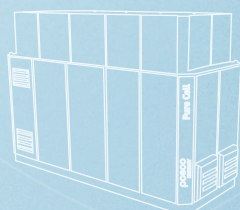
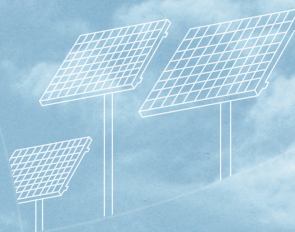


Energy for a Better World

Sustainability Report 2012



About this report

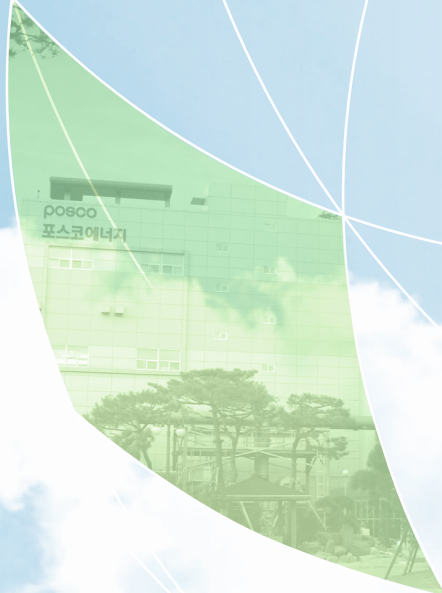
This report includes performance data collected from January 1 to December 31, 2012. To ensure the continuity of the issues, some sections include data from 2013. Data accumulated from 2010 to 2012 is presented to show a trend analysis of the quantitative performance. The report covers performance of the domestic establishments including the Seoul head office and some subsidiaries.

This report was prepared based on the GRI (Global Reporting Initiative)* Guidelines and ISO 26000. The AA1000SES (Stakeholder Engagement Standard) was referenced to collect the stakeholders' opinions and derive key issues.

*GRI G3.1 Guideline, EUSS (Energy Utility Sector Supplement)

For complete reliability and impartiality, verification was provided through the AA1000AS (Assurance Standard) by an independent third-party assurance provider, Ernst & Young. The verification outcomes are described on pages 79 and 80.

The POSCO ENERGY 2012 Sustainability Report can be accessed through print or PDF version. More information on this report is available on the POSCO ENERGY website at <http://www.poscoenergy.com>.



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Cover Story



The energy that evenly brightens the world is symbolized as the sun. The wave pattern spreading outward from the sun stands for the company's passion and will for sustainability management to make a brighter world by providing cleaner energy.

A middle-aged man with short dark hair and glasses, wearing a dark blue suit, white shirt, and a yellow patterned tie, stands smiling in an office. He is positioned in front of a large wooden bookshelf. The bookshelf contains various books, including one titled 'The Coal' and another '진실록' (Jinsillok). There are also framed photographs on the shelves, one of which appears to be a group photo of people in business attire. The man's right hand is resting on the back of a wooden chair. The overall lighting is bright and professional.

POSCO ENERGY believes that
sustainability management is
no longer a matter of
will but of practice.

CEO Message

Dear Stakeholders,

I would like to express my sincere gratitude for your continued interest in and support for POSCO ENERGY. With the release of the second edition of the POSCO ENERGY Sustainability Report, I would like to share with you our efforts, performance, and social responsibility in creating shared value with our stakeholders.

In April 2012, the company changed its name from POSCO POWER to POSCO ENERGY, and renewed its commitment to become a global leading energy company with the intent to expand the business from power generation to new and renewable energy, fuel cell and energy resources.

The year 2012 witnessed the best performance of the company since its foundation in terms of growth, profit, and stability. The sales reached KRW 2.8trillion, increased by KRW 1trillion from the previous year, and the operating income recorded KRW 270billion. However, the debt ratio stood at 173%, 70% down from the previous year.

These achievements are all the more meaningful given that the company achieved its growth through not only financial performance but also environmental and social performance.

POSCO ENERGY has been making bold investments in the commercialization of green energy technologies, such as the fuel cell and the energy storage system, so that it can achieve sustainable growth through future value creation. In the case of the fuel cell, localization is now at the final stage after 7 years of the multi-phase development, with the in-house production of the key component, the Cell, expected in the near future.

In addition, the company is actively engaged in establishing an eco-friendly workplace, expanding the new and renewable energy business, and also reducing greenhouse gas emissions. The introduction of high-efficiency power facilities and air pollution control systems has led to the reduction of greenhouse gas emissions per MWh by 19% and nitrogen oxide emissions per MWh by 84% compared to 2009 levels. Moreover, the off-gas power plant, which uses the off-gas generated from a steel mill to

produce electricity, and the Waste to Energy business, which uses waste and sewage as energy sources, are all making significant contributions to the creation of environmental value.

POSCO ENERGY has been building a corporate culture of communicating, sharing, and growing together with its stakeholders. The company has been putting in efforts for shared growth through industrial ecosystem development including the expansion of the domestic production of the fuel cell and the joint development of the reaction-type steam turbine. When it comes to social contribution activities, the company has taken advantage of its energy business in setting 'environmental protection' and 'communication with local communities' as its basic directions, and engaged in programs for enhancing energy efficiency for people who cannot afford to buy energy. Moreover, it has been promoting family-friendly management throughout the workplace by opening an in-house nursery and adopting the flexible work system.

POSCO ENERGY believes that sustainability management is no longer a matter of will but of practice.

For sustainability management, POSCO ENERGY will internalize its core values of Passion, Communication, Co-Success, and Green Innovation into its management and corporate culture, create a pleasant workplace that complies with basics and principles, and become a much loved company that listens to and shares happiness with its stakeholders.

I ask for your unwavering trust and support.

Thank you.

July 2013

Chief Executive Officer

Chang Kwan Oh



Our Leadership

POSCO ENERGY annually conducts interviews with the management to confirm their commitment to sustainability management and collect their opinions on the direction. This year saw the second interview, through which the executives of each division in charge of internal business and management activities shared their opinions.



2 Woo-Kyu Lee

Executive Vice President

Management & Planning Division

POSCO ENERGY promotes its business activities based on the enterprise spirit of "value creation for POSCO ENERGY and its stakeholders".

4 Heung-Yul Yang

Senior Vice President

Management & Supporting Division

We will strive for a work-life balance and create a 'happy workplace for employees'.

6 Myung-Chul Lee

Executive Vice President

Technology Strategy Division

We will develop competitive technologies through energy efficient and energy recovering methods.

1 Ji-Bok Jung

Senior Vice President

Corporate Audit Division

Ethical management is a prerequisite for sustainable growth and also a promise that should be kept by everyone.

3 Kyung-Hoon Lee

Senior Executive Vice President

POSCO ENERGY will implement its own style of sustainability management and share its growth and value with the stakeholders.

5 Sung-Gyu Han

Executive Vice President

Power Generation Business Division

Based on the trust built on transparent communication, POSCO ENERGY will emerge as a 'company that delivers happiness to the nation'.

We are making every effort to reconcile the expectations of our stakeholders with the mission of the company.

- We will achieve growth through value creation for our stakeholders.
- We will consider compliance with ethical principles to be a prerequisite for the sustainable growth of the company.
- We will foster a culture of work-life balance within the workplace. Employees will be able to fully express their creativity and find their work meaningful to the environment and society.



8 Sang-Soon Cho

Vice President

Corporate Relations Division

We will strive for energy to make a better world that brings happiness to all employees and stakeholders.

10 Jin-Won Park

Senior Vice President

Power Plant Construction Division

The construction of eco-friendly power plants will serve as a foundation for the communication with local communities and the growth of the company.

12 Yong-Hee Cho

Vice President

New and Renewable Energy Development Division

We will strive to achieve both economic profit and environmental achievement in the global market.

7 Sung-Byung Kim

Vice President

Power Plant Development Division

POSCO ENERGY will secure global IPP competitiveness through contribution to the local communities and strict compliance

9 Jung-Gon Kim

Executive Vice President

Fuel Cell Business Division

POSCO ENERGY promotes the growth of the industrial ecosystem and customer satisfaction through its fuel cell business.

11 Chang-Dong Shin

Executive Vice President

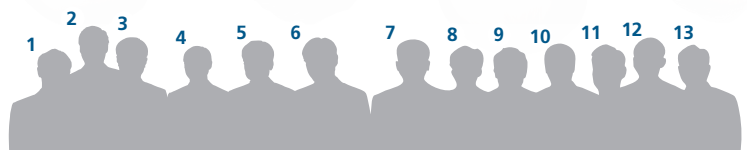
We will take a long-term perspective in understanding the interest of our stakeholders and preparing for the future.

13 Min-Shik Shim

Vice President

PI 3.0 Project Department

POSCO ENERGY will build the foundation for sustainable growth through process innovation.



Introduction to POSCO ENERGY

POSCO ENERGY was established in 1969 as Kyung-In Energy, the first independent power company in Korea, and became part of the POSCO Family in 2005. The company has so far provided a stable supply of electricity to the public in the metropolitan area by operating the Incheon LNG Combined Cycle Power Plant. It has also produced eco-friendly energy by running the Gwangyang Off-Gas Combined Cycle Power Plant and constructing the Pohang Off-Gas Combined Cycle Power Plant, solidifying its status as the nation's largest private power provider. In the case of the fuel cell business, POSCO ENERGY has successfully localized relevant technologies and products, and thus taken a leading position in the national green market. In the areas of resource recycling and Solar and wind power generation, the company is actively promoting a variety of businesses at home and abroad.

General Information (As of December 31, 2012)

Company Name	POSCO ENERGY
Total Assets	KRW 3.4trillion
Sales	KRW 2.9trillion
No. of Employees	861
Installed Capacity	3,348MW
Credit rating	Corporate bond AA+, Commercial paper A1



Business Portfolio



LNG Combined Cycle Power Plant

- ① Incheon LNG Combined Cycle Power Plant (units 1-6) 3,052MW
 - ② Incheon LNG Combined Cycle Power Plant (units 7-9) 1,147 MW
- Total construction to be completed by 2015



Fuel Cell Hub

- ③ Pohang Fuel Cell Hub
Annual Production Capacity : 100MW
Manufacturing Plant, Research Institute,
Service Center, Cell Manufacturing Plant
(Construction to be completed by 2014)



Solar Power Plant

- ④ Shinan Solar (Photovoltaic) Power Plant 14.5MW
2012 (2MW), 2013 (5MW)
Construction to begin in 2013 (7.5MW)
- ⑤ Nevada Solar (Photovoltaic) Power Project in the U.S. 300MW
Project under development



Wind Power Plant

- 6 Tamra Offshore Wind Power Plant**
30MW
Construction to be completed by 2014
- 7 Jeonnam Onshore Wind Power Plant**
100MW
Construction to be completed by 2014



Fuel Cell Power Plant

- 8 Pohang** 2.4MW
- 9 Seoul (Nowon)** 2.4MW
- 10 Seoul (Sangam)** 2.4MW
- 11 Incheon** 2.4MW
- 12 Gyeonggi Green Energy** 58.8MW
Construction to be completed by 2013
(19% Equity Partnership)



Coal Thermoelectric Power Generation

- 13 Vietnam Mong Duong 2 Coal Thermoelectric Power Generation Project**
1,200MW
Construction to be completed by 2015
(30% equity partnership)



Off-gas Combined Cycle Power Plant

- 14 Gwangyang Off-Gas Combined Cycle Power Plant** 284MW
- 15 Pohang Off-Gas Combined Cycle Power Plant** 290MW
2013 (145MW), 2014 (145MW)
- 16 Indonesia Integrated Steel Mill Off-gas Power Generation Project** 200MW
Construction to be completed by 2014

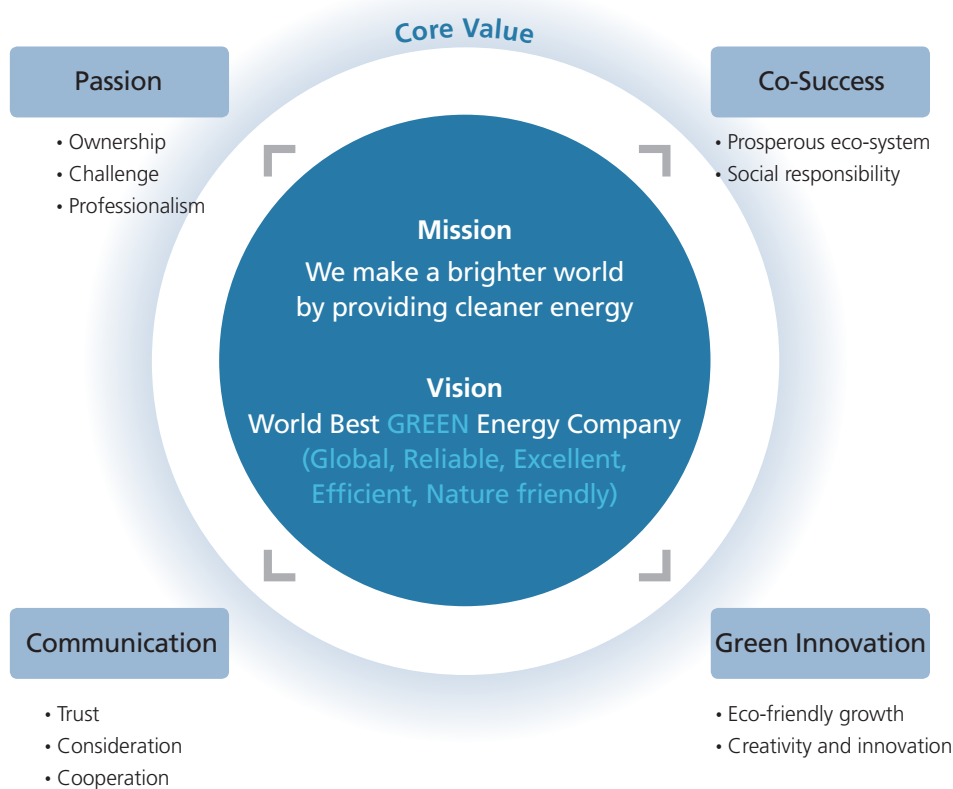


Waste to Energy Business

- 17 Busan Waste Treatment & Power Generation Facility**
Waste Treatment Facility Capacity : 900tons/day
Power Generation Facility Capacity : 25MW
Construction to be completed by 2013
- 18 Pohang Waste Treatment & Power Generation Facility**
Waste Treatment Facility Capacity : 500tons/day
Power Generation Facility Capacity : 12MW
Construction to be completed by 2017
- 19 Tanchon Sewage Heat Energy Utilization Facility**
Heat Pump Capacity : 63Gcal/hr
Construction to be completed by 2014

Mission and Vision

Based on the mission of making a brighter world by providing cleaner energy, POSCO ENERGY has established its vision, core values, and strategies. The core values of Passion, Communication, Co-Success, and Green Innovation will lay the foundation for the company to unite its employees and accomplish the Vision 2020.



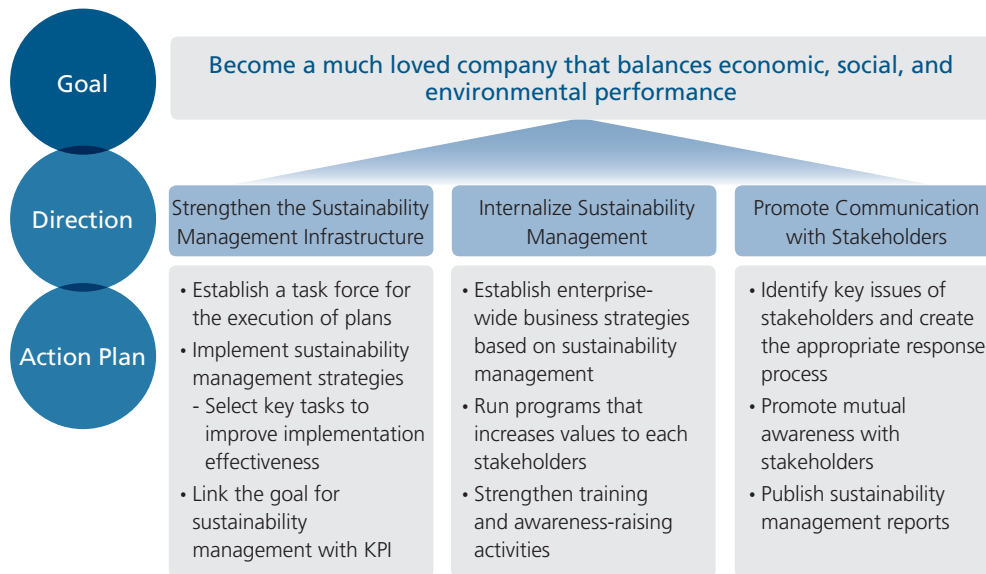
Our Behavioral Principles

Passion	<ul style="list-style-type: none"> • We are proud members of the POSCO ENERGY and take the lead in everything we do. • We seek out new challenges with a sense of pride. • We grow with our work, develop out professionalism, and become the very best at what we do.
Communication	<ul style="list-style-type: none"> • We trust one another with an open mind, and communicate freely and unreservedly. • We recognized our diversity and take care of one another with sincerity. • We transcend regional and organizational barriers to work together and achieve shared goals.
Co-Success	<ul style="list-style-type: none"> • We grow with all stakeholders, and we help to advance the ecosystem to which we belong. • We fulfill our responsibilities as a global corporate citizen.
Green Innovation	<ul style="list-style-type: none"> • We are pioneering future energy through eco-friendly growth. • We apply creativity and innovation to secure new business opportunities.

Sustainability Management System

POSCO ENERGY champions sustainability management throughout the organization by sharing and promoting the values on sustainability management with employees to become a much loved company.

Sustainability Management Strategy



Sustainability Management Organization

The Sustainability Management Group, a task force for the promotion of sustainability management, engages in establishing and implementing plans, analyzing performance, and improving internal competence, while prioritizing the improvement of stakeholder value.

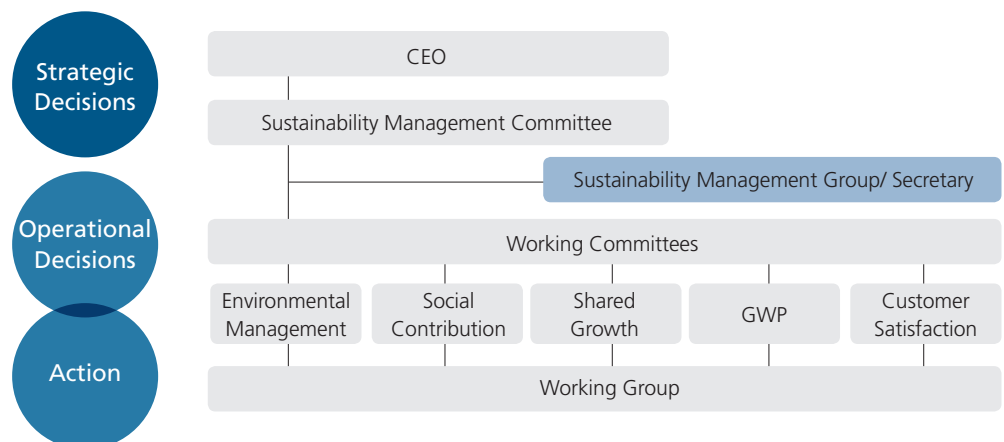


1¹ Sustainability Management Committee

2¹ Working Committees

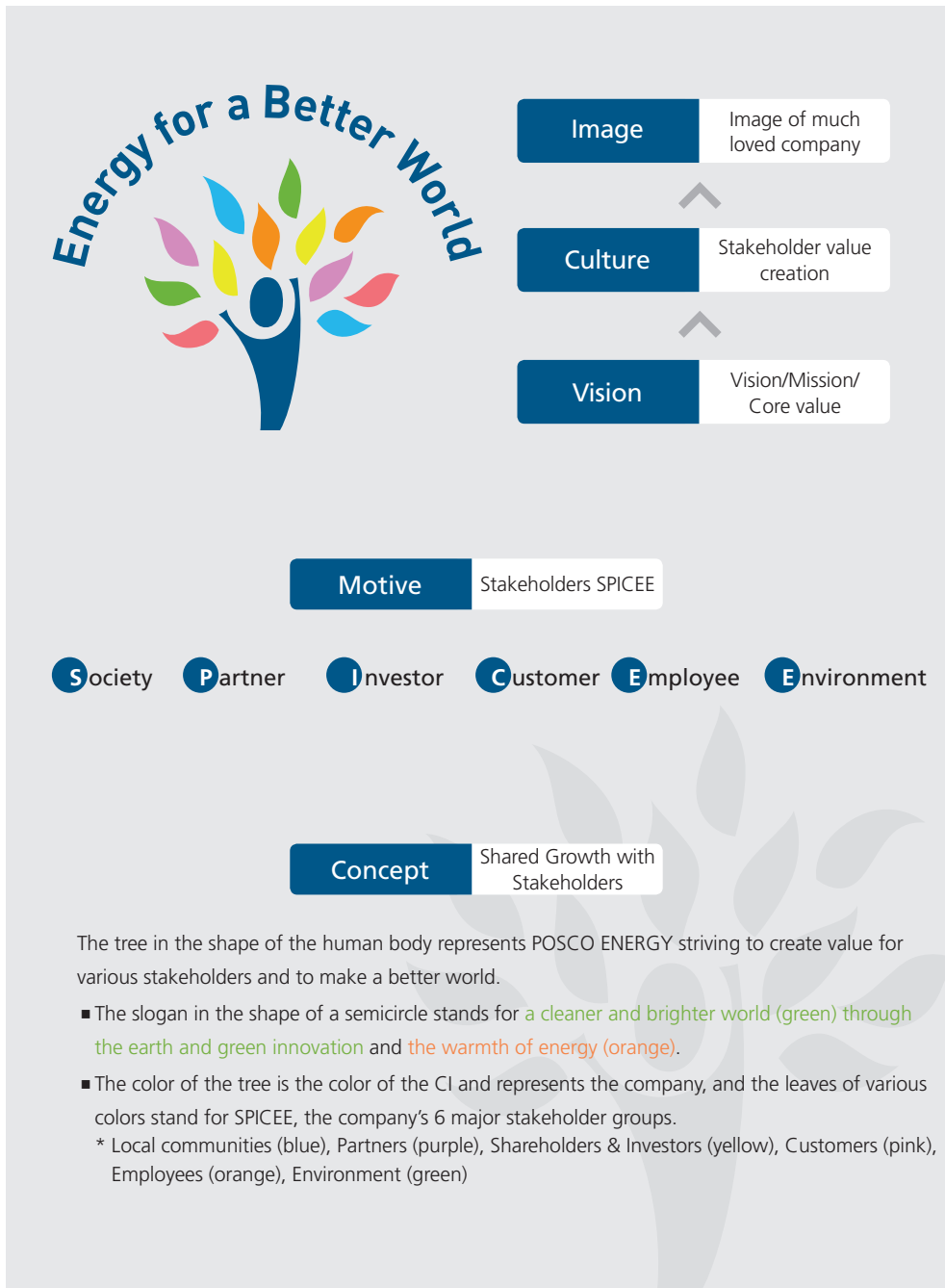
Sustainability Management Committee

The Sustainability Management Committee is an enterprise-wide consultative group under the guidance of the CEO that advises on the integrated management of sustainability management-related issues of the company. Under the Committee, there are 5 working committees for environmental management, social contribution, shared growth, GWP (Great Work Place), and customer satisfaction, which play a vital role in sharing issues, enhancing the consistency of activities, and reaching a consensus among employees.



Sustainability Management Slogan

POSCO ENERGY's sustainability management brand represents its goal in "becoming a much loved company by creating stakeholder value". Based on the direction set in the executive strategy discussion, an enterprise-wide contest was held. The current logo was selected from the contest with 240 employees submitting 345 ideas. The slogan, "Energy for a Better World" was also selected from an employee survey.



Slogan Development Process



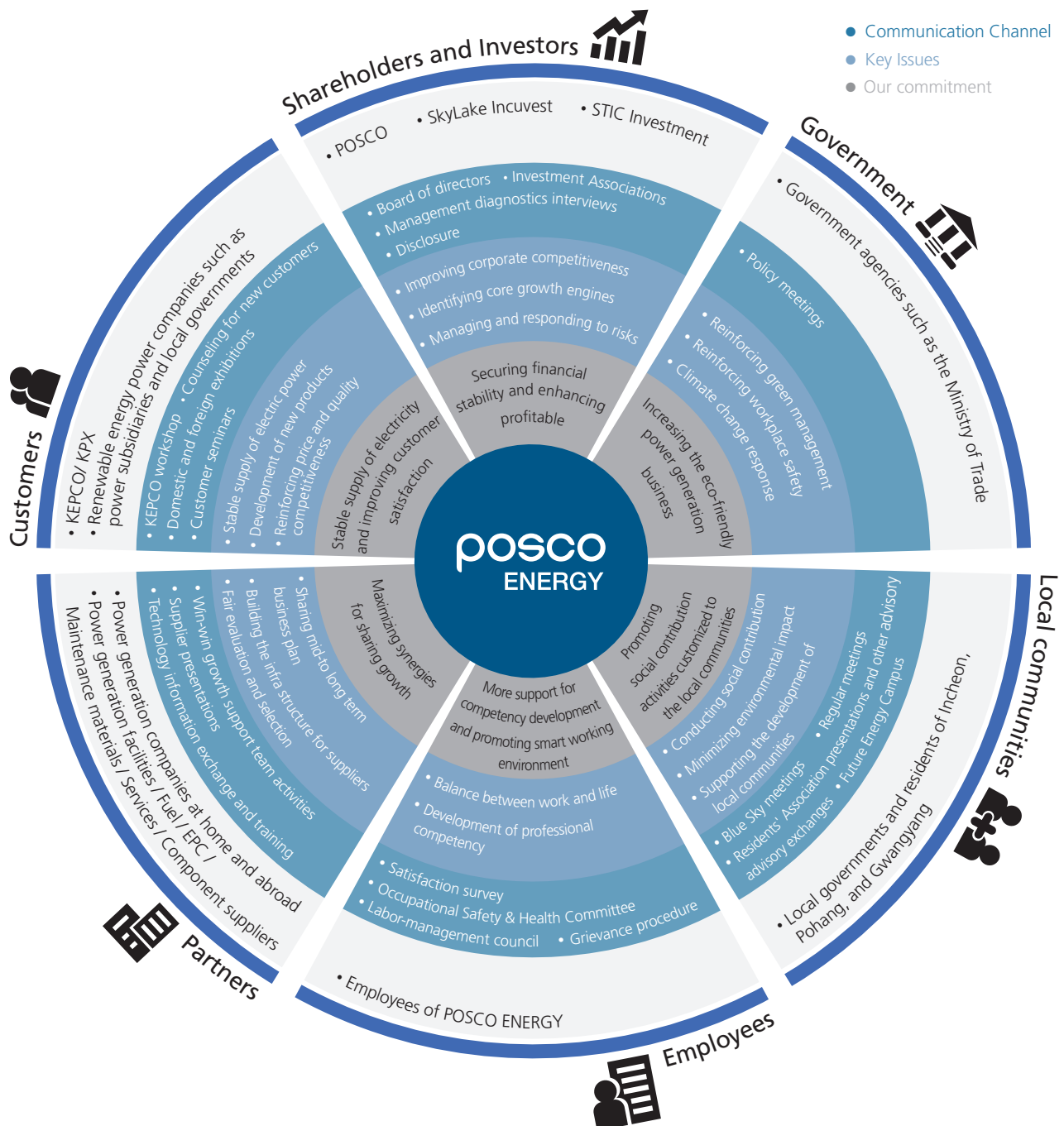
Sustainability Management Slogan Awards
- 345 entries from 240 employees across the company

Communication with Stakeholders

POSCO ENERGY continuously identifies the expectations and interests of stakeholders and reflects them in the strategies and activities of its sustainability management while using various channels to communicate with stakeholders.

Key Stakeholders and Communication Channels

POSCO ENERGY defines its key stakeholders as shareholders and investors, the government, local communities, employees, partner companies, and customers. The company identifies the key interests and issues of each stakeholder group and effectively responds to stakeholder's requests. In addition, POSCO ENERGY operates communication channels tailored for each group by encouraging their participation in relevant activities.



Stakeholder Committee

POSCO ENERGY formed a stakeholder advisory group and held a stakeholder committee meeting. The advisory group consists of key stakeholders and sustainability management experts who can represent the nature of the energy industry. The committee identified issues and risks of sustainability management from various perspectives and explored the ways to achieve sustainable growth.



