

POSCO E&C Sustainability Report 2011

# **POSCO** E&C

# **Sustainability**

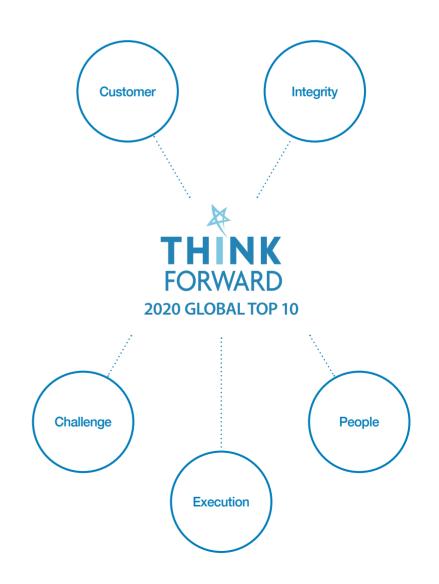
# Report

# 2011



# Vision

"Think Forward" represents POSCO E&C's vision to become one of the Global Top 10 companies by 2020, as a total solution provider that develops a sustainable future with advanced thinking, advanced technology, and advanced passion. All the employees and executives of the company share these core values of Customer-Centeredness, Self-Challenging, Action-Oriented, Respect, and Integrity, and actively work to become the best and most competitive in their respective fields. POSCO E&C will continue to innovate itself and develop new technologies until it reaches its goal of becoming one of the Global Top 10 companies by 2020.



# **About This Report**

POSCO E&C experienced unprecedented growth and many achievements in 2011, thanks to its sustained efforts to strengthen internal management and business capabilities. In order to become a trusted, beloved company by all stakeholders, POSCO E&C sought to fulfill all of its social and environmental responsibilities. In order to share the efforts with stakeholders, POSCO E&C has come to publish the first sustainability report in 2012. The company will continue to ensure its sustainability and garner greater support from all stakeholders by reaffirming its promises and suggesting a continually improving vision through subsequent publications of sustainability reports.

**Principles** The POSCO E&C Sustainability Report 2011 follows the G3.1 Guideline provided by the Global Reporting Initiative (GRI), and focuses its explanation on the core subjects and issues, delineated by the ISO26000, which is an international standard on social responsibility. As for stakeholder participation and analysis of the materiality of issues, the company also followed the international standard of AA1000 SES (Stakeholder Engagement Accountability Standard).

**Period** The period of reporting is from January to December 2011. Where necessary to show chronological development and evolution, the company provided financial data pertaining to the last three accounting years (January 2009 ~ December 2011). For some of the major issues, the company also included information through April 2012.

**Scope** While, in principle, the company sought to report on all the projects and business sites it operates both in Korea and abroad, this report includes environmental data from only 120 project sites in Korea (as of the end of 2011) and social data from employees and executives at offices and project sites in Korea only. As for quantitative data, only those pertaining to POSCO E&C were included. Data concerning subsidiaries and businesses partners, that were included in the report, were specified.

POSCO E&C submitted the report for third-party verification by DNV (Det Norske Veritas) pursuant to the verification standards of the AA1000AS and AA1000APS. The Statement of Verification provided by DNV is included on Page 78 of this report. Should you have any inquiries or comments concerning any part of this report, please contact us at:

CSR Group, General Administration Department, General Administration Division, POSCO E&C

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## CREATING THE FUTURE



## GREENING THE FUTURE







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## Cover Story

It represents the commitment of POSCO E&C to designing and building a sustainable future based on 'Think Forward', a vision that encapsulates forward thinking, advanced technology, and superior passion.

As symbols of a drawing, lines and numerics carved around 'the vision' configures the enterprise of E&C.

APPENDIX

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# **CEO** Message



# "POSCO E&C leads the construction of a sustainable future."

#### Dear stakeholders,

I am pleased to present to you the first Sustainability Report of POSCO E&C. POSCO E&C, with our reputed years of experience in steel plant construction, has rapidly expanded its scope of business. including civil engineering, architecture, energy, and urban development. We achieved a remarkable performance in 2011 of KRW 14.4 trillion in new orders and KRW 6.1 trillion in sales, which topped the company's record, and were recognized the fourth most compatible company in the evaluation for construction capability in Korea. I would like to thank all our stakeholders who have worked with us with their unstinted attention and support.

We continuously challenge ourselves to realize our vision, which is to be a key player in the industry, ranking within the Global Top 10 by 2020. With emphasis on creativity, challenging spirit, and sensibility towards customer needs and the good of humanity, POSCO E&C endeavors to be the world's most competitive engineering and construction companies.

#### We will strengthen our core competencies in pursuit of growth towards Global Top 10.

POSCO E&C will nurture itself to an internationally renowned engineering and construction company prepared with PEPCOM strategy that carries out a comprehensive range of services from Planning, Engineering, Procurement, Construction, to Operation and Maintenance, in order to secure new markets overseas and generate new growth engines. Furthermore, we will reinforce our foundation by securing financial stability through emphasizing cost efficient operation and effective investment management.

## We will secure core technologies for environment-friendly businesses of the future.

As a leading global company, we will actively engage in the reduction of greenhouse gas emission and energy consumption in response to climate issues through dedicating much of our effort in R&D. We will make commitments in various environmental businesses such as renewable energy, building green buildings and cities. In addition, we will strive to minimize environmental impact of our project sites by enforcing our Green Management System and taking the lead in creating an ecosystem harmonious with the nature.

## We will deliver greater social values by raising the value of all stakeholders.

POSCO E&C pledges to always maintain a healthy work environment for all employees and to promote a growth together with our business partners, by enforcing our ethics and transparency management system which was rated AA in Compliance Program for Fair Transaction. Furthermore, we will realize the value of our customers and shareholders to its greatest extent, taking up the role of an active corporate citizen in the local communities in which we engage.

growth.

Thank you.

In the past, a company's growth had only sought economic gains. Today, sustainable growth is an opportunity exclusively awarded to those trusted through consistently in communication with stakeholders at all aspects. Pursuant to the company's vision to fulfill its economic, social, and environmental responsibilities for sustainable growth, we promise the following:

We look forward to better communicating with all our stakeholders through your attention and advice. Together with you, POSCO E&C will continue to expand its horizon, uphold its transparency and nurture a new sustainable

June 2012

Vice Chairman & CEO Chung Dong-Hwa D.H Chung

# **Company Overview**

POSCO E&C is a general construction company that was established in December 1994 based on plant engineering technology, knowhow and experienced manpower that POSCO amassed while building POSCO's integrated steel mills with global competitiveness.

With growing customer confidence around the world, POSCO E&C continues to build trust with various customers by carrying out a series of projects in designing, construction, and operation involving steel plant, energy, civil engineering, architecture, water and environment, urban development, social infrastructure, and the construction of high-rise buildings. While the company smartly copes with the drastic changes to the business environment, based on its corporate culture that prices human talents and technology, POSCO E&C continues with its growth toward a global E&C company leading the 21st century by upgrading its technological competitiveness grounded on its executives and employees' professionalism.



# Total assets : KRW 7.83 trillion / Total capital : KRW 2.58 trillion Credit ratings : Baa3 (Moody's), A1 (commercial paper, Korea Ratings) / No. of employees : 3,975

\* Consolidated financial statement, as of the end of December 2011.



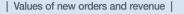
POSCO Mexico No.2 CGL, Mexico (Steel Plants)

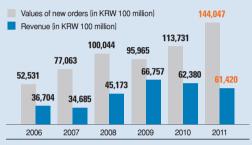


Kalpa Combined Cycle Conversion Project,

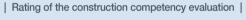


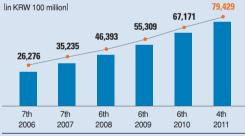
Brazilo





\*The sales from 2006 through 2010 have been calculated to the K-GAAP standard, before switching to the K-IFRS standard in 2011.





#### | Organization |



Introducing Our Projects :

http://www.poscoenc.com/english/business/business\_segments.asp



# Corporate Governance Implementing Sustainable Management

POSCO E&C will protect the rights of our shareholders and other stakeholders by building advanced corporate governance and through responsible management. While POSCO E&C recognize the corporate social responsibility, the company continue with sustainable management.

## Board of Directors: Structure and Its Role

**Structure** POSCO E&C aims to be a company trusted by various stakeholders by upgrading transparency and accountability in management through advanced corporate governance. In order to enhance the efficiency and transparency in management, and financial health, POSCO E&C has appointed a board of directors. As the company's supreme decision-making body deciding all major policies, the Board, composed of nine executive board members and one non executive borad member, is chaired by the Vice-Chairman and CEO of POSCO E&C.

**The Role of the Board** The Board of POSCO E&C has the right to make decisions, monitor the management and execute operations including deliberation and decision on legal requirements and other necessary matters directly or indirectly related to the operational purpose, convening the general assembly of shareholders, matters pertaining to management, finance, appointment of executive directors, and so forth. In 2011, the board met 28 times in total to deliberate upon 71 issues, incorporating its decisions into the company's management.

The Board works hard to reflect the opinions of the shareholders, employees, and other stakeholders. It shares updates on the company's performance with employees every month through video reports. It also discusses important matters and information of management with employees through the labor-management council, promoting more effective communication between the management and employees. POSCO E&C also protects the rights of shareholders pursuant to the Code of Commerce and other related regulations.

The Board informs and improves the company's awareness of its role in protecting customers and the environment, always striving for a better and fuller understanding of all the ripple effects following its economic, environmental and social activities. In making decisions concerning the company's management goals and strategy, the Board also incorporates a social responsibilities perspective. Directors with conflicts of interests are not allowed to participate in decision-making, in an effort to maintain unbiased decisions by the Board. The remuneration for the members of the Board and the management is provided in different levels based on regular reviews and performance evaluations, and is subject to the limits set by the shareholder's general an auditor.

**Operating the Board** The Board convenes both regular meetings and emergency meetings when necessary. The regular meetings are held on the second and fourth Tuesdays of every month. The agenda for each Board meeting is proposed and shaped by the directors. All Board meetings require more than half of the members in attendance. For any proposal to pass as a resolution, a majority approval from the attending members is required. The agendas discussed at each meeting are recorded, and signed by the directors and auditors.

#### | Numbers of Board Meetings and Deliberations |

Description	2009	2010	2011
No. of meetings held	33	28	28
No. of deliberations passed	65	98	71

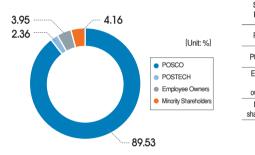
#### Audit System

## manage

The Charter of Incorporation stipulates accounting and auditing as the main responsibilities of an auditor is. He can attend Board meetings to state his opinions and is required to sign the Board minutes when they do so. Audit rules state that where necessary, an auditor can demand the directors to report on their activities. Additionally, an audit is allowed to review necessary documents.

## Shareholders and Shareholding Structure

POSCO, the parent company, holds 89.53% of POSCO E&C. As POSCO E&C has not yet publicly offered its shares, the remainder of its shares is divided among Pohang University of Science and Technology (POSTECH), employee stock ownership, and minority shareholders.



#### | Board Organization |



POSCO E&C appoints an independent auditor, subject to the decision of the shareholder's general assembly. The auditor manages the Ethics Management Office(Corporate Audit Department) and is given internal mechanisms and access to the necessary management information, assuring the auditor's independence.

			Ν	lo. of shares he	eld (equity ratio)		Remark
Share-	Relation	Type of	Beginning of	the term	End of the	term	-
holder	to POSCO	shares	No. of shares	Equity ratio	No. of shares	Equity ratio	-
POSCO	Parent company	Ordinary shares	32,876,418	89.53	32,876,418	89.53	-
POSTECH	Nonprofit	Ordinary shares	866,370	2.36	866,370	2.36	-
Employee stock ownership	Employees and executives	Ordinary shares	1,514,679	4.12	1,449,706	3.95	-
Minority nareholders		Ordinary shares	1,465,533	3.99	1,530,506	4.16	-
		Ordinary shares	36,723,000	100.0	36,723,000	100.0	-
То	otal	Preferred shares	0	0	0	0	-
		Other	0	0	0	0	-

(	as of	Dec.	31,	201	1; in	number	of	shares	and	%
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a	Vice Chairman & CEO
	President / Energy Engineering & Construction Division, Civil & Environment Division, Architecture Division
	President / Plant Engineering & Construction Division, Brazil CSP Business Unit
	Senior Executive Vice President / Plant Engineering & Construction Division
	Senior Executive Vice President / Strategic Planning Division
	Executive Vice President / General Administration Division
	Executive Vice President / Global Marketing Division
	Executive Vice President / Architecture Division
	Executive Vice President / Civil & Environment Divison
	Executive Vice President / Corporate Strategic Department II, POSCO



# Doing the Right Things the Right Way

Mindful that Ethics management is the most fundamental and crucial element of management that makes possible the sustainable growth of the company, POSCO E&C will do the right things the right way with an upgraded ethical code.

## Building a System for Implementing Global Ethics management

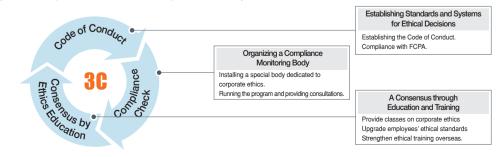
Since its inception, POSCO E&C has practiced its established core values of transparency and Ethics management. Since its Declaration of Ethics management in July 2003, the company has worked in organizing a special body dedicated to enacting and implementing The Code of Conduct, and building a consensus through education. The introduction of Vision 2020 and the expansion of overseas business have necessitated a global spread of Ethics management. This is essential to POSCO E&C which finds itself surrounded by governments and stakeholders of various countries, requiring greater diligence in adhering to applicable laws and ethical standards. In order to grow into a global Top 10 company, POSCO E&C is building and practicing a global system of Ethics management.

Implementation of the POSCO E&C Global Anti-Bribery Guidelines In March 2011, POSCO E&C developed the Guideline for Compliance with the Foreign Corrupt Practice Act (FCPA) based on the framework provided by the FCPA in the United States. The Guideline makes provisions against corrupting and bribing civil servants of foreign governments with whom the company comes in contact, pursuant to the FCPA and Korean Act on Preventing Bribery of Foreign Public Officials. It requires local offices and overseas branches of POSCO E&C to comply with the local anticorruption laws and regulations. The Guideline also prohibits employees from providing any benefits or gifts, including meals, entertainment, travel expenses, express charges and so forth, even in cases where such gifts are called for by the local practice and custom. When providing such gifts and benefits becomes absolutely necessary, employees should adhere to the local laws and regulations governing such provisions, and are required to keep a detailed record of the goods and services provided.

#### Details of the POSCO E&C Global Anti-Bribery Guidelines

Compliance with the Anti-Corruption Laws	All Board members and employees of POSCO E&C must comply with the FCPA and other local anti-corruption laws. Violations of these laws are not exempt from accountability even if they are done in conformity of local business customs.
Ban on Bribery to Government Officials	No Board member or employee may provide cash or other goods for local government officials with a value that exceeds the conventional limit. FCPA must be complied with even when dealing with government officials through a third-party Representatives.
Keeping Accurate Financial Records & Accounting	All financial transaction must be documented accurately. No expenditures or possession of assets are to be made without records.
Internal Controls and Audit	Violation of FCPA committed or suspected must be reported to an immediate superior, the Committee for Legal Compliance for Prevention of Bribery, or the Business Ethics Group. Board members and employees who fail to comply with the Guideline may be subjected to disciplinary actions.

#### Developing the Global Ethics management Model



## Main Activities of **Ethics management**

Reporting System A number of channels are available for reporting violations of the ethical code, including the online reporting bulletin, the telephone hotline, the Reward System for Reporting Unethical Activities. Posters on the reporting system are on display on sites across the nation to provide information for all major stakeholders.

Ethics and Fair Trade Counseling POSCO E&C also provides counseling on ethical dilemmas and fair trade issues through its webpage, telephone, e-mail, fax, etc. The Counseling Office handles dilemmas and FAQs involving executives and employee problems in the areas of either ethics or fair trade.

Customized Ethics Training This constitutes the principal part of the education that POSCO E&C performs to upgrade its executives and employees' ability to practice ethics. Members of the Business Ethics Group visit each department or project site in order to provide corporate ethics lectures that meet the needs and requirements unique to each department or project site. First begun in 2005, the lectures have since been expanded to and starting in 2008, they have covered all departments and offices in Korea. Recognizing the need to provide training for overseas branches and on-site executives and employees with its international operation increasing, POSCO E&C plans to provide it in 2012.

## Number of Cases Reported to the Ethics and Fair Trade Counseling Office

Area	2009	2010	2011	2009	2010	2011
Ethics	348	144	74	140	177	107
Fair Trade	125	91	51	149 departments	departments	167 departments*
Total	473	235	125	(2,577 persons)	(2,872 persons)	(3,084 persons)
				*including project site	es.	

# Assessing Ethical Practices

Study

"The Ethics management

of business partners is

as important as that of

POSCO E&C."

POSCO E&C instructs employees on the terms and conditions of the company's policy and encourages them to take a more proactive role in ethical practice by conducting departmental ethical practice assessments and feedbacks each year. In 2011, the evaluation criteria and grading system were improved in order to encourage each department to take greater initiatives in following the Code of Conduct.

POSCO E&C encourages not only its own executives and employees, but also its business partners to emulate the company's commitment to ethical practice and thereby exercise their own principles of Ethics management. POSCO E&C has been providing ethical training for new business partners since 2004. CEOs of newly registered business partners must participate in these ethical training programs, which explains the need with POSCO E&C for Ethics management, the structure and details of the company's Code of Conduct, and Spreading Ethics management and Training to Business Partners the company's ethical practices, while introducing the Special Agreement on Ethical Practice and the related systems including the Reward System for Reporting Unethical Activities.

Before lunar new year's holiday, members of the Business Ethics Group visit project sites across Korea to provide special lectures and reminders for business partners' employees on site (site mangers and foremen). By explaining the company's Ethics management system, they encourage business partners to participate more actively in the company's Ethics management, while receiving feedback related to grievances. These lectures are intended to reassure members of the community that the ethical codes and principles of POSCO E&C are actually practiced instead of being mere slogans. The lectures were provided for 476 managers on 50 project sites in 2011.

#### Customized Ethics Training Provided

#### Promoting Ethical Practices at business partners





# Establishing a Sustainability Management System

POSCO E&C practices sustainable management in an effort to gain greater trust from all its stakeholders. The company will grow through communication with and participation of stakeholders.

Core Values

The "core values" refer to the principles common, yet unique, to member companies of POSCO Family that integrates work, innovation, and learning into one. As such, the practical guideline for POSCO E&C's pursuit of its vision and goals regarding sustainable management is formed. The company will continue to achieve its goals in sustainable management by adhering to the five core values: Customer, Challenge, Execution, People, and Integrity.

ŇŢ. CUSTOMER Listen closely to customers and think from the customer's perspective. Value the customer's trust and promote growth together with the customer.

Do not fear failure and always pursue a challenging goal. CHALLENGE

Shed away from fixed ideas and find creative solutions.

		Value the field and execution and increase results through mutual cooperation.
	EXECUTION	Continuously improve and standardize processes and comply.
• •		Be open about tasks and eliminate waste through constant management.

Research a person's individuality and diversity with an open mind. PEOPLE Develop oneself through proactive self-improvement and strive for growth together with work. Give priority to safety and practice it at work.

Carry out all tasks transparently and fairly and strive for benefits for all stakeholders. INTEGRITY Recognize environmental protection as ethical responsibility, lead development of environment-friendly technologies and a low-carbon life.

Sustainability Management System

To grow into a company that is loved by stakeholders, POSCO E&C has organized the Sustainability Management Taskforce and designated sections in charge of its implementation, developing and improving a company-wide system for sustainability management since the first half of 2012. Based on the vision statement of "Think Forward," creativity is emphasized in pursuit of realization of better and sustainable future. And for this, "strengthening of the company culture, development of the infrastructure, sustainable development, and the activation of communication", all related to sustainability management, are implemented, based on the five core values of "customer, challenge, execution, people, and integrity".

Sustainability Management Strategy

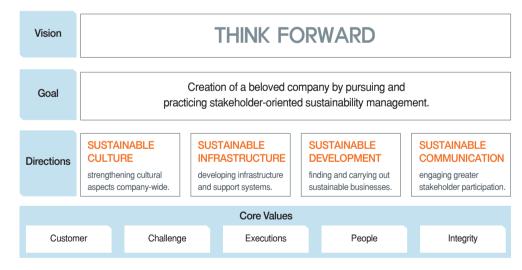
Strengthening a Culture of Sustainability Management A culture of sustainability management is strengthened as a prerequisite for a loved company. A culture of sustainability management relates to the decisions and actions made in reflection of corporate social responsibility in the basic decision-making process involved in various management activities by POSCO E&C. To this end, the company provides regular training for executives and employees, spreads an environment-friendly culture, and pursues win-win growth with business partners.

Building Sustainability Management Infrastructure The culture of sustainability management has required the creation of an infrastructure for its realization. The Sustainability Management TF has thus been formed to identify the issues to be improved in different areas. In particular, the company will seek to respond more actively to climate change by developing its own environmental data management system, recording greenhouse gas activities among others. By building a company-wide organization for operating sustainability management, the company also seeks to create an environment in which the sustainability-related responsibilities and roles of different departments are established to ensure an organic operation of the organization and the system.

Developing Projects for Sustainable Growth Sustainability management lets the company explore new markets. Through environment-friendly research and development, energy-saving technologies are developed while environmentalfriendly business tapping into them is expanded. The environmental and social impact of construction activities is to be reduced in pursuit of sustainable growth. To ensure that all these goals are fulfilled through management activities, efforts are steadily implemented to use environmental-friendly materials and protect ecological diversity as well.

#### Expanding Communication with Stakeholders

#### Goals of Sustainability Management





## "Sustainability management realizes through the practice by the executives and employees of POSCO E&C.'

Following the establishment of its sustainability management strategy in January 2012, POSCO E&C organized the Sustainability Management Taskforce with members from related parts to help internalizing sustainability management and make possible its substantial implementation. Composed of 18 members in total, the Taskforce has held action plan development workshops for sustainability management. The findings of the workshops will consequently form the framework in which the company will pursue its sustainable activities in the future.

Communication is expanded to make a loved company. Gratitudesharing activities geared to communication with employees and meetings for talks with local communities continue. While vis-a-vis meetings and communication with business partners in order to prevent possible on-site accidents disasters, the opinions and feedback collected through communication are actively incorporated into management activities. The various corporate social responsibility activities that reflect the opinion of the local community will greatly contribute not iust to the ethical dimension, but also to the creation of future business opportunities.

