ABOUT THIS REPORT

Report Overview
This report is the seventh sustainability report developed by POSCO E&C. We transparently share our sustainability activities and performances during the year by annually publishing the sustainability report.

Reporting Standards
This report is developed in accordance with the Core Options of the Global Reporting Initiatives (GRI) Standards. The financial information is recorded based on the Korean International Financial Reporting Standards (K-IFRS), and the non-financial information is reported based on the GRI Standards and/or POSCO E&C’s managerial standards.

Reporting Period and Scope
This report shows the activities and performances of POSCO E&C from January 1 to December 31, 2017. Such information that may have significant impact on stakeholders as governance includes the activities until July 2018, and some quantitative data are reported for three-year period for easier comparison. The reporting scope is domestic worksites (excluding investment companies and affiliates) and some major overseas worksites. Any unusual scopes are annotated separately.

Third-Party Assurance
The financial data were verified by the independent auditor to ensure the credibility, and the non-financial information regarding environment and social information were verified by the third-party assurance agency, DNV GL. The assurance results are reported on pp. 99 - 100.

Special thanks to:
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POSCO E&C Sustainability Report 2017 – 2018
For more details about the report, please visit POSCO E&C’s homepage and download the PDF version of the report.

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Dear our stakeholders,

POSCO E&C, since its foundation in 1994, has demonstrated remarkable growth as Korea’s most prominent construction company based on integrated business expertise ranging from steelworks to power plant, civil infrastructure, and building works by adapting groundbreaking technologies and thinking beyond the norms. We now lead the new paradigm of construction industry with our focus on ‘Smart Construction’ utilizing virtual construction, big data, IoT, and artificial intelligence.

During the downturn of the market in 2017 caused by consistent decrease in project awards in overseas market and for public works, we were able to recover business performance and successfully achieve turnaround through merging with POSCO Engineering, divesting from low-profit businesses and strengthening project execution capabilities as a part of our efforts for substantial management.

We are committed in maintaining strong financial fundamentals by continuing to implement substantial management activities in 2018. We plan to expand our markets in conventional sectors with proven track record such as steelworks, housing, thermal power plant, and rail, as well as to cultivate new core products in petrochemicals and other sectors. In addition, we aim to leverage strategic approach for our overseas business by identifying the right capabilities aligned with market attractiveness.

I believe in creating social values through the practice of socially responsible corporate activities, which is as important as business performance. POSCO E&C, therefore, intends to fulfill its role as a corporate citizen by contributing to the community and solving social issues such as education, environment, and low-fertility rate.

Safety is our most prioritized management value, and based on such principle, we aim to create a safe work environment. We continue our unwavering effort in building an esteemed company for the employees, stakeholders and the community.

I ask for your sincere support and encouragement for POSCO E&C’s relentless efforts in innovation to overcome challenges and regenerate as ‘Global Smart Player in Steel Construction & Concession.’

Sincerely,

CEO & President
Young-Hoon Lee
SMART PLAYER in Steel Construction & Concession

We are growing towards a global leading construction company, based on differentiated competitiveness edge.
POSCO Group

POSCO E&C

POSCO E&C is an integrated construction company with global competitiveness, with its core business is non-ferrous metal, wire & cable, and machinery & equipment. POSCO E&C is the No. 1 construction company in Korea and the No. 2 construction company in the world. POSCO E&C is also the No. 1 contractor in the Middle East and Africa. POSCO E&C is the only East Asian construction company that has a strong presence in the Middle East and Africa.

POSCO E&C is a leading company in the construction industry, with a strong track record of successful projects. POSCO E&C is the No. 1 construction company in Korea and the No. 2 construction company in the world. POSCO E&C is also the No. 1 contractor in the Middle East and Africa. POSCO E&C is the only East Asian construction company that has a strong presence in the Middle East and Africa.

Talent Management

POSCO E&C is committed to the development and growth of its employees, with a focus on the well-being of its employees. POSCO E&C is a leading company in the construction industry, with a strong track record of successful projects. POSCO E&C is the No. 1 construction company in Korea and the No. 2 construction company in the world. POSCO E&C is also the No. 1 contractor in the Middle East and Africa. POSCO E&C is the only East Asian construction company that has a strong presence in the Middle East and Africa.

