



Purpose of Report

This report has been published by EWP to disclose transparently its economic, social and environmental performance as an ethical corporate citizen to all stakeholders.

Reporting Guidelines

This report has been prepared based on the GRI (Global Reporting Initiative) G3 Guidelines and BEST Sustainability Reporting Guideline.

Reporting Scope

This report has been prepared for the corporate head office in Seoul and five plant sites.

Reporting Cycle

Korea East-West Power (EWP) has published its Sustainability Report each year since its first issue published in May 2007.

Reporting Period

This report outlines the company's sustainability management activities from January 1, 2011 to December 31. 2011; and also includes some of the activities carried on in 2012. For qualitative performance, the data from 2009 to 2011 have also been included to enable time series trend analysis.

Base Unit of Data Used in the Report

The units used in this report include KRW (South Korean won) as the currency unit, MW (generation facilities capacity), GWh (amount of power generated), TOE (amount of energy used), tCO2 (emission of greenhouse gas) and tCO2/MWh (basic unit of greenhouse gas emission).

GRI G3 Guideline 적용기준

한국동서발전의 지속가능경영보고서는 GRI G3 보고서 적용 수준 기준표에서 'A'수준에서 요구하는 사항을 모두 충족하는 방향으로 작성되었음을 공시합니다.

Additional Information

For additional information, please visit the corporate Website or the department indicated below:

Website: http://www.ewp.co.kr

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We will continue our powerful growth as a global energy company in the world market with infinite possibility.

I think it meaningful to have the opportunity to inform all stakeholders of the efforts and performances of EWP in 2011 by issuing the 6th sustainability report since its first issue published in 2007. EWP is a public enterprise for power generation which occupies approximately 11% of the amount of power generation in Korea. Although there were various great and small events and changes in the internal and external managerial environment after its separation from KEPCO in 2001, the company has been making efforts to fulfill its basic mission of supplying cheap electricity in a reliable and eco-friendly manner.

Especially, the status of EWP was changed in 2011 from an 'other public agency' to a 'market-oriented state-owned enterprise' imposing more roles and liabilities on the company for the fulfillment of social responsibilities as a corporate citizen. As the CEO of the company, I have presented a specific vision by newly establishing the three major management strategies, and am reinforcing the impetus by combining those management strategies with sustainability management.

Global Management

The year 2011 was the first year during which the energy territory of EWP has expanded substantially. We acquired the equity of Jamaica Public Service which is a monopolizing corporation like KEPCO, took over a power plant facility and established a branch office in the U.S., and won a contract for the construction of a coal-fired thermal power plant in Indonesia. With the gradual saturation of the electricity market in Korea, EWP is using its capabilities and experiences for the development of overseas markets with high ROI to not only pursue economic values but also create new jobs and improve the brand image of the company and the nation.

Technology Management

EWP is strengthening its professional capabilities to advance into the world market as a company which secured the technologies to construct and operate power plant facilities with the best efficiency in the world. For the first time in Korea, we began construction of Dangjin Thermal Power Plant Units #9 and #10, each of which is 1,000 MW-class high efficiency power generation facility equivalent to one unit of a nuclear power plant. We are also expanding the portion of our own engineering knowhow and technologies used for the production of new power plant facilities.

Partnership Management

The managerial environment today makes it possible for companies to be respected by stakeholders only if they fulfill their social responsibilities. A cart cannot move forward well when its two wheels lose balance. So, as a public enterprise which pursues both profitability and public interest, EWP is doing its best for the balanced growth of the two axes. That is to say, we will make hard efforts to improve the managerial results while playing the roles as an ethical corporate citizen for the intensified green management including eco-friendly operation of power plants, co-prosperity with communities and win-win relationship with small & medium companies.

EWP will humbly keep its ears open for the opinions of stakeholders, and reflect them to the management of the company to fulfill the social responsibilities of the company and distribute more profits to our customers.

We look forward to your advice and support for the activities of EWP.

Thank you.

September, 2012

Lee Gil-Gu

CEO, Korea East-West Power Co., Ltd.





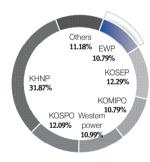
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About EWP

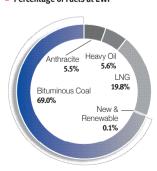
Corporate Overview (as of Dec. 2011)

Head Office	512 Yeongdong Blvd, Gangnam-gu, Seoul
Date of establishment	April 2, 2001
Capital	3,391.9 billion won
Total Assets	5,686.5 billion won
Sales	4,813 billion won
Net Profit	99.2 billion won
Number of Employees	1,977
Major business	Development of power resource, power generation, etc.
Total Power Output	53,637GWh
Sales Volume	51,121GWh
Composition of shareholders	KEPCO 100%

■ Share of Power Generation (2011)



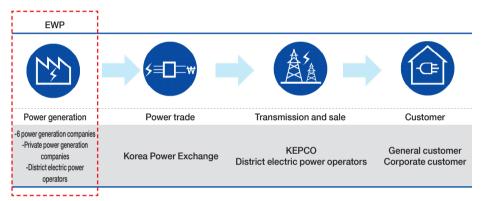
■ Percentage of Fuels at EWP



Characteristics of Power Industry

Electric power is an essential source of energy to almost all industrial activities and the basic life of people in the modern world.

EWP, one of KEPCO's 6 power generation subsidiaries, produces power in conjunction with private power generation companies and district electric power operators. EWP trades sells power to KEPCO through Korea Power Exchange, and then KEPCO sells power to general customers through its nationwide power transmission and distribution networks.



Pursuing Sustainable Growth

EWP successfully completed the construction of ultra super critical (USC) 500MW-class Dangjin Thermal Power Plant Units #5 to #8, and began construction of USC 1,020MW-class Dangjin Thermal Power Plant Units #9 and #10, the largest in Korea as a single facility, with a goal to complete them by 2016. The company is also constructing Ulsan New Combined Heat and Power Plant (948MW) to expand low carbon power supply and stabilize electricity supply with the closure of Ulsan Power Plant Units #1~#3 (600MW) scheduled in 2014 according to their end of operation longevity. In addition, we are accelerating the advancement into overseas projects and development of new and renewable energy to actively respond to the changes in the environment of future power industry.



Business Areas

The major businesses of EWP can be divided into its current main business of the construction and operation of thermal power plants and the overseas projects and new & renewable energy business in which much of the new investment is being made. A sustainable growth will be attained through the diversification of its businesses including new businesses in Korea, development of new & renewable energy, and advancement into overseas power plant projects.



Ilsan Combined Heat & Power Plant Dangjin Thermal Power Plant complex Honam Thermal Power Plant



Facility Capacity: 900MW Main Fuel : LNG Location: Goyang, Gyeonggi-do Power Output: 4,379GWh



Facility Capacity: 4.000MW Main Fuel: Bituminous Coal Location: Dangjin, Chungcheongnam-do Power Output: 34,258GWh



Facility Capacity: 500MW Main Fuel: Bituminous Coal Location : Yeosu, Jeollanam-do Power Output: 3,019GWh

Donghae Thermal Power Plant



Facility Capacity: 400MW Main Fuel: Domestic coal, Imported coal Location : Donghae, Gangwon-do Power Output: 3,105GWh

Ulsan Thermal Power Plant complex

Facility Capacity: 3.000MW Main Fuel: Low-sulfur Heavy Oil, BC Oil, LNG Location : Nam-qu. Ulsan Power Output: 9,329GWh

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■ Power Plant Construction

Dangjin Thermal Power Plant Units #9 and #10 Ulsan Combined Heat and Power Plant Unit #4 Donghae Biomass Power Plant



Fuel: Bituminous Coal Construction Period : June, 2011 ~ June, 2016



Fuel: LNG Construction Period : May, 2012 ~ July, 2014



Capacity: 30MW Fuel: Woody Biomass Construction Period : December, 2011 ~ July, 2013

- New & Renewable Energy Business
 - New business of EWP to lead future green market
 - Promote development of new & renewable energy meeting Renewable Portfolio Standard (RPS) to secure new source of profit.
 - Projects underway
 - In operation: 15MW (Solar energy in Donghae and Dangjin, fuel cell in Ilsan, etc.)
 - Under construction: 89MW (Wind power and bio gas turbine in Gyeongju, biomass in Donghae, etc.)

Development of new energy in Korea

- Joint investment with private power generation companies
 - Promote development of new energy to contribute to the stable energy supply in Korea and achieve sustainable growth of the company.

	Construction of private-investment Donghae Power Plant	Construction of private-investment Dangjin Power Plant
	Construction of the first private-investment coal thermal power plant in Korea	Construction of a coal thermal power plant through a consortium with a private company
Facility Capacity	500MW 2 units (2 trillion won)	500MW 2 units (2 trillion won)
Construction Period	2012~2014.12/2015.4	2012~2015.6
Composition of SPC	STX Energy + EWP	Dongbu Construction + EWP
Location	Donghae, Gangwon-do	Dangjin, Chungcheongnam-do

■ Collective Energy Business



Aerial view of private-investment Dangjin

Aerial view of Seokmun Collective Energy

동해 태양광

Power Plant

Seokmun National Industrial Complex Collective Energy	Osan·Segyo Collective Energy
consortium: EWP, SK E&S, Seohae City Gas upply industrial steam to the companies operating in the industrial omplex using the existing facilities.	Supply heat and steam to the 80,000 households located in the integrated Osan-Segyo district using new & renewable energy and LNG.

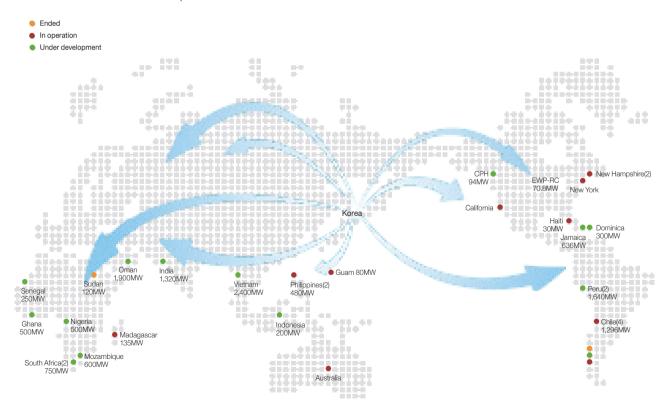
Overseas Projects

- Advancement into Overseas Projects
 - A new growth engine for leaping forward to be a world-class energy company
 - Promote various projects including construction of overseas power plants, O&M, and natural resources developments using the company's knowhow of the construction and operation of power plants in Korea.
 - Major Achievements
 - Power Plant Projects: Jamaica Public Service, Marubeni in the U.S., Guam, Wind Power Generation in the Philippines, Diesel Power Generation Project in Haiti, etc.
 - Service Projects: O&M of CFBC in Cebu, Test Operation of a Thermal Power Plant in Chile, A Project in Madagascar, etc.



필리핀 세부 석탄화력

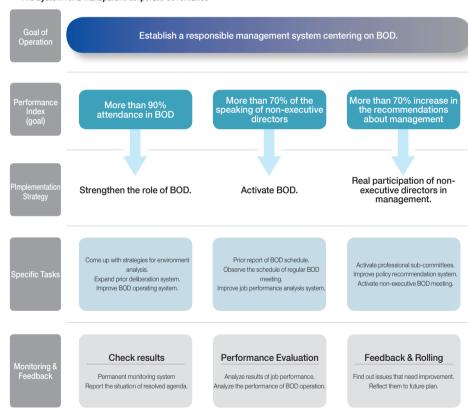
Status of Overseas Business Development



Transparent Corporate Governance

EWP has enhanced the transparency of its corporate governance and decision-making processes by strengthening the operating system of the BOD and activating the participation of non-executive directors in the managerial activities.

■ The System for a Transparent Corporate Governance



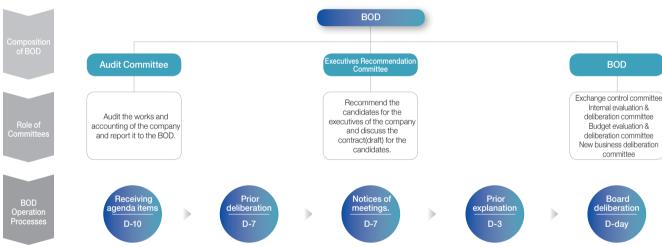
Corporate Governance

EWP is wholly owned by KEPCO since it was founded as a spin-off from KEPCO on April 2, 2001, for power generation on the basis of the Law on the Restructuring of the Electricity Industry.

Composition of the Board of Directors

The board of Directors consists of 4 executive directors and 5 non-executive directors. To guarantee the independence of the BOD, the senior non-executive director presides over the board meetings as its chairperson. To establish a responsible management system by the executive directors, the CEO has signed a management contracts with the Ministry of Strategy and Finance. The CEO and executive directors have signed internal management contracts on the evaluation of management performance and compensation. Non-executive directors are appointed among those with professional knowledge and distinguished careers, and are paid according to the BOD regulations.

Composition System of BOD



Mechanisms for shareholders and employees to provide recommendations or direction to the BOD

The agenda for the BOD meeting can be divided into the matters for resolution and the others for report. The matters for resolution are put forward by the CEO or a director, and the matters for report may be reported by the CEO, a director or the auditor. The matters to be submitted at the BOD meeting are to be prepared in a certain form and presented to the coordinator at least 10 days before the date of the BOD meeting. The coordinator shall assign a number to the agenda and distribute it before the beginning of the BOD meeting. Also, the coordinator shall send a written notice for the BOD meeting to each director and auditor at least 7 days in advance with the date, place and titles of agenda.

However, the convening procedure may be omitted if all the directors and auditor(s) unanimously agree to do so. In principle, the person who suggested or reported the agenda for the BOD meeting is to explain about it, but if necessary the concerned staff can state vicarious explanation or opinion about the agenda. Also, if necessary, experts or concerned people may attend the meeting to present opinions on the agenda.

Efforts to strengthen the role of BOD

EWP has improved the operating system of BOD to secure the independence and professionalism of non-executive directors for efficient fulfillment of their decision-making function. The BOD has established a separate homepage to improve non-executive directors' access to managerial information. Also, a system of prior deliberation for the agenda was introduced for practical deliberation of the agenda and the active reflection of the advices of non-executive directors on mid- and long-term core strategies and managerial policies. Especially, the professionalism of non-executive directors is sufficiently utilized when making decisions on businesses with high risks so that collision of interest in the BOD can be prevented through active debate by check and balance.

Analysis of the work performance of non-executive directors

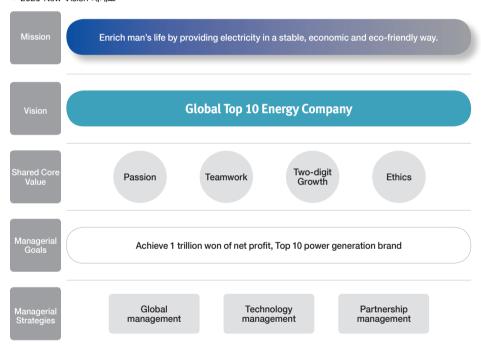
Attendance in BOD meeting	Percentage of prior deliberation of agenda	Percentage of speaking
85%	100%	71.1%

	2009	2010	2011
Number of BOD meetings	9 times	9 times	12 times
Resolved agenda	24 cases	30 cases	49 cases
Percentage of prior deliberation	100%	100%	100%
Agenda resolved after revision	-	2 cases (6.7%)	2 cases (4.4%)
Reported agenda	8 cases	6 cases	14 cases
Attendance in the BOD meeting	94%	97%	85.0%
Attendance of non-executive directors	100%	100%	73.2%
Proportion of the speaking of non-executive directors	52.2%	64.2%	71.1%

Sustainability Management

EWP has reestablished its mission, vision and value system to continue its growth as a global company. For this, 4 strategic goals and 11 strategic tasks have been set up in order to realize co-prosperity with stakeholders by reinforcing trust.

■ 2020 New Vision 체계도



Strategies for Sustainability Management

EWP has decided 4 major strategic goals to achieve its vision: leading the power generation industry in Korea, expanding businesses of new growth engine, strengthening core competence, and realizing sustainability management. The company has also set up 11 strategic tasks to maintain its social, economic and environmental responsibilities as a public enterprise.

	Lead the power generation industry in Korea.	Expand businesses of new growth engine.	Strengthen core competence.	Realizing sustainability management.
Strategic goals and tasks	Expand low-cost power generation facilities in time. Enhance facility operation efficiency and credibility. Secure stable and economical fuel.	Expand overseas business. Expand green growth business. Realize win-win growth through cooperation with private companies.	Secure the best technological power as a power generating company. Foster manpower strategically. Upgrade management system.	Promote win-win growth with SMEs. Strengthen socially responsible management.

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Corporate Vision and Value System

Corporate Mission

Enrich man's life by providing electricity in a stable, economic and eco-friendly way.

Eco-friendly

Leave a clean environment to posterity by eco-friendly management.