—

Date
July 11, 2013

Venue
Conference room of the headquarters in Seoul

—

Host
Jae-Eun Lee, Sustainability Management Group leader

/ Director Jae-Seok Yang / KPX (Korea Power Exchange)

"The government is currently implementing a competition system for more efficiency in the power market. However, the power generation industry still requires a high level of public concern due to the nature of its infrastructure. Thus, POSCO ENERGY needs to maintain a balance by increasing the efficiency of resource distribution through competition and strengthening the social contribution programs. It is expected that the lack of power generation facilities will render it difficult to ensure a stable supply of electricity for a while.

For POSCO ENERGY, it is important to actively invest in facility construction and maintenance and to secure financial resources for a stable supply of electricity. Also, the company needs to promote its own social contribution activities in line with its business philosophy."

/ Professor Han-Gyun Noh / Kookmin University

"The mission of POSCO ENERGY must be in line with the expectations and requests of its stakeholders. When it comes to setting the direction for the electricity or energy industry, POSCO ENERGY should not depend completely on the government but take the initiative and exert its creativity. It is necessary to establish a vision for the power industry and to clarify the position and capacity of the company in that picture."

/ Director Seok-Hyun Chun / KEMCO (Korea Energy Management Corporation)

"POSCO ENERGY is fulfilling its social responsibility by setting a good example of active business activities in the production and supply of fuel cell, new and renewable energy, and energy products along with R&D investment. I hope the company continues to take the lead in the energy industry as now, and to maintain the partnership with the government in making efforts for the growth of the energy industry."





/ Executive Director **Choon-Seung Yang** / KoSIF (Korea Sustainability Investing Forum)

"There are a number of ongoing international discussions on climate change. For instance, the U.S. and China have almost reached an agreement on GHG emissions reduction. Thus tightening regulations on GHG emissions across the globe seems inevitable. Against this backdrop, investors have started to put more attention on the impact of resource depletion and carbon regulations on energy companies. I think POSCO ENERGY will be able to find a way to survive in the era of climate change by building a smooth relationship with various stakeholders, including these investors, listening to their voices and exploring the ways to contribute to the sustainable development of the company as well the society."



/ Team Leader **So-Won Lee** / FKI (The Federation of Korean Industries)

"It is impressive how POSCO ENERGY has well established its sustainability management system and promotes relevant activities in line with its social contribution programs. Its social contribution activities, such as renovating houses and operating community child center, clearly show the very nature of its business. I look forward to POSCO ENERGY employees more actively participating in the diverse activities."



/ Director **Gang-Yoon Lee** / Doosan Infracore

"Sustainability management is no longer a mere trend but a main issue in the global business. It has become a sine qua non for the growth of the global infrastructure business. In particular, potential customers and talented human resources have a significant level of interest in sustainability management. Since POSCO ENERGY has a high level of stakeholder risk, such as climate change risk and reputation risk, it needs to put more emphasis on sustainability management."

Stakeholder Advisory Group

- ① **Customer** Director Jae-Seok Yang
KPX (Korea Power Exchange)
- ② **Academia** Professor Han-Gyun Noh
Kookmin University
- ③ **Government/Agency** Director Seok-Hyun Chun
KEMCO (Korea Energy Management Corporation)

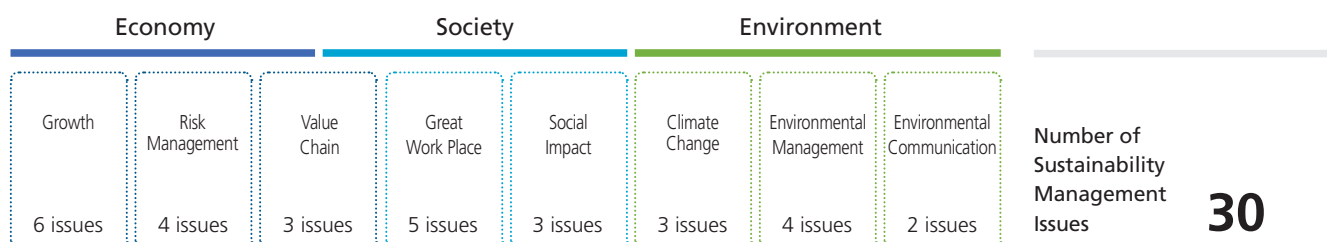
- ④ **Investor** Executive Director Choon-Seung Yang
KoSIF (Korea Sustainability Investing Forum)
- ⑤ **Relevant Organization** Team Leader So-Won Lee
FKI (The Federation of Korean Industries)
- ⑥ **Industry** Director Gang-Yoon Lee
Doosan Infracore

Materiality Test

Step 1 Identify Issues of Sustainability Management

1-1. Analyze and benchmark domestic and foreign standards

The company identified 30 issues related to sustainability management by analyzing a group of domestic and foreign standards (GRI3.1, EUSS, ISO26000 and UNGC), peer group benchmarking (key activities and issues), and advice from sustainability management experts.



Step 2 Evaluate Level of Interest and Importance to Business

The 30 issues were evaluated through 2 criteria- level of external interest (5 factors) and importance to business (4 factors).

Period

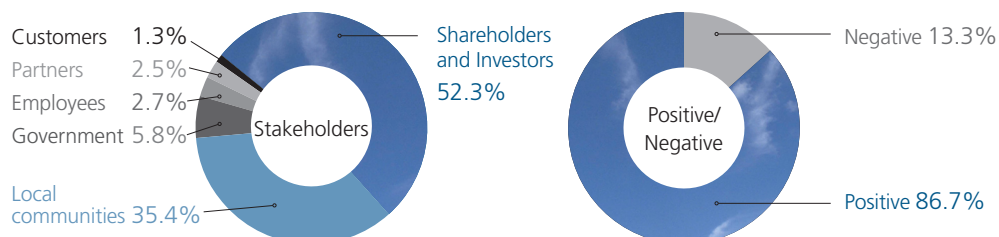
January 1 – December 31, 2012

Subject

A total of 746 articles in major daily newspapers and technical magazines

2-1. Analyze Media

The company conducted media analysis on its sustainability management activities by examining 746 articles released in 2012.



2-2. Survey Internal / External Stakeholders

Internal Stakeholder 483 participants	Sample size 922 persons	External Stakeholder: 30 participants	Sample size 209 persons
	Response rate 52.4%		Response rate 14.4%

2-3. Evaluate External Interest and Business Importance

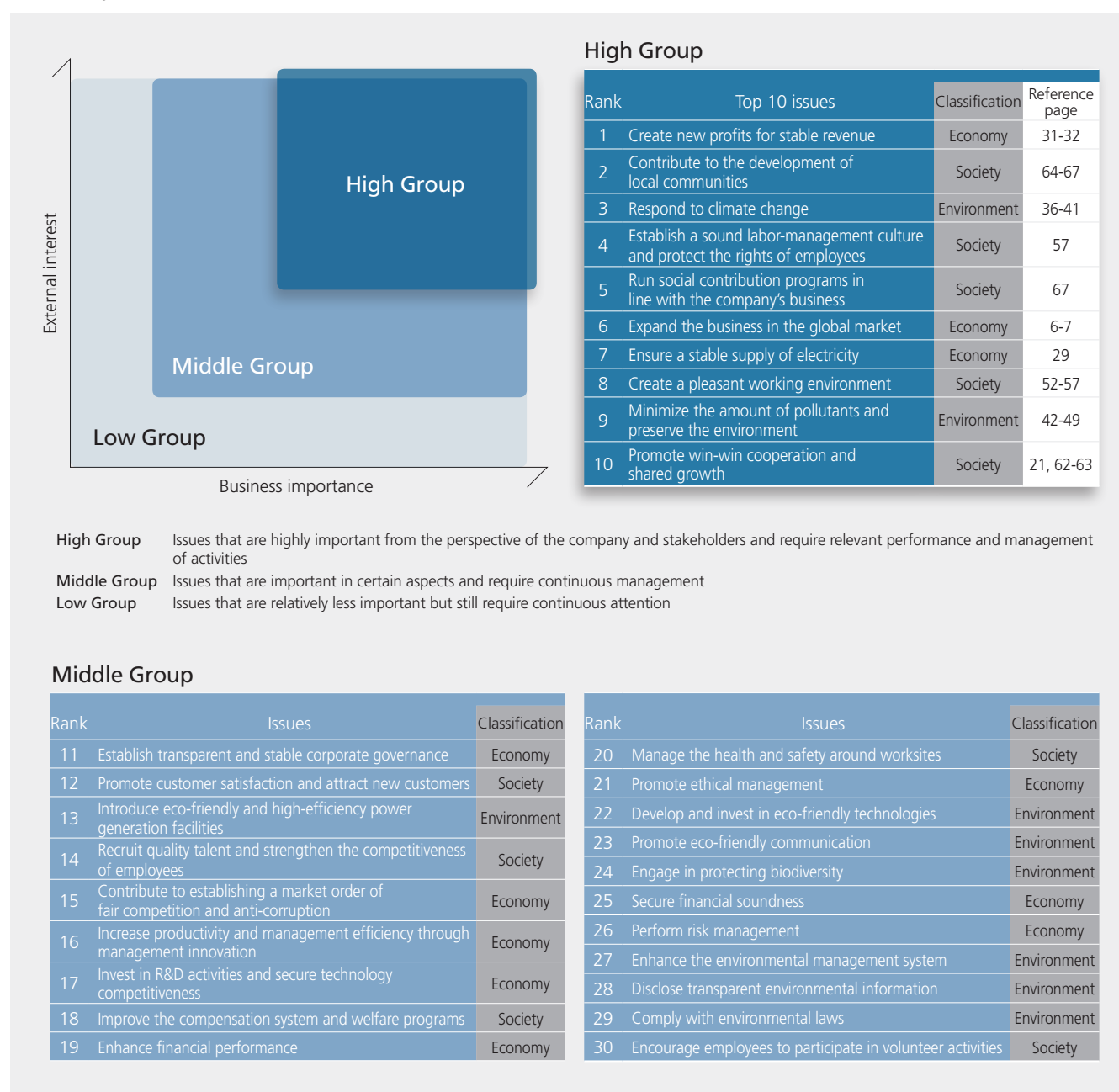
Number of BOD Agenda 43	Webzine January – December	Government's Policy, Vision, and Goal	...
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To ensure that the sustainability report describes the interests of diverse stakeholders and deals with the most crucial issues, POSCO ENERGY conducted a 3-step materiality test. The key issues identified in each process are introduced in the table of contents and the main body of this report to ensure all issues is covered in the report.

Step3 Define Key Issues

The company created a pool of issues on sustainability management and selected the top 10 issues by mapping the results of the evaluation of external interest and business importance in a matrix based on the opinions of stakeholders and the comprehensive analysis. The activities and performance of sustainability management regarding these key issues are mainly disclosed in this report. Issues other than the top 10 will also be monitored and managed continuously.

Materiality Test Matrix



Sustainability Management of POSCO ENERGY in 2012

Key issues		Goals for 2012	Achievements in 2012
Economic Value 	Stable Supply of Electricity	Make Strategic Case by Case Responses to Individual Power Facilities	<ul style="list-style-type: none"> Ensured early stability of newly-built facilities (Incheon LNG Combined Cycle Power Plant units 5-6) Promptly replaced old equipment Established maintenance and operation plans in preparation for the completion of the LNG PPA (Power Purchase Agreement) Conducted preventative maintenance of blind spots and stand-alone facilities
	Expansion into the Global Market	Secure Global Business Competitiveness	<ul style="list-style-type: none"> Secured the global IPP competitiveness for the successful construction of power plants in Vietnam Constructed off-gas power plants in Indonesia Diversified the sources of power generation and the areas for business activities Stimulated the overseas demand for fuel cell
	Foundation for Future Growth	Take the Lead in and Promote the Diversification of the Fuel Cell Market Strengthen Product Competitiveness (ex. cost reduction/ quality stabilization) Secure Green Energy Technologies to hold a Dominant Position in Key Businesses	<ul style="list-style-type: none"> Developed the fuel cell market for buildings and dominated the RPS market in advance Signed a contract on the transfer of Cell technologies and promoted the localization of products Expanded the production scale and established a stable production system Secured green energy technologies
Environmental Value 	Climate Change	Expand the Foundation of the Green Growth Business	<ul style="list-style-type: none"> Began the construction of Shinan Solar (photovoltaic) power plant unit 2 Signed a business agreement on the onshore wind power project with Jeollanam-do Complied with air regulations regarding the Busan RDF power plant Began the construction of the Tancheon sewage heat energy utilization facility
	Environment Protection	Green Clean Plant	<ul style="list-style-type: none"> Complied with the ISO14001 standard Minimized the emissions of pollutants and GHGs Strengthened cooperation with external organizations for environmental improvement Conducted preventative maintenance of environmental facilities (discharge water treatment, water purification facility)
Social Value 	Pleasant Workplace	Nurture and Strengthen the Competitiveness of Global Talents Build a Win-win Relationship between Labor and Management based on Trust and Communication Enhance the Values of Work and Life	<ul style="list-style-type: none"> Recruited overseas workers, established and ran a growth system Diversified education programs based on the capacity building principles of leadership, globalism, and professionalism Built education infrastructure for self-performance management Established and ran the grievance committee Obtained the certification of family-friendly management
	Safe Workplace	Establish a Global Safety and Health System based on Human Respect	<ul style="list-style-type: none"> Created a safety culture of trust and communication Established a company-wide safety support system Encouraged position holders to take the lead in conducting safety activities Built a process for SAO (Safety Action Observation) Developed an emergency response system to contact external organizations
	Contribution to Local Communities	Raise the Status of Local Communities through Social Contribution Activities	<ul style="list-style-type: none"> Launched a project to improve the energy efficiency of aged housing Developed a framework for social contribution activities Awarded a prize for attracting the Incheon GCF (Green Climate Fund) Launched theme-based volunteer activities with the families of employees Supported the development of tourist attractions in local communities
	Shared Growth	Reinforce the Activities for Shared Growth	<ul style="list-style-type: none"> Laid the foundation for shared growth by stabilizing the operation of the supplier evaluation system Complied with fair trade standards for subcontracting Reinforced win-win cooperation through benefit sharing Conducted the joint-development of technologies through technology partnerships Supported suppliers through the activities of the shared growth support team

2012 KPI	Goals for 2013	Plans for 2013
3,348MW Installed Capacity KRW 2.9trillion Sales	Enhance the competitiveness of the power generation business	<ul style="list-style-type: none"> • Improve the performance of Incheon LNG Combined Cycle Power Plant units 5 and 6, and achieve forced outage • Secure stable sources of profit through efficient performance management • Complete the construction of Pohang Off-gas Combined Cycle Power Plant units 1 and 2 before schedule • Construct Incheon units 7-9 with the optimization of energy management
75% Construction Process of the Off-gas Power Plant in Indonesia	Emerge as a global energy provider based on a balance between growth and internal stability	<ul style="list-style-type: none"> • Strengthen the core competence of IPP through the successful completion of overseas projects • Set the direction of business entry and expansion as a global IPP company • Lay the foundation to secure the fuel for power generation
115.6MW Accumulated Order for Fuel Cell KRW 18.3billion R&D Investment	Successfully secure the original technology for the fuel cell Secure the technology for green energy from the business perspective	<ul style="list-style-type: none"> • Acquire the original technology for the Cell • Raise the cost competitiveness by enhancing productivity and quality • Develop fuel cell for buildings and the SOFC (Solid Oxide Fuel Cell) • Develop the 100kW reaction-type steam turbine
8.13GJ/MWh Energy Consumption 0.41tCO₂/MWh GHG Emissions	Build an optimal portfolio of the climate change response business	<ul style="list-style-type: none"> • Efficiently cope with the GHG energy target management system and the RPS (Renewable Portfolio Standard) system • Make a proactive response to the carbon emission trading scheme • Diversify the power sources of new and renewable energy and develop businesses in response to the RPS • Expand the power generation business using new and renewable energy • Reduce energy consumption through waste heat recovery and power consumption reduction
0.13kg/MWh NOx Emissions 0.13t/MWh Water Consumption	Internalize environmental management and strengthen competitiveness	<ul style="list-style-type: none"> • Comply with the ISO14001 standard • Cope with the Total Air Pollution Load Management System • Reinforce cooperation with external organizations on environmental improvement activities (ex. Blue Sky Committee) • Stabilize the operation of environmental facilities
132hr/person Average Number of Hours for Employee Training	Attract quality talent Design the vision for the future Realize the GWP of trust and communication	<ul style="list-style-type: none"> • Boost the competitiveness of engineers • Secure experts in each field necessary for business expansion • Establish a self-directed career and competence management system • Create a working environment for smart work • Introduce programs to enhance the quality of life for employees
1.9% Absenteeism 1case Number of Industrial Accidents	Make a zero-accident workplace centered on the safety process	<ul style="list-style-type: none"> • Develop the measures for the safety management of dangerous machinery and equipment • Strengthen the compliance with the KOSHA18001 • Reinforce the safety system based on the cooperation among worksites and divisions • Encourage employees to engage in safety competence enhancement activities
34.2hours Average Number of Hours for Volunteer Activities of Employees	Share green values with local communities	<ul style="list-style-type: none"> • Start the house remodeling business for the enhancement of energy efficiency • Run the education business for the children of the energy poor • Provide a rewarding experience for employees through the BEST volunteer activities • Improve the process of social contribution activities
KRW 556million Benefit Sharing Value	Engage in the activities for shared growth	<ul style="list-style-type: none"> • Promote performance sharing programs based on win-win cooperation • Develop joint R&D activities • Expand the support for technology/management of SMEs • Promote the communication with partners through the diversification of channels

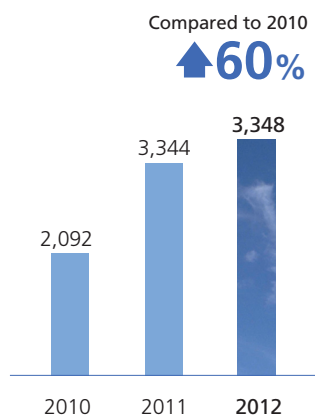


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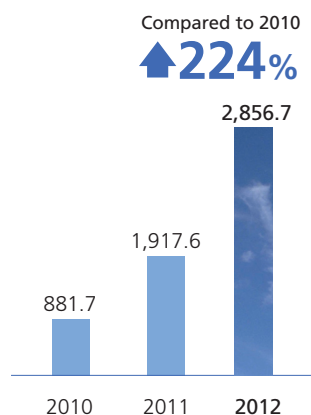
ECONOMIC VALUE

POSCO ENERGY strives to become a leading energy provider by expanding its business in the global market through achieving sustainable growth. As part of such efforts, the company is strengthening its competitiveness to respond to the CBP (Cost Based Pool) market and establishing a stable electricity supply system to ensure high economic performance. Moreover, the company will diversify the sources of power generation by securing the cost competitiveness of the fuel cell and focusing on the development and supply of new and renewable energy.

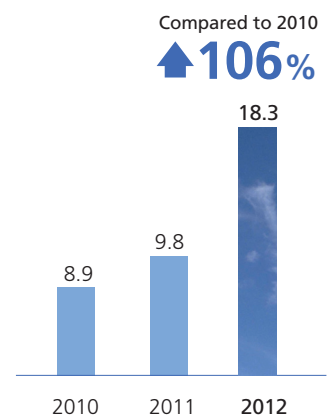
Installed Capacity (MW)



Sales (KRW billion)



R&D Investment (KRW billion)



Stable Management Infrastructure

Accountable Corporate Governance

POSCO ENERGY is practicing responsible and substantial management through the continuous improvement of its corporate governance. The board of directors, the highest decision-making body of the company, is doing its best to enhance the value of shareholders and the benefit of stakeholders.

Composition and Operation of the Board of Directors

The board of directors (BOD) consists of four internal directors, including the CEO, two non-executive directors, and one auditor. The BOD is chaired by the CEO, and the CEO is appointed upon the resolution of the board. Directors who make general management decisions are elected at the general meeting of shareholders. The BOD appoints one financial expert as the auditor to audit the accounts and financial status of the company throughout the year. The auditor may supervise directors and has the right to request reports on general management activities. In 2012, a total of 19 BOD meetings were held to make decisions on key management issues. The BOD regulations stipulate that directors who have a special stake in the company should not exercise their voting rights in those meetings. In addition, it was decided that a regular BOD meeting would be held on the last Tuesday of every month for more efficiency.

BOD Activities

Number of Meetings

19

Number of Approved Agenda

43

Attendance

88%

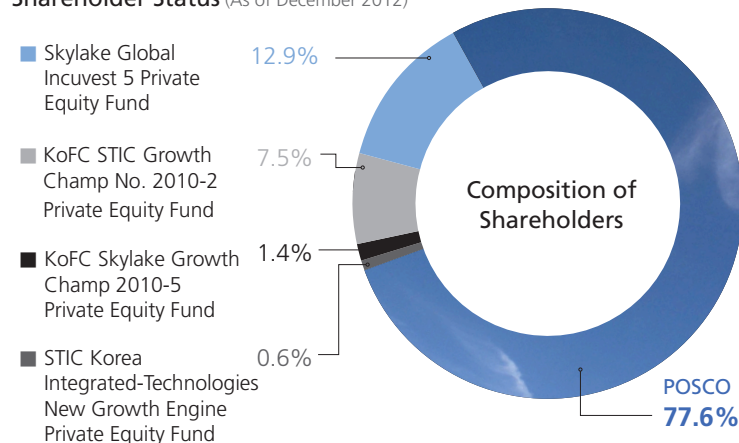
Evaluation and Compensation

Evaluation of and compensation for the BOD comply with the internal regulation based on a merit-based compensation system. Participation and performance in BOD meetings during the tenure of directors are regularly monitored through the BOD minutes, and performance compensation is paid after the evaluation of the executives of POSCO family companies.

Major BOD Agenda for 2012

The 2012 BOD agenda for approval include 1) domestic and overseas projects for power generation, 2) corporate social responsibility (CSR), 3) communication with local communities, and 4) risk management to emerge as a comprehensive global energy company. The BOD will continue to act as the top decision-making body for company's sustainable growth, giving consideration to the opinions of various stakeholders presented throughout the business process.

Shareholder Status (As of December 2012)



Composition of the Board of Directors

(As of April 2013)

Classification	Name	Position
Internal Directors	Chang-Kwan Oh	CEO
	Kyung-Hoon Lee	VP
	Woo-Kyu Lee	Head of Management & Planning Division
	Myung-Chul Lee	Head of Technology Strategy Division
Non-executive Directors	Eung-Gyu Kim	Head of POSCO Management Support Division
	Gyung-Chul Gu	Executive Director of STIC Investment
Standing Auditor	Ji-Bok Jung	Head of Corporate Audit Division

POSCO ENERGY maintains a transparent and stable corporate governance to fulfill its responsibility of enhancing the value of stakeholders. Moreover, the company prioritizes ethical management as a standard of decision-making and behavior of employees, thereby creating an ethical corporate culture.

Fair Trade

POSCO ENERGY strives for the sound development of the national economy by ensuring the market mechanism and suppressing the concentration of economic power through promoting fair and free competition.

Introduction and Operation of the Fair Trade Compliance Program

To voluntarily comply with the Fair Trade Act, POSCO ENERGY introduced the fair trade compliance program (CP) in October 2009. To effectively operate the program, the company develops the guidelines, and the compliance manager establishes and implements specific action plans. To ensure that all employees understand and comply with the laws and regulations, the company offers compliance program and an online education program, 'Easy to Understand Fair Trade'. The company continues to develop in-house experts, who can perform their jobs with thorough understanding of law, through regular training sessions from external specialized agency. The company also distributed a handbook on fair trade to all departments, and encouraged employees to practice fair trade in their daily lives. Furthermore, the company is taking disciplinary actions for violators as stipulated in the HR policy.

Autonomous Inspection of Fair Trade

POSCO ENERGY has introduced a system that enables employees to autonomously check whether they are violating the laws and regulations of fair trade and takes measures against the risks as soon as they are reported. This system contributes to prevent violations from the bottom and maintain the fair and free trade market economy.



CEO's commitment at the BEST (Business Ethics and Sustainability management for Top performance) Forum

Ethical Management

POSCO ENERGY has made corporate ethics a part of its corporate culture and takes ethical management as a core management strategy for the company's survival and growth regardless of any challenges.

Ethical Management System

To become a company trusted and loved by stakeholders, POSCO ENERGY takes the principle 'Do the right thing in the right way' as a standard for decision-making and behavior at work. As part of such efforts, the Ethical Management Office supports the internalization of ethical management by establishing regulations, offering programs on ethical practice as well as education on the prevention of unethical behavior, and checking any violations of the code of ethics.

Code of Ethics

To realize the vision of becoming a comprehensive global energy provider, POSCO ENERGY has established a global code of ethics, which is based on the philosophy that the most important factors in corporate management are the company achieving sustainable growth and employees having a right set of values. The company has also placed the code of conduct and practical guidelines under the code of ethics for effective compliance.

Ethical Management Programs

「Promotion of Participation in Ethical Management」 POSCO ENERGY encourages all employees to engage in ethical management through various programs. To increase the employee awareness of ethical management, the company uses the intranet to send popup notices about ethical management issues, distributes a handbook on the code of ethics to all divisions, holds events such as ethics fortune cookie giveaway, and operates a gift return center during holidays in order to establish a culture of integrity across the company.



Ethical practice leader awards

「Programs on Corporate Ethics Autonomous Practice」 POSCO ENERGY operates 'Programs on Corporate Ethics Autonomous Practice', through which employees can voluntarily identify and deal with ethical risks. Each division assigns Ethics helpers responsible for the Program, and they carry out the Program by conducting self-assessment, selecting task, and executing task. The system of ethical management will be completed by stimulating employees to enhance their ethical awareness and to comply with the code of ethics. In addition, leaders of ethical practice are appointed and given their own R&R, while the executives of each division take the lead in holding regular meetings on ethical practice so that all employees and executives can internalize ethical management.

「Reporting System and Online Consultation Services on Unethical Behavior」 POSCO ENERGY operates two reporting systems on unethical behavior. One is its own system of 'Cyber Shinmungo', and the other is an outsourced system that protects the anonymity of whistleblowers. These systems help the company to establish a corporate culture of ethics. Moreover, online consultation services are offered to deal with the inquiries on ethical management and fair trade.

「Ethics Education」 POSCO ENERGY provides all employees with education programs on the prevention of unethical behavior and sexual harassment on a regular basis. New employees take a class on the introduction to ethics while the rest participate in programs tailored for each position. These programs are also offered to the employees of partner companies.



In-house ethics education

Commitment to Trust, Communication, and Ethical Practice

Given that a series of ethical issues has recently caused a great impact on the Korean society, POSCO ENERGY believes that now is the time for a real change. The company announced the "Commitment to Trust, Communication, and Ethical Practice" for a sound organizational culture, and established the following top six principles: build trust, communicate with an open mind, share with gratitude, practice ethics, take responsibility as public figures, and have ownership. Based on these, a number of education programs on leadership with trust and communication skills and on ethical awareness are provided for all employees. A list of self-assessment on corporate ethics has been distributed to all employees to encourage their ethical practice. In this way, POSCO ENERGY strives for a sound organizational culture based on employee consensus on change and the practice of the top six principles.



Ceremony of Commitment to Trust, Communication, and Ethical Practice

Risk Management

To eliminate or minimize the risks that might affect the company's business activities, POSCO ENERGY has established its risk management system and has managed such risks through inter-division cooperation.

Risk Management Strategy

Under the responsibility of the CEO, POSCO ENERGY defines and manages the risks related to strategy, finance, law, procurement, EHS, maintenance, manufacturing, human resources, and ethics by division and position. Moreover, the company identifies the risks that can negatively affect stakeholders in advance, reflects them in the decision-making, and makes all-out efforts to prevent the subsequent loss through self-assessment.