Social Contribution

POSCO E&C is committed to supporting the local communities in which it operates, with a focus on education, healthcare, and environmental sustainability. POSCO E&C is a leading company in the construction industry, with a strong track record of successful projects. POSCO E&C is the No. 1 construction company in Korea and the No. 2 construction company in the world. POSCO E&C is also the No. 1 contractor in the Middle East and Africa. POSCO E&C is the only East Asian construction company that has a strong presence in the Middle East and Africa.

Technological Competitiveness

POSCO E&C is committed to advancing its technology, with a focus on innovation and sustainability. POSCO E&C is a leading company in the construction industry, with a strong track record of successful projects. POSCO E&C is the No. 1 construction company in Korea and the No. 2 construction company in the world. POSCO E&C is also the No. 1 contractor in the Middle East and Africa. POSCO E&C is the only East Asian construction company that has a strong presence in the Middle East and Africa.
Safety Management at Field Operation

- Execute 12 tasks of integrated corrective action plans for safety management
- Rearrange supervising system by expanding the Safety & Health Center under the CEO and establishing Safety Technology Section in each business division
- Realize Smart Safety Process by applying IT technologies such as hazardous gas detecting system in confined spaces, smart safety helmets, drones, etc.

Eco-friendly Construction

- Build eco-friendly construction sites through the ISO 14001 certification and POEMS* which is optimized construction industry
- Conduct voluntary improvement activities and increase applied suppliers in environmental management to minimize environmental impacts in construction process.
- Establish the eco-friendly system by setting a vision, ‘Green Plus’ and ‘Eco-Save’ campaign

Quality Management

- Eliminate waste factors and enhance work quality based on ISO 9001
- Operate the Non-Conformance Report (NCR) System that manages database such as cause analysis and action results of quality defects
- Run real-time quality inspection system at sites and implement the Quality Improvement Day activities

Process Management

- Manage project lead time using CPM Tools such as Primavera, MS Project, etc.
- Identify and respond to risks of schedule through process management by business area

* POEMS: POSCO E&C Environmental Management System
Q-HSE Certifications

- Realize customer satisfaction through the certifications of ISO 9001 (quality management system), ISO 14001 (environmental management system), and ISO 45001 (safety & health management system)
- Secure global competitiveness by acquiring construction qualifications such as domestic/overseas nuclear power (KEPIC/ASME Section III) and overseas thermal power plants (ASME Section I)

Q-HSE Country Report

- Systematically record local regulations related to Q-HSE, customer guidelines, and utilize lessons learned during PJT for operation and execution of new projects
- Develop country reports in 20 countries including the strategic counties

Global Q-HSE Performance

- Create safe and eco-friendly worksites by implementing the Q-HSE Management System of POSCO E&C
- Establish a culture of safety that collaborates with local workers, suppliers and communities through the localization strategy of Q-HSE activities in consideration with local regulations and culture
- Preemptively eliminate risk factors through risk management system

Q-HSE One-stop Service

- Develop integrated Q-HSE support system by operating the task force team (TFT) composed of experts in each discipline
- Proactively identify and respond to potential Q-HSE risks in projects
- Support set-up of early stages of projects for stabilization by implementing Project Q-HSE
POS CO E&C built Pohang Works and Gwangyang Works of POSCO, named the world’s most competitive steelmaker for 9 consecutive years. Along with the execution of overseas mega projects including Brazil CSP Integrated Steel Plant and Indonesia Krakatau Integrated Steel Plant, POSCO E&C is now building its global reputation as a total solution provider in the steel plant industry. In addition, we are diversifying our plant business areas from steel plants toward industrial plants through the M&A with POSCO Engineering.
01 - Krakatau Integrated Steel Plant (Indonesia)
   Production Capacity: 3 million tons/year

02 - Formosa Steelworks (Vietnam)
   Project Period: 2013.08 ~ 2015.11
   Production Capacity: Hot rolling 5.1 million tons/year
                       Coke oven gas COG 110,000Nm3/h
                       Fuel 7 million tons/year

03 - FINEX (No. 3), Pohang Steelworks (Korea)
   Project Period: 2011.06 ~ 2013.11
   Production Capacity: 2 million tons/year

04 - Asia Special Steel’s Steel Plant (Japan)
   Project Period: 2007.12 ~ 2009.05
   Production Capacity: 120,000 tons/year

05 - POSCO Gwangyang No.4 HRM (Korea)
   Project Period: 2010.12 ~ 2014.08
   Production Capacity: 3.5 million tons/year

