In addition to pioneering overseas markets, the project was recognized as a Clean Development Mechanism* project, and was recognized for the reduction of 1.8 million tons of greenhouse gas emissions over the next 10 years, followed by securing carbon emission rights thereto.

Chilean CDM acknowledges 1.6 million tons of greenhouse gas reduction

Korea East-West Power is expanding overseas development projects to secure future growth engines and grow into a global company. We are expanding the scope of our business by constructing power generation facilities and providing integrated solutions utilizing our experiences in power plant operation.

Social value creation performance

KRW 3.5 billion

Expansion of Overseas Business

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Sharing Hope through Local Companionship

Sustainability Context
As a member of the social community, an entity has the social responsibility to contribute to the sustainable development of local communities and to pursue mutual growth with SMEs and small merchants. As the interest of people in corporate social responsibility has increased, the expansion of main business-based social contribution and participation for various stakeholders may also affect corporate sustainability and growth.

EWP Approach
Korea East-West Power provides energy welfare to local communities and creates jobs related to new energy businesses based on the main business of energy generation. In order to achieve mutual growth with partnering businesses, an exclusive organization has been formed, and the growth of SMEs is encouraged by supporting technological development and capacity enhancement.

8.3 Encourage the formation and growth of small businesses and SMEs, including the promotion of development oriented policies which support production activities, creation of quality jobs, entrepreneurship, and creativity and innovation, and expansion of access to financial services.

8.6 Significantly reduce the proportion of young adults who are not participating in education or training or are unemployed by 2020.

EWP Korea East-West Power intends to expand the absolute quantity of jobs and improve the quality of jobs together. This year, we have focused on job sharing, creating new jobs and reducing long working hours.

Link to UN SDGs
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EWP Performance
Personnel converted to full time
404 people
Cumulative Personnel Participating in the ‘Blood Drive of Love’
3,427 people

Mutual Growth with SMEs
Korea East-West Power practices fair trade and supports technological development and pioneering domestic and overseas markets to create an ecosystem of coexistence with SMEs. By supporting the establishment of social enterprises, we are also contributing to resolving local issues and creating greater social values.

Building a Mutual Growth Support System
Building the Mutual Growth System
To achieve mutual growth with SMEs, Korea East-West Power has established a strategic system aimed at building an ecosystem of coexistence and specified the ten largest tasks. We will create greater social values by investing KRW 100billion in R&D expenses for localization technologies and nurturing 100 venture companies.

Lead mutual growth of public enterprises by building an ecosystem with SMEs

Goal

Strategic Direction
Settlement of convergence technological development based on the 4th industry
Support market development domestic and abroad
Operate SME job creation program
Bridging the wage gap between large and SMEs

2018 Strategic Tasks
˙ Support convergence and complex technological commercialization
˙ Enhance productivity with smart factory
˙ Expand onsite application of domestically developed products
˙ Pioneer overseas market for core parts
˙ Nurture youth startups and venture companies
˙ Support job creation projects
˙ Pilot operation of future performance sharing system
˙ Support welfare improvement for employees

10 Largest Tasks
Expand R&D for localization technologies and invest KRW 200billion
Nurture 100 venture companies and 30 new startups
Provide KRW 30billion for 30 smart factory companies for the 4th industry
Discover and nurture 30 smart factory companies for the fourth industry
Support 50 companies for enhancing productivity of partnering businesses
Achieve KRW 1trillion in direct purchase for SME products
Achieve KRW 120billion in exports by developing overseas markets
Nurture local companies for creating good jobs
Nurture 10 hidden champion companies
Achieve excellent evaluation for mutual growth 10 times
Support for Core Technological Development of the Fourth Industry

Since 2017, Korea East-West Power has supported the establishment of smart factory* for the fourth industry type of SMEs. In 2018, in addition to the first partnering businesses, we had the second and third partnering businesses participate in implementing support projects in line with the size and characteristics of each business.

*Smart factory: an intelligent production plant which improves productivity, quality, and customer satisfaction by applying information and communication technology (ICT) combined with digital automation solutions across production processes such as design, development, manufacturing, distribution, and logistics.

Nurturing Export Companies

Korea East-West Power provides export support programs customized to the growth phase of SMEs. SMEs are classified into potential export companies, silk road companies (export of KRW 1 billion or less), and power silk road companies (export of KRW 1 billion or more) according to the growth stage and export size. In 2018, the potential export companies entered new markets in four countries and generated KRW 19.8 billion in exports.

Details of Support

Potential export company
- Offer opportunities for overseas entry and commercialization
- Support customized program for overseas entry such as support for the overseas patent acquisition

Silk road company
- Support overseas selection and local marketing
- Support overseas and/or registration and acquisition of certification

Power silk road company
- Support direct purchase via direct entry to the corresponding country
- Expand market share via product localization support

Contributing to Bridging Wage Gap between Large and SMEs

Korea East-West Power has endeavored to bridge the wage gap between large companies and SMEs to strengthen the capabilities of SMEs. In particular, through the ‘Korea East-West Power’s Future Performance Sharing System’, we have paid out incentives of KRW 7 million per capita to excellent employees of partnering businesses. Through this effort, we have helped SME employees benefit directly from the performance sharing system and to bridge the wage gap.

Support for Nurturing Social Enterprises

Korea East-West Power promotes mutual growth with various companies by supporting the fostering and growth of social enterprises as well as providing support for the capacity building of partnering businesses and SMEs. In 2018, we hosted the Social Economy Academy and Startup Contest for two consecutive years and supported KRW 30 million for project development expenses.

Expansion of Fair Trade Culture

Increasing Advance Payment Rate and Expanding Coexistence Payment System

Korea East-West Power has raised the advance payment rate and expanded the coexistence payment system to enhance the financial stability of partnering businesses. Korea East-West Power raised the advance payment limit to 80% and shortened the payment deadline from fourteen days or less to five days or less to ensure that the supply of money to SMEs is facilitated. The coexistence payment system contributes to securing the financial stability of partnering businesses by allowing the second and third partnering businesses to cash the goods immediately at the bank using Korea East-West Power’s credit rating. In 2018, a total of KRW 131.8 billion was paid out through the coexistence payment system.

Expansion of Suppliers’ Rights and Interests

The ‘Hierarchical client-supplier culture’ of the bidding process has emerged as a social issue. Korea East-West Power has enacted a standard construction contract to ensure the rights and interests of the bidding participants. By defining in detail the terms and conditions of the existing contract and the subjects of design changes, it is now possible to prevent disputes which may arise during the implementation of contracts, and the expenses of licensing and authorization are calculated separately or are to be borne by the client to ensure that the practices of shifting the expenses to the contracting party are curbed.

Support for Enhancing the Capabilities of SMEs

No. of Smart Factory Support Companies

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMEs</td>
<td>15</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

Developmental Effect of Smart Factory

- First partnering business: KRW 530 million
- Second partnering business: KRW 840 million
- Third partnering business: KRW 930 million

Korea East-West Power promotes the establishment of smart factory for the fourth industry type of SMEs to enhance productivity, quality, and customer satisfaction. In 2018, in addition to the first partnering businesses, we had the second and third partnering businesses participate in implementing support projects in line with the size and characteristics of each business.
Creation of Jobs

Korea East-West Power created 552 jobs in the public sector and 425 jobs in the private sector in 2018 as a strategy for creating quality jobs through its core businesses. Internally, we have focused on job sharing to help reduce long working hours for the existing workforce and to create new hiring practices.

**Development of Job Creation Promotion Strategy**

Korea East-West Power has devised a strategic plan for realizing social values by reflecting the job creation goal for 2018 among management goals for the first time. This is another step towards achieving the mission of 'Creating Jobs for Respecting People for a Good Life Together, with More Time To Spend Away from Work'.

**Job Creation Strategy**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create</td>
<td>27,000 quality jobs centered on main business, perceivable by the people</td>
</tr>
<tr>
<td>Improvement of job quality</td>
<td></td>
</tr>
<tr>
<td>Expansion of job quantity</td>
<td></td>
</tr>
</tbody>
</table>

**Mid-term Roadmap for Job Creation**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Experiments</th>
<th>Full-Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector Job Creation</td>
<td>- Establishment of conversion plan &amp; formation of promotion organization</td>
<td>- Conversion of conversion target &amp; completion of conversion</td>
</tr>
<tr>
<td>Private Sector Job Creation</td>
<td>- Improvement of work in shifts and long-hour working conditions</td>
<td>- Systematic management of full-timers and part-timers</td>
</tr>
<tr>
<td></td>
<td>- Enhancement of eco-friendly and future technology capabilities</td>
<td>- Systematic management of full-timers and part-timers</td>
</tr>
</tbody>
</table>

**Operation of the Organization Dedicated to Job Creation**

Korea East-West Power has formed and operated a ‘Job Placement Council’ where labor and management participate together to achieve the goal of creating company-wide jobs. The Job Placement Council, co-chaired by the CEO and the chairman of the union, is responsible for establishing strategies and policies for job creation. In 2018, we also created the ‘Social Values Promotion Division’, operating directly under the office of the CEO, to oversee the creation of public and private sector jobs.

**Minimization of Part-Timers**

Korea East-West Power observed the government’s guidelines on the conversion of full-time workers and also achieved exemplary full-time conversion through the consensus among stakeholders. According to the characteristics of each job, twenty-four labor, management, and expert council meetings were held, through which an agreement was reached to convert 404 workers to full-time. We also endeavored to reflect the opinions of stakeholders by holding ten onsite briefing sessions to help resolve conflicts among salaries and the age of retirement according to occupations by and between full-time and part-time workers’ unions.

**Improvement of Long Working Hours and New Hiring**

Korea East-West Power has improved working conditions for those working long hours, thereby reducing working hours and creating jobs. The ‘Job Sharing Group’ was established to improve the working conditions for those working 42 hours per week and 24 hours overtime (person/month), and those newly hired were applied 40 working hours per week and 7 hours overtime (person/month), resulting in hiring 72 new people.

**Expansion of Job Creation by Issuing Sustainable Bonds**

Korea East-West Power has expanded external job creation and secured sustainability. In 2018, we were the first Asian enterprise to successfully issue USD 500 million of sustainable bonds*, raising capital to invest in job creation. Korea East-West Power plans to invest the capital raised in renewable energy R&D and eco-friendly facilities to create quality jobs. In 2018, we invested KRW 139 billion, creating a total of 306 direct jobs. Based on such achievements, Korea East-West Power won the ‘Republic of Korea’s Best Sustainable Bond Award’ presented by The Asset, a financial publisher of Hong Kong, at The Asset Triple A Country Awards 2018.

*Sustainable bond: A special purpose bond used only for social value projects such as job creation and eco-friendly technological development.
Community Involvement & Social Contribution

As a public enterprise, Korea East-West Power continuously carries out social contribution activities to perform its social responsibilities and meet the demands of society. We will support customized activities in line with the life cycle of beneficiaries and will also contribute to the economic development of the local community.

Expansion of Consensus via Community Involvement

Social Contribution Implementation System

Korea East-West Power aims to become a 'trusted energy company which performs its social responsibilities through sharing' and is also carrying out social contribution activities under the three strategic directions of 'Social Contribution in Connection with Industry', 'Meeting Social Demands', and 'Expanding the Culture of Sharing'.

Contributing to Revitalizing the Local Economy

Korea East-West Power recognizes that it is an important social responsibility to contribute to revitalizing the local economy. In 2018, we executed an agreement with the city of Ulsan to promote the energy plus city (e+City) to revitalize the local economy centered on the energy industry and to create quality jobs. Through the 'Energy Plus City', we plan to invest KRW 8trillion in the city of Ulsan by 2030, create 10,000 jobs, strengthen mutual growth with SMEs, promote the energy plus city (e+City) to revitalize the local economy centered on the energy industry and to create quality jobs. Through the 'Energy Plus City', we plan to invest KRW 8trillion in the city of Ulsan by 2030, create 10,000 jobs, strengthen mutual growth with SMEs, and increase the local rate of employment of young adults by 30%.