Risk Management Activities

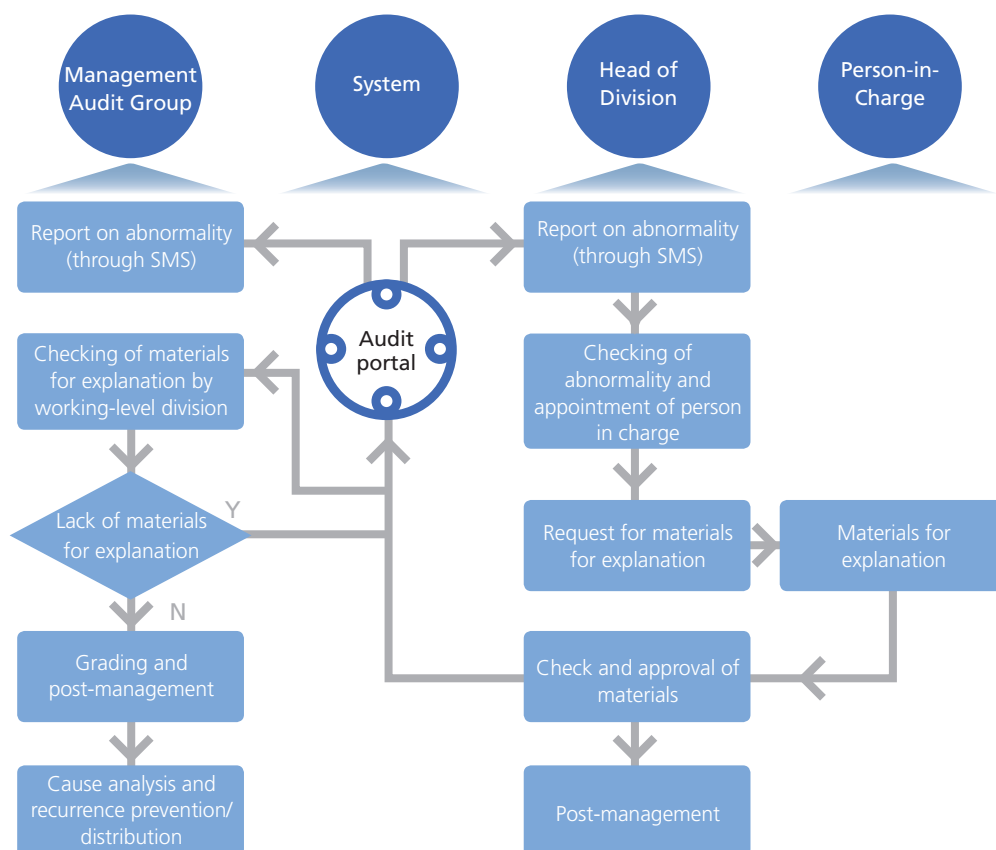
Autonomous Inspection of Risk Factors

The company has conducted autonomous inspection of risk factors by division and position to identify the risk factors embedded in working-level divisions. Regarding the risk factors, autonomous inspection, improvement, and feedback on activities help the company to establish an effective response system and to internalize the importance of risk management.

Enhancement of the Audit Portal

POSCO ENERGY strengthens the monitoring and inspection of risks by enhancing its audit portal in ways such as improving the operation, reinforcing the pre-inspection by working-level, and expanding the monitoring. The process of risk management starts with detection, moves on to pre-inspection, then final inspection by the Management Audit Group, and ends with post-management by a concerned division.

Risk Management System



Financial Soundness

POSCO ENERGY secures stable and sound financial performance by operating Enterprise Risk Management.

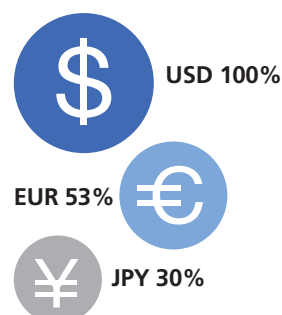
Financial Risk Management System

POSCO ENERGY secures financial flexibility with well-diversified debt maturity structures. The volatility of foreign exchange rates and interest rates is minimized with the investment in F/X derivatives contracts. In addition, the operation of internal accounting management system enables effective risk management over various financial activities, including settlement, tax, and funding.

Outstanding Growth, Profitability, and Stability

The increasing investment in infrastructure, such as expansion of the Incheon LNG Combined Cycle Power Plant (1,252MW) and the establishment of Gwangyang Off-Gas Combined Cycle Power Plant (284MW), as well as growing demand for electricity have enabled the company to reach KRW 2.85trillion in sales and KRW 273.2billion (operating income ratio : 9.6%) in operating income. The large investment in power plants over the past 3 years has led to the total debt amount of KRW 1.6trillion as of December 2012. However, capital increase of KRW 200billion and repayment of principal and interest owing to the operation of new power plants allowed significant improvement of financial soundness with debt to equity ratio decreasing from 242% to 173% year on year. These results contributed to maintaining company's long-term credit rating of AA+, short-term credit rating of A1, and securing quality funding from financial market.

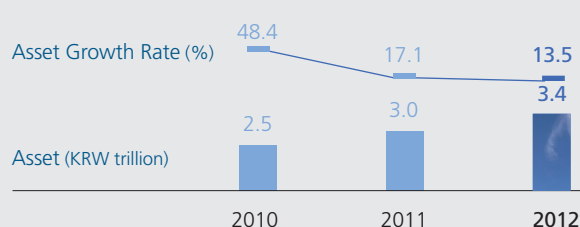
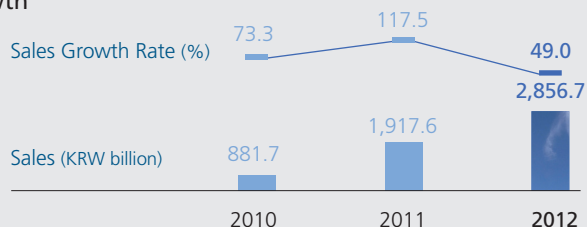
F/X Derivatives



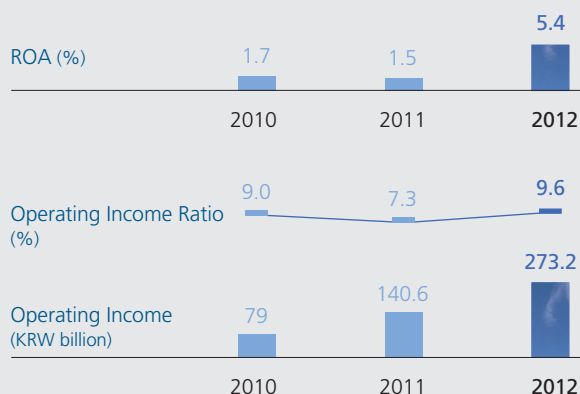
Credit Rating

Long-term **AA+**
Short-term **A1**

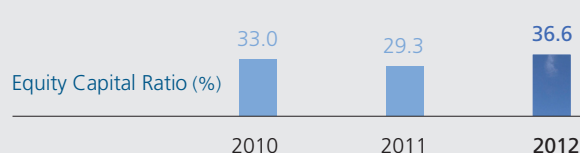
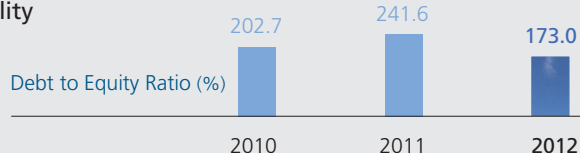
Growth



Profitability



Stability



R&D for a Profit Center

POSCO ENERGY strives to enhance the value of the company through its creative R&D activities by not only securing the core technologies of new growth engines, such as new and renewable energy and energy storage system, but also focusing on its existing business of gas turbine-based power generation.

R&D Promotion and Organization

Based on the goal of maximizing the investment performance by integrating all R&D results into the field work, POSCO ENERGY promotes its R&D activities with a focus on the enhancement of power generation efficiency, diversification of product usage, and development of new growth engines (such as the energy storage system). To this end, the company has established a company-wide technology support system, mainly led by the technology strategy division, and strives to secure the technological competence in fuel cell and green energy.

Maximization of R&D Investment Performance through Selection & Concentration

R&D for the Efficiency of Power Generation

POSCO ENERGY is developing a variety of technologies to enhance the efficiency of power generation and thus, to maximize the value of its existing power generation business. The technology of the reaction-type steam turbine, which uses the mid and low heat from power plants as a power source, is expected to increase the efficiency of power generation and reduce the cost of fuel. Jointly developed with a domestic SME, this steam turbine is considered an excellent example of shared growth and win-win relationship.

Diversification of Usage of Fuel Cell Products

POSCO ENERGY is developing technologies that can diversify the usage of fuel cell products in order to create new markets and boost sales. The fuel cell for buildings installed in Seobuk Hospital and the Children's Grand Park in 2012 are the most representative cases. The usage will be more diversified in the near future to include the fuel cell for emergency backup power and ships along with the development of the corresponding technologies.

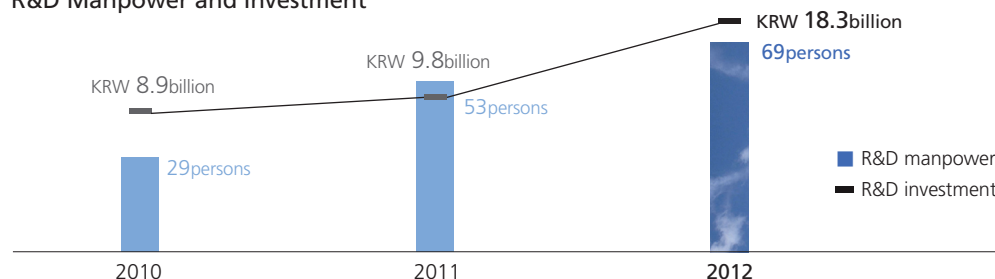


- 1 ¹ Agreement ceremony for joint development of reaction-type steam turbine
2 ¹ Fuel cell for buildings in Seobuk Hospital

Development of New Growth Engines

POSCO ENERGY is focusing on the development of ESS (Energy Storage System) and SOFC (Solid Oxide Fuel Cell) as new growth engines in the energy industry. ESS is a key product that can overcome time and space, which are the fundamental limitations of new and renewable energy sources, such as Solar power (Photovoltaic, Solar thermal), and wind power. The development of ESS with various capacities will allow the company to lead the bulk energy storage system market. SOFC is a next generation fuel cell with a much higher efficiency than MCFC (Molten Carbonate Fuel Cell), and it is now under development to prepare for the future free competition market of the power sector. By securing the core technologies of Cell/Stack and maximizing their efficiency, the company will take the lead in the fuel cell market, reduce the cost of power generation, and diversify the usage of products.

R&D Manpower and Investment

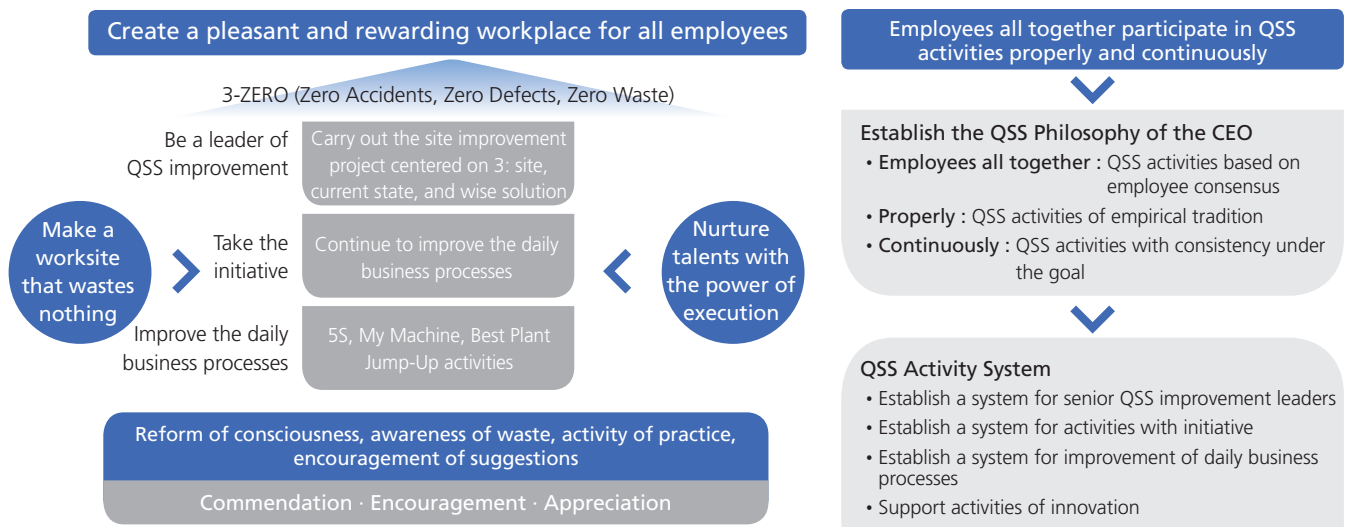


Embodied the Culture of Continuous Improvement

Management Innovation Activities

The philosophy for innovation activities at POSCO ENERGY, "All employees take the initiative in increasing efficiency and making improvements". The company also has a goal of making a pleasant and rewarding workplace by encouraging employees to have the sense of ownership in doing their jobs.

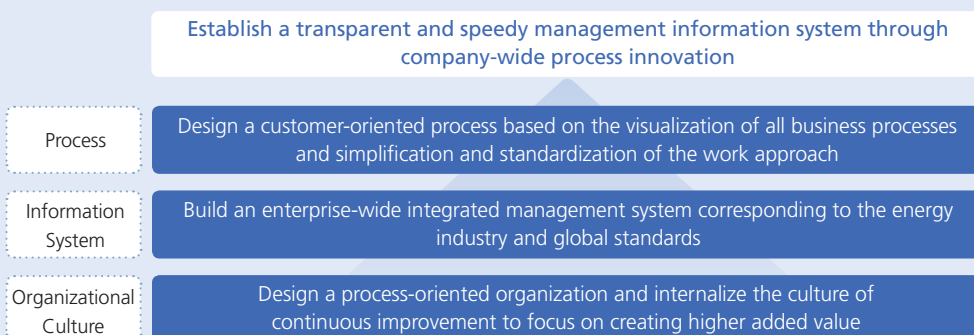
QSS Activity Frame



Process Innovation

In accordance with the need for a new operating system in line with the business expansion, POSCO ENERGY is conducting process innovation by standardizing the business process across the company and establishing a new operating system. To improve the connectivity and efficiency between systems that used to be operated by function/sector, the company is promoting the visualization of the business process. It is designing a customer-oriented process with a simplified and standardized work approach; establishing an ERP in compliance with the energy industry and international standards; and introducing a company-wide transparent and speedy management information system. In addition, it will design an optimal organizational structure through process innovation and internalize a culture of improvement to stimulate employees to focus on creating higher added value.

PI 3.0 Goals



Proclamation ceremony of PI 3.0

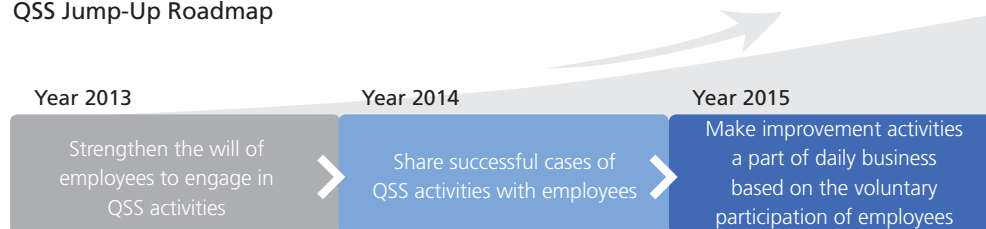


PI 3.0 Super User Workshop

Direction of QSS (Quick Six Sigma) Jump-Up Activities

The company has set its direction of innovation as “Employees all together participate in the QSS activities properly and continuously”, and the QSS Jump-Up activities will be continued until all the employees become leaders of improvement.

QSS Jump-Up Roadmap



Opening of Innovation Support Center and Launch of 1st Class of QSS Improvement Leaders

Opening of Innovation Support Center and Launch of 1st Class of Senior QSS Improvement Leaders

For the higher performance of the organization through the integration of work, innovation, and learning, POSCO ENERGY opened the Innovation Support Center in April 2013. So far, a total of 17 improvement leaders from each worksite have started to engage in the QSS Jump-Up activities. These leaders use their off-job time to effectively focus on the improvement activities.

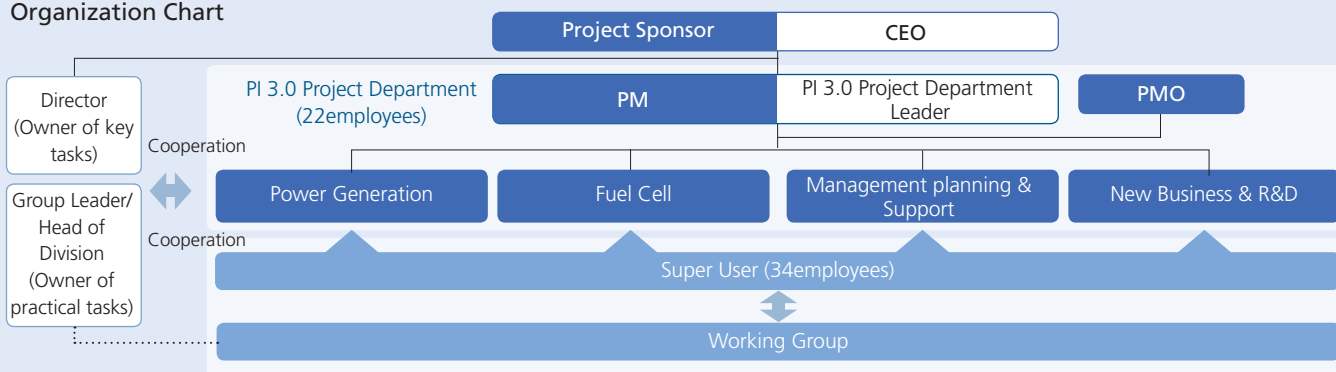
Activities of QSS Improvement Leaders

Apart from conducting innovation tasks, the QSS improvement leaders enjoy opportunities for various education programs on change management ranging from overseas training at outstanding foreign innovation companies to benchmarking of outstanding domestic innovation companies, as well as facilitator training and creativity development. Based on these programs, the leaders are developing capacity to lead the improvement activities at their respective worksite.

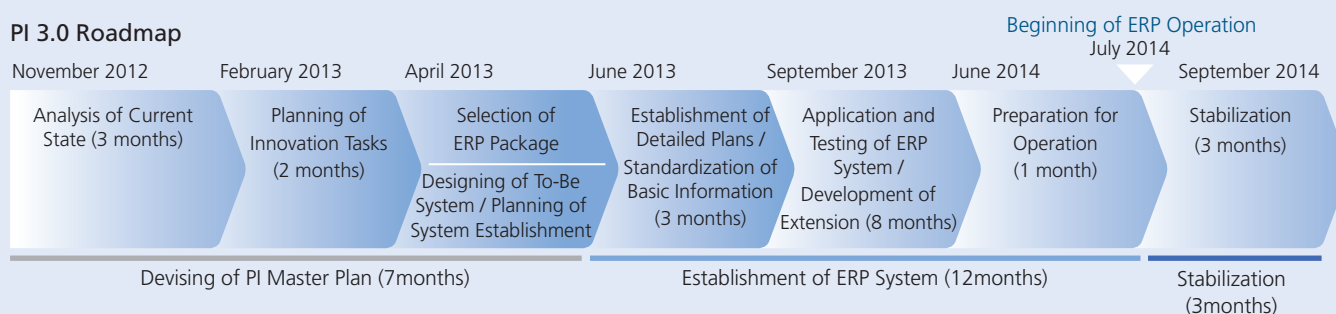
PI 3.0 Project Department

For successful PI, the PI 3.0 Project Department was launched under the direct control of the CEO in November 2012, playing a pivotal role in process innovation. It strives for the enhancement of corporate value through process innovation, encouraging employee participation, standardizing the business process, and providing the standards for improvement.

Organization Chart



PI 3.0 Roadmap



Competitiveness of Power Generation

The power generation facilities of POSCO ENERGY are capable of making timely responses to the domestic power demand. As the largest private power company providing approximately 16.5% of the electricity to the metropolitan area, the company is making continuous efforts to sharpen its competitive edge.

Introduction of Power Generation Business

Flexible Supply of Electricity in line with Demand

The peak-load power stations of POSCO ENERGY, designed to effectively deal with the volatility of the domestic electricity demand, produce electricity according to the order of system operation from the KPX.

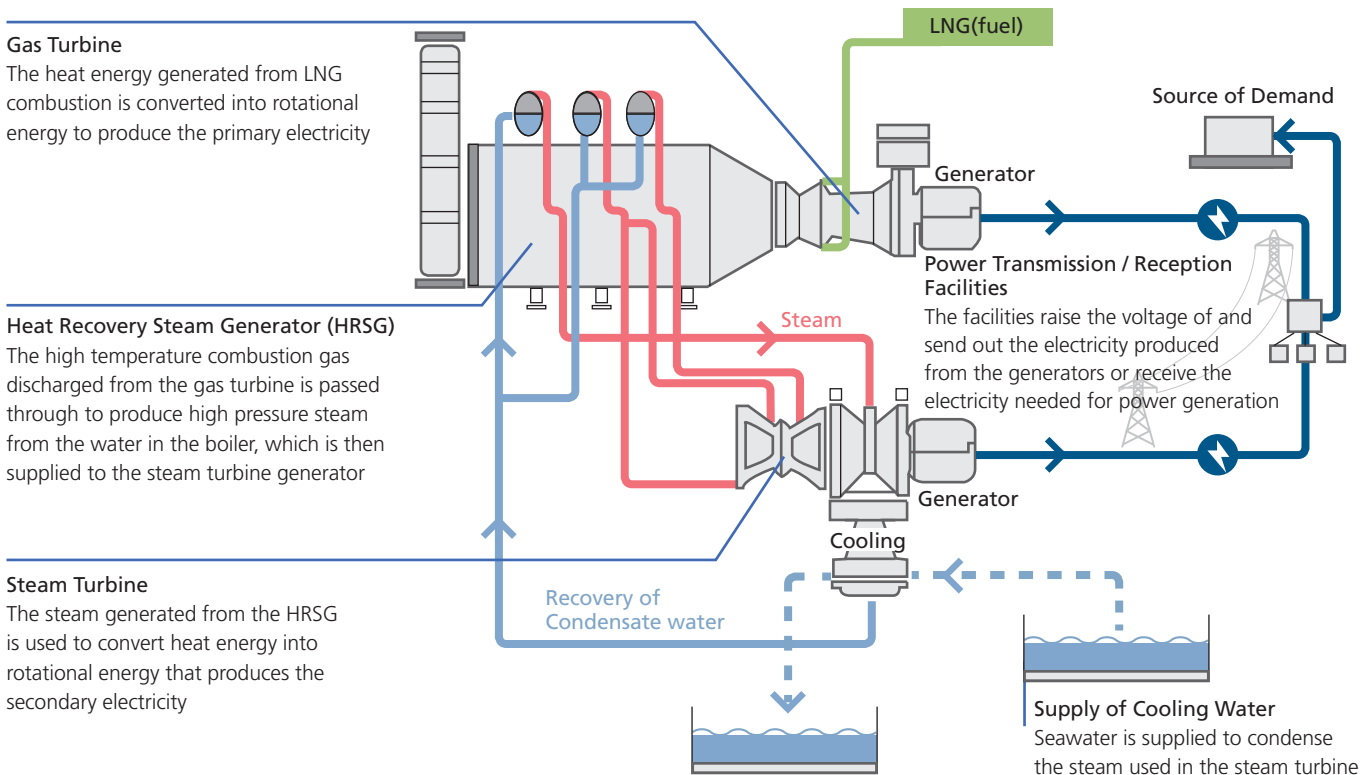
Power Generation Facilities

LNG fuel is combusted to produce the primary electricity in the gas turbine. The waste heat from the turbine is then sent to the heat recovery steam generator to produce steam with high temperature and pressure, and this steam starts the operation of the steam turbine.

Facility Specification

Classification		Capacity	Commercial Operation	Composition (MW)	Method of Electricity Trading
Incheon LNG Combined Cycle Power Plant (3,052 MW)	Units 1-2	900MW	1997	G/T 6 units : 600 S/T 2 units : 300	PPA (Power Purchase Agreement)
	Units 2-3	900MW	1999, 2001	G/T 6 units : 600 S/T 2 units : 300	
	Units 4-5	1,252MW	2011	G/T 4 units : 812 S/T 2 units : 440	CBP (Cost Based Pool)

Flow of LNG Combined Cycle Power Generation Process



Zero-Forced Outage

The peak-load power stations of POSCO ENERGY are maintained to enable their operation and suspension according to a power supply signal. In addition, their availability is maximized to respond to the order of system operation from the KPX by minimizing the number of breakdowns and reducing the time for planning and repairing.

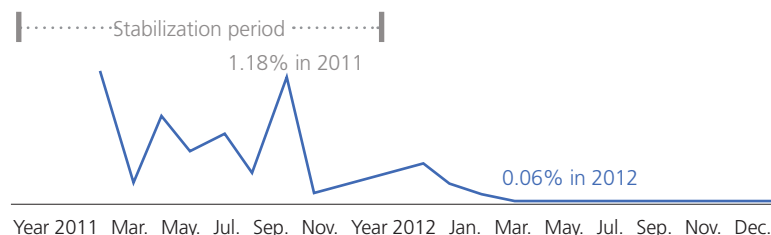
Preventive Inspection (Regular Facility Monitoring)

The possibility of a breakdown of facilities increases in proportion to their usage. In this regard, POSCO ENERGY has expanded the online inspection of facilities and takes preventive measures according to the schedule of facility replacement to prevent the occurrence of failures. The facilities are monitored based on the inspection checklist to maintain their optimal conditions. Moreover, abnormalities are detected in advance through close inspection, and proper measures are taken at the appropriate time to prevent any unexpected breakdown.

Securing Facility Soundness by Nurturing Internal System Operators

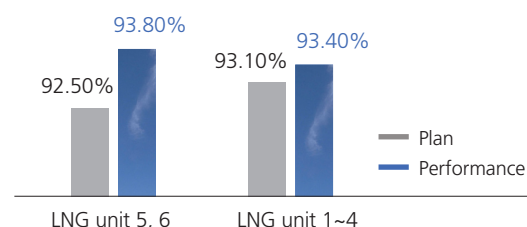
The LNG combined cycle power plants require a high level of operational skills due to their more frequent operation and suspension than base-load stations. Accordingly, POSCO ENERGY has enhanced the soundness of its facilities through the cooperation among the divisions of power generation operation, technology, and maintenance. The company has also strengthened its ability to cope with emergency situations in through the 'Operator Skill Up Training'. The company strives to respond to emergencies in a timely manner by accumulating facility maintenance skills through internal recruiting and training of maintenance workforce, and running a task force for around-the-clock maintenance. In the case of the newly built units 5 and 6, the forced outage rate has significantly decreased from 1.18% in 2011 to 0.06% in 2012, increasing the overall reliability of the facilities.

Forced Outage Rate of LNG Units 5 and 6



* The average (unexpected) forced outage rate of LNG combined cycle power plants in Korea / 2011 (0.56%), 2012 (0.47%)

Availability



* The average availability of LNG combined cycle power plants in Korea : 93.29% (subject: 331 central power stations)
Source : KPX Statistics (May 2012)



Overseas User Conference
(POWER GEN)

Emergency Response System for Rapid Increase of Electricity Demand

To effectively deal with the rapidly increasing demand for electricity, POSCO ENERGY is conducting regular safety inspections during the summer and winter seasons. Based on the emergency measures of the KPX, the company is on emergency stand-by according to the weekly, daily, and real-time electricity reserve. In particular, to immediately cope with the shortage of electricity, an emergency committee chaired by the head of the power plant operation division has been established, and the emergency service system is scheduled to be operated when the power reserve falls below 4million kW, against emergency load adjustments and wide-area blackouts.



Domestic Technology Information
Conference

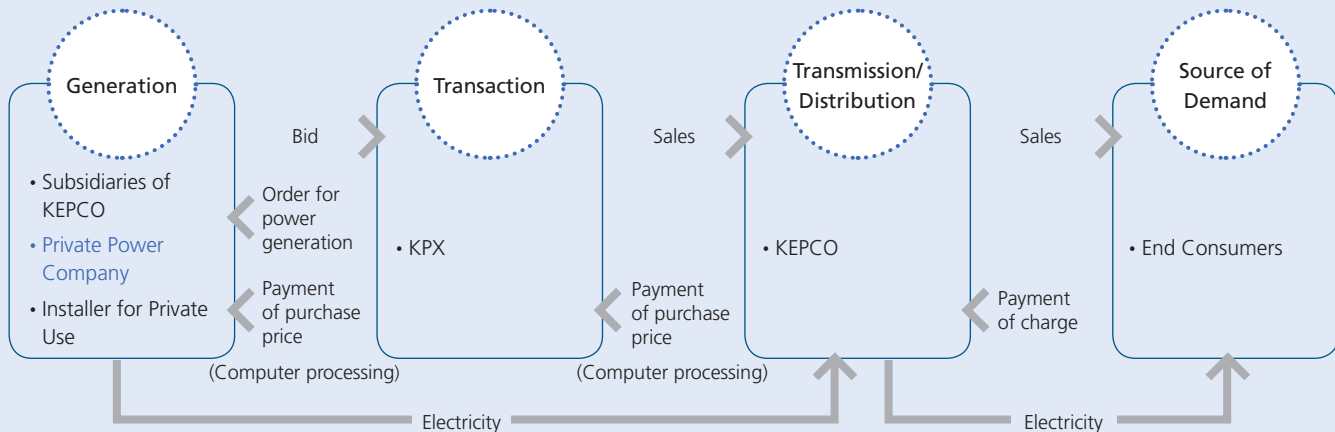
Information Exchange on Facility Operation

POSCO ENERGY promotes the effective operation of facilities through regular technology exchange with power companies and production companies that use the same facilities. The company strives to secure the measures of effective facility operation through the following ways: making a joint response with domestic and foreign production companies in sharing operation/technology information on working and maintenance, updating the current status of reserve materials and special tools used for construction and working, cooperating on the rental of emergency materials, and dealing with the defects of power facilities.