#### Organizing the Sustainability Management Taskforce

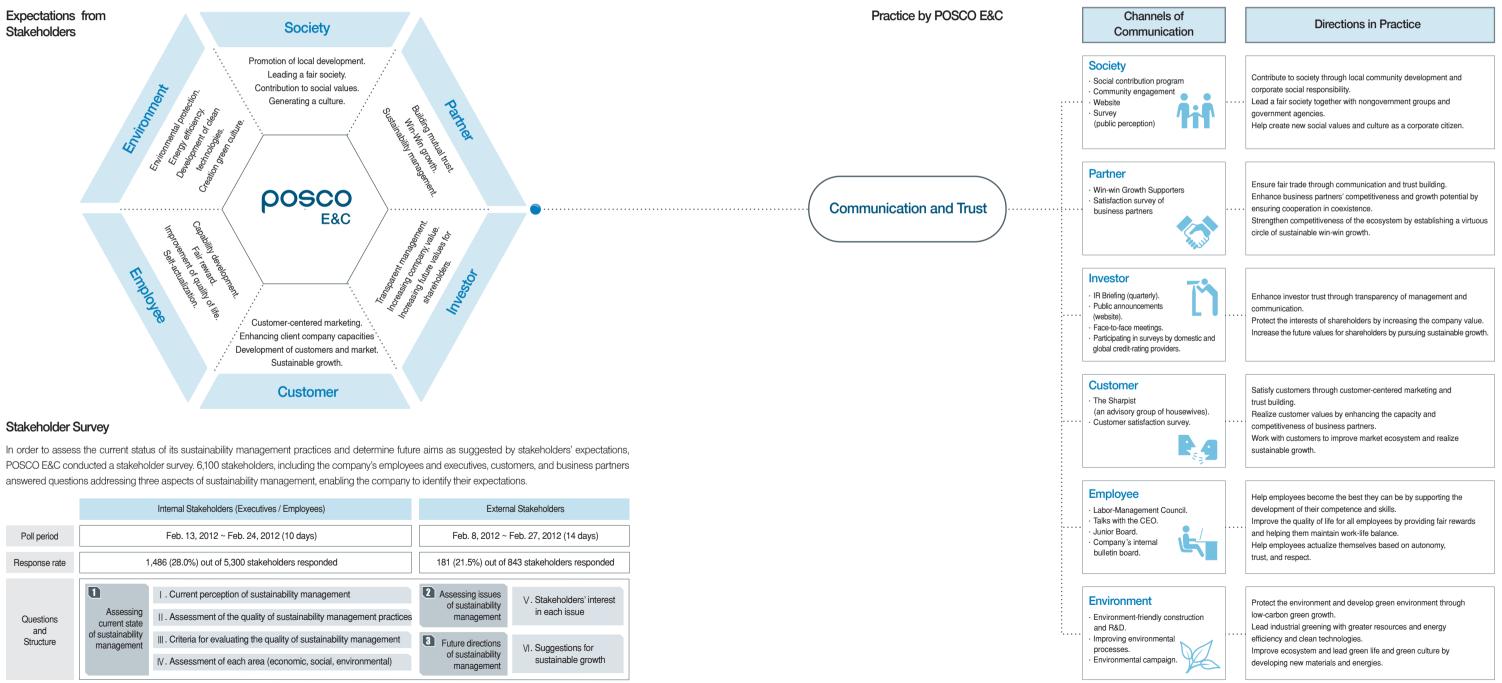


# Becoming a Firm of Endearment

POSCO E&C strives to become a Firm of Endearment and partner for all its stakeholders by contributing to sustainable social development and the improvement and welfare for all humankind through projects and activities which maximize the company's economic, social, environmental, and human values.

\*A Firm of endearment: In 2011, POSCO Family announced its goal of becoming a "Firm of Endearment" to set forth its management principle from the stakeholder's perspective. Based on this principle, POSCO Family will strive to achieve sustainable development growing together with all stakeholders of the company

In June 2011, POSCO Family declared the Corporate Charter, demonstrating its strong commitment to becoming a firm endeared by its stakeholders through contribution to sustainable social development and the welfare of humankind. In doing so, POSCO Family defined its stakeholders to include the society at large, business partners, investors, customers, employees, and the environment (SPICEE). POSCO E&C continues to receive feedback and expectations of its stakeholders through diverse channels of communication, actively incorporating in management those related to the issues that are highly material to stakeholders. In order to become a firm of endearment, POSCO E&C will continue its efforts to strengthen open communication with stakeholders, and to establish the stakeholder-oriented sustainable management.

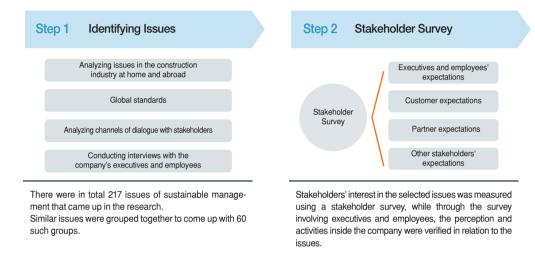


		Internal Stakeholders (Executives / Employees)	Externa	al Stakeholders
Poll period		Feb. 13, 2012 ~ Feb. 24, 2012 (10 days)	Feb. 8, 2012 ~ I	Feb. 27, 2012 (14 days)
Response rate	1	,486 (28.0%) out of 5,300 stakeholders responded	181 (21.5%) out of 8	343 stakeholders responded
Questions	Assessing current state	. Current perception of sustainability management    . Assessment of the quality of sustainability management practices	Assessing issues of sustainability management	V. Stakeholders' interest in each issue
and Structure	of sustainability management	III. Criteria for evaluating the quality of sustainability management	3 Future directions of sustainability management	VI. Suggestions for sustainable growth

#### Material Issues of 2011

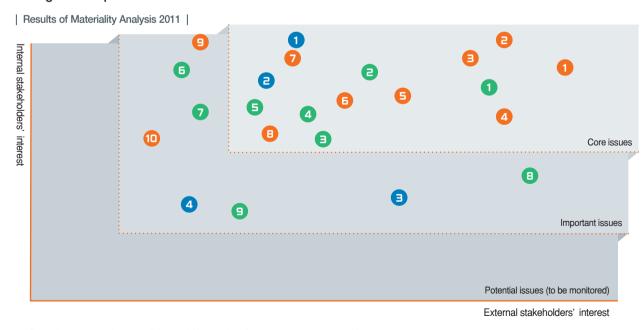
POSCO E&C has put together this report with the analysis on global standards for sustainable management, the analysis of the current issues affecting the construction industry, and a survey involving stakeholders as respondents as the basis. The global standards used to select the items for the reprot are the GRI G3.1, ISO 26000, and the 10 Principles of the UNGC. To figure out the interests, the company's executives and employees were interviewed while the stakeholders inside and outside were surveyed.

#### | Publishing of the Report and Materiality Evaluation Process |



## POSCO E&C's Commitment in Publishing Sustainability Management Report

POSCO E&C intends to build the system for monitoring the practice and performance related to sustainable management activities plus implementation of improvements by publishing Sustainability Management Report.

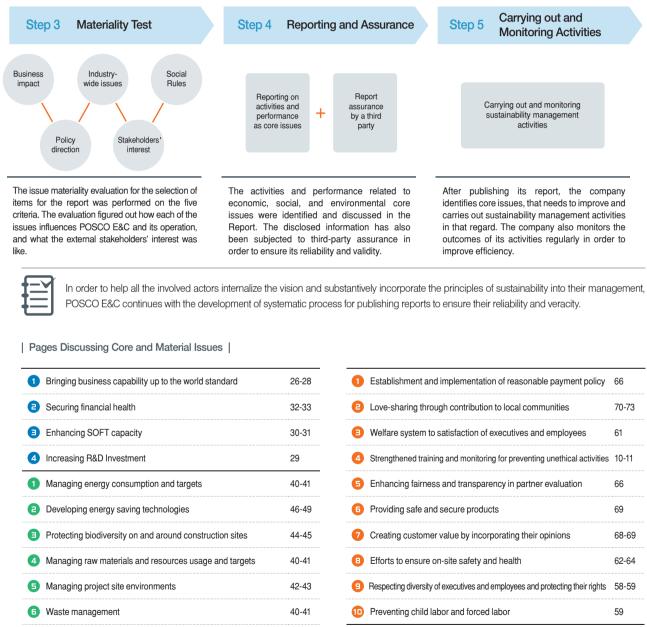


\* 15 core issues: reporting on policies, activities, and performance as core reported issues.

\* 8 important issues: reporting on activities and performance in relation to issues.

\* 13 potential issues (to be monitored): require issue-specific data management and monitoring.

Using the expectations of stakeholders as determined in the materiality evaluation, the issues to be included and discussed in the final report were divided depending on the level of materiality among the potential issues (requiring monitoring), important issues (subjects of report), and core issues (strategic responses). POSCO E&C uses this report as a medium for disclosing the company's policies and activities related to core issues.



1	Bringing business capability up to the world standard	26-28	Establishment and implementation of reasonable payment policy	66
2	Securing financial health	32-33	Love-sharing through contribution to local communities	70-73
₿	Enhancing SOFT capacity	30-31	Welfare system to satisfaction of executives and employees	61
4	Increasing R&D Investment	29	Strengthened training and monitoring for preventing unethical activities	10-11
1	Managing energy consumption and targets	40-41	Enhancing fairness and transparency in partner evaluation	66
8	Developing energy saving technologies	46-49	Providing safe and secure products	69
B	Protecting biodiversity on and around construction sites	44-45	Creating customer value by incorporating their opinions	68-69
4	Managing raw materials and resources usage and targets	40-41	Efforts to ensure on-site safety and health	62-64
6	Managing project site environments	42-43	Respecting diversity of executives and employees and protecting their rights	58-59
6	Waste management	40-41	Preventing child labor and forced labor	59
7	Managing greenhouse gas emissions and targets	40-41	Economic	
8	Expanding environmental projects in response to climate change	52-54	Environmental	
9	Using environment-friendly construction materials	37	Social	

# Stakeholder Consultation on POSCO E&C's Sustainability Management

POSCO E&C makes a variety of active efforts to reflect the opinions of stakeholders in its sustainable management activities. By organizing a stakeholder meeting with experts, the company was able to hear their assessments of POSCO E&C's sustainable management activities so far, as well as their suggestions for directions of their future development, and continues to absorb diverse feedbacks from stakeholders.



Date: May 3, 2012, (Tuesday) 09:00 to 12:00

Location: POSCO Center

Participants: Senior Director Yang Chun-Seung of the Korea Sustainability Investment Forum (KOSIF) and seven others. Chaired by: Korea Productivity Center (KPC)



#### "It is crucial to set clear goals concerning sustainable management and manage their progress."

Numerous companies in Korea and abroad publish sustainability reports. Such disclosures of not only financial but also non-financial information are now regarded as vital to enhancing stakeholders' understanding of those companies. Many companies stop at listing their activities for sustainable management, however, without proper channels for collecting stakeholder input and incorporating them into their proposed directions.

POSCO E&C publishes its first sustainability report this year. The company can increase the trustworthiness of the information it discloses and make clear how the input from stakeholders is incorporated into the company's management activities, by clearly articulating the goals for each area of sustainable management and how they are to be managed. I hope that adopting sustainability management will help POSCO E&C become an even more trusted company among all its stakeholders.

Kim Dong-Su, Director of KPC Sustainability Center & Chair of the Stakeholder Discussion

"It is necessary to incorporate considerations of the impact of climate change on business activities into the design process itself."

The impact of climate change on the construction industry goes well beyond raising the need to reduce greenhouse gas emissions. Climate change can effectively transform our entire lifestyle. In order for POSCO E&C to respond to climate change, it must not only control greenhouse gas emissions, but also make proactive assessments of the effects climate change will have on its operation.

The company must prepare for climate change and its effects even in the very first step of designing the living and housing spaces. This will bear important implications for the future expansion of the company's business portfolio, especially in light of its increasing projects overseas for the next five to ten years.



Yang Chun-Seung, Senior Director, KOSIF



"It is important to promote environmental management throughout the supply chain involving all business partners."

It is difficult to overemphasize the importance of environmental management in construction today. 20% of the national target of greenhouse gas reduction is to be met by the construction industry. The construction industry also generates over 40% of all waste material in Korea. Because the industry also exerts greater influence on other industries than any other industry, it must adopt environmental management with urgency.

In order for POSCO E&C to practice environmental management, it must actively promote the ideal throughout its supply chain involving all its business partners. This is especially important in light of the government-initiated Sustainability Management Expansion Project the company is participating in. I'd like to see POSCO E&C give more attention to the spread of green management among partners.

Lee Bo-Yeong, Director, Korea Environmental Industry and Technology Institute (KEITI)

"Risk management is essential to strengthening financial health."

The construction industry in general faces great challenges. The stagnation in the housing market has forced 25 of top 100 construction companies in Korea into structural readjustment. Fortunately, POSCO E&C has maintained its status as one of the leading construction companies in Korea based on its diversified portfolio and financial strength. Housing, however, represents 25% of the company's revenue, making an effective risk management necessary.

For the purpose of turning POSCO E&C into a global leader by sustaining stable growth, it is crucial to diversify the regions and projects the company pioneers overseas. The company's decision to proactively enter the Central-South American Market is an inspiring move. The company should also consider entering the Middle Eastern market.



POSCO E&C has exhibited a steady company-wide commitment to the issue of making contributions to the local and global communities over the last several years since it first launched its volunteer corps in 2004. The company also deserves praise for dividing its social contribution activities into four areas of practice. The company, however, still has some room for improvement in terms of systematizing the dissemination of its core values.

Choi Hveok-Jun, CEO, Lime Globe of other companies.

## "First and foremost, the company must provide various and sustained supports for win-win growth."

My own company had an opportunity to enter a new overseas market by participating in POSCO E&C's Win-win Growth Support Program. I attribute this success to the joint marketing campaign we conducted with POSCO E&C abroad. The support POSCO E&C provides for win-win growth with its business partners, in the forms of additional financing and education, benefits partners in helpful ways. Not enough business partners, however, are benefitting from this program. The company can increase benefits to its business partners by expanding those benefits to even more of them.



rewards.



buttress it with proper evaluation and rewards.

Lee Seok-Jin, Officer, Anti-Corruption and Civil Rights Committee

to become a beloved company."

POSCO E&C is actively pursuing sustainability management as a key part of its efforts to rise as a global company. The Sustainability Report it published for the first time in its history represents its continuing efforts to improve communication with stakeholders. The publication of the report marks the beginning of diversified communication with our stakeholders.

In practicing sustainability management, the company will continue to hear opinions from various experts and reflect them actively in the contents of its sustainability-related decisions and reports.



#### Choi Han-Seung, Senior Researcher, Korea Ratings

## "Social contribution activities ought to be guided by core values."

When the company makes its social contribution activities and program based on its core values and its employees aggressively participate in those programs, it will be able to implement social contribution activities differentiated from those

# "The company needs to support its Ethics management system with proper evaluation and

POSCO E&C is ahead of other companies in developing an Ethics management system, supporting it with measures such as the guideline for anti-corruption laws overseas. In order for this system to be maximized, however, it is also necessary to

By articulating its resolve for preventing corruption and respecting human rights, POSCO E&C will be able to have its Ethics management recognized as sincere by both insiders and outsiders. Articulating the company's will to protect human rights worldwide will also enable it to manage risks in its global projects as well.

## "We will actively incorporate our stakeholders' opinions into our sustainability management in order

Kim Hyeon, CSR Group Leader, POSCO E&C







Song Jin-Ho, CEO, Greenpla



# CREATING POSCO E&C is ushering in a better, brighter future by actively pioneering new markets overseas, raising its business capability up a notch to meet the global standard, and reinforcing its financial stability.

Actively Pieneering New Markets Overseas We are developing and entering new markets abroad in an effort to diversify our business por

Increasing Global Business Capabilities brough constant development of new technology, fostering of global human resources, risk management, and product quality innovation, we are expanding our global business capacities.

Improving Financial Stability

We are seeking to enhance our financial soundness by always targeting high profitability, and efficiently managing our investments and strategic cash flows.





# Sustainable Growth through Diversification

POSCO E&C intends to become one of the Global Top 10 companies by proactively adapting to the changes in the competitive business environment at home and abroad and pursuing specific goals and strategies for sustainable growth.

**PFPCOM 2020** Growth

In 2011, the world economy slowed down due to the financial crises which originated from the United States and Europe. and had repercussions for the Korean economy as well. At the same time, however, markets in resource-rich regions such as the Middle East and Latin America continued to grow.

Despite the domestic and international challenges, POSCO E&C secured the greatest amount of orders with a total value of KRW 14.4 trillion in 2011 alone and became the fourth best construction-competent company. The growth of its projects abroad is owed in large part to its successful strategy of dividing the international market between the "Focus" group of countries in which the company is establishing its new business bases, and the "Incubator" group of countries in which the company seeks to pioneer new markets over the mid- to long run. In 2012, the company is also strengthening a comprehensive range of its capabilities, from planning/engineering and procurement to construction, operations, and maintenance (PEPCOM) in an effort to consolidate its increasing international presence in all areas of development, including plant building, architecture, civil engineering, and environmental planning.

No 1 in Korea in terms of New orders

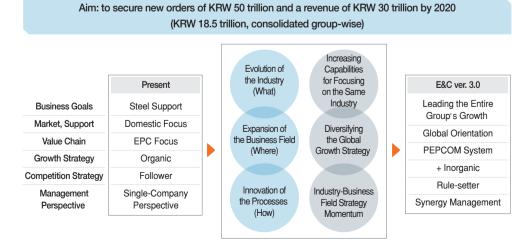
\* PEPCOM : Planning, Engineering, Procurement, Construction, Operation & Maintenance

Establishing New Goals of Growth POSCO E&C has declared 2012 as marking the beginning of its preparation to become one of the Global Top 10 E&C companies by 2020. Accordingly, the company is planning to shift its focus from the domestic market to the international market, and from the EPC-centered system to the PEPCOM system. It is also diversifying its business portfolio, enhancing its presence in newly emerging markets such as Latin America, the Middle East, and Africa. Based on its expanding international management system, the company has also established an international sales strategy, and aims to achieve both quantitative and qualitative growth. It is, in other words, upgrading itself to E&C ver. 3.0 by improving its capabilities, diversifying its growth strategy, and developing a workable strategy to achieve these goals.

\*E&C ver. 3.0 : indicates the transition in focus from the domestic to the international market.

Vision 2020

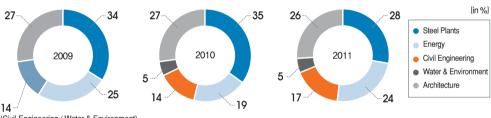
# "Becoming One of the Global Top 10 E&C Companies"



Transforming the Business Portfolio POSCO E&C has evolved its business portfolio over the years in order to pioneer new markets abroad, ensure stability in management activities, and maximize its company value. The significance of the energy businesses has increased from 19% in 2010 to 24% in 2011 in terms of the total volume of revenue, by increasing the number of projects overseas in new and renewable energy such as sunlight and wind projects. Dividing the civil engineering division from the water and environment division in 2010 has led to a similar increase in the significance of civil engineering, from 14% in 2010 to 17% in 2011. Since 2012, for the synergy from the civil engineering and water and environment, both divisions have been combined for joint operation. The company expects to reap greater profits in these areas in the near future by securing new technologies for turning seawater into freshwater and refining its process engineering and manufacturing capacities for water purification. The company will continue to maximize its value by diversifying its portfolio and finding new markets abroad.

Division	2009	2010	2011
Steel Plants	22,856	22,216	17,376
Energy	16,387	11,631	14,652
Civil Engineering	9.255 —	8,544	10,185
Water & Environment	9,200	2,985	3,286
Architecture	18,259	17,004	15,921

# 27

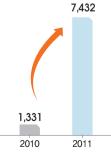


(Civil Engineering / Water & Environment)

## Synergy Management in the E&C Sector

POSCO E&C aims at generating and increasing synergy by working closely with other member companies of POSCO Family. Since 2010, the company has been operating the E&C Synergy Management Council in an effort to increase the number of joint projects it performs with other member companies; to share its vision and goals with them; to coordinate business affairs; to develop a guideline on internal collaboration; and to ensure KPI operation and mutual communication. Pursuing this model of synergy management is important for expanding the systematic basis for sustained investment and collaboration.

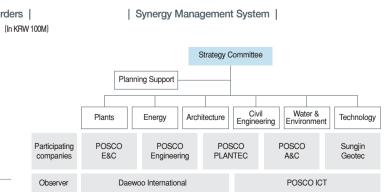
Amount of Joint New orders POSCO Family."



Case Study "We must increase

synergy group-wide by enhancing ties and cooperation in







# Generating New Orders by Expanding Global Presence

POSCO E&C, with its unique market approach, strives to diversify and increase the sources of profit-making by expanding its presence overseas and strengthening its revenue bases.



Expanding in Latin American Market In February 2011, POSCO E&C acquired SANTOS CMI. SANTOS CMI, headquartered in Quito, Ecuador, is one of the top 5 leading EPC contractors in Latin America with the history of 40 year and 140 project experiences at 18 Latin countries. SANTOS CMI operates 17 subsidiaries and 3 offices across 12 countries including Mexico, Costa Rica, Panama, Peru, Chile, Argentina, Uruguay, Brazil and the U.S. and still continues to grow at a remarkable rate of 36% per year on average.

POSCO E&C expects that the acquisition of SANTOS CMI will help to achieve the goal of securing orders up to the total value of USD 4 billion in Latin America by 2020. SANTOS CMI's existing business networks and experiences related to civil, energy and oil & gas industries will provide significant advantages and benefits to POSCO E&C's business expansion in Latin America.





Santos CMI



Brazil

Securing the Biggest Contract for a Single Steel Plant POSCO E&C has recently signed an EPC contract with CSP (Companhia Siderurgica do Pecem/Pecem Steel Company), a joint venture co-launched by Brazil's largest iron ore provider named Vale, Dongkuk Steel, and POSCO, for the project of developing an integrated steel mill.



The biggest contract worth for developing a single steel plant ever to be secured by a Korean E&C company, worth USD 4.34 billion (app. KRW 5 trillion) in total, the project will allow POSCO E&C to build an integrated steel plant in the Pecem Industrial Cluster in northeastern Brazil by 2015, which, when completed, will be capable of producing up to 3 million tons per year.



Bird's Eye View of CSP Project, Brazil

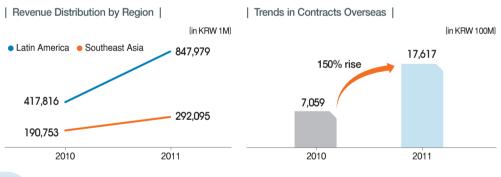


Indonesia

Establishing a Forward Base in Southeast Asia POSCO E&C is building an integrated steel mill, capable of producing up to 6 million tons of steel, near the city of Cilegon on the Java Island, Indonesia. The company is carrying out this project in conjunction with Indonesia's national steel company, PT-KS, in an effort to prepare an advanced base for entering further into the Indonesian and Southeast Asian market that had previously been untapped with regards to an integrated steel mill. The first phase, to be completed by late 2013, involves the completion of an integrated plant producing 3 million tons of output per year. PT-KS is Indonesia's largest steel producer with an average annual output of 2.4 million tons, and occupies 60% of the panel material market in Indonesia.

This integrated steel mill construction project will significantly influence the prospects of economic development of Indonesia as well. Not only is the construction process itself expected to induce a production amount of USD 1.199 billion per year and to generate added values totaling to USD 490 million as well as 100,000 new jobs, but the completion of the project will bring about even greater benefits, with induced production of USD 6.59 billion, and added values of USD 1.943 billion, and 183,000 new jobs on average per year.





# Interview



I find it quite significant that a successful partnership has been formed between POSCO E&C and Vale. I hope that the Companhia Siderurgica do Pecem (CSP-Pecem Steel Company) Project will deepen mutual trust and respect between the two companies. We are convinced that the CSP Project, once completed, will minimize our impact on the surrounding natural environment, and enable us to communicate our values better with the public. POSCO E&C's participation in this project with us is indispensable to furthering the cause of sustainable development. Vale, which has always aligned its practices and actions with respect for the dignity of life, continues to

invest rigorously into improving the welfare of all our employees and to dedicate ourselves to the economic development of the local society. We understand POSCO E&C's firm resolve towards sustainable management and commitment to the values it entails, and strongly hope that through sustained exchange and active participation, we will be able to achieve our common objective of sustainable development together.

Integrated Steel Mill, Indonesia

# Giane Zimmer, Director of Dept. of Sustainable Development, Vale:



# Ensuring Efficiency in the Project Management System

POSCO E&C has innovated the process and system of managing its overseas projects so as to ensure efficiency and success of management outcomes. The company will continue to optimize its new system and use it to achieve sustainable growth amid international competence.

## Internalizing Worldclass Process Innovation

By internalizing process innovation as a core competency, POSCO E&C has successfully secured a foundation for its further growth on the international stage. The ongoing on-site innovation and improvement of the process for managing overseas projects has strengthened the company's position vis-à-vis its competitors both at home and abroad, while the certification by the international quality standards has expanded the company's business portfolio.

Global Project Management and Standard Certification POSCO E&C has built and operated an optimized global management system in order to ensure sustained improvement in its management performance. It has successfully developed and standardized its project management processes for the five types of overseas projects (i.e., steel plant building, power plant building, architecture, civil engineering, and water and environment) in accordance with such world-recognized standards as the ISO, PMBOK, and CMBOK. By developing and carrying out its systems of global management, the company continues to upgrade the quality of its work and actively contributes to the society and its future, maximizing values for customers and management performance.