Energy Plus City Implementation Strategy

Nurturing of the Industry

- Energy efficiency development of SMEs
- Support for establishing partnerships with businesses.

Innovative Startup

- New Growth Nurturing Fund
- Support for discovering smart factories

Meeting Social Demands

- Lay out the foundation for job creation
- Revitalize the economy

Expanding the Culture of Sharing

- Make social contribution customized to the beneficiaries
- Provide support to local communities

Energy for a Dream of Happiness

KRW 8trillion invested and 10,000 local jobs created (~2030)

Expansion of Local Community Energy Welfare

Korea's East-West Power provides energy vouchers for the next class of people held in the blind spots of energy welfare to subsidize electricity, city gas and district heating usage fees, as well as winter supplies. In 2018, we provided a total of KRW 80 billion of energy voucher funds. By collaborating with public enterprises such as the Korea Workers' Compensation and Welfare Service, we have installed photovoltaic power plants at idling sites of public enterprises, and have used the generated revenue for extending health and medical support for the vulnerable classes.

KRW 45.8 billion

Social Contribution Customized for a Lifetime

Korea East-West Power has carried out social contribution activities customized for the life cycle of beneficiaries. Classified into childhood, adolescence, and senescence, we have supported traffic accident preventive activities such as improving crossings and supplying transparent umbrellas, and the treatment of leukemia and childhood cancer. For adolescents, we have provided educational support for low-income students and free semester programs to provide equal educational opportunities. As for senescence, to help resolve issues caused by the abuse of elders and dementia, which have become social issues, we have provided support for preventing the abuse of elders, dementia campaigns in conjunction with dementia centers, and dementia awareness improvement activities.

Social Contribution Performance Achievements in 2018

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Support Activities</th>
<th>Amount of Support (KRW million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gangneung</td>
<td>150</td>
<td>503.7</td>
</tr>
<tr>
<td>Ulsan</td>
<td>146</td>
<td>639.0</td>
</tr>
<tr>
<td>Nonsan</td>
<td>34</td>
<td>26.3</td>
</tr>
<tr>
<td>Donghae</td>
<td>31</td>
<td>64.1</td>
</tr>
<tr>
<td>Huam</td>
<td>41</td>
<td>38.4</td>
</tr>
</tbody>
</table>

Strengthening of Communication and Cooperation with Local Residents

Korea East-West Power conducts community involvement activities to build a consensus with the local communities where the headquarters and five business locations are located. Every month, we have designated the ‘Day of Going to Traditional Market’ to help encourage employees to use the local traditional markets. During the outbreak of the ‘Gangneung Wildfire’, which resulted in many victims and property damages, we provided KRW 1.3 billion in donations and delivered one thousand lunchboxes.
Leading the ‘Joint’ Resolution of Social Issues
Sustainable Power Generation  
Keeping People in Mind

Sustainability Context
The people’s voice demanding the strengthening of safety management for the thermal power industry is increasingly growing. The government has been pursuing the revision of the Occupational Safety and Health Act for the first time in 28 years, and power companies have also established safety measures to improve their systems and processes to ensure that workers can work in safe workplaces.

EWP Approach
Korea East-West Power practices worker-centric safety and health management to prevent industrial accidents. Considering that most disasters occur at partner businesses, we are making efforts to identify and improve onsite risk factors through communication with the workers of partnering businesses. The accident rate of Korea East-West Power’s contracted construction projects has consistently declined over the past five years, and we have recorded the lowest industrial accident rate for contracted work in 2018.

EWP
We prioritize the lives and safety of those working together rather than profitability, and also operate an intelligent integrated disaster information system to respond to disasters such as fires, explosions and earthquakes. We seek to ensure the safety of the workers and the local communities by identifying defects in power generation facilities and preventing accidents.

EWP Performance
The first power company to acquire ISO 45001 certification
Accident rate for contracts
Lowest among public institutions

11.b Adopt an integrated policy plan for the inclusion, resource efficiency, climate change and adaptation, and disaster resilience, and implement global disaster risk management across all levels by 2020.

1.b Strengthening of the Power Plant Safety

EWP Sustainability Report 2019
Performance

Prevention of Facility Failure

Prevention of Long-Term Failure*
Korea East-West Power has analyzed the system failure patterns from 2013 to 2015, and has also focused on the activities of intensively inspecting core facilities such as turbines and boilers. By establishing a vibration monitoring system using fourth industry technology, we have remotely monitored the vibrations of turbines and pumps, etc., and have performed precise inspections using robots and ultrasonic systems to detect facility defects in advance.

*Long-term failure: a failure which hinders power generation for ten days or longer

Prevention of Short-Term Failure
As a result of analyzing the causes of ten short-term failures which occurred in 2017 using the HOPE+ method, we have discovered that 59% of the total were caused by facility defects and 31% of them were caused by human error. Korea East-West Power has provided the fundamental measures for short-term failures by implementing three-phased facility management of securing the quality of materials, strengthening facility diagnosis, and enhancing advance monitoring, and we have provided training and check sheets to enhance the capabilities of workers.

*HOPE+: analytical method: a combination of the words ‘human, organization, procedure, and equipment’, it is an investigative method to determine the cause of failure developed independently by Korea East-West Power

Advance Prevention of Failure
We are innovating in the area of failure forecasting systems by operating the e-Brain Center, which provides real-time and remote monitoring services (RMS) for the status of power generation operation combining the know-how of power generation facilities for ‘design + operation + maintenance’.

Building of the Disaster Safety and Health System
Korea East-West Power strives to minimize damages in the event of disasters by prioritizing disaster preparation in the order of fire, explosion, and earthquakes, and by establishing an intelligent integrated disaster information system. We have conducted spatial safety risk assessments to check the risks of fire and explosion, strengthened twenty-three vulnerable facilities at Dangjin Thermal Power Plant, and completed seismic reinforcement of twenty-two buildings at Donghae Thermal Power Plant in preparation against strong earthquakes. In order to effectively respond to emergency situations, we also conducted a total of five disaster drills in 2018 by using ICT devices such as CCTV, TRS* communication equipment, and wearable cameras. In the disaster management assessment conducted by the Ministry of Public Administration and Security, we were the only company to acquire an excellent rating among the power companies.

*TRS: Trunked Radio System

Forced Outage Rate*

<table>
<thead>
<tr>
<th>Classification</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 Performance</td>
<td>0.62%</td>
</tr>
<tr>
<td>2017 Performance</td>
<td>0.53%</td>
</tr>
<tr>
<td>2018 Goal</td>
<td>0.16%</td>
</tr>
<tr>
<td>2019 Goal</td>
<td>0.12%</td>
</tr>
<tr>
<td>2020 Goal</td>
<td>0.11%</td>
</tr>
</tbody>
</table>

*Total number of failures/Total number of generator

Equivalent Forced Outage Rate*

<table>
<thead>
<tr>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
</tr>
<tr>
<td>2017</td>
</tr>
<tr>
<td>2018</td>
</tr>
</tbody>
</table>

*Years of failure and breakdown/calendar day and hour

Resolution of Social Issues
Leading the ‘Joint’ and ‘Sympathy’ Emotional Exchange

Intensive inspection of the power plant’s core facilities is an essential activity to ensure the stable supply of electricity to the public and to ensure the safety of workers. Korea East-West Power endeavors to minimize long-term and short-term failure of generators by analyzing past failures and breakdowns and establishing preventive measures. We have won the grand prize for safety management two years in a row and have also been selected as an excellent organization in the disaster management evaluation.
Enhancing the Safety of Workers

Korea East-West Power prioritizes the lives and safety of the people we work with above and beyond all other values. In 2018, we focused on strengthening the independence of our safety department and ensuring the safety of all our workers, including those of the partnering businesses. We are conducting R&D to improve prevention of major disasters which are difficult to prevent with manpower with safety systems using fourth industry technology.

Preemptive Setting of Goal for Accident Fatality Rate

The government announced a plan for strengthening workplace safety for public enterprises with the goal of reducing the rate of accident fatalities by half. Korea East-West Power responded preemptively, aiming for a 30% accident fatality rate and established a long-term roadmap until 2024. We have also newly enacted a standard for requiring two people to work at power plants and prohibiting a single person to work for those who have served for less than six months.

Analysis of Significant Accidents & Customized Safety Measures

Korea East-West Power has carefully analyzed the accidents which occurred during the last ten years and also categorized them into three major accidents. Consequently, the types of frequent accidents were classified into electric arc (1st, 50%), falls (2nd, 15%), and accidents by jamming (3rd, 7%). We endeavor to protect the workers as much as possible by introducing the facilities and devices for enhancing safety for each type.

Expansion of Safety Construction Period for Maintenance Work

Overhaul period refers to the period for regular facility inspection and maintenance to maintain the generator’s performance and prevent various causes of failure of equipment. Korea East-West Power listened to the voices of workers that the overhaul period has been set tightly for profitability, and so we have introduced the 3 to 6 day additional work period. That is, we are the first power plant to introduce a safety construction period. In 2018, we expanded the application of the safety construction period to all generators and shared such efforts with other power companies, thereby contributing to strengthening safety management and reducing the risk of accidents caused by worker fatigue.

Discovering Detailed Risks in the Workplace

Korea East-West Power has strived to identify potential risks to workers more precisely by changing the risk assessment method for the working environment. We have focused on finding detailed risks for each phase of work by switching from the 4M (Man, Machine, Media, and Management) method, which evaluates the environmental risks of the manufacturing industry with relatively less process changes, to the Job Safety Analysis (JSA) method, which evaluates the workers’ behavioral risk from time to time. The JSA risk assessment was applied to all construction and maintenance work performed in 2018, and after the JSA assessment, no accidents occurred during the overhaul work performed.

Composition of the Safety Management Committee

Korea East-West Power has launched anew the Safety Management Committee in 2019 to review matters concerning human-life and disaster management and to seek advice on safety and health systems. The Safety Management Committee consists of a total of seventeen people, including a group of experts such as the head of Engineering Group, head of Safety & Quality Management Division, head of the labor union, and representatives of partnering businesses and professors. The meeting, which is held once every half year, will share the status of industrial accidents and measures to prevent recurrence, etc., and the meeting minutes will be disclosed transparently on the website.
Securing Fairness of Safety
Korea East-West Power has discovered that 97% of the accidents occurred with the workers of partnering businesses over the last five years of disaster analysis. Accordingly, we have strived to improve the working environment and equally guarantee the health rights of all workers by increasing onsite personnel. In January 2018 and January 2019, a total of sixty-two people in charge of consigned operation facilities were added to establish a two-person working system and to prevent serious accidents resulting from working alone. No deaths occurred in 2018, and the accident rate for contracted construction decreased by 31% year on year. In 2019, we plan to conduct research to identify the appropriate number of people for safety and to hire additional onsite personnel.

New Installation of the Danger Reporting System
Korea East-West Power has newly established the ‘Safety Call’ system, which is an officially anonymous safety communication channel, allowing all onsite workers to comment on safety issues and to request to cease operations upon the detection of a danger. This danger reporting system applies equally to all workers of partnering businesses entering and exiting Korea East-West Power’s locations, and the right to demand safety measures is also specified in the contract provisions. After the introduction of the system, dangerous sites have been improved by replacing the crane lifting facilities at Bongjin Power Plant from ladders to staircases with handrails, while the handling status of the reported matters are shared across all business locations.