Domestic Power Market

At present, the domestic power market allows a competitive tender only in power generation business, and the KEPCO has the right for power transmission, distribution, and sales. After receiving bids for power generation based on the expenses reflecting the power generation cost of each generator, the KPX makes an order for

power generation and each power company supplies the electricity accordingly. Such generator under the order of the KPX is called the central power station. The electricity supplied from the power generation of the KPX goes through the transmission and distribution network of the KEPCO to be delivered to the end consumers.



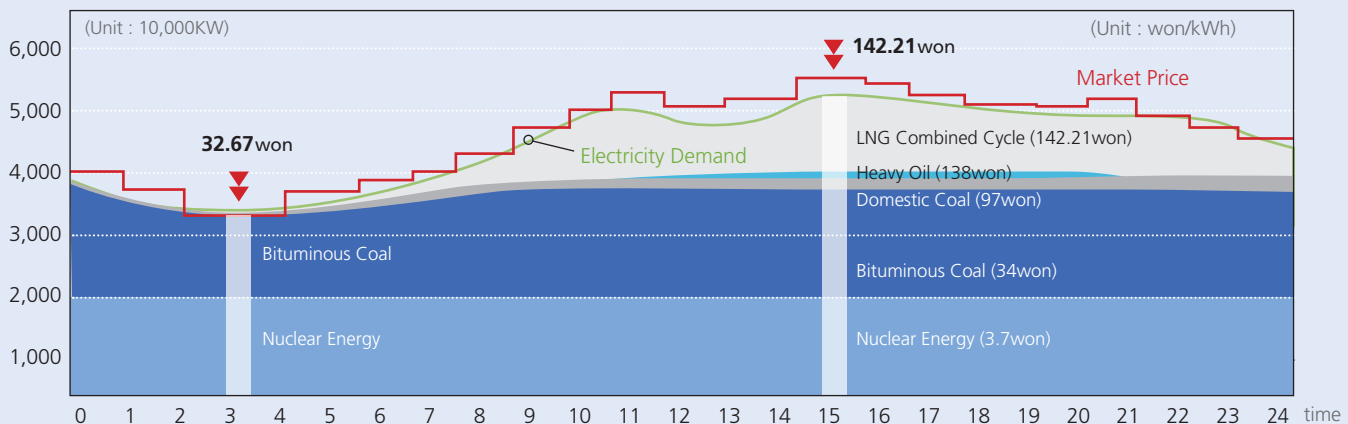
Market Price Depending on Changes in Electricity Demand

The domestic power market is a CBP (Cost Based Pool) market where the variable costs determine the market price. The variable costs are determined by the power production cost, such as fuel and operation costs, while fixed costs are compensated by the CP (Capacity Price) based on the long run marginal cost. The capacity price compensates the fixed costs of generators, attracts investment in new facilities, and maintains the reliability of the system.

The KPX directs generators to produce electricity in the order of low cost to high cost, according to the time-based electricity demand. In other words, the variable cost of the generator producing electricity

at the end determines the market price of the given time, and this is called the SMP (System Marginal Price).

In the case of LNG combined cycle power plants, fuel costs have relatively high influence on determining the market price compared to coal or nuclear energy. The demand for electricity is flexible depending on the time bracket, and thus the supply of electricity must also be flexible. In this regard, LNG power plants act this way despite their high power generation cost since their operation is flexible according to the demand for electricity.



National Green Business - Fuel Cell

Fuel cell is an eco-friendly distributed power generator. They can be installed wherever energy is needed, and energy can be produced directly by consumers. Fuel cell is drawing much attention from the public as the next-generation energy source. Based on the world's largest fuel cell manufacturing plant and the world's best fuel cell technology institute, POSCO ENERGY provides a total solution of fuel cell, including technology development, production, installation, and maintenance of fuel cell power generation systems.

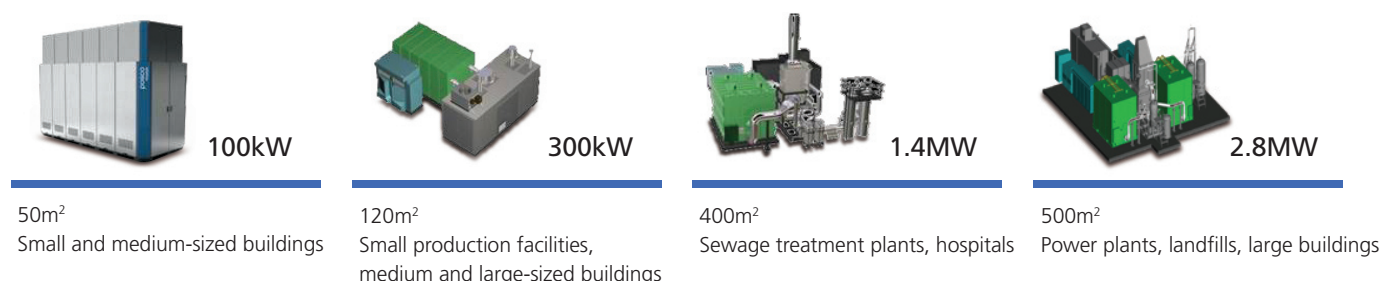
Next-Generation High-Efficiency & Eco-Friendly Energy

In 2003, POSCO designated fuel cells as a future growth engine, and has since promoted the relevant R&D activities and investments. Ever since the world's largest and Asia's first fuel cell manufacturing plant was completed in 2008, core technologies have been secured and investments have been made in order to enhance efficiency and quality. The company is expanding the range of fuel cell products while overcoming the restrictions of new and renewable energy and conventional energy-based power generation.

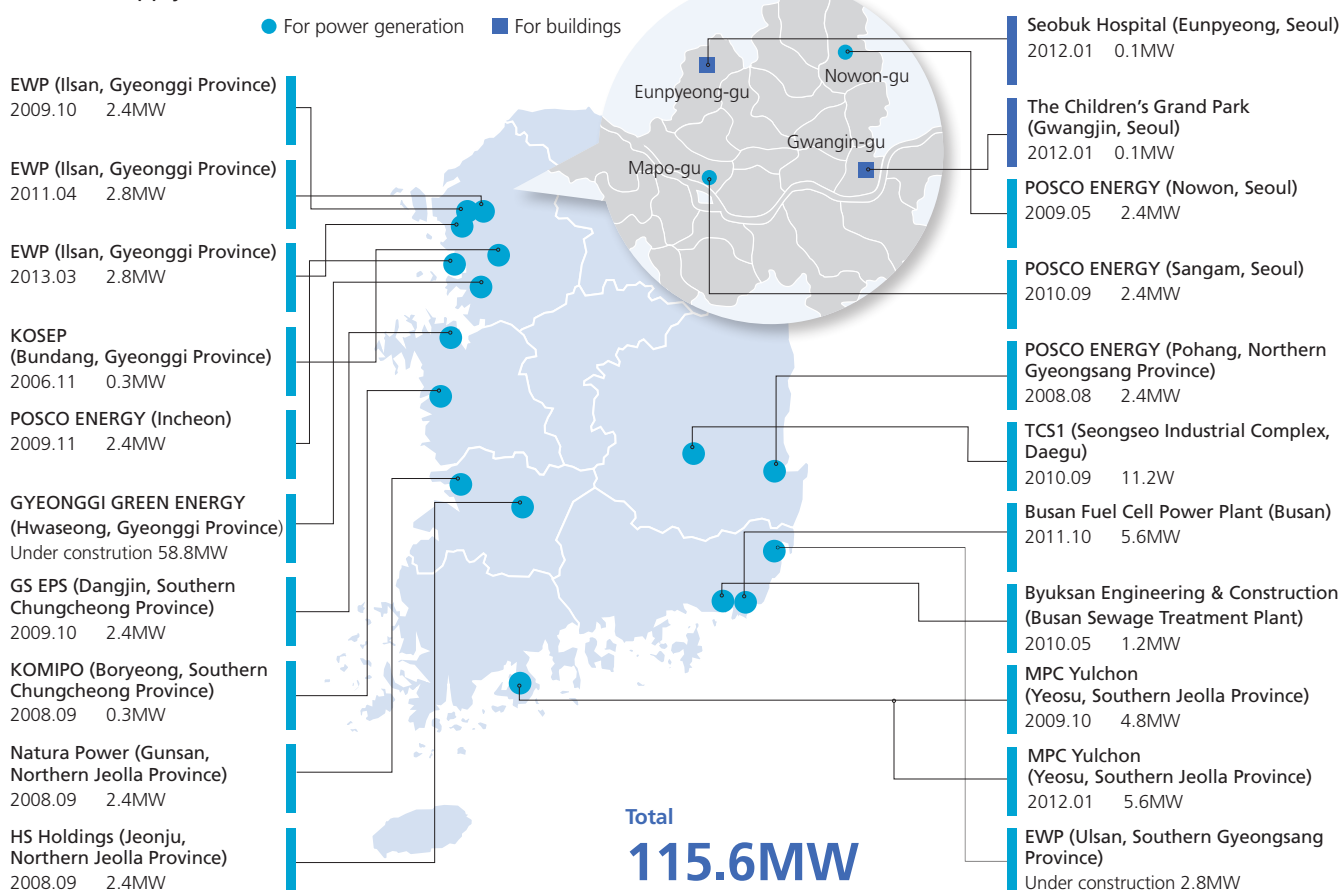


Pohang Fuel Cell Manufacturing Plant

Fuel Cell Products

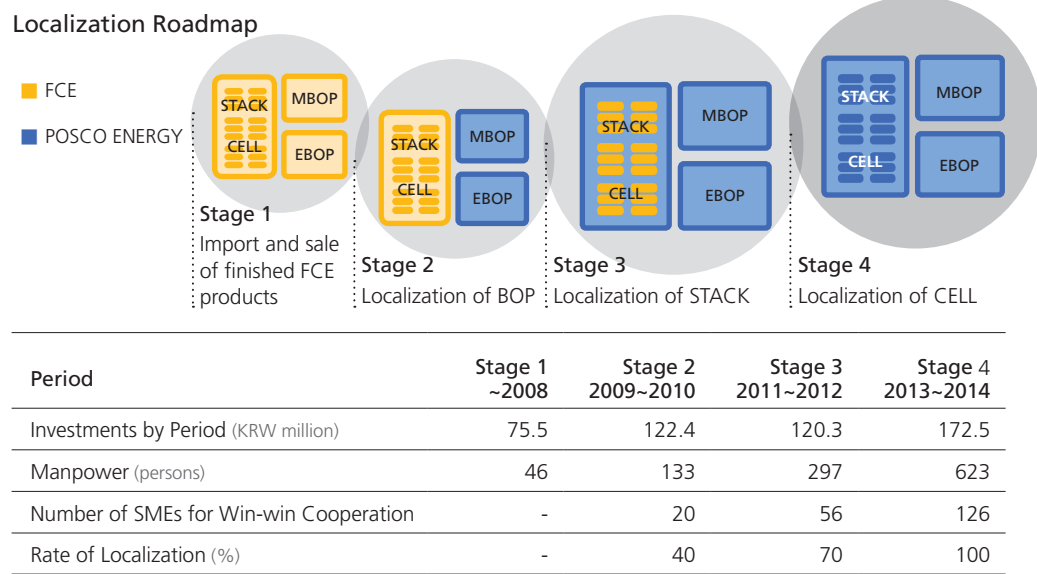


Fuel Cell Supply



Establishment of Independent Business Infrastructure

POSCO ENERGY is working hard to build an independent business infrastructure of fuel cell. Since the establishment of a strategic partnership with FCE (Fuel Cell Energy) of the US, the company has localized 100% of the EBOP through independent development and 88% of the MBOP as of 2012. Throughout the localization process, POSCO ENERGY promotes a virtuous cycle that expands the supply chain, including a number of domestic SMEs, and creates excellent examples of win-win cooperation throughout the cycle. Moreover, since the completion of the Stack Manufacturing Plant, one of the key facilities, in 2011, the company is self-producing Stack. It is also in the process of constructing a plant for the in-house production of the Cell, another key component.



Globalization of Green Industry

POSCO ENERGY has made strenuous efforts to enter the overseas market based on its local experience. At present, the demand for distributed power is rising due to the Fukushima nuclear accident, and fuel cell is emerging as an alternative energy to meet such demands. Through successful overseas expansion, POSCO ENERGY will create new history in the fuel cell market.

Entry into the Indonesian Market through ODA

As part of its Official Development Assistance (ODA) for the economic development and improved quality of life in developing countries, POSCO ENERGY is installing fuel cell of 300kW at Ancol, Indonesia, which is suffering from a shortage of electricity supply. In June 2011, POSCO ENERGY signed the contract for its first overseas fuel cell supply project. According to the contract, it will provide electricity to seawater desalination facilities. This project is expected to contribute to overcoming the shortage of electricity and drinking water in Ancol, as well as to reducing GHG emissions. Furthermore, after the successful implementation of this project, the Indonesian government is planning follow-up projects on the island areas with unstable supply of electricity.

Promotion of Fuel Cell Business as National Project

Since the Fukushima nuclear accident in 2011, countries around the world have recognized the necessity of securing alternative energy sources and supported the sector on national level. Korea has also noted the gravity of the domestic energy problems ever since the blackout on September 15, 2011, and thus made a commitment to solve the energy problems by making a breakthrough with new and renewable energy. Fuel cell is an eco-friendly urban energy source appropriate for the domestic situation with high population density and developed industry. Fuel cell is considered an optimal energy solution in dealing with shortage of electricity and establishing a stable energy supply system. POSCO ENERGY will take the lead in solving energy problems through continuous investments in the fuel cell business, and make the utmost effort to promote fuel cell as a national green business and new growth engine.

Introduction of Fuel Cell

Fuel cell produces electricity and heat through the electrochemical reaction of hydrogen and oxygen.

Fuel cell produces electricity through the inverse reaction of water electrolysis. As opposed to the conventional power generation method that runs turbines by converting the heat energy generated from fuel combustion into kinetic energy, the new method produces electricity through the electrochemical reaction of hydrogen and oxygen.

System Configuration

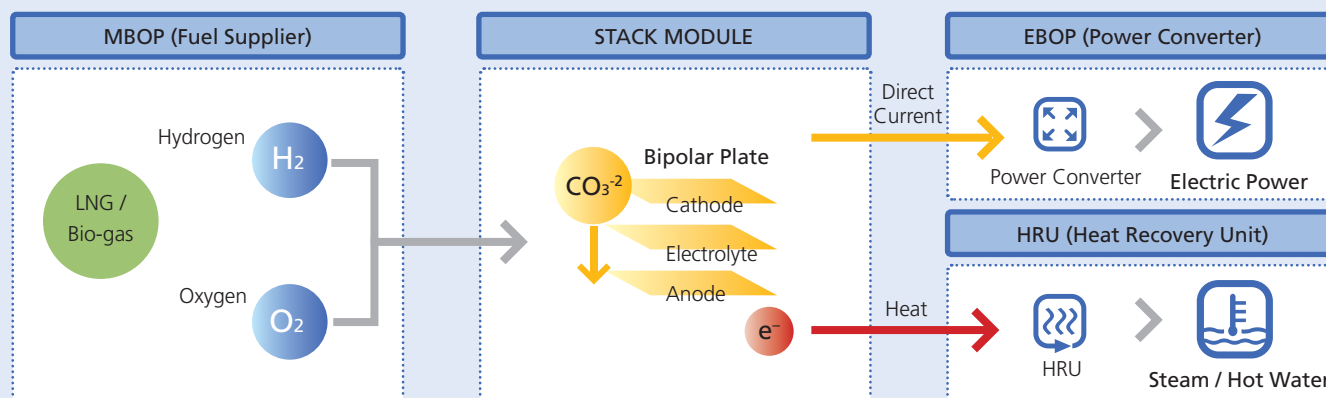
Fuel cell is a power generation system consisting of MBOP, Stack, and EBOP. MBOP, which is related to the operation reliability, supplies fuel and recovers heat. Stack is the lamination of Cells consisting of electrodes, electrolytes, and separators. As electricity is produced and heat is generated through the electrochemical reaction of hydrogen and oxygen, it is most closely related to the efficiency of the generator. EBOP converts the direct current produced by Stack into alternating current, controls the system, and maintains a stable supply of electric power.

STACK	BOP	
	MBOP	EBOP
Stack refers to the layers of Cells consisting of electrodes, electrolytes, and separators, and produces electricity through the electrochemical reaction between hydrogen and oxygen.	MBOP refers to any mechanical device that supplies hydrogen and oxygen (ex. heat recovery ventilator, humidifier, and reformer). It can improve electrical efficiency through the connection to the turbine and also recover heat.	EBOP converts the direct current produced by Stack into alternating current and takes charge of the system control (ex. inverter, converter)
Electricity + Heat Generation Enhance Power Generation Efficiency	Fuel Supply and Heat Recovery Secure Operational Reliability	Control and System Connection Secure Power Stability

* MBOP : Mechanical Balance Of Plant

* EBOP : Electronic Balance Of Plant

Fuel Cell System Configuration (based on MCFC system)

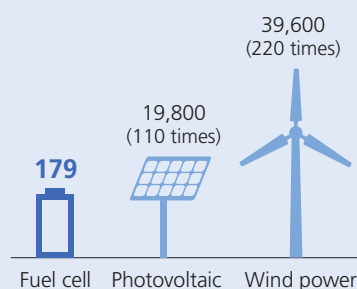


Fuel Cell, the Next-Generation Energy

Fuel cell can produce electricity wherever it is necessary, therefore, can provide a solution to the current power supply system which lacks transmission and distribution facilities. Fuel cell can be installed at any conditions, thereby maximizing space efficiency. Unlike other types of new and renewable energy that are significantly influenced by topography, fuel cell's utilization rate around 90%, and thus stable power generation during any period of time can be expected. Through these features, fuel cell power generation enjoys a variety of applications.

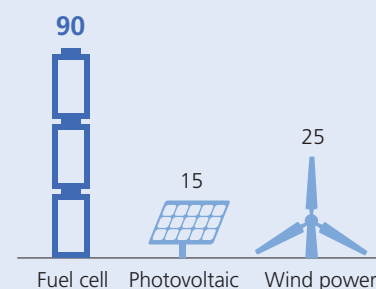
Power Generation by Demander

Area of installation (per 1MW, m²)



Constant Use

Usage (%)

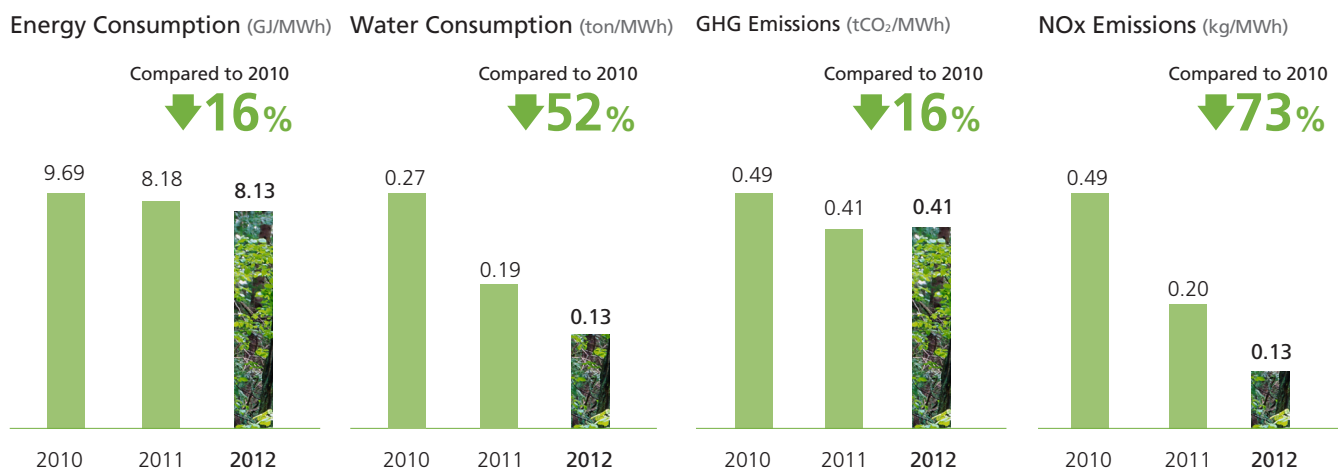




02

ENVIRONMENTAL VALUE

POSCO ENERGY champions eco-friendly practices across the business structure by solidifying its status as an eco-friendly energy provider through continuous environmental investments and by focusing on the development of new and renewable energy. Based on its efforts to expand eco-friendly businesses and establish a green environmental infrastructure, POSCO ENERGY will emerge as a leading eco-friendly energy provider.



Response to Climate Change

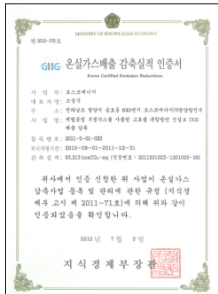
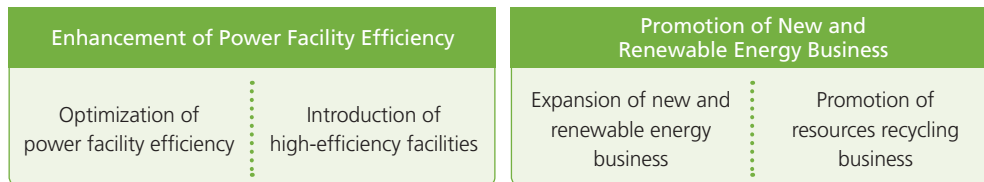
Climate Change Response System

For an effective response to climate change, a task force has been formed to supervise responses to climate change, establish plans to reduce GHG emissions, and encourage each worksite to engage in GHG reduction activities.

GHG Emissions Reduction Strategy

For the effective reduction of GHG emissions, POSCO ENERGY is promoting activities to increase the efficiency of power facilities, through which the annual energy consumption has been reduced by 15,878MWh. In addition, the company is promoting the new and renewable energy business, including fuel cell, off-gas power, wind power, and solar power, as its sub-core business.

GHG Emissions Reduction Strategy



Certificate for GHG Emissions Reduction

Optimization of Power Facility Efficiency

For the optimization of the generator operation, the company engages in operating high-efficiency power generators, making continuous improvements for facility efficiency, and recycling waste heat. Moreover, the greenhouse gas reduction project, which uses the off-gas generated from the operation process of Gwangyang Steel Works as a fuel for generators, has received credits from the government for its reduction performance.

Major Achievements in Energy Reduction

Energy Reduction Activities	Performance (MWh/year)	Description
Installation of Washing Skid at Units 5-6	12,264	Improvement of washing installations of compressors
Installation of CWP VFD at Units 5-6	2,900	Application of variable operation to CWP (Circulating Water Pump)
Introduction of Lighting-control System	274	Removal of year-round lighting
Improvement of Lighting System	440	Introduction of high-efficiency lighting
Total	15,878	

GHG Emissions and Energy Consumption

POSCO ENERGY strives to reduce GHG emissions and energy consumption through a series of energy reduction activities: analyzing the status of energy consumption and GHG emissions, introducing high-efficiency facilities, and making continuous improvements for facilities.

Classification	Unit	2010	2011	2012
Energy Consumption	GJ/MWh	9.69	8.18	8.13
GHG Emissions	tCO ₂ /MWh	0.49	0.41	0.41

The UN Framework Convention on Climate Change (UNFCCC) and a more stringent set of domestic regulations on GHG (Greenhouse Gas) emissions and energy efficiency require the electricity industry to effectively respond to climate change. Responses include using energy more efficiently and ensuring a stable supply of electricity through low-carbon green electricity generation.

POSCO ENERGY sees this situation not as a crisis but as an opportunity, and is reflecting its perspective into its business strategies by promoting energy efficiency and new and renewable energy business through the introduction of high-efficiency facilities.

New and Renewable Energy Business

POSCO ENERGY is actively promoting the new and renewable energy business as a new growth engine to serve as a driving force for low carbon green growth. Exerting its best efforts in various businesses of new and renewable energy, including solar power, wind power, fuel cell, and RDF (Refuse Derived Fuel), the company is effectively responding to the RPS (Renewable Portfolio Standard) by the government.

New and Renewable Energy Business Development Plan

Installed capacity



Solar Power

POSCO ENERGY has independently developed and is operating solar (photovoltaic) power plants of 2MW and 5MW, for a total of 7MW, in Palgeum-myeon area, located in Shinan-gun, Jeollanam-do. In particular, the Shinan solar power Plant has been recognized for its outstanding work in minimizing the environmental impact on surrounding areas and creating eco-friendly synergy with local communities by utilizing a closed salt farm that had been unused for years. The company plans to construct another power plant of 7.5MW, thereby will operate a large solar power plant of 14.5MW by 2014.

Wind Power

In cooperation with domestic company, POSCO ENERGY is developing the domestically first commercial offshore wind power complex of 30MW on the public water near the northwestern part of Jeju island, and also planning on the development of a large-scale onshore and offshore wind power complex in Shinan-gun, Jeollanam-do. The wind power plant in Jeollanam-do is expected to contribute to revitalizing the local economy by using wind power turbines produced within the region. POSCO ENERGY is developing an onshore wind power plant of 100MW as a first stage, and after reviewing business conditions, it is planning to carry out additional developments of an onshore plant of 100MW and an offshore plant of 300MW. The development of these projects will make continuous contributions to the development of the domestic wind power industry.



Shinan Solar (Photovoltaic) Power Plant

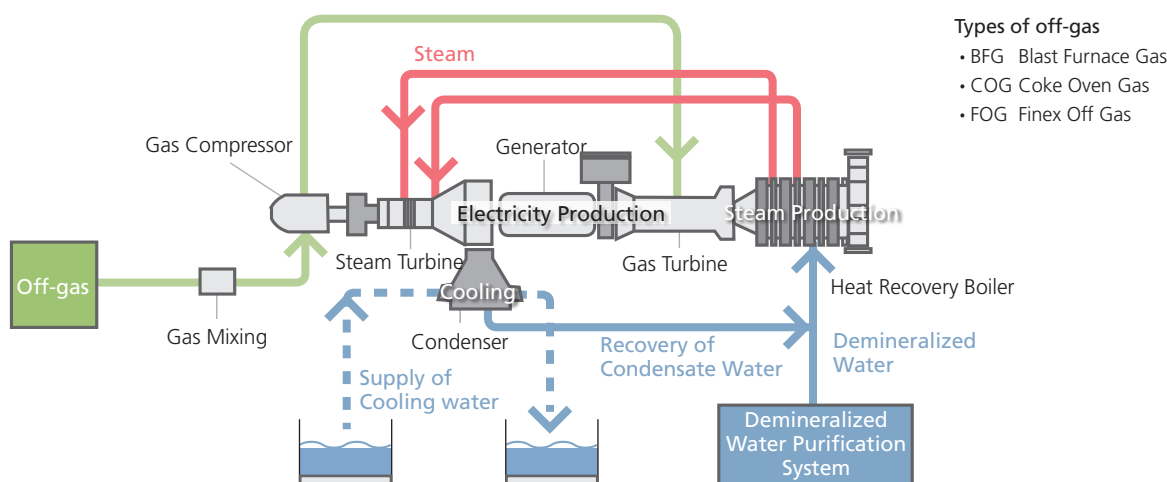


Tamra Offshore Wind Power Plant

Off-Gas Combined Cycle Power Plant

Off-gas combined cycle power plants are eco-friendly since they produce power by using the excess off-gas generated from the steel making process. Moving away from the conventional steam power plant, the company is operating high-efficiency combined cycle power plants.

Flow of Off-Gas Combined Cycle Power Generation



Gwangyang Off-Gas Combined Cycle Power Plant

The Gwangyang plant, the first off-gas combined cycle power plant in Korea, was completed in December 2010 with total installed capacity of 284MW. Through high-efficiency and eco-friendly power generation, the plant achieved the crude oil substitution effect of KRW 57billion per year and reduced 0.18million tons of GHG emissions. Categorized at present as new and renewable energy, the Gwangyang power plant sells its electric power to the KPX on a preferential basis regardless of its generating capacity.



Classification	Gas Turbine	Steam Turbine	Total
Unit 1	86MW	56MW	142MW
Unit 2	86MW	56MW	142MW
Total	172MW	112MW	284MW

Pohang Off-Gas Combined Cycle Power Plant

The Pohang Off-Gas Combined Cycle Power Plant, now under construction, will have an installed capacity of 290MW in total. It is a eco-friendly type of power generation which reuses off-gas, such as BFG, COG, and FOG, as a power generation source. Also, it will contribute to the local community which faces electricity shortage.