06 - IISCO Blast Furnace (India)
   Project Period: 2007.01 ~ 2010.12
   Production Capacity: 1.4 million tons/year
<table>
<thead>
<tr>
<th>RESOURCES PLANTS</th>
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<tbody>
<tr>
<td>01 - Moolarben Soft Coal Plant (Australia)</td>
</tr>
<tr>
<td>Project Period: 2014. 02 ~ 2017. 05</td>
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<tr>
<td>Production Capacity: 12 million tons/year</td>
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<tr>
<td>02 - FINEX (No. 3), Raw Material Treatment Facility (Korea)</td>
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<tr>
<td>Project Period: 2011. 10 ~ 2013. 09</td>
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<tr>
<td>Capacity: 60,000 tons, 1 unit</td>
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<tr>
<td>03 - Silo, Gwangyang Works Raw Material Treatment Enhancing Yard (Korea)</td>
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<tr>
<td>Project Period: 2009. 12 ~ 2012. 09</td>
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<tr>
<td>Capacity: 50,000 tons, 15 units</td>
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<tr>
<th>INDUSTRIAL PLANTS</th>
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<tbody>
<tr>
<td>01 - New Plant of STATS ChipPAC Korea (Korea)</td>
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<tr>
<td>Project Period: 2015. 11 ~ 2016. 11</td>
</tr>
<tr>
<td>Total Land Area: 147,793 m²</td>
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<td>02 - Aprogen Biologics</td>
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<tr>
<td>Project Period: 2016. 07 ~ 2018. 02</td>
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<tr>
<td>Total Land Area: 46,289 m²</td>
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<tr>
<td>03 - B-Yang Pharmaceutical Eumseong Vaccine Plant (Korea)</td>
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<tr>
<td>Project Period: 2012. 06 ~ 2013. 03</td>
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<tr>
<td>Total Land Area: 14,026 m²</td>
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<tr>
<td>04 - Kyungdong Navien New Plant &amp; Facilities (Korea)</td>
</tr>
<tr>
<td>Project Period: 2012. 04 ~ 2014. 03</td>
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<tr>
<td>Total Land Area: 94,857 m²</td>
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<td>05 - IASS Holdings Cold &amp; Frozen Warehouse (Korea)</td>
</tr>
<tr>
<td>Project Period: 2013. 12 ~ 2016. 02</td>
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<tr>
<td>Total Land Area: 24,379 m²</td>
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Engineering Technology Fulfilling Global Standards
POSCO E&C is recognized for EPC capacity in accordance with the global standards (LEED, GMP, HACCP, etc.) by business plants in electricity/electronics/semiconductor, pharmaceutical/bio/food, warehouse, and general manufacturing, along with its abundant experience of project execution.
POSCO E&C is enhancing reputation of Korean construction by successfully building energy plants in Central and South Americas such as Peru and Panama, as well as Chile where it entered as the first construction company of Korea. POSCO E&C is expanding our business areas to refinery and petrochemicals, along with the future eco-friendly energy areas including wind power, solar panels, and refuse-derived fuel (RDF).
After acquiring certifications for design and construction of thermal power generation from the American Society of Mechanical Engineers (ASME) in 2007, we subsequently received ASME repair/replacement certifications in 2016, thereby building a bridgehead for expansion into overseas markets. In 2017, POSCO E&C also achieved the nationally approved, Korea Electric Power Industry Code (KEPIC) certification in the field of structural design of nuclear power plants.

01 - Ansan Combined Cycle Plant (Korea)
Project Period: 2012.10 ~ 2014.10
Capacity: 843MW

02 - Puerto Bravo Thermal Power Plant (Peru)
Project Period: 2014.02 ~ 2016.05
Capacity: 714MW X 4

03 - Incheon POSCO Energy Combined Cycle Plant: Units 7-8-9 (Korea)
Project Period: 2012.10 ~ 2015.12
Capacity: 402MW, 3 units

04 - Cochrane Coal-fired Power Plant (Chile)
Project Period: 2013.04 ~ 2016.10
Capacity: 256MW X 2

05 - Pohang Off-gas Combined Cycle Plant (Korea)
Project Period: 2012.02 ~ 2014.05
Capacity: 145MW X 2

06 - R Combined Cycle Plant (Israel)
Project Period: 2012.09 ~ 2013.07
Capacity: 400MW

Foundation for Execution of Power Plants Engineering, Procurement, and Construction (EPC)
After acquiring certifications for design and construction of thermal power generation from the American Society of Mechanical Engineers (ASME) in 2007, we subsequently received ASME repair/replacement certifications in 2016, thereby building a bridgehead for expansion into overseas markets. In 2017, POSCO E&C also achieved the nationally approved, Korea Electric Power Industry Code (KEPIC) certification in the field of structural design of nuclear power plants.
Universal Access to Modern Energy
Ensuring universal access to modern energy is a very important factor for human livelihood. POSCO E&C is expanding the portion of business portfolio in eco-friendly/renewable energy by setting it as the new mid to long term growth engine.