Accident Rate for Contracted Construction

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.19</td>
</tr>
<tr>
<td>2017</td>
<td>0.16</td>
</tr>
<tr>
<td>2018</td>
<td>0.11</td>
</tr>
</tbody>
</table>

Support for SME Disaster Response
Korea East-West Power provided assistance for four partnering businesses to build disaster reduction activities (BCM)* to help enhance disaster management capabilities as well as the disaster response capabilities. In addition, when employees of Korea East-West Power and the resident partnering businesses jointly achieved a zero accident rate, they were rewarded, and consequently, a total of four business locations have jointly achieved a zero accident rate with partnering businesses. By combining the rewards offered for achieving an excellent rating for disaster management evaluation and the donations voluntarily made by the employees, we have installed fire extinguishers and fire detectors in 220 households vulnerable to fire in the Ulsan region, thereby enhancing the level of safety for the partnering businesses and local communities as a public enterprise.

Smart Safety Management with ICT Technology
Korea East-West Power seeks to effectively prevent significant disasters by using fourth industry technology. We are developing technologies for use by 2021 through which we can monitor the status of workers in real time for working in confined spaces by using position tracking sensors and transmitting evacuation alerts to workers and supervisors in the event an abnormality is detected with regards to scaffolding structures with scaffolding load sensors. We are also concentrating our capabilities on developing real-time unsafe behavior monitoring and alarm systems to ensure that the workers do not approach when the coal conveyor belts operate by using infrared sensors and CCTV cameras. We are also developing a failure diagnostic system using fiber optics to conduct remote inspection in real time in lieu of visual checks moving forward.

Implementation of Safety Training Using Virtual Reality
Korea East-West Power develops augmented reality (AR)- and virtual reality (VR)-based educational contents and conducts safety training, considering that it is difficult for the workers to learn practical field response skills through documentation-based safety and health education. Through the VR training system, operators and technicians of partnering businesses will experience simulated emergency situations, and in the event of failure or disaster, will be able to promptly recognize the given situation and perform countermeasures such as starting emergency generators. The AR Smart Glasses are the world’s first real-time, onsite image sharing system applied to power plants, and have been selected as an excellent technology by the Electric Utility Cost Group (EUACG) among highly advanced technologies enabling workers to vividly master the operating sequence for the generation facilities and the site of the control room.

Security Management Activity
CPR Training for Employees

New Installation of the Danger Reporting System
Resident partnering businesses rewarded approximately KRW 55 million for achieving zero accident (2014-18 accumulative amount)

Safety Management Activity
CPR Training for Employees

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*BCM(Business Continuity Management): A plan for analyzing an entity’s potential risks to maintain business continuity.
Environmental Management Implementation System

Korea East-West Power has reset its vision from power company to eco-friendly energy company, and has actively been implementing ‘people-first’ environmental policies. Through the ‘Renewable Energy 3025’ plan, we have set the proportion of renewable energy generation volume higher than the government’s target for 2030 and are expanding energy production using photovoltaic and wind power. Our environmental risk management system helps to prevent dangerous situations in advance.

Korea East-West Power has set three strategic directions in order to shift the direction of environmental management from the proper treatment of pollutants to nature- and human-centric management, and has set nine strategic tasks and forty detailed tasks accordingly.

Mid- to Long-Term Environmental Policy

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Human Centric Environmental Management Implementation System

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Eco-Friendly Power Generation

Link to UN SDGs

13.2 Integrate climate change countermeasures into national policies, strategies and plans.

Environmental Risk Management System

Goal of Renewable Energy Generation

Korea East-West Power has achieved the best performance for completed and in-progress renewable energy facilities among power companies by focusing on large-scale renewable energy business based on stability and environmental impact. As of December 2018, Korea East-West Power operates 514.7MW of renewable energy facilities, and has set the goal to increase the capacity of renewable energy to 7.2 GW by investing approximately KRW 23 trillion by 2030.

Environmental Risk Management

Korea East-West Power is endeavoring to achieve zero environmental risk and zero violation of environmental laws which may occur by establishing a preventive environmental risk management system (ERMS) for the first time as a power company. The level of environmental risk is divided into the four levels of normal, caution, alert, and severe according to the degree of risk occurrence. ERMS is applied company-wide to hazardous business locations.

ERMS Environmental Risk Diagnostic Criteria

- Diagnostic Criteria: ERMS Environmental Risk Management System
- Diagnosis for 2017: 2.28
- Diagnosis for 2018: 1.32
- Goal for 2019: 1.02

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Minimization of Environmental Impact

Korea East-West Power has invested a total of KRW 81.3 billion in improving environmental facilities such as desulfurization, denitrification, and electrostatic precipitators to help reduce air pollutants over the past three years, and reduced the air pollutant emissions in 2018 by 36% relative to that in 2015. We have actively implemented the greenhouse gas emissions trading system to generate additional profits and are continuously investing in developing eco-friendly energy technologies.

Reduction of Air Pollutants
Korea East-West Power has established the goal of reducing air pollutant emissions by 70% by 2030. To this end, we have installed high-efficiency air pollutant reduction facilities such as desulfurization, denitrification, and dust collection facilities, and have conducted air environment control based on our own standards which are stronger than the legally required air pollutant emission standards.

Conversion to Eco-Friendly Fuel
Coal-fired power plants have been noted for generating fine dust in the process of power generation, which accounts for 62% of Korea East-West Power’s capacity. Korea East-West Power has strengthened the fuel purchasing criteria for coal to help reduce air pollutants from the phase of generation. We changed the allowance standard for coal purchases of less than 10% of total purchase and regulated only low-sulfur coal containing less than 0.7% of sulfur in 2018, and after the regulation, Dangjin Thermal Power Plant turned out to have the lowest sulfur oxides emissions concentration among the large-capacity power plants of the five largest power companies. Low-sulfur coal has the risk of spontaneous ignition due to its high volatility, but Korea East-West Power uses drones and thermal imaging cameras to operate a system to constantly monitor the coal yard. Heavy oil-fired power plants emit 1.4 times more dust than coal-fired power, and its utilization rate increased following the shutdown of the nuclear power plants. Korea East-West Power uses low-sulfur oil as its raw material to help improve air quality despite the 15% increase in the purchase price. In accordance with the low-sulfur oil conversion promotion plan, 110,000 tons of low-sulfur oil has been purchased, and the sulfur content in the fuel has significantly declined from 2.5% to 0.3%, resulting in an 88% reduction in sulfur oxide emissions.

Continuing Investment in Environmental Pollution Preventive Facilities
Korea East-West Power reduced the air pollutant emissions in 2018 by 36% relative to 2015 through its continuous investment in environmental facilities. In 2018, we invested KRW 43.6 billion to add one set of denitrification equipment catalysts for all Dangjin Thermal Power Plant Units 1 through 10, and also newly installed denitrification facilities (SNCR) for Donghae Thermal Power Plant to help reduce nitrogen oxides.

Reduction of Fine Dust
Korea East-West Power selected the supply of eco-friendly energy centered on people without fine dust among the three largest core tasks to implement for achieving goals of innovation, and set the goal of achieving 1.744 MW of new renewable energy while reducing fine dust by up to 50% by 2022. In 2018, we reduced the fine dust by 36% and produced 90 MW of new renewable energy.

Indoor Coal Yards for Fine Dust Reduction
Korea East-West Power is endeavoring to reduce the impact and fine dust on the local residents around power plants by keeping coal yards indoors. In 2018, Dangjin Thermal Power Plant kept Units 9 and 10 indoors, and Donghae Thermal Power Plant kept its coal yards indoors. Moving forward, we plan to invest KRW 470 billion to sequentially keep all coal yards indoors for Dangjin Coal-Fired Power Headquarters. Furthermore, to meet the government’s comprehensive measures for fine dust control, we invested KRW 1.82 billion in six business locations of Dangjin Thermal Power Plants and three business locations of Donghae Thermal Power Plant to additionally install fine dust measuring stations to monitor fine dust generation.

Water Quality and Marine Environmental Control
Korea East-West Power has participated in the joint investment and technological development of private companies, and government and public enterprises to help remove all nitrogen from desulfurized wastewater. From 2015 to 2017, we jointly developed an advanced treatment system to treat non-degradable substances such as nitrogen and phosphorus, and the total quantity of water pollutant emissions and the proportion of nitrogen are declining every year. In addition, Korea East-West Power satisfies the requirements of the government and local governments by conducting an antifoaming agent effect survey in the waters near the power plant. We have proven through the project conducted with Korea Institute of Ocean Science & Technology and Hanyang University that the antifoaming agent used to prevent the foaming of warm water does not affect the ocean.

Hazardous Chemicals Management
Korea East-West Power is systematically identifying the use of hazardous chemicals and replacing hazardous chemicals with general substances. As for Donghae Thermal Power Plant, we have succeeded in achieving a hazardous chemical-free workplace by replacing all used hazardous chemicals with low-concentration chemicals. Moving forward, Korea East-West Power will continue to do its best to prevent chemical accidents by reinforcing the facilities and replacing hazardous chemicals with general substances.

Current Status of the Use of Hazardous Chemicals and Alternative Substances

<table>
<thead>
<tr>
<th>Classification</th>
<th>Anhydrous ammonia</th>
<th>Sodium hydroxide</th>
<th>Hydrochloric acid</th>
<th>Ammonia solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of Use</td>
<td>Denitrification facilities</td>
<td>Water and wastewater treatment</td>
<td>Water and wastewater treatment</td>
<td>Denitrification facilities</td>
</tr>
<tr>
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<td>1,219</td>
<td>150</td>
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<tr>
<td>Substitute</td>
<td>Concentration less than 5%</td>
<td>Concentration less than 10%</td>
<td>Concentration less than 10%</td>
<td>-</td>
</tr>
<tr>
<td>Concentration (%)</td>
<td>0%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Successful Performance of the Emissions Trading System to Respond to Climate Changes

Korea East-West Power is aware of the gravity of climate change, which is a global environmental issue. Accordingly, we are making various efforts to help reduce greenhouse gas emissions, which are a cause of climate change, and the successful implementation of Korea East-West Power’s emissions trading system is a quantitative achievement for responding to climate change. Korea East-West Power implemented the emissions trading system at the highest level for the power generation sector during the first planned period (2015~2017), and in 2018, secured surplus emission rights for approximately 100,000 tons.

Current Status of the Performance of the Emissions Trading System*  

<table>
<thead>
<tr>
<th>Classification</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<td>Surplus Emission Rights</td>
<td>182</td>
<td>89</td>
<td>200</td>
<td>10</td>
</tr>
</tbody>
</table>

*Emissions trading system: The government allocates to companies the right to emit greenhouse gases (emissions right), and if a company exceeds the allocated emissions right, or purchases the emissions right in the market, there is a large quantity of emissions compared to the allocation, and if the emissions rights are not purchased in the market, a penalty within three times of market price is paid to the government.

Internal Greenhouse Gas Reduction Activities

Among the representative greenhouse gas reduction activities of Korea East-West Power, we have introduced and operated high-efficiency power generation facilities such as Ulsan Unit 4 combined and Dangjin Units 9 and 10 to reduce the greenhouse gas emissions unit (ton/ MWh) by approximately 8%. In addition, low carbon biofuel hybrid generations such as Bio-SRF, organic solid fuels, and wooden pallets are used to recycle waste resources and reduce greenhouse gas emissions.

Greenhouse Gas Reduction Project

Korea East-West Power is responding to climate change by conducting greenhouse gas reduction activities outside of the organizational boundaries where there is no obligation to reduce them.