Classification	Installed Capacity	Start of Commercial Operation	Total Completion of Construction
Unit 1	145MW	August 2013	May 2014
Unit 2	145MW	January 2014	
Total	290MW		

For air conservation, more stringent regulations on NOx emissions (30ppm) than the government regulation (50ppm) will be established, and the SCR (Selective Catalytic Reduction) device will be introduced to minimize the emissions of NOx and fine dust so that the company can take the lead in improving air quality.

Eco-friendly Fuel Cell

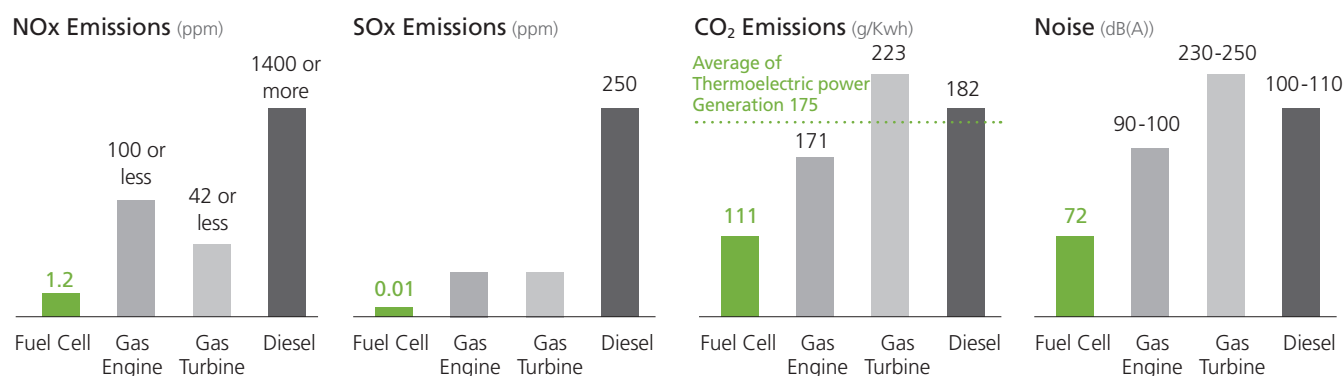
The eco-friendliness of fuel cell has allowed POSCO ENERGY to create new markets and expand business opportunities. The company is trying to minimize the environmental impacts in all manufacturing processes, including assembly and transportation.

Development and Increased Supply of Fuel Cell

Fuel cell is an eco-friendly energy technology with little air or noise pollution. It is a clean energy system that takes humanity, technology, and environment into consideration. POSCO ENERGY continues to develop eco-friendly fuel cell products and secure technical knowledge, and strives to create a clean world by supplying fuel cell.

Support for Fuel Cell CDM (Clean Development Mechanism) Project

In February 2008, POSCO ENERGY started developing the fuel cell CDM methodology and in the following October, it completed the development and submitted to the UNFCCC. In May 2009, the UN approved the company's new methodology regarding fuel cell for the first time in the world. Based on its professional knowledge of fuel cell installation and CDM project, POSCO ENERGY provides relevant services for successful implementation of CDM projects.



Overseas New and Renewable Energy Business

Integrated Steel Mill Off-Gas Power Generation Project in Indonesia

This project is to construct an off-gas power plant of 200MW inside the BROWN-FIELD integrated steel mill, in cooperation with the Indonesian state-run steel company, PT.KS. The project is an example of combining the company's off-gas power generation technology with its experience in domestic off-gas power plant operations, which is recognized as a successful case of overseas expansion. The project is expected to create additional profits by carrying out off-gas power generation CDM project in line with the integrated steel mill investment project.

Solar Power Generation Project in Nevada



Site and bird's-eye view of the solar (photovoltaic) power plant in Nevada

At present, POSCO ENERGY is developing a large-scale solar power (photovoltaic) plant of 300MW in Boulder City, Nevada, and preparing for a PPA (Power Purchase Agreement) with major power providers in the US. Once completed, the Nevada power plant will serve as a bridge for the overseas expansion of the company's new and renewable energy business. POSCO ENERGY is also considering to promote joint overseas expansion with a domestic company that has difficulty in securing a strong overseas track record. The efforts to develop new and renewable energy, mainly in the US and the prospective countries, such as Japan and Latin American countries, will contribute to reducing GHG emissions.

Environmental Value Created by POSCO ENERGY – Waste to Energy Business

No waste should be wasted any more. Waste is a valuable source of energy.

POSCO ENERGY is reducing GHG emissions by converting waste and sewage heat into energy sources to replace fossil energy. We believe that 'saving the earth' is no different from its mission, 'Make a brighter world by providing cleaner energy'

CSV (Creating Shared Value)

A concept of business operation method and policy that can enhance the economic and social conditions of local communities and the corporate competitiveness at the same time

- Michael E. Porter
(Harvard Business Review)

(Annual consumption of
20,000 households)

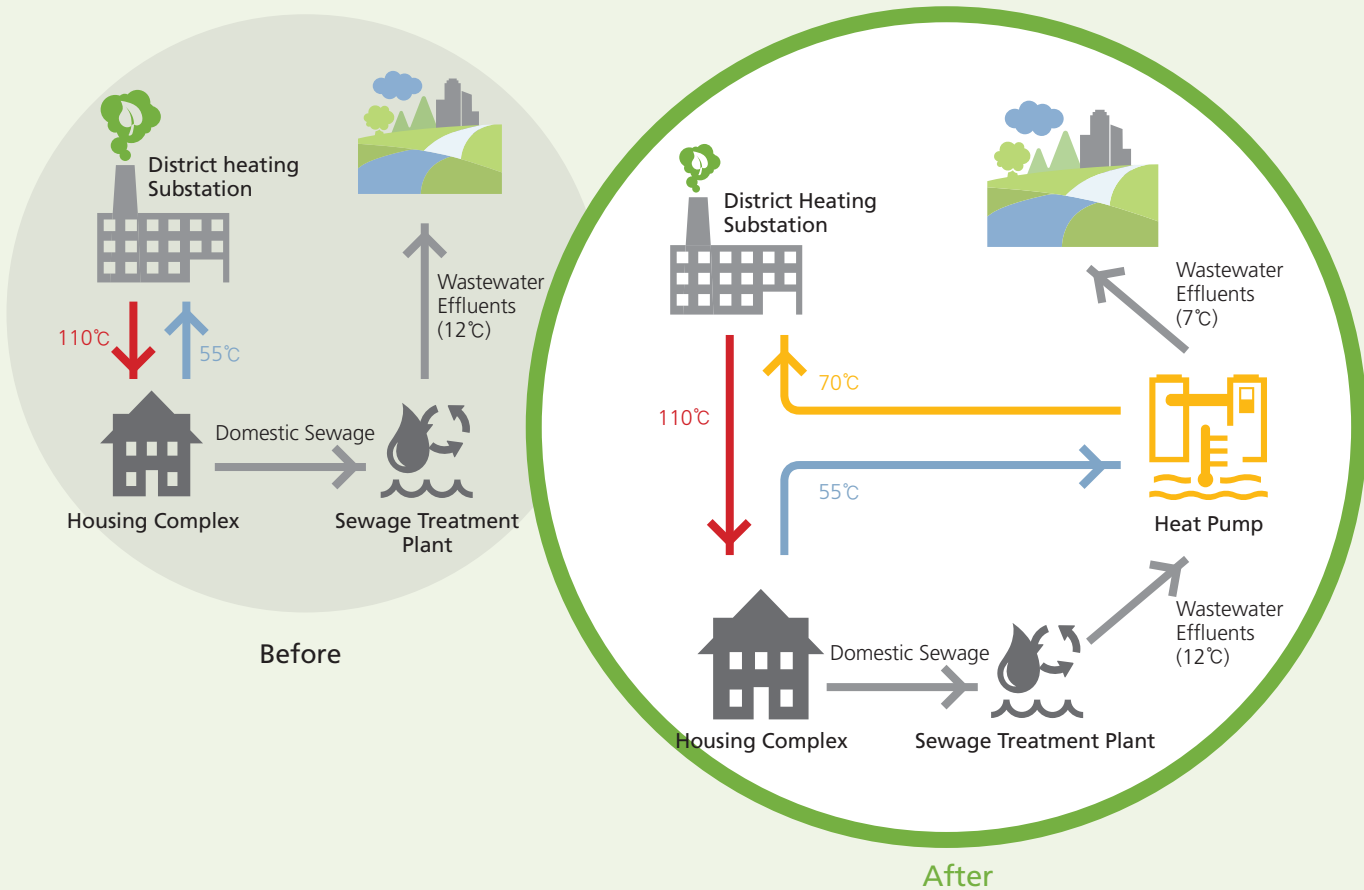
Reduction of
LNG Consumption

19 Million Nm^3/year

Reduction of
 CO_2 Emissions

44 thousand tCO_2/year

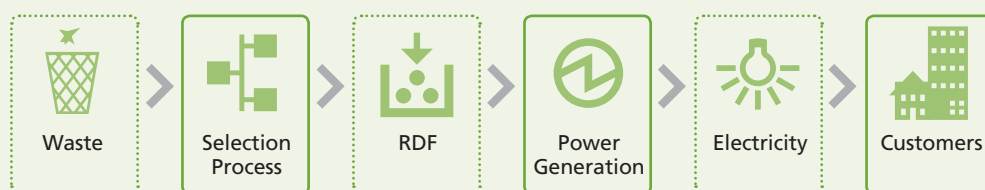
「Tancheon Water Reuse Center Using Sewage Heat for District Heating」 The domestic sewage discharged from the southeast of the metropolitan area is treated at the Tancheon Water Reuse Center before being discharged into the Han River through Tancheon. The amount of daily discharge after treatment stands at 1.1million Nm^3 at the average temperature during winter of 12°C . POSCO ENERGY recovers such wasted heat energy by using a heat pump for district heating, which has the same effect as substituting 19million Nm^3 of LNG, per year. The use of wasted energy instead of fossil fuel can contribute to reducing the annual GHG emissions by 44,000tons.



POSCO ENERGY is creating social and stakeholder value through its energy business. To fulfill its social responsibility, the company is engaged in a variety of activities to solve social issues. The enhancement of social value through such activities is providing the company with an opportunity for CSV (Creating Shared Value), which helps to strengthen its competitiveness. POSCO ENERGY is creating new business opportunities by understanding the relationship between social issues and its key business activities.

RDF (Refuse Derived Fuel) Development Project: Creating Energy and Reducing Environmental Pollution

Household waste used to be incinerated or buried, and this often caused environmental pollution since inflammable waste and nonflammable waste were not separated in the process. POSCO ENERGY is currently promoting the RDF development project as part of its new and renewable energy business, which is expected to reduce environmental pollution and create new energy. Upon the successful implementation of the project, household waste will be separated and selected, and only the inflammable waste will be used as fuel to produce electricity at designated boilers. The heat generated through this process will be supplied to district heating substations and various industrial facilities. POSCO ENERGY is also promoting the joint R&D activities with specialized research institutes and expanding the relevant businesses at home and abroad.



「Busan Waste Treatment & Power Generation Facility」 The Busan Waste Treatment & Power Generation Facility, the nation's first RDF Power Generation facility, began construction in October 2010, is now under test-operation, and will be completed in October 2013. The facility will process waste into fuel and produce electricity for 40,000 households per year.

「Pohang Waste Treatment & Power Generation Facility」 The company was selected as a priority negotiator in March 2011 and is currently in negotiations with the government, with a plan for construction to start in 2014 and end in 2017.



Busan Waste Treatment & Power Generation Facility

Waste Treatment Facility Capacity	900 tons/day
Power Generation Facility Capacity	25 MW
LNG Substitution	70 million Nm ³ /year
CO ₂ Reduction	174 thousand tCO ₂ /year



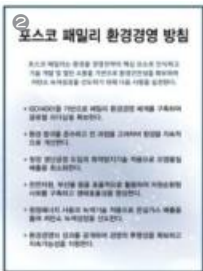
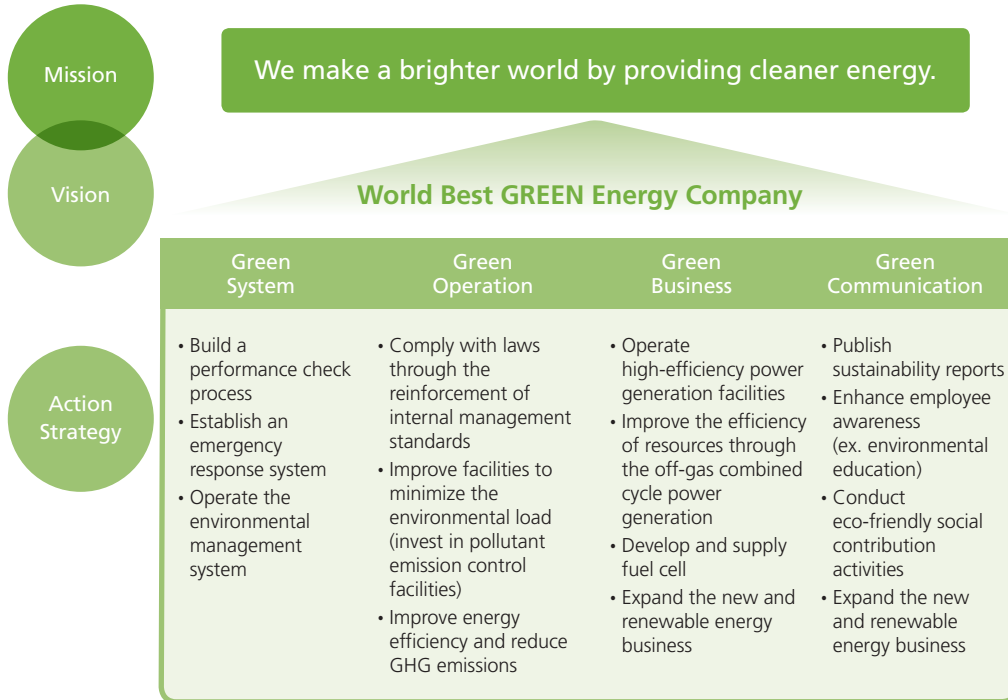
Pohang Waste Treatment & Power Generation Facility

Waste Treatment Facility Capacity	500 tons/day
Power Generation Facility Capacity	12 MW
LNG Substitution	34 million Nm ³ /year
CO ₂ Reduction	84 thousand tCO ₂ /year

Eco-friendly Management System

Environmental Management Strategy

POSCO ENERGY will boost its corporate competency by establishing and executing strategies of Green System, Green Operation, Green Business, and Green Communication, and make a brighter world as a Green Energy Creator.



- 1 ¹ ISO14001 Certification
2 ¹ POSCO Family's environmental management policy

Organization and Operation of Environmental Management

The Technology Team under the Power Plant Division supervises the organization in charge of the environmental management system and supports each worksite. In addition, the environmental management working committee is operated to check the current status of the environmental management at each worksite, discuss the relevant issues, and carry out the activities to strengthen environmental management.

Operation of Environmental Management System

For the optimal operation of the environmental facilities and continuous and systematic environmental improvement, the company has acquired the ISO14001 certification for all its worksites, including the Incheon LNG power plant, the Gwangyang off-gas power plant, and the Pohang fuel cell manufacturing plant.

POSCO Family's Integrated Environmental Management System

Through the establishment of the POSCO Family's integrated environmental management system (G-Cop) and the participation of the environmental management committee, POSCO Family companies share and exchange various information on environmental policies and technologies.

Operation of Eco-friendly Power Plants

Proactive Reduction of Environmental Impacts

Environmental Impact Assessment

To minimize environmental impacts during the construction and operation of power plants, POSCO ENERGY is conducting a 3-step environmental impact assessment. The environmental impact assessment allows the company to check the location and size of the biodiversity protection area and habitat and, should problems arise, to establish and implement an improvement strategy. So far none of the operated sites are located in biodiversity protection areas.

Before Construction

Predict and prevent of environmental impacts arising from power plant constructions

During Construction

Check and enhance of environmental impacts during construction

After Construction

Manage environmental impacts during power plant operation

Compliance with Environmental Laws

It has been proactive in environmental management, in particular, the company has set a stricter standards for the air and water pollutants than the government standards. Consequently, there have been no violation of environmental laws and no leakage of pollutants to date. POSCO ENERGY will continue to implement a high level of environmental management as an eco-friendly energy provider.

Continuous Environmental Investments

POSCO ENERGY is exerting its utmost efforts to minimize the environmental impacts while operating businesses. The company continuously makes investments in air pollution control, response to climate change, and waste water management, for the optimal installation and maintenance of environmental facilities and the application of the minimization technology for environmental impacts.

Environmental Investments

(Unit : KRW million)



- Air Pollution Management and Response to Climate Change
- Waste Water Control

Major Environmental Investments

Air Pollution Management and Response to Climate Change

- Installation of ULNB (Ultra Low NOx Burner) and SCR (Selective Catalytic NOx Removal System) for the Incheon LNG Combined Cycle Power Plant Units 5 and 6
- Installation of LNB and EP of the Gwangyang Off-gas Combined Cycle Power Plant Units 1 and 2

Waste Water Control

- Additional construction of discharge water treatment plants for the Incheon LNG Combined Cycle Power Plant
- Establishment of the discharge water facility for the first treatment at the Gwangyang Off-gas Combined Cycle Power Plant

Minimization of Environmental Impacts

Resource Management

For the Gwangyang Power Plant, both ground water and industrial water are used for the production of steam and operation of facilities; the water used for other power plants is 100% ground water. At present, the amount of used water is continuously being reduced due to the increased water reuse and recycle and continuous search and examination of the problems in the facilities. In the aspect of energy saving, the company is maximizing energy recovery by implementing projects and tasks such as improvement of lighting fixtures and establishing systematic preventive plans for facility maintenance. Moreover, since 2011, the seawater used in the power plants is being provided to local governments to be used for snow removal. In addition, POSCO ENERGY strives to save resource and energy through various green activities, such as the Green Office Campaign, which employees voluntarily participate.

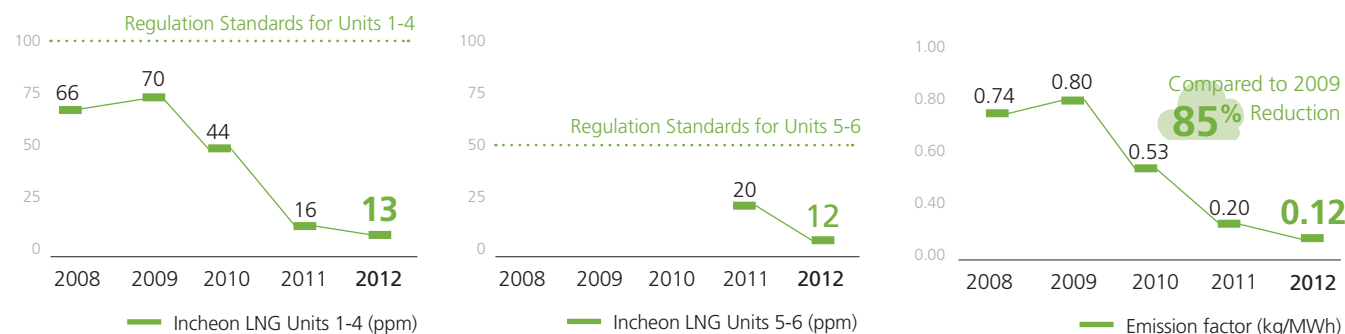
Management of Air Pollution

To manage nitrogen oxide (NOx), the only air pollutant emitted from POSCO ENERGY's power plants, the company established the CEMS (Continuous Emission Monitoring System) for real-time monitoring. As a result of setting its own standards for nitrogen oxide emissions that are more stringent than the legal limits and establishing the annual reduction plan, the Incheon units reduced the emission factor by 75% and 85% in 2011 and 2012, respectively, compared to 2009 levels. In 2012, the Gwangyang plant also reduced its emission by 52% compared to the legal standards. Such outstanding air pollution control efforts will be continued through constant facility improvements and technology investment.

「Best Company on Air Pollution Management」 Since POSCO ENERGY entered into the Blue Sky Agreement with Incheon City, it has made constant efforts to reduce the emission of air pollutants by improving and investing in power plant facilities. Consequently, it received the highest scores and was selected as the best facility in both 2010 and 2012 in the air pollution improvement evaluation among the large power facilities in Incheon.

Blue Sky Council
POSCO ENERGY entered into the Blue Sky Agreement with nine power generation companies and one oil company in Incheon to reduce the emission of air pollutants by 15% by 2014 compared to the past five years (2005~2009).

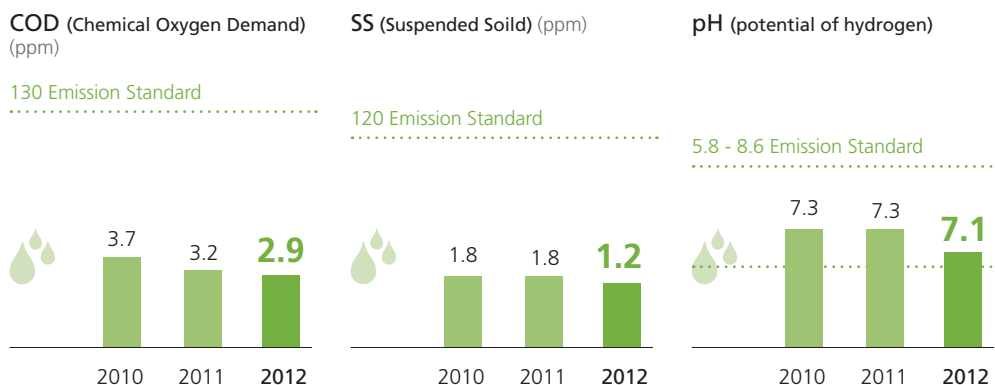
Nitrogen Oxide (NOx) Emissions in Incheon Units



Management of Discharged Water Quality

POSCO ENERGY strives to prevent environmental hazards that may affect local rivers and thereby enable local residents to live in a healthy and pleasant environment by controlling the quality of water discharged from its power plants. To this end, the company's own standard is set more stringent than the legal standard for water pollutants, and the CEMS (Continuous Emission Monitoring System) is used to check for any abnormalities with waste water discharging/prevention facilities in real time. In addition, the company has a management system to quickly grasp the situation and take measures should any problems occur in relation to the water quality, with regular self-assessments on the water pollution standards such as COD, SS, and pH.

Water Quality Management of Incheon Units



Management of Persistent Organic Pollutants

Equipments for managing Persistent Organic Pollutants (PCBs) include oil-filled transformers, condensers, and metering outfits, as well as equipment using electrical insulating oil as insulating medium. These equipments are reported, used, and discarded in accordance with the Persistent Organic Pollutants Management Act.

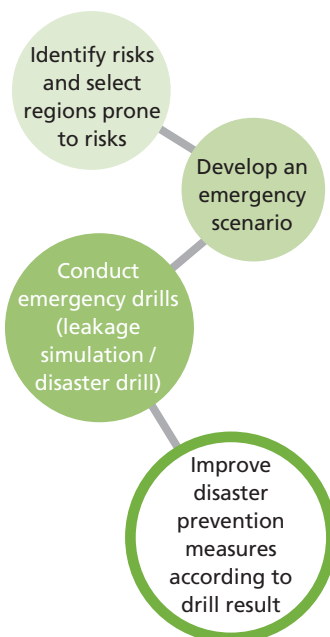
Management of Soil Contamination

POSCO ENERGY strives to not only manage soil conditions of its facilities but also the soil of local community and national environment. Therefore, the company reports and manages the facilities which may bring about soil contamination, in accordance with the relative laws. Furthermore, it prevents the corrosion or oxidation of facilities through regular soil contamination tests, and ensures that no pollutant is leaked. In the case of a leakage, the company makes sure all the leaked pollutants flow to the wastewater treatment plant to prevent proliferation.

Waste Management

The company decreased the amount of wastes in the plants by 72% in 2012 compared to 2009 levels by reducing the waste generation and increasing the amount recycled. The wastes in the plants are managed and disposed according to the legitimate process. When bringing in and taking out the wastes, the details (ex. size and kind) are recorded and the waste disposal data is submitted to the concerned district office. Moreover, each worksite has recycling bins to separately collect recyclables and to reduce the amount of wastes.

Emergency Drill Procedure



Emergency drill

Management of Chemicals

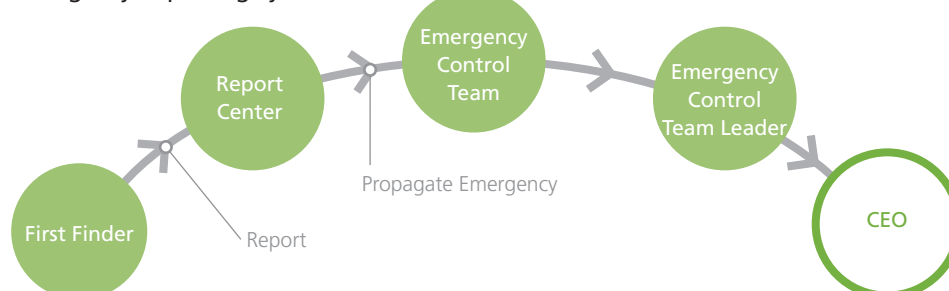
POSCO ENERGY uses chemicals in processes such as producing energy and handling discharged water. To properly operate the chemical-related facilities, prevent accidents, and abide by environment-related laws, daily and monthly inspections are conducted to regularly check the facility status and leakage occurrences. In addition, a special inspection team checks and deals with safety/environmental issues on a regular basis to ensure the safety in managing chemicals and preventing any leakages.

To prevent the leakage of chemicals, all the chemical-related facilities have the system to transfer the leaked chemicals to treatment plants should any leakage occur, and proliferation-prevention systems have been built up around the facilities. Also, outsiders are not allowed to enter the facilities without permission, and a discharge of chemicals is prevented through a strict management of locks to the facilities and entrances.

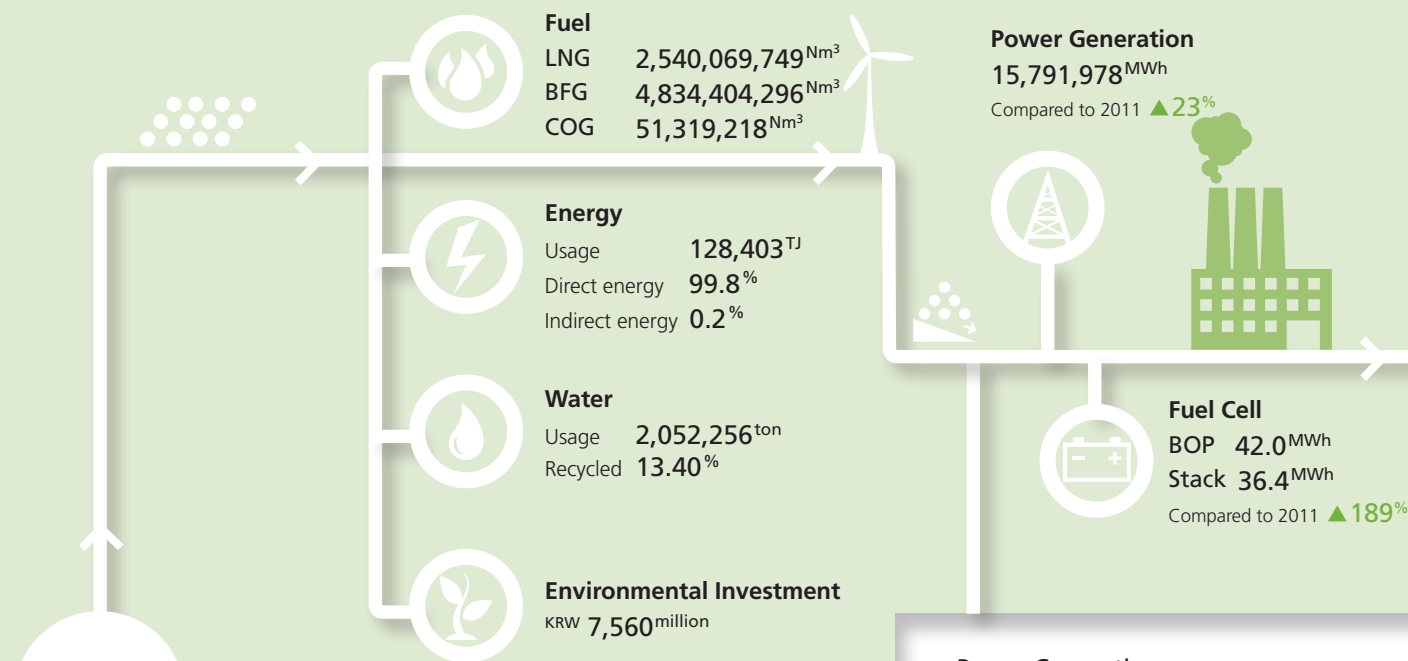
Emergency System

To make a prompt and effective response to environmental emergencies, POSCO ENERGY established an emergency response system with an emergency control team to prevent any damages to the safety and health of employees and community residents as well as the neighboring environment. The company has also developed emergency response scenarios and regularly conducts emergency drills. In particular, a fire drill is held once a year with neighboring companies and a fire station for a swift response to emergencies.