The company has also acquired international standard certificates in an attempt to expand its presence in the construction market worldwide and recruit new projects. Directly acquiring the ASME Section I's "s" stamp has widened the range of partners from which POSCO E&C can select, while strengthening its cost competitiveness. Gaining the ASME Section III "NA/NPT/NS" stamp in January 2011 has also opened the doorway for the company's entry into nuclear plant development, while the KEPIC : Korea Electric Power Industry Code has verified the levels of safety and reliability with which the company can construct nuclear power plants.

\*ASME Stamps: Each ASME stamp certifies that a given company is capable, and equipped with proper systems, for manufacturing, providing, and/or design, construction, material, workmanship the category of products or services to which the stamp pertains.

Strengthening the Overseas QA System POSCO E&C applies a strict, rigorous quality standard and assurance system to all its projects at home and abroad. Quality assurance is especially indispensable for overseas projects, as it is the primary criterion to which clients tend to pay most attention. In an effort to align the resulting product most closely to the client's requirements, POSCO E&C implements proactive QA activities. Important examples of successful quality assurance include the construction of an Integrated Thermal Power Plant for Chilca Uno of Peru. In this case POSCO E&C proposed a technical alternative on earthwork using the soil dug up from the construction site as an alternative to other materials that are conventionally used in re-filling land. Implementing this technical proposal with a rigorous QA system, POSCO E&C was able to save almost KRW 2 billion in cost and significantly reduce the period of time required for construction, effectively maximizing the client's satisfaction. POSCO E&C's proactive evaluations and error-prevention activities, based on past examples of incompatibility in building the Kallpa Integrated Thermal Power Plant in Peru and the Angamos Thermal Power Plant in Chile, helped to save costs and shorten the periods of construction, while strengthening the overall global quality support system. Having realized, through these examples, the importance and fundamental role of QA in construction and in dictating the company's competitiveness, POSCO E&C will continue to strengthen its QA system for overseas projects.



Fostering International QA Specialists As the company expands its construction markets and new project demand pool overseas, POSCO E&C has simultaneously adopted programs to produce world-class QA specialists. In 2011, for example, the company successfully completed a four-week-long training of 120 employees, equipping them with specialized knowledge of nuclear power generation, which is required for the company to acquire the PQ and license for nuclear power plant development. 14 employees newly acquired the qualifications for audit in compliance with IRCA requirements based on the ISO 9001, thereby increasing the pool of international standard experts to 18 in total. Executives were given new QA and management training through online MBA courses, while employees were taken on an itinerary for learning QA in different regions. The company plans to reinforce and diversify its quality training curriculum in 2012 with the aim of producing more experts capable of reading and reacting to overseas market trends.

cQSS Activities "cQSS" is a representative brand of on-site innovative activities of POSCO E&C. It refers to a series of activities that the company conducts in order to make its construction sites and projects as competitive as possible, by leading all involved actors to internalize the principles and norms so that they become routine when managing a project. Over the short run, the activities enable employees to fulfill four goals of the KPI (i.e., cost reduction, guality assurance, safety and speed). Over the long run, on-site conditions of all the company's overseas projects will be greatly improved.

Applying the cQSS standard to all the 102 project sites in Korea in 2011, the company was able to create a strong basis upon which it could generate visibly better results. In order to maximize the values it generates, the company has also extended the scope of the cQSS activities to include design and procurement. In 2012, the company will continue to innovate its on-site management activities by customizing the cQSS process to different types of projects, sharing exemplary case studies, increasing assets for knowledge management, and thoroughly assessing and diagnosing the results.

\*cQSS: standing for "Construction Quick Six Sigma," it also embodies the four principles of KPI-guided construction, i.e., cost, quality, safety, and speed.

## Field-Oriented cQSS Day

In an effort to encourage different project sites to enter into communication on sharing exemplary cases of cQSS practice and to raise the average standard of their cQSS activities through mutual benchmarking, POSCO E&C organized the cQSS Day. Held in Gwangyang, Songdo, and Pohang in July 2011, the cQSS Day events hosted discussions on "strengthening project sites" and "the proper aims of the cQSS activities in situations of emergency management," where the participants actively exchanged opinions on the achievements and future of their cQSS activities. They pointed out the lack of motivation in site personnel, the need to systematize innovative activities, the need to minimize documentations required for each innovative activity, the importance of sharing more exemplary cases with other project sites, and the hope for increasing training in innovation, all of which were incorporated into the subsequent measures for improvement. To be held once a year going forward, the cQSS Day will be organized twice a year beginning in 2012.

#### | Main Issues Discussed at the cQSS Day Event |

Steel Plants	
Civil Engineering	
Architecture	
Water & Environment	



A group photo on cQSS Day

# Study

Representative Brand of

Project Site Innovation:

cQSS

"In order to ensure true and substantive application of the cQSS standard toward genuine innovation, there must be discussions regarding cooperation between different project sites and improvement of on-site conditions."

Changwon POSCO Special Steel Project Site - Workshop on Identifying the KPI Goals and Tasks
Line 3, Sector 1, of Daegu Metropolitan Rapid Transit Project Site - Sensible Safe Practices
Cheongna The Sharp Lake Park Apartment Project Site - A Case Study of Improvement by Subjects
Gimpo BTO(Private-Sector Participation in the Development of Sewage Facilities) Project Site - A Case Study of Six Innovative Activities



A scene from the cQSS discussion



# Advancing the Business Management System

Managing project risks throughout the entire process, ranging from receiving orders to construction and also by providing for non-project risk management, POSCO E&C seeks to prevent financial and non-financial risks enhance the entire corporation's value.

## Strenathening the Risk Management System

In 2011, POSCO E&C was acknowledged for its fiscal robustness and a standout amongst construction companies in Korea, receiving the highest credit rating of AA- both for the bonds and the company itself. The company expects this rise in credit rating to bring in more orders and to facilitate receiving assistance from financial institutions. In addition, the company has also developed its budget management process through a full systematization. It has also developed its risk management system to encompass the entire scope of each project process.

POSCO E&C focuses much of its capabilities on managing high-risk projects, while at Risk Management Process the same time, expanding the scope of its risk management system to incorporate fully from marketing to the completion of construction. The company applies a flexible process to managing risks efficiently, by reviewing each project in terms of seven criteria: (1) the contract value (2) profitability (3) the amount of investment required (4) P/F guarantee (5) the type of participation (6) the client and (7) location of project.

Moreover, the company's integrated risk management system begins from monitoring and managing marketing activities first for more thorough risk control and preventing them from generating losses during the actual projects. Reinforced cooperation management is provided for projects requiring cooperation with related agencies and institutions from an early stage



Developing a Company-wide CO-WORK System and Simplifying Administration The company has fortified the pool of its risk-management experts (legal, financial, and tax-related) in order to refine its risk management system. The company also applies an efficient process for sharing information from the early phase of each project. In entering a new market overseas, the company forms a joint taskforce team with the local project headquarters in conducting preliminary research and market analysis in an effort to minimize the administrative cost.

#### Risks in the Construction Industry



Activating the Emergency Management System

For approximately six months from June 2011 through December 2011,

POSCO E&C ran under an emergency management system concerning

the growth of revenue, reduction of costs, enhancing the health and

stability of cash flows and so forth Thanks to constant encouragement

from the management and active participation by employees, the

company has achieved most of the goals it had set out to achieve under the emergency system, bringing it to a successful end in 2011.



"We break through crises with our emergency management system."

Aspect	Target	Performance	Achievement (%)
Revenue increase	63,176	61,420	97% achieved
Cost reduction	2,558	3,146	more 23% achieved than targeted
Robust cash flow	(-)2,185	1,212	change to (+)

(In terms of New orders in 2011, in KRW 100M)



# Securing New Technologies with Increased R&D Investment

Through sustained increases in its R&D investment, POSCO E&C has secured new technologies and is enhancing its competitiveness. Using these advantages, the company will pioneer new markets, developing and securing new core technologies of universal appeal.

Continuous Increase in R&D Investment POSCO E&C increased the proportion of R&D investment in its overall revenue from 0.4% in 2009 up to 0.68% in 2011, a 70% increase. More specifically, the R&D investment has been increasing steadily, from KRW 26.551 billion in 2009 to KRW 35.174 billion in 2010, and again to KRW 41.968 billion in 2011. The company plans to invest at least KRW 49.519 billion into its R&D in 2012, with the aim of pioneering and securing new markets abroad through continuously increasing investment in R&D in search for new technologies with universal appeal.

R&D cost increased by 117% as against the previous year

Ensuring Self-Sufficiency in Coal and Gas Technologies POSCO E&C is operating a special taskforce charged with ensuring the company's self-sufficiency when it comes to the technique for generating synthetic gas which could provide an alternative to crude oil and natural gas as a new clean source of energy and petrochemical products. The taskforce intends to secure a basic coal gasification engineering technology between 2012 and 2014, and follow up by developing other complex techniques for making use of the resulting synthetic gas, including those for producing the synthetic natural gas (SNG) and the coal-to-liquid fuel (CTL), and for integrated gasification combined cycle (IGCC) power generation. With these new techniques of independent plant design developed by 2014, POSCO E&C will enjoy enhanced competitiveness in attracting new projects and entering the future clean coal energy industry.

Securing New Water Technologies The international water market is estimated to amount to USD 865 billion in total value by 2025. As a result, POSCO E&C is making its best efforts to become one of the Global Top 10 water companies by 2020 by concentrating research capabilities available across the entire POSCO Family. For example, the company has formed a common TRM for its PEPCOM system by collaborating with the Pohang Research Institute of Industrial Science and Technology (RIST) and POSTECH. The partnership can help the company develop new techniques for turning seawater into freshwater, high-purity water distillation, reusing wastewater and sewage, managing the sewage system during heavy rainfalls, and so forth. These techniques will prompt the company to generate POSCOwide synergy and find new business opportunities. By securing the world's topnotch new commercial technologies, POSCO E&C will become the next central hub of the international water industry.



SMART Nuclear Reactor Project In anticipation of the increasing demand for nuclear power generation due to climate change, POSCO E&C has launched its SMART Nuclear Reactor Project, which will enable the company to supply electricity and water to cities with a population of 100,000 per reactor. The System-integrated Modular Advanced Reactor (SMART) refers to a medium-small sized nuclear reactor with enhanced safety. The company acquired the license for its standard design on July 4, 2012, and is thus operating the SMART Taskforce Team with members drawn from the entire POSCO Family. The company is still in the process of developing SMART in collaboration with the Korea Atomic Energy Research Institute, with the goal of completing it and conducting trial runs by 2020. The company will use the additional knowledge and EPC capability gained from the project to discover new nuclear projects abroad in the future.

\*Technology Road Map (TRM): is a market-oriented approach to technology planning that lists the products and services likely to be demanded by the future market, thus enabling the company to identify the core and necessary technologies to produce such products and services.



# Fostering Global E&C Leaders

POSCO E&C aims to achieve sustainable growth by fostering new leaders of world-class caliber equipped with confidence and eagerness to rise to new challenges, who will shape and lead the future.

Enhancing Strategic Role of HRD to nurture Global Leaders POSCO E&C provides detailed training programs in four areas for future global leaders: namely, the company's core values, leadership, job and global competencies.

In 2011, the company enhanced the strategic role of HRD by forming the global E&C company system and incorporating the needs of the company and employees for greater competencies for overseas projects. The company will continue to increase investment in HRD to achieve its goals of sustainable growth.



Leadership Training The Leadership Academy provides programs intended to help employees to develop essential leadership skills. The Academy allows employees to acquire the necessary skills and knowledge before being promoted to the next position, thereby encouraging them to become self-motivated, self-leading individuals. The prospective talents expected to perform core leadership roles within the company in the future are given opportunities to develop the competencies that will be required of them in the future through e-learning programs, leadership certification tests, and action learning assignments.

The Construction & Management Academy, which aims to enhance the job-Job-related Competency Training related competencies of employees, provides over 80 courses by job function and position. The Academy, in particular, offers the Site Manager Development Course designed to foster future project site managers and guide them to learn and develop the competencies they will need in helping to manage the organization and project. The Academy also provides opportunities for special seminars and study abroad programs in an effort to secure a greater pool of experts.

Global Competency Training The company also provides courses on fostering experts in foreign regions, improving language proficiencies, training for employees to be dispatched abroad, and so forth in an effort to equip employees with the necessary international skills. The Overseas Regional Expert program, for example, dispatches highly qualified employees abroad to stay in a foreign country for one year, carrying out advanced research of regional management environment. The company also provides step-by-step training programs for employees staying abroad to help themselves adapt to the local environment and business needs. POSCO E&C intends to develop new programs aimed at enhancing employees' communication skills and friendship with the locals.

#### | Training System at POSCO E&C |

#### Fostering Global E&C Leaders for Vision 2020

Туре	Leadership			Job-Related Competency	Gl	obal C	ompetei	псу	C	commo	on	PO	SCO Family	
Board	Mini MBA												Saturday	
P4 (Director)	Executive Development Course	Wed			English /Gi		fo						Study Group dership	
P3 (Sr. Manager)	Gr.leader Development Course / Performance Leadership	Inesday Lecture	Hun	Site Manager Development Course	English / Second La / Group Video-	Busine	Capacity Development Course for Employees Staying Abroad		New en	Ethics / Innovation Education	S	Family Core	Training English	
P2 (Manager)	Practical Leadership / Relationship Leadership		ımanities C	Construction & Management Academy Intermediate / Advanced	Language Telephone o-Conference Course	Business English Course	velopmen es Staying	Overseas Re Expert Pr	employee or	lovation E	Sexual Harassment	Values		
P1 (Associate)	Leadership		Courses	Construction & Management Academy Basic	e Course	1 Course	t Course J Abroad	Regional Program	orientation	ducation	assment	Training	Family New employee orientation	



"We are working on increasing all employees ability to adapt to the organization and cultivating their project competency through practice-oriented education and training."

#### Training Courses for New Employees

first three years of employment, they are taken around different departments, participate in project simulations and on-site internships, and give presentations on their research and analysis These site- and practiceoriented courses are intended to help new employees develop their project competencies and acquire such global skills as proficiency in English and other languages that are necessary for their transformation into internationally competent individuals.

| Training System for New Employees |



# Study

"Site managers must exhibit and exercise advanced management skills to effectively respond to the various demands of the project site.

Site Manager Development Course The competence and leadership of the site manager exerts great influence on the success or failure of a given project. Given the increasing complexity, scale, and various stakeholders' requirements involved in construction projects today. it is most important to provide systematic training for site managers, equipping them with advanced management competencies. The Site Manager Development Course is a mandatory requirement for all employees appointed to the position. The course provides theoretical overviews, case studies, on-site excursions, and role playing programs for select, exemplary employees in the three core areas of site management: organization, project, and external relations.

management, but also leadership skills and qualities realizing this future and overcome hardships together."

POSCO E&C provides step-by-step training programs for new employees with the aim of facilitating their early adaptation to the company and development of their basic competencies. After receiving the New Employee Orientation during their



Performance for Vision figuration (Introductory Training for New Employees)



#### "A good beginning is half the battle!"

- Hwang Ji-yeong, Senior Manager Graduate of the Site Manager Training Course,

"I believe that construction sites require diverse skills of management and an ability to see the big picture and make sound judgments. Participating in the SMTC this year has helped me to acquire not only the knowledge necessary for site

I have learned that, in order to build a ship. I need first to show others how beautiful the sea is, I would like to become a leader who clearly articulates the great and beautiful vision of the future, encouraging others to participate willingly and actively in



# Strengthening Financial Stability with Enhanced Profitability

POSCO E&C is actively seeking to enhance its financial stability as one of the more urgent tasks in order to achieve its goal of sustainable management. The company will make this happen by implementing the Mega-Y Program, designed to improve profitability across the entire organization.

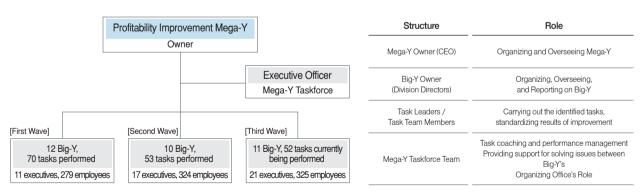
#### Enhancing Financial Stability

The financial instability of an organization often leads to a decline in its credit rating, inviting a vicious cycle in which the declining credit rating makes it even more difficult to secure financial resources required to improve the organization's financial situation. POSCO E&C is therefore making its best efforts to enhance its financial stability, securing resources for expanding its PEPCOM growth and adapting to the changes in the future business environment. The company focuses all its capabilities on improving profitability and reducing debts through the effective management of investments and cash flows.

Introducing Mega-Y: Improving Profitability Mega-Y refers to corporate initiatives led by the executive management, in order to improve the profitability of all divisions or the organization through organic cooperation. The CEO leads the efforts as the owner of the company-wide Mega-Y, with the Big-Y owner who conducts each individual business unit's deployment. So far, Mega-Y has improved operational processes and reduced the costs for through 64 projects at POSCO E&C, providing the Innovation Camp and TRIZ change management training for 244 employees in total. The company has also conducted assessments of all the divisions' competence in terms of required skills at each project life cycle and how other competitors manage their costs in order to identify the issues to be improved by its Mega-Y projects. Through the 24 workshops on identifying such issues, the company focused on training project leaders and enabling them to effectively solve problems. All the projects have been reviewed over 1,300 one-on-one coaching and supported in terms of their skills in setting the KPI goals and sharing the best practices. In order to achieve the goal, the project performance is evaluated and reflected on the Big-Y owner's(director) KPI by 10-20%. Post project management was performed for one year even after project's completion so that it could contribute to the company's financial performance.

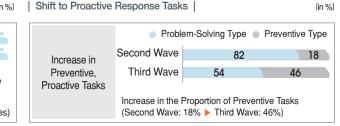
#### | Mega-Y Organization |

Structure and Role



#### | Spreading the Participants' Knowledge and Awareness | [in %] | Shift to Proactive Response Tasks





Outcome of Mega-Y The Mega-Y Initiative for Improving Profitability resulted in enhancing the return on sales by 3.1% in 2011. The improved profitability has helped POSCO E&C to rise, in July 2011, to the fourth position among the Korean E&C companies in terms of their construction capability, which took into account sales & revenues, financial stability, technical competence, trustworthiness, and so forth. The initiative also contributed in building a new organizational culture oriented to profitability and problem-solving. Up to 2011 the initiative resulted in the participation of over 800 project leaders and team members. Over time, the projects' focus shifted from solving problems to planning preventive actions and developing cost-effective solutions. The company will bring additional financial results in 2012 by performing cross functional projects in construction management, engineering and procurement to increase the company's financial stability and management.

#### | Mega-Y Performance |

Turco	Cost Re
Туре	Target
2010	1,875
2011	2,025

Туре	Target (A)	Pro( (
2010	8.3	
2011	9.4	

\*Return on sales excluding disposable expenses



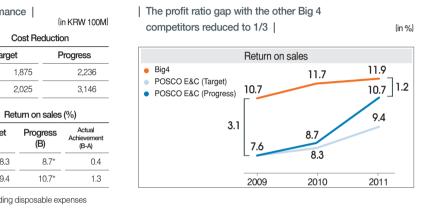
## "The company needs to improve the efficiency of its work processes and culture by engaging all members in the campaign to minimize wastes.'

Reforming the Culture of Reports To spread the new motto of "smart work" across the company. POSCO E&C has produced and distributed a quideline for specific improvements. As a result, the amount of reports on the progress of various projects has decreased, while reports for decision-making increased. More and more reports are made nowadays not in person, but via e-mail and telephone. The company intends to continue its work on reducing the amount of hard-copy reports produced and circulated.

#### Cost of Each Type of Meeting Poduction Poto

Reduction H	late		(in KRW 1M)
Туре	Before Improvements Made (as of August 2011) 2011)		Improved Rate (%)
Group Leaders and Below	3,476	1,457	58.1
Executives	2,536	963	62.0
Company-wide	830	484	41.7
Total	6,843	2,905	57.5

and employees (including fringe benefits) by the number of their work days.



## Improving the Efficiency of Daily Work Processes by Cutting in Half Wastes throughout the Company

Reforming the Culture of Meetings In order to reduce the cost of meetings and simplify related processes, POSCO E&C has replaced company-wide meetings with video reports and also significantly reduced the number of meetings held. Required data and documents are shared before a meeting starts in order to save time. Similar meetings have been integrated into one or replaced by a VP. This has helped to reduce the meeting-related cost by 58% since early 2011, well above the initial target of 50%.

VP: stands for visual planning, i.e., an approach to work centered on the visualization of the goal to be achieved and the process of progress to that goal.

\*The cost of each type of meeting is calculated by dividing the wage cost of executives



\*Survey periods: First - second week of Aug. 2011 / Second - first week of Jan. 2012

## Environmental Management and Ecological Preservation

Our green management system ensures thorough environmental management and protection of ecosystems.

# **Environment-Friendly Construction and Response to Climate Change**

기산물리발전

We respond to and manage climate change by providing energy-efficient green buildings that also reduce carbon emissions.

# Expanding Environment-Friendly Business

For a more sustainable future, POSCO E&C continues to enhance and expand its environmentfriendly business in all its areas of operation, including water and environment, energy, transportation, housing, and urban development.

Number of environment-friendly technologies in possession

tems

Number of environmentfriendly patents acquired

Waste recycling rate

# GREENING

# THE We will be the green construction company leading the environmentally friendly business including green construction and ecological preservation to protect the earth. FUTURE



# Introducing and Spreading the Green Management System

The Green Management System forms the center of environment-friendly management and practices of POSCO E&C. By promoting sustainable management throughout its own organization as well as business partners, the company actively pursues eco-friendly construction that is more conscious of climate change and the growing need to protect the Earth's environment.

#### Green Management System (GMS)

The Green Management System is a standard of certification enacted in July 2011 pursuant to the Framework Act on Low-carbon, Green Growth, Based on the framework provided by the ISO14001 Environmental Management System standard, the GMS also includes terms and provisions for controlling greenhouse gas emissions, managing energy, using environmental key performance indicators (KPIs), and environment-related CSR(social contributions programs). In an effort to enhance the existing system of environmental management, POSCO E&C has adopted the Green Management System across its entire business portfolio, including steel plants, energy plants, civil infrastructure, water treatment and environmental plants, and urban development & architecture; becoming the first company in Korea to acquire the GMS certificate in 2011.

Green Management Policy POSCO Family announced its Environmental Management Policy in December 2010, marking the beginning of its efforts to develop the basis for sustainable growth. The policy outlines the company's commitment to continuous environmental protection, prevention of pollution, and compliance with applicable laws, while providing an overall guide for the environmental management policies and practices of the member companies. Adopting the Green Management System in 2011, POSCO E&C made a switch from its old environmental management system to the Green Management Policy system.

Vision and Objective In order to promote protection for the natural environment through advanced construction technologies and services, POSCO E&C has announced its vision, "Build the Green," with the objective of establishing its new Green Management System. This involves promoting a "Green Culture" throughout the company's organization by encouraging continuous improvement in employee awareness and consciousness of environmental protection as well as an environment-friendly site management. The company also seeks to establish the "Green Process" through continued R&D and innovation to discover technologies that can minimize the environmental impact of construction. Lastly, the company also actively promotes "Green Business" based on the breadth of experience and technologies it has, leading worldwide efforts for managing climate change and protecting the Earth's environment.

**POSCO Family Environmental Policy** 

POSCO E&C constantly pursues improving environment-friendly performance in whole stoges of the clean business

Becognize environmental protection as a core management element, and set up environmental objective and target

according to the environmental policy, and carry out the environmental management system to the company wide.

development and the execution as a task of green management considering pan-global environment situation.

• Observe environmental laws and regulations, set up and carry out the standards for each project, taking into

•To consider character of the construction, endeavor to preserve of bio-ecology, to prevent of pollution, and to

•Adequately train the staff members and subcontractor's employees can inspire senses of understanding and

responsibilities concerning environment and actively participate in the preventive environmental activities.