Supply electricity at cheap prices by maximizing management efficiency.

Stable

Supply electricity in a stable manner as an excellent power generating company.

Enrich man's life.

Improve quality of life by offering our services not only for Korea but also for all over the world.

Corporate Vision

Global TOP 10 Energy Company

Expand businesses from operation of power generating facilities in Korea to the development of new & renewable energy and the global energy business including IPP business both home and abroad.

Achieve more than 50% of the portion of overseas businesses by 2020, with total sales of 14 trillion won and more

than 1 trillion won in net profit.

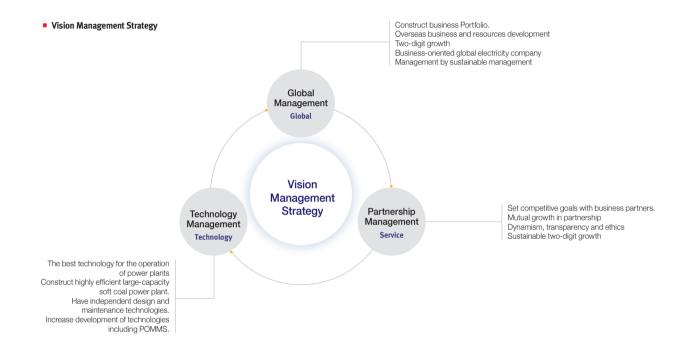
Grow into a real Global Top Energy Company by 2020 achieving 20 trillion won in sales and more than 3 trillion won in net profit.

Make EWP a global brand for the expansion of overseas markets. Make the organization a world-class IPP.

Create a global corporate culture that can work on the world stage.

Grow into a small but strong enterprise. Become a company with excellent growth potential, financial soundness and internal values.

To be transformed into the world's Top Ten professional energy and power generation company. A company with the world's best technologies and management efficiency fostering manpower.



Roadmap for Sustainability Management

To establish the basis for sustainability management, EWP has set up the goals in each stage of the three



Risk Management

EWP has established the RMS (Risk Management System) on the basis of ERP (Enterprise Resource Planning) in preparation for the risks caused by the uncertainty of the domestic and overseas management environment, and the entire company is managing the risks in each area of finance & accounting, operation of power plants, fuel supply, safety from disasters, etc.



ERP Comprehensive Risk Management System

Risk Management of the Overall Company

To maintain the integration and consistency of information, EWP is running the RMS (Risk Management System) in connection with the ERP (Enterprise Resource Planning) system which provides real-time information. Through this, continuous monitoring is being conducted for the 20 KRIs in 5 management areas. In addition, the monitor has been designed in the same way as the EIS (Executive Information System) to operate the action plan according to the change of risks.

Financial Risk

To manage financial risks according to the changes in exchange rate, interest rate and fuel prices, EWP is operating an active risk management system by combining LMS (Liability Management System), a foreign exchange and debt management system, with PCN (Prime Coal NET), a system for the demand and supply of coal and the management of distribution lines, for the first time as a power plant company. In 2009, the company introduced VaR-based EaR (Earnings-at-Risk) technique to reduce the volatility of fuel prices, establish the optimum portfolio of debts, and manage risks due to the fluctuation of foreign exchange thus laying the groundwork for an advanced risk management.

Financial Risk Management System and Operation Methods

Core Financial Risks	Item	Risk Management System	Operation Method	
Price	Correction factor management	Cost Evaluation Committee	Maintain financial balance among affiliates of power plant companies.	
Foreign Exchange	Monitoring international fuel prices	Manual for responding to fuel supply crisis Self Blending system In-house Research	Procedures to follow at time of fuel supply crisis Timely acquisition of information (in cooperation with Investment Deliberation Committee, Foreign Exchange Management Committee, etc. within the company)	
Interest Rate —	Monitoring financial market	Foreign Exchange Risk Management Committee In-house Research	Minimize foreign exchange risk by hedging. Set the ratio of hedging for long- and short- term positioning.	
micrestriale	Credit rating management	Annual Meeting IR	Maintain superior credit rating. Conduct IR activities to expand investors.	
Liquidity	Liability management	Business Performance Analysis	Increase profits and reduce costs.	
Liquidity	Liquidity management	— (once a quarter) Liability Management System	Optimize currency of liabilities and maturity structure.	

Reestablish internal accounting system according to the changes in accounting policy.

Reflecting the accounting policy changed by the adoption of IFRS (International Financial Reporting Standards) in 2011, the internal accounting system of the company changed its design and reestablished from K-GAAP to IFRS-based system. The previous internal accounting system based on individual settlement of accounts was changed into a process based on consolidated settlement of accounts. In accordance with the new internal accounting system consolidated with the parent company of KEPCO, the risk caused by the changes in accounting standards was analyzed, core control items were reselected, work process was documented and IT processes were updated.

Classification	Specific Measures	Implementation Period
Evaluate the effectiveness of the design of internal control.	Sample test of the evidence of the trace of each work process	Nov. 15~21, 2011
Self-evaluation of effectiveness	Evaluate 11 work processes and company-wide control.	Nov. 22~28, 2011
Evaluation of external auditor	Examine the results of self-evaluation and the effectiveness of the procedures of the test used for control. Confirm the appropriateness after testing a process chosen randomly. Audit the examples of company-wide internal control and their operational appropriateness.	Dec. 1~30, 2011

Stakeholders

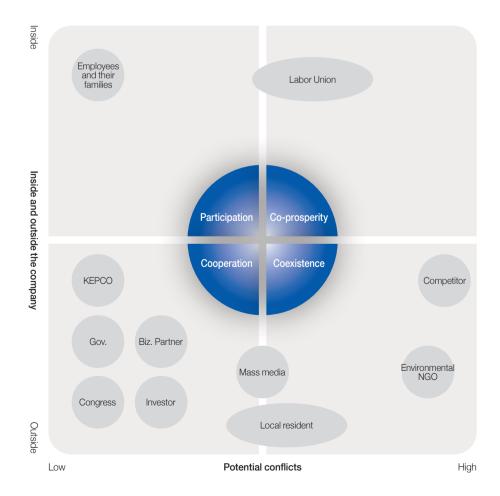
There are many stakeholders who have direct and indirect influence on the managerial activities of EWP. According to the industrial characteristics and managerial environment of the company, EWP classifies its stakeholders into various categories including investors, employees, business partners, power generation companies, government agencies, communities and environmental NGOs. EWP collects all stakeholder concerns through various communication channels for win-win growth with them and reflect them in its business activities to realize sustainability management.

Customized approach for each category of stakeholder

Stakeholders have been classified into the 4 categories of participation, co-prosperity, cooperation and coexistence according to their position - inside or outside the company? and potential conflicts. Then efforts are made to improve the relationship with stakeholders through communication activities appropriate for each category of the stakeholders.

After defining the stakeholders for each category,

	Relationship Characteristics and Approach	
	Participation	Grow together with the company → Instill ownership to increase participation in the company's work.
	Co-prosperity	Cooperative relationship is essential, but there is potential conflict. → Communication and rational labor relations
	Cooperation	Have great influence on setting up the policy of the company. → Share internal information and conduct ethical and transparent management.
	Coexistence	Radical amplification of conflict is possible it interests collide. —> PR Provision of information, CSR activities



Materiality Assessment

It is very important in preparing the sustainability management report to grasp stakeholders' concerns and the issues that have much influence on the management of the company. EWP has conducted the materiality assessment to reflect the opinions of various stakeholders on sustainability. The materiality assessment have found out important issues through internal regulations, government policies and laws, direct and indirect economic effects, surveys of stakeholders, benchmarking of major companies, media analysis, etc.

■ Materiality Assessment Processes





Materiality Assessment Results

The following are the major issues selected through materiality assessment of the issues of each stakeholder. This report made efforts to include the detailed performance of EWP regarding those major issues.

Economy	Development of overseas markets, new & renewable energy, new businesses in Korea	
Environment	Counter measures against Climate change, environment protection	
Employees	Welfare, human-resources	
Business partners Win-Win Growth		
Community Coexistence with local communities		



Open Management



We will take the right path by open management.

We will listen carefully to the precious opinion of each person by taking the right path of open management and pursue true communication on the basis of wider participation of people. We will be a steppingstone to create a happy society with trust.



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Responsible & Ethical Management

EWP has put priority in ethical management as the core element necessary to achieve the sustainability management of the company, and the code of ethics has become a criteria for the performance of all works and managerial activities of employees. EWP continues implementing a variety of practices to internalize transparent and rational business culture.

Organization in Charge of Ethical Management

EWP has a department directly under the CEO exclusive for the implementation of ethical management. The department in charge of ethical management plans and operates the strategies for the company-wide implementation of ethical management, and the deliberation and resolution of major policies related to ethical management are done by the Green Management Committee. The auditor's office is running a system for the investigation of violation of ethics and prevention of corruption. Ethical management is being practiced across the company through the persons in charge of code of ethics at the head office and each workplace.

Ethical Management Implementation System

To become a global energy company, EWP is performing all managerial activities on the basis of ethical management with the principle of taking the right path. We will achieve our corporate vision by promoting common interests with all stakeholders through transparent and ethical managerial activities.

■ Ethical Management Implementation System



Programs for Ethical Practice

Ethical Standards

The ethical standards, which stipulate the standards for employees' behaviors and value judgment, are composed of Charter of Ethics, Code of ethics, Code of Conduct and the instructions for people concerned with a job. Ethical standards are periodically revised according to social expectations in order to reflect the requirements of stakeholders, and they are posted in the company's intranet and the homepage of ethical management for easy understanding and practice of all employees.

Self-inspection of Ethics and Education on Ethics

For the reinforcement of the ethics and law-abiding spirit of all employees, a weekly self-inspection of ethics is done using a real case that may cause ethical dilemma and make it available in the company's intranet to improve ethics and will of autonomous practice. Also, various systematic educational courses are offered to employees so that they can agree with the ethical management and join it. New recruits and the employees in the promotion list must complete the education on ethics compulsorily, and the online education on ethical management, education by external lecturers, and circuit education at workplaces are being offered for all employees.

Preventive Report System

Both internal employees and external stakeholders may report a case through the homepage of ethical management, and there is an Online Ethics Counseling Office. The 'Cyber Sinmungo' is being operated for report of unethical behaviors or corruption cases. At the same time, the 'Help Line System' is being operated in which a professional external agency, which has no interest with the company, handles the cases of internal reports to activate the internal report system by guaranteeing the anonymity of internal reporters. We have also improved the implementation of the Internal Law-abiding Monitoring System, Clean Mileage System, The System of Report of Acquaintances by Business Partners, etc.

■ Improvement of Preventive Practice System

System	Contents	Remarks
Internal Report System	Behaviors to be reported: power abuse, violation of laws and articles of association, abuse of budget, violation of ethical creed or code of conducts, etc.	A system that protects the internal reporter.
Clean Mileage System	Accumulate mileage points of the participation in ethical management to encourage voluntary participation in ethical management.	Give incentives to 30 people in every half year.
System of Report of Acquaintances by Business partners	Make report if the person in charge of contract is an acquaintance of the executive of a business partner company: a relative, school ties or from the same hometown.	Operate a system for report of acquaintances in the integrity & ethics website.

Ethics Program for External Stakeholders

EWP is actively conducting ethics programs for external stakeholders such as ombudsman system for business partners and meetings with business partners to carefully listen to what must be improved in the ethical matter from the standpoint of business partners.

Systematic Disclosure of Corporate Information

EWP continues to enhance the convenience of information users and the scope of information disclosure to increase the transparency of the disclosure of corporate information through examination and analysis of customers' needs. EWP responds to information disclosure requests within 10 days according to business guidelines for handling information disclosure, and reveals the management information specifically through the ALIO.

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■ Ethical Management Implementation System

Person(Dept.) in Charge Person(Dept.) in Charge Appoint person in change. Supervisor (Planning Division) Set up operational methods. (Decide disclosure period, etc.) Notify operational method. Review matters to be disclosed. Disclosure Disclosure at reason for disclosed. Complement disclosure. Complement disclosure. Draw matters to be Draw matters to be

Improve Customer-oriented Management by 'SMART' Disclosure of Corporate Information

EWP has established customer-oriented "Friendly and SMART EWP Disclosure of Corporate Information (EWP KS Disclosure)" system for customers to be able to have access to the information about EWP anytime, anywhere with Smart Phones.



Accomplishments

On the basis of such ethical management system, EWP made efforts to make a clean and right company and was recognized by external organizations for the results of the efforts.

■ Recognition of EWP's Practice of Ethical Management in 2011

Item	Organization	Evaluation
Integrity	Anti-corruption & Civil Rights Commission	The best among all public enterprises and 6 power generation companies
Examination of the practices of sustainability management(KoBEX)	The Institute for Industrial Policy Studies (On behalf of MKE)	Received AAA for 4 consecutive years.
National Sensory Level	Ministry of Strategy & Finance	The best among all power generation companies, with a score 2.9 points higher than the average score of public enterprises.
Public Agency ISO 26000	Korea Institute of Public Finance	96.80 points (3.45 points higher than the average score of market- oriented state-owned enterprise)
UN Global Compact	UNGC Korea Association	Received a grand prize in the sector of eco-friendliness for the first time among public enterprises.

Management of Employees' Value

EWP is actively improving its employees' value with a goal to foster professional global manpower who will lead the power industry balancing work and life as well. A welfare system is being operated to realize the balance between work and life with fair personnel management and compensation system, continuous education and training for capability reinforcement and mid- and long-term master plan according to the capability and performance of each employee.

Human Resources Management Balancing Efficiency and Equity

Present Condition of Employees

The number of EWP's employees was 1,977 as of end of Dec., 2011. The number of employees has been reduced since the government's policy for the restructuring public enterprises was implemented in 2009 and there was no new recruit until 2010. Also, the job opening rate decreased as a result of the 5 times' implementation of 'desired retirement'. However, the drop in job opening rate narrowed with the employment of new recruits in 2011, and more interns were hired with the revised government's policy to create jobs.

Com	position	of Em	plo	vees

Classification	2009	2010	2011
No. of Employees	2,065	2,006	1,977
Regular Position	2,065	2,006	1,977
Temporary Position	0	0	0
Average Service Year	16.5	17.3	16.3
Job-opening Rate (%)	-2.93	-2.85	-1.44
Rate of leaving job(%)	1.12	0.74	0.8

Number of Employees at Workplaces (Dec. 2011)

Workplace	Number of Employees
Head Office	356
Dangjin Thermal Power Plant complex	590
Ulsan Thermal Power Plant complex	487
Honam Thermal Power Plant	169
Donghae Thermal Power Plant	170
Ilsan Combined Heat & Power Plant	201
Guam office	4

^{*} job opening rate is the increase in the number of employees compared to the previous year.

Lead Open Recruitment by Hiring High School Graduates

Since 2001, EWP has hired a total of 649 new recruits through 11 times of open recruitment. No restrictions are imposed on the application for employment according to gender, age or educational background. Recruitment is decided only by one's ability and personality. Complaints about any discrimination in the recruitment procedures can be handled by the internal system including the direct report to the CEO and the 'Sinmungo' system.

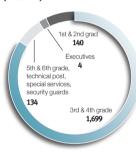
Especially, in 2011, EWP implemented the 30% employment quota system for high school graduates to foster the open recruitment, and hired 19 'Meister' high school graduates as new recruits for the first time among public enterprises. In addition, an internship program ('Global Dreamalizer Program') at EWP's overseas power plant was implemented to boost the global competitiveness of the students of Meister High Schools, which received favorable responses and an award from the Minister of Education, Science & Technology.







 Number of Employees in respective Position (Dec. 2011)



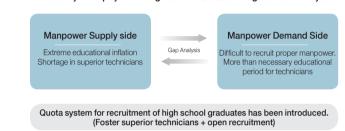


^{*} rate of leaving job is the rate of voluntary resignation excluding regular retirement

Recognition of EWP's Practice of Ethical Management in 2011

Item	Organization	Evaluation			
Integrity	Anti-corruption & Civil Rights Commission	The best among all public enterprises and 6 power generation companies			
Examination of the practices of sustainability management(KoBEX)	The Institute for Industrial Policy Studies (On behalf of MKE)	Received AAA for 4 consecutive years.			
National Sensory Level	Ministry of Strategy & Finance	The best among all power generation companies, with a score 2.9 points higher than the average score of public enterprises.			
Public Agency ISO 26000	Korea Institute of Public Finance	96.80 points (3.45 points higher than the average score of market- oriented state-owned enterprise)			
UN Global Compact	UNGC Korea Association	Received a grand prize in the sector of eco-friendliness for the first time among public enterprises.			