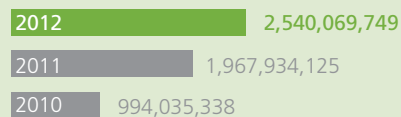
Emergency Reporting System



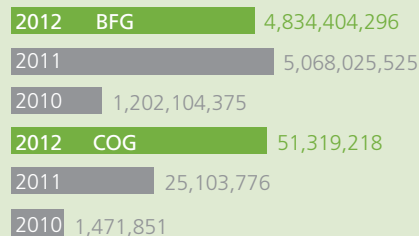
Material Flow



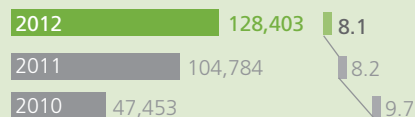
LNG Consumption (Nm³)



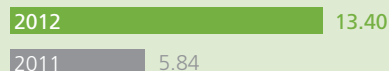
Off-gas Consumption (Nm³)



Energy Consumption (Total TJ, Basic Unit GJ/MWh)



Water Recycled rate (Gwangyang) (%)

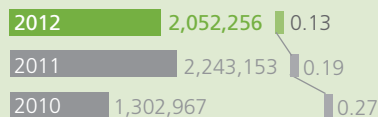


Direct / Indirect Energy (%)

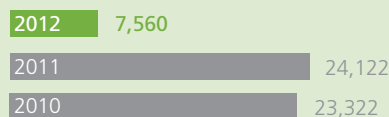


Water Consumption

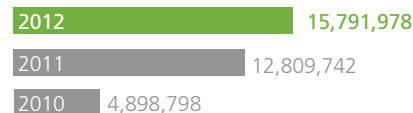
(Total ton, Basic Unit ton/MWh)



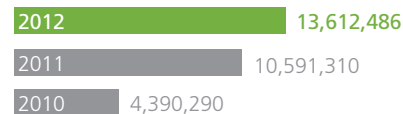
Environmental Investment (million in KRW)



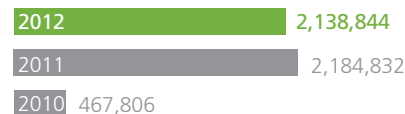
Power Generation (MWh)



Incheon LNG Combined Cycle (MWh)



Gwangyang Off-gas Combined Cycle (MWh)



Fuel Cell and Others (MWh)



Fuel Cell Production

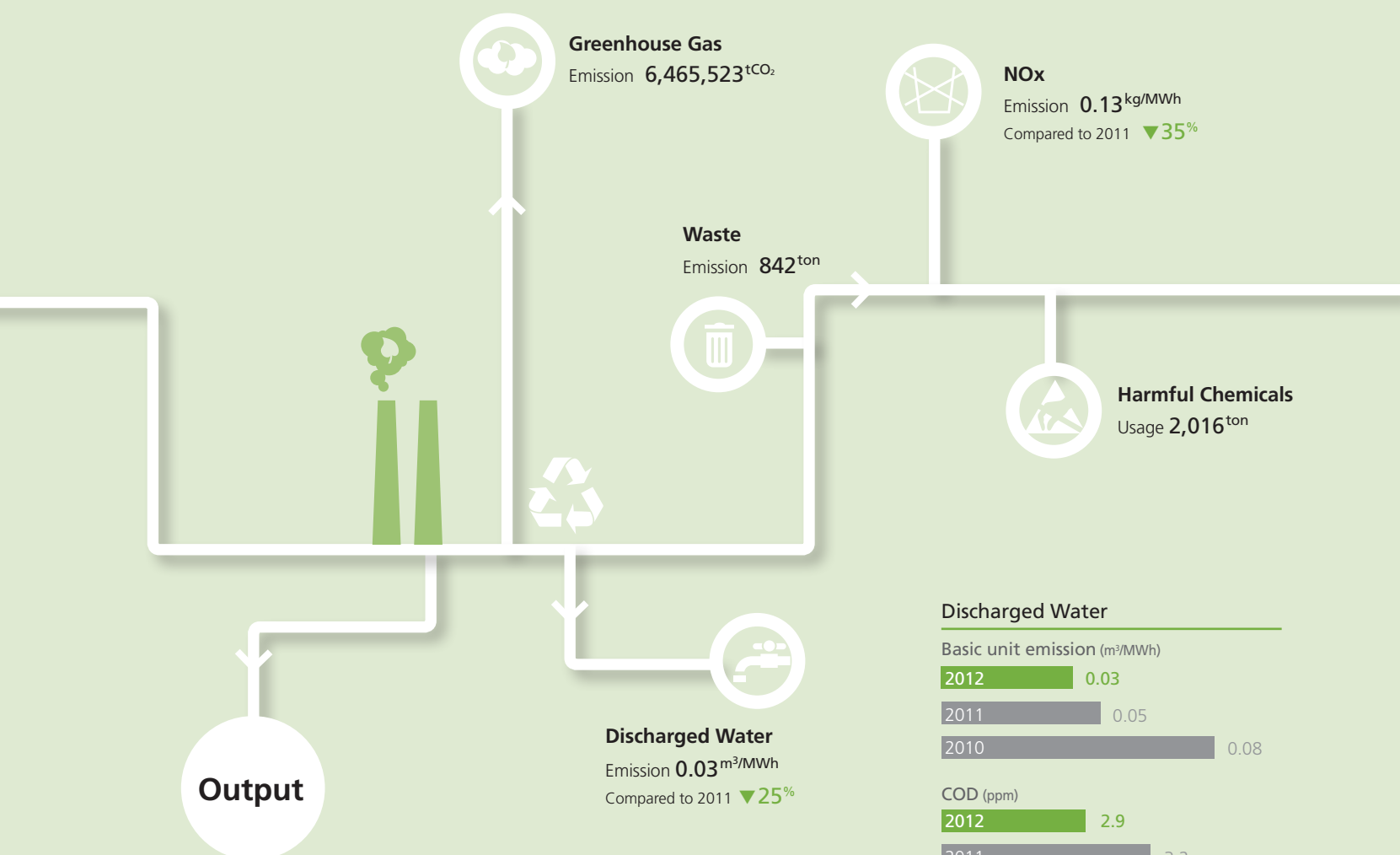
BOP (MW)



Stack (MW)

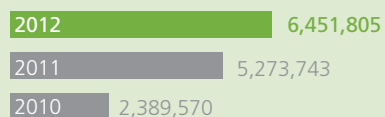


* In 2010, the production of BOP and Stack amounts to 8.4MW

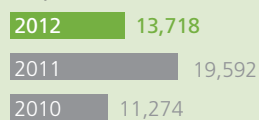


Greenhouse Gas Emission

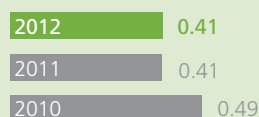
Scope1* (tCO₂)



Scope2* (tCO₂)



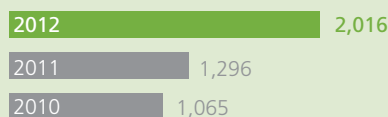
Basic Unit (tCO₂/MWh)



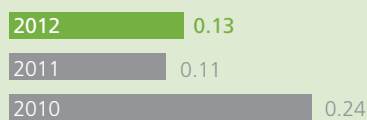
* GHG emissions are categorized according to the sources : Scope 1 is direct emission and Scope 2 is indirect emission

Harmful Chemicals

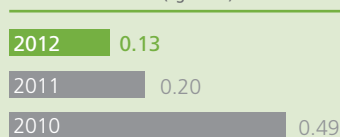
Total (ton)



Basic Unit (kg/MWh)

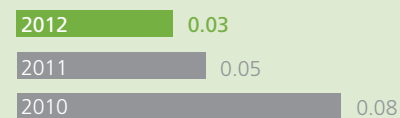


NOx Emission (kg/MWh)

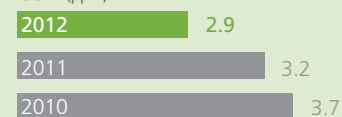


Discharged Water

Basic unit emission (m³/MWh)



COD (ppm)



SS (ppm)

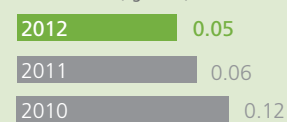


Waste

Total (ton)



Basic Unit (kg/MWh)



Eco-friendly Communication

Together with its employees, POSCO ENERGY is making a Green Workplace and spreading the company's eco-friendly policy to external stakeholders. In addition, the company is sharing the activities and performances of environmental management through external communication.

Environmental Education

For environmental education, a number of systematic programs are offered to employees to raise their awareness of environmental issues and to foster environment experts. Customized education programs are regularly provided to employees to satisfy their needs by position or job. When an environmental issue arises, weekly meetings are held for position holders, and employees in charge of environmental issues are given the relevant training.

Environmental Education System

Classification	Target	Content	Method	Note
Environment Management	Persons in charge of environment	Environment management system		Education for experts on environmental management system (once every 3 years)
Environmental Experts	Legal managers & persons in charge by sector	<ul style="list-style-type: none"> • Education for air experts • Education for water quality experts • Education for persons in charge of toxic chemicals • Education for persons in charge of wastes 	Outsourced training	Legal education (once every 3 years) *Education for persons in charge of wastes treatment: upon the request of the concerned agency
		Education for toxic chemical handlers	In-house training	Education for persons in charge of toxic chemicals (once a month)
Introduction Program	Newly employed	Outline and management points	In-house training	Upon new employment
Environmental Awareness	All employees	Environmental control and issues	Circulation of materials	Bi-monthly
		Outline of environmental management	E-campus global environmental management	Providing education first to position-holders and persons in charge, then gradually extending it to all employees
	Operators on site	Environment-related laws and management points	Group training	Once a year (using shift work education)

Support for Environmental Management of Partners

POSCO ENERGY holds monthly meetings of the environment safety council with its partner companies to strengthen their environment, safety, and health management of the partner companies, providing them with environment-related maps and information, and training, and listening to their VOC.

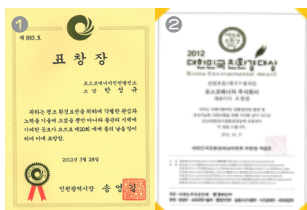
Permanently Stationed Partners

Provide education on environment/safety / health management, and conduct annual evaluation on environment/safety/health management, such as inspection of field supervision

Non-permanently Stationed Partners

Run programs to support partners through regular field visits

Find improvement factors and support environmental management of partners



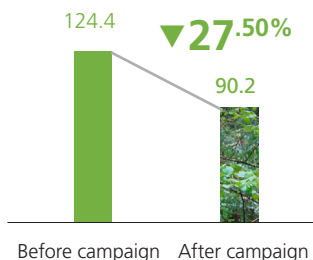
1¹ Receiving a citation for environmental preservation and water management

2¹ Receiving the Korea Environmental Award

External Environmental Evaluation

POSCO ENERGY's environmental management performance has been proven by a series of environmental evaluation awards. In March 2012, the company was awarded a citation from the Incheon City for its outstanding environment preservation and water management. In October 2012, it also received the Korea Environmental Award in the air pollutant reduction category. POSCO ENERGY will solidify its status as a leading eco-friendly company through continuous eco-friendly management.

Leftovers per Person
(Unit: g/person)



Awareness of Environmental Management

POSCO ENERGY seeks to accomplish genuine environmental management through participation of all employees. To help employees participate in environmental activities and management, the company is offering a variety of awareness-raising programs such as Green Workplace campaign and PR activities.

「Zero Leftover Campaign」 A system was introduced to predict the number of people eating at the cafeterias per day to reduce food wastes. As a result, the amount of leftovers has been reduced, and promotions are being held to encourage all employees to actively participate in the campaign.

Leftovers Tree Campaign

- When an employee has no leftovers, he/she will receive a stamp on his/her Leftovers Tree coupon on the cafeteria bulletin board. Employees who collect 10 stamps will receive a gift.



WIE DAY Campaign (Wednesday is Eat-All Day)

- On Wednesdays, the menu has a theme, such as “detox” or “hair loss prevention.” When an employee does not leave any leftovers, he/she will get a dessert and gift related to the theme. (50% decrease in leftovers per person compared to other days)



Intranet / Off-line Information Sharing

- Posting campaign information on the intranet bulletin board to encourage employees to participate in the campaigns and to raise their awareness on the environment through constant reminder.
- Making and posting monthly Zero Leftover Campaign posters (reduction in greenhouse gas emissions and environmental improvements, etc.)

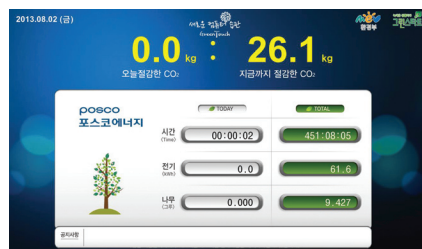


Social Contribution Activities

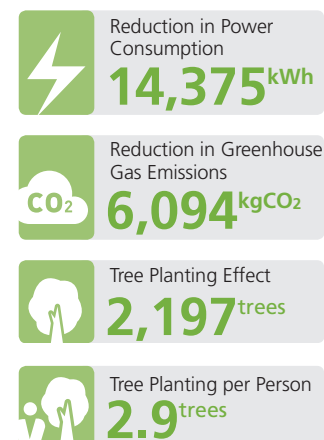
- “Merry WIE DAY”, WIE DAY’s year-end charity campaign is held in December (donating 210 kg of rice to neighbors in need in Incheon and Pohang)



「Green Touch, PC Power-Saving Program」 POSCO ENERGY has introduced a PC power-saving program to manage the energy efficiency of the PCs used by employees, since the power consumption of a PC is the largest among all the electronic equipment used in the office and employees can easily participate in the power-saving practice. At present, many employees are actively engaged in this program under the slogan ‘Touch the Green’.



Green Touch Effect





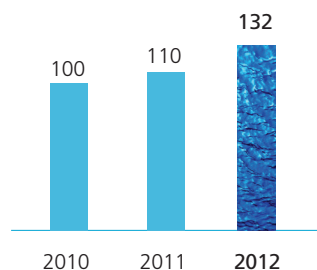
03

SOCIAL VALUE

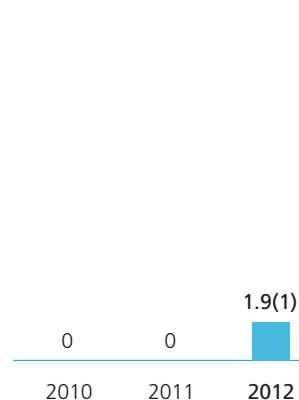
POSCO ENERGY seeks to share its values with its employees, customers, partner companies, and local communities through interactive communication. The company will work for internal and external stakeholders and create a world in which the company and stakeholders can coexist by fostering talents, enhancing customer satisfaction, collaborating with partners, and sharing benefits with the local communities.

Average Employee Education (hr/person)

Compared to 2010
↑32%

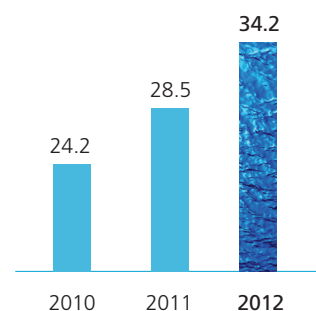


Absenteeism (% Industrial accidents)



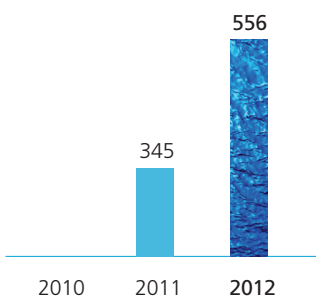
Average Employee Social Contribution Activities (hr/person) (KRW million)

Compared to 2010
↑41%



Benefit sharing amount

Compared to 2011
↑61%



* The B/S system was enforced in 2011

People-oriented Corporate Culture

Global Talent Training and Capacity Building

POSCO ENERGY makes effort in attaining outstanding employees to attain global competitiveness and achieve continuous growth. Recognizing that employees are the starting point of corporate competitiveness, the company is conducting various activities to improve employee value.

Selection of Competent Manpower

The confidence and passion of POSCO ENERGY for securing capable talents is a core value across the business, and the company is doing its best to recruit and nurture excellent people.

「Talents Envisioned by POSCO ENERGY」 The talents envisioned by POSCO ENERGY are those who place importance on the values of challenge and trust, based on the 4 core values of Passion, Communication, Co-Success, and Green Innovation. These views reflect how POSCO ENERGY is evolving into a globally competitive company.

「Respect for Diversity」 POSCO ENERGY offers equal opportunities for all employees according to their qualifications without discrimination by gender, academic background or disabilities, and hires people from diverse backgrounds. In recent years, the number of female workers has gradually increased, around 35% since 2011. The company hires the disabled, veterans, and patriots without any discrimination. Also, it is encouraging local employment holding recruiting events at colleges near the power plants. To accelerate the globalization of the head office, the company is increasing its overseas recruiting, and plans to continuously expand its global leader training and localization.

Talents Envisioned by POSCO ENERGY

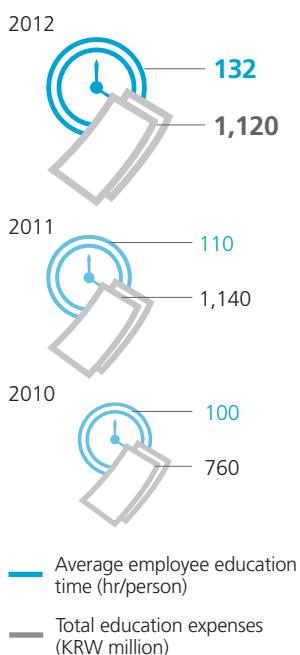
World's Best Energy Leaders
who place importance on the values of challenge and trust

World's Best Experts
with global competency and leadership

Trusted Talents
who recognize their differences and communicate with others

Talents with Challenging Spirits
who prepare for the future with creativity and passion and take the lead in green innovation

Average Education Time and Total Education Expenses



Human Resources Development System

POSCO ENERGY places its priority on fostering competent people through its human resources development system. All employees are building leadership skills through the job competency programs that teach the common values of the POSCO Group and acquire fundamental job competencies and expertise. Moreover, the company offers employees language courses to encourage them to become global talents, and also provides overseas expert training, and innovation programs such as Six Sigma and QSS so that they can complete the competency-based education programs.

Basic Direction of Human Resource Development

Reinforcing the Global Player Training Program

Systematically Training Next Generation Leaders

Sharing Core Values and Enhancing Creativity

Building the Infrastructure for Performance-oriented Education

「Building CDP (Career Development Plan) System」 POSCO ENERGY established the Career Development Plan (CDP) system, through which it manages individual's competency and performance. The CDP system provides a guideline to help all employees set up their own career development plans according to their individual capabilities.

POSCO ENERGY's Manpower Training System

World Best GREEN Energy Company

(Global, Reliable, Excellent, Efficient, Nature Friendly)



POSCO ENERGY's Manpower Training Program

	Leadership Competency	Job Competency	Global Competency	Common Competency
Executive	Outside chief officer course			
Managing Director	Leadership education for position holders Education for promoted employees Breakfast with outside organizations SV fostering course, Professionals Education after holding position Monthly study Saturday study	Skill remind education	Extensive language course for position holders	
General Manager		Mid-high level education	Extra language course	
Deputy General Director		High-level course In-house lecturer training course	Overseas regional experts training course	
Manager		Mandatory course by division (general employees)	Education for local employees at overseas branches Education for employees on overseas assignments	
Assistant Manager	Group education for new/experienced employees Capacity-building program for fresh graduates Group education for new/experienced employees Family Membership Training	Low-mid level education	Over-the-phone foreign language classes / Language study clubs / Language examination support (Official scores are reflected in promotion reviews)	
Second Assistant Manager		Low-level course Engineer paper presentation General administration action learning		
Employee		Low-level course		Mandatory e-learning course (ownership / sexual harassment / business ethics) Education for organization revitalization (Shin-tong-hwa-tong-han-mah-dang: A Fun and Hot Festival) Group education for appreciation sharing activities

■ POSCO ENERGY's own course
 ■ POSCO Group course
 ■ Courses planned for 2013

Reinforcement of Global Competency

To secure global competency, POSCO ENERGY continues to provide its employees with foreign language learning programs. It also continues to hire and train outstanding local talents to accelerate the localization of its overseas businesses.

「Overseas Assignment and Overseas Regional Experts System」 For the countries where POSCO ENERGY is carrying out overseas projects, the company selects and trains the talents with a passion for overseas services and an understanding of the local language. The overseas regional experts system is also being operated to foster employees who will take leading roles in establishing overseas business strategies and implementing development projects. Participants conduct research activities to analyze overseas markets, discover business items, and develop business plans. After completing their overseas service, they are assigned to the overseas project development division above other divisions.





Education for the local employees hired in Indonesia

「Education for Local Employees of Overseas Offices」 As a number of foreign offices have been newly established, POSCO ENERGY launched an education course for the locally hired employees in Indonesia. To help them understand the company and enhance their work capacity, the education course was provided twice to 20 local employees. The three-week course included understanding of the core values of the company, job training, visit to worksites, and experience of Korean culture. The course inspired the employees with a sense of belonging and reinforced the Korea-Indonesia partnership. In addition, the on-the-job training on the advanced facility system strengthened the work capacity of local employees.

「Support for Overseas Study」 The company provides overseas study support program to nurture enterprising and creative leaders who will lead the future growth of POSCO ENERGY. The program provides full tuition to the selected employees studying abroad.

Job Capacity Building

Engineer Paper Presentation

For the capacity building and career development of engineers, the company holds a biannual engineer paper presentation. At the presentation, engineers share their papers on work-related themes based on their field knowledge. The presentation offers a venue for engineers from all worksites to gather and share their knowledge and information.

Action Learning

POSCO ENERGY provides the Action Learning program to all administrative staff. Action Learning is a learning capacity building program that helps employees set their own research themes highly related to their duty and performance, find the problems, and establish problem-solving strategies. The program has helped employees to improve their job competency and spread a culture of learning.

Fair Performance Management and Compensation

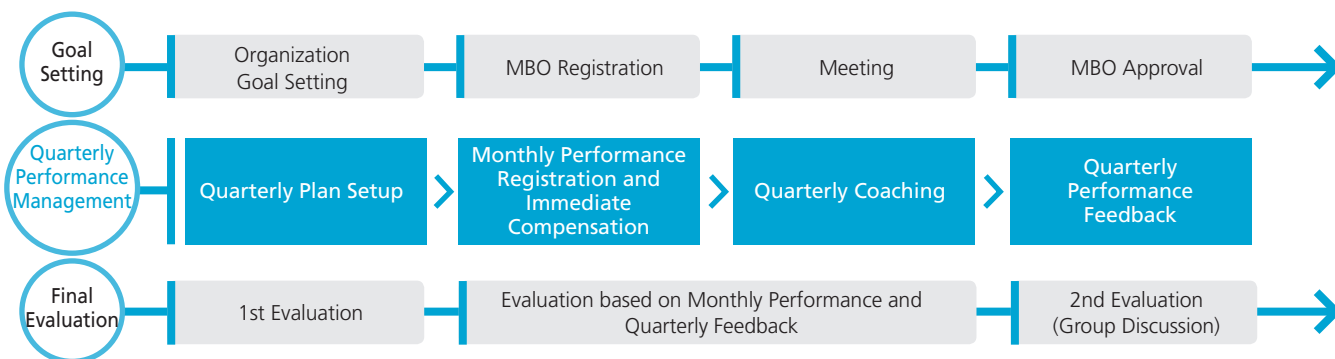
Performance Management Based on Autonomy and Delegation

All employees of POSCO ENERGY are making efforts to establish a corporate culture of autonomy and delegation. Through the performance-based management that respects autonomy and delegation, the company has been promoting the creativity of employees, established HR principles that enable individuals to develop and display their competency to the fullest, and made them a clear guideline for HR and organization operations.

Fair Performance Management and Compensation

To ensure that all employees display their maximum ability, POSCO ENERGY has established its own performance evaluation system. Based on this system, the company manages the performance of employees to enhance fairness and rationality in personnel evaluation. The company impartially compensates and rewards employees according to the performance-based evaluation, and makes it a rule to treat male and female employees equally.

Personnel Evaluation System through Performance Management



Happiness Management

Employee Communication

POSCO ENERGY seeks to establish its own corporate culture to become a close-knit organization, by internalizing the corporate culture of autonomy and delegation and unifying the visions of both the company and its employees.

Happiness Index Survey

POSCO ENERGY believes that the happiness and satisfaction of employees lay the foundation to enhance the competitiveness of the company and to establish its own corporate culture. Based on this principle, all employees are cooperating to make a pleasant workplace, increase trust towards the company and the management, enhance pride in their work and the company, and respect and understand each other. Every year, the company conducts a survey and interviews targeting all employees to measure the Happiness Index. The Index is measured through various criteria, for example, based on worksite, position, length of service, and gender. The survey result is actively incorporated to improve systems and to establish the future direction for happiness management.

Happiness Index

2011 **73.4** points

2012 **75.1** points



Shin-tong-hwa-tong-han-mah-dang:
A Fun and Hot Festival

Shin-tong-hwa-tong-han-mah-dang: A Fun and Hot Festival

POSCO ENERGY holds festivals to create a culture of communication and foster a spirit of passion and challenge so that its employees have affection for their colleagues and the company. Until 2011, the annual “Hanmaeum Training” was held three times in total, under the motto of “building a corporate culture of communication and trust.” In 2012, the “Hanmaeum Training” changed its name to “Shin-tong-hwa-tong-han-mah-dang” which means a fun and hot festival. During the 2-day session, all employees participated in various programs, including group games, communication/harmony encouragement programs, and hiking. Held under the themes of harmony, teamwork, and fun, the programs provided an opportunity to review the values of communication and harmony.

Luncheon Meetings

Luncheon meetings with the CEO and the executives are held to promote the communication between employees and the management. Employees and the executives can share ideas or problems about the company, or discuss any other questions in a relaxed atmosphere. Through the ideas and suggestions exchanged at the meetings, POSCO ENERGY has shown positive improvements such as opening a daycare center, providing special lecture on dating for singles, and celebrating employee's anniversaries. Even the most trivial ideas have been collected from the meetings to continuously improve the welfare of employees.

Pub Day

To promote the communication and mutual understanding among employees, the company holds a Pub Day once a year at each worksite. Pub Day provides employees with an opportunity to share the results of major in-house surveys, enjoy recreation activities with colleagues, and communicate with the executives.

In-house Club Activities

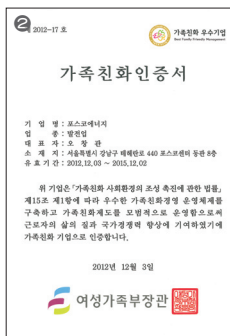
By actively supporting the in-house club activities, the company encourages employees to enjoy their free time, work on self-development, and engage in communication with colleagues. At present, there are 20 in-house clubs for sports, music, and photography, and the company gives them full support to run the clubs in a practical and sustainable manner.

Family-friendly Management

POSCO ENERGY promotes family-friendly management through the flexible work hour system. Employees are allowed to make monthly adjustments to start work at any time between 7am and 11am. Through the system, employees can flexibly utilize their time for childcare, family life, or self-development. Furthermore, the company designated every 2nd and 4th Wednesday as Family Day.

「Opening of Daycare Center and Support for Childcare」 Even though POSCO ENERGY is not a company that is obliged to have a daycare center, it has opened one to create a working environment where employees can work happily without concerns about childcare. The company also allows female employees to take 90 days cumulative maternity leave (paid) and up to one year of child care leave. Male employees can also take a paid paternity leave.

「Certified as Family-friendly Company」 In December 2012, POSCO ENERGY was certified as a family-friendly company by the Ministry of Gender Equality and Family, for its successful implementation of family-friendly policies. The policies improved the quality of employees' lives and the productivity of the company through a work-life balance.



1 ↑ Opening of daycare center
2 ↑ Family-friendly company certificate

Employee Welfare

POSCO ENERGY enforces the statutory welfare and benefits program and operates various programs to improve the welfare and benefits of all employees.