And so as to guarantee the result of environmental performance, evaluate environmental performance and

•To achieve the company competitiveness highly, we activate the development of environmentally sound technology

save of resources, especially minimizing the waste, generated by construction and efficiently recycle the waste.

# Build the GREEN Establishing the Green Management System Greer Green Culture Business Green Process

#### History of Green Management

#### Mar. 2000 Dec. 2010 Sep. 1999 Nov. 2011 Environmental Management ISO14001 Environmental Management POSCO Family's Global Environmental Green Management System System certificate acquired. Management Policy announced. certificate acquired. Policy announced.

operate monitoring system to the company wide.

and utilize it positively in our project is carried out.

account the environment conditions of the surrounding areas.

Green Management Policy

Organization for Green Management POSCO E&C promotes green management throughout the entire organization. To this end, the company has divided its organization between the company headquarters and project sites. The HQ includes the functional centers of each and every area of POSCO E&C's business, including the CEO, supporting sectors such as Q-HSE Management Department of the Strategic Planning Division, General Administration Department, Procurement Department, and R&D Center, and the functional sectors such as Plant Engineering & Construction Division, Energy Engineering & Construction Division, Civil & Environment Division, and Architecture Division. These divisions and offices work together on determining the aim of green management; managing the company building; green procurement; development of green technologies; managing environmental performance indicators of each division / office; and carrying out environment-related CSR programs. The project sites ensure green management through an organization headed by the site manager and involving Environment Control Engineers, Construction Engineers, and business partners.

## Acquiring the Green Management System Certificate

Since 2000, POSCO E&C has acquired numerous certificates from external agencies with respect to its environmental management system. In 2011, the company garnered another such certificate from LRQA Korea. In addition, the company also won the Green Management Grand Prize from POSCO Corporation, thanks to the major contributions POSCO E&C who has committed to the promotion of green technologies and partnered growth across POSCO Family. POSCO E&C will continue to monitor its green management activities and lead the industry in green construction.

#### | Organization for Green Management |

Company HQ Establish goals for green management. Make green purchases. Develop green technology. Manage performance indicators.

POSCO E&C is minimizing its environmental impact from the purchase stage and onward by giving preference to purchasing energy-efficient resources and recyclable materials. There has been an increasing need for green purchases since the Act on the Encouragement of Purchase of Environmentally Friendly Products in 2005. Accordingly, POSCO E&C has signed the Agreement on Industry-Wide Green Purchases supervised by the Ministry of Environment, joining the Committee on Construction, Heavy Industries, and Machinery. In addition to distributing a green purchase guideline throughout its project sites for the management of four core areas of environment-related activities (i.e., discovering eco-friendly goods, registering eco-friendly goods, promoting green purchases, monitoring and announcing performance), the company has also developed new IT systems to manage product and service quality better, while also minimizing environmental impact. In 2011, the company purchased eco-friendly goods worth KRW

# Case Study

"Minimize the environmental impact of the company's activities from the purchase stage onward."







#### Minimizing environmental impact through Green purchases

75.9 billion in total. By continuously increasing the number and volume of green purchases it makes, the company will encourage the production and use of eco-friendly goods and services.



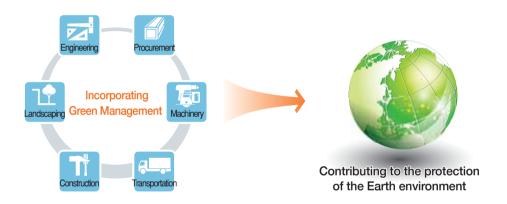


"Leading business partners to adopt green management systems is the first step to environmentfriendly, green construction."

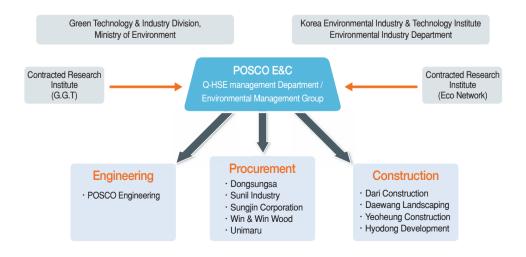
#### Enhancing Green Management: Incorporating Green Management throughout the Supply Chain

A single construction project often involves organic relations and collaboration among multiple companies, in a process ranging from design and the purchase of goods and equipment via transportation to construction and landscaping sites. The environmental impact jointly and severally exerted by all these different agents must be thoroughly controlled. Thus, when construction companies actively practice green management and promote it to the business partners they work with, they will be able to create an industry-wide green revolution. Construction companies, however, are relatively passive than their manufacturing counterparts when it comes to adopting green management. Small businesses involved in the construction industry even lack proper knowledge and information about green management.

Recognizing these shortcomings, POSCO E&C is actively promoting green management not only throughout its own organization, but across its entire supply chain as well. The company eagerly shares the diverse experiences of success it has gained in green management, effectively helping business partners to reduce greenhouse gas emissions and pollution, to save more resources and energy, and to cut down on the cost. Having signed the Agreement on Green Management with the Ministry of Environment, POSCO E&C is also promoting green management in all areas of its operation from engineering via procurement to construction (EPC), seeking to increase its contributions to the preservation of the natural environment.



POSCO E&C believes that its efforts to promote green management throughout its supply chain are meant to enhance the prospects of mutual, green growth with business partners. Since signing the MOU on Green Management in April 2011 with the Ministry of Environment and the Korea Environment Industry and Technology Institute, the company has been providing different types of assistance and support for green management throughout all the phases of the construction industry. To start, the company has chosen to support environment-friendly engineering, environmentfriendly procurement, and environment-friendly construction at ten of its business partners.



Green partnership with business partners forms the core of POSCO E&C's project of promoting green management, in light of the great extent to which the whole construction industry relies on such interdependency. POSCO E&C is supporting its business partners to achieve specific targets and goals of green management, including the reduction of greenhouse gas emissions by 10%; reducing cost; and researching better techniques for cutting down on greenhouse gases and energy consumption via the Eco Network and research agencies specializing in environment.

| Major Activities of the Project of Promoting Green Management, 2011 |

#### Establishing the Green Culture

Develop green workforces. Enhance green communications. Engage in environmental campaigns. Organize contests to encourage green management.

#### Provide overseas training



POSCO E&C provided overseas training for the CFOs and managers of the participating business partners to help them learn advanced examples of sustainable management.

#### **Environmental Campaign**



POSCO E&C promoted greater environmental awareness through a campaign, which involved the production and distribution of Green Work stickers. EcoPrinting, and Green Management promotion booklets

#### INTRODUCTIONE I CREATING THE FUTURE I GREENING THE FUTURE I SHARING THE FUTURE I APPENDIX 39

#### Improving the Green Process

Provide diagnoses of green management. Provide analyses of energy efficiency. Provide help for developing green management systems.

Develop Green Management Systems

POSCO E&C supported the development

business partners for effectively reducing

greenhouse gas emissions, preventing

pollution, reducing the cost by preventing

resources with standardized documents

the need for additional work, and ensuring

efficiency in the use of equipment /

of Green Management Systems at

#### Promoting Green Business (2012 research objectives)

Acquire the Green Company certificate. Publish reports on environment. Acquire the Green Product certificate.





# Expert Diagnosis of Energy Efficiency



By assisting the diagnosis and analysis of energy consumption at the participating business' partner plants and the improvement of related facilities POSCO E&C helped to reduce greenhouse gas emissions



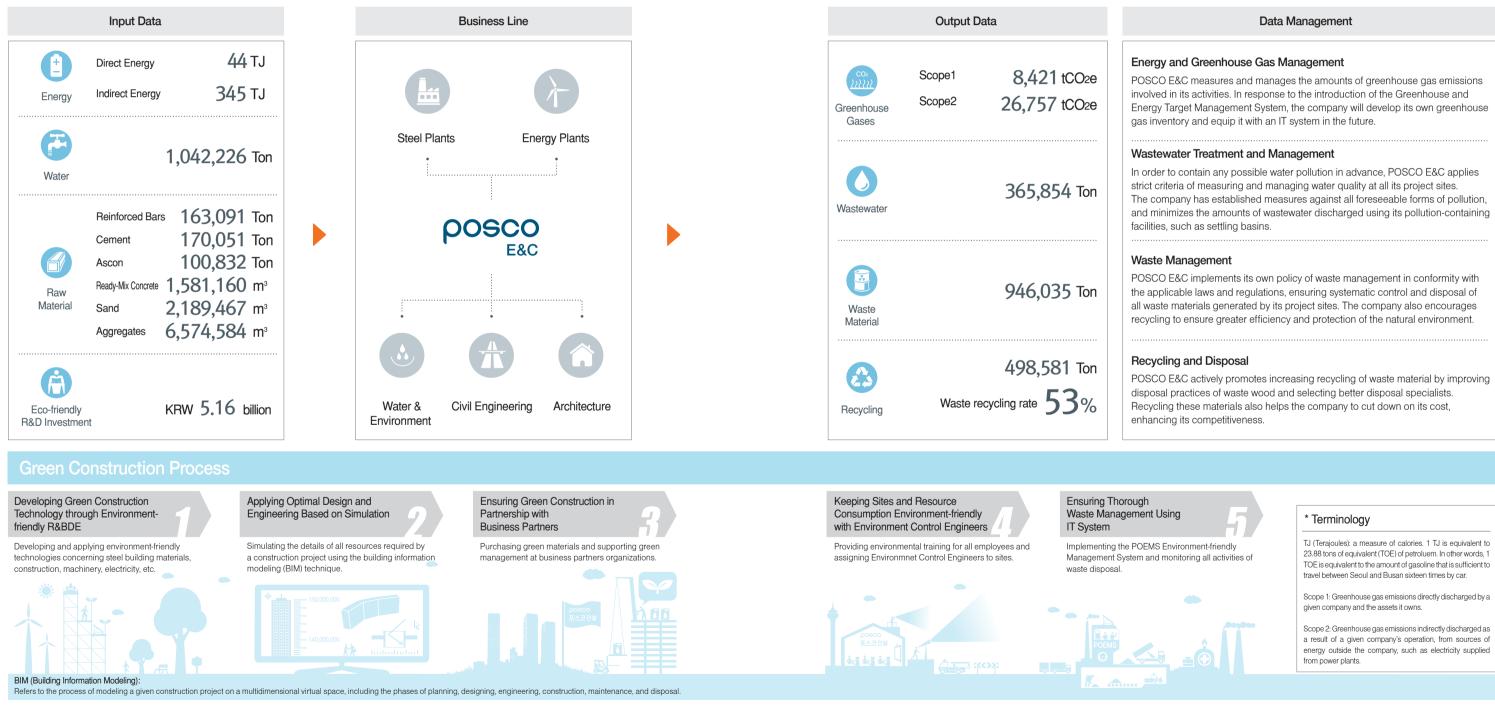
Green Management Contest



POSCO F&C will use Green Company Certification to promote green business with its partners.

# Environmental Data Management and Green Construction Process

POSCO E&C is working hard to make all the processes involved in its activities, from engineering and construction to site management and waste disposal, more eco-friendly. The company is also minimizing its environmental impact by thoroughly managing its environmental data concerning the input of raw materials and energy in all its business sites.



ment ation



# Environment-friendly On-Site Management and Office Operation

POSCO E&C is actively promoting a green culture throughout its offices and project sites, minimizing the environmental impact on neighboring areas and preventing all possible forms of pollution.

#### Environment-friendly Site Operation

Environment Control Engineers, trained by POSCO E&C, play a central role in ensuring environment-friendly management of all construction sites, using the latest IT systems.

Total 67 Environment Control Engineers trained by 2011.

Training Environment Control Engineer POSCO E&C has been training Environment Control Engineers since 2009. The Environment Control Engineers learns the required skills and information on how to conduct environmental impact assessments, oversee waste management, and evaluate legal compliance that are essential components of environment-friendly site management. They are assigned to POSCO E&C's project sites after completing the required training. Site workers are also required to receive training involving environment-themed videos and take a Pledge of Environmental Management before commencing their work.

Operating the POEMS (POSCO E&C Environmental Management System) The POEMS system automatically updates and manages all activities and details of environmental management at each and every project site of POSCO E&C, designed to prevent possible contamination. In 2011, the company successfully interfaced POEMS with Allbaro, the waste management system of the Ministry of Environment, in an effort to ensure better monitoring of waste disposal at all its project sites. The system has also been updated in order to allow for monitoring of 27 indicators of green management.

## Environment-friendly Site Management

Dust Control POSCO E&C implements a Dust Control Guideline in order to manage and control more systematically the amounts of dust generated from the use of various types of equipment on its project site. The Guideline also provides detailed terms and provisions for controlling dust in various activities, including stocking, transportation and delivery. Each project site is required to implement the Guideline in running dust-control facilities.

Noise and Vibration Control POSCO E&C also provides the Noise and Vibration Control Guideline to manage its project site better. The company conducts prior noise and vibration surveys before commencing a project to establish systematic measures to control them. Not only are noise levels monitored constantly at project site, but noise and vibration are contained using noise- and vibration-proof walls and traveling stays.

Water Pollution Control To reduce the discharge of water pollutants, POSCO E&C has developed a Standard for Water Quality Management and a Disposal Facility Operation and enforces it at all of its project site. Each site is required to contain all possible pollutants and manage water quality using all the available facilities. The wastewater is first recycled at each project site in order to ensure more efficient usage of water.



Noise-control facilities Noise-proof walls and balloon-shaped noise-proof walls



**Dust-control facilities:** Wheel washers



POSCO E&C prevents soil pollution by checking and monitoring the soil quality on all of its project sites on a regular basis. The company also provides effective measures to restore soil quality in cases of reported soil pollution. In 2011, for example, upon discovering waste buried underground at the Seoul Forest The Sharp site, the company contracted a specialist to dispose of the entire 190,000 tons of the waste in a legally and environmentally appropriate manner. The company also contracted a soil restoration specialist to purify all the 270,000 tons of soil on the site that had been found contaminated

Environment-friendly Office Administration

As part of its campaign for developing "Smart Work" systems. POSCO E&C has set out to improve the business trip practices and culture, replacing a majority of such trips with video call conferences. PC conferences, and other latest information technologies. Using IT in such smart ways has enabled the company to reduce not only the number of business trips required, but also its carbon footprint. The company also encourages all traveling employees to be more conscious of the environment by converting the travel distances and expenses involved in each business trip into the carbon emission prices and publicly posting the results.

The amount of paper saved by 10% from the previous year.

Minimizing the Use of Paper by Improving the Reporting Culture POSCO E&C has also replaced the use of paper in reporting processes with telephone and e-mail communications. This change has dramatically reduced time employees spend writing reports and improved their concentration on work itself, while also reducing the average amount of paper used by each employee from 352 sheets to 316 sheets in just six months.

Minimizing Resource Usage in the Office POSCO E&C operates an office building in Songdo (Incheon), and two other office buildings in Pohang. These three buildings consumed a total of 103.57TJ of energy in 2011. The company has adopted an automatic turn-off system in order to turn off lights every hour after 7 p.m. in each of these office buildings. The company also displays posters and notices for its ongoing energy saving campaign, encouraging employees and users to maintain eco-friendly indoor temperatures, to turn off light bulbs and office supplies when not in use, and save on the amount of tap water they use.



"Successful asbestos control is the first element of risk management.'



with the Wastes Control Act.

Prepare for asbestos removal



POSCO E&C has been developing and spreading a "Green Culture" encouraging a greater environment-consciousness and a change in attitude of all its employees and ensuring an eco-friendly office management. The campaign has led employees to cut down on wasteful consumption and spending, while also significantly improving their productivity.

#### Minimizing Business Trips and Carbon Emissions with the Latest IT system



Remote video conference

#### **Preventing Dangers of Asbestos**

Recognizing the dangers and risks of using asbestos, POSCO E&C entered a voluntary agreement with the Korean government prior to the enforcement of an asbestos safety management act, taking proactive steps toward disposing of and controlling asbestos waste. The company's asbestos management system, encompassing the entire lifecycle of buildings from construction to disposal, ensuring safe removal and disposal of asbestos at all the company's project sites. The asbestos residues and contents generated by removing asbestos-carrying buildings and facilities are contained in airtight bags made of vinyl or other equivalents, and are cleaned off using either water or a vacuum cleaner in accordance



Remove and seal asbestos



Finish asbestos removal



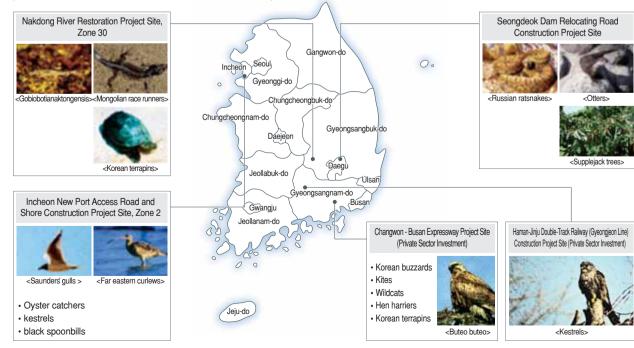
# Ecological Preservation Activities and Legal Compliance

POSCO E&C has led efforts to usher in a more sustainable future by actively promoting ecological protection and compliance with all the applicable laws and regulations.

Environmental Impact Assessment and Legal Compliance Environmental Impact Assessment POSCO E&C conducts assessment of environmental impact implicated in all of its construction activities, from groundbreaking onward, in order to make more comprehensive, accurate judgments of the environmental impact and risks that the company's operation entails. The company appoints environment specialists in preparation for groundbreaking to conduct assessments. Major risks identified in assessments are entered into the POEMS and reflected in the construction plans in order to minimize their frequency and effects.

Violations of Laws and Improvements Made POSCO E&C also evaluates its own compliance with the applicable laws and regulations on the environment. In 2011, the company received three injunctions requiring corrective measures and five monetary fines, which it immediately fulfilled. The project site of a railway linking to the New Busan Port, for instance, immediately installed an additional waste storage facility upon receiving the injunction to that effect. The company continues to improve its green management practices based on internal and external reviews, while also actively responding to allegations and reports of violations.

Protectina Ecosystems Protecting Animals and Plants POSCO E&C conducts assessments of environmental impact regarding all its project sites, incorporating their results into developing plans for protecting local ecosystems and biodiversity. The company has recently discovered habitats for otters and oystercatchers nearby its project sites, classified as Endangered Species Class I and II, respectively. The company keeps them on constant watch, shielding them from potential dangers and pollution by surrounding the project sites with pollution-containing fences (for preventing the spread of floating, contaminated soil and sand) and other protective devices.



Status of Protected Species around Construction Sites



"We are seeking to ensure a more harmonious coexistence between nature and civilization through our efforts to protect natural ecosvstems."



Far Eastern Curlews

#### | Protecting Otters (Natural Treasure No. 330) |

POSCO E&C is actively protecting biodiversity that has been identified by the environmental impact assessment of the construction site at the Seongdeok Dam Relocating Road Project. The impact assessment revealed a habitat of otters, protected as Natural Treasure No. 330 in Korea, along the water systems feeding the Seongdeok Dam. Otters in general have a wide range of activities, building their hiding grounds in numerous areas in a given region. Judging that it is most important to enable otters to flee possible dangers of Otters (Natural Treasure No. 330) construction, the company plans to install a passageway for their exclusive use, guiding them to safer areas away from the construction site. In addition, the company also plans to install a fence around the construction site that will guide otters and other wild animals away from passenger vehicles. POSCO E&C followed up the site survey with the plan for environmental impact assessment. Specialists will assess and analyze the environmental impact of the company's project once a year for three years after the project's completion, surveying the subsequent status of animal and plant life in the area, the protection of ecological habitats, and the emergence and activity of major species.

#### Protecting Endangered Species of Animals and Plants

#### Protecting Oystercatchers (Endangered Species Class 2)

The environmental impact assessment for the construction site of the Incheon New Port Access Road Project revealed the habitats of endangered species of birds around the site, including those for oystercatchers, far eastern curlews, and black spoonbills. Even though their habitats were not located within the site, POSCO E&C nonetheless sought to protect these species as much as possible by taking proactive steps to minimize the environmental impact of its activities in the area. The company developed a plan to control and minimize dust and installed pollution-containing fences (to prevent the spread of floating, contaminated soil and sand), thereby minimizing the harm to the habitats and feeding conditions for the species of birds present in the area.



Ovstercatchers



Black Spoonbills





Installing Pollution-Containing Fences around Construction Sites





# Construction of Carbon-Reducing Green Buildings

POSCO E&C is pioneering a more sustainable future by actively coping with climate change with its low-carbon "green buildings," made with the company's advanced new materials and technology.

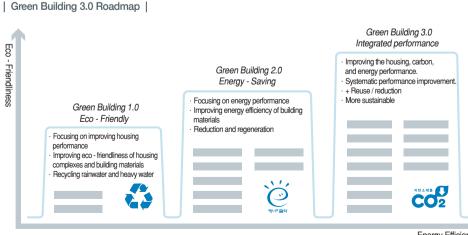
## Implementing Green Buildings 3.0

The general tendency in the construction industry is toward greater, bigger buildings, reflecting the continued economic growth and the improvement in the quality of life. The efforts to make eco-friendly buildings, however, lag far behind the efforts to make bigger and more convenient buildings. POSCO E&C, working with POSCO Family, is ushering in an age of "Green Buildings 3.0," upgrading the quality of eco-friendly buildings they build together.



**Green Buildings** POSCO's "green buildings" are innovative works of architecture and construction that reduce greenhouse gas emissions throughout the entire process and product lifecycle involving their construction, from design through to disposal. Embodiments of POSCO Family's commitment to ensuring better harmony with natural ecosystems, innovating construction techniques, and continued R&D, these buildings minimize carbon emissions from construction via usage to disposal, enabling the entire world to cope with climate change better. The related research activities at POSCO E&C involve developing better techniques and technologies for carbon reduction, environment-friendly construction, energy saving, energy management, home networking, housing convenience, and monitoring, making POSCO E&C Korea's first company to acquire the prestigious LEED certificate.

**Green Building Organization** POSCO E&C continues to increase research-related investment not only for the purpose of promoting better R&D, but also to secure better engineering techniques and business design capabilities(R&BDE). The company organized the Green Building Taskforce in 2010, charged with the task to conduct research and development of new and innovative technologies. In 2011, the company partnered with Yonsei University under an MOU to conduct joint research and development of new green materials. The company continues to expand businesses associated with its green buildings by increasing its business design capabilities and resources. The Green Building Taskforce has set for itself the aims of reducing the company's consumption of fossil fuels by 60% in 2016 and by 100% in 2020. The Taskforce also plans to reduce the amount of carbon emissions by 20% in terms of raw materials used and by 30% in construction and disposal.



Energy Efficiency



"Actively responding to climate change and finding new business opportunities."

Offices and collective housing complexes are given models of saving energy and carbon capabilities. Each construction project will be monitored constantly for continual improvement and upgrading. Office buildings, once monitoring is completed, will admit companies and businesses, while the joint housing complexes will operate learning programs.

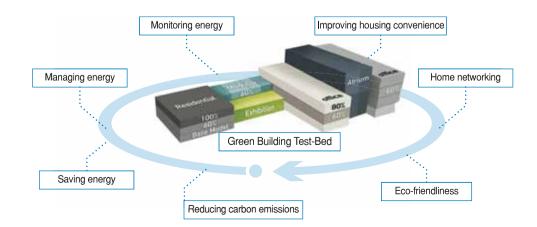
Technology Integration Creating The Sharp Package (saving energy by 50% / 100%). Developing design guidelines for each level of energy efficiency required by the Energy Certification System.