Domestic Project: In cooperation with twelve local SMEs, we have supported SME energy efficiency improvement projects and have also reduced greenhouse gas emissions through energy savings. In addition, we have collaborated with the Korea Energy Agency every year to provide greenhouse gas reduction consulting services and to share Korea East-West Power’s know-how with SMEs across various fields to diagnose issues within companies and to identify improvements to help reduce greenhouse gas emissions.

Overseas Projects: While improving living conditions in underdeveloped countries by implementing overseas Clean Development Mechanism (CDM) projects which supply cooking stoves in Africa, we have been working to reduce global greenhouse gas emissions. Furthermore, we are planning various projects to contribute to global greenhouse gas reduction by providing advanced technologies to developing countries such as Uganda and Myanmar.

Development of CO2 Separation Membrane Collection Technology

The CO2 separation membrane collection system is one which can selectively separate and store only the carbon dioxide in the exhaust gases emitted from thermal power plants. Korea East-West Power has succeeded in commercializing the world’s first CO2 separation membrane collection facility. This is likely to be commercialized since it is approximately 36% cheaper than the cost of the conventional technologies owned by US companies. Korea East-West Power will continue to contribute to reducing environmental risks by developing eco-friendly energy technologies as a multi greenhouse gas emission company.

Development of ECO-Friendly Energy Technologies

Development of Technologies for the Seawater Battery Energy Storage Device

The seawater battery energy storage device is a new-concept battery system which utilizes infinite seawater by replacing lithium ion, which is a finite resource. Korea East-West Power, in cooperation with Ulsan National Institute of Science and Technology (UNIST) and local SMEs, has completed the development of the world’s first electric charge and discharge system utilizing Na⁺ under the seawater. This technology is meaningful in that it has overcome the need to supply lithium, a finite resource for the conventional energy storage systems, and it has addressed the risk of failure when seawater infiltrates the existing batteries. Korea East-West Power has introduced new technologies in the GPS buoy for fishing nets and has also supplied them to local fisheries in the Ulsan region, thereby contributing to the local economy and conducting tests for commercialization.

Buoy for Fishing Net Using Seawater Battery

* Buoy: A buoy which floats on the water to convey maritime information, such as signs of a storm and the danger of a reef. The buoy for fishing nets displays the locations of fishing nets and farms installed in the sea to help prevent collisions of fishing vessels and to serve as a safety facility which facilitates prompt collection of fishing nets.

Development of EWP Social Value

Introducing EWP  EWP Social Value  Leading the ‘Just’ Resolution of Social Issues  Strengthening the ‘Sympathy’ and Emotional Exchange  EWP Sustainability Management  Appendix

EWP Sustainability Report 2019

MOU for Ghana CDM Project

MOU for SME GHG Reduction

MOU for SME GHG Reduction

MOU for SME GHG Reduction

MOU for SME GHG Reduction

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MOU for SME GHG Reduction
Strengthening the ‘Sympathy’ and Emotional Exchange
A Workplace Where Our People are Happy

Sustainability Context
Transparency and fairness in the hiring process are social issues that have recently emerged which may have a direct impact on an entity’s image. Meanwhile, respect for human rights in the workplace and the creation of an environment where work and life can be balanced are essential for enhancing the employees’ satisfaction and ensuring work efficiency. By creating a happy workplace, employees can secure corporate sustainability and increase productivity.

EWP Approach
Korea East-West Power prevents discrimination and inequality which may arise in the hiring and personnel management process by practicing blind recruitment and by operating a reasonable compensation system. In addition, we support the competency development for employees through various human resource development programs, while improving their happiness and rooting out discrimination based on family and parenting obligations by implementing working systems and welfare policies that allow for balance between work and family life.

EWP
Korea East-West Power encourages employees to share their responsibilities within the family by guaranteeing parental leave and reinstatement to original duty for both women and men. We are also expanding the provision of equal opportunities through fair hiring procedures and conversion to full-time positions.

5.4 Recognize and value free of charge care and domestic work by providing public sector services, social infrastructures and social protection policies and by promoting the sharing of responsibilities within households and families appropriately for each country.

10.3 Ensure equal opportunities and reduce inequalities of outcomes through efforts to eliminate discriminatory laws, policies and practices and promote appropriate laws, policies and activities, etc.

EWP
Korea East-West Power secures talents based on their capabilities and prevents unreasonable discriminations through National Competency Standards (NCS)-based assessment and blind hiring practices. When an application is filed, we exclude personal information, evaluate job descriptions mainly, and provide uniform systems of Korea East-West Power for the interview to prevent various unreasonable discriminations and prejudices. In 2018, we removed the possibility of discrimination and extended the interviewing time per person by removing the check-box for those subject to the woman hiring target system from the job application form.

EWP
Korea East-West Power has established a risk management preventive system for each phase of the hiring process in order to manage risks in the process. As a result of identifying potential risks and proactively responding to them, no hiring fraud has been detected as a result of the audit conducted by the Ministry of Commerce, Industry and Energy in 2018 for public enterprises.

Hiring Risk Management System
- Mandatory inclusion of one or more external members of the standing personnel committee related to hiring
- Specification of provisions on claims for damages and permanent exclusion in the event of fraudulent acts committed by an entity
- Mandatory notice of fifteen days or longer for all hiring notices
- Mandatory 100% disclosure of the number of employees hired, procedures and evaluation criteria
- Mandatory inclusion of over majority of external members when forming an ad hoc committee exclusive for the specified purpose
- Mandatory audit of routines for all processes in the presence of auditors and results of written notification
- Operations of interviewer separation system and mandatory participation by a majority of outside interviewers
- Disclosure of individual interview scores, pass mark, ranking, etc.
- Implementation of advance inquiry on those laid off using the National Police Agency’s identity inquiry and the Anti-Corruption & Civil Rights Commission’s Zero Me System

Fair Performance Management for Motivation
Introduction of a Reasonable Compensation System Reflective of Institutional Characteristics
Korea East-West Power has established and is implementing a mid- to long-term roadmap to build a fair compensation system centered on duties, skills, and performance. In 2018, we expanded the fair compensation system to convert the basic salary, which was automatically raised based on the number of years served, into an upper limit system for each position, and divided the duty classification system into a more fair and systematic compensation system. In addition, in order to enhance the effectiveness and adequacy of compensation, we introduced a mandatory job qualification system, which required job competency evaluation and a certain training course for each position and duty.

Equal Opportunities without Discrimination
Fairness and transparency in the hiring process can have a significant impact on the hiring process as well as on the overall image of the organization. Korea East-West Power operates blind hiring to ensure equal opportunities for everyone and motivates individual development through a reasonable compensation system.

A Fair Personnel System
Selection of Talents Based on Capabilities via Blind Hiring Practices
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EWP Sustainability Report 2019

Organizational Culture of Trust and Communication

Settlement of a Horizontal Corporate Culture via Innovations

The culture of ‘RESPECT’ includes twenty tasks of innovation aimed at creating an innovative and horizontal organization and creating a corporate culture in which people want to work toward improving business, relationships, growth, and the work-life balance. Korea East-West Power will select a ‘Culture Leader’ and continue to listen to and improve based on the opinions of employees to improve the corporate culture.

Development of Desirable Labor Management Relations

Korea East-West Power has in place a system for resolving labor and management issues by operating the ‘Future Contemplus’, which is a decision-making organization consisting of equal numbers of labor and management members. Discussions were divided into divisions for agenda by and between labor and management such as manpower management, part-time, work shifts, wage system, and the 52-hour work week. In addition, labor management workshops, labor and management participation programs, and labor management ‘one-mind’ track and field day, etc., promote communication between the labor and management, while separate meetings are held for minority unions.

Facilitation of Communication via Multi-Channel Communication

Korea East-West Power is facilitating communication within the organization and resolving labor and management issues through multi-channel communication called the ‘4-Way Communication Channel’. We will further propagate the culture of communication to ensure that everyone can actively participate in corporate issues and promote mutual understanding.

A Workplace Where Employees are Happy

In 2018, Korea East-West Power announced a new corporate culture promotion system called ‘RESPECT7’, and is also promoting a corporate culture of mutual respect and cooperation. We provide a channel for free communication between labor and management, and support everyone to help them lead a healthy life. We guarantee basic human rights and working conditions, and support the balance between work and life of the employees through a family-friendly system.

Education for the Future of Company and Employees

1. Strengthening the Employees’ Competency

Korea East-West Power provides a customized training program based on the position and needs of each employee based on the concept of ‘Creative Fusion and Combined Talent to Lead the Eco-Friendly Energy Market’. In 2018, the three largest strategies of ‘cultivating future response innovation, strengthening human resources capabilities, and strengthening organizational communication and harmonization’ were changed to the four largest strategies of ‘increasing core competencies, building basic capabilities, selecting additive capabilities, and expanding the capability system’, thereby providing more systematic and detailed capability strengthening opportunities. Through such various educational programs, we have achieved the feat of being only power company to win the ‘Grand Prize for Republic of Korea Human Resources Development’ for 2 consecutive years.

2. Human Resources Development Program

- Improving Core Competencies
  - New renewable and new technology education
  - Long-term consigned education (Republic of Korea East-West Power Valley, etc.)
  - Strengthening of executive leadership

- Building Basic Capabilities
  - Introduction of mandatory job training
  - Internatization of mission and core values
  - Leadership training for women

- Adding Selective Capabilities
  - Certification acquisition support system
  - Training for designing a new life designing
  - In-house venture and social contribution education

- Expanding Capability System
  - Capability system reinventing
  - Implementation of EWP educational cycle for each rank

Improving the future response innovation of the company and expanding the human resources capability system, we have also conducted various educational programs such as ‘EWP Education for the Future of Company and Employees’, ‘Education for New Technology and Long-term Consignment’ to provide systematic and detailed capability strengthening opportunities. We have also provided educational programs for future development and improvement of core capabilities to create opportunities for new business areas.

- Strengthening the capability system for core capabilities
- Expanding the challenge to create opportunities for new businesses

**3. Securing of Women’s Leadership**

Korea East-West Power has operated the ‘Women Manager Target System’ to enhance the representation of women and to strengthen the foundation for the promotion of female employees. We have also secured a pool of female leader candidates, provided equal opportunities to perform duties, and created a maternity protection and family-friendly culture to ensure that women are not discriminated against in promotions and transfers of duty.

**4. Security of Women’s Leadership**

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### 2018 Annual Training Performance Results

<table>
<thead>
<tr>
<th>Classification</th>
<th>2016</th>
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<th>2018</th>
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</thead>
<tbody>
<tr>
<td>Class 1 or higher</td>
<td>502</td>
<td>513</td>
<td>700</td>
</tr>
<tr>
<td>Class 2</td>
<td>1,773</td>
<td>2,229</td>
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</tr>
<tr>
<td>Class 3</td>
<td>8,948</td>
<td>9,861</td>
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</tr>
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<td>Class 4</td>
<td>20,326</td>
<td>33,746</td>
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<tr>
<td>Class 5</td>
<td>1,637</td>
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<tr>
<td>Subtotal</td>
<td>38,566</td>
<td>49,244</td>
<td>52,647</td>
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<tr>
<td>Total</td>
<td>2,097</td>
<td>3,472</td>
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</tbody>
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**Improving Core Competencies**
- New renewable and new technology education
- Long-term consigned education (Republic of Korea East-West Power Valley, etc.)
- Strengthening of executive leadership

**Building Basic Capabilities**
- Introduction of mandatory job training
- Internatization of mission and core values
- Leadership training for women

**Adding Selective Capabilities**
- Certification acquisition support system
- Training for designing a new life designing
- In-house venture and social contribution education

**Expanding Capability System**
- Capability system reinventing
- Implementation of EWP educational cycle for each rank

**Improving the future response innovation of the company and expanding the human resources capability system, we have also conducted various educational programs such as ‘EWP Education for the Future of Company and Employees’, ‘Education for New Technology and Long-term Consignment’ to provide systematic and detailed capability strengthening opportunities. We have also provided educational programs for future development and improvement of core capabilities to create opportunities for new business areas.**

**Strengthening the capability system for core capabilities**
- Expanding the challenge to create opportunities for new businesses

**Securing of Women’s Leadership**

Korea East-West Power has operated the ‘Women Manager Target System’ to enhance the representation of women and to strengthen the foundation for the promotion of female employees. We have also secured a pool of female leader candidates, provided equal opportunities to perform duties, and created a maternity protection and family-friendly culture to ensure that women are not discriminated against in promotions and transfers of duty.