Welfare System

Housing Loan Lending money for home purchase and lease to non-homeowners, lending living stabilization funds	Medical (health) Support Health examinations for employees once a year, supporting employees and their family members with medical expenses	Educational Support Financial aid for school tuition of employees' children, supporting over-the-phone foreign language education and language clubs
Selective Welfare Welfare card for employees that can be used for self-development, hobbies, leisure, and health management	Subsidies for Leisure Time Activities Condominium reservations, summer resorts, rail fare discounts, and travel expense discounts	Other Programs Congratulations and condolences program, company housing, club activity support, funeral service, overseas training programs for outstanding employees, etc.)

「Retirement Pension」 For the stable management of employees' severance pay, POSCO ENERGY introduced a retirement pension program in December 2011. The program sets the retirement age at 60, and guarantees the highest level of job security. Moreover, the company re-hires some of the employees scheduled to retire for a certain period of time considering their expertise and necessity. POSCO ENERGY will make continuous efforts to ensure the job security of its employees.

「Café Mirae」 POSCO ENERGY opened Café Mirae through the cooperation of the company, the labor union, and the employees. It serves as a model of a virtuous cycle for the co-prosperity of the company, the employees, and the local community. The café was established for the welfare of the employees, and all the profits are used to help the neighbors in need, spreading the warm hearts of the employees.



Opening of Café MiRAE
Inviting the employees to name the café, (Cafe MiRAE)



Event for the Employees of Cafe MiRAE
Event for selling more than 10,000 cups of coffee
Eco-friendly campaign : reduce the use of disposables



Happy Concert at Café MiRAE
Use lunchtime once a month
Free coffee for employees



Profit Donation for the Needy

Establishing Labor-Management Relations

In regard to human rights and labor issues, POSCO ENERGY stipulates the continuous stability of labor-management relations in the internal collective agreement and ethical standards. POSCO ENERGY has established a systematic grievance resolution system to listen to the voices of employees and to promptly address their difficulties.



Counseling center

Labor-Management Council and Grievance Committee

POSCO ENERGY operates a labor-management council and a grievance committee at each operational site. Through online or face-to-face meetings, employees can make a suggestion or report a grievance to the company on the problems related to work duties or family issues such as childcare, and the company tries to give a prompt feedback and solution.

The grievance committee guarantees the confidentiality of the reported grievances, and when it is not possible to handle the issue immediately, the company does its utmost to address the grievance at the quarterly labor-management council.

Dialogue between Labor and Management

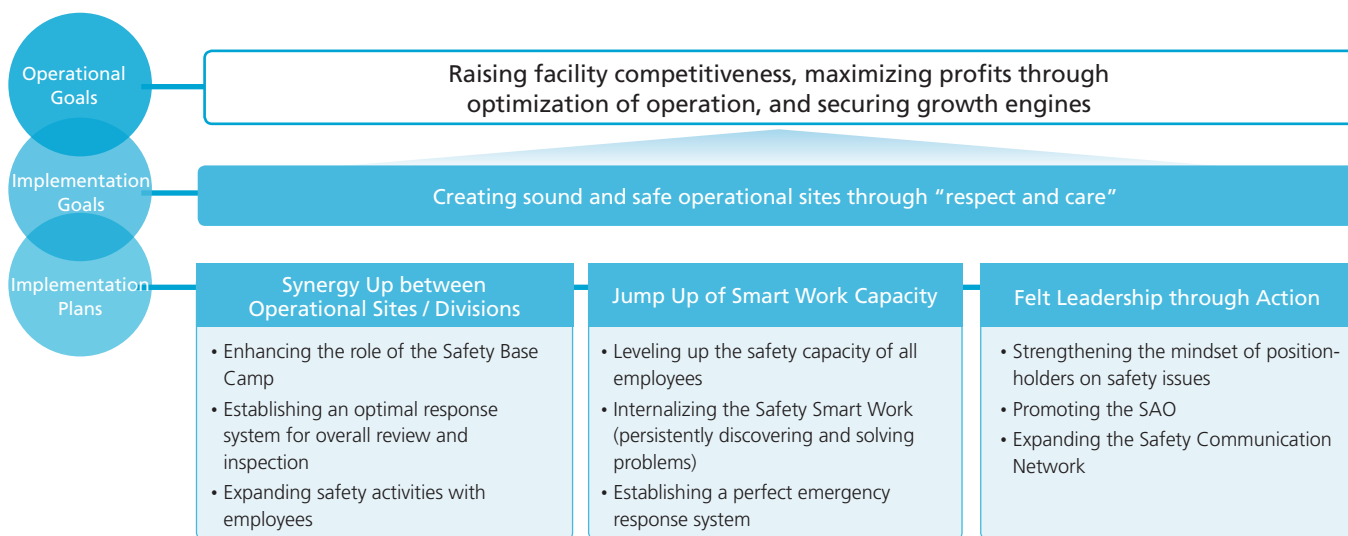
POSCO ENERGY regularly conducts collective bargaining with the labor union in regard to wages and agreements. As for important company decisions or issues directly connected to the working conditions of employees, the company frequently consults with the labor union to reflect their opinions in the decisions. Besides the labor-management council, the company holds monthly meetings to review grievances and difficulties, and to ensure a close dialogue between labor and management.

Safe and Healthy Workplace

Safety-Health System

Direction for Safety-Health Policy

Under the goal of creating sound and safe operational sites through respect and care, POSCO ENERGY is striving to create its own safety culture to make sure that every employee can work in a safe environment. The safety-health management system has been established through efforts such as acquiring KOSHA18001 and operating the safety and health management index.



Occupational Safety & Health Committee and Voluntary Safety Committee

POSCO ENERGY operates the Occupational Safety & Health Committee to consult and discuss issues related to safety and health in accordance with the Occupational Safety and Health Act. The Committee is held every quarter, to make continuous efforts to improve the safe and healthy environment and create pleasant working conditions. The Voluntary Safety Committee is also held every month for the heads of plants and position-holders, to encourage position-holders to voluntarily participate in safety measures and to share safety and health issues.

Safety-Health Education

The company is providing safety education programs by sector, including statutory education, in-house education, and fire drills. To raise the awareness of employees on safety, safety-sharing education is provided every month, and external experts are invited to give special lectures on safety. In addition, POSCO ENERGY is operating SAO (Safety Acts Observation) to promote safety activities and encourage fundamental changes in working behavior through positive approaches of observing and commending safe behavior rather than existing approaches such as pointing out mistakes or ordering behavior.



1 ' Voluntary Safety Committee
2 ' Safety-health workshop for position-holders

Education Program on Safety

Statutory Education	In-house Education	Fire Drills
<ul style="list-style-type: none"> Statutory manager education Regular education for all employees Safety education for supervisors Safety education for new employees Special education 	<ul style="list-style-type: none"> Special education on safety and health Safety and health education for employees of partners Education before harmful and dangerous work Company's own safety education 	<ul style="list-style-type: none"> Fire drills for all employees Drills to put out fires in the early stage Emergency drills

POSCO ENERGY has a safety-health system to help all employees, customers, and partners' employees work in healthy and safe workplaces. The company operates a safety system to prevent accidents and provides continuous safety trainings so that it can become a happy power plant where employees set and accomplish their own safety goals to achieve zero accidents.

Activities to Improve Safety

「Near-Miss Activities」 POSCO ENERGY conducts Near-Miss Activities to remove possible risks from the worksites and to prevent similar disasters through improvements, while providing employees with safety education based on actual cases to firmly establish a safe operating system. Moreover, the company encourages study groups (Safety Management) to register safety activities in real time so that employees can share the activities. Also, those who identify Near Miss are selected and rewarded on a monthly basis.

「Top 10 Risk System」 The Top 10 Risk System assesses the risks of the accident-prone power generation facilities, identifies the top 10 improvement tasks and conducts improvement activities to prevent disasters. The Top 10 Risk activities are also carried out through assessments of the divisions and those with issues for improvement as part of the efforts to prevent accidents.

「Distribution of Guidelines for Safety Work」 The company conducts weekly safety inspections and shares the inspection results companywide. All employees always carry the safety guidelines to prevent industrial and work-related accidents.

「Performance of Safety Management」 To reach the goal of becoming an accident-free and happy power plant, POSCO ENERGY is trying to step up as a leading company in terms of safety and health by operating a systematic safety system. To this end, not only is the company trying to operate facilities in a stable manner, but it has appointed its own maintenance personnel to respond immediately to emergency situations. In 2012, POSCO ENERGY was selected as the exemplary company for fire-safety by the Incheon City and the Pohang plant achieved 1st grade in 'Zero Accidents' authorized by Korea Occupational Safety & Health Agency, and was honored with a commendation from the Governor of Gyeongsangbuk-do.

Absenteeism



Industrial Accidents



Honored as the best company for fire-safety

Co-existence & Cooperation Programs

POSCO ENERGY operates "co-existence & cooperation programs" to educate the education on safety supplier companies. The safety experts from POSCO ENERGY provide education on safety prevent safety-related accidents. The company also newly built locker rooms, shower rooms, and refresh zones for the stationing employees from the suppliers to strengthen friendly relations and improve work efficiency.



Customer Satisfaction

Organization Chart



Restructuring for Technical Independence in Services

To improve the quality of products, POSCO ENERGY has gradually stabilized the operation rate by not only localizing its products and improving its facilities, but also fostering experts in services. In April 2012, the customer service division was newly established through organizational restructuring to nurture professionals suitable for more segmented service duties. The company is planning to maximize customer satisfaction and stabilize the quality of products by achieving technical independence in the service area from the fuel cell manufacturer by 2015.

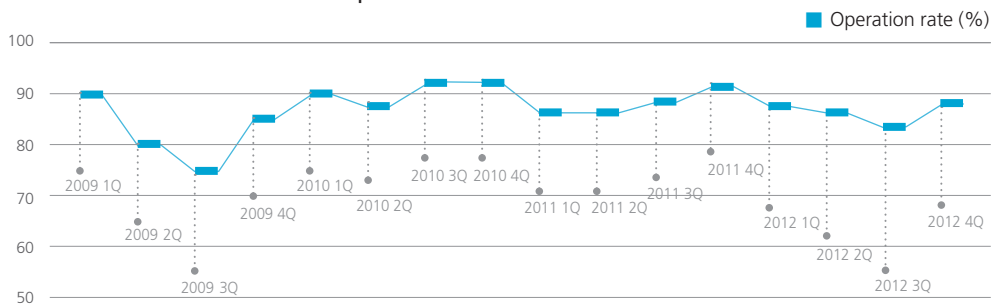
Opening of Gyeongin Service Center

POSCO ENERGY opened the Gyeongin Service Center in May 2012 to improve the operation rate and customer satisfaction in the Gyeonggi and Incheon areas. The Gyeongin Service Center allows the company to focus on providing service of stable quality since service duties are now divided into regions: Pohang (former base of service duties), Gyeongin area, and southern area. To provide more prompt response, POSCO ENERGY plans to establish infrastructure for customers in Gyeongin area by 2014, and is making continuous efforts to secure the trust of both existing and new customers.

24/7 Technical Support Center

POSCO ENERGY established a remote-access system and the basic hardware in the Pohang fuel cell manufacturing plant. Since February 2013, the company has provided technical support such as an around-the-clock remote operation, repair and maintenance support, integrated history management, and sustaining of optimal status. At present, the company is securing operational technology, including technology transfer programs, through cooperation with the original manufacturer. It is scheduled to reach the goal of providing its own around-the-clock real time customer response by 2014 to maximize customer satisfaction.

Gradual Stabilization Trend in Operation Rate



1 | Opening of the Gyeongin Service Center



2,3 | Operation of Around-the-clock Technical Support Center



With competition intensifying around the world, customer satisfaction has become the most important factor in securing competitiveness. POSCO ENERGY is improving its customer-oriented service system in a more proactive and professional manner.

Strengthening Functions of Stack Module Repair Center

POSCO ENERGY set up a Stack Module Repair Center in the Pohang fuel cell manufacturing plant and improved customer satisfaction by cutting down the repair period of Stack modules from one year to 40 days. The company's repair capacity has been enhanced by strengthening facilities and improving diagnosis ability and technology of Stack modules. From 2015, the company is expected to diagnose and repair Stack modules with its own technology to prevent breakdowns and stabilize the quality of products.

Customized Technology Education

As fuel cell systems are more diversified, POSCO ENERGY is expanding the customized technology education for its customers. In 2012, a total of six technical education programs were provided to satisfy the needs of local customers (1 technical seminar, 3 field education programs, 2 operation/repair education programs), while a group of Indonesian public officials were invited to Korea for two technical training seminars. Education will be provided more actively in various ways to satisfy the expectation of customers on fuel cell technology.



Technical education and field education



Technical training seminar for public officials of Indonesia

Diversification of Promotion Channels

POSCO ENERGY participated in Renewable Energy Korea 2012, a renowned new and renewable energy exhibition in Korea, to promote POSCO ENERGY's vision as a global energy company. It also attended an energy exhibition at Abu-Dhabi to pioneer new overseas markets of fuel-cell systems.

The PR Center of the Pohang Fuel Cell Hub was opened to the general public and the PR Center and the fuel cell manufacturing plant became landmarks representing the fuel cell industry. The Sangam fuel cell power plant also provides the public with an opportunity to experience new and renewable energy so that people can recognize the importance of fuel cell in their daily lives.



Participation in the 2012 Abu-Dhabi Exhibition



Exhibition booth at Renewable Energy Korea 2012

Shared Growth with Suppliers

Establishment of Fair Trade Relations

POSCO ENERGY is taking the lead in creating the right trade culture through implementing transparent and fair procedures from selecting, managing to contracting with suppliers.

Securing Fairness in Selecting and Evaluating Suppliers

POSCO ENERGY applies the supplier selection and evaluation standards, stipulated in the purchasing regulation, and carries out the new supplier registration and bidding process without partiality through POSCO Family's SRM (Supplier Relationship Management). POSCO ENERGY's evaluation criteria include supplier's codes on human rights or its fulfillment of corporate social responsibility reinforce the fairness of the evaluation process, strengthening cooperation with suppliers.

Transparent Contract

The company carries out fair electronic bidding processes through its e-Procurement system. In addition, it operates the Subcontracting Evaluation Committee to enhance the transparency of the whole process from bidding to contracting, such as evaluating the compliance of prohibited behavior, including oral ordering or unfair curtailment of prices, in order to create fair trade relations with suppliers.

Various Support Programs for Suppliers

POSCO ENERGY is operating various support programs to build the capacity of suppliers and taking a lead for genuine shared growth, through joint R&Ds with outstanding suppliers.

Benefit Sharing Value

2011 KRW 345million

2012 KRW 556million

Operation of Benefit Sharing

POSCO ENERGY operates the Benefit Sharing system. The company reviews the feasibility of the suggested projects from the suppliers or field employees and takes corresponding actions with the suppliers. It pays the price of the prototype, and after the performance has been proved for a certain period, the company shares the benefits with the suppliers in various ways such as cash reward, unit price compensation, or sales compensation through a private contract.



Field visit to the Benefit Sharing Best Company (National Commission for Corporate Partnership)

POSCO ENERGY is making diverse efforts to achieve shared growth with its suppliers by operating various support programs and taking the lead in settling a culture of fair trade with small and medium-sized suppliers.

100% Cash Payment on Purchase · Financial Support

POSCO ENERGY pays for the purchases from SMEs in cash, and the payment is made twice a week. When an SME submits the document evidence in advance, the payment is completed no later than 5 days after the products are received. Moreover, suppliers may take out loans from the POSCO Group Fund, with a volume of about KRW 200billion, with favorable conditions.

Technical Support

POSCO ENERGY strives to provide technical support to suppliers by signing techno-partnerships. The company provides customized technical consultation with its outstanding manpower in research centers and operational fields, allows the suppliers to use expensive research facilities for free, and jointly conducts national projects with the suppliers. In addition, POSCO ENERGY pays for some of the expenses for SMEs when the company and the suppliers jointly apply for a patent. POSCO ENERGY will also make continuous efforts to protect the technologies of its suppliers by operating the online patent counseling center and promoting the use of the technology escrow system.

Amount of Order from Small and Medium-sized Suppliers

2011 KRW **60.84** billion

2012 KRW **69.71** billion

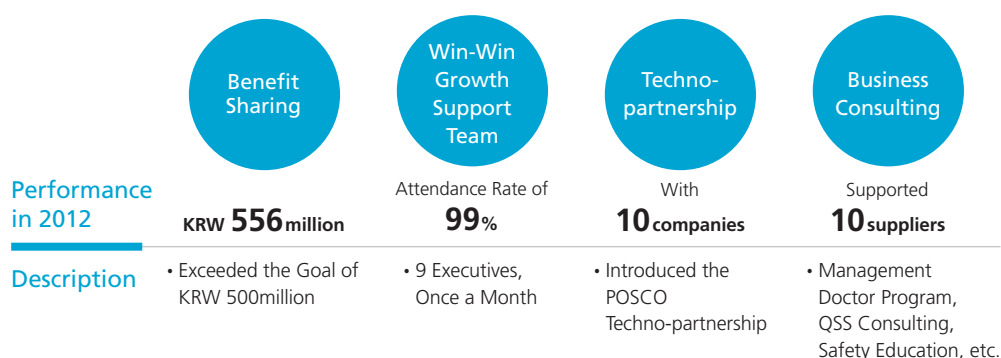
Rate of Order of Small and Medium-sized Suppliers

2011 **61.3%**

2012 **70.8%**

Education and Human Resources Support

The suppliers are provided with various collective education and e-learning for free, through POSCO Group's National Human Resource Development Consortium. In addition, the Win-Win Growth Support Team, a group of one to two executives, carry out the support activities through visits to SMEs for six months. The executives offer various consultations using their expertise, from business consulting such as HR and finance to QSS consulting. One of the support activities in 2012 received the best prize in the POSCO Family's Win-Win Growth Festival, as the activity was recognized as having contributed to the improvement of a supplier's productivity.



Activities of Win-Win Growth Support Team (Maintech Plant)

Communication and Sharing with Local Communities

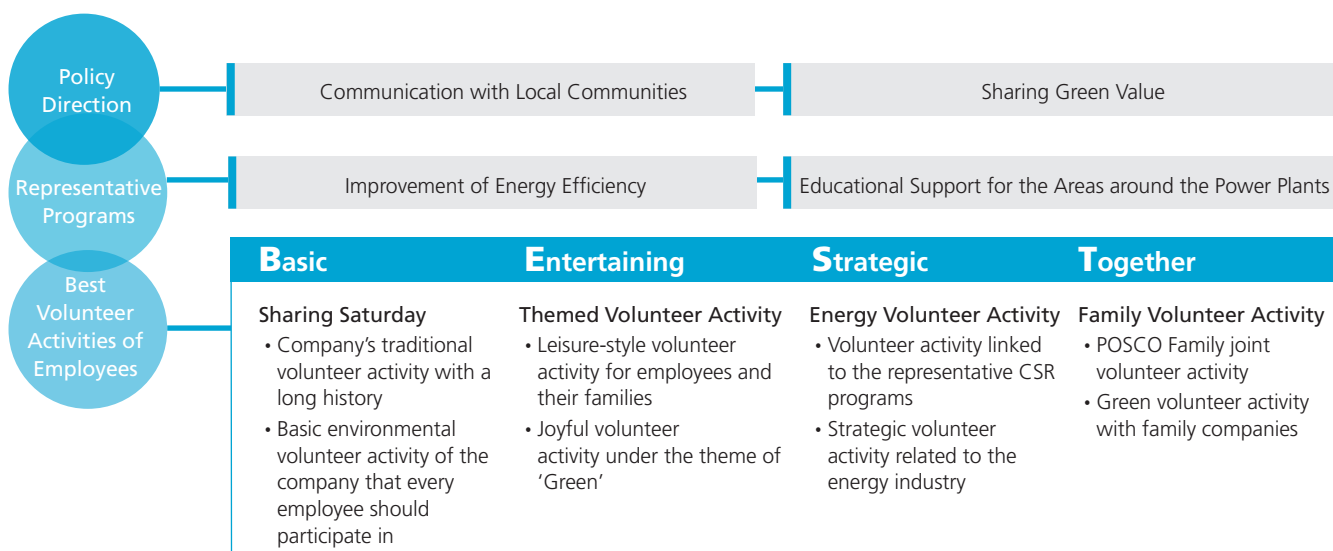
Social Contribution Strategy

POSCO ENERGY established a system of social contribution and volunteer activities to accomplish the value of sustainability management to generate "Energy for a Better World." Through various social contribution activities, it hopes to become a loved company among the local community.

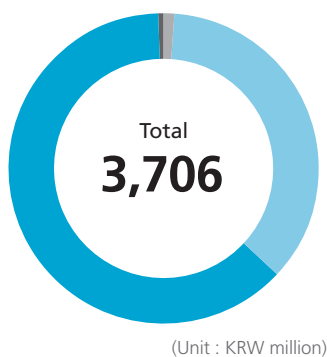
Social Contribution Framework

POSCO ENERGY, which belongs to the equipment industry, focuses on social contribution activities to share green value and co-exist with the local communities where its power plants are located. To reach the goals, the company plans and implements social contribution activities to create the value of energy that makes a better world within the local communities.

Social Contribution Framework



Social Contribution Costs in 2012



■ Environment & international community 43
 ■ Research & academics 1,330
 ■ Social welfare 2,321
 ■ Others 12

* Operational cost of POSCO ENERGY Women's Table Tennis Team is excluded as the support is to revitalize sports

Social Contribution Fund

Classification	Description	Place of Use
Bright World Fund	Created by voluntary wage deduction of employees	Used for social welfare projects to improve the local communities around the power plants
1% Sharing Fund	1% of the salaries of POSCO Family executives are contributed to the fund as a practice of noblesse oblige	Used for POSCO Family's joint projects to support multicultural families and to supply steel houses to the vulnerable classes
Company's Contribution	Company's contribution for energy welfare	Implementation of the representative CSR programs, Creation of Bright World Fund on a matching grant basis, Deposition of year-end donation to the Community Chest of Korea, etc.
Aid to the Neighboring Areas of Power Plants	The aid amount is calculated by the government based on the power generation produced by each plant two years in advance (Implemented by the Electric Power Public Tasks Evaluation & Planning Center in accordance with the Act on Assistance to Neighboring Areas of Electric Power Plants)	The local governments and power plants (use the aid to improve the neighboring areas within 5 kilometers of the plants in such ways as educational support)

Performance of Energy Efficiency Improvement Project

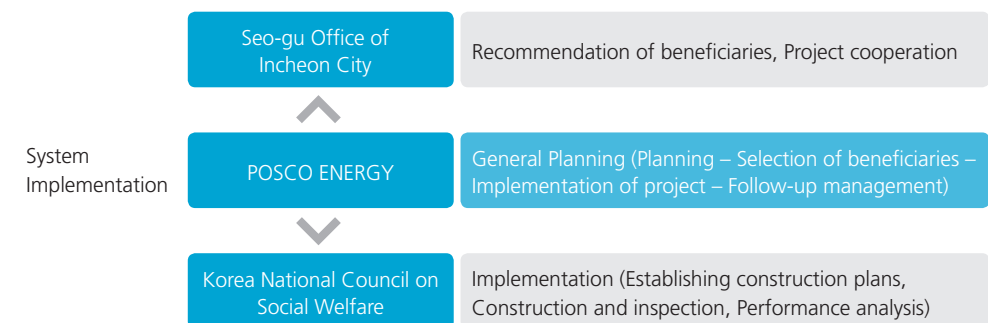


Energy Efficiency Improvement Project for Aged Houses

In the second half of 2012, the company carried out the energy efficiency improvement project for aged houses around the power plant in Incheon to reduce greenhouse gas emissions by improving energy efficiency of aged houses as well as to reduce energy costs of the energy-poor.

Performance in 2012

Classification	Energy Efficiency Improvement Project for Aged Houses
Region	Seo-gu, Incheon
Target	10 households in the low-income bracket (beneficiaries of basic living allowance, households of the near poverty group)
Description	Improvement of energy efficiency
Range	<p>Insulation installation : Installing materials with insulation function</p> <p>Joinery construction : Replacement of PVC chassis of windows, doors, and front doors</p> <p>Floor construction : Conducting plumbing construction on the floor to use hot-water heater</p> <p>Repapering walls and floors : Replacement of wall and floor papers after construction</p> <p>※ Emergent improvement works are included such as water-proof construction or securing storage space</p>



Volunteer activities for improving energy efficiency



Volunteer activities with the CEO

Educational Support around Power Plants

POSCO ENERGY provides educational support such as scholarship programs and community child centers for the children of the poor who live in the local communities around the power plants in Seoul, Incheon, Pohang, and Gwangyang. In 2013, the company selected 10 regional childcare centers in Seo-gu, Incheon and started the "Warm Community Child Center Projects to Make a Brighter World (Project I : Community child center project to make a brighter world; Project II : Warm community child center project)." Project I dispatches "Hopeful Energy College Student Volunteer Corp." as study mentors to help the children of those centers to grow up to make the world brighter. Project II aims to create a studying atmosphere by supporting the cooling/heating bills, development of educational contents, and center renovations.

Participation of Employees

POSCO ENERGY is providing not only the company itself but also its employees with the opportunities to understand the local communities, and employees are actively participating in the sharing activities.

BEST* Volunteer Activities

POSCO ENERGY operates its Basic volunteer program, called "Sharing Saturday," by division and by small group. In addition, the Family Volunteer Activity in which POSCO Family companies participate Together is held every year. In 2012, new volunteer activities were introduced: 1) Entertaining volunteer activities with diverse themes that employees and their families can enjoy together on Saturday, and 2) Strategic energy volunteer activities which employees can participate in the company's representative CSR program, the Energy Efficiency Improvement Project, to understand the company's CSR direction and the local communities where the power plants are located. Through these volunteer activities, in 2012, the average employees' volunteer hour recorded 34.2 hours per person.

*BEST : Basic, Entertaining, Strategic, Together

Volunteer Hour of Employees per Person



Sharing Saturday volunteer team sets up a sisterhood relationship with a childcare center in Gwangyang



Themed volunteer activity with family

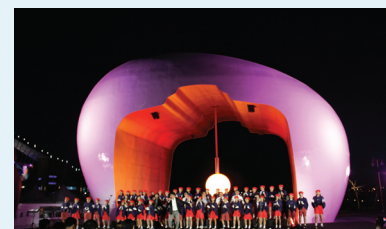
Bright World Fund

Bright World Fund is a social contribution fund to make a brighter world. The fund was created by employees who want to donate a certain amount of money through salary deduction for the vulnerable classes of the local communities near their workplace.

To develop a donation culture jointly participated by labor and management, the company also donates matching grant to the Bright World Fund. Moreover, the company established a Bright World Fund committee at each operational site for employees to discuss and approve the use of the fund on their own. The fund created in 2012 alone amounted to KRW 126 million (as of the end of 2012) with the participation of 78.8% of POSCO ENERGY employees.

Noeul-jong (Evening glow bell) - Symbol of Jeongseojin

POSCO ENERGY's Incheon power plant created a sculpture, the "Noeul-jong (meaning, evening glow bell)," to symbolize "Jeongseojin" of Incheon, and donated it to the Seo-gu Office of Inchen City in September 2012. The name "Noeul-jong," given by the Former Minister of Culture Lee Uh-Ryuung, means that people can have new hope to start tomorrow by enjoying the evening glow of Jeongseojin and healing themselves. The exterior of the sculpture features a pebble, which is one of the most familiar objects in the West coast, and the interior features a "bell" to chime a new tomorrow. The size of the sculpture is 21meters in length and 13.5meters in height. The sculpture is expected to be a tourist attraction of Jeongseojin and contribute to vitalizing the local economy.



Jeongseojin - Noeul-jong

Women's Table Tennis Team

Donation Activities

The POSCO ENERGY Women's Table Tennis Team has carried out continuous volunteer activities for residents and youths in Seo-gu, Incheon since its formation in 2011, to promote and table tennis and expand its base.

「Support for Table Tennis Class」 The Women's Table Tennis Team has regularly held table tennis classes to local residents and youths at the company's gym. The Team taught basic and advanced techniques and gained huge popularity among the local residents. Moreover, as children got to meet the famous table tennis players and get autographs from them, the local children are more satisfied and frequently participating in the program.

「Support for Club Activities」 The Women's Table Tennis Team holds regular exchanges with the company's table tennis club. The Team teaches the club members table tennis and plays a match with them. This helps in improving the club members' skills and promoting communication among members. The Women's Table Tennis Team is not only promoting and enhancing the image of the company, but also contributing to the improvement of the welfare of employees and their affection towards the company.



Shinsuk Park

For the health and leisure of the local residents, the company operates Shinsuk Park, which has various sports and convenient facilities. According to the MOU with the Seo-gu Office of Incheon City, the company also operates Incheon United soccer team, the Youth Soccer Academy of Seo-gu, Incheon, and kindergarten soccer classes for free, making efforts to foster young sports talents and promote sports for everyday life.