Passive Technology External insulator systems for high-rises. Smart Facade System for saving energy, etc. Active Technology High efficiency ground heat source HVAC system Ceiling radiant panel system connected to ventilation Home Energy Economizer

R&BD (



Achieving "Energy Zero" targets by 60% / 100%. Applying eco-friendly/ energy-saving certificates. Achieving "Energy Zero" targets by 60% / 100%. Complexes/communities). Smart Facade System (to be applied first to dfice buildings



## Green Building Test-Bed

POSCO E&C, working with POSCO Family, has been promoting Green Building Project since 2010 that systematizes the two parties' concerted efforts to realize Green Buildings 3.0. The project involves developing optimal designs in light energy consumption and carbon reduction, finding carbon-reducing building materials, developing energy-saving techniques, enforcing monitoring systems, and optimizing housing performance and convenience. The four aspects of the project ("Commercial," "Passive," "Active," and "Simulation") apply these tasks to developing collective housing complexes, office buildings, and modular houses, enhancing the business and design capabilities for green buildings.

## R&D (Research & Development)

#### Simulation Technology

Comprehensive performance simulation. BIM-based energy simulation.

#### R&BD (Research and Business Development)

Green building core technology Test Bed Verify retaining / developed technology merchandizing Establish integrated green building design process



#### R&BDE (Research & Business Development and Engineering)



One way POSCO E&C actively responds to and copes with climate change is in its "Zero Energy Green Building Technology and Climate Change Building" research. The project seeks to minimize the amounts of energy POSCO E&C's buildings consume by developing and applying new techniques for minimizing energy losses as well as new and renewable sources of energy. The project has so far led to the development of new, more efficient building facades, indoor temperature control techniques, new and renewable energy, and smart systems. POSCO E&C invested 12.3% of the total R&D budget into developing environment-friendly techniques and products. Of the 116 new techniques of steel building materials, construction, machinery, and electric technology developed, the company applied 66 to its new projects. There are 16 more technologies in development in addition to the 36 technologies already protected as the company's intellectual properties.

#### List of Technologies for Responding to Climate Change

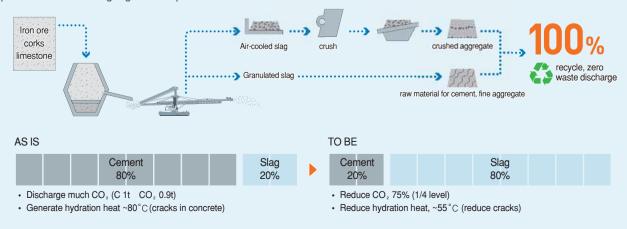
🔵 In development	<ul> <li>In possession</li> </ul>	○ Already applied
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No.	Steel Building Material	No.	Architecture	No.	Mechanical	No.	Electrical
1	High-intensity post tension system	1	External insulation	1	Solar thermal system	1	Micro-grid infrastructure
2	Long-life anti-vibration damper	2	Double-layer facade system	2	Water resources monitoring system	2	PV-type power generation
3	Magnesium floor-heating system	3	Optical fiber duct	3	HVAC system using ground heat source	3	BIPV-type power generation
4	Anti-seismic steel pipe system	4	Light shelf	4	HVAC system using rainwater / permanent water-drainage heat	4	BESS for homes
5	Modular (infill)	5	Atrium	5	System using waste heat from fuel cells	5	Energy-saving lighting control system
6	Modular (initi)	6	Rooftop greening	6	Prefab floor heating system	6	Electric vehicle recharging system
		7	Wall greening	7	Water heater using local heat source	7	Electric bicycle recharging system
7	High-insulation steel curtain wall	8	Indoor greening	8	Intelligent air conditioner control	8	HEMS
8	System rebar steps	9	Aerogel insulation	9	Radiation panel	9	Mobile application
9	Reuse-type structural bonding technique	10	Vacuum insulation	10	Chilled beam	10	BEMS
10	Recycled structural material	11	Phase-changing material (PCM)	11	Concrete core activation (CCA)	11	BAS
11	High-insulation prefab exterior wall system	12	Triple glazed window system	12	Thermal labyrinth	12	Home network / Home gateway
12	High noise-proofing dry interior wall	13	Double window system	13	Floor air-conditioning system	13	Wireless recharging system
13	Rainwater recycling system	14	Vacuum glazing window system	14	Hybrid ventilation	14	Work-at-home system
14	Self-cleaning steel plate	15	Aerogel window system	15	Heavy water recycling system	15	Small wind power generation system
		16	Insulated fireproof door	16	Mist diffuser system	16	Fuel cell for homes
15	Heat-blocking steel plate	10		17	Outdoor temperature monitoring system	17	Washroom counter-sensor lighting system
16	Anti-UV coated steel plate		Automatic sun shades	18	Cool shower system	18	Smart cabinet panel
17	800 Mpa high-intensity steel	18	Bidirectional hollow slab	19	Individual radiation HVAC system	19	Standby power saving device
18	SN steel	19	Tile-built-in dry bathroom	20	FCU system for dehumidification	20	Air-conditioner standby power saving device
19	F13 Thigh-strength bolt	20	Chloride-resistant concrete	21	High-efficiency hot water distributor	21	Multi-function network switch
20	Steep pipe pile for geothermal energy	21	Low VOC emission adhesive	22	Electric diffuser	22	DC power distributer
21	Motorized external blind	22	LED plant factory	23	MultidropChamber	23	DC power plug
22	Still device	23	Eco-friendly concrete	24	Water saving toilet	24	LED lighting
		24	Eco-friendly flooring material for parking lots	25	Water saving faucet	25	Media player
23	Joint steel plate	25	POSCO Fire Board	26	Non-water urinal	26	Finger-vein authentication access control
24	Non-flammable complex panel	26	Insulated shutter	27	Eco-friendly refrigerant	27	Multipurpose smart security lighting
25	STS Hanacom complex panel	27	Washroom floor piping	28	Ultra-heat insulator	28	Bathroom fan control switch
26	Rebar wire assembly	28	Aggregate-piping separation technique	29	Garbage treatment system	29	Wireless communication technology (Zigbee)
27	Duct-substitute pillar	29	High-intensity PHC pile	30	Smart water system	30	Eco-friendly lighting design

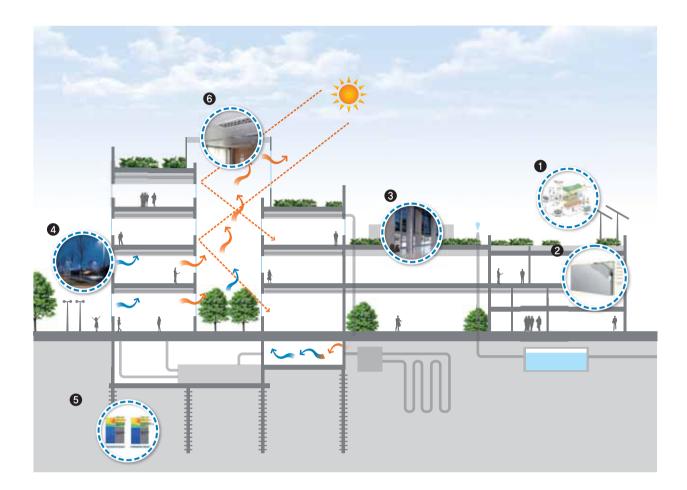
#### Developing Environment-friendly Concrete

POSCO E&C's Environment-friendly concrete is made of blast-furnace slag, a byproduct generated from steel mills. It exerts less environmental impact than conventional cement not only because it emits less carbon, but also because it generates less hexavalent chrome, which is a hazardous substance, and does not require as much natural limestone (the ingredient for cement) as traditional cement does.

How blast-furnace slag is generated



\*Hexavalent Chrome (Cr+6): a heavy metal found in cement and regarded as a hazardous substance.



#### 1 The Sharp Thermal Grid System

Makes efficient use of new and renewable energy supplied SHGC (Solar Heat Gain Coefficient) can be adjusted by to collective housing complexes by integrating various various methods considering the environmental change sources of energy (ground heat, solar heat, etc.) with and building energy demand diverse energy management systems



## 4 High rise external insulation finishing system (EIFS) 5 CEPTED System

The finished exterior insulation system contains vacuum insulators that significantly improve the insulation effects through crime-prevention spaces and environmental and the ease of installation





designs.

#### 2 SHGC Control Façade System

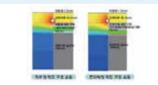


Prevents crime and ensures a safe living environment



#### Radiant Heating System Using a Low-Temperature Heat Source

Maintains pleasant indoor environments by minimizing energy consumption and using a low-temperature heat source in a system combining new and renewable energy (ground heat, solar heat, etc.) with a single façade system.



#### 6 Ceiling-Radiation Panel System Connected to Ventilation

Saves energy by improving the indoor heating / ventilating performance using an innovative ventilation-air conditioning systems.



Fruits of Applying Green Technologies

POSCO E&C creates safe and convenient spaces using its green technologies. The company works hard to develop nature-friendly green buildings.

Providing Safe and Convenient Spaces Advanced technology is required to realize high rise buildings. POSCO E&C developed technology to design and manufacture a wind vibration control device which is the best independent model in Korea to secure the safety of a high rise building against strong winds. In addition, we have developed high strength concrete and the highest performance concrete using slag, a byproduct of steel manufacturing. This enabled us to change the existing concrete using portland cement to environment-friendly concrete.

Energy consumption of the building is estimated by the simulation of apartments. Based on the results of the simulation, factors to reduce energy in the architectural, mechanical and electrical fields and the technical grades are determined. Then we prepared a design package considering the economical efficiency to reduce 50% of energy consumed by heating and air conditioning.

As part of the green design, we are developing indoor environment control technology so that residents can live in a pleasant space. Indoor environment can be divided into noise, condensation, ventilation, and air quality and we are improving the living condition by operating various equipments including the indoor air quality VoCs analysis, building wind, floor impact sound measurement, window thermal fenestration performance simulation.

Energy and Water Management POSCO E&C applies its advanced. IT-based Energy Management System (EMS) and Water Grid System (WGS) to all the buildings it creates, the EMSs include the Home Energy Management System (HEMS) that monitors and controls home appliances within households and the Building Energy Management System (BEMS) that monitors and controls energy usage throughout the building. Applying these systems, the company expects to save an additional 5 to 10% of energy. The WGS monitors water quality, amount, and temperature on a real-time basis in order to control the amount and temperature of water supply automatically. The system is intended to regulate the amount of energy and water supplied as necessary so that wastes of such resources can be minimized.

Ensuring Housing Performance POSCO E&C ensures the quality of its housing products, using its certified measuring techniques, before tenants move in. In an effort to enhance public trust in the results of performance measurement it conducts and tests, the company gained approval from the Korea Laboratory Accreditation Scheme (KOLAS), and is also authorized and accepted internationally in its test results in the areas of noise measurement (floor impact, inter-household noise-proof function, general noise, etc.) and chemical measurement (indoor air quality). The fact that POSCO E&C has been recognized as an internationally authorized testing agency means that the company possesses capacities to measure certain processes and/or services.

Acquiring Patents and New Technologies POSCO E&C owns patents and intellectual property rights on numerous technologies and techniques it has developed for its green buildings. The company had 226 patents by the end of 2011, 41 of which are related to environmental protection. The company also owns 10 construction- and environment-related technologies approved by the Ministry of Land, Trasport and Maritime Affairs, and Ministry of Environment.



Indoor air quality VoCs tester (GC-MSD)



Testing floor impact sound (Bang machine)



Testing sound between dry-walled rooms (Sound source)



POSCO Green Buildings

POSCO Green Buildings are characterized by eco-friendly materials with which they are created, water- and energysaving functions, and efficiency-enhancing features. The LEED certificate on each Green Building also serves as an objective basis of its advanced performance. POSCO E&C is seeking to obtain the Leadership in Energy and Environmental Design - New Development (LEED-ND) certificate on the entire eco-friendly complex for its building in the Songdo International Business District.

## Songdo Convensia - First Building in Asia to Obtain the LEED Certificate

Songdo Convensia in Incheon became the first building of its kind in Asia to gain the Leadership in Energy and Environmental Design - New Construction (LEED-NC) certificate for eco-friendly buildings.

#### | Building Characteristics |

#### Saving Water

Songdo Convensia is equipped with specially designed pipes that can save water, up to 45% (7 million liters) per vear, making additional water supply systems unnecessary.

#### Eco-friendly Materials

Built with recycled materials, Songdo Convensia has also been finished with paints, carpets and wallpapers with little or no VOCs, minimizing harmful effects to the human body.

#### Saving Energy

The multipurpose lighting works throughout the building also significantly reduce the amount of electricity consumed.

#### The Sharp Central Park I - First Residential Complex in Korea to Obtain the LEED Certificate

The Sharp Central Park I became the first residential complex in Korea to gain the LEED-NC certificate, granted by the U.S. Green Building Council to eco-friendly buildings.

#### | Building Characteristics |

#### Enhanced Housing Performance

The Sharp Central Park I has significantly reduced the losses of heating and air-conditioning energy as well as noise transmitted across households through exterior walls and window frames. Each household was also finished with eco-friendly glues and carpets with little or no impact on the human body. The rooftops were planted with shrubs and trees to prevent the heat island phenomenon during the summer as well as to reduce the air-conditioning cost.

#### Energy Commission System

The Sharp Central Park I is also running an Energy Commission System that ensures that all the energy systems in the building are designed, built maintained, and managed as they were originally intended by the building owner or designer through thorough verification and documentation. The system helps to minimize the wastes of energy and othe management-related problems.









# Beyond Green Building to Green City

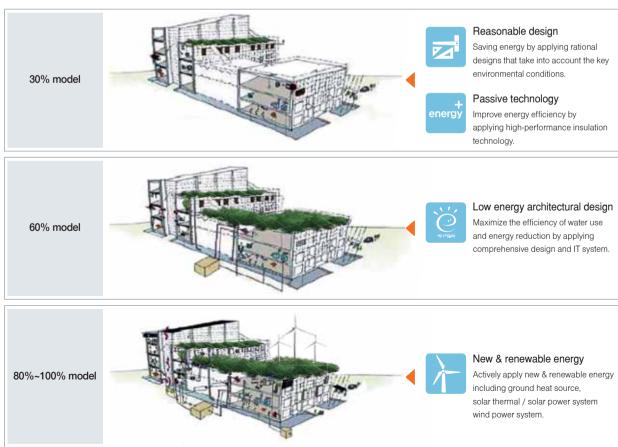
POSCO E&C and POSCO Family work together to develop all the infrastructure that their joint works require. including facilities for energy, communication, waterworks and sewage, making entire sustainable cities beyond just sustainable buildings.

## Residential Space for Green Cities: - The Sharp Zero Energy

The Sharp Zero Energy residential buildings, specifically designed for green cities that POSCO E&C is building, is designed to save not only the amount of energy that the building consumes, but seeks to minimize the carbon footprint of all human activities taking place in and around it in a comprehensively energy-conscious manner. POSCO E&C and POSCO Family have been working on researching and developing technologies which minimize the amounts of energy consumed by buildings, human tenants, and the surrounding natural environment, respectively.

The diverse Green Building techniques applied to The Sharp Zero Energy residential buildings will subsequently be applied to the future Zero Energy office buildings as well to eventually form the Zero Energy Community where energy-efficient public housing and office facilities are gathered together. The Zero Energy Community provides a new environment-friendly business model, allowing POSCO E&C to play a central role in developing not only green buildings, but green cities as well. POSCO E&C and POSCO Family are applying this new environment-friendly business model to their joint projects taking place in Songdo International Business District.

#### | Phase-by-Phase Energy Saving |



## Supplying Water for Green Cities – Water & Environment Projects

POSCO E&C is expanding its water and environment business portfolio, supplying water for an increasing number of green buildings and cities. As the amount of water available for human consumption continues to deplete, innovative waterworks projects hold a key to developing better, water-abundant, green cities. POSCO E&C will expand its water and environment scope to overseas sites in order to provide clean water for the cities it develops and offer a solution for the global issue of limited water resources. The company already boasts the most extensive record of building sewage processing facilities and pipe networks in Korea, winning the Minister of Environment Award for the "Hydro J.B. Technique for High-speed, High-efficiency Sewage Treatment During Rainfalls" which it developed in 2011. POSCO E&C has acquired extensive and diverse experiences by performing a broad array of public and public-private projects. It has used its core expertise and technologies it has acquired in the process to diversify its business portfolio, which now include services for turning seawater into fresh water, providing advanced water refining technology, recycling wastewater, and so forth. POSCO E&C is also building "Eco Dams" that can solve water shortages and protect ecosystems at the same time.

#### Developing Water & Environment Project Technologies and Designs

	R&D Future Technology
Seawater desalination	<ul> <li>Finding design parameters for flocculation, floatation and sedimentation.</li> <li>Finding parameters for separation membrane design and operation.</li> <li>Pilot study to secure real-size design technology (performing new POSCO technology projects).</li> </ul>
Advanced water treatment	<ul> <li>Developing basic technology for designing water treatment facilities.</li> <li>Developing technology for designing water treatment unit operation.</li> <li>Acquiring new core technology for the future.</li> <li>Applying for patent on tank-less membrane filtration system.</li> </ul>
Wastewater treatment and reuse	<ul> <li>Completing the "I<sup>3</sup> System" project (for reusing wastewater) and its trial operation in Phase 1 of the Guri Project (processing 5,000t/day).</li> <li>Completing the development and operation of the "World-class Steelworks Wastewater Reusing Technology" Project using the Hydro J.B. technique and the MF-RQ design.</li> </ul>
Eco Dams	<ul> <li>Performing public projects of the Aquatic Ecology Restoration Project Group.</li> <li>GIS-based identification of the project sites.</li> <li>Developing techniques for forming and restoring habitats for local indigenous species.</li> <li>Developing the Andong River test-bed.</li> <li>Installing eco pocket and verify effect of eco space.</li> </ul>
Sewage and overflow during rainfalls	<ul> <li>Developing the Hydro J.B. technique.</li> <li>Gaining new environmental technology certificates.</li> <li>Receiving the Minister of Environment Award.</li> </ul>

R&BD Business Model	R&BDE World Best Technology
<ul> <li>Securing real-size plant design technology.</li> <li>Developing high-efficiency, low-energy technology.</li> <li>Demonstrating the package of water reuse, concentrated water processing, and desalination.</li> <li>Developing real-size equipment design and operation technology.</li> </ul>	<ul> <li>Real-size seawater desalination project in Korea (Gwangyang Steelworks, Phase 1, 30,000m2/day).</li> <li>Overseas seawater desalination projects.</li> </ul>
<ul> <li>Standardizing water treatment facility designs.</li> <li>Securing tank-less membrane filtration system designs.</li> <li>Low energy high efficiency water treatment process.</li> <li>Securing designs and operation technology.</li> </ul>	<ul> <li>Verifying technologies and preparing grounds for business models using test -beds in South Korea and abroad.</li> <li>Participating in the development of waterworks infrastructure for urban development projects in Asia and Africa.</li> </ul>
<ul> <li>Phase 2, Guri Sewage Treatment Facility (I<sup>3</sup> System Trial Operation II, 20,000t/day).</li> <li>Pilot study of the wastewater processing facility at Gwangyang and test-bed of the soft water factory in Pohang.</li> <li>Ensuring cost competitiveness through cost reduction.</li> </ul>	<ul> <li>Developing new business opportunities, including the wastewater treatment facilities in the Four Major River systems.</li> <li>Test-bed analysis and business models for overseas projects, such as the Steel Mil in Krakatau, Indonesia.</li> <li>Securing large-scale EPC and QSM project records.</li> <li>Securing outposts for further overseas expansion.</li> </ul>
<ul> <li>Promoting commercialization with test-beds.</li> <li>Developing ecology wetlands along Jichon River in Yanggu.</li> <li>Maintaining close partnership with KOWACO, owner of the auxiliary dam.</li> <li>Developing the Yeongju auxiliary dam eco wetland.</li> <li>Developing the upstream reservoir and ecology wetlands around Seongdeok Dam, Cheongsong.</li> </ul>	<ul> <li>Securing more orders from KOWACO.</li> <li>Long-term plans for water resource development and dam construction.</li> <li>Enhancing the sand depositing, water purifying, and ecosystem protecting features of auxiliary dams.</li> <li>Providing an auxiliary dam site selection module package and ecological pond formation.</li> </ul>
 <ul> <li>Supplementary research for demonstration and application.</li> <li>Developing pretreatment technology for steelworks wastewater.</li> <li>Improving process, excluding micro sand use.</li> <li>Improving applicability by simplifying pumps and other equipment.</li> <li>Mobile pilot part research.</li> </ul>	<ul> <li>Maintenance project for managing wastewater and overflow during rainfalls.</li> <li>Reusing steelworks wastewater.</li> <li>Processing returned water and turbid water treatment.</li> </ul>

## Green City, Green Transportation -**Railway Projects**

Light Rail Transit System, providing eco-friendly transportation in green cities, is emerging as a popular alternative mode of transportation in Europe and Japan thanks to their environmentally-friendly properties. POSCO E&C has demonstrated its capacity for light railway development by successfully completing the Busan-Gimhae light rail transit project in April 2011, diversifying its experience to include records not only in the development of conventional railways, bridges, and train stations, but also in the areas of signaling, communications and electric works. Based on its experience gained in of the Busan-Gimhae light rail transit project, POSCO E&C will actively develop advanced systems for railway transportation, including train operation simulation programs, in order to improve efficiency and competitiveness of its products on the market. POSCO E&C will continue to lead the Korean railway market and expand its green transportation business abroad as well.

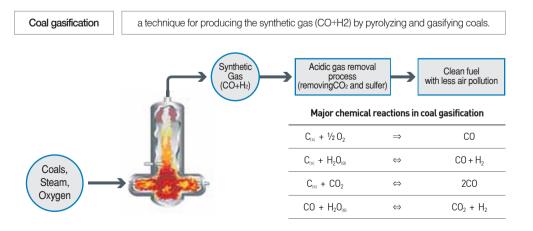


Busan-Gimhae Light Train Railway

## Sources of Energy for Green Cities -**Developing New and** Renewable Energy

Since 2008, POSCO E&C has been performing various projects developing new and renewable sources of energy, including wind power, tidal power, solar energy, small hydro-power, ground heat, fuel cells, and so forth. The company continues to conduct active research on developing eco-friendly sources of energy for the green cities it is developing. At present, the focus is mainly on developing coal-to-liquid (CTL) gas as a major alternative to oil whose price have been soaring since the dawn of the new millennium. The CTL technology involves creating a synthetic gas with minimal greenhouse gas emissions by pyrolyzing and gasifying coals. The synthetic gas is drawing growing attention worldwide as it is a major eco-friendly alternative to crude oil and natural gas, and can also be used for a variety of petrochemical products

POSCO E&C is developing Korea's first and the world's second synthetic natural gas (SNG) plant in Gwangyang, in partnership with POSCO Family, applying to research, commercialization, and administration of the resulting technology. The company plans to build more SNG plants, capable of producing 500,000 tons per year each, in Samcheok and Hadong as well. A combined cycle power plant, using SNG for the first time in Korea to produce 300MW of electricity, will be completed by 2016. POSCO E&C also became the first company in Korea to perform the Ministry of Knowledge Economy's Project for Demonstrating Synthetic Natural Gas. The company is actively applying its own innovative CTL technology to launch the next phase of the energy and petrochemical industry. The company will continue to lead efforts to develop greener sources of energy for green cities both in Korea and abroad.



Case Study

Green space ratio

"We are pioneering a more sustainable world by spearheading the development of green cities."



POSCO E&C is actively participating in the Songdo International Business District Development Project with Gale International, a top-notch real estate development firm based in the United States, with the aim of creating the best business hub and a model for future green city development in Korea and Asia.

As a green city, Songdo International Business District(Songdo IBD) boasts vitalized spaces that are interspersed with the centers of urban activities, providing a vital and nature-friendly environment unique to the area. All key elements of Songdo IBD are strategically placed within walking distance. Bike paths and eco-friendly public transit systems also make it a truly exemplary case of sustainable development.

In addition, the LEED certification criteria of environment-friendly design are applied to most buildings built in the project. The LEED certificate is the most respected international standard of eco-friendly architecture, developed and granted by the U.S. Green Building Council in 1993.

## Leading the Development of Independent Green City Infrastructure

property values of the city.