Sustainable Supply of Energy with Reasonable Prices
Stable supply of energy has close relations to productivity of national industry. We are realizing the sustainable energy supply by engaging in power plant constructions in countries such as Bangladesh and Philippines.
POSCO E&C is contributing to global community development by building various infrastructures such as roads, railroads, harbors, airports, and environmental facilities worldwide including Asia, Middle East, Europe, and Africa. In order to lead the transition into a better world, we not only engage in constructions of eco-friendly facilities of sewage/wastewater, waste-to-energy, clean air, and desalination, but also provide environmental solutions in the area of operations & maintenance (O&M), and further expand our business areas to eco-friendly renewable energy such as hydro power generation.
The infrastructure such as roads and railroads that are generally used offers opportunities to promote economic development of local communities and create new market for companies. POSCO E&C has contributed to balanced development nationally through its infrastructure business, and it is working on development and social advancement of local communities by conducting infrastructure projects in the world including Vietnam, Kazakhstan, and Uzbekistan.

1. Noi Bai - Lao Cai Expressway (Vietnam)
   - Project Period: 2009.07 ~ 2015.11
   - Scale: Extended by 80km

2. A380 highway (Uzbekistan)
   - Project Period: 2014.05 ~ 2016.12
   - Scale: Extended by 85km

3. Seongnam–Yeoju double-track railway depot (Korea)
   - Project Period: 2012.12 ~ 2017.03
   - Scale: Maintenance facility for 20 trainsets;
             Storage facility for 14 trainsets

4. Capital Region 2nd Ring Expressway (Incheon–Gimpo expressway) (Korea)
   - Project Period: 2012.03 ~ 2017.05
   - Scale: Section 2 - 5.6 km; 1 underwater tunnel;
             Section 3 - 1.7 km; 1 junction

5. Busan–Gimhae Light Rail Transit (Korea)
   - Project Period: 2006.04 ~ 2011.03
   - Scale: Extended by 23.2km

6. Capital Region 2nd Ring Expressway (Incheon–Gimpo expressway) (Korea)
   - Project Period: 2012.03 ~ 2017.05
   - Scale: Section 3 - 1.7 km; 1 junction

7. Seongnam–Yeoju double-track railway depot (Korea)
   - Project Period: 2012.12 ~ 2017.03
   - Scale: Maintenance facility for 20 trainsets;
             Storage facility for 14 trainsets
POSCO E&C SUSTAINABILITY REPORT

HARBOR / LAND DEVELOPMENT / HYDRO POWER

01 - Chungju Enterprise City Land Development (Korea)
  Project Period: 2008. 06 ~ 2012. 06
  Scale: 7,012,760m²

02 - Ulleung Sadong Port 2nd Phase of Break Water (Korea)
  Project Period: 2015. 01 ~ 2017. 07
  Scale: 640m, 3 seawater channels, incidental work (1 L/S)

03 - Saemangeum New Port Breakwater (Zone 2) (Korea)
  Project Period: 2011. 12 ~ 2016. 10
  Scale: 1.8km

04 - Lampung Hydro Power Plant (Indonesia)
  Project Period: 2015. 02 ~ 2017. 09
  Capacity: 55,469kW

Use of Sustainable Clean Energy and Climate Change Response
POSCO E&C expands its eco-friendly business portfolio such as waste-to-energy facilities for shared growth of nature and mankind and provides practical eco-friendly solutions through O&M business of environmental facilities.

Accessibility to Drinking Water and Sanitary Facilities
POSCO E&C engages in business of integrated water management infrastructure including Abu Dhabi water storage facility in the UAE and Yangon water supply improvement projects to alleviate to solve water shortage issue in local communities.
POS CO E&C is leading the skyscraper construction by building 101-story Haeundae LCT, 69-story Yeouido Parc One, and 66-story Dongtan Metapolis, etc. We plan to actively engage in overseas urban development projects by creating smart cities suitable for the 4th Industrial era based on our technology and expertise accumulated from large-scale urban development projects