UN Global Compact

Accession to UN Global Compact and Compliance with 10 Principles

In September 2012, POSCO ENERGY acceded to UN Global Compact to reflect the international standards of sustainability management and show its willingness to pursue sustainability management at home and abroad. The company complies with the 10 principles in the 4 areas of human rights, labour, environment, and anti-corruption.

The company will continue to carry out its activities in improving relations with stakeholders, maintaining smooth relations between labor and management, participating in the environmental issues, and strengthening anti-corruption activities. It will also disclose the results in a transparent manner. The compliance status of the 10 principles can be found on the related pages of this report.



UNGC (UN Global Compact) 10 Principles

Category	The Ten Principles	GRI	Page
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights; and	HR1 HR2 HR3 HR4 HR5 HR6 HR7 HR8 HR9	22, 57, 62
	2. make sure that they are not complicit in human rights abuses.	HR1 HR2 HR8	62
Labour	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	HR5 LA4 LA5	57, 73
	4. the elimination of all forms of forced and compulsory labour;	HR7	57
	5. the effective abolition of child labour; and	HR6	57
	6. the elimination of discrimination in respect of employment and occupation.	HR4 LA2 LA10 LA13 LA14	18, 52, 54, 73
Environment	7. Businesses should support a precautionary approach to environmental challenges;	4.11	23
	8. undertake initiatives to promote greater environmental responsibility; and	EN5 EN6 EN7 EN10 EN14 EN18 EN26 EN27	36-41, 43-47, 49, 65
	9. encourage the development and diffusion of environmentally friendly technologies.	EN2 EN5 EN6 EN7 EN10 EN18 EN26 EN27	36-41, 43-47, 49, 65
Anti-Corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery.	SO2 SO3 SO4	22

Financial Information

Statements of Financial Position

(Unit : KRW)

Classification	14 th (December 31, 2012)	13 th (December 31, 2011)
Assets	Current assets	761,329,353,836
	Quick assets	627,072,197,736
	Inventory assets	134,257,156,100
	Non-current assets	2,623,582,662,472
	Invested assets	222,642,538,937
	Property, plant and equipment	2,247,928,722,874
	Intangible assets	78,585,118,404
	Other non-current assets	74,426,282,257
Total Asset	3,384,912,016,308	2,982,651,978,596
Liabilities	Current liabilities	691,757,756,265
	Non-current liabilities	1,453,066,197,450
	Total liabilities	2,144,823,953,715
Equity	Capital stock	259,307,365,000
	Capital surplus	530,866,685,071
	Capital adjustments	(3,658,794,737)
	Accumulated other comprehensive income	(49,842,796,279)
	Retained earnings	503,415,603,538
	Total equity	1,240,088,062,593
Total liabilities and equity	3,384,912,016,308	2,982,651,978,596

Statements of Income

(Unit : KRW)

Classification	14 th (January 1 - December 31, 2012)	13 th (January 1 - December 31, 2011)
Revenue	2,856,715,672,711	1,917,583,996,192
Cost of sales	2,506,086,566,982	1,732,405,433,686
Gross profit	350,629,105,729	185,178,562,506
Selling, general and administrative expenses	77,460,926,088	44,555,568,819
Operating Income	273,168,179,641	140,622,993,687
Other non-operating income	80,443,469,488	18,952,338,825
Other non-operating expenses	135,913,695,754	109,042,901,059
Income before income taxes	217,697,953,375	50,532,431,453
Income tax expenses	35,828,847,408	4,432,908,823
Net income	181,869,105,967	46,099,522,630
Earning per share	4,355	1,152

Statement of Changes in Equity

(Unit : KRW)

Classification	Capital Stock	Capital Surplus	Capital Adjustments	Accumulated Other Comprehensive Income (loss)	Retained Earnings	Total
January 1, 2011 (At the beginning of the previous period)	233,333,335,000	356,973,451,329	(3,746,987,570)	(22,474,427,592)	276,975,221,141	841,060,592,308
Net profit	-	-	-	-	46,099,522,630	46,099,522,630
Gain and loss on valuation of available-for-sale securities	-	-	-	(12,673,384,307)	-	(12,673,384,307)
Gain and loss on valuation of derivatives	-	-	-	(2,871,398,210)	-	(2,871,398,210)
Gain on valuation of investment stock using the equity method	-	-	-	1,570,399,699	-	1,570,399,699
Other capital reserve	-	(12,882)	-	-	-	(12,882)
December 31, 2011 (At the end of previous period)	233,333,335,000	356,973,438,447	(3,746,987,570)	(36,448,810,410)	323,074,743,771	873,185,719,238
January 1, 2012 (Reported amount)	233,333,335,000	356,973,438,447	(3,746,987,570)	(36,448,810,410)	323,074,743,771	873,185,719,238
Change in accounting policies	-	-	-	-	(1,528,246,200)	(1,528,246,200)
January 1, 2012 (Balance at the beginning of the year after adjustments)	233,333,335,000	356,973,438,447	(3,746,987,570)	(36,448,810,410)	321,546,497,571	871,657,473,038
Increase of share capital	25,974,030,000	173,862,848,760	-	-	-	199,836,878,760
Net profit	-	-	-	-	181,869,105,967	181,869,105,967
Gain and loss on valuation of available-for-sale securities	-	-	-	(11,101,724,454)	-	(11,101,724,454)
Gain and loss on valuation of derivatives	-	-	-	5,388,790,935	-	5,388,790,935
Gain on valuation of investment stock using the equity method	-	-	-	(7,695,840,850)	-	(7,695,840,850)
Changes through merger	-	30,397,864	(14,788,500)	14,788,500	-	30,397,864
Other capital adjustments	-	-	102,981,333	-	-	102,981,333
December 31, 2012 (at end of term)	259,307,365,000	530,866,685,071	(3,658,794,737)	(49,842,796,279)	503,415,603,538	1,240,088,062,593

Statements of Cash Flows

(Unit : KRW)

Category	14 th (January 1 - December 31, 2012)	13 th (January 1 - December 31, 2011)
I. Net cash provided by operating activities	394,031,379,555	57,688,564,039
1. Net income	181,869,105,967	46,099,522,630
2. Addition of expenses not involving cash outflows	257,756,591,550	186,361,137,065
3. Deduction of revenues not involving cash inflows	(69,127,561,955)	(6,023,937,407)
4. Changes in assets and liabilities resulting from operations	23,533,243,993	(168,748,158,249)
II. Net cash used in investing activities	(567,348,175,926)	(237,873,192,187)
1. Cash inflows from investment activities	4,667,963,166	1,632,282,935
2. Cash outflows for investment activities	(572,016,139,092)	(239,505,475,122)
III. Net cash provided by financing activities	161,403,869,877	222,509,104,530
1. Cash inflows from financing activities	508,746,209,277	797,632,980,399
2. Cash outflows for financing activities	(347,342,339,400)	(575,123,875,869)
IV. Net increase (decrease) in cash and cash equivalents (I + II + III)	(11,912,926,494)	42,324,476,382
V. Cash and cash equivalents at the beginning of year	179,160,708,201	136,836,231,819
VI. Cash and cash equivalents at the end of year	167,247,781,707	179,160,708,201

Sustainability Management Performance Data

Economic Performance Indicators

Category		Unit	2010	2011	2012
Generation and transmission	Generation	MWh	4,898,798	12,809,742	15,791,978
	Transmission	MWh	4,767,814	12,339,542	15,424,543
	Transmission loss rate	%	0.03	0.04	0.02
Government subsidy*		KRW million	8,563	6,689	8,675
R&D**	Status of manpower	person	29	53	69
	Amount	KRW billion	8.9	9.8	18.3
Innovation activities	Recommended participation rate	%	9	55	81
	Level of innovation activities	point	72	75	79
	Innovative manpower cultivation rate	%	22	38	51
	D+ operational quality	point	-	84	88

* Calculated on the basis of the amount of renewable energy development difference funding and government subsidies for national projects

** Counted on the basis of the business report

Environmental Performance Indicators

Category		Unit	2010	2011	2012
Fuel consumption	LNG	Nm ³	994,035,338	1,967,934,125	2,540,069,749
	BFG	Nm ³	1,202,104,375	5,068,025,525	4,834,404,296
	COG	Nm ³	1,471,851	25,103,776	51,319,218
Energy consumption		TJ	47,453	104,784	128,403
GHG Emissions	Total	tCO ₂	2,400,844	5,293,335	6,465,523
	Scope1	tCO ₂	2,389,570	5,273,743	6,451,805
	Scope2	tCO ₂	11,274	19,592	13,718
Water consumption		ton	1,302,967	2,243,153	2,052,256
Discharged water quantity discharged		ton	359,535	421,344	464,479
Waste	Total	ton	530	679	842
	General Waste	ton	514	658	797
	Specified Waste	ton	16	21	45
	Waste recycled	%	29	25.1	17.6
Harmful chemicals quantity used		ton	1,065	1,296	2,016
Environmental investments		KRW million	23,322	24,122	7,560

Social Performance Indicators

Classification	Unit	2010	2011	2012
Total number of employees	person	465	688	861
By region	Seoul	114	138	147
	Incheon	193	266	326
	Pohang	131	241	318
	Gwangyang	27	30	56
	Overseas	-	13	14
By gender	Male	426	633	784
	Female	39	55	77
By job category	Regular job total	274	443	577
	Regular job (M/F)	person (Male 236 / Female 38)	(Male 397 / Female 46)	(Male 501 / Female 76)
	Specialized job total	175	214	252
	Specialized job (M/F)	person (Male 174 / Female 1)	(Male 213 / Female 1)	(Male 251 / Female 1)
Full-time / Part-time	Regular employees	449	657	829
	Contract workers	16	31	32
Education	Average employee education time	hr/person	100	110
	Total education expense	KRW million	760	114.0
				112.0
Rate of flexible work program	%	-	Monthly average 38.0%	35.9
Rate of job return after maternity leave	%	-	100	100
Happiness index	point	-	73.4	75.1
Turnover rate	%	6	4	2
Average employees' volunteer hour	hr/person	24.2	28.5	34.2
Benefit Sharing cost	KRW million	-	345	556
Membership rate of labor union	%	67	69	65

	General		Professional	
	Within 5 years	Within 10 years	Within 5 years	Within 10 years
Employees scheduled to retire by job type (%)	2.7	-	0.4	0.4

Corporate Governance of Affiliates

(As of December 31, 2012)

Affiliated Company	Share	Affiliated Company	Share
PSC Energy Global Co., Ltd.	100%	Fifth Combined Heat and Power Plant LLC	30%
POSCO E&E	100%	Gyeonggi Green Energy	25.5%
Techren Solar, LLC	99.9%	Fuel Cell Energy, Inc	16.6%
PT. KPP	90%	Postech Electricity Fund	11.6%
Tamra Offshore Wind Power Plant	64%	eNtoB Co., Ltd.	3.95%

* Pohang Fuel Cell Power Generation and Shinan Energy were merged by POSCO ENERGY in November 2012

GRI 3.1 & ISO26000 Index

GRI 3.1		ISO26000	Page	Remarks
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	GRI 3.1	ISO26000	Page	Remarks
1. Economic Performance				
EC1	Creation and distribution of direct, tangible economic values and benefits	6.8, 6.8.3, 6.8.7, 6.8.9	62-64	
EC2	Impact of climate change on financial environment and risks/opportunities it presents for business environment	6.5.5	36-41	
EC3	Scope of pension support	6.4.4, 6.8	56	
EC4	Record of benefitting from government subsidies	6.6.6, 6.8, 6.8.5, 6.8.7	72	
EC5	Ratio of the legally mandated minimum wage applicable to the region of main business location to the wage level for new employees	6.4.4, 6.8	-	
EC6	Policy, customs and proportion of local purchasing decisions made by the main location of business	6.6.6, 6.8, 6.8.5, 6.8.7	62-63	
EC7	Preferential treatment for employment of the locals in the region of main location of business	6.8, 6.8.5, 6.8.7	52	
EC8	Investment in infrastructure and support for services in public interest	6.3.9, 6.8, 6.8.3, 6.8.4, 6.8.5, 6.8.6, 6.8.7, 6.8.9	64-67	
EC9	Explanation of economic ripple effects	6.3.9, 6.8, 6.8.3, 6.8.4, 6.8.5, 6.8.6, 6.8.7, 6.8.9	32, 40, 41	
2. Environmental Performance				
EN1	Amount of materials used, either in weight or in bulk		46	
EN2	Proportion of recycled materials used		46	
EN3	Amount of directly consumed energy from primary sources		46	
EN4	Amount of indirectly consumed energy from primary sources		46	
EN5	Amount of energy saved through active saving efforts and improvement in efficiency	6.5, 6.5.4	36	
EN6	Initiatives to provide energy-efficient or renewable energy based products and services		37-41	
EN7	Efforts for indirect energy conservation and performance		37-41, 49, 65	
EN8	Total amount of water gathered from each source		46	
EN9	Sources of water easily affected by water-gathering activities		43	
EN10	Total amounts and proportions of reused or recycled water		43-47	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		-	
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	6.5, 6.5.6	-	Not located in the areas of biodiversity conservation
EN13	Preserved or restored ecological habitats		-	
EN14	Strategies (current actions and future plans) to protect ecological diversity		-	
EN15	The number and types of species found on the Red List of the IUCN or the national list of endangered species found to inhabit the areas within the impact of project		-	
EN16	Total amount of direct and indirect greenhouse gas emissions		47	
EN17	Amount of other indirect greenhouse gas emissions	6.5, 6.5.6	47	
EN18	Efforts for reducing greenhouse gas emissions and performance		36	
EN19	Amount of emissions of ozone-depleting substances		-	No ozone layer-depleting substances
EN20	Amount of emissions of major air pollutants, such as NOx and SOx		44,47	
EN21	Total amount and quality of wastewater by final area of discharge		44,47	
EN22	Amount of wastewater by type and treatment method	6.5, 6.5.3	47,72	
EN23	Amount of major harmful substances leaked		-	No leakage reported
EN24	Eight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally		-	No case reported
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	6.5, 6.5.4, 6.5.6	-	No case reported
EN26	Efforts to reduce the environmental impact of products/services and performance	6.5, 6.5.4, 6.5.6	36-41	
EN27	Recycling rate for the packaging materials of sold or used products	6.5, 6.5.4, 6.5.6	45	
EN28	Amount of fines imposed and the number of sanctions issued for violations of environmental laws	6.5	-	No violations reported
EN29	Environmental impact of transporting products, materials and employees	6.5, 6.5.4, 6.7.5	39	
EN30	Total cost and investment caused by environmental preservation	6.5	43	

GRI 3.1		ISO26000	Page	Remarks
3. Social Performance				
Labor				
LA1	Employee distribution by labor type, contract and region		73	
LA2	Employee turnover rate and demographic makeup (by age, gender and region)	6.4, 6.4.3	73	
LA3	Benefits provided for full-time employees and not for contract (part-time) employees		56	
LA4	Proportion of employees eligible for collective bargaining	6.4, 6.4.3, 6.4.4	73	
LA5	Minimum notice period for notification of employees regarding important changes in their situation	6.4, 6.4.3, 6.4.4, 6.4.5, 6.3.10	57	
LA6	Proportion of employees represented by the Labor-Management Joint Committee on Health and Safety	6.4, 6.4.3, 6.4.4, 6.4.5	57	
LA7	Number of incidents involving employees injured, contracting occupationally caused diseases, absent, or affected by other work-related accidents	6.4, 6.4.6	59	
LA8	Disease and safety management programs in place to assist workforce members, their families, and community members		56, 58-59	
LA9	Health and safety policy for employees subject to official agreement with the labor union	6.4, 6.4.6, 6.8, 6.8.3, 6.8.4, 6.8.8 6.9	57, 58	
LA10	Average number of hours of training per year per employee	6.4, 6.4.6	52	
LA11	Job-related training and continuous learning programs for continuous employment and retirement	6.4, 6.4.7	56	
LA12	Proportion of employees subject to regular performance evaluation and capacity-enhancing training and review	6.4, 6.4.7, 6.8.5	54	
LA13	Demographic makeup of the Board and employees (by gender, age, ethnic or racial backgrounds or other indicators of diversity)	6.4, 6.4.7	18	
LA14	Comparison of basic wage levels between men and women across ranks and positions	6.3.7, 6.3.10, 6.4, 6.4.3	54	
LA15	Rate by gender at which people return to and maintain their jobs after maternity/childcare leave	6.3.7, 6.3.10, 6.4, 6.4.3, 6.4.4	73	
Human rights				
HR1	Number and proportion of major investment agreements including provisions for human rights protection and/or review	6.3, 6.3.3, 6.3.5, 6.6.6	62	
HR2	Proportion of human rights reviews conducted regarding major business partners and contractors	6.3, 6.3.3, 6.3.5, 6.4.3, 6.6.6	62	
HR3	Training for employees concerning human rights policy and processes at work (including proportion of employees who have completed the training)	6.3, 6.3.5	22	
HR4	Total number of cases of discrimination reported and actions taken to remedy the situation	6.3, 6.3.6, 6.3.7, 6.3.10, 6.4.3	-	No discrimination reported
HR5	Areas of work with great risks for the violation of freedom of association and collective bargaining	6.3, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.4.5	57	
HR6	Areas of work with great risks for employing child labor and actions taken to prevent child labor	6.3, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.10	57	
HR7	Areas of work with great risks for forced labor and actions taken to prevent forced labor		57	
HR8	Proportion of security agents who have completed training on human rights policy and processes at work	6.3, 6.3.5, 6.4.3, 6.6.6	-	
HR9	Cases of infringing upon rights of the Native Peoples and actions taken to remedy the situation	6.3, 6.3.6, 6.3.7, 6.3.8, 6.6.7	-	No infringement reported
HR10	No. and rate of projects conducted to monitor human rights violations and evaluate their effects		-	
HR11	No. of lawsuits / responses / complaints concerning human rights received through the official complaint process		57	
Society				
SO1	Characteristics, scope and effectiveness of programs assessing impact on local communities	6.3, 6.3.6, 6.3.7, 6.3.8, 6.6.7	64-67	
SO2	Number and proportion of projects with risks for corruption		-	No case reported
SO3	Proportion of employees trained in anti-corruption policy and processes	6.6, 6.6.3	22	
SO4	Actions remedying corruption		-	No corruption reported
SO5	Record of winning awards for contribution to public policy, and/or participating in the development of or lobbying for public policy	6.6, 6.6.4, 6.8.3	-	No case reported
SO6	Cash and other gifts for political parties, politicians and related national agencies		-	No case reported

	GRI 3.1	ISO26000	Page	Remarks
SO7	Number of cases involving unfair practices of competition and monopoly and the outcomes of such cases	6.6, 6.6.5, 6.6.7	21	
SO8	Fines imposed and non-monetary sanctions issued for violations of applicable laws and rules	6.6, 6.6.7, 6.8.7	-	No case reported
SO9	Projects with potential or actual negative impact on local society		-	No case reported
SO10	Preventive and reductive measures for projects with potential or actual negative impact on local society		64-67	
Product Responsibility				
PR1	Proportion of lifecycle evaluations undertaken to assess the impact of products or services on health and safety for the purpose of improvement		60, 61	
PR2	Number of cases involving violations of applicable laws or self-imposed rules protecting the health and safety of consumers during any period of the lifecycle of a given product or service	6.3.9, 6.6.6, 6.7, 6.7.4, 6.7.5	-	No case reported
PR3	Types of product or service information required by due process and the proportion of products or services meeting this criterion		60, 61	
PR4	Number of cases involving violations of applicable laws or self-imposed rules concerning product labeling	6.7, 6.7.3, 6.7.4, 6.7.5, 6.7.6, 6.7.9	-	No case reported
PR5	Customer satisfaction activities, including surveys	6.7, 6.7.4, 6.7.5, 6.7.6, 6.7.8, 6.7.9	60, 61	
PR6	Applicable laws, standards and other self-imposed rules regarding advertising, promotion, sponsorship and other acts of marketing communications		-	No case reported
PR7	Number of cases involving violations of applicable laws, standards and other self-imposed rules regarding advertising, promotion, sponsorship and other acts of marketing communications	6.7, 6.7.3, 6.7.6, 6.7.9	-	No case reported
PR8	Number of cases involving infringement of customers' right to privacy and complaints raised concerning the loss of customer-related data	6.7, 6.7.7	-	No case reported
PR9	Amount of fines imposed for violations of applicable laws on product and service distribution	6.7, 6.7.6	-	No case reported
4. Electric Utility Sector				
EU1	Installed capacity, broken down by primary energy source and by regulatory regime		6, 7	
EU2	Net energy output broken down by primary energy source and by regulatory regime		72	
EU3	Number of residential, industrial, institutional and commercial customer accounts		-	
EU4	Length of above and underground transmission and distribution lines by regulatory regime		-	
EU5	Allocation of CO ₂ e emissions allowances or equivalent, broken down by carbon trading framework		-	
EU6	Management approach to ensure short and long-term electricity availability and reliability		28, 29	
EU7	Demand-side management programs including residential, commercial, institutional and industrial programs		29	
EU8	Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development		25	
EU9	Provisions for decommissioning of nuclear power sites		-	
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime		28, 29	
EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime		29	
EU12	Transmission and distribution losses as a percentage of total energy		72	
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas		-	No case reported
EU14	Programs and processes to ensure the availability of a skilled workforce		52-54	
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region		73	
EU16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors		59	
EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities		-	Compliance with statutory working hours
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training		-	
EU19	Stakeholder participation in the decision making process related to energy planning and infrastructure development		28-30	
EU20	Approach to managing the impacts of displacement		-	No case reported
EU21	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans		45, 58, 59	
EU22	Number of people physically or economically displaced and compensation, broken down by type of project		-	No case reported
EU23	Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services		-	No case reported
EU24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services		-	No case reported

	GRI 3.1	ISO26000	Page	Remarks
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases		-	No case reported
EU26	Percentage of population unserved in licensed distribution or service areas		-	No case reported
EU27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime		-	No case reported
EU28	Power outage frequency		29	
EU29	Average power outage duration		29	
EU30	Average plant availability factor by energy source and by regulatory regime		29, 60	

Awards

Award	Awarding Organization	Date Awarded
Citation for contributing to environment preservation and water management	Incheon Metropolitan City	2012.03.28
Korea Environmental Award_ Industry category / Reduction in air pollutants	Eco-media	2012.10.17
Best company in fire safety	Incheon Metropolitan City	2012.11.09
POSCO Family Environmental Management Award	POSCO	2012.11.23
Sustainability Management Award, First Report Award	Ministry of Trade, Industry, and Energy	2012.11.27
Family-friendly Company Certificate	Ministry of Health and Welfare	2012.12.03

Membership in Associations

Association Name	Association Name	Association Name
The Korean Society of Mechanical Engineers	Incheon Chamber of Commerce & Industry	The Korean Institute of Resources Recycling
The Korea Chamber of Commerce & Industry	Incheon Safety Association	Korea Electrical Contractors Association
The Korean Institute of Electrical Engineers	Korea Federation for Environmental Movement	Korea Electric Engineers Association
Korea Electric Association	The Federation of Korean Industries	Korea Battery Industry Association
Independent Power Producer Association	Korea Power Exchange	Korean Standards Association
The Institute for Industrial Policy Studies	The Korean Institute of Power Electronics	Korea Wind Energy Industry Association
Executive Committee for "One Less Nuclear Power Plant" campaign by Seoul Metropolitan Government	Korea Construction Engineers Association	Korea Chemical Management Association
Korea Fire Safety Association	Korea Industrial Technology Association	Korea Environmental management Association
BEST SM Forum	Korea New & Renewable Energy	Korea Environmental Engineers Association
Korea Personnel Improvement Association	Korea Society of Energy & Climate Change	Korea Environmental Preservation Association
Incheon Green Federation	Korea Energy Foundation	Climate Change Center (Korea Green Foundation)

Independent Assurance Report



At POSCO ENERGY's request, we have reviewed the information presented in the 2012 sustainability report (the "Report"). The management of POSCO is responsible for preparing the report. Our responsibility is to carry out a limited assurance engagement on the report and to provide opinions on it based on our review.

Procedures Performed

We conducted our engagement in accordance with ISAE 3000¹ and the requirements of a Type 2 assurance engagement as defined by AA1000AS(2008)².

We performed the following procedures to form our conclusion on the report:

- Evaluated POSCO ENERGY's processes for stakeholder engagement.
- Reviewed POSCO ENERGY's processes for determining material issues of stakeholder groups.
- Searched the media coverage of POSCO ENERGY's sustainability issues during the applicable reporting period.
- Reviewed recently reported sustainability issues of the POSCO ENERGY's global competitors.
- Interviewed a selection of people in charge to understand the current status of sustainability performance and the reporting process during the reporting period.
- Reviewed selected data regarding POSCO ENERGY's sustainability performance, supporting evidence for assertions, and information from corporate-wide systems.
- Interviewed several executives mainly in charge of sustainability issues.
- Reviewed POSCO ENERGY's process for collecting and consolidating sustainability performance data
- Reviewed whether financial performance data has been extracted properly from the POSCO ENERGY's audited financial statements.

Level of Assurance

We undertook a limited assurance engagement in accordance with ISAE 3000. A limited assurance is less in scope than a reasonable assurance engagement. Consequently, the nature, timing and the extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

The Limitations of Our Review

We excluded GHG(Greenhouse Gas) emissions in our limited assurance engagement. And, we did not review environmental and social performance data prior to 2011. However, we reviewed financial performance data based on POSCO ENERGY's 2012 audited financial statements.

Our Conclusions

The result of our review is outlined below.

Inclusivity

Has POSCO ENERGY been engaging with stakeholders across the business to develop and implement its approach to sustainability?

- We are not aware of any key stakeholder groups that have been excluded from the stakeholder engagement process outlined in the report.
- We are not aware of any matters that would lead us to conclude that POSCO ENERGY has not applied the inclusivity principle in developing its approach to sustainability.

¹ International Standard on Assurance Engagement : Assurance Engagements other than Audits or Reviews of Historical Financial Information from the International Federation of the Accountants

² AA1000AS(2008)-The second edition of the AA1000 Assurance Standard from the Institute of Social and Ethical Accountability

Materiality

Has POSCO ENERGY provided a balanced representation of material issues concerning its sustainability performance?

- We are not aware of any material aspects concerning POSCO ENERGY's sustainability performance which have been excluded from the report.
- Nothing has come to our attention that causes us to believe that POSCO ENERGY's management has not applied its processes for determining material issues to be included in the report.

Responsiveness

Has POSCO ENERGY responded to the stakeholder concerns?

- We are not aware of any matters that would lead us to conclude that POSCO ENERGY has not applied the responsiveness principle in considering the matters to be reported.

Completeness and Accuracy of Performance Information

How complete and accurate is the economic, social, and environmental performance data in the report?

- We are not aware of any that have been excluded from the economic, social, and environmental performance data.
- Nothing has come to our attention that causes us to believe that the data relating to the above topics has not been collated properly from POSCO ENERGY's reporting processes.

How plausible are the statements and claims within the report?

- We are not aware of any misstatements of information or explanation used to support statements and claims on POSCO ENERGY's sustainability activities presented in the report.

Observations and Areas for Improvement

Without prejudice against our conclusions presented above, we believe the following matters require attention in order to improve POSCO ENERGY's sustainability reporting.

- Considering the degree of social interest towards rapid growth of POSCO ENERGY and recent strengthening of private power providers, stakeholder concerns on POSCO ENERGY's sustainability management and corporate social responsibility will become more profound. POSCO ENERGY needs to develop more active stakeholder communication programs, such as expanded operation of its stakeholder committee meeting that was launched this year.
- Although management of sustainability performance data at POSCO ENERGY is appropriate, a more substantial performance management, such as setting specific sustainability targets and managing/ reporting its level of achievement in comparison to the original target, is necessary.
- POSCO ENERGY's efforts to address part of its negative issues are disclosed in the Report. At this point, POSCO ENERGY needs to engage in more active disclosure of negative information in order to improve balance as well as credibility of the Report.

Independence

We comply with the Ethical Standard issued by IFAC (International Federation of Accountants).

Our Assurance Team

The assurance engagement was performed by the engagement team with a long history of experience and expertise in sustainability area.

Seung Wha Gweon

Country Managing Partner

EY Hanyoung

August 2013



Should you have any inquiries or opinions about
the POSCO ENERGY Sustainability Report, please feel free to contact the below.

POSCO ENERGY, Sustainability Management Group

8F, POSCO Center, 440 Teheran-ro, Gangnam-gu, Seoul, 135-777 Korea

Tel +82-2-3457-2246 **Fax** +82-2-3457-2115

E-mail sustainability@poscoenergy.com **Homepage** www.poscoenergy.com



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