**Security of Women’s Leadership**

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Improvement of Working Environment

Mental and Physical Health Care for Employees
In addition to the industrial safety, the health of employees is an important part of personal happiness and work efficiency. Korea East-West Power provides a variety of programs to help support the mental and physical health of its employees. The Employee Assistance Program (EAP) consists of programs for mental health, including stress counseling and special lectures on remedies, as well as programs for physical health such as smoking cessation and physical strength development. In 2018, a total of 389 people participated in the mental health program, and a specialized family doctor paid nine visits to the business locations and cared for the health of 79 people.

Status of EAP Operation

<table>
<thead>
<tr>
<th>Classification</th>
<th>Details</th>
<th>2018 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health</td>
<td>Counseling for stress</td>
<td>7 times</td>
</tr>
<tr>
<td></td>
<td>Special lecture on stress relief</td>
<td>2 times</td>
</tr>
<tr>
<td></td>
<td>Gardening practice</td>
<td>1 time</td>
</tr>
<tr>
<td>Physical health</td>
<td>Smoking cessation program</td>
<td>5 times</td>
</tr>
<tr>
<td></td>
<td>Musculoskeletal disease preventive activities</td>
<td>244 times</td>
</tr>
<tr>
<td></td>
<td>Specialized family doctor’s visit and consultation at business locations</td>
<td>5 times</td>
</tr>
</tbody>
</table>

Human Rights Management

Development of the Human Rights Management Implementation Organization
Korea East-West Power enacted the Human Rights Management Charter to help protect the human rights of its stakeholders, including its employees and to achieve human rights management. In 2018, we revised the Human Rights Management Charter in consideration of human rights-related issues which arose after the enactment of the Charter, and also created the separate Ethics & Compliance Department of Social Values Promotion Division which is in charge of human rights management. Furthermore, we revised the Korea East-West Power’s Guidelines on Human Rights Management to reflect the manuals of the Anti-Corruption & Civil Rights Commission and applied them to our stakeholders.

Human Rights Management’s Value System

Stakeholders
- Job applicants
- Employees
- Workers of partnering businesses
- Local residents of project area
- General public

Human Rights Issues
- Equality in hiring
- Working conditions, gender equality
- Management in the workplace
- Freedom from discrimination and exploitation
- Freedom from forced labor
- Environmental health

Human Rights Management’s Implementation Organization
- Organization for the Human Rights Management
- Ethics & Compliance Department of Social Values Promotion Division

Human Rights Management’s Value System

Classification 2017 2018 Rate of Increase

- Working conditions
  - Compensation and benefits
  - Working hours
  - Holidays and leaves
  - Working environment
  - Freedom from discrimination and exploitation
  - Environmental health

Status of Use of Flexible Working System

<table>
<thead>
<tr>
<th>Unit</th>
<th>2017</th>
<th>2018</th>
<th>Rate of Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work from home</td>
<td>16</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>Part-time for men</td>
<td>19</td>
<td>29</td>
<td>19%</td>
</tr>
<tr>
<td>Parental leave for women</td>
<td>54</td>
<td>64</td>
<td>18%</td>
</tr>
<tr>
<td>Spouse delivery leave</td>
<td>86</td>
<td>12</td>
<td>127%</td>
</tr>
<tr>
<td>Parental leave for men</td>
<td>8</td>
<td>11</td>
<td>38%</td>
</tr>
<tr>
<td>In-house daycare</td>
<td>106</td>
<td>110</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Enhancement of Quality of Life through Flexible Working Hours and Guarantee of Vacations
Korea East-West Power encourages its employees to utilize the flexible working system suited to their circumstances and needs, thereby enhancing work efficiency and ensuring a life in which relaxation is possible. We have surveyed the preferences of employees for the flexible working system and have also introduced the group flexible working system to help diversify the types of work and to enable them to use the system freely. We are the first public enterprise to have installed a vacation reporting system, which automatically approves of vacations for which petitions are made at least two weeks in advance.

Status of the Use of Flexible Working System

<table>
<thead>
<tr>
<th>Unit: people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification 2017 2018 Rate of Increase</td>
</tr>
<tr>
<td>Hour selection system</td>
</tr>
<tr>
<td>Flexible working system</td>
</tr>
<tr>
<td>Working hour selection</td>
</tr>
<tr>
<td>Intensive work type</td>
</tr>
<tr>
<td>Telecommuting type</td>
</tr>
<tr>
<td>Smart work type</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Realization of Parenting Coordinating with Work
Korea East-West Power is implementing a system to create a family-friendly corporate culture and also to support the parenting of our employees. For pregnant women, a paternity can be made for one stop parental leave via the automatic parental leave system, and reinstatement to original position is ensured in the event of petition. For male employees, spouse delivery leave and the working father support program are available. In 2018, we received family-friendly certification.
EWP Sustainability Management
**Governance**

The Board of Directors, which is the highest decision-making body of Korea East-West Power, reflects the opinions of key stakeholders and also plays an essential role in practicing core values together with the leadership. The regular board meetings seek continuous development to respect the people and employees and lead social responsibility and innovation.

**Composition and Roles of the Board of Directors**

The Board of Directors of Korea East-West Power consists of four internal directors, including the president, and five external directors, and a non-executive (external) director chair the board in accordance with the provisions of Article 37-2 to secure the independence of the board. The board has specialized sub-committees, an audit committee, and corporate officer nomination committee operating and makes decisions on the business management and service innovations, etc., based on social values, which are the main agenda.

**Composition of the Board**

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Affiliation &amp; Position</th>
<th>Major Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park B Jun</td>
<td>Male</td>
<td>Chief Executive Officer</td>
<td>- Former Director General, Planning and Coordination Division, Ministry of Trade, Industry and Energy</td>
</tr>
<tr>
<td>Sung Si-ho</td>
<td>Male</td>
<td>Standing Auditor</td>
<td>- Former Standing Auditor, Korea Asset in Trust</td>
</tr>
<tr>
<td>Kwon Gil-Hyung</td>
<td>Male</td>
<td>Head of Engineering Group</td>
<td>- Former Head of Engineering Group, Korea East-West Power</td>
</tr>
<tr>
<td>Pae Il-Jun</td>
<td>Male</td>
<td>Head of Business Development Group</td>
<td>- Former Head of Planning Division, Korea East-West Power</td>
</tr>
<tr>
<td>Mun Hyo</td>
<td>Male</td>
<td>Non-Executive Director</td>
<td>- Former Director of Corporate Planning, Korea Electric Power Corporation</td>
</tr>
<tr>
<td>Park Kyung-Hyo</td>
<td>Male</td>
<td>Non-Executive Director</td>
<td>- Member, Gangdong-ku Resident Ombudsman</td>
</tr>
<tr>
<td>Lee Gyu-Jeong</td>
<td>Male</td>
<td>Non-Executive Director</td>
<td>- Advisor, Urban Jung-gyu Council, National Unification Advisory Council</td>
</tr>
<tr>
<td>Yang Seung-Jin</td>
<td>Female</td>
<td>Non-Executive Director</td>
<td>- Research Fellow, Yonsei University Global Multicultural Research Center</td>
</tr>
<tr>
<td>Kim Hong-Choo</td>
<td>Male</td>
<td>Non-Executive Director</td>
<td>- Managing Partner, Law Firm Hosan for large and small Business</td>
</tr>
</tbody>
</table>

**EWP Sustainability Report 2019**

- **Nomination of the Corporate Officer Nomination Committee**
- **Review and Resolution of the Public Enterprise Steering Committee and General Shareholders Meeting**
- **Recommendation of the Minister of Trade, Industry and Energy**
- **Recommendation of the Minister of Strategy and Finance**
- **Appointed by the President**
- **Appointed by CEO**
- **Appointed by the Minister of Strategy and Finance**

**Details of the Board of Directors Activities**

Korea East-West Power’s Board of Directors makes decisions with the majority vote of the registered directors such as the company’s major decision-making matters, including management goals, budgets, operational plans, and mid- and long-term financial management plans. Directors with a special interest in the board resolutions cannot exercise their voting rights and will not be included in the number of the registered directors. Board meetings may be held only if over one third of the registered directors are present. In 2018, a total of 11 board meetings were held, with a 98% attendance rate.

**Board of Directors’ Operating System for Social Values**

Korea East-West Power is strengthening the expertise and roles of non-executive directors in order to proactively respond to the changes in the environment at home and abroad. Further to evaluating non-executive directors based on a sense of morality and ethics, we are also facilitating preliminary explanations to enhance the understanding of the board agenda and support programs to improve occupational competencies of the non-executive directors. In addition, we are strengthening the advisory roles of non-executive directors to realize social values and to enhance the procedural legitimacy and driving force by proactively proposing agenda to help expand the review of business management issues.

**Major Agenda for Social Values**

- **Board Agenda**
- **Mid to long-term management goals (draft)**
- **Contribution to consistent cooperation (draft)**
- **ESS Electric power storage system (draft)**
- **Contribution to the in house worker welfare (draft)**
Ethical Management

Korea East-West Power is pursuing transparent and ethical management activities to grow into an energy company which creates social values centered on the people’s confidence. In 2018, we have devised a new vision of ‘New Ethical Management’, thereby endeavoring to root out corruptions and propagate ethical culture.

Strengthening of the Implementation System of Ethical Management

New Installation of the Organization Responsible for Ethical Management

As a public enterprise, Korea East-West Power has set a vision of ethical management to act ‘Together, You and I’ to establish an ethical corporate culture in line with government policies, and has newly established key tasks for each direction of implementation. The New Ethical Management system, in particular, emphasizes spontaneity and action based on the opinions of employees on the ethical policies collected via integrity workshops and discussion forums. In 2018, we established the Human Rights Management Committee and the Reporting and Assistance Center for Damages Arising out of Abuse of Power, focusing on rooting out abuse of power, strengthening human rights management, and realizing human-centric public values. Furthermore, we have strengthened the honorary auditor, our external advisor, and the integrity audit group, to operate a civic auditor system customized to the needs of the headquarters and business locations.

New Implementation System of Ethical Management

Ethical Vision

A Public Enterprise Growing and Respected for Ethical Management in Action (Slogan: ‘Together, You and I’) Build ethical infrastructures of Korea East-West Power

Direction of Implementation

① Update Ethical Management System
② Draw SME Code of Ethics
③ Install EWP position tuition board

Key Task

① Outreaching integrity and ethics education
② Reasonable work instructions
③ Fair personnel disciplinary system
④ Strengthening of the Code of Ethics
⑤ Spontaneity and proactiveness
⑥ Transparency and fairness
⑦ Expand social values and culture

Core Value

Confidence and respect

Strengthening of the Code of Ethics

Korea East-West Power established the code of ethics in 2018. In particular, we have revised hiring regulations to enhance the prevention of ethical risks.