Review of the Necessity for Employment of High School Graduates through Structure Analysis



■ Progress of the System for Employment of High School Graduates for Coexistence



Results of Employment Expansion for the Socially Underprivileged

중앙일보

정 총리, 동서발전 고졸 30% 채용 방침에 감사 e-메일

정은학(영화) '국무용라가 있는 신규 개용인데의 30%를 고립자로 증원기로 결정한 한국동사업단에 환영과 감사를 표하는 어떻게 처음을 받았다. 전지 해결 영화 함안 경영 등학 전체 등에 사용이게 보내 사신에게 '등 서반원이 실행하는 신규 등학원에 가장이게 보내 사신에게 '등 서반원이 실행하는 신규 행동인 한다는 마 등이라며 '국가 시설에 통해한 이 지수들이에 경종 을 옵다는 일로 배우 신선한 충격'이라고 평가했다. 경 등라는 '제 한남고 출신으로 한국 학자에서 자신하는 '책 대화한 나의 다 이 시회에서 행세할 수 있는 지금의 현실은 바뀌어야 한다'고 감조했다. 그는 '등사람전의 이번 결정은 바락의 배여 간히 있는 이 당의 많은 젊은이 에게 세요로 회원 간기를 함당한다'고 밝혔다. 다 건강 기가 그라는 '건강에도 남리 화산되기를 화망한다'고 밝혔다.

2010년 08월 06일 금요일 008면 종합





Expand the Employment Opportunity for the Socially Underprivileged (the handicapped and patriots & veterans)

The employment of the handicapped has continued to increase with the implementation of employment quota system and additional points granted to them at time of recruitment. As a result, the percentage of the employment of the handicapped is now over 3% which is the compulsory legal requirement. Discrimination is ruled out by equal personnel management for handicapped workers and all the employees receive education to improve their recognition of the handicapped. Individuals of national merit also benefit from positive discrimination through the employment quota system and the grant of additional points. Approximately 9.1% of EWP's employees are filled with patriots & veterans and their children as a result of active implementation of socially fair employment.

Gender Equality

There are 166 women workers in EWP, taking 8.4% of its employees. A fair standard is applied to women workers at EWP with no discrimination in employment, promotion, compensation, etc. To fully recognize gender equality, EWP is making continuous efforts to expand the employment of women gradually.

Improvement in the Treatment of Women Workers

In the trend of low fertility and aging, EWP is promoting various policies to support women workers and double-income families encouraging childbirth. Vacations before and after childbirth and maternity leave are granted, and no discrimination is allowed in promotion and calculation of period of working for the women who take maternity leave so that they may work and at the same time take care of their home during the period of infant care.

Manpower Training

Establishment of Education & Training Plans

EWP establishes its education and training plans every year to develop individual ability and enhance productivity in a harmonious and linked manner by surveying the educational needs of the employees.

Operation of Educational Programs

EWP is operating various educational programs to foster strategic talents and promote employees' career development. The system of education and training is classified into many programs for each position and duty as follows:

													F1															
Class	Classification Corporate Culture Education for Position		r Position	Dro	ofossi	onal Du	ıtv.	Education on					Special Education															
		Cult	ure	Core	e Manpower	Fos	tering	Leadership			Techn		Educational Institute	Gen Du	eral ıty		ernat lizatio		Computer									
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Professional	1st			경영자 역량강화	대학경영기	자 과	정	경영자 코칭 과정					경영정책 및 혁신과정															
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Basic	3rd year							신입사원 Refresh					전문교육과정															
	1st year after employ- ment								신입	사원 직	니무과정((ОЛТ)	실무교육과정 신입사원기초과정(필수)															

Establishment of Granular e-Learning System

EWP has established its own Granular e-Learning system to improve the group instruction at its educational center to an on-site open education. The educational contents have been segmented into units ranging from 20 minutes to 30 hours to enable immediate learning whenever necessary, and in-house expert instructors were utilized to produce the contents mainly on the matters required on-site. Currently there are 34 educational courses composed in 127 modules.

Fostering Global Manpower

According to the strategies for the advancement into overseas projects, which is the future growth engine of the company, 'Global Pioneers' - professional manpower for overseas business - were selected for a systematic and professional education aimed to enhance their job and foreign language capabilities. As of 2012 there are 80 Global Pioneers and the number will be increased to 342 by 2014. Also, in 2011, regional experts were dispatched to overseas branches for 6 months to foster core global talents through acquisition of advanced managerial skills and technologies, and they are now exerting their professional capabilities at related departments including Overseas Business Office.

Technological Education for Outside Manpower

Using its excellent resources, EWP is contributing to the society through the education of outside technological manpower and ordinary people. At the simulation training center in Dangjin Thermal Power Plant, a total of 124 people including the technological manpower of SMEs, military electricity personnel, and the students of Meister High Schools and nearby schools were educated in 2011, and the customized education will be expanded in the future.

Continuing Education Program

The education for those who are soon to retire is being conducted to help their psychological stability and fulfill the company's social responsibility according to the extension of the average lifespan. Through the education, the people will be able to lead a successful life after retirement. The contents of the educational course include the skills on management of personal assets and health, launching a business, reemployment, stress management, etc. after that are needed after retirement, and all the lectures are provided by verified professional instructors.

Results of Education & Training

Training Expenses and Training Hourss

<u> </u>			
Classification	2009	2010	2011
Training expense per person (1,000 won)	2,190	2,828	3,310
Training expenses in the total budget (%)	0.57	0.63	0.97
Years hours of training (per person)	88	98	110

Number of Trainees

Classification	2009	2010	2011
Training at in-house training center	857	996	1,428
Domestic Consigned Training	9,381	11,767	10,690
Overseas Consigned Training	25	10	27
Total	10,263	13,099	16,893



EWP is implementing various welfare programs to increase employees' satisfaction by expanding work-family compatibility culture and realizing family-friendly policies. Various programs are provided to contribute to the solution of low fertility? a core national challenge? by creating an environment friendly to childbirth: a baby shower system which presents gifts of books for prenatal education, support for prenatal medical check-up expenses, remodeling the lactation room at the company, childbirth grant, Pregnant Women's Day on Oct. 10, and operation of a consigned day-care center at the company. In June, 2011, the 'Pineville Day-care Center' was opened in the company housing at Dangjin Thermal Power Plant Headquarters to actively support childcare.

Expand Childcare and Maternity Protection to Overcome Low Fertility.

To form a family-friendly company culture, EWP designated every Wednesday as a Day for Family Love and encourages employees to spend enough time with their families. In cooperation with the Korean Institute for Healthy Family located near each workplace, differentiated family education programs are being operated for each type of family including children, spouses and parents. There are also, various systems for the family of employees: experiencing mom's and dad's workplace done by inviting employees' children, education of children during vacation for English, national security, etc., support for resort facilities during summer vacation, etc.

Implementation of Welfare System by Finding out Various Needs of Employees

To promote health of its employees, EWP is supporting operation of in-house physical training facilities and physical examination. Other various welfare programs for employees and their families include residential support with company housing and dormitory, school expenses for children, optional welfare points, collective accident insurance and support of family events. To reflect employees' opinions to the operation of the welfare system, the summer resort spots are selected after surveying employees' preferences, and the satisfaction of employees with the welfare system is surveyed every year to monitor employees' opinions and use the results for the improvement of the system. As a result of the support for various welfare systems, employees' satisfaction has increased and, externally, EWP received an award from the Minister of Gender Equality & Family in July, 2011 for its contribution to the promotion of gender equality and the improvement in the status of women. The company was also awarded by the Minister of Health & Welfare by being selected as a superior organization for childbirth and childcare in the 2nd contest for 'A Movement to Make a World Good for Childbirth' in August, 2011.



Family Education Program



Pineville Day-care Center in Dangjin

Company childcare	45 employees
Consigned childcare	140 employees
Support for educational expenses	353 employees





■ Welfare Programs in Operation

Classification	System	Details	
	Baby Shower System	Presents gifts of books for prenatal education	
	Prenatal Medical Check-up	Support pregnant employees for a part of the expense for prenatal medical check-up	
	Childbirth Grant	Give congratulatory incentive for childbirth (500,000~2 million won)	
Create an environment	Support consigned day-care center at the company	Support the consigned day-care center at the company. (Up to 50% of the expenses set by the government for 5 or less year old children.)	
favorable to childbirth and child-care	Install and operate a day-care center in the company	The company's day-care centers located in the head office and Dangjin Power Plant	
		Subsidy for the education of infants (0 \sim 5 year old children)	
	Support children's education.	Support tuition for children attending middle & high school and university	
		Support with dormitory for offspring attending universities located in the metropolitan area.	
	Optional welfare programs	Support with self-improvement programs, family anniversary dates, etc.	
	Employee Assistance Program	Implement education for employees' family and financial counseling.	
Support for employees and their families	Support for family events	Vacation for family event and payment for congratulations and condolences	
treir farfilles	Support at time of natural disasters	Grant aid in case of complete or partial burning down and breaking do and flooding in natural disasters	
	Support family-unit event programs.	Support with weekend family experiencing event and the experience of dad's workplace.	
	Loan money for house	Give loan for purchase or rent of a house.	
Support for stability of residence and living	Loan money for stability of life	Give loan at low interest rates for employees who have been working for more than 1 year.	
-	Support for accommodation	Provide a company housing for the employees working at local power plants. Dormitory is provided for those who are working in the metropolitan area.	
	Operation of living training center	Rooms in living training center in Sokcho, Suanbo, Muju, etc. are provided.	
Support for leisure culture	Support for resort facilities during summer vacation	The resort facilities near the power plant are provided during summer vacation season.	
	Discounts with agreements related to leisure activities	Transportation: train and airplane (3 companies) Accommodation: Hotels and motels nationwide (10 companies) Travel: Domestic and overseas travel package (2 companies)	
	Support for collective insurance for protection	Seven items are guaranteed including death by disaster, death by disease, disability by disaster and cancer diagnosis.	
	Assist medical check-up	Legal physical exam and special check-up are conducted once a year.	
Support for healthy life	Discounts at hospitals	Discounts are granted for a comprehensive medical testing and treatments at dental clinics, eye clinics, etc. by signing agreements with 1 hospitals and clinics located near the company's workplaces nationwide.	
	Physical Training Center	Support with the installation of exercising facilities within the workplaces (fitness center, soccer field, etc.)	
Incentives	Incentive training for meritorious workers	Support with training for meritorious workers and their family.	
Support after retirement	Keeping retiring allowance reserve	84.9 billion won as of 2011 (Lump sum payment at time of retirement or receiving as a pension is possible) The pension program was adopted in 2011 to give a choice between the lump sum payment of retirement pay and a pension)	

Labor Relations

According to the amendment of the Labor Law in 2011, there are now two labor unions in EWP: the existing Branch of Power Plant Industry Labor Union and the newly formed EWP Labor union. The company is trying to establish a labor-management relationship of discussion, cooperation and communication maintaining neutrality not taking side with any of the two labor unions.

Declaration of Non-strike to Perform Social Responsibilities

EWP Labor Union declared actual non-strike principle for the first time as a public enterprise by expanding the scope of compulsory maintenance workers to all employees from the previous shift worker only (54%), for a stable supply of electricity to the nation and society as a power plant company which produces electricity that is an essential public goods directly connected with people's life. This is expected to improve the performance of EWP's social responsibility reinforcing it public character.

Promote Labor-Management Harmony by Strengthening Joint Programs.

Various joint programs have been implemented at the power plants scattered nationwide according to their characteristics to prevent misunderstanding between the labor and the management and create a relationship of cooperation and communication. The programs include social contribution activities, happiness sharing filial duty event, donation to the "Beautiful Shop" and sales events, the education to make a good father and making love lunch box. The company and the labor unions have established a labor relation which creates a happy workplace and realizes the compatibility of work and home.

東亞日報

2011년 06월 24일 금요일 A13면 사회

한국동서발전 제2노조 공기업 첫 '무파업 선언'

한국동서발전 노조가 공기업 중 처음으로 '필수 유지업무 100%'에 합의해 무파업 선언을 하기로 했다. 정치파업을 벌여온 민주노총 산별노조(한국 발전산업노조)에서 탈퇴한 공기업 제2노조가 실용 주의 노선을 택한 것으로 기업사관계에 적지 않 은 영향을 줄 것으로 보인다.

Workplace	Joint Labor-Management Program	Goal & Achievements	Remarks
Dangjin Complex	Convention for the resolution to innovate corporate culture (May 24) Voluntary service at welfare facilities (Aug. 10) Fostering traditional markets (Sep. 28)	Promote mutual growth of the labor and the management and realize a sharing culture. Establish a value-creating cooperative labor relation through voluntary services.	2011日上北京市 从日内区 市村報市
Ulsan Complex	Workplace Harmony Day (Oct. 22) Happiness sharing filial duty event (May 11)	Form a sound labor-management culture and achieve a productive and cooperative organization culture. Realizes the compatibility of work and home through events which invite employees' families to the company.	108 27mm71, 118 8A
Honam Thermal Power Plant	Summer camp for children who have no place to turn to (Aug. 19) Donation to the "Beautiful Shop" and sales events	Increase the value of both the labor and the management through social contribution activities.	FU 2011US SAPER ROOM
Donghae Thermal Power Plant	English camp for employees' children Education to make a good father Joint social contribution activities	Accumulate trust and enable the compatibility of work and home for employees by implementing joint labor-management programs.	
llsan Combined Heat & Power Plant	Happy Power Plant operating with communities Providing a helping hand during the busy season for farmers, and making love lunch box	Spread the recognition of the happy power plant. Realize a beautiful labor-management partnership, especially in the power plant site.	SOUTH PROFILE WORLD BE

매일경제

2012년 02월 24일 금요일 A33면 사람과사람

에쓰오일·동서발전등 3社 노사협력대상

한국성정사항념화단 23월 원단 선정했다. "2012년 한국노사협력대상" 시상 여쓰오일 식에서 민간기업 부문 대상에 어쓰 변의 노사본 오인, 공기업 부문 대상에 한국동서 발전을 선점했다. 중건·중소기업 서발전은 6

Implementation of Retirement Pension System through Labor-Management Communication and Consensus

According to the aging of the Korean society, it has become necessary to have a triple device to guarantee a stable life after retirement with the retirement pension program of the company itself in addition to the national pension program and the personal pension. So the labor and the management of EWP surveyed the opinions of all employees through open discussion on the introduction of a retirement pension program by revising the existing lump-sum payment of the retirement pay. 84% of the employees showed positive opinions for the introduction of the retirement pension program and the new system was smoothly introduced.

Grand Prize Award for Labor Cooperation Management

The efforts of EWP to reestablish a proactive and healthy labor relations and the positive results of labor-management relationship were recognized both internally and externally, and the company won the grand prize at '2012 Grand Prize for Labor Relations in Korea' in Feb. 2012 hosted by Korea Employer's Federation.



Declaration of Non-strike

Expanding the scope of compulsory maintenance workers to 100% of the employees
(First among all public power plant companies)

Introduction of Retirement Pension Program

Entroducing retirement
pension system through
labor-management
agreement
(First among all public
power plant companies)

Signing on Wage Agreement

Accepted government's recommendation.

Settled without disputes.

Matters pointed by the board of Audit & responsibilities

spection were corrected.

Fulfill Social

Responsibility Jointly by

Labor and Managemen

Agreement on Annual Salary System

Agree to upgrade annual salary system to be linked with work performance (for executives and managers) and introduce the annual salary system for all employees (First among all power

public plant companies)

Safety & Health

EWP regards the health and safety of its employees as a matter of the highest priority, and is making continuous efforts to improve the working environment through practical support for safety and health programs.

Introduction of high-tech systems for health promoting programs

Health experts are placed in all workplaces to conduct health management procedures including hearing preservation, prevention of musculoskeletal diseases, health promotion and job-related stress. Various policies on health management have been established including the Non-smoking Fund which gives benefits to those who quit smoking, the discount for a general medical check-up of the employees and their families by agreement with hospitals, and a precise examination of physical strength.

Especially, the latest body composition measurement and analysis program that can precisely diagnose the health condition of each person has been placed in every workplace so that those who have some health problems can check up their health regularly.

Thorough Safety diagnosis of Dangerous Equipment

Dangerous materials and equipment such as explosives or devices that deal with harmful materials are checked and diagnosed by the experts in construction, electricity and machinery areas to find out and eliminate on-site dangerous elements for the protection of all the employees of EWP and its business partners. Also, through such safety management, the credibility of equipment can be enhanced for better supply of electricity in a stable manner.

Efforts to Improve Working Environment

The use of asbestos, which is known to be a carcinogen, is completely prohibited in the workplace, and all the equipment that uses asbestos is examined to prevent industrial accidents and diseases thoroughly. In addition, the Industrial Safety & Health Committee and the Labor-Management Council have discussion on the matters of safety and health to prevent industrial accidents and improve working environment.

Work-related Accidents

EWP conducts risk assessment for all the elements for safety management in the workplace through objective certification processes of domestic and overseas safety & health management systems to prevent the development of harmful and dangerous elements in advance. As a result, EWP has achieved the record of no accident for 4 consecutive years in all workplaces.

Classification	2008	2009	2010	
Absence [Industrial Accident (%)]	0.00	0.00	0.00	
Accident Classifications (executives · employees)	Death 0, Injury 0	Death 0, Injury 0	Death 0, Injury 0	
Electricity-Gas-Water Work Average (%)	0.22	0.21	0.19	

(Source: Ministry of Employment & Labor, The accident rates of 2011 is to be announced in August, 2012.)