#### Expanding Eco-Businesses - Developing Low-Carbon Green Cities

Green City Development Project: Songdo International Business District

POSCO E&C is pioneering a new paradigm in the technological aspects of urban development projects. As income levels and the general quality of life continue to increase, and new businesses are born on a daily basis in the IT industry, new needs are arising concerning urban functions and features. The new city demanded today is the "New Smart and Connected City," which accommodates citizens' convenience and business activities with ubiquitous technology and eco-friendly features which add to an improved quality of life.

The New Smart and Connected City is a sustainable city, conscious of the need to preserve the natural environment amid eco-friendly development and providing eco-friendly and sustainable ways for running, managing, and enhancing the

POSCO E&C and POSCO Family have applied the concept of the New Smart and Connected City to their urban development project, creating a green, sustainable, and self-sufficient city complete with its own zero-carbon infrastructure for energy, communications, water works, and so forth that ensures harmony between urban life and nature.



Yearly Development of Songdo International Business District

Support for win-win growth



Accident rate



Average hours of voulunteer work per employee



management and support.

Contribution to Local Community Development POSCO E&C recognizes the importance of the local community for each construction project and makes contributions to its development.

Happy Builders, the organization of university student volunteers, dispatched to India to provide medical care (Nov. 2011)

# SHARING

We create a more sustainable future for everyone by promoting respect for all our employees, actively generating mutual benefits for our customers and business partners, and making contributions to the local community and its development.

FUTURE

POSCO E&C respects all its employees, providing them with opportunities for capability development, improved working conditions, and measures to promote diversity.

## Win-win Growth with Business Partners and Customers

Win-win Growth with Business Partners and Customers POSCO E&C produces win-win results of mutual growth with business partners and customers by providing value-maximizing



# Securing Talented Individuals through the Global HR Management System

Developing a global human resource management system and implementing an anti-discriminatory human resources policy. POSCO E&C is fast becoming a workplace where talented individuals can reach their potential.

## Developing the Global HR System

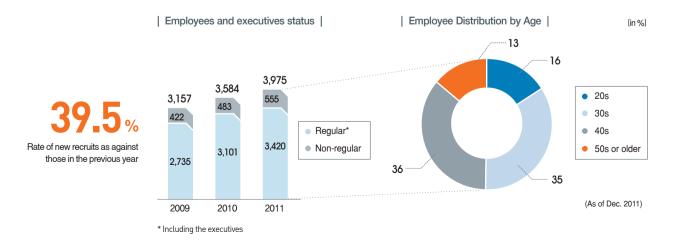
The vision of becoming one of the Global Top 10 companies, as well as increasing revenue overseas, has demanded a transformation of the human resources system. The company thus made a thorough review of its job positions as well as systems for rewards, evaluation, and promotion. Based on the review, the company adopted a new global HR system in April 2012 and is working to ensure its successful establishment and application to company branches abroad.

| Review of Major Changes in the HR System |

Positions	The numerous posts of employees were restructured and integrated into four types: i.e., associates, managers, senior managers, and directors.
Rewards	The criteria for rewarding strong performance have been reformulated, increasing the differences in rewards for individual and group achievements.
Evaluation	The company has adopted an MBO policy to enhance the fairness and reliability of the evaluation process, supporting it with a standard competency model applicable to the entire POSCO family in an effort to strengthen objectivity of the results.
Promotion	Promotion no longer focuses on the changes in title, but rather on the changes in actual roles performed.

## Respect for Diversity and Human Rights

Human Resources Status POSCO E&C is making efforts to secure talented employees as an essential part of its future growth strategy. The company hires new employees on a regular basis, and employed a total of 3,975 employees and executives as of the end of 2011. In recruiting and hiring people, the company strictly forbids discrimination based on sex, age, religion, academic background, and physical disabilities, pursuing instead a diverse workplace. Thanks to the growth of the number of projects the company handles, it hired 598 new people last year, marking a 39.5% increase from the previous year.



#### Performance Evaluation

POSCO E&C conducts fair evaluations based on each individual's skills and performance. The written self-profiling component of the evaluation allows employees to assess themselves before undergoing the next two stages of evaluation (interviews and group discussions) based on their self-assessments. This process enables employees not only to evaluate their past achievements, but also to discuss and articulate how they could improve their work and develop their skills in the future with review and support. The reward system also entails incentives and remunerations to motivate and inspire individuals and groups.

Hiring Talented People from Local Communities In order to secure a pool of talented employees and contribute to local community development it is involved in, POSCO E&C is increasing the number of people it hires in each local community. Of the new employees hired in 2011, those from Incheon represent 10%. The number of employees hired overseas is also increasing rapidly, reaching 1,638 in 2011, a 32.7% rise from the previous year. The company will continue to increase its ties to local communities and form a more diversified human resources system which is necessary for transformation into a global leading company.

#### Promoting Human Rights

violations of human rights.

mistakes.

## Hiring Employees around the World

POSCO E&C began to hire local citizens at abroad activity sites in 2011 in an effort to support its expanding overseas operations. The company will actively reform its systems and culture to promote respect in the increasingly diverse work environment and protect the rights and interests of employees.

"Global Leadership Begins with Respecting the Diversity among Emplovees.

Case

Study



Cultural Barriers "The greatest cultural barrier to me is the pali-pali ("work fast") culture "I'm doing my best to learn the basic culture of the company, such as its lunch hours.' "I'm learning the concepts of the organization and work systems."

POSCO E&C conducts fair evaluations and strictly prohibits discrimination based on sex, age, religion, academic background, or physical disability. In compliance with the basic labor acts both at home and abroad, the company forbids forced and child labor. In June 2012, it joined the UN Global Compact (UNGC), officially articulating it will abide by the organization's ten principles, encompassing human rights, labor, the environment, and corruption prevention. By enforcing the 10 principles of UNGC in all its activity sites, the company will continue to prevent

Responses to Reports of Human Rights Violations There were two employees who were disciplined in 2011 for committing sexual discrimination and verbal abuse, respectively. The Personnel Affairs Committee disciplined them in accordance with the internal regulations, and the entire company was notified of the results to discourage similar future



① Plant Engineering & Construction Division: Kok Khek-Hun, Associate (Malaysia) (2) General Administration Division: He Hua, Associate (China) 3 Global Marketing Division: Kim Olga, Associate (Uzbekistan) Plant Engineering & Construction Division: Nitin Kumar, Associate (India)



"I am grateful for the care shown by coworkers'." "Koreans are very sociable. I do not have much difficulty adapting since I get a lot of help from everyone around me." "I like the strong emphasis on teamwork throughout the company. This atmosphere enables superiors to lead effectively and subordinates to depend on superiors.



# Maintaining the Work-Life Balance Based on Trust and Communication

POSCO E&C seeks to become a firm of endearment by listening and actively reflecting on the opinions of our employees based on the principles of trust and communication, reforming the working environment and welfare benefits, resulting in increased satisfaction.

## Enhancing employee satisfaction through active communication

POSCO E&C takes proactive steps toward preventing employee conflicts, complaints, disputes, and so forth. The company is operating and reinforcing a diversified set of channels of communication to hear employees' opinions from multiple perspectives. It emphasizes effective communication between employees, the management, the company, and the organization in order to enhance mutual trust. POSCO E&C will continue to strengthen the emotional support it provides for employees.

Diversifying Channels of Communication POSCO E&C has multiplied and strengthened the channels of communication with employees in order to facilitate communication in different departments and collect employees'feedback on management and working conditions. As part of the efforts to increase direct contact, the joint committee of labor and management visited different project sites and departments every month to hold meetings with employees. Over the 13 sessions in total, the open discussions with employees allowed the company to describe in detail its policies and systems and hear suggestions for improvement from employees on site. This has helped to promote mutual understanding. The online bulletin board, Moa Plaza, is an additional resource for employees to speak their views without self-censorship. The opinions and suggestions made on the bulletin board are monitored and responded to as soon as possible.

Enhancing Mutual Trust The company is also making a variety of efforts to enhance mutual trust among employees, the management, the company, and the organization. The meetings between the CEO and employees and the regularly published letters from the CEO, help to promote greater understanding of the CEO's management philosophy and employee complaints. These meetings also serve to reinforce mutual trust. The company also broadcasts live management meetings online in order to expand communication with employees. Furthermore, employees and management engage in discussions about common hobbies to understand one another better.

There are other activities intended to reinforce trust between project sites and supporting departments. Recognizing that mutual trust is impossible without mutual understanding first, members of the management and supporting offices were dispatched to project sites to learn from experiences in the field and thereby come to a better understanding of their onsite counterparts.

#### | Major Channels of Communication |

CEO's Letters	Published once a month, outlining major issues facing the management and the CEO's management philosophy.
Reinforced communication with project sites	Meetings between the CEO and site managers; the CFO visits project sites to encourage workers; supports office departments visiting sites.
Active Communication	Online bulletin board (Moa Plaza), Junior Board, employee clubs and associations throughout the company.
Inter-departmental Exchange	Sharing information through meetings among the group leaders of five companies in the E&C sector of POSCO Family on innovative activities.
Revitalizing the Organization	Seeking to create more exciting working conditions.

## Employee Welfare and Improvement in Working Environments

Welfare benefits POSCO E&C provides diverse welfare benefit programs that actually contribute to improving the quality of life for employees concurrently with the company's growth. Not only does it provide the legally required benefits, but it also makes efforts to ensure utmost employee satisfaction. As the demand for welfare and benefits continues to diversify, the company also provides "flexible benefit plans" that allow individual employees to design and customize their own fringe benefit programs. Accordingly, employees now have a wide range of welfare options to choose from, including self-development, increased cultural and recreational activities, and so forth.

Please visit the company's Website for more details, at http://www.poscoenc.com/english/about/benefits.asp

Health Management The company provides quality medical care for its employees, partnering with local hospitals and clinics. In July 2011, the company began inviting medical specialists into the company building every week to conduct detailed consultations on health exam results. The company also invites specialists regularly to offer healthcare classes, enabling employees to better manage their health.



Healthcare Classes

Improving the Working Environment The company has also sought to improve its systems and working conditions to help employees maintain a better work-life balance. The labor-management council actively incorporates the opinions employees raise at various meetings into new policies.

#### | Improving the Working Conditions and Systems |

Item	Pre-reform	After reform
Holidays	Increased need to use the annual leaves more efficiently.	Half-day breaks adopted.
Working hours	Providing active support for employees to maintain a happy work-family balance, meeting their needs for self-development, childrearing, etc.	Dividing the working hours into 5 flexible periods, allowing employees to come to work at any time they want, insofar as they work for 8 hours a day.
Birth gifts	Need to encourage birth among employees by creating a family first workplace.	Providing birth gifts for employees with newly born children (KRW 2M for each third child).



Pension Plan to help

phases of their lives."

"We have adopted a Retirement

employees prepare for happy

and stable post-retirement

## Adopting a Retirement Pension Plan

POSCO E&C adopted a Retirement Pension Plan in 2011 in an effort to ensure stability in pension payments for employees by depositing their pension contributions in an institution outside the company. This plan enables the company to pay retirement pension, enabling employees to design and prepare for their post-retirement lives better. The amount of retirement pension administered (deposited) amounts to KRW 76.5 billion, about 81.63% of the total amount of pension contributions. While the company is currently running a defined benefit retirement pension system, it will switch to a defined contribution system in the future when it is required to ensure stability of the retirement plan. POSCO E&C will continue to assist its employees to remain satisfied with their work by helping them construct stable plans for lives after retirement



Weekly diagnosis and consultation by medical specialists for health management



# Zero Accidents Based on a Thorough Safety Management System

POSCO E&C pursues employee safety as its first and foremost value. By establishing a culture of respect and dignity for human life, the company will achieve a world-class safety management system.

## Commitment to Safety Management

Respect for employees is grounded in respect for human life. POSCO E&C regards safety and health at all its business locations as the first and foremost principles it promotes. The company seeks to prevent all possible types of accidents with effective safety management systems. The company has thus established the goals of safety and health management in an effort to address and improve upon past years' failures, enabling each and every project site to adopt the management system with the help of a detailed safety guideline.

Safety and Health Management System The Safety and Health Management System at POSCO E&C is a world-class system that continuously improves and enhances the safety-related plans, implementations, monitoring, and measures based on the safety principles articulated by the CEO. The system, guided by the slogan that "every accident is preventable" forms the core of the company's efforts to heighten every member's awareness for the need and importance of ensuring safety at work. Each project site operates Industrial Safety and Health Committee, which

establishes and enforces safety plans. Each project site must also host the Safety and Health Council at least once a month, addressing safety issues affecting it and its business partners and bringing all members into closer communication and cooperation on ensuring safety.

Establishing On-site Safety Policy The company also mandates each project site to develop its own safety policy with the company's safety and health guidelines as a target. This policy articulates and embodies the commitment of each project site to fulfilling its goals and targets with active efforts. A safety policy must enable actual safe practices instead of being a mere slogan. This policy allows each project site to identify and overcome core issues in safety management in the way of remaining accident-free. The company stipulates safety goals and targets at each project site office and partner company office in order to enable ubiquitous compliance with safety standards at every site.



Developing a safety policy for each site

Safety and health management goals

Becoming a Global E&C Company Leading a Culture of Safety and Respect for Life

Active participation by site managers and supervisors, safety managers leading by example, increased voluntary compliance from employees

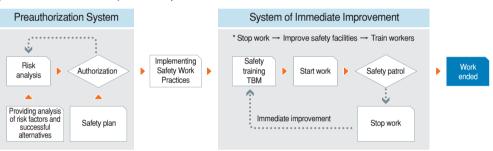
Improving practice - System for immediate improvement		sing the awareness among employees and keeping project sites clean and safe
Main Goals		Main Goals
Immediately eliminating unsafe behaviors and conditions / Extra training in cases of violation (2 hours for one violation, 4 hours for second violation)	Company-wide Safety Goal	Keeping the working environment clean eeping the working environment comfortable Keeping the working environment healthy
Core Management	Zero Accident on Project Sites	Core Management
Banning unauthorized removal of safety equipment Removing equipment unattached with safety devices Thorough review of structures of provisional facilities	Securing Improving employ	access route and improving work processes ree lounge areas, bathrooms, and training centers oviding health services and clean food courts

## System of immediate improvement to prevent all accidents

POSCO E&C is confident that the reason for continued occurrences of accidents, despite the thorough safety management system it provides and implements, can be found in the reluctance to accept the new policy and continued reliance on past customs and informal ways of doing things. Additionally, there has been negligence regarding the need for proper care on the project sites, as well as the inadequacy of on-site employees' will to implement the safety management system with responsibility. In order to make improvements and prevent all possible forms of accidents, the company has established an execution management program.

System of Immediate Improvement POSCO E&C has adopted a system of immediate improvement in an effort to address the lack of specificity and effectiveness in plans for safety management, and urge solutions for chronic risk factors. The system is designed to facilitate the immediate implementation of the plan based on a predefined procedure. Each project site must submit its safety plan and have it approved before commencing work in order to preclude possibilities of tasks taking place without an analysis of risks. Each project site is required to stop its work when its safety plan is not approved or implemented properly, with additional safety training provided in such cases.

## | Process of immediate improvement |



In order to ensure that its system of immediate improvement is applied and implemented properly, POSCO E&C also supports it with an execution management program. The program encourages and spreads safe culture throughout the organization and supply chain by enhancing the executive capacities of subcontractors through specific terms and provisions in contracts, providing continued safety training, operating safety audit teams, providing safety mileage points, and increasing rewards for safety performance, and so forth. Through these diverse measures of the execution management program, the company has sought to establish a safer culture.

#### | Details of the Execution Management Program |

Updating the terms and conditions of contract	Rev
Safety training	Pro safe moi
Constant monitoring	Cor enc Rea Qua
Safety mileage	Pro pro
Rewards for safety performance	Mc sig

vising the contract to stop the subcontractors from working and to require additional safety training if it ils to comply with safety standards.

oviding continued safety training, with the goal of creating and sustaining a shared consensus on fe practices-Quarterly for the site manager and the supervisors/subcontractors' site manager; once a onth for the safety manager; twice a year for the work group leader.

nstant monitoring and inspection by audit teams during the early phase of construction in order to ncourage self-compliance and proper management of on-site safety.

eal-time monitoring of the project site based on daily reports on self-compliance.

uantitative management and analysis of progress in implementing the immediate improvement system.

roviding mileage points to encourage safe practices among individuals and to help keep check of their rogress using a quantitative measure.

lotivating compliance with safety standards and the efficiency of related practices by rewarding gnificant adherence in safety management and efforts to prevent accidents.

**Background** Having succeeded in inducing some positive change in workers' attitudes and behavior by introducing the immediate improvement system, POSCO E&C also came to recognize the need to transform the work atmosphere and attitude in order to prevent accidents and keep project sites safe. The company thus came to start the campaign for Keeping Project Sites Clean, Comfortable, and Healthy in 2012.

**Description** The campaign for Keeping Project Sites Clean, Comfortable, and Healthy primarily aims at changing the behavior and attitudes of workers on each project site to prevent all possible accidents. Each activity of the campaign, implemented alongside the system of immediate improvement, will help to form a safety culture unique to POSCO E&C encompassing systems, environments, and an attitude for safety. To this end, the company has expanded mileage points and benefits as part of the reward system for exemplary project sites and subcontractors, while also providing ongoing monitoring through audit teams.

Clean Project Site	Improving the cleanliness around the entryways to the project site, inducing workers to comply with work procedures and keep their surroundings tidy and organized.
Comfortable Project Site	Keeping the bathrooms clean and lounge areas comfortable and also standardizing the safety promotion materials at safety training room.
Healthy Project Site	Providing health consultation, and keeping food courts clean and safe.

## Accident Rate at POSCO E&C |

Keeping project sites clean and safe

1/6
Accident Rate at
POSCO E&C, Compared
to the Average Accident
Rate Industry-wide

Туре	Linit		Total		
	2009	2009	2010	2011	
Converted accident rate	%	0.08	0.07	0.08	
E&C industry average	%	0.5	0.4	0.5	
PQ ratings (accident rate)	Pts	+1.7	+2	+2	
	Converted accident rate E&C industry average	Converted accident rate     %       E&C industry average     %	Converted accident rate     %     0.08       E&C industry average     %     0.5	Type         Unit         2009         2010           Converted accident rate         %         0.08         0.07           E&C industry average         %         0.5         0.4	

\* Converted accident rate = (no. of accidents converted x 100) / (no. of full-time workers)



# "On-site safety starts with small changes."



"On-site safety starts with the entrance.

POSCO E&C encourages all project sites to keep their entrances clean and safe. The campaign involves installing "the Path of Change" (a special safety corridor) at the entrance of each project site, requiring workers to move along the corridor while holding onto the handrail on either side. This is one of the programs intended to embody POSCO E&C's commitment to safety. "We provide comfortable lounging and resting places to foster emotional peace and physical relaxation for workers."



POSCO E&C is transforming the food courts on all its project sites into hygienic, clean, safe places to eat and rest. The company regularly inspects the status of sanitation, employee friendliness, and cleanliness at the food courts and reports the results to related departments to ensure continuous monitoring and improvement.



# Sustainable Win-win Growth with Business Partners

Sustainable win-win growth envisioned by POSCO E&C involves fair and transparent transactions, long-term partnerships for enhancing competitiveness as opposed to a short-term alliance for profits, systems enabling winwin cooperation, and measures supporting sustained efforts and practices.

## Philosophy of Win-win Growth

Win-win growth with business partners is one of the core values of POSCO E&C and embodies the company's acknowledgment of the important social responsibilities it must fulfill. The company intends to elaborate upon its system and practices of Win-win growth to achieve sustainable, better partnerships for the future. Accordingly, in 2011, the company promoted the Mutual Cooperation Team to the Win-win Growth Group. The company also adopted the Four Principles of Fair Trade, recommended by the Fair Trade Commission to reinforce diverse benefits and programs for its business partners. POSCO E&C recognizes that Win-win growth with business partners is key to ensuring sustainable growth over the long run.

## Active Support for Win-win Growth

POSCO E&C provides a wide range of supporting programs and benefits for its business partners, including financial assistance, technical assistance and protection, training, and human resources support.

#### | Main contents of support to partners |

	In addition to paying business p
Win-win Growth Fund	POSCO E&C has also formed a (1 to 3% lesser than the interest
Special Mutual Cooperation Fund	Providing loans from a special f commercial loans. The fund cor amount of money contributed b
Network Loans	Business Partners can use the
Providing Financial Assistance for Technological Development	Helping small companies devel

#### Technical Assistance and Protection (36 cases of assistance provided for 47 business partners so far)

POSCO E&C transfers its paten
POSCO E&C co-organizes R&E they would not otherwise be ab
POSCO E&C develops new tech and applies for patents with the

#### Training and Human Resources Support (training 2,843 employees of 91 business partners; 2,373 dispatched in support so far)

Training Consultation for Small and Medium Businesses	Providing customized training su competitiveness and achieve mu
Technical Consulting	Researchers from the Institute o assistance for small businesses.
	Each of executives and employe They help by visiting the business

#### al)

partners cash advancements (as of October 1, 2010)

- a fund of KRW 45 billion with Woori Bank, in order to provide low-interest loans for business partners trate for commercial loans on average).
- fund, for businesses partners with an interest rate at least 1.5% lower than that of other onsists of the savings deposit POSCO has made at a low interest rate, matched by an equal by the financial institution.
- contracts they have with POSCO E&C to obtain loans from financial institutions.
- elop original technologies by providing them with the necessary financial resources.

nted technologies to business partners and provides them with required assistance.

- D with small businesses to help them develop new technologies ble to develop on their own.
- chnologies together with small businesses, ese small businesses.
- support on technology, IT, and management affairs in order to enhance business partners nutual growth.
- of Industrial Science and Technology Institute provide technical consulting and as.
- rees of POSCO E&C have a small business he or she supports. Is to listen to complaints and questions and provide them with customized solutions and consultations.





Ensuring Fairness and Transparency of Financial Transactions

Contract Guideline In signing contracts with business partners, POSCO E&C ensures that those contracts reflect the company's goal of win-win growth. The company's guideline on contracts, including the standard for re-negotiating the prices of goods and services supplied, is actively incorporated into contracts. For example, the guideline allows POSCO E&C and its subcontractor to re-negotiate payment to be made to the latter when there are important changes in the prices of raw materials. It also forbids POSCO E&C from seeking unfair discounts on the subcontractor's service price below the minimum bidding level.

Guideline for Selecting and Managing Business Partners POSCO E&C has also established a guideline to ensure transparency and fairness in selecting and managing business partners. The guideline specifies the terms and conditions for registering new business partners and canceling relations with existing business partners. It also stipulates that fair opportunities are provided for business partners. The company ensures transparency in registering or canceling relations with business partners by sending them written notice beforehand. The company also provides opportunities for fairly initiating transactions.

Guideline for the Internal Review Committee POSCO E&C has also organized an internal review committee to discuss important matters relating to its business partners. The committee met nine times in 2011 to review the fairness of contracts and conduct price negotiations with subcontractors, each of which represents 1% or more of the total volume of subcontract transactions conducted in the previous year. The committee also reviewed the appropriateness of the processes for registering and terminating relations with business partners. In addition, the committee has also deliberated upon objections raised against the committee's decisions regarding rewarding of exemplary businesses, disqualifying and cancelling the registrations of certain businesses, and so forth.

Guideline for the Publication and Storage of Written Documents In an attempt to abolish the custom of oral contracts or subcontracts in dealing with business partners, POSCO E&C has adopted a Guideline for the Publication and Storage of Written Documents, detailing the types of documents that must be issued and kept in dealings with subcontractors. Through these and other measures POSCO E&C continues to ensure transparency and fairness in its relations with business partners.

Introducing and Operating the Four Guidelines

Contract Guideline: provides important criteria for signing contracts, including those to guide the process of negotiating supplying prices.

Guideline for Selecting and Managing Business Partners: ensures fair opportunities and transactions in selecting. registering, and cancelling business partners.

Guideline for the Internal Review Committee: makes terms and conditions for the organization and operation of the internal review committee which reviews the fairness of contracts and pricing.