Details of the Code of Ethics Revision

<table>
<thead>
<tr>
<th>Code of Ethics</th>
<th>Details of Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration (Internal Control)</td>
<td></td>
</tr>
<tr>
<td>Personnel Regulations (Code of Practice)</td>
<td></td>
</tr>
<tr>
<td>Code of Conduct (Criteria of Judgment)</td>
<td></td>
</tr>
<tr>
<td>Audit Regulations</td>
<td>Enhance the fairness of procedures by extending the deadline for review (35 → 30 days)</td>
</tr>
<tr>
<td>Personnel Regulations</td>
<td>Cancel the hiring of Fraudulent successful candidates and newly install measures to prevent insecurity of hiring board</td>
</tr>
<tr>
<td>Code of Conduct (Criteria of Judgment)</td>
<td>Report on proposal of hiring family and private interest</td>
</tr>
</tbody>
</table>

Activities of Practicing Ethical Management

Developing Anonymous Reporter Compensation System for a Transparent Corporate Culture

Korea East-West Power has developed an anonymous reporter compensation system for the first time as a public enterprise to create an organizational culture of integrity by facilitating internal reporting. We have revised operating standards for the participatory ethical activities and have promoted various reporting channels to help prevent internal ethical risks in advance. Consequently, in 2018, no offensive conduct occurred, allowing us to achieve excellent results in the integrity survey.

Promotion of Self-Participatory Fun Ethics Education

Korea East-West Power is pursuing ethics education in which all employees voluntarily participate. As a part of which, employees are producing Do-It-Yourself CF videos and game-based education related to ethics. In addition, we hold discussions and improve the corporate culture based on the details of the discussions held. Externally, we hold contests and lectures on integrity culture to help build an ethical society with external stakeholders.

Integrity-Based Win-Win Project and Expansion of an Ethical Culture of Coexistence

Korea East-West Power has doubled and implemented activities of ethical management in and outside of the company. In order to solidify a culture of mutual respect within the company, in 2018, we declared the ‘New Ethical Management’ to root out the practice of abuse of power and hold discussions for each level of rank on five occasions. Meanwhile, Korea East-West Power acquired anti-corruption business management system (ISO 37001) certification across all of its business locations in 2017, and is performing integrity-based win-win projects externally, while supporting consulting review and the introduction of the anti-corruption business management system for private SMEs, thereby contributing to the expansion of ethical culture and enhancement of mutual confidence.
Self Monitoring of Ethical Management

**Strengthening of Internal Check System via Checklist**
Korea East-West Power has strengthened the effects of monitoring and checks via a 3-phased internal system in order to realize an ethical corporate culture. The first phase ensures the development and provision of a self-diagnostic ethics checklist at the level of Audit & Inspection Division so that each working department can inspect ethical issues. The second phase ensures the strengthening of the ethics and compliance organization to allow in-house counsel to support the legal areas. Through the three phases, the company reintroduced the comprehensive audit system to reward anonymous reporters and to conduct internal audits. Since the introduction of the internal check system, the number of comments made by external auditors has declined for three years consecutively.

**Self-Inspection Efforts and Performance Achievement via Monitoring**
Korea East-West Power maintains ethical standards via constant monitoring of ethical management. Through the EMDEX and self-integrity survey, which has developed in-house, Korea East-West Power manages the level of implementation of practical programs across eight areas such as the ethics-related system, governance, fair trade, human rights and labor practices, local communities and the environment. In 2018, the EMDEX fell to 90.3 points year on year, and we are implementing activities of improvement this year.

As a result of such inspection and efforts, Korea East-West Power achieved Class 1 for the integrity anti-corruption policy evaluation conducted by the Anti-Corruption & Civil Rights Commission, and acquired 8.69 points, which is a 5% increase year on year, whereby the ranking for integrity has climbed from 22nd to 13th. Moving forward, Korea East-West Power will continue to do its best to maintain the highest class possible in the ethics and integrity-related evaluation.

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**Risk Management**

**Risk Management System**
We have an audit organization that operates with expertise and independence to effectively identify and prevent risks. Audit activities such as monitoring, daily audit, and specific audit are also conducted, concurrently with whistleblowing activities such as Sinnen()individual petition) and red whistle. For the first time in the power generation industry, other environmental risks are being managed separately, and their details are reported in the environmental section (pp. 52-57).

**Korea East-West Power implements company-wide risk management under the vision of ‘Audit process that breathes vitality into the company and contributes to the promotion of social values’. We endeavor to operate an organization with integrity that meets social expectations by complying with the principles of audits performed in line with rules, audits performed with empathy, audits performed with integrity, and audits based on policy.**

**Risks Management Organization & Risks of Fraud Reporting Procedure**
The Ethics Committee, which operates directly under the Board of Directors, establishes overall policies and regulations related to ethical management. The Ethical Management Implementation Secretariat oversees ethical practices in accordance with important policies to establish implementation plans, promotes and provides training to employees. Audit & Inspection Division secures a systemic mechanism to prevent corruption and collects reports on irregularities to manage the risk of fraud.

**Audit Organization**

---

**EMDEX (Self Ethics Index)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>93.3</td>
</tr>
<tr>
<td>2017</td>
<td>91.8</td>
</tr>
<tr>
<td>2018</td>
<td>90.3</td>
</tr>
</tbody>
</table>

**Comprehensive Integrity of the Anti-Corruption & Civil Rights Commission**

<table>
<thead>
<tr>
<th>Year</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>8.35</td>
</tr>
<tr>
<td>2017</td>
<td>8.28</td>
</tr>
<tr>
<td>2018</td>
<td>8.69</td>
</tr>
</tbody>
</table>
Stakeholder Engagement

The CEO and management of Korea East-West Power have established and operated a communication channel with stakeholders. In order to ensure customized communication, we are expanding our mobile and open channels to build communication strategies with an empathy-centric paradigm in which parties directly participate. In addition, to listen to voices on site, lectures by the CEO are offered to reinforce onsite communication and to build a system where citizens can participate and suggest ideas themselves.

<table>
<thead>
<tr>
<th>Communication Channel for Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification</strong></td>
</tr>
<tr>
<td>Online communication</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Offline communication</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Stakeholder Awareness Survey**

Korea East-West Power has conducted stakeholder surveys on key topics to identify the awareness of internal and external stakeholders regarding sustainable management. The awareness of stakeholders surrounding Korea East-West Power’s sustainability and social responsibility averaged 4.41 points, which is 0.36 points up from 2017. The evaluation of Korea East-West Power’s level of sustainable management indicated that internal employees are more positive than external stakeholders, so the company intends to strengthen activities to improve external perception moving forward.

In a questionnaire on the connection with the Sustainable Development Goals (SDGs) established by the United Nations for global sustainable development, the stakeholders have answered ‘guarantee of universal energy service,’ ‘climate change and response to its impact,’ and ‘productive employment and creation of quality jobs’ as the issues that Korea East-West Power can most effectively tackle.

**UN SDGs selected by Stakeholders**

- Guarantee of universal energy service: 14%
- Climate change and response to its impact: 13%
- Productive employment and creation of quality jobs: 11%
- Establish social infrastructures and promote industrialization promoted: 10%
- Strengthen global partnerships for sustainable development: 7%
- Reduce natural resource loss and wastes: 6%

**Materiality Assessment**

Korea East-West Power conducted materiality assessment in accordance with the Global Reporting Initiative (GRI) process in order to focus on significant issues that stakeholders have selected. Considering internal and external influences and interests, thirteen important topics were selected, and we will systematically manage the corresponding issues continuously in the future.

**Materiality Assessment Results**

- Air pollutant substance control for clean air
- Creation of a safe working environment centered on people
- Eradication of corruption such as bribery or solicitation of any form
- Securing power plant safety and establishment of a disaster safety response system
- Reduction of energy and greenhouse gas to respond to climate change
- Wastewater and waste discharge management
- Compliance with environmental laws and policies
- Discovery of new energy businesses and generation of new profits
- Stable power supply via miniization of risk
- Continuous and systematic social contribution activities
- Development of a work and life balance and family-friendly corporate culture
- Mutual growth with partnering businesses
- Development of a human rights protection system
- Resolution of social problems
- partners

**Scope of Stakeholders’ Influence**

<table>
<thead>
<tr>
<th>Reporting Point of Each Issues</th>
<th>Material Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal stakeholders intimately related to the issues</td>
<td>External stakeholders intimately related to the issues</td>
</tr>
<tr>
<td>Employees</td>
<td>Government agencies and local governments</td>
</tr>
<tr>
<td>Sustainable Power Generation Keeping People on Air</td>
<td>⬤</td>
</tr>
<tr>
<td>Eco Friendly Power Generation</td>
<td>⬤</td>
</tr>
<tr>
<td>Strengthening Business Competitiveness through Change and Innovation</td>
<td>⬤</td>
</tr>
<tr>
<td>A Workplace Where Our People are Happy</td>
<td>⬤</td>
</tr>
<tr>
<td>Sharing Hope through Local Companionship</td>
<td>⬤</td>
</tr>
</tbody>
</table>

*The content related to the ‘Stabilization of corruption such as bribery or solicitation of any form’ selected as the 3rd highest material issue was reported in the Ethical Management Chapter (pp.70-72).*
## Facts & Figures

### Financial Performance

#### Summary of Separate Statement of Financial Position

<table>
<thead>
<tr>
<th>Classification</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td>KRW 100million</td>
<td>9,374</td>
<td>10,615</td>
</tr>
<tr>
<td>Non-Current Assets</td>
<td>KRW 100million</td>
<td>80,306</td>
<td>77,940</td>
</tr>
<tr>
<td>Total Assets</td>
<td>KRW 100million</td>
<td>89,680</td>
<td>88,555</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>KRW 100million</td>
<td>37,473</td>
<td>34,124</td>
</tr>
<tr>
<td>Non-Current Liabilities</td>
<td>KRW 100million</td>
<td>27,417</td>
<td>27,928</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>KRW 100million</td>
<td>44,889</td>
<td>42,042</td>
</tr>
<tr>
<td>Paid-in Capital</td>
<td>KRW 100million</td>
<td>22,186</td>
<td>22,186</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>KRW 100million</td>
<td>23,634</td>
<td>24,969</td>
</tr>
<tr>
<td>Other Capital Components</td>
<td>KRW 100million</td>
<td>△1,029</td>
<td>△642</td>
</tr>
<tr>
<td>Total Equity</td>
<td>KRW 100million</td>
<td>44,790</td>
<td>46,513</td>
</tr>
</tbody>
</table>

#### Summary of Separate Comprehensive Income Statement

<table>
<thead>
<tr>
<th>Classification</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>KRW 100million</td>
<td>42,109</td>
<td>46,443</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>KRW 100million</td>
<td>34,474</td>
<td>40,922</td>
</tr>
<tr>
<td>Gross Profits</td>
<td>KRW 100million</td>
<td>7,635</td>
<td>5,521</td>
</tr>
<tr>
<td>Sales and Administrative Expenses</td>
<td>KRW 100million</td>
<td>828</td>
<td>1,135</td>
</tr>
<tr>
<td>Operating Profits</td>
<td>KRW 100million</td>
<td>6,807</td>
<td>4,326</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>KRW 100million</td>
<td>254</td>
<td>218</td>
</tr>
<tr>
<td>Other Costs</td>
<td>KRW 100million</td>
<td>62</td>
<td>148</td>
</tr>
<tr>
<td>Financial Income</td>
<td>KRW 100million</td>
<td>705</td>
<td>2,133</td>
</tr>
<tr>
<td>Financial Cost</td>
<td>KRW 100million</td>
<td>1,337</td>
<td>3,263</td>
</tr>
<tr>
<td>Earnings (Loss) Before Taxes</td>
<td>KRW 100million</td>
<td>6,212</td>
<td>3,267</td>
</tr>
<tr>
<td>Income Tax Expenses</td>
<td>KRW 100million</td>
<td>1,536</td>
<td>1,091</td>
</tr>
<tr>
<td>Net Income</td>
<td>KRW 100million</td>
<td>4,676</td>
<td>2,176</td>
</tr>
</tbody>
</table>
### Economic Performance