Co-prosperity with Local Communities



We think of a way for true co-prosperity.

We consider others before us. Everyone can pursue happiness, and we are not alone but living together with others.

EWP will stretch out its arm for sharing and love.

The source of EWP's growth is the power of love.



Win-Win Growth

EWP considers its business partners as a companion for its growth and is maintaining trustworthy and cooperative relationships with them. On the basis of the support for the core competence of its business partners and continuous mutual trust, EWP will support small but strong enterprises and continue to develop the power generation industry and strengthen its competitiveness to contribute to the reinforcement of the national competitiveness.

■ Strategies and Implementation System for Win-Win Growth



EWP's win-win growth model became a standard model in Korea.

Show the vision of co-prosperity and cooperation and realize win-win growth with business partners.

In order to put the CEO's managerial principle to support SMEs into practice, EWP has established Korea's first philosophy to support the 'Win-Win Cooperation in the Sustainable Power Industry', and reflected it to the mid- and long-term managerial strategy of the company while transmitting it to other power generation companies and business partners. In Nov, 2011, in tandem with Win-Win Growth Committee, EWP announced its win-win growth model as the standard model of Korea.

EWP was selected as the best organization for win-win growth for 3 consecutive years among 59 public enterprises by searching and supporting superior SMEs. In 2010, KOPEC developed the 'technology for the coating of element at heat exchanger' for the first time in Korea and succeeded in the local production of the original material technology. As a result, the technology was applied to the desulfurization equipment at Dangjin Thermal Power Plant to save 5 billion won in purchasing cost. In average, the technology let each power plant company save about 10 billion won of its costs.

EWP has provided SMEs with various supports concerning technological development, overseas market exploration, shortage of manpower and financial aid. For four years since 2008, EWP signed 39 agreements for the development of new products on the condition of purchase with the supervision of the Small & Medium Business Administration, which is No. 1 among 63 large companies in Korea. We have also supported 12.39 billion won in total for technological development using government's fund.

Also, to solve the problem of manpower shortage at SMEs, EWP dispatched its professional technological manpower, 35 in total, to SMEs from 2005 to 2009 to transfer managerial and technological know-how. In addition, to supplement the personnel to meet the needs of SMEs, EWP signed industry-academy cooperation agreement with 5 junior colleges for the first time as a power generation company and arranged the employment of 7 men by SMEs. To secure financial liquidity, EWP has made efforts to resolve the financial difficulties of SMEs through sPRM using banks, financial support with network loans, and pay an advance upon signing a contract.



Supporting Policy Fund

Efforts made to put the managerial principle to support SMEs

In 2008, EWP announced its policy to support more than 100 SMEs and reestablished the support plans by collecting the needs and difficulties of its business partners. In addition, EWP made efforts to propagate its ideas for support to the government, academy, power generation companies and SMEs by establishing the philosophy of 'pursuing co-prosperity for the sustainable management of power generation industry'.

Also, by setting up the plans for systematic mid- and long-term support for SMEs and designating 39 success model companies for win-win growth, EWP is fostering companies that can be included in the world's 30 Star companies as well as 100 core companies in Korea. Furthermore, EWP has established a customized support system by classifying the growth stage of each company through the launching of 'EWP-SMEs Council' to set up a system for co-prosperity with SMEs.



Creation of Co-prosperity Developme Fund

Support for Technological Development of SMEs

EWP and SMEs are jointly conducting cooperative R&D projects. From 2004 to 2011, a total of 174 projects were conducted with a fund of 10.3 billion won. Also, the system of the development of new products on the condition of purchase has been implemented in order to increase the local development of the power generation equipment that used to be imported from foreign countries. There were 15 contracts signed until 2011 contributing to the improvement in the technologies of SMEs by continuous R&D activities. In addition, the technologies of EWP have been transferred to SMEs for free for successful commercialization and reinforcement in technological competitiveness.



Agreement on fostering Success Model

Performance of the Technological Development in SMEs

(Unit: 100 million won)

Classification	2010			2011				
Classification	Number of projects	Contract Amount	Purchase Amount	Number of projects	Contract Amount	Purchase Amount		
Development of new products on the condition of purchase	9	38.99	8.9	15	36.8	12.1		
Joint R&D	25	59.4	7.7	18	5.8	13.4		
Technological Development by Joint Investment of the Public and the Private Sector	7	-	54.1	6	-	44.8		

Expanding Purchase of SMEs' Products

EWP has purchased products developed by the technologies of SMEs worth 7.42 billion won actively responding to the system of public purchase of SMEs' products, and also purchased products produced by woman CEOs worth 3.7 billion won to assist the brisk social activities of women, totaling the purchase amount of the products produced by SMEs 140.2 billion won. Also, a T/F directly under the CEO has been established with 31 persons from 26 departments to work exclusively for purchasing. The team is making efforts to establish a basis for the expansion of purchase by tracing and controlling purchase performance.



Test Installation of SMEs' Products



Participation of 30 Southeast Asian Market Exploration Team (June 29 ~ July 8, 2011)



Support for the Exploration of Domestic and Overseas Markets by SMEs

To help SMEs' domestic marketing, EWP supported 95 companies in 3 exhibitions including the Global Electric Power Tech Exhibition to have business consultation for 48.8 billion won and receive order for 7.7 billion won, and participated in 5 times of business meetings for public purchase including the public purchase promotion meeting held by the Small & Medium Business Administration to support business meetings for 48 SMEs. Also, for the promotion of superior SMEs' products, a program of SBS TV titled 'SMEs! Power of Korea!' was broadcast on 8 broadcasting channels and an advertisement about electricity was placed in 14 newspapers to maximize marketing effects.

To help SMEs explore overseas markets, EWP supported the participation of 11 SMEs in 2 international exhibitions including Dubai WETEX Exhibition and achieved business consultation for 90.67 million dollars and received order for 5 million dollars. To increase exports by SMEs, EWP invited 13 foreign buyers of Japan, India and the Middle East to register them at 135 SMEs. The results of the meetings for export were business consultation for 373.35 million dollars and order receipt for 61.71 million dollars.

Performance of SMEs' Exploration of Domestic and Overseas markets

(Unit: 10 thousand dollars)

Classification	2010			2011		
	No. of participating companies	Amount for Business Consultation	Amount of Order	No. of participating companies	Amount for Business Consultation	Amount of Order
Domestic Exhibition	110	216	35	95	488	77
International Exhibition	24	14,814	2,510	11	9,067	500
Vender Registration and Meetings for Export	18	1,019	-	135	37,335	6,171

Partnership and Sharing

As a public enterprise which produces the public goods, electricity, EWP not only creates economic value which is the intrinsic managerial activity of a company but also does various social contribution activities to make a society for coexistence fulfilling its social responsibilities and roles as a corporate citizen. Above all, the operation of a power plant is closely related with the local community, and mutual understanding and cooperation is increasingly important. Thus communication and cooperation in many aspects are being pursued to form a partnership for co-prosperity in which the power plant makes efforts for the development of the community and the community welcomes the power plant.

Implementation System and Finances for Social Contribution Activities

Implementation system

With the slogan of "A Hand of Love, A Light of Hope", EWP organized a voluntary service corps in Feb. 2004, which now has 2,204 members and 88 teams in total as of end of 2011. The Social Contribution Committee works for the implementation of systematic voluntary service activities, and the "Hope Connection Emergency On-site Service Corps" is ready for the demand for urgent voluntary services in connection with the fire stations in each area.

Finances

The source of revenue for the voluntary service activity is made by deducting a certain amount of money from the salary of employees and the company's donation of the same amount of the money as is collected by employees in a matching grant system. The voluntary service teams are conducting services every month with the funds. At the same time, the donation of the company is used for special voluntary services including the campaign to promote consensus about power generation business.

Apart from the finances inside the company, the budget for the projects intended to support the local community is spent for the education and cultural activities in the area adjacent to the power plant according to the Law on the Support for the Areas near Power Plants.

2011 Budget for local Community Support

(Unit: million won)

Classification	Dangjin	Ulsan	Honam	Donghae	Ilsan	Total
Support Fund	2,018	406	125	253	135	2,937

Reflection of the Opinions of the Local Community

Surveys were conducted in the areas of 5 workplaces to reflect the opinions of the local community about the social contribution activities, and committees were organized with the concerned people in the local community to continue exchanging mutual opinions. The collected opinions of the local communities were reflected as much as possible to the establishment of the plans for social contribution activities so that the activities necessary for a community can be planned and performed.

■ Hope Connection Emergency On-site Service Corps

- Prepared for the demand for urgent voluntary service including natural disasters.
- Composed of 124 members in total at the head office and each workplace.
- Signed agreements with the fire stations in each







2011 Finances for Social Contribution



Survey of Local Communities

Respondents	344 people near 5 workplaces
Period	Nov. 29 ~ Dec. 09, 2011
	Satisfaction with Social Contribution Activities 3.97 (Full marks: 5)
Desults	Reflection of the Opinions of Local Community 3.88 (Full marks: 5)
Results	Urgent Matter: Support for Vulnerable Social Groups (51%)
	Matters that needs improvement: PR (22%)

Checking and Replacing Electric Device

Workplace	Beneficiary	Date
D"-	Children living with Grandparents	June 30, 2011
Dangjin	Accommodations located in the Experiencing Village	Sep. 9, 2011
Ulsan	Welfare Facility 'Warm House'	Aug. 16, 2011
	Senior Citizen Centers in apartment complexes, etc.	July 14, 2011
	Senior Citizen Centers in Wolpyeong and Daldong Jugong Apt.	Aug. 18, 2011
Honam	Sister villages by '1 Company 1 Village' Movement	Aug. 17, 2011
	Villages near Sangam- dong	Sep. 9, 2011
llsan	Sharing School which supports poorly-fed	Aug. 12, 2011

Provision of caregivers for the people damaged by electric disasters - 1 handicapped patient, 1 patient injured by electric

 1 handicapped patient, 1 patient injured by electr shock
 Granting scholarships for the children of damaged

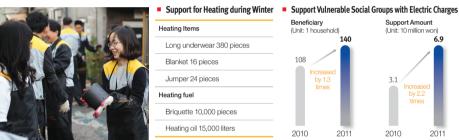
buseholds (per half a year)
- 400,000 won each for 2 high school students,

600,000 won to 1 university student

Promotion of Consensus about Power Generation Business

Support for Energy-vulnerable Social Groups

Subsidies for electric charges are granted to the households that have difficulty in paying the bills though they are living near a power plant. Also, obsolete electric devices are examined and replaced for the safe usage of electricity by the vulnerable social groups living near the power plant, and old light fixtures are being replaced with new, high-efficiency ones. In addition, heating items such as long underwear, blanket and jumper As well as heating fuels such as briquette and heating oil have been supplied for energy-vulnerable social groups to spend a warm winter while contributing to the resolution of the peak of electric consumption during winter.



Voluntary Briquette Delivery Service (Sep. 2011)

Support for the Households Damaged by Electric Disasters

As a company which conducts power generation business producing electricity, EWP is supporting those were damaged by electric disasters such as electric shock. The company has provided caregivers for those who were burned by electric shock. EWP is also granting scholarships to the students of the households which were damaged by electric disasters.

Voluntary Services Linked with Promotion of Overseas Businesses

EWP is doing social contribution activities not only in Korea but also in overseas areas where new businesses are being developed, and in result a favorable atmosphere for the promotion of the new businesses have been formed. In Haiti where a diesel power plant is being operated and developed, the company has built a new house and supported tuition for a girl who lost a leg and the house in an earthquake in 2010 by collecting donations. In Cebu, the Philippines, where an O&M business is being performed, 290 sets of toothpaste and toothbrush have been distributed to the elementary students in schools near the business site and began to distribute free breakfast to 290 students who used to skip breakfast. In addition, EWP is assisting multi-cultural households in Korea with a family member from the country where the company is trying to launch a new business. Voluntary service activities help the family members experience Korean culture during traditional Korean holidays and the children are given scholarships.



Helping a girl victim of an earthquake in Haiti



Distributing free breakfast in the Philippines (Cebu)



Taking care of children of multi-

cultural households

210,715,0

2011학교 1997 당진화력 장약금 210,715,000명

opportunity for the children to be able to ascend the ladder of class.

Scholarship Awarding Ceremony

Sponsoring educational, cultural and athletic activities

Implementation of Educational Projects

Above all, EWP is making much effort for the education and training of human resources near its power plants. To improve the educational environment near the power plants which lags behind urban areas, learning apparatuses such as video presenter and lockers and storage closets are donated every year to improve the learning environment. As a result, the students at schools near the power plant now enjoy a learning environment comparable to that of the schools in other areas. Tuitions are supported for the



Reading Camp During Summer Vacation

students from elementary school to university living in the neighborhood of the power plants to relieve their burdens and encourage learning so as to foster local talents. Also, to provide the opportunity for special learning in addition to regular classes, native English teachers are provided to become friendly with English in this global era, and the opportunities for the tour of the national museum and historical and cultural sites are provided for live learning through experience. Furthermore EWP has joined the 'Love Fence' movement of the Ministry of Knowledge Economy to break the vicious cycle of poverty for children of needy class to be able to have proper education. A total of 17 local children's centers are supported to give enough

(Unit: 1,000 won)

Supported Institution

Area	Educational Apparatus	Scholarship	Special Learning	Others	Local Children's Centers	Total
Supported Amount	478,020	655,456	139,244	52,379	113,817	1,438,916



Support of Home School at Local Children's Center



Support Oemok Sunrise Festival

Area	Culture & Arts	Sports Promotion	Total
Number of Activities	33	31	64
Number of Participants	164	38	202
Supported Amount (thousand won)	116,146	172,695	288,841

Support for Community's Cultural Events and Athletic Activities

EWP is supporting various cultural events of the communities near its power plants such as Oemok Sunrise Festival in Dangjin, Sangnok Cultural Festival and Ulsan Literary Award to satisfy the cultural needs of the communities and contribute to the development of the local culture. Also, the company sponsors sports teams including the youth soccer team in Dangjin, the athletic club in Seokmun Middle School and a Judo club in Ulsan to foster future athletes and encourage sports activities of the local residents to lead healthy life.



Sponsor School Sports Teams

Partnership for Co-prosperity with Communities

Support for Development of the Infrastructure of Communities

The areas near power plants are supported by law for their development. The subsidy is calculated every year on the basis of the quantity of power generation and is paid to the concerned local governments. In 2011, a total of 14.6 billion won was paid to local governments to be spent for the projects aimed to increase the income of the residents and expand public facilities.

Amount Allocated for Community Support by Each workplace in 2011

(Unit: 1,000 won)

Workplace	Dangjin	Ulsan	Honam	Donghae	llsan	Total
Supported Amount	12,459,000	946,400	292,000	590,800	315,000	14,603,200

Movement to Revive Traditional Markets and Direct Transaction of Agricultural Products

EWP is making efforts to activate local economy for co-prosperity with the community fulfilling its responsibility as a corporate citizen. Each power plant signed for a sister relationship agreement with a traditional market near it. In 2011, employees of EWP bought gift certificates of traditional markets worth 660 million won, and EWP is encouraging its employees to use traditional markets by holding events to visit the markets once every month. In addition, there is a homepage for direct transaction of agricultural products being operated in EWP's homepage to purchase the agricultural products produced near the power plants. It provides the farmers with a stable sales route at reasonable prices and enables the employees to buy good agricultural products in trust achieving win-win relationship beneficial to both parties. In 2011, 119 items worth 48,360 thousand won were purchases, which is 179% increase from the previous year. Also, to contribute to the local economy by supporting local specialty products with sufficient potentiality, local specialty products worth more than 240 million won were purchased, which is the most among 23 public institutions participating in the 'Win-Win for Knowledge Products & Local Economy' campaign.





Going day to the Traditional market

Homepage for Direct Transaction of Agricultural Products at EWP

Environmental Protection Activities in the Areas near Power Plants

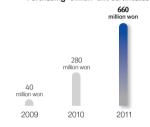
EWP is minimizing the impact on environment with an eco-friendly management, and furthermore taking lead in the preservation of the natural environment in the areas near power plants to leave a clean environment to posterity. Each power plant is conducting regular environment conservation activities through '1 company 1 mountain' and '1 company 1 stream' movement, and environmental campaigns including the drawing contest for environmental painting are regularly held to promote awareness of the importance of environment among children.

Classification	Sister Relationship	Number of Activities	Number of Participants	Supported Amount (thousand won)
Cultivating Green Mountains and Streams	12 mountains and streams	32	524	5,534
Environment Protection Activities		52	741	68,769

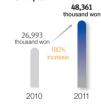
Active participation in 'Win-Win for Knowledge Products & Local Economy' campaign.