Guideline for the Publication and Storage of Written Documents: provides rules on publishing and storing written documents to ensure the fairness of contracts and replace the improper custom of oral contracts.



provide.

"We hear the opinions and

partners through multiple

feedback from our business

channels of communication

on the support programs we

#### Actively Listening to Business Partners

POSCO E&C has conducted a satisfaction survey among, and a meeting with, its 300 business partners to gauge how satisfied they are with the support programs we provide, and how we could improve. These efforts allowed the company to listen to suggestions for the future direction of our win-win growth activities. The company will continue these and other efforts for sustained win-win growth.



Meetings with selected business partners



A technology transfer ceremony Meetings with selected business partners for win-win growth

Compliance with Rules of fair trade Business Ethics Group for fair trade In an effort to oversee and coordinate affairs relating to fair trade, the Office of the Standing Auditor operates the Business Ethics Group (BEG). The BEG introduces and implements company-wide policies and systems for fair trade, including the Compliance Program and other supportive measures for the Internal Transaction Committee.

Effective Operation of the Compliance Program POSCO E&C developed and adopted its own Compliance Program (CP) for fair trade in July 2003, which it continues to follow to this day. The auditor appointed as CP Officer by the Board meeting in March 2012 oversees the implementation of the CP, advising the company on the related policies and systems with the Compliance Council which is composed of the ten leaders of the majorly affected departments (as of

April 2012).

Training Leaders of fair trade POSCO E&C has also appointed 196 "Leaders of fair trade" (as of April 2012) to provide practical assistance for the members of the Compliance Council. In addition, the company also provides online training courses and special guest lectures for all employees in order to build and sustain a wide-reaching consensus on the need to comply with the rules of fair trade. Training for fair trade is directly incorporated as part of the personnel evaluation system, which each employee must fulfill in order to secure opportunities for promotion and other rewards. Employees in high-risk departments are given detailed training. Thanks to these and other efforts, the company earned an AA grade in the CP Evaluation conducted by the Fair Trade Commission of Korea in 2010, becoming the highestscoring company in the country.

#### Reporting Unfairness

actual violations occurred.

## Win-win Growth Supporters (WwGS)

The Win-win Growth Supporters at POSCO E&C, in which all the executives participate, operates 31 sub-units across the company. Since November 2010, these sub-units have been visiting business partners every month to listen to their complaints, identify problems, and suggest solutions. These activities reflect the company's belief that no win-win growth and benefits are possible without genuine dialogues and mutual sacrifice.

< Examples of WwGS's Activities >

Song Jin-Ho, CEO, Greenpla



WwGS Subunit at the R&D Center

# Study

really need.'

CP Evaluation, 2010

"In order to achieve Win-win Growtharowth with business partners, POSCO E&C needs first and foremost to understand what its business partners

POSCO E&C supports diverse activities that enhance compliance with fair trade. In particular, the company implements a system of strict fact-checking and accuracy in investigating the reported incidents of violations of the rules of fair trade. There were 17 such allegations reported in 2011, but investigation revealed that no

The WwGS Sub-unit at the R&D Center decided to work with Greenpla, a business partner specializing in water treatment. Greenpla at the time was anticipating signing a memorandum of understanding with a company in China, and had asked the WwGS to make an analysis of the legal risks that might be present in the draft memorandum. The WwGS reviewed possible risks along with POSCO E&C's legal affairs group and provided alternatives. Based on suggestions provided, Greenpla redrafted and signed the MOU with its Chinese partner. Moreover, the WwGS is reviewing the proposal for sharing with Greenpla POSCO E&C's technique for treating solidified organic sludge, which Greenpla can use to create a new technology and find new markets abroad, while also benefitting POSCO E&C financially.

"We were like a frog trapped in a deep well, seeing only a small part of the world with our limited knowledge and experience. POSCO F&C opened up a whole new wide world for us. We would like to continue to work with the company in a variety of ways, including participation in the project of developing new products on the condition that they be purchased by POSCO E&C."





# Caring for Customers and Promoting Customer Value

POSCO E&C recognizes customer care and support as the ultimate raison d'être of the entire company and its projects. We are constantly striving to become a better and more trusted partner for all our customers by accepting their criticisms humbly and solving problems with utmost efficiency.

#### Caring for Customers

"Customer Centered," one of the core values of POSCO E&C," and "Customers Inside," the core value of the company's QA Declaration, continues to shape and guide the company's activities to earn greater trust from all its customers. The process of ensuring customer satisfaction at POSCO E&C begins with our active efforts to care for our customers and keep our promise to them. Our proactive customer support programs and activities continue to place customer care at the center of our entire culture, letting us actively incorporate suggestions and opinions of customers.



The brand identity of POSCO E&C's housing products, for which the company is well known, is centered on the concept of "understanding." "The Sharp" represents the company's dedication to providing a genuine surplus for their customers lives by understanding their needs and wants proactively.

Consumer-Centered Management (CCM) Failure to respond properly to customer complaints can lead to unnecessary spending as well as immeasurable losses in customers' trust of the company and a decline in brand equity. POSCO E&C therefore strives to minimize complaints by ensuring rigorous quality assurance beforehand in each and every step of construction. The company also provides a systematic and effective customer support system to solve problems immediately and ensure continuing trust with customers when complaints and inconveniences inevitably arise. The company has a thoroughgoing internal guideline for designing, operating, and managing customer relations that is intended to prevent dissatisfaction and to provide immediate solutions to actual problems. Thanks to the diverse efforts. POSCO E&C has acquired the Consumer-Centered Management(CCM) Certificate from the Fair Trade Commission.



The CCM Guideline for The Sharp embodies the company's commitment to solving problems and customer complaints actively from the customer's perspective. All the departments handling customer relations (proactively preventing inconveniences and providing solutions where needed) regarding the company's housing products and services (i.e., Sales, Marketing, Design and Engineering, Technology, Construction, and Customer Support) apply the guideline to managing issues raised by customers. The CCM certification provides clear procedure and standards for proper customer support and encourages an organizational culture that proactively and efficiently handles customer complaints.

#### Preventive Customer Support Process

Receiving orders and acquiring licenses / permits	Distribution of lots and preparing for construction		
Providing accurate information for customers and preventing exaggerated advertising.	Ensuring designs that properly reflect customers' needs in order to prevent customer complaints and disputes in the future.		
Construction	Completion of construction and maintenance after tenants move in		
Providing the best quality by enforcing rigorous quality assurance and compliance with all the applicable rules during construction.	Minimizing the disparity between customers' expectations and the actual product and preventing customer complaints by providing topnotch management services.		
Feedback Meetings			
VoC Feedback Meetings (held monthly) / CCM Voluntary Management Meetings (per quarter).			

#### Eight Steps of Quality Monitoring



Actively Incorporating Customers' Feedback POSCO E&C actively listens to and incorporates the opinions of our customers in an effort to understand and satisfy their needs. To this end, the company operates the external VoCs(erroneous construction/services/other compalints/suggestions) and internal customers' opinions(business partners/service agents/others who are in contact with customers) to hear and filter customers' suggestions and comments. These are relayed to the relevant departments (e.g., Design and Engineering, Technology, CS, etc.) as resources for encouraging inter-departmental communication, improvement of product and service quality, and the innovation of new products and services. In accordance with all these, the company has assembled a special taskforce to handle these matters, improving the feedback collection system, and expanding the channels of communication and contact with customers. These changes helped the company to overcome the past core issues, the lack of channels through which suggestions from people other than existing customers can be raised.

POSCO E&C strives to generate new values by maximizing Maximizing Convenience for Customers convenience for customers. For example, 'The Sharpist,' the board of housewives, advises the company on The Sharp Apartments, in order to collect their suggestions and opinions as much as possible. The Sharpist, comprised of nine housewives aged between 30 and 60, was first launched in 2008 and has been meeting twice a month to conduct diverse activities, including reviewing and commenting on sample houses, comparing and contrasting The Sharp to other apartments, and making suggestions for improving the existing housing trend. The Sharpist suggestions were eagerly accepted and resulted in the addition of the EPS storage system which is unique to the new The Sharp households designed in 2011, meeting the needs for more economic, appropriate, and better storage. Of the EPS storage units, the walk-in closet in the kids' bedrooms found in The Sharp Apartments at Yongin were highly recognized, receiving the 2010 Good Design Award as well.

Customers' opinions are incorporated into the actual apartment designs and engineering. Examples include the results of the customer satisfaction surveys reflected in newly designed dress rooms, multipurpose rooms adjacent to kitchens, and more spacious bathrooms. The designers and architects at POSCO E&C also try their best to meet customers' preferences for household sizes, floor plans sensitive to the orientation, and variable floor plans that customers can further adjust. Applying the latest information technology and smart home systems, POSCO E&C continues to revolutionize housing to enhance customers' convenience.

These efforts are evident in all parts of the housing, not only in the living spaces but also in other elements found within the apartment complex. POSCO E&C especially tries hard to bring nature near to its customers, installing ponds, allwooden playgrounds, Sky Lounges and other eco-friendly features and facilities around apartments.

Protecting Customers' Safety Customer safety is the prime value of POSCO E&C's housing activities. The company strives to provide the safest living environment for its customers, equipped with various new facilities and devices, such as the home network, additional safety facilities, the parking monitoring system, the U-healthcare system, and so forth, in an effort to remain true to its own principles focused on customer and people.

## | Maximizing Values for Customers |

Generating Values for

Customers

GOOD DESIGN

(Storage Closet in

the Kids' Bedroom)

### Self-Organizing Closet for Kids "Designed with special care and affection for all children living in The sharp Apartments.







# Community Engagement through Social Contribution

The social purpose of POSCO E&C is to create a happier world for everyone by practicing the company's principles and sharing what it has. By sharing and maintaining rapport with various groups of stakeholders. POSCO E&C continues to serve as an active corporate citizen of local communities.

### Philosophy of Sharing

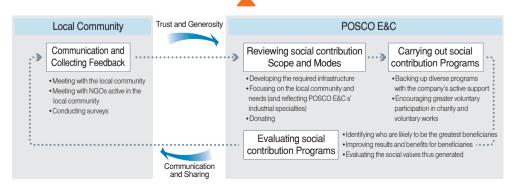
The respect for human life and dignity is at the core of POSCO E&C's activities and extends not only to the development of key infrastructure and industrial bases for the national economy, but also to the projects which are more local and caring in scope. The social contribution programs of POSCO E&C involve building communities and caring for the excluded and the underprivileged by providing not only financial and material assistance, but also genuine care and concern. The eagerness of our employees to help the needy and the suffering is channeled and organized by our social contribution coordinators and reward systems for active contribution. POSCO E&C seeks to become a firm of endearment by sharing genuine concern and respect for local citizens.



Encouraging Community Engagement throughout the Company POSCO E&C launched its Volunteer Corps in December 2004 in order to engage in various community-oriented programs and activities in a systematic manner. Consisting currently of 230 teams in total, the Volunteer Corps alleviates the suffering of the needy and the excluded and promotes the growth of local communities to help solve their problems. The company also declared its Social Contribution Vision in February 2009, and organized the CSR Team in 2010 (changed to the CSR Group in 2012) to plan and systematically organize the company's contributions to society. In seeking to rise to the position of international leadership, POSCO E&C has also concurrently increased its attention and contribution to various social issues.

#### | Social Contribution System |

Happy Builders Creating a Happier World			
Sharing with Local	Community-based social contribution programs, including support for local childeren of low- income households ("One & One" Mentoring Activities).		
Communities	Needs-based CSR programs; with each project site supporting one social welfare facility.		
Industry-Specific Programs	Providing an architecture camp ("Infinite Architecture Challenge Camp") for youth and providing free housing repair ("The Sharp Happy House Project").		
Global Social Contribution Programs	Supporting children, youth, and their education in various countries through building kindergartens, etc., as well as medical volunteer work and donation.		
Voluntary Donations	Supporting transparent, voluntary contributions from employees in partnerships with major Web portals.		



# Interview



"The publication of the 2011 Sustainability Report by POSCO E&C demonstrates the company's confidence in sustainable management and achievements it has provided so far for the citizens of Incheon and the worldwide society. The fundamental stepping stone with which a company can rise to the position of international leadership in today's fiercely competitive business environments is the unconditional support it enjoys from the local community in which it is located. Through volunteer activities and other diverse CSR programs, POSCO E&C has always assisted the citizens of Incheon I hope the company would continue to remain true to its principles and philosophy embodied by its sustainability report, and also to grow into a global leader by promoting local development."

## Sharing Based on Communication

One & One The members of the fifty departments at the Songdo office of POSCO E&C have formed one-on-one mentoring relations with 1,500 or so children of the 50 local children's centers across the 9 districts of Incheon in order to provide continuous and systematic support for children and teenagers of low-income households. Since signing the One & One Support Agreement with the Incheon Regional Headquarters of Childfund in 2010, the Board members and employees of the company have been visiting the affiliated children's centers at least once a month, participating with children in various learning, cultural, and recreational activities and providing other tangible forms of support such as the repair and construction of learning facilities. The One & One mentoring activities not only conform to the policy goal of Incheon to support and protect children of vulnerable families, but also enable members of the company to engage and communicate with the local community better.

Saturdavs of Sharing The third Saturday of each month is a day of sharing for members of POSCO E&C, on which they engage in various charity and volunteer activities. These activities include, forming flower beds in Songdo International City, and other such activities in which employees participate actively to help solve local issues.

Prime Minister's Award for the Most Excellent Volunteers' Group at the 2011 Korea Grand Prize fo

# Volunteer Activities

One & One Activities

Special contribution Programs Incorporating Elements of E&C

Housing Improvement for the Needy Executives and employees of POSCO E&C have been providing free services for improving the housing conditions of the needy and the disabled across Korea since 2009, replacing the floors and other outworn facilities of their homes. Provided for 50 families in 2009, 65 families in 2010, and 74 families in 2011, this project, The Sharp Happy House, is increasing in significance as an embodiment of POSCO E&C's commitment to improving housing environments for all in Korea.

# Kim Song-Won Director, Incheon Citizens' Coalition for Economic Justice



Saturdays of Sharing - Sharing Chicken Soup with the Needy

Infinite Architecture Challenge Camp Organized to provide access for teens to the spatial, artistic, and social implications of construction, the Infinite Architecture Challenge Camp invites local teens to imagine the houses and society they would like to see in the future. The IACC is a leading social contribution program of POSCO E&C that stimulates creativity and imagination of youth.

Happy Builders: POSCO E&C's Global University Student Volunteers POSCO E&C became the first E&C company in Korea to launch a global volunteer corps composed of university students. Inaugurated in 2011 for the purpose of encouraging warm-hearted leadership, the Happy Builders: Global University Volunteers continues to provide volunteer services both at home and abroad. The first round, consisting of 45 university students, took part in the Universal Design Housing Improvement activities to help repair and improve housing conditions for multicultural and poor families, as well as in the Infinite Architecture Challenge Camp to provide mentoring for the participating teens from low-income households in Korea. Abroad, these volunteers also participated in building kindergartens in Vietnam, medical care in India, and other various events for cultural exchange with local citizens. In April 2012, the company chose a second round of Happy Builders. These students will go on to participate in POSCO E&C's volunteer activities around the world, sharing genuine concern and care with various local communities.



In Korea (Infinite Architecture Challenge Camp)



Abroad (Cultural Exchange in Vietnam)

## Educational, Cultural, and Athletic Support for Local and Social Development

In an effort to create a happier world for everyone, POSCO E&C seeks to return the benefits it has received to various sectors and spheres of society, including education, culture, and athleticism. Through donations to POSCO TJ Park Foundation, POSCO Educational Foundation, and POSTECH, POSCO E&C contributes to nurture the young potential talented. The diverse artistic and cultural events POSCO E&C supports, including concerts and exhibitions open to the public, help to enrich the society at large. The gymnastics team and the rugby club at POSCO E&C continue to advance a healthy athletic culture in Korea.



Gymnastics Team



Rugby Club: Helping Kids to Learn and Experience Rugby

# **Global Social Contribution Programs**

By engaging in continuous social contribution programs overseas, POSCO E&C continues to earn trust and support from local communities.





with local communities around the world and contribute to their development.

Medical Service and Healthcare POSCO E&C provided mobile clinics for the Democratic Republic of Congo in 2010 to assist in providing medical care in the country with a lacking suitable medical infrastructure. In addition, the company also provided emergency relief aid for earthquakestruck Chile. In 2011, in partnership with the Inha University Hospital, the company provided free medical care for over a thousand locals in Mangaon, India.

Having earned trust and support as a successful E&C company in Latin America and Southeast Asia, POSCO E&C is now hard at work reinforcing multiple channels of communication with local communities in those regions. The company also plans to engage in an even wider range of social contribution activities in various countries whose markets it enters.

Supporting Children's and Teen's Education In an attempt to improve the learning environments for children in countries lacking proper educational infrastructure, POSCO E&C built kindergartens in Vietnam and Cambodia in 2010, as well as in Peru and Vietnam again in 2011. The company also translated over 7,500 volumes of biographies of admirable historical figures into Cambodian for Cambodian children, donating them to 22 high schools in the country and hosting a book review contest. Through diverse global social contribution programs, POSCO E&C will continue to share

# **APPENDIX**

With anticipation and excitement for a better and brighter future for all our customers and employees, POSCO E&C has compiled and published this Sustainability Report.

Major Data of Sustainability Management Awards and membership within Outside Organizations Statement of Third-Party Assurance INDEX (GRI G3.1, ISO26000) UN Global Compact Glossary

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# Major Data of Sustainability Management

## Financial Data

Abridged Financial Statement (ir			(in KRW 1M)
Item	2009	2010	2011
Current assets	3,148,881	4,436,949	6,429,319
Non-current assets	1,282,337	1,481,254	1,404,538
Total assets	4,431,218	5,918,203	7,833,857
Current liabilities	1,878,048	2,953,517	4,058,850
Non-current liabilities	681,482	481,783	1,189,974
Total liabilities	2,559,531	3,435,300	5,248,824
Capital	152,365	183,615	183,615
Capital surplus	294,767	754,270	754,755
Reserves*	-	5,843	-19,344
Earned surplus	1,381,001	1,513,186	1,617,224
Total capital	1,871,688	2,482,903	2,585,033

Abridged Inclusive Income and Loss Statement lir			(in KRW 1M)
Item	2009	2010	2011
Sales	6,675,711	7,194,441	7,507,594
Sales cost	-6,168,669	-6,496,148	-6,779,828
Total sales revenue	507,041	698,293	727,766
Operating income	290,736	302,480	303,804
Net income before income tax	387,824	269,716	140,202
Income tax cost	82,916	-74,267	-12,015
Net term income	304,908	195,449	128,187

\* The sales in 2009 was calculated to the K-GAAP standard, and from 2010 through 2011 to the K-IFRS standard.

## Environmental Data

Energy Efficiency & Greenhouse Gas Reduction			
Item	2009	2010	2011
Total amount of energy consumed (TJ)	141	286	674
- Diesel	13	27	41
- Gasoline	10	34	37
- Kerosene	7	15	38
- LNG	8	11	13
- Electricity	103	199	545
Total amount of greenhouse gases emitted (tCO2-a)	7,270	15,470	35,178
- Directly generated	2,252	5,609	8,421
- Indirectly generated	5,018	9,861	26,757

gas inventory and incorporating a third-party verification.

\*The greenhouse gas data which is stated here, has been collected from the 120 project sites and plants throughout the company and were calculated using the company's internal standards. They may therefore not accurately reflect the actual amounts of greenhouse gases generated. POSCO E&C will ensure a greater accuracy in these results going forward, by developing a greenhouse

# Awards and Membershiphip within Outside Organizations

## Awards for Achievements in Sustainability Management

Date	Award Title/Description	Awarded by
Mar. 2011	First Place in Power Plant Development, 2011 Overseas Construction Grand Prize	Money Today
N40011	2011 Apartment Brand Grand Prize	Asia Economic Daily
May 2011	11th fm Housing and Construction Power Brand Grand Prize	Financial News
Jul. 2011	Landscaping Grand Prize, 2011 Environment and Housing Culture Grand Prize	Korea Economic Daily
0 0011	First Place in Urban-Apt. Complex Design (The # at Chuncheon), 2011 National Urban Design Grand Prize	Financial News
Sep. 2011	First Place in Service (Apts.), Korea Use Quality Index (3 years in a row)	Korea Standards Assoc.
	Social Contribution Grand Prize, 2011 Forbes Korea Global Contribution Awards	Forbes Korea, KCC
Oct. 2011	CSR Award for Companies Investing in Vietnam	MKE, Vietnamese Min. of Investment Planning
	New and Renewable Energy Award, 2011 Korea Eco-friendly Awards (5 years in a row in the Hall of Fame)	KEFA Committee
Nov. 2011	Housing Grand Prize, 2011 Eco-friendly Construction Grand Prize (The # Green Square)	Joong-Ang Ilbo
	2011 Prime Minister's Award for Group Volunteer Service	Min. of Admin.
	Best Management Grand Prize, 2011 Environment & Housing Culture Grand Prize	Korea Economic Daily
Dec. 2011	4th Green Housing Awards – Green View Grand Prize (The \$ Green Square)	Hankook Ilbo
	2011 Business Herald Green Living Culture Grand Prize – Overseas construction (Angamos)	Business Herald
	2nd Korea Green Construction Awards - Grand Prize in Construction (The # Central Park II)	Seoul Shinmun

## Membership in Major Organizations for Sustainability Management

Stake at concern	Organization	Reason for joining
	Korea Construction Quality Research Center	To exchange information with fellow E&C companies.
Customer	Korea Construction Quality Association	To promote improvement in quality and competitiveness of the Korean construction industry.
	Korea Standards Association	To obtain information on standards applicable to the construction industry (standardization and quality assurance).
Labor relations	Pohang-East Gyeongbuk Executives Association	To exchange information on labor unions and relations in the construction industry.
	Construction Safety Managers Association	To promote exchange among safety managers at the 100 largest construction companies.
O data and basely	Construction Safety Management Council	To promote exchange among the heads of safety departments at the 100 largest construction companies.
Safety and health	KOSHA 18001 Council	To promote exchange of information among the KOSHA18001-certified construction companies.
	Construction Safety Executives Council	To promote exchange of information and policy suggestions among large construction companies regarding safety issues.
Ethics	Institute of Internal Auditors	To understand trends in internal auditing and promote networking among auditors.
management Fair Competition Federation		To exchange information on fair trade policies and related laws.
	Gwangyang Police Administration Advancement Committee	To obtain information on local society and maintain cooperation with the police stations within the jurisdiction.
Local community	Gwangyang Self-Administration Forum	To contribute to local development and promote mutual understanding.
Local community	Saeul Foundation of Culture	To maintain relations with opinion leaders of Incheon.
	Pohang Local Development Council	To maintain relations and information infrastructure with leaders of Pohang.
	Construction & Environment Association	To exchange information on environmental technologies and regulations.
	Maekyung Safety & Environment Institute (SEL Club)	To exchange information on safety and environmental policies.
En incoment	Korea Society of Water Environment	To exchange information on water quality control, waterworks, sewage, etc.
Environment	Korea Society of Waste Management	To seek consultation on how to reduce or recycle waste material from thermal-decomposition incinerators.
	Korea Society of Environmental Engineers	To exchange information on the latest environmental engineering technology and environmental preservation measures.
	Korea New & Renewable Energy Association	To exchange information and relations on new and renewable energy projects.