<table>
<thead>
<tr>
<th>Classification</th>
<th>Item</th>
<th>Unit</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed capacity</td>
<td>MW</td>
<td></td>
<td>11,169.90</td>
<td>11,182.60</td>
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1. Previous data reported are revised due to the exclusion of trial operation
2. Previous data reported are revised due to the exclusion of trial operation

### Environmental Performance

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</table>
## Social Performance

### Classification Item Unit 2016 2017 2018

#### Total number of employees people
- 2,330
- 2,407
- 2,460

#### Status of employees By type of employment

- **Full time**
  - Total people 2,330 2,407 2,460
  - Women people 261 282 307
  - Men people 2,069 2,125 2,153
  - Non affiliated manpower people 865 975 978

- **Part time**
  - Total people 22 17 20
  - Women people 4 4 1
  - Men people 18 13 19

#### Status of employees By type of hiring

- **Full day working system** 2,330 2,407 2,460
- **Part time** 0 0 0

#### Status of employees By location of workplace

- **Domestic** 2,449
- **Overseas** 11

#### Diversity of the board of directors

- Women people 0 0 1
- Men people 5 5 5
- Less than age 30 people 0 0 0
- 30-50 years of age people 0 0 2
- Over 50 years of age people 5 5 3

#### Diversity of employees

- Ratio of the disabled % 3.4 3.6 4.1
- Ratio of women % 11.2 11.7 13.8
- Number of women managers people 32 37 37
- Ratio of women managers % 4.9 5.6 5.7
- Women people 110 116 116
- Men people 110 116 116
- Over 50 years of age people 31 18 22

#### No. of new hires

- Men people 7 7 7
- Women people 3 3 3
- No. of non-metropolitan area people 151 151 151
- Men of national merit people 10 9 14
- Women people 27 27 27

#### Employment security

- Average years of continued service Year 15.7 16.1 16.1
- Turnover rate % 0.16 0.18 0.16

#### Operation of Board of Directors

- Number held Time 13 13 11
- Agenda for resolution Number of case 46 46 46
- Agenda for revised resolution Number of case 0 1 0 0
- Agenda reported Number of case 9 11 6
- Board of directors attendance rate % 89 90 94
- Non-standing director attendance rate % 89 87 100

### Classification Item Unit 2017 2017 2018

#### Talent development

- Average training hours per employee Hour 2,097 3,472 3,680
- Educational expenses per employee KRW 1,000 600,000 600,000
- Education budget KRW 100 million 63 82.5 89.5
- Education beneficiary people 38,586 46,376 52,467
- Women employee competency index Point 4.71 4.70 4.68
- Internal education satisfaction Point 90.9 96 89.5
- Personal system satisfaction % 4.39 4.16 4.44

#### Employees' satisfaction

- Internal education satisfaction Point 90.9 96 89.5
- Personnel system satisfaction % 4.39 4.16 4.44

#### Human rights policy and procedures

- Number of those who completed ethics education people 2,114 2,000 2,369
- Number of those who completed human rights education people 2,271(99%) 2,271(99%) 2,260(99%)
- Social contribution expenditure KRW 100 million 9 12 15
- Total hours volunteered Hour 68,031 61,484 63,449
- Average hours volunteered per employee Hour 26.7 27.8 23.5

#### Social contribution

- Average training hours per employee Hour 2,097 3,472 3,680
- Educational expenses per employee KRW 1,000 600,000 600,000
- Education budget KRW 100 million 63 82.5 89.5
- Education beneficiary people 38,586 46,376 52,467
- Women employee competency index Point 4.71 4.70 4.68
- Internal education satisfaction Point 90.9 96 89.5
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#### Employees' satisfaction

- Internal education satisfaction Point 90.9 96 89.5
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- Number of those who completed ethics education people 2,114 2,000 2,369
- Number of those who completed human rights education people 2,271(99%) 2,271(99%) 2,260(99%)
- Social contribution expenditure KRW 100 million 9 12 15
- Total hours volunteered Hour 68,031 61,484 63,449
- Average hours volunteered per employee Hour 26.7 27.8 23.5

#### Integrity assessment

- Anti-Corruption & Civil Rights Commissioner’s survey results point 8.35 8.18 8.69
- Anti-Corruption & Civil Rights Commissioner’s survey results rating 2 2 2

#### Labor union

- Rate of labor union subscription % 97.3 96.5 97.9
- Labor union people 1,581 1,624 1,745

#### Occupational safety and health

- Fatality rate % 0 0 0
- Number of safety accidents Number of case 4,036 4,036 4,036
- Level of maturity for safety culture Point 4.35 4.35 4.35
- Level of participation for safety culture Point 4.21 4.35 4.35

#### Regional support project

- Energy welfare for the marginalized Household 1,013 922 621
- Purchase of Citizen gift certificates KRW 100 million 74 84 94
- Purchase of social economy enterprise products Social enterprise Cooperative 82.6 98.1 98.9
- Social enterprise Cooperative 1.35 5.3 4.15

#### Information security violations

- Number of incidences of leakage, theft and loss of customer data to the outside Number of case 0 0 0

#### Anti-corruption violations

- Anti-corruption violations (people) Number of case 0 0 0

---

1. Scores declined by change of competency indicators
2. Scores declined following reorganization of questionnaire for the satisfaction survey
3. Previous data reported are revised
4. Previous data reported are revised
5. Previous data reported are revised
## GRI Content Index

### Universal Standards

#### GRI 102: General Disclosure

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### Topic-specific Standards

#### GRI 200: Economic Disclosures

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*UNGC (UN Global Compact) Advanced Level* is the criteria for the implementation and reporting of social responsibility in accordance with the UN Global Compact, which is a voluntary initiative improving and encouraging corporate social responsibility. It is categorized into 21 criteria in 7 fields: Strategies and Operations, Human Rights, Labor, Environment, Anti-corruption, UN Goals & Issues, and Sustainable Governance & Leadership.
Third-party Assurance Statement

Dear Korea East-West Power Generation Co., Ltd. and Stakeholders,

■ Introduction
Industry Entertainment Convergence Association (‘IECA’) was commissioned by Korea East-West Power Generation (‘EWP’) to perform a Third-party Assurance Engagement of 2019 EWP Sustainability Report (the ‘Report’). IECA presents independent opinions to the result of feasibility of the data contained in this Report. EWP has sole responsibility for contents and performance contained in this Report.

■ Independence
As an independent assurance agency, IECA does not have any kind of commercial interest in businesses of EWP apart from undertaking a third-party assurance on the Report. We have no other contract with EWP that may undermine credibility and integrity as an independent assurance agency.

■ Assurance Standards and Level
IECA checked the three principles of inclusivity, materiality, and responsiveness in combination with information credibility of the Report based on the GRI Standards.

■ ASSURANCE TYPE, SCOPE AND LIMITATIONS
We performed Assurance Engagement in accordance with GRI Standards. This implies that we verified the accuracy and quality of the statements made by EWP and the sustainability performance data included in this Report. The scope of verification is a period from Jan 1, 2018 to Dec 31, 2018, and depending on the content, the assurance engagement primarily includes the systems and initiatives undertaken by EWP including its system and action for sustainable management policies, goals, projects, standards and performance during the reporting period defined in the Report. While the company’s environmental and social data as well as financial data was verified, the scope of review concerning stakeholder engagement was limited to the materiality test process.

■ METHODOLOGY
The Assurers collected data, information, and evidence via following method.
- Media coverage on sustainable management of EWP
- Verification on the management system and process implemented in sustainable management improvement and Report writing.
- Crosscheck between financial performance data in the Report and the data in the Assurers’ report on the Company’s financial statements and disclosures
- Track and examine internal documents and basic data

■ ASSURANCE RESULTS AND OPINIONS (On an assurance principle/process level)
The Assurers reviewed the draft version of this Report to present our opinions as an assurance provider. Modifications were made of the Report content if deemed necessary. Assurers were not aware of any significant errors or inappropriate descriptions in this Report during the Assurance Engagement. As such, we present our opinions of the 2019 EWP Sustainability Report as follows.

Inclusivity
- Did EWP include the stakeholders in the process of strategic response on the sustainability? The Assurers verify that EWP is making full effort for stakeholders’ participation in promoting sustainable management, and we assured procurement and operation of diverse stakeholder participation process. EWP has selected stakeholders including public sector, employees, corporate customers, individuals, partner companies, local communities and local government body to receive diverse feedbacks and opinions.

Materiality
- Did EWP include material information in the Report for the stakeholders’ fair judgement? The Assurers are not aware of any significant omissions or exclusions of data that is material to stakeholders. We verified that EWP conducted materiality test with issues identified from analyses of internal and external environments and reported accordingly to the result found.

Responsiveness
- Did EWP responses in accordance to the demand and interest of the stakeholders? The Assurers have verified EWP reflect and respond to various opinions collected through the stakeholders’ communication channels. The Assurers have found no evidence EWP responses to material issues involving stakeholders were misrepresented or resisted in the Report.

Impact
- Did EWP properly monitor the impact on the stakeholders? The Assurers have verified EWP responded stakeholders’ needs and interests through reflecting stakeholders’ opinions in the Report. We are not aware of any evidence that EWP’s response to significant issues of stakeholders was reported inappropriately.

■ GRI STANDARDS STANDARD APPLICATION
The Assurers have verified that the Report was prepared in accordance with the Core Option of GRI Standards. Based on the data provided by EWP, contents in relation to Universal Standards and Topic-specific Standards are confirmed facts.

Universal Standards
The Assurers have verified that the Report complied with the requirements of Core Option of GRI Standard and the following indices.
- 102-1 to 102-13 (Organizational profile), 102-14 (Strategy), 102-15 to 102-17 (Ethics and integrity), 102-18 (Governance), 102-40 to 102-44 (Stakeholder engagement), 102-45 to 102-56 (Reporting practice), 103 (Management approach)

Topic-specific Standards
The Assurers have verified that specified disclosure list on Material aspect that was deduced disclosure list determination process, and the following indices.
- Economic: 101-1, 102-2, 102-5
- Environmental: 103-2, 103-3, 103-4, 103-5, 103-7, 103-4, 103-9, 103-10, 103-4, 103-11, 103-4, 103-11, 103-12, 103-13
- Social: 104-1, 104-2, 104-3, 104-2, 104-3, 104-6, 104-7, 104-7, 104-1, 104-2, 141-1, 418-1

■ OPINIONS AND RECOMMENDATIONS (Performance/Issues)
The Assurers offer the following proposal to implement strategies in sustainability management in response to the issues with coherence at an organizational level in EWP.

Economic performance
Korea East-West Power responds promptly to changes in the energy paradigm, while contributing to economic development through ensuring a stable supply of electricity by forecasting and preparing for the power demands of both society and industry. The corporation pursues a continuous dialogue with stakeholders in order to contribute to eco-friendly national development through environmental improvement and the promotion of resource circulation. Beyond these efforts, Korea East-West Power is striving to achieve mid to long-term management goals such as management based on sound ethical principles and taking on autonomy and responsibility, open management practiced based on trust and confidence, and value management practiced to realise social values, etc. For this reason, I recommend that Korea East-West Power continue to improve its comprehensive response from a long-term perspective, such as by practicing continuous risk management of financial and non-financial factors and strengthening preventative responses to changes in the management environment.