Purchasing 'Onnuri' Gift Certificates



Amount of Purchase at EWP Marketplace





'1 Company 1 Mountain' conservation Movement

Sharing Voluntary Service Activities

Sisterhood Relationship with Child Heads of Household and the Elderly with No Place to Turn to, and Support by Providing Caregivers

The voluntary service teams at each EWP power plant made sisterhood relationship with the child heads of household and the elderly who have no place to turn to living near the power plant to support with daily necessities, preparing learning materials, cleaning the house and keeping company with them. In addition, to take care of those who have difficulty in moving among the extremely poor class in the neighborhood of the power plant, caregivers are hired to help the patients lead at least the minimal human life.

■ Support for Vulnerable Social Groups in 2011

Classification	Sisterhood Relationship (person)	Number of Activities	Number of Participants	Supported Amount (thousand won)
Helping Child Heads of Household	98	709	975	139,906
Helping the Elderly with No Place to Turn to	82	495	704	78,743
Providing Caregivers	7	-	-	51,962
Total	327	1,204	1,679	340,177

Support of Welfare Facilities in 2011

Area	Number of Activities	Number of Participants	Supported Amount (thousand won)
Composite Welfare Facilities	156	770	103,166
Children's Facilities	213	840	141,340
Facilities for the Elderly	74	505	51,314
Facilities for the Handicapped	56	326	31,240
Total	499	2,441	327,060



Helping the Elderly with No Place to Turn to



Labor-Management Joint Voluntary Service at Somang Rehabilitation center

Other Voluntary Service Activities including 'Love Blood Donation Relay'

In every May since 2004, EWP circulates its workplaces beginning with the head office in the shape of a heart to have a blood donation campaign. 213 employees participated in the 8th blood donation relay held in 2011 to practice their share of love.

Also, EWP has been supporting rice for free feeding - worth 20 million won - since 2004 for Holy Family Welfare Hospital which is a free hospital for those who have no place to turn to.



영·**4824 RET** 동석발원과 함께야는 이웃사랑 **20,000,000원** (전통시장 삼품권 : 쌀 440포) (건물시장 삼품권 : 쌀 440포)

The 8th Love Blood Donation Relay

Supporting Free Feeding for Holy Family Welfare Hospital

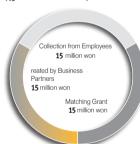
Supporting for the Self-reliance of Socially Vulnerable Group by Sponsoring Social Enterprises and Purchasing Their Products

What is needed for poor people is not mere kindness but creating jobs for their self-reliance. EWP supported for the investment in facilities at social enterprises by forming co-prosperity fund for win-win growth in order to assist the job creation for socially vulnerable groups. Also, EWP has purchased the products of social enterprises worth 600 million won.

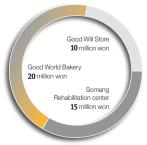


Delivery of Co-prosperity Support Money

 Amount of Money Created (45 million won in total)



■ Details of Sponsorship





Eco-friendly Green Management



We think of the preciousness of nature which embraces the world.

We think not only the convenience of today but also the life of the next generation.

As our life today has been enriched by the gift of nature, we will cultivate the earth to prepare for the better future.

EWP promises for a cleaner nature and happier mankind.



Green Management System

■ EWP Green Management Cycle



Implementation System for Green Management

Recognizing the importance of coping with climatic change for sustainable growth of the company, the top management of EWP is implementing systematic low-carbon green management by organizing a department exclusive for green management both at the head office and each workplace. Also, the Green Management Committee has been installed to secure the development possibility of the overall company including low-carbon green management. The committee is holding a meeting periodically for the consultation and debating of internal and external experts.



Responsibilities

CEO(President)	Establish the policies for green management.
Green Environment Team (Dept. in Charge)	Supervise green management. Set up implementation strategies and master plan. Reward superior staff. Support green life activities. Monitoring.
Dept. in Charge of Green Management at Workplaces	Practice green management of the workplace. Promote practice of green life. Spread good examples inside and outside the company. Support the activities of the department in charge.

Vision of Green Management

According to the Low Carbon Green Growth Act, EWP revised its 2009 master plan for green management in 2010, and is doing its utmost to reduce greenhouse gas(GHG) emissions, promote green growth, and root down green corporate culture.

A Global Leader in Power Generation Industry for Low-carbon Green Management

Reduce 10% from BAU(Business as Usual) GHG emissions by 2020 (Invest 4 trillion won in green energy.)

Carbon Management G³

GHG Reduction

Improve power generation efficiency. / Save energy. Develop technologies for reduction of GHG.

Green Growth

Expand new & renewable energy.
Establish green infrastructure.

Green Culture
Create a green workplace.
Practice green life.

Conducting Carbon Disclosure Project, a Program for Coping with Global Climatic Change

EWP has disclosed the information on carbon discharge through its carbon report and sustainability report. Especially, in this year, EWP voluntarily participated in the Carbon Disclosure Project, a project for coping with global climatic change whose headquarters is located in the UK, for the first time as a public enterprise which is not required to make a response. In doing so, the company grasped the risks and opportunities related to climatic change and transparently opened GHG emissionS, the strategies to cope with climatic change, and the performance of the company.

Top-Tier Green Management System

Environmental Management System and Green Enterprise

EWP has acquired the integrated ISO 14001/9001 certification for competitive and differentiated implementation of environmental management, and all of its workplaces have been designated as green enterprises by the Ministry of Environment with its efforts to minimize the discharge of pollutants and wastes and save energy continuously.

Green Management Performance Evaluation System

For a systematic establishment of green management, EWP has developed its own green management performance evaluation system by adding sustainability management index such as basic unit of GHG emission to ERP environment performance evaluation system to evaluate performance of green management with an objective index.

*System Composition: 3 large categories and 28 specific indexes (21 environmental indexes+ 7 sustainability indexes)

Green Management System

Green management system was established to systematically control the participation of EWP employees in the practice of green life by providing information on the effect of the reduction of GHG emission transparently. The provided information includes the green life practice of individuals and workplaces, real-time comparison of performances, status of accumulation of green mileage in each area of activity, and the information related to green management.

Classification	Area	Major Performance	Amount of CO ₂ Reduction
Individual	BMW, etc.	Participation of all employees	2,009 ton
Workplace	Car Diet, etc.	Designation and operation of a 'Day without Cars in the Precinct' - 115 days	5 ton



Green Management System



Active Purchase of Green Products

Meeting the government's recommendation on the purchase of green products, EWP is implementing the system of compulsory purchase of green products. In 2011, the company achieved 96% purchase of green products worth 2.89 billion won. A green product means a product which can save resources or reduce environmental pollution which has been certified for environmental mark or good recycling (GR) by the Ministry of Environment.

Fostering Experts for Green Growth

EWP continues to conduct professional education in each area to implement low-carbon green management such as coping with climate change and the development of new & renewable energy and related businesses. In-depth educational courses are provided to foster experts in related fields and at the same time on-line educations are offered to all employees to form a consensus on green management.

Received a Grand Prize at UNGC Value Awards

EWP was the first public enterprise to receive a grand prize in the section of eco-friendly management of UN Global Compact Value Awards in the Global CSR Conference held in Hotel Shilla last November. UNGC was established in 2000 under the branch of UN as the world's largest voluntary corporate citizen initiative with the participation of more than 100 states. EWP received high marks in the active implementation of simulated emissions trading system that designed by internal staff and the green management evaluation system.

Received a Grand Prize in Green Company Contest

In the presentation of superior cases of green management for about 190 green companies supervised by the Ministry of Environment, EWP's Ulsan Thermal Power Plant received the grand prize in 2011 following the awarding of Donghae Power Plant in 2010 for the grand prize. All the workplaces of EWP have been designated as green companies since 2005 for the first time as a power plant company, and its leading position in the efforts for green management including coping with climate change is well recognized.



Greenhouse Gas Emissions

Goals of GHG emissions reduction

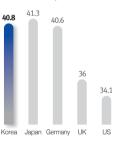
Due to the characteristics of the power generation sector, its GHG emission depends on the nation's electricity demand and power mix and there can be no inventory. So it is more reasonable to set a goal for reduction with GHG emissions intensity. The company's goal is to reduce its intensity up to 10% from the base period value(average of 2007~2009) by 2020. To achieve this, all the capabilities for the reduction of GHG are collected by improving the efficiency of power generation facilities, expanding new & renewable energy, expanding investment in R&D of green technologies such as collection and storage of CO2, and expanding programs for the practice of green life.

World-class Plant Efficiency

EWP's power plants are mainly composed of new facilities with world-class operation abilities. As a result, they maintain the highest plant efficiency, which results in the less emissions. Especially, Dangjin Power Plant Units #1~#8, which take 63% of all the power generation capacity of EWP with 4,000MW in total, were completed between 1999 and 2007 and have the world's highest efficiency among coal plants. In addition, the New-Ulsan Combined Heat and Power Plant (950MW) will be completed in 2014 with 55% of plant efficiency. The Dangjin Power Plant Units #9 and #10 will be completed in 2015 and 2016, which will upgrade the overall plant efficiency of EWP with a super large new concept power generation facility similar to a nuclear power plant.

Improvement in plant efficiency Reduction of GHG Green Technology R&D Expansion of new & renewable energy

■ Plant Efficiency of Coal-fired Power Plant(%)



Current Status of GHG Emissions

In 2011, GHG emissions were 41,412,000 ton-CO2, with direct emissions of 41,354,000 ton-CO2(99.8%) and indirect emissions of 58,000 ton-CO2(0.2%).

Company-wide GHG Emissions

Classification	Туре	2009	2010	2011
	Scope 1	39,271,043	41,452,688	41,377,486
Emissions (ton)	Scope 2	64,683	63,293	57,678
	Total Emissions (including head office)	39,335,725	41,515,981	41,435,164



GHG Inventory System

Coping with Climate change



Registration of small hydro-power generation project in Dangjin in the UN CDM (UNFCCC)

Reduction of Greenhouse Gas

Obtaining GHG Credits

EWP is pursuing a CDM project and a national GHG reduction registration project as a part of GHG reduction activities. The Photovoltaic Project of Donghae Power Plant was registered in the UN CDM for the first time in the world as a photovoltaic sector, and a small hydro-power generation project in Dangjin was also registered in the UN CDM in August 2009 for 5MW which used to be the largest as one unit of facility. As for the national GHG reduction registration project, a high-voltage inverter was installed in Honam Power Plant in May, 2007, which was followed by registration of new technology development by Dangjin Coal-Fired Plant in September, 2008. HRSG Waste Heat Recovery of Ilsan CHP Plant and GT Waste Heat Recovery of Ulsan Power Plant were registered in November 2009. In 2010, Fuel Cell of Ilsan CHP was registered. The Hybrid SCR of Ulsan Power Plant was registered in Dec., 2011.

Continuing Green Projects to Reduce GHG emissions

Under the Negotiated Agreement for GHG emissions that came into effect in 2011, it is impossible for a company which was assigned a goal of reduction to register a new KCER project. Also, the uncertainties in the global carbon market is increasing including the decreases in the prices of carbon credits, and the merits of CDM project have virtually disappeared as the UN decided to allow the registration of new CDM only until the end of 2012 and the registration of new CDMs from 2013 is only applied to the poorest nations. However, apart from such uncertainties, EWP continues to find out the projects to reduce GHG and making efforts to fulfill its green goal successfully. Especially, the old Ulsan Heavy Oil Thermal Power Plant is being replaced with a new Combined Heat and Power Plant to reduce about 600,000 ton of GHG emissions.

■ Status of Carbon Credits Projects

Title of Project	Registration Date	Certified Reduction (ton/year)
Donghae Photovoltaic (1MW)	Aug. 2006	690
Dangjin small hydro-power (5MW)	Aug. 2009	15,000
Honam high-voltage inverter	May. 2007	16,419
Dangjin new technology development	Sep. 2008	91,789
Ilsan HRSG Heat Recovery	Nov. 2009	52,653
Ulsan GT Heat Recovery	Nov. 2009	5,547
Ilsan fuel cell 1st stage	Apr. 2010	6,476
llsan fuel cell 2nd stage	Nov. 2011	7,216
Ulsan Hybrid SCR	Dec. 2011	4,749

Expanding the co-firing of Biomass

As a major short-term measure to achieve the nation's goal in reduction of GHG, EWP is actively implementing co-firing of biomass. A test in Donghae Thermal Power Plant for burning in mixture with wood chip, wood pallet and RDF (Refuse Derived Fuel) ended successfully and it will be expanded. For Dangjin Thermal Power Plant, the equipment for testing the burning of sewage sludge, which is treated at the sewage treatment facility of the local government, is under construction with a plan to begin operation in late 2012

Characteristics of Diverse Biomass Fuels

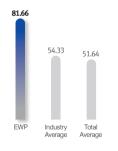
Item		Wood			SRF	
item	Wood Chip	Pellet	PKS	Organic Solid Fuel	Oili	
Shape						
Characteristics	Forest by-products, waste wood	Dry and shape wood.	Cocoa husk, seed, etc.	Dry and carbonize sewage sludge.	쓰레기 건조 탄화	
LHV (kcal/kg)	2,500~3,500	3,500~4,500	4,000	3,000~3,500	3,500~4,500	
Power Plant	Donghae Thermal	Donghae Thermal	under consideration	Dangjin Thermal	Donghae Thermal	

R&Ds regarding Climate change

In preparation for the increasing pressure of the international society to reduce GHG according to IPCC, EWP will invest 26.6 billion won by 2014 in the R&D related to cope with climate change. Through such investment, EWP will continue to secure the high technology for the reduction of GHG. Especially, in cooperation with other power generation companies, EWP will concentrate its capabilities in carbon capture and storage (CCS) and integrated coal gasification combined cycle (IGCC) that can be applied immediately to power companies. For this, EWP secured available lands in Dangjin Thermal Power Plant for CCS site and in Ulsan Thermal Power Plant for IGCC site.

No. 1 at the Evaluation of Green Management in the Power Sector

In 2010, EWP was selected as the superior company in the power generation sector in the Industry Survey for Competitiveness Index in Climate Change conducted in late 2009 by Business Institute for Sustainable Development (BISD) and Korea Energy Management Corporation (KEMCO) for 1,738 companies that consumed much energy. In addition, in the Green Management Diagnosis Evaluation conducted by the same institutes in 2011, the company was selected as No. 1 in the power generation sector to boast its differentiated capabilities to cope with climate change both internally and externally.



Implementing Step-by-Step Simulated Emissions Trading Scheme

EWP joined with other power generation companies and the Korea Power Exchange on business cooperation for simulated emissions trading scheme to actively and jointly respond to the IPCC. Also, according to the EWP action plan, EWP, for the first time as a generating company, performed a simulated emissions trading scheme with SK Group in October, 2010. In 2011, EWP participated in the test trading supervised by the Ministry of Knowledge Economy in preparation for the compulsory emissions trading system which will begin in 2015.

Performance in Emissions Trading







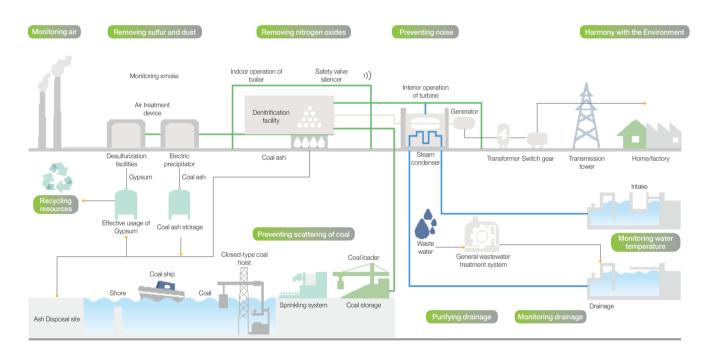
Implementation of Negotiated Agreement

EWP is under the scheme of Negotiated Agreement. In the NA, the government assigns each company the goal for GHG emission and energy consumption and examines the performance. It is a preparatory stage for the initiation of the emissions trading. EWP has prepared itself to minimize risks caused by the execution of the system by participating in the test project of NA and establishing a countermeasure prior to the system. The year 2011 was the preparation stage of the establishment of the general system for goal establishment and performance in 2012. The specifications for GHG emissions and energy consumption between 2007 and 2010 were prepared, and they were submitted to the GHG registration center in the Ministry of Environment in June after obtaining the verification of a certified verification agency. In June, 2011, EWP negotiated with the representative of the government for the decision of the goal, and submitted its plans for the fulfillment of the goal in December, keeping pace with the government's schedule for the implementation of the system.

Efforts to Minimize Environmental Impacts

Efforts to Minimize Environmental Impacts

EWP is producing electricity using coal, heavy oil and LNG. It is inevitable that various environmental pollutants emits according to the consumption of the fuel for power generation. EWP is minimizing pollutants by operating facilities that can reduce environmental pollutants and recycling wastes.



Classification	Coal Ash	Desulfurization Gypsum	Waste Water	
Q'ty	2,122,000 ton	420,000 ton	2,809,000 ton	
Recycled Q'ty	1,368,000 ton	405,000 ton	1,108,000 ton	
Recycling Rate	64.5%	96.4%	42.0%	
Power generation water	Limestone	Magnesium hydroxide	Chemicals	
1 ower generation water	Linestone	Magnesiam nyaroxide	Officialis	
12,417,000 ton	316,700 ton	46,800 ton	17,100 ton	

Fuel for power generation		Emissions		Output	
Bituminous coal	15,958,000 ton	SOx	13,311 ton	Power generation Q'ty	53,637Gwh
Anthracite coal	781,000 ton	NOx	28,050 ton	Power transmission Q'ty	51,116Gwh
Heavy oil	708,000 kL	Dust	671 ton		
Diesel oil	14,500 kL	CO2	41,013 ton		
LNG	1,622,000 ton				

Proper Restrictions of Air and Water Pollutants

The pollutants produced in the process of power generation can be largely divided into air pollutants, water pollutants and wastes. Air pollutants are sulfur oxides, nitrogen oxides, dust, etc. that are produced in the process of boiler combustion, and the water quality pollutants include organic pollutants and suspended solids. EWP is doing its best to reduce the amount of the emission of pollutants by setting strict criteria of its own. EWP is operating high-tech air pollution prevention facilities such as desulfurization, denitrification and dust-collecting facilities as well as the general wastewater treatment system. In addition, the coal ash produced after combustion is recycled as a raw material for cement. Most of the mercury produced by the power plant is removed by electric precipitators and desulfurization facilities and only less than 10% of the allowed amount (0.1mg/Sm3) is emitted.

Facilities treating air pollutants

	Desulfurization facilities		Denitrification	Denitrification Facilities		Dust Collector	
Power Plant	(to remove sulfur oxides.)		(to remove nitrogen oxides)		(to rem	(to remove dust)	
	Units installed	Туре	Units installed	Туре	Units installed	Туре	
Dangjin Thermal	8	Wet limestone-gypsum method	8	SCR	8	Electric Precipitator	
Ulsan Thermal	0	Mark Connection of the second	3	SCR	— 6	Electric Precipitator	
	3	Wet limestone-gypsum method —	2	SNCR			
Hanna Thamas	0	Manager and the second and a second and	2	SCR	0	Electric Description	
Honam Thermal	2	Magnesium hydroxide method —	2	SNCR	- 2	Electric Precipitator	
Donghae Thermal	2	Desulfurization in a dry furnace	-	-	2	Electric Precipitator	

^{*}SCR: Selective catalytic reduction, SNCR: Selective non-catalytic reduction



Cleansys



Drill for cleaning ocean pollution

Environment monitoring system

All the power plants of EWP are subject to the installation of CleanSYS(Smokestack Tele-Monitoring System). EWP is operating a CleanSYS to monitor pollution emissions in real-time. Information on pollution emissions is transferred on-line to the control center of the Environmental Management Corporation in real time. The system is linked with an environmental monitoring system within the plants to check information on emissions through smokestacks, and the surroundings, including water quality, around-the-clock.

Coping with leakage of chemicals and oil

To prevent environmental accidents, EWP has established the procedures of coping with each kind of environmental accident, and is holding exercise for leakage of toxins and oil every year to take prompt measures upon accident. Also, EWP is preparing itself for emergencies by placing a water surface cleaner consigned to Korea Marine Environment Management Corporation. There have been no accidents of the leakage of oil, wastes or harmful materials.

Real-time Monitoring of Docks and Coal Yards

While unloading docks and coal yards monitoring occurs in real-time. Unloading is observed and monitored through CCTV, and the information is reported to the management to check for the environmental impact and to prevent environmental accidents. Real-time information through coal yard CCTVs facilitates the management of coal storage, coal quality and reduces spontaneous ignition. Through the system EWP is endeavoring to minimize the environmental impact on nearby areas.

Treatment of Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are treated legally according to Basel Convention and the Law in the Movement of Wastes across National Borders and Their Treatment. PCBs are contained in transformer oil, which is gradually banned by the voluntary plan to eradicate PCBs. 501 tons of wastes containing PCBs were treated safely until the end of 2011.

■ Treatment of wastes according to Basel Convention

Period of treatment	Treated Q'ty (ton)	Country of treatment	Treatment cost (100 million won)
Sep. 2005~Apr. 2006	25.12	France	0.85
Jan. 2007~Aug. 2007	10.81	Belgium	0.51
Jan. 2009~Dec. 2009	54.55	Korea	0.26
Jan. 2010~Dec. 2010	65.98	Korea	0.32
Jan. 2011~Dec. 2011	344.55	Korea	1.91
Total	501.01		3.85

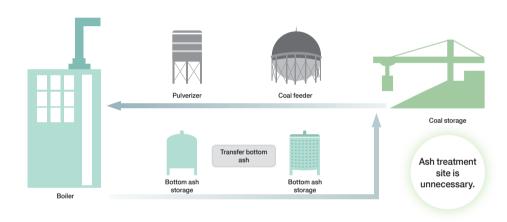
Use of chemicals

More than 30 kinds of chemicals are used at a power plant for the prevention of corrosion of power generation facilities, pure production and treatment of waste water. To reduce the quantity of chemicals used, EWP has adopted hydrazine-free system, oxygen treatment method, etc.

Classification	Unit	2009	2010	2011
Power generation	GWh	50,190	54,135	53,637
Amount of chemicals used	Ton	19,475	12,625	17,130
Intensity	Ton/GWh	0.388	0.233	0.319

Recycling waste resources through re-combustion of bottom ash

The bottom ash of a boiler contains unburned carbon. The technology for its complete combustion by putting it back into the boiler has been applied to the design of Dangjin units #9 and #10 to reduce the quantity of bottom ash. As a result, the lifespan of the ash pond will be extended and the consumption of coal for fuel will be reduced.



Use of recycled raw materials

EWP recycles such wastes as coal ash, gypsum or waste oil that are produced in the process of power generation as a way for profit creation. In addition, the company is making efforts to increase recycling continuously and curtail the treatment costs by diversifying the usage of recycling, continuing R&D, searching for new usage, etc.

Recycling coal ash and desulfurized Gypsum

Classification	Unit	2009	2010	2011
Recycled plaster	1,000 ton	425	414	405
Ratio of recycled coal ash	%	65.7	58.0	64.5
Profits created by recycling	1,000 won	107.0	77.9	77.5

Usage of service water and recycling waste water

The service water used at a power plant is supplied from the river and dam near the workplace. It is used for the water supply for boilers, cooling water for machines, desulfurization of facilities and other potable water. A general wastewater treatment system, which treats the wastewater in physical and chemical ways, is installed at every power plant. The wastewater is reused for process water or discharged into the sea, at a level lower than the standard water quality for discharged water. EWP is making efforts to solve the problem of water shortage by reducing the amount of wastewater or raise the percentage of reuse through the application of new technologies to the process of wastewater treatment. In 2011, we recycled 1.18 million tons of wastewater.

Quantity of water intake and usage of service water at power plants

Raw Water (ton)	Source of water
6,583,411	Boryeong Dam, Sambong Lake
1,715,055	Nakdong River
1,200,906	Juam Dam
263,148	Dalbang Dam
2,654,611	Han River
12,417,131	
	6,583,411 1,715,055 1,200,906 263,148 2,654,611

Quantity of usage of raw water and quantity of recycled wastewater

Year	Outrot	Raw Water		Wastewater	
rear	Output	Usage (1,000 ton)	Intensity (ton/GWh)	Treated Q'ty (1,000 ton)	Recycled Q'ty (1,000 ton)
2009	48,383	8,995	185.9	2,266	1,276
2010	54,136	11,821	218.4	2,570	1,197
2011	52,650	12,417	235.8	2,885	1,181

Environmental Impact Assessment

EWP is conducting environmental impact assessment thoroughly to predict all kinds of environmental influence that may occur in the process of the construction and operation of a power plant and evaluates them comprehensively to protect the environment and ecological system.

Post Environmental Impact Assessment for Power Plants

Classification	Agency	Examined items	Assessment period
Dangjin #1~8	Korea Engineering	Spread of hot cooling water, air quality, noise, soil, marine water and sediment quality, marine ecosystem, agricultural products,	July 1994~ Dec. 2017
Dangjin #9~10	Consultants Corp.	land plant, eco-friendly circulation of resources	Dec. 2009~June 2021

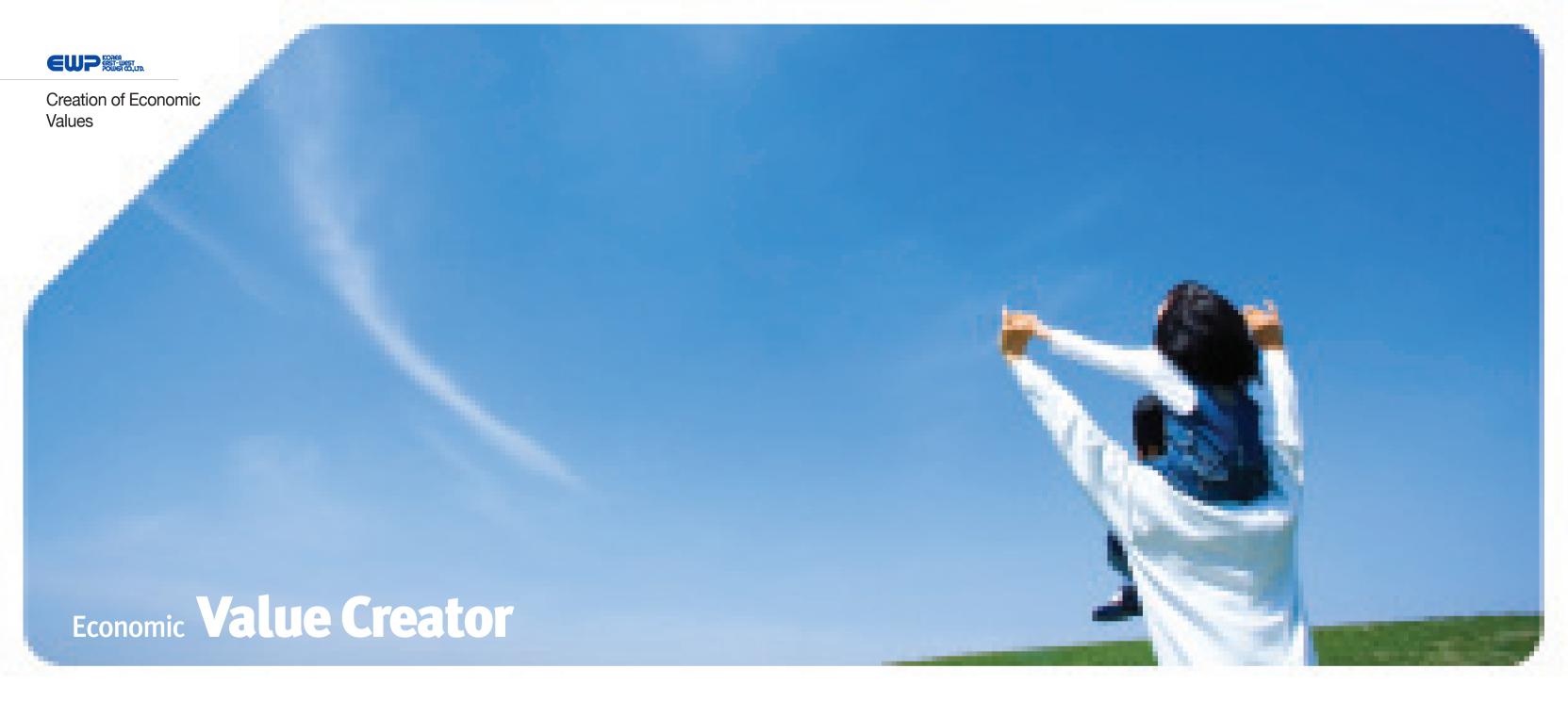
Environmental Events

To practice their love of nature, employees of EWP are carrying out diverse environmental conservation programs including nature purification activities, '1-company 1-shore' cultivation and feeding wild animals. In addition, EWP is operating green environment class for the students living near its power plants to teach them, in a fun way, about the principles of power generation and waste water treatment through experiments. Also, EWP publishes environmental newsletters semi-annually in each power plant to reinforce communication with the local communities.

Classification	Sister Relationship	Number of Activities	Number of Participants	Supported Amount (thousand won)
green mountains and streams	12 mountains and streams	30	623	12,102
Environment protection activities		52	887	84,441







We will take one step in advance for a future filled with hope.

EWP enriches our life realizing our dreams with electricity.

Through value-creating management based on differentiated technologies and reinforced competitiveness, EWP is energetically growing into a global energy company.

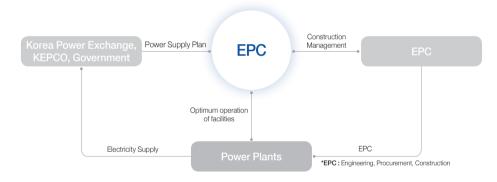


Stable Electricity Supply

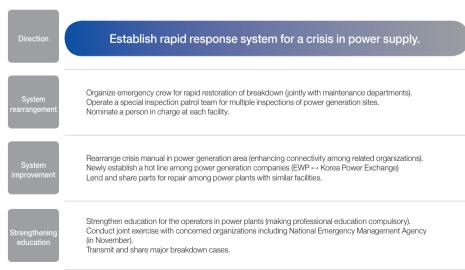
Strengthening efforts to cope with the crisis in electricity supply

Sep. 15, 2011 was a day which left an unforgettable memory for the power industry of Korea. The honor and pride of power generation companies, which had boasted of supplying electricity at cheap prices with the world's best efficiency and the least loss in power transmission and distribution, were damaged. Though the power plant companies including EWP were not directly responsible for the circular blackout as they observed the general rules and regulations, they established a crisis manual for power supply and operated 24-hour emergency working team during peak seasons in order not to repeat the same thing in the future. In addition, EWP is constructing Ulsan New Combined Heat and Power Plant which is a low-carbon clean energy source to secure stable power supply capacity and reduce GHG emission basic units.

■ The system for stable power supply



Crisis management for power supply



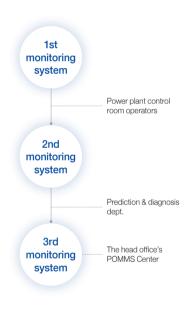
Timely construction of new power plants

Dangjin Units #9 and #10 (2,000MW) are now under construction to be completed in 2016 by the national demand for expansion of facilities according to the rapid rise in electricity demand. In addition, the superannuated and high-cost Ulsan Heavy Oil Thermal Power Plant (Units #1~3) will be replaced by low-carbon, high efficiency Ulsan #4 Combined Heat and Power Plant (950MW) planned for completion in 2014.

Operation of the Process of Examining Hightech Power Plant Facilities

EWP is utilizing a future facility monitoring system and has actively introduced scientific analysis techniques and the latest maintenance technologies on the basis of sufficient professional technological manpower to perform optimum operation and maintenance appropriate for the condition of the facilities.

In addition to the 1st monitoring conducted on the basis of the experience and technological power of the operators of the power plants, EWP is doing the 2nd monitoring to prevent fatal accidents in power plant facilities by sensing the problem of the facilities in advance with the application of intelligent algorithm to the system monitoring the operation of the power plant facilities; and the 3rd monitoring system designed to prevent emergent breakdown through the monitoring at the head office's POMMS Center. Through such triple



monitoring system, EWP has minimized blind spots in facility monitoring and enabled stable operation of facilities. Moreover, EWP has developed a smart solution by itself to prevent facility breakdown and performance degradation.

An excellent availability ratio and forced outage rate

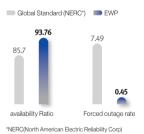
EWP has established a unique operation monitoring system and a multiple monitoring system for operational condition for early discovery and recovery of the problems in facilities, and accumulated technologies for diagnosis of problematic facilities. As a result, EWP has achieved an availability ratio and a forced outage rate that are much more superior to those of global standards.

In addition, EWP is boasting excellent availability ratio by reducing construction period and prolonging the cycle of maintenance through perfect operation process management while conducting preventive maintenance. EWP's average yearly maintenance dates are 12.5, which is the shortest level in the world.

Expanding Own Engineering for Technological Self-reliance

EWP used to consign the original design of power plant facilities to external organization and mainly handled the operation and management of power plants. However, to upgrade the technological competitiveness of the company and promote advancement into overseas businesses, EWP is reinforcing its engineering capabilities gradually by designing Dangjin #2 small hydro-power generation project and the 30MW biomass power plant in Donghae.

Global comparison (Unit: %)



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Supply of Fuel

■ Fuel Supply Monitoring System



A power plant separately purchases irregular coals that cannot be used independently, and blend them in the power plant to produce the standard kinds of coal appropriate to be used in the power plant.



The costs for fuel purchase occupy more than 70% of the total expenses of EWP. So the supply of fuel is very important. EWP makes efforts to stabilize fuel supply by diversifying source of supply and maintaining appropriate inventory and at the same time takes measures to save fuel costs in order to suppress the rise in electric charges to the utmost.

Main Fuels (2011)

Bituminous Coal	Anthracite Coal	LNG	Oil
15,923,000 ton	802,000 ton	1,607,000 ton	736,000 ton

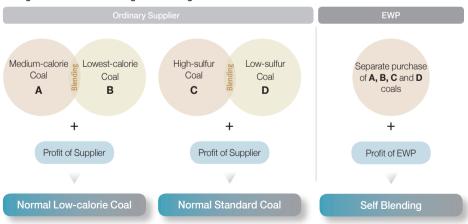
Efforts for Stable Supply of Fuel

The fuel for EWP is mainly sourced at the two countries of Indonesia and Australia, which takes about 80% of the total. To improve stability of supply by reducing reliability on a certain source of supply, the sources are expanded further to the U.S., Russia, etc. reducing costs. Also, managing appropriate inventory utilizing realtime inventory system and shipping management system contributes to the stable supply of fuel.

Realizing Cheap Electricity

Electricity has been supplied under production cost due to the continued rise in fuel costs and the regulation of electricity charges. Accordingly, it is necessary to take proactive measures and EWP has increased efforts to save fuel costs. Through such efforts as saving fuel costs by self-blending, reducing freight by using ships exclusive for fuel transportation and improving the economic value of mixed coal. As a result, EWP realized the lowest costs of fuel among power plant companies alleviating the pressure for price rise.

Diagram of Cost Reduction through Self-Blending



Future Growth Business

Development of New & Renewable Energy

Major Sources of New & Renewable Energy

Photovoltaic Power

Solar cells convert sunlight directly into electrical energy





Cleansys

The turning force of windmill is changed into electricity.



The flow of high tide and low tide is



Small dams are used for waterpower



Chemical reaction of oxygen and hydrogen is used.



Woody biomass fuel is used.

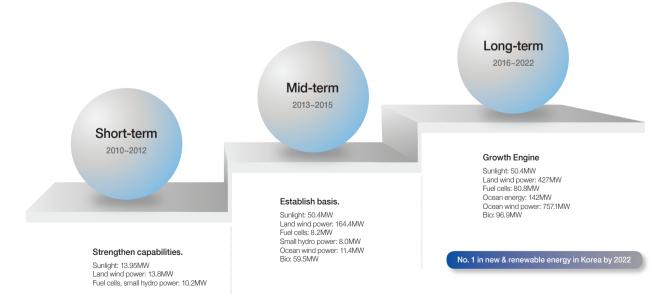


Combustible gas in food garbage



Combustible wastes are used as

Step-by-step Plans for New & Renewable Energy



Major Projects

Fuel Cell

The unused space in the precinct of Ilsan Combined Heat & Power Plant was used to construct eco-friendly high-efficiency fuel cell facility step by step for an operation of 5.2km facilities in total. The heat generated during the operation of the equipment is retrieved to be offered to the nearby consumers at cheap prices contributing to the efficient usage of energy. Especially, for the first time among power generation companies, EWP has secured an independent technology in fuel cell sector by transferring O&M technology. Through this, the company is focusing in securing new growth engines with the development of fuel cell business both home and abroad and advancement into O&M business.

Photovoltaic Power

EWP has constructed and is operating high value added rooftop-style photovoltaic power generation facilities without environmental damage by using the existing buildings including the parking lot and roof of warehouse in Donghae Thermal Power Plant (1MW), the roof of Dangjin Thermal Power Plant's turbine building (1MW), the roof of Dangjin City Waste Landfill Building (1.3MW), and the roof of the warehouse in the container berth in Gwangyang Harbor. As a result, EWP is contributing to the effective fulfillment of the compulsory amount of Renewable Portfolio Standard (RPS). Especially, in the RPS business, EWP has successfully implemented 20MW photovoltaic power generation business at Renault Samsung Motors which is the largest capacity of its kind in Korea to develop new business, accumulate sufficient technology in the area of construction and operation, and lead the win-win growth in photovoltaic power generation industry by a joint development with a professional private photovoltaic power generation company.

Construction of Wind Power Plants

EWP is focusing on the development of on-shore wind power plants close to the grid parity. The 1st stage Gyeongju Wind Power Plant (16.8MW) has been launched to construct an eco-friendly power plant, and the construction of the 2nd stage Gyeongju Wind Power Plant (20MW), Gangneung Daegiri Wind Power Plant (24MW), Daeseongsan Wind Power Plant (34MW) and Jeongseon Imgye Wind Power Plant is being considered. In addition, the company is participating in the 3MW wind power plant R&D mission in the West Coast and the construction of 2.5GW off-shore wind power plant complex supervised by the Ministry of Knowledge Economy to contribute to the technological development for land and ocean wind power industry in Korea. EWP is also fostering professional manpower for the development of wind power business to focus on technological independence and commercialization.

Bio Energy

Grid Parity

fossil energy

A point where the price of the electricity produced

same as the price of the electricity produced by

EWP is making continuous efforts to minimize the cost for the fulfillment of the compulsory amount of RPS. The company is constructing Donghae 30MW Biomass Power Plant, the largest capacity of its kind in Korea, by using waste woods which are simply buried and the residual materials in forest that are left in the mountains due to the high cost of disposal. In addition, it is considering the construction of power plants to be operated by co-firing of biomass in Dangjin Thermal Power Plant and Donghae Thermal Power Plant as well as a 5MW bio gas turbine power generation facility in a filled-in ground in the metropolitan area using the first and largest food garbage waste water in the world making continuous efforts to minimize the cost for the fulfillment of the compulsory amount of RPS.

Ocean Energy such as Small Hydro and Tidal Power

EWP has actively promoted the R&D projects with domestic research institutes to improve the technological power of Korea in tidal power generation. A 1MW pilot tidal power plant has been constructed in Uldolmok Waters for the first time in Asia, and a large capacity tidal power plant (14.5MW) is being promoted on its basis. In addition, a 5MW small hydro power generation facility has been completed by using the outlet which leads to the sea through a cooling system. A 3MW small hydro power generation facility is under construction for the 2nd stage, and the development of a 254MW tidal power plant is being propelled for the usage of ocean energy.

Wastes Energy

EWP is carrying forward 100km Samcheok SRF Power Plant, the largest of its kind in Korea, which uses the solid recovery fuel (SRF) produced by recycling of buried and burned waste resources among the combustible wastes occurring in living and workplaces, a 22km SRF power plant in a filled-in ground in the metropolitan area a 20km SRF Combined Heat and Power Plant in Wonju. As a result, EWP creates a composite synergy effect by fulfilling the compulsory amount of Renewable Portfolio Standard (RPS) and increasing environmental convenience at the same time.



Samcheok SRF Power Plant

Development of Overseas New & Renewable Energy

EWP fulfills its social responsibilities and creates profits at the same time by continuously developing overseas new & renewable energy areas such as wind power and small hydro power. A representative business is the investment in the wind power plants in the Philippines, where EWP will construct 8 wind power plant complexes (280MW) in areas including Philla in cooperation with Alternergy, a local Philippine company. The project is the first power plant business in the area of new & renewable energy propelled after the enactment of the Law on New & Renewable Energy in the Philippines. The project is expected to contribute greatly to the formation of a more friendly relationship between the governments of Korean and the Philippines through joint assistance. In addition, Salkit Wind Power Plant in Mongolia and Langogan small hydro power project in the Philippines are also promoted by EWP to realize green energy in the global stage.



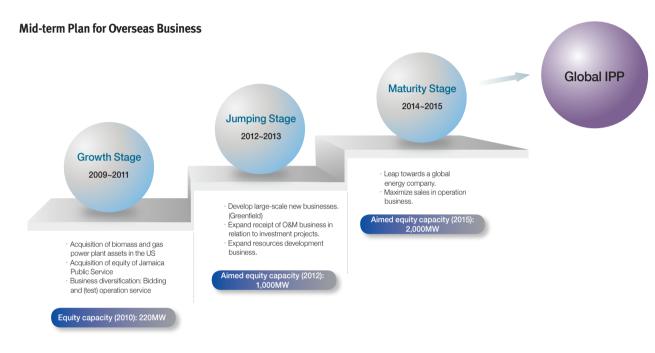
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■ Projects for the Development of New & Renewable Energy

Classification	Projects	Date of (expected) Completion
	1.0MW photovoltaic power generation in Donghae Thermal Power Plan*	Sep. 2006
	1.0MW photovoltaic power generation in Dangjin Thermal Power Plant*	Sep. 2010
	0.1MW photovoltaic power generation in Honam Thermal Power Plant*	Jan. 2011
	0.5MW photovoltaic power generation in Ulsan Thermal Power Plant★	Mar. 2011
	1.3MW photovoltaic power generation in Dangjin Waste Landfil*	Feb. 2012
Photovoltaic Power	2.3MW photovoltaic power generation in the industrial complex in Gwangyang Harbor $\stackrel{\bigstar}{}$	Dec. 2011
Filotovoltaic Fower	12.7MW photovoltaic power generation 1st stage in Renault Samsung Motors	Jun. 2012
	0.7MW photovoltaic power generation in the warehouse of Dangjin Thermal Power Plant	Sep. 2012
	7.3MW photovoltaic power generation 2nd stage in Renault Samsung Motors	Nov. 2012
	1.0MW photovoltaic power generation in The Independence Hall of Korea	Nov. 2012
	1.3MW photovoltaic power generation in Suwon World Cup Stadium	Nov. 2012
	1.0MW photovoltaic power generation in Ulsan Bangeojin Sewage Treatment Plant	Nov. 2012
	16.8MW Gyeongju Wind Power Generation	Aug. 2012
	3MW West Coast Adaptation-type Wind Power Generation	Oct. 2012
	24MW Gangneung Daegiri Wind Power Generation	May 2013
	20MW Gyeongju Cheonghak Wind Power Generation	Aug. 2013
	50MW Jeongseon Imgye Wind Power Generation	Dec. 2013
Wind Power	40MW Pohang Seongbeomnyeong Wind Power Generation	Investigating resources
	20MW Yeongcheon Bohyeonsan Wind Power Generation	Investigating resources
	20MW Pohang Janggigot Wind Power Generation	Investigating resources
	20MW Taebaek Gadeuksan Wind Power Generation	Investigating resources
	20MW Yangsan Wonhyosan Wind Power Generation	Investigating resources
	20MW Yangsan Eomsubong Wind Power Generation	Investigating resources
	1MW Uldolmok pilot tidal power generation*	May 2009
Ocean Energy	48MW Uldolmok tidal power plant facility	In progress
	254MW Asanman Tidal Power Plant	Dec. 2019
	5MW Dangjin Small Hydro Power Plant 1st stage*	Dec. 2009
Small Hydro Power	3MW Dangjin Small Hydro Power Plant 2nd stage	Mar. 2014
	2.4MW Ilsan Fuel Cell Power Generation(1st)★	Sep. 2009
	2.8MW Ilsan Fuel Cell Power Generation(2nd)*	Mar. 2011
Fuel Cell	2.5MW Ilsan Fuel Cell Power Generation(3rd)	Nov. 2012
	2.5MW Ulsan Fuel Cell Power Generation	Nov. 2012
	1.0MW Daesan Industrial Complex Fuel Cell Power Generation (demonstration)	Dec. 2012
	30MW Donghae Woody Biomass	Mar. 2013
Bio Energy	5MW Incheon Bio Gas Turbine Power Generation	May 2013
	100MW Samcheok SRF Power Generation	In progress
Wastes	20MW Wonju SRF Power Generation	In progress
	22MW Metropolitan Area RDF Power Generation	In progress

^{*} in Operation

Overseas Business



Overseas Power Business

Utilizing its professional technologies in the construction and operation of world-class power plants learned through the execution of domestic power generation business, EWP is making efforts to participate in overseas private power generation business by advancing into the overseas market which is a new growth engine of the company. EWP expanded the domain of its overseas business in 2011 by creating profitable and significant business results including the acquisition of Jamaica Public Service, the acquisition of a natural gas power plant in California, and the receipt of order for the construction of a coal thermal power plant in Indonesia.

Overseas Power Generation Business in Operation

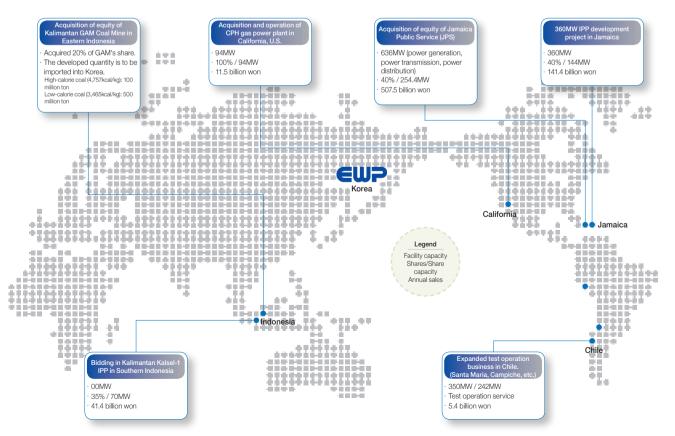
NO	Project Name	Capacity (MW)	Туре	Business Partner
1	Acquisition of equity of Jamaica Public Service (JPS)	636	M&A	Marubeni, JPS
2	Operation of biomass and internal combustion power plant	71	140.4	EMD.
3	facility in the U.S.	94	- M&A	EWP
4	Haiti diesel power plant business	30	BOO	E-POWER S.A.
5	Philippine wind power plant business	206	BOO	AVPC
6	O&M of CFBC in Cebu, Philippines	200	O&M	KSPC
7	Guam Cabras #3,4 diesel power plant PMC business	80	O&M	GPA
8	Equity investment in Cockatoo, Australia	-	Equity Investment	SK, POSCO, etc.
9	Operation service for Ambatovy CFBC power plant in Madagascar	135	Test Operation	KEPCO KPS
10	Test operation service for Campiche Coal Thermal Power Plant in Chile	240	Test Operation	POSCO Constructio

^{*} BOO: Build-Own-Operate * O&M: Operations & Maintenance

Overseas Resources Development

To keep the leadership in the fierce competition for securing resources, EWP is promoting resources development businesses in connection with overseas businesses by reviewing various investment methods jointly with professional resources development companies and the companies concerned with mine development including strategic alliance, equity investment and direct development. As a result, EWP successfully acquired the equity of Cockatoo Coal Ltd., a professional mine development company in Australia, jointly with KEPCO in Dec. 2007, and the shares increased to 6.3% in 2009. This gave EWP the right of prior purchase for yearly 2 million tons of bituminous coal and 500 thousand tons of anthracite coal for power generation from Cockatoo. At the same time, EWP secured the right to collect an average of 0.5% commission for the coals for power generation imported by Korea. In addition, EWP secured additional 2 million tons yearly of bituminous coal by acquiring 20% of the equity of GAM Coal Mine in Indonesia. Especially for this project, risks were reduced by possessing the right of repurchase in case it had no profitability considering the characteristics of the project which was in development stage. EWP will push ahead with resources development businesses to be able to supply the fuel for power generation in a stable manner and cope with the fluctuation of fuel costs.

Achievements in 2011



Continuous R&D

EWP strengthens the competitiveness of its technologies in the world and fosters core competence of the future through continuous R&D. By converting its paradigm of R&D into the type of active discovery of missions, EWP is leading technological management and promoting value-creating 4th generation R&D to create future growth engines and secure the technological capabilities for global green growth. Moreover, EWP was certified by the government in 2008 as an 'organization exclusive for R&D' for its leadership in R&D in the power generation industry.

R&D Status

To perform 'Practical R&D' through the in-house R&D competition and public national invitation of R&D missions, EWP established the 'Plan for Zero Breakdown of the Power Plant' to prevent unplanned loss by solving pending problems in each area, and promoted domestic development of core parts through the analysis of overseas purchase. In addition the company has professionalized its R&D manpower and established a global network through the exchange programs with domestic research institutes and the Electric Power Research Institute (EPRI) in the U.S. The 'R&D External Experts Pool' composed of domestic research institutes and professors is being operated to improve the quality of R&D and exchange information, and the 33 members of the Tech Solution Center are working hard to enhance the synergy in technological development. On such a basis, EWP developed Plant Operations and Maintenance Management system (POMMS), the world's first comprehensive power plant operation and maintenance working system, and is actively coping with RPS and environmental regulations by preoccupying the technologies for the usage of low-quality fuels and making R&D activities in the area of new & renewable energy for low-carbon green growth through the performance of an 'R&D with Vision'.

R&D Investment Status

Classification	2009	2010	2011	2012
R&D Investment	22.5 billion won	23.9 billion won	25.2 billion won	28 billion won

R&D Achievements

EWP has actively invested in the R&D for not only commercialization but also securing original technology. A total of 309 research projects have been conducted to save 70.4 billion won in maintenance and purchasing costs, and the amount of profit is expected to increase in the future.

Such expansion in the systematic and continuous investment in R&D was recognize by the awarding of the 'Korea Technological Innovation Management Grand Prize' and the award from the Korean government for the company's contribution to the development of power generation industry through the successful 'domestic production of the main controlling facilities for combined heat and power plant for the first time in Korea. Besides, EWP has secured a total of 151 industrial property rights including the 'method to provide trouble diagnosis and preventive maintenance for generator controlling system', and 31 cases among them have been transferred to the companies which need them to contribute to the creation of added value in addition to achieving co-prosperity with SMEs.

■ Status of Industrial Property Rights of EWP

Classification	Patent	Utility Model	International Patent	Trademark	Service Mark	Total
Numbers	105	23	1	13	9	151



The 1st R&D Competition

2012 Sustainability Report

Financial Performance

EWP is making many efforts to achieve its vision of becoming a 'Global Top 10 Energy Company'. EWP will secure competitive edge through innovation of business structure, create new growth engines through business diversification, and support the execution of strategies with an advanced management system.

Management Index

EWP's sales volume of electricity in 2011 was 51.1 billion kWh, which was 0.2% decrease from the volume of the previous year of 52.2 billion kWh. The total sales recorded 4,813 billion won which was an increase by 8.2% compared to the previous year due to the rise in unit price of sale in the first half. However, despite the continuous efforts for innovative improvement in management such as the reduction of maintenance periods and the curtailment in fuel purchasing costs, the operating profit recorded 195.6 billion won which was a decrease by 122 billion won from the previous year.

Classification	2009	2010	2011
Sales (100 million won)	39,232	44,473	48,130
Operating Profit (100 million won)	2,678	3,185	1,956
Net Profit (100 million won)	1,705	2,416	992
Assets (100 million won)	44,822	45,192	56,865
Debts (100 million won)	19,226	17,695	22,947
Capital (100 million won)	25,596	27,497	33,918
Debt Ratio (%)	75,1	64.4	67.7
Dividends (100 million won)	512	725	694
Dividends per Share (won)	832	1,281	1,226

Distribution of Economic Value

The profits created by continuous and stable supply of high-quality electricity are distributed in various types to the stakeholders including employees, business partners, creditors, shareholder, local community and the government.

Investment in Facilities

The total amount paid to business partners in 2011 was 4,045 billion won which was spent for purchase of fuel, maintenance, etc. The materials necessary for the improvement in the maintenance of power generation facilities as well as fuels of coal, heavy oil, LNG, etc. were purchased.

			단위
구분	2009년	2010년	2011년
설비투자	30,434	34,955	40,450

임금 및 복리후생비

2011년 급여·퇴직급여·복리후생비 등 임직원에게 지출한 인건비는 총 1,869억원입니다. 이 가운데 급여 는 1.434억원으로 전년 대비 6억원 감소하였으며, 퇴직급여는 전년에 비해 4억원이 감소하였습니다. 한 편, 복리후생비는 전년대비 23억원 증가한 249억원입니다.

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구분	2009년	2010년	2011년
급여	1,362	1,440	1,434
퇴직급여	96	190	186
복리후생비	187	226	249
합계	1,645	1,856	1,869

주주환원

2011 회계연도 성과에 대해서 2012년 3월 정기주주총회 결의로 694억원의 배당금을 지급하였습니다.

구분	2009년	2010년	2011년
현금배당	512	725	694

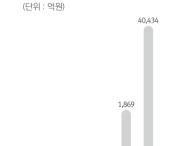
2011년 납부세액은 없으며 전년에 비해 결산서상 당기순이익이 발생하였으나 그동안 세법상 비용으로 인 정받지 못하던 퇴직급여 한도과액 등이 일시에 비용으로 인정되는 바람에 납부할 법인세가 없습니다.

구분	2009년	2010년	2011년
법인세	106	528	0
지방세	66	55	29
합계	172	583	29

사회공헌 지출

2011년 사회공헌 지출금액은 80억원이며, 이 중 약 75억원은 발전소 주변지역 지원에 관한 법률에 따라 발전소 지역 지자체와 각 발전소에서 지역경제 활성화를 위해 사용하였습니다. 그리고 임직원이 모금한 사회공헌기금과 매칭그랜트를 통해 약 5억원이 사회공헌 활동비용으로 지출되었습니다.

			단위 : 핵만원
구분	2009년	2010년	2011년
소득증대사업	1,488	4,027	2,786
공공시설사업	6,714	1,415	1,518
사회복지사업	1,497	1,161	961
육영사업	2,689	2,950	2,241
기타	800	533	515
합계	13,188	10,086	8,021



■ 경제적 성과배분



제3자 검토의견

우선 동서발전의 지속가능성보고서 발간을 진심으로 축하합니다. 저는 본 보고서가 GRI G3.1 보고서 적용기준을 준수하고 있는지, 지속가능경영의 핵심이슈인 경제성과, 환경성과, 사회성과가 충실하고 짜임 새 있게 잘 표현 되어 있는지, 핵심 이해관계자와 핵심이슈가 가감 없이 잘 분석되고 정리 되었는지를 중심으로 검토 했습니다. 이번에 발간하는 보고서를 보면서 지속가능경영에 대한 동서발전의 열정과 노력을 충분히 느낄 수 있었습니다.

경제성과에 있어서는 매출액 기준 지속적인 성장을 일궈낸 실적과 이를 달성하기 위해 추진해 온 혁신 활동들이 잘 정리되어 있어 인상적입니다. 탄탄한 경영실적과 함께 제시한 태양광발전, 풍력발전으로의 진출 등 녹색성장 동력 확보에 대한 내용도 눈에 띄는 부분입니다. 특히 동서발전이 추구하는 Global Top 10 에너지 회사 비전을 달성하기 위한 추진 로드맵을 수립하고 이를 뒷받침 할 수 있도록 기술경쟁력 확보 방안에 필수적인 R&D 투자 계획이 경영전략에 잘 반영되어 있습니다. 이는 목표달성을 위한 경영진의 굳은 의지를 표출한 것으로 여겨집니다.

환경성과 분야에서는 온실가스나 환경오염에 취약한 발전 산업의 특성을 극복하고자 하는 노력을 넘어 발전분야의 새로운 표준모델을 제시하고 있습니다. 우선 발전기업으로서 기후변화에 적극 대응하고 차원 높은 녹색경영을 실천함은 당연한 일이겠지만, CEO부터 임직원 모두가 참여하는 녹색경영체계를 구축하고, 높은 수준의 녹색경영시스템 운영을 통해 실행과제를 체계적으로 추진하고 있는 모습이 돋보입니다. 금년도에 기후변화경쟁력 우수기업으로 선정된 것에서 알 수 있듯이 녹색투자, 발전효율향상 및 신재생에너지 비중 확대 등으로 이어지는 그 동안의 온실가스 감축 노력이 경영성과와 연계되어 대외적으로 서서히 인정 받고 있는 것으로 여겨집니다. 또한 전기를 생산하는 과정에서 화석 연료 사용에 따라 필수불가결하게 발생되는 환경오염물질 발생을 최소화 하기 위해 저감설비 및 환경감시시스템을 운영하는 것도 긍정적으로 보여집니다.

사회성과 분야에서는 협력업체와 파트너십경영을 통해 동반성장 협력 모델을 만들어 나가는 모습이 좋아 보입니다. 특히 전담조직인 동반성장 센터를 운영하여 협력업체 핵심기술 연구개발지원, 국내외 판로 개척 및 구매 확대 지원을 통해 동반성장을 실천하는 것은 매우 바람직한 접근 입니다. 또한 동반성장 협의체와 중소기업협의회를 구성하여 상생과 나눔을 위한 지역사회 후원활동, 취약계층 자립지원 등을 비롯한 사회공헌 활동을 함께하고 있다는 점도 특기할 사항입니다. 이러한 노력은 이해관계자들에게 발전사업의 공감대를 확산시켜 중장기적으로 회사의 발전에 기여가 될 것입니다.

주요 이슈분석은 이해관계자를 고려하여 체계적으로 정리 된 것으로 보입니다. 더 나아가 소통을 위한다양한 활동을 지속적으로 수행하여 이해관계자들로부터 진정성을 인정 받고, 각계각층의 다양한 관점을 회사의 전략과 연계하여 동서발전의 지속가능경영이 더 공고해지기를 기대합니다. 전기가 어둠에 불을 밝히듯이 우리사회에는 따뜻하고 믿음직한 회사, 고객에게는 사랑 받는 회사가 되기를 바랍니다.

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	S08	법과 규제 위반에 따른 벌금 액수 및 비금전적 제재 건수	해당사항없음	

지표		지표내용	페이지	비고
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	PR2	고객의 건강과 안전영향관련 규제 및 자발적 규칙위반 건수	해당사항없음	
	PR3	절차상 필요한 제품 정보 유형 및 이에 따르는 제품 비율	해당사항없음	
	PR4	제품/서비스 정보 및 라벨링과 관련된 규제 및 자발적 규칙 위반건수	해당사항없음	
사회성과 제품)	PR5	고객 만족도 평가 설문 결과 등 고객 만족 관련 활동	21, 22	
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	PR7	광고, 판촉, 스폰서십 등 마케팅 커뮤니케이션과 관련된 규제,표준 및 규칙위반건수	36	
	PR8	고객개인정보보호 위반 및 고객 데이터 분실과 관련하여 제기된 불만건수	해당사항없음	
	PR9	제품 및 서비스 공급에 관한 법률 및 규제위반으로 부과된 벌금 액수	해당사항없음	
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	EU2	전원별 발전량	4	
	EU3	전압별 송배전선 길이	해당사항없음	
	EU4	일반가정, 산업, 상업, 기관 고객 분류 및 개체수	해당사항없음	
	EU5	배출량 거래시스템 하 배출권 할당분	해당사항없음	
	EU6	단기, 중기 전력가용성 및 신뢰성 보장 계획	60, 61	
	EU7	전력 수요관리 프로그램 실시 여부 및 현황	해당사항없음	
	EU8	안정적인 전력공급 및 지속가능발전을 위한 R&D지출 금액 및 활동현황	69	
	EU9	원자력 발전소 조업 중지 규정	해당사항없음	
	EU10	장기 전력수요 예측량에 따른 전원별 설비 확충 계획	6	
	EU11	전원별 화력발전 효율성	49	
	EU12	전체 에너지 대비 송배전 손실률	해당사항없음	
	EU13	생물 다양성 보호활동 지역의 생태 현황	57	
	EU14	전문인력 확보를 위한 인사관리 프로세스 및 프로그램	23	
전력산업 	EU15	직군별, 지역별 5~10년이내 퇴직이 예정된 임직원 비율	_	
추가지표 EUSS)	EU16	임직원 및 하청업체 직원의 보건안전 보장을 위한 정책 및 지침	31	
	EU17	발전소 건설 및 정비운영 하청인력의 근로시간	_	
	EU18	보건안전 교육을 받은 하청업체 직원 비율	31	
	EU19	이해관계자의 에너지 수급계획과 발전 인프라 건설 관련 의사결정과정 참여현황	16	
	EU20	이주민 관련 정책 및 경영방침	40	
	EU21	재난, 방재대책/위기대응, 긴급복구 관련 교육등 프로그램	54	
	EU22	프로젝트별 발생한 이주민수	해당사항없음	
	EU23	전력보급률 개선을 위한 프로그램(정부공조포함)	해당사항없음	
	EU24	전력수요 소외계층에 대한 전력공급지원 프로그램	해당사항없음	
	EU25	법적제재를 받았거나, 법정 소송중인 일반사망 혹은 재해사고수	해당사항없음	
	EU26	송배전망이 없는 지역에 살고 있는 인구수	해당사항없음	
	EU27	전기료 체불로 인한 전력공급중단 가구수	해당사항없음	
	EU28	발전소 정지 빈도	61	
	EU29	평균 발전정지 기간	61	
	EU30	발전원별 발전소 평균 가동률	6	

UN 글로벌콤팩트 10대원칙 이행사항



한국동서발전은 투명경영과 기업의 사회적 책임을 다하는 기업으로 도약하기 위하여 2006년 8월 UN Global Compact에 가입하였으며, UN Global Compact가 지향하는 인권, 노동, 환경, 부패의 4대 분야 10대 원칙을 준수하고 있습니다.

구분	원칙	관련규정 및 준수내용
인권	기업은 국제적으로 공표된 인권의 보호를 지지하고 존중한다	단체협약서 윤리헌장 윤리강령 제19조, 제21조 행동강령 제27조
	기업은 인권 침해에 가담하지 않는다.	기업이념 단체협악서 행동강령 제27조
	기업은 실질적인 결사의 자유 및 단체교섭권을 인정한다.	단체협약서
	기업은 모든 형태의 강제 노동을 철폐한다.	단체협약서 윤리강령 제22조
누 도	기업은 아동 노동을 효과적으로 철폐한다.	단체협약서
노동	기업은 고용과 업무에서 차별을 철폐한다.	단체협약서 윤리한장 윤리강령 10조, 20조 행동강령 제7조
	기업은 환경문제에 대한 예방적 접근을 지지한다.	환경비전 환경방침 ISO 14000인증 윤리한장 윤리강령 제26조
환경	기업은 더 큰 환경 책임강화에 솔선하여야 한다	환경방침 윤리헌장
	기업은 환경친화적인 기술의 개발과 보급을 지원하여야 한다.	환경비전 환경방침 윤리한장
반부패	기업은 금품 강요 및 뇌물수수 등을 포함하는 모든 형태의 부패에 반대한다.	윤리강령 제6조, 제8조 행동강령 제3장

주요 수상실적 및 협회 가입현황

2011 주요 수상실적

수상내역	수여기관	수상월	비고
여성지위 향상유공	여성가족부	7	
아이낳기 좋은세상 경진대회	보건복지부	8	
Unit of the Year	괌전력청	8	
UN 글로벌컴팩트 친환경부문 대상	UNGC	11	
동반성장분야 유공기업	지식경제부	11	

협회 및 단체 가입현황

가입단체	가입근거 및 목적
(사)한국감사협회	최신 감사기법 등 습득 및 정보교류
윤경포럼	사내 윤리문화 정착 및 투명경영체제 확립
제안활동협회	사내 제안 · 소집단 활동 활성화를 위한 정보획득
EEI(Edison Electric Institute)	美전력산업 정보입수 및 협력관계 구축 등
UN Global Compact	글로벌 기업으로서의 위상 제고
한국플랜트협회	사업개발 관련 정보 획득 및 참여 기회 모색
한국국제협력단	사업개발 참여 기회 모색
한국경영자총협회	입법,행정부 등 최신 노동 동향 적기입수
한국무역협회	무역업무관련 자료 및 정보협조
한국전력거래소	전력거래 관련 업무협의
대한기계학회	학술대회, 강연회를 통한 기계관련 산업의 국내외 동향 파악
대한전기학회	관련산업계 첨단 학술 및 기술정보교류
한국에너지재단	기업의 사회적 책임 이행 및 에너지 복지프로그램 효과적시행,
한국표준협회	선진화된 품질경영기법 도입 및 사내 품질경영 마인드 확산
대한전기협회	발전설비의 신뢰성확보를 위한 기술적 제도적 사항 규정
한국신재생에너지 협회	신재생에너지 분야의 정보교류
한국풍력발전 산업협의회	기업간의 정보교류 및 홍보 및 협력사업공동추진
전력원가협회(EUCG)	해외전력정보 입수
한국프로젝트 경영협회	프로젝트 수행능력 제고
지속가능경영원	기업의 지속가능한 발전 도모
한국 CCS 협회	이산화탄소 포집 및 저장기술 활성화

독자의견 설문지

한국동서발전은 본 보고서를 통해 지속가능경영활동에 대해 최대한 공개하고자 하였습니다. 보고서 내용의 충실도와 완성도를 높이기 위해 여러분의 소중한 의견을 듣고자 합니다. 작성해 주신 내용은 향후 발간될 보고서에 성실히 반영하도록 하겠습니다.

1. 귀하의 직업은 무엇입니까?

① 투자자/주주 ② 협력업체 ③ 지역주민 ④ NGO ⑤ 전력그룹사 임직원

⑥ 학계 ⑦ 정부 관계자 ⑧ 한국동서발전 임직원 ⑨ 기타(

2. 본 보고서 전반에 대한 평가

□ 좋다 □ 보통이다 □ 나쁘다

3. 본 보고서에 대한 이해 정도

□ 쉽다 □ 적당하다 □ 어렵다

4. 본 보고서에 포함된 정보의 양

□ 많다 □ 적당하다 □ 적다

5. 본 보고서에서 가장 흥미 있게 읽은 부분은 어느 부분입니까?

□ 동서발전의 지속가능성 □ 경제부문 □ 환경부문 □ 사회부문

6. 본 보고서에서 보완되어야 할 부분이 있다면 어느 부분입니까?

□ 동서발전의 지속가능성 □ 경제부문 □ 환경부문 □ 사회부문

7. 한국동서발전의 지속가능경영 보고서에 대한 기타 의견을 자유롭게 적어주십시오.

여러분의 협조에 감사드립니다.

의견은 Fax(02-3456-8519)나 전자메일(sustainability@ewp.co.kr)로

보내주시기 바랍니다.