Water				
Item	2009	2010	2011	
Total amount of water used (t)	-	-	1,042,226	
- Waterworks	-	-	725,943	
- Groundwater	-	-	299,161	
- Recycled water	-	-	17,122	
Total amount of water discharged (t)	-	-	365,854	

\*Amounts of water consumed and wastewater generated in 2009 and 2010 have not been identified yet.

laterial			
Item	2009	2010	2011
Steel reinforcement (t)	171,090	234,116	163,091
Cement (t)	2,071,286	1,791,570	170,051
Ascon (t)	93,194	111,477	100,832
Remicon ( )	48,749	306,869	1,581,160
Sand ( )	29,415,438	22,294,708	2,189,467
Gravel ( )	179,450	533,945	6,574,584
Total amount of waste material discharged (t)	1,043,851	897,010	946,035
Recycle rate (%)	·	-	53

## Social Data

Labor			
Item	2009	2010	2011
Total no. of employees and executives	3,157	3,584	3,975
- Full-time	2,689	3,052	3,360
- Contract	422	483	555
- Turnover rate (%)	0.5	0.7	1.0
No. of employees subject to collective bargaining	3,111	3,535	3,802
No. of employees subject to career evaluation and review	2,575	2,742	3,438
Maternity leave rate* (%)	73	75	90
Rate of return to work (%)	100	100	100
Accident rate (%)	0.08	0.07	0.08
Labor-mgmt. committee representation rate (%)	88.3	85.1	83.5

\*Maternity leave: the period/duration of leave taken by an employee in addition to the legally mandatory 90-day post-partum leave for reasons of raising his/her child.

Human Rights				
ltem 2009 2010 2011				
Human rights monitoring (department*)	144	166	168	
No. of complaints/reports received	635	698	711	

\*including project sites.

Society			
Item	2009	2010	2011
Anti-corruption training rate (%)	100	100	100
No. of corruption reported	9	32	38
Legal actions taken against unfair (monopolistic) actions	0	0	0

## Statement of Third-Party Assurance

INTRODUCTION

Det Norske Veritas Certification Ltd. (hereinafter referred to as 'DNV') has been commissioned to carry out assurance engagement on POSCO Engineering & Construction Co., Ltd. (hereinafter referred to as 'POSCO E&C') 2011 Sustainability Report (hereinafter referred to as 'the Report'). This engagement focused on the information provided in the Report and the underlying management and reporting processes.

This Assurance Statement is intended for the readers of the POSCO E&C's Sustainability Report. POSCO E&C is responsible for the collection, analysis, aggregation and presentation of all information within the Report. DNV's responsibility regarding this Assurance engagement is to the management of POSCO E&C only, in accordance with terms of reference and scope of work agreed. DNV disclaims any liability or responsibility to a third-party for any decisions, whether investment or otherwise, based upon this Assurance Statement.

This Assurance Engagement covered data from calendar year 2011. The scope of DNV's Assurance Engagement, as agreed with POSCO SCOPE OF E&C included the verification of: ASSURANCE

- Sustainability policy, goals, initiatives, practices and performance for calendar year 2011, as described in the Report. These were verified at company leve
- · Health & Safety, Social and Environmental data management systems, and associated processes and tools for collecting, analysing, aggregating and reporting quantitative and qualitative information provided in the Report.
- Processes for defining the boundaries, focus and content of the Report, (Limited to Head office and project sites)
- Review of the extent to which the principles and requirements of the Global Reporting Initiative (GRI) Guidelines for Sustainability Reporting (GRI G3.1) is reflected in the Report.
- The extent to which the principles of Materiality, Inclusivity and Responsiveness are adopted, in line with the requirements of the AccountAbility 1000 Assurance Standard (2008) (AA1000 AS (2008) for a Type 1, Moderate level of assurance engagement. The reliability of the information within the Report for calendar year 2011 was verified to a moderate level assurance.

POSCO E&C's reporting boundaries include all operations over which POSCO E&C's management exercises significant control.

The engagement excluded the sustainability management, performance and reporting practices of POSCO E&C' suppliers, contractors and LIMITATIONS any third-parties mentioned in the Report. DNV did not interview external stakeholders as part of this Assurance Engagement. Economic performances including financial data were cross-checked at head-office with internal documents and the financial statements audited by another 3rd party. The assurance statement on the financial statements issued by another 3rd Party is also provided in the Report. Overseas activities are not included in this Assurance Engagement.

DNV provides sustainability risk management services through specialists worldwide. This engagement was undertaken by a multi-disciplinary STATEMENT OF team of suitably qualified and experienced sustainability professionals. DNV was not involved in the preparation of any information presented COMPETENCE AND in the Report. DNV did not provide any services to POSCO E&C in 2011 and 2012 that could compromise the independence or impartiality of INDEPENDENCE our work

VERIFICATION This Assurance Engagement was carried out from April till May 2012, and in accordance with the DNV Protocol for Verification of Sustainability Reporting and AA1000 AS (2008). METHODOLOGY

In reaching our conclusion, we have undertaken the following work:

- Interviewed POSCO E&C's executives and management representatives from different divisions and functions;
- · Visited POSCO E&C's Head office in Incheon and 3 project sites in Republic of Korea;
- Examined relevant documents, data and other information requested by DNV and made available by POSCO E&C;

· Reviewed the mechanisms implemented by POSCO E&C to promote and oversee its sustainability-related policies as described in the Report;

· Reviewed a selection of internal communication and external media reports relating to POSCO E&C' sustainability management approach, performance and adherence to its policies:

 Analysed sustainability data management systems, assessing specific data and information reported in accordance with the requirements of AA1000 AS (2008). The assessment of reliability of data and information was based on explicit assertions regarding sustainability performance on material issues and included a review of their completeness and accuracy. It included a review of the methods, practices and tools used in the collection, aggregation, analysis, internal quality control and reporting of the data and information. DNV's assessment also included; high-level trend analysis; the identification and significant changes in performance from the previous reporting; a review of data traceability; and record checks at different stages in the data flows.

## CONCLUSIONS

In DNV's opinion, and based on the scope of this Assurance Engagement, the Report provides a reliable and fair representation of POSCO E&C' sustainability strategy, policy, practices and performance in 2011.

Based on the work undertaken as part of this Assurance Engagement, DNV believes that the Report generally meets the principles, content and quality requirements of GRI G3.1 and AA1000 AS (2008) for a Type 1 Moderate level of assurance. Further conclusions and observations on the adoption of reporting principles and specific performance information are made below;

Regarding the level of adherence to reporting principles, we conclude the following:

#### <AA1000 Principles>

Inclusivity and Responsiveness : POSCO E&C has engaged with a wide range of stakeholders regarding sustainability issues via survey. 6 main stakeholder groups (society, partners, investors, customers, employees and environment) are identified with the reason of being selected and the communication processes for respective groups in the Report. Stakeholders' views, interests and expectations sought from the survey are considered in the preparation of the Report and in the formulation of POSCO E&C' sustainability management approach. The Report provides insight into the organization's relationships with its key stakeholders and how and to what extent the organization understands, takes into account and responds to their needs.

Materiality: The Report generally provides an account of performance on the issues that are most significant to POSCO E&C's activities and which are most relevant to its stakeholders. The material issues were identified and prioritised based upon the stakeholders' opinion sought by survey. However POSCO E&C needs to make full use of identified engagement measures with the stakeholders in order to reflect their concerns and expectations into the sustainable management.

Reliability: No material errors have been detected for data and information verified in accordance with AA1000 AS (2008). Information in the Report is presented so as to allow comparison of year-on-year performance.

#### <Additional principles>

project need to be made.

Neutrality: In general the Report provides a fair and balanced representation of POSCO E&C's approach and performance in 2011.

# IMPROVEMENT

- To expand sustainability management to subcontractors.

Seoul, Korea

June 8, 2012

Project Manager







Completeness: Within the reporting boundary and scope defined by POSCO E&C, we conclude that the Report does not omit information that would significantly influence stakeholders' decisions. More efforts to improve reporting on the performance from overseas

OPPORTUNITIES FOR The following is an excerpt from the observations and opportunities reported to POSCO E&C management. However, these do not affect our conclusions on the Report and are provided to encourage continual improvement.

To consider developing consistent data collection process from overseas project.

To enforce process of stakeholders engagement for the publication of sustainability reports and sustainability management.

Seuna Hvun Kwak

Whe and have

Antonio Astone Assurance Engagement Reviewer Global Service Responsible for Sustainability Report Verification

In Kvoon Ahn Country Manager

# INDEX (GRI G3.1, ISO26000)

	•Ft	ully reported		Partially reported	○ Unreported	N/A Not Applicabl
Index	Description	Page		Report status	ISO26000	Remark
1. Visior	and Strategy					
1.1	Statement from the most senior decision-maker of the organization		4	•	6.2	
1.2	Description of key impacts, risks, and opportunities.		4	•	6.2	
2. Orgar	nization Profile					
2.1	Name of the organization.		6	•		
2.2	Tier-1 brands, products, and/or services.		7	•		
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.		7	•	6.2	
2.4	Location of organization's headquarters.		7	•		
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.		7	•		
2.6	Nature of ownership and legal form.		9	•		
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).		6,7	•		
2.8	Scale of the reporting organization.		7	•		
2.9	Significant changes during the reporting period regarding size, structure, or ownership.			•		N/A
2.10	Awards received in the reporting period.		77	•		
3. Parar	neters of the Report					
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.		2	•		
3.2	Date of most recent previous report (if any).		2	•		
3.3	Reporting cycle (annual, biennial, etc.)		2	•		
3.4	Contact point for questions regarding the report or its contents.		2	•		
3.5	Process for defining report content.	1	6, 17	•		
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.		2	•		
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope).		2	•		
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.		2	•		
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report. Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols.		2	•		
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g.,mergers/acquisitions, change of base years/periods, nature of business, measurement methods).			•		N/A
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.			•		N/A
3.12	Table identifying the location of the Standard Disclosures in the report.	80, 81, 82, 8	3, 84	•		
3.13	Policy and current practice with regard to seeking external assurance for the report.		2	•	7.5.3	
4. Gove	mance Structure, Responsibilities, Participation					
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.		8,9	•	_	
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.		8,9	•	_	
4.3	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members.		8, 9	•	6.2	
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.		8, 9	•	_	
4.5	Linkage between compensation for members of the highest governance body, senior managers and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	5,	8,9	•		

	•	Fully reported	0	Partially repor	ted OUnreporte	d N/A Not Applicable
Index	Description	Page		Report status	ISO26000	Remark
4.6	Processes in place for the highest governance body to ensureconflicts of interest are avoided.		8, 9	•		
4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.		8, 9	•		
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevan to economic, environmental, and social performance and the status of their implementation.	nt	12	•		
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risk and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	ß	8, 9	•		
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.		8,9	•		
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.		28	•	6.2	
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	10, 77	, 85	•		
4.13	Memberships in associations (such as industry associations) and/ or national/international advocacy organizations in which the organization: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic.		77	•		
4.14	List of stakeholder groups engaged by the organization.	14	, 15	•		
4.15	Basis for identification and selection of stakeholders with whom to engage.	14	, 15	•		
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	14	, 15	•		
Econom	nic Performance					
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	21	, 23	•	6.2, 6.8, 3 6.8.7, 6.8.9	
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.		23	٠	6.5.5	
EC3	Coverage of the organization's defined benefit plan obligations.			•		N/A
EC4	Significant financial assistance received from government.			•		N/A
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.			•	6.4.4, 6.8	N/A
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.			N/A	6.6.6, 6.8 6.8.5, 6.8.7	
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.		59	•	6.8, 6.8.5, 6.8.7	
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	70, 71, 72	, 73	•	6.3.9, 6.8 6.8.3, 6.8.4 6.8.5, 6.8.6 6.8.7, 6.8.9	
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.		23	0	6.3.9, 6.6.6 6.6.7, 6.7.8 6.8, 6.8.5, 6.8.6 6.8.7, 6.8.9	
Environ	mental Performance					
EN1	Materials used by weight or volume.	40	, 75	•	6.5, 6.5	
EN2	Percentage of materials used that are recycled input materials.		41	•		
EN3	Direct energy consumption by tier-1 energy source.	75	, 76	•		
EN4	Indirect energy consumption by tier-1 source.	75	, 76	•		
EN5	Energy saved due to conservation and efficiency improvements.	50	, 52	•	6.5, 6.5.4	Designing a construction package which saves energy consumption in air-conditioning by 50%.
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	50	, 52	•		Saving energy by using new and renewable sources of energy.

#### 

Index	Description	Page	Report status	ISO26000	Remark
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	43	•		
EN8	Total water withdrawal by source.	40, 75	•	65.654	
EN9	Water sources significantly affected by withdrawal of water.		•	6.5, 6.5.4	N/A
EN10	Percentage and total volume of water recycled and reused.	76	٠		
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	44, 45	•	6.5, 6.5.6	
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	44, 45	•		
EN13	Habitats protected or restored.	44, 45	•		
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	44, 45	•	6.5, 6.5.6	
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	44, 45	•		
EN16	Total direct and indirect greenhouse gas emissions by weight.	41,75	•		
EN17	Other relevant indirect greenhouse gas emissions by weight.	38, 39	•	6.5, 6.5.5	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.		0		
EN19	Emissions of ozone-depleting substances by weight.		٠		N/A
EN20	NOx, SOx, and other significant air emissions by type and weight.		٠		N/A
EN21	Total water discharge by quality and destination.	42	0		
EN22	Total weight of waste by type and disposal method.	41, 43	•	6.5, 6.5.3	
EN23	Total number and volume of significant spills.		•		
EN24	Weight 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.	41, 43	•		
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.	44, 45	•	6.5, 6.5.4, 6.5.6	
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	46 ~ 55	•	6.5, 6.5.4 6.6.6, 6.7.5	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.		٠	6.5, 6.5.4, 6.7.5	N/A
EN28	Monetary value of significant fines and total number of nonmonetary sanctions for non-compliance with environmental laws and regulations.	44	•	6.5	
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	43	•	6.5, 6.5.4, 6.6.6	
EN30	Total environmental protection expenditures and investments by type.	40	•	6.5	
Social P	erformance (Labor)				
LA1	Total workforce by employment type, employment contract, and region, broken down by gender.	58	٠		
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	75, 76	•	6.4, 6.4.3	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	61	•	6.4, 6.4.3, 6.4.4	
LA4	Return to work and retention rates after parental leave, by gender.	75, 76	•	6.4, 6.4.3, 6.4.4, 6.4.5, 6.3.10	
LA5	Percentage of employees covered by collective bargaining agreements.		•	6.4, 6.4.3, 6.4.4, 6.4.5	No period specified.
LA6	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	75, 76	•		
LA7	OccupationPercentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs. al injuries, hazards, accidents, and/or days of absence by region	64	•	6.4, 6.4.6	

Index	Description
LA8	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-relificatilities by region and by gender.
LA9	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.
LA10	Health and safety topics covered in formal agreements with trade unions.
LA11	Average hours of training per year per employee by gender, and by employee category.
LA12	Programs for skills management and lifelong learning that support the continued employabil of employees and assist them in managing career endings.
LA13	Percentage of employees receiving regular performance and career development reviews, by gender.
LA14	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversit
LA15	Ratio of basic salary and remuneration of women to men by employee category, by significa locations of operation.
Social P	erformance (Human Rights)
HR1	Percentage and total number of significant investment agreements and contracts that incluc clauses incorporating human rights concerns, or that have undergone human rights screeni
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.
HR4	Total number of incidents of discrimination and corrective actions taken.
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taker to support these rights.
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.
HR9	Total number of incidents of violations involving rights of indigenous people and actions take
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.
Social P	erformance (Society)
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.
SO2	Operations with significant potential or actual negative impacts on local communities.
SO3	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.
SO4	Percentage and total number of business units analyzed for risks related to corruption.
SO5	Percentage of employees trained in organization's anti-corruption policies and procedures.

•	Fully rep	ported	0	Partially repor	rted O Unreporte	d N/A Not Applicable
		Page		Report status	ISO26000	Remark
, and number of work-re	lated	6	1,64	•	6.4, 6.4.6 6.8, 6.8.3 6.8.4, 6.8.8	
ns in place to assist ng serious diseases.				•	6.4, 6.4.6	Legal provisions applied
inions.			30	•	6.4, 6.4.7	
/ employee category.			30	•	6.4, 6.4.7, 6.8.5	
the continued employab	ility	75	5, 76	•	6.4, 6.4.7	
er development reviews,			58	•	6.3.7, 6.3.10 6.4, 6.4.3	
per employee category other indicators of diversi	ty.			•	6.3.7, 6.3.10 6.4, 6.4.3, 6.4.4	No discrimination
yee category, by signific	ant	75	5, 76	•		
and contracts that inclu- one human rights screen			85	•	6.2, 6.3	
partners that have			85	•	6.3, 6.3.3 6.3.5, 6.6.6	
ming aspects of human nployees trained.		1.	1,85	•	6.3, 6.3.3, 6.3.5, 6.4.3, 6.6.6	
ken.			85	•	6.3, 6.3.6, 6.3.7, 6.3.10, 6.4.3	
exercise freedom of ant risk, and actions take	n		85	•	6.3, 6.3.3, 6.3.4 6.3.5, 6.3.8, 6.3.10 6.4.3, 6.4.5	
risk for incidents of on of child labor.			85	•	6.3, 6.3.3	
risk for incidents of force of all forms of forced or	d		85	•	6.3.4, 6.3.5 6.3.7, 6.3.10	
es or procedures			85	•	6.3, 6.3.5 6.4.3, 6.6.6	
people and actions take	en.		85	•	6.3, 6.3.6 6.3.7, 6.3.8 6.6.7	
to human rights reviews	;	75, 76	6, 85	•		
I resolved through		75, 76	6, 85	•		
gement,		70, 71, 72	2, 73	•	6.3.9, 6.8 6.8.5, 6.8.7, 6.6.7	
ocal communities.		10	D, 11	•		
h significant potential or		10	D, 11	•	6.6, 6.6.3	
elated to corruption.		10	D, 11	•		
clinics and procedures				•	66 664 699	NI/A

•

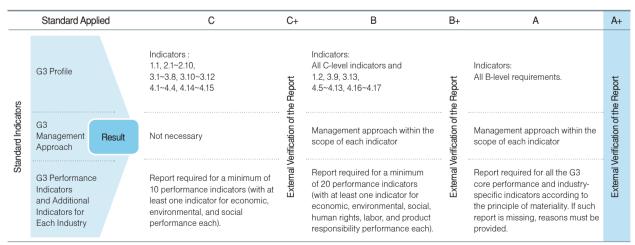
6.6, 6.6.4, 6.8.3

N/A

#### 

Index	Description	Page	Report status	ISO26000	Remark
SO6	Actions taken in response to incidents of corruption.		•	6.6, 6.6.4, 6.8.3	N/A
S07	Public policy positions and participation in public policy development and lobbying.	67	•	6.6, 6.6.5, 6.6.7	
SO8	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.		•	6.6, 6.6.7, 6.8.7	N/A
SO9	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.		•		N/A
SO10	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	68, 69	•		
Social F	terformance (Product Responsibility)				
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	62, 63,64	•	6.3.9, 6.6.6 6.7, 6.7.4	
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	68,69	•	6.7.5	
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	68,69	•	6.7, 6.7.3	
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	68,69	•	6.7.4, 6.7.5 — 6.7.6, 6.7.9	
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	68,69	•	6.7, 6.7.4 6.7.5, 6.7.6 6.7.8, 6.7.9	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	68,69	•		
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	68,69	•	6.7, 6.7.3 — 6.7.6, 6.7.9	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.		•	6.7, 6.7.7	N/A
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.		•	6.7, 6.7.6	N/A

## **GRI** Application Levels Table



POSCO E&C has confirmed on its own that the GRI G3.1 Guideline has been applied to its Sustainability Report 2011 and that it meets the B-level standard. The Report also received a grade of B+ upon third-party verification by DNV.

# UN Global Compact

POSCO E&C has made public its commitment and resolution to observing 10 principles of social responsibilities by joining UN Global Compact, June 2011. We will make our best effort to reveal whether we abide by principles of Global Compact through our yearly sustainable report.

Classification	Principle	POSCO E&C's major activities	G3.1
Human rights	1. We support and respect internationally declared human rights.	Observance of 10 principles of UN Global Compact	HR1 HR5
		Observance of ILO rules	HR2 HR6
		Education for sexual harassment prevention & ethics	HR3 HR7
		management	HR4
	2. We do not engage in infringement of human rights.	Disciplinary action on violating activities of human	HR4
		rights In-house announcement on such disciplinary actions	HR8
Labor	3. We acknowledge rights to freedom of association and collective	Observance of Labor Standard Act	HR5
Laboi	bargaining.	Operation of labor union	LA4
	Dargan in ig.	•	LA4 LA5
		Operation of labor-management council	LAD
	4. We abolish all kinds of forced labors.	Observance of Labor Standard Act and ILO rules	HR7
		Observance of collective agreements	
	5. We effectively abolish children's labor.		HR6
	6. We abolish discrimination both on employment and at work.	Prevention of gender discrimination on achievement	HR4 LA13
	o. We abolish discrimination both on employment and at work.	evaluation and rewarding system	LA2 LA14
		Recruiting more people from regional areas	LA10
Environment	7. We support preventative approach to environmental issues.	Establishment of green management system	4.11
		Observance of environmental laws	
	8. We take the lead in taking bigger environmental responsibilities.	Environment impact assessment	EN12 EN2
		Protection of biodiversity	EN13 EN2
		Management of environmental data	EN14 EN3
		Reduction of greenhouse gas	EN18
			EN21
	9. We support environmentally-friendly technology development	Construction of green building and green city	EN5 EN18
	and its diffusion.	Expansion of environmentally-friendly R&D investment	EN6 EN2
		Dissemination of green management to partner	EN7
		companies	EN10
Anti-corruption	10. We strive to eradicate all kinds of corruption including unjust	Spread of ethical management to partner companies	SO2
Anti-corruption	<ol> <li>We strive to eradicate all kinds of corruption including unjust enrichment and bribe</li> </ol>	Spread of ethical management to partner companies Implementation of guidelines in a way of observing	SO2 SO3



# Glossary

Term	Definition
KPI	Key performance indicator
IFRS	International Financial Reporting Standards
Greenhouse Gas Inventory	The list of the sources of greenhouse gases emitted by an organization, complete with the amount of each gas emitted.
Asbestos	A luminous, fiber-structured mineral that used to be used in construction. Now its use is banned on many sites because it has been classified as one of the most carcinogenic substances.
Scattered Dust	Types of dust that are discharged from construction sites and other sites of industrial activities directly into the atmosphere without being filtered through ventilators.
Heat of Hydration	The heat that is generated by a mixture of cement and water during a given period of time.
Slag	Residues left behind by smelting iron.
New and Renewable Energy	Refers to energy generated by such sources as solar heat, sunlight, biomass, wind, water (hydraulic generation), ground heat (geothermal generation), oceans, waste material, hydrogen, fuel cells, CTL gas, and so forth.
Wheel Washer	A device that rinses and washes the wheels of vehicles going in and out of construction sites.
GIS	Geographic information systems.
SOC	Social overhead capital, i.e., the necessary social infrastructure, such as roads, harbors, and railways that are not directly involved in production but are necessary to ensure economic activities.
CTL	Coal-to-liquid fuel, i.e., a synthetic oil made by combining coals and natural gas.
SNG	Synthetic natural gas, i.e., a gas made from oil or coals.
ISO 14001	An international standard developed by the International Organization for Standardization regarding systems of environmental management.
ISO 26000	An international standard developed by the International Organization for Standardization regarding systems of socially responsible management.
UNGC (UN Global Compact)	United Nations Global Compact, i.e., a UN initiative that encourages companies to participate in sustainable development and related efforts to improve ethics and environmental consciousness in international relations.
GRI (Global Reporting Initiative)	Global Reporting Initiative, i.e., a research center that develops and distributes international standards and guidelines for sustainability reports of companies around the world.
AA1000	An international standard or measure of sustainability of a given company.

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Date of publication	June 2012					
Publisher	Chung Dong-Hwa					
Publisher location	CSR Group, General Administration Department,					
	General Administration D	ivision,	POSCO E&C			
	POSCO E&C Tower 1					
	36 Songdo-dong, Yeonsu-gu, Incheon, Korea					
E-mail	csr@poscoenc.com					
Tel	+82-32-748-3737	Fax	+82-32-748-4006			
Web site	www.poscoenc.com					
Design	HanaroAdcom	Tel	+82-2-3443-8005			
Published by	Iljin Publishing	Tel	+82-2-499-4500			



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This report has been published with soybean-based ink, by a certified publisher as part of the FSC<sup>TM</sup> Chain of Custody (Certification # C110010) for using FSC<sup>TM</sup>-certified paper.