Environmental performance
The grave environmental crisis facing the globe is raising the environmental awareness of the public, and the demand for a pleasant environment is also rising due to the growth of citizenship following economic growth. As Korea’s representative power plant operating public enterprise, Korea East-West Power’s efforts to conduct clean-energy research and technological development, in areas that include renewable energy, energy efficiency, and advanced and cleaner fossil fuel technology, are quite positive. However, while the government has a great impact on energy policy making and implementation, Korea East-West Power’s goals and roles in the introduction, development and implementation performances of the new and renewable energies specified in the report relative to other power generation companies will need to be further clarified. That is, it is unclear to what extent Korea East-West Power plays a role in the generation of renewable energy. The same is true for the reduction of fine dust. That said, insofar as the main policies of the natural and living environment are concerned, I recommend that the company set the scope of work for each issue and disclose its quantitative goals and to what extent each goal is to be achieved in the report, thereby building a system for managing and reporting on the performance indicators.

Social performance
Korea East-West Power aims to contribute to Industry 4.0 by creating new businesses for the future, such as by implementing a smart power plant and building an integrated platform for power generation operation using its own power generation operation system, power generation specialized manpower, operational expertise, and its business locations’ database. This reflects Korea East-West Power’s commitment to growing into an organization which creates sustainable social values. I recommend that the company prepare even more proactive sustainable power generation goals and act as the driving force to implement social values by presenting key plans for subsequent years for each strategy for the sustainable power generation goals, future plans and prospects, and long-term quantitative goals. Finally, I recommended that Korea East-West Power continue to communicate with its stakeholders through the sustainability management report.

October 2019
President of the Industry Entertainment Convergence Association
Kim Soo-Wook
## Membership of Associations

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<td>Korea Plant Industries Association</td>
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<tr>
<td>Korean Association for Supporting the SDGs for the United Nations (AID)</td>
<td>Participate in information exchange and domestic and international events for Sustainable Development Goals</td>
<td>2019.04</td>
</tr>
<tr>
<td>Korea PhotoVilac Industry Association</td>
<td>A Study on the Technical Trends and Information Exchange among Members</td>
<td>2019.03</td>
</tr>
<tr>
<td>Korea Environment Engineers Association</td>
<td>Exchange of data on new environmental technologies and securing the latest environmental information</td>
<td>2018.01</td>
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<tr>
<td>Maritime Rescue &amp; Salvage Association</td>
<td>Private-public cooperation to prevent and respond to maritime disasters and accidents</td>
<td>2013.05</td>
</tr>
<tr>
<td>Korea Institute of Enterprise Architecture</td>
<td>Gathering of information on the advancement of EA level</td>
<td>2013.03</td>
</tr>
<tr>
<td>Korea New &amp; Renewable Energy</td>
<td>Exchange of information on new &amp; renewable energy</td>
<td>2013.01</td>
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<tr>
<td>Korea Smart Grid Association</td>
<td>Exchange of information on smart grid and examination of the industry trend</td>
<td>2012.07</td>
</tr>
<tr>
<td>Korea Engineering and Consulting Association</td>
<td>Design and technical support through certification of engineering performance and entry into new businesses</td>
<td>2012.07</td>
</tr>
<tr>
<td>Korea Green Business Association</td>
<td>Support of large and small greenhouse gas mentor projects</td>
<td>2012.03</td>
</tr>
<tr>
<td>Korea Association of Small Business Studies</td>
<td>Quick response to government policy and interchange of academic information with the organization that is part of the government policy for shared growth</td>
<td>2011.07</td>
</tr>
<tr>
<td>Association of the Electric Supply Industry of East Asia and the West Pacific (AESIEA)</td>
<td>Gathering of information on entry into and development of overseas business</td>
<td>2011.02</td>
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<tr>
<td>Korea Carbon Capture and Storage Association</td>
<td>Exchange of information on carbon capture and storage</td>
<td>2010.09</td>
</tr>
<tr>
<td>Power Generation Studies Institute</td>
<td>Advancement of power generation industry and identification of joint research subjects</td>
<td>2010.07</td>
</tr>
<tr>
<td>Korea Project Management Association</td>
<td>Improvement of project execution capability</td>
<td>2008.03</td>
</tr>
<tr>
<td>Korea Electric Engineers Association</td>
<td>Promotion of R&amp;D of power technologies and education/training of professionals in power</td>
<td>2008.03</td>
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<tr>
<td>Korea Suggestion System Association</td>
<td>Information on the promotion of in-house suggestions and small-group activities</td>
<td>2007.05</td>
</tr>
<tr>
<td>World Energy Congress</td>
<td>Building of human and technology network with international energy organizations and member countries</td>
<td>2007.01</td>
</tr>
<tr>
<td>UN Global Compact (UNGSC)</td>
<td>Exchange of information on sustainability and participation in domestic and international exchange events</td>
<td>2006.06</td>
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<tr>
<td>The Electric Utility Cost Group (EUCG)</td>
<td>Acquisition of international power information and benchmarking</td>
<td>2006.01</td>
</tr>
<tr>
<td>Korea New &amp; Renewable Energy</td>
<td>Gathering of information on entry into and development of overseas business</td>
<td>2004.03</td>
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<tr>
<td>Korean Standards Association</td>
<td>Introduction of advanced quality management technique and spread of quality management model</td>
<td>2003.01</td>
</tr>
<tr>
<td>Korea Electric Association</td>
<td>Enactment and amendment of electrical industry’s technology standard and development of new code for enhancement of power generator reliability</td>
<td>2002.09</td>
</tr>
<tr>
<td>The Korean Society of Mechanical Engineers</td>
<td>Examination of domestic and overseas trends in machinery and exchange of information</td>
<td>2002.08</td>
</tr>
<tr>
<td>The Korean Institute of Electrical Engineers</td>
<td>Examination of domestic and overseas trends in electricity and exchange of information</td>
<td>2002.06</td>
</tr>
<tr>
<td>Korea Energy Foundation</td>
<td>Energy-welfare programs such as assistance of low-income families and scholarship programs</td>
<td>2002.05</td>
</tr>
<tr>
<td>Korea Electric Association (KEPIC)</td>
<td>Determination of KEPIC development direction and securing fund</td>
<td>2002.05</td>
</tr>
<tr>
<td>Korea International Trade Association</td>
<td>Interchange of information related to international trade</td>
<td>2001.05</td>
</tr>
</tbody>
</table>

## Awards

<table>
<thead>
<tr>
<th>Agency</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Environment, Korea Enterprises Federation</td>
<td>9th Happy Plus Social Contribution Campaign Award for Excellence in Social Contribution</td>
<td>2019.02</td>
</tr>
<tr>
<td>Ministry of Trade, Industry and Energy</td>
<td>Presidential Award for Quality Control Group in the 43rd National Quality Competition</td>
<td>2018.11</td>
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<tr>
<td>Ministry of Trade Industry and Energy</td>
<td>Ministry’s Commandation for Quality Management in the 43rd National Quality Competition</td>
<td>2018.11</td>
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<tr>
<td>Ministry of Trade, Industry and Energy and Ministry of SMEs and Startups</td>
<td>Prime Minister’s Award in the 6th Korea's Beloved Companies</td>
<td>2018.11</td>
</tr>
<tr>
<td>Ministry of Employment and Labor</td>
<td>Outstanding Award for Competition in Excellence in Work and Life Balance</td>
<td>2017.12</td>
</tr>
<tr>
<td>Ministry of Personnel Management</td>
<td>Prime Minister's Award for 2017 HR Innovation Outstanding Practice Competition</td>
<td>2017.12</td>
</tr>
<tr>
<td>Ministry of Strategy and Finance, Jobs Committee</td>
<td>Deputy Chairman's Award for Public Enterprise in Job Contest by Jobs Committee</td>
<td>2017.12</td>
</tr>
<tr>
<td>Ministry of Gender Equality and Family</td>
<td>Prime Minister’s Award for Work and Life Balance</td>
<td>2017.12</td>
</tr>
<tr>
<td>Ministry of Trade, Industry and Energy</td>
<td>Minister’s Award in 2017 Disaster Safety Management Assessment</td>
<td>2017.12</td>
</tr>
<tr>
<td>Ministry of SMEs and Startups, Korea Commission for Corporate Partnership</td>
<td>Presidential Award for Outstanding Company in Performance Sharing</td>
<td>2017.11</td>
</tr>
<tr>
<td>Ulsan City Social Workers Association</td>
<td>Social Workers Award of the Year in The 5th Ulsan Social Workers Competition</td>
<td>2017.11</td>
</tr>
<tr>
<td>Ministry of Trade, Industry and Energy</td>
<td>Presidential Award in 2017 New Technology Commercialization Competition</td>
<td>2017.11</td>
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<tr>
<td>KMR</td>
<td>2018 Grand Award for Safety Management in Global Standard Management Awards (GSMAs)</td>
<td>2017.11</td>
</tr>
<tr>
<td>KORCHAM</td>
<td>KORCHAM Chairman’s Award in the 24th Corporate Innovation Awards</td>
<td>2017.11</td>
</tr>
<tr>
<td>Ministry of Trade, Industry and Energy</td>
<td>Presidential Award in The 41st National Productivity Competition</td>
<td>2017.10</td>
</tr>
<tr>
<td>CDP Korea</td>
<td>2017 Special Award for CDP Carbon Management</td>
<td>2017.10</td>
</tr>
<tr>
<td>Ministry of Trade, Industry and Energy</td>
<td>2017 Minister’s Award in Management Award for the Fourth Industrial Revolution</td>
<td>2017.08</td>
</tr>
<tr>
<td>Korea Society of Public Enterprise</td>
<td>Global R&amp;D (GRD) Grand Award for Public Enterprises</td>
<td>2017.06</td>
</tr>
<tr>
<td>Ministry of Government Administration and Home Affairs</td>
<td>2016 Outstanding Public Enterprise for Implementation of Government 3.0 (Highest Rating)</td>
<td>2017.03</td>
</tr>
</tbody>
</table>
People who participated in publishing sustainability report

Overall Charge Environment Management Department
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Environment Management Department
Kim Jun-gyu, Yoon Jin-a

Climate Change Countermeasure Department
Rho Tae-min

Open Innovation Department
Jang Young-hwan, Tak Young-joo

Job Creation Department
Kim Woo-jon

Social Contribution Department
Lee Na-young, Lee Ho-joon

Ethics & Compliance Department
Yoo Su-jin

Planning Department
Lee Jae-hong

Financial Management Department
Lee Ju-hee

Labor Relation & Welfare Department
Lim Hun-young

Human Resources Development Department
Kim Won-yun, Lee Uk-gyun

General Affairs Department
Bae Min-gyu, Lee Ji-min

Accounting & Taxation Department
Kang Hyung-seok

Power Plant Management Department
Seo Gwon

Combined Cycle Power Plant & Renewable Energy Management Department
Bae Jae-hwan

Power Generation Planning Department
Lee Ye-jin

Power Trading Department
Kim Ga-ran

Disaster Safety General Department
Jung Byung-jin, Yoo Byung-hyun

Win-Win Growth Center
Eum Eun-seok, Park Haeryong

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Jin Dong-kang

Business Development Department
Oh Chang-hun

Fuel Procurement & Development Department
Kim Dong-wan

Renewable Energy Coordination Department
Jin Hyung-seo, Ryu Nam-seok

Solar Power Business Department
Cho Eun-ho

Global Business Department 1
Mun J-won

Global Business Department 2
Kim Do-hyung

Solution Business Planning Division
Lee Ji-mi

Audit & Inspection Division
Kim Dae-hee

ENRICH THE WORLD WITH CLEAN ENERGY

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For more detailed information and PDF version, please visit the EWP website. Please place inquiries to the following contact details if you have any opinion about the activities and achievement of sustainability management in this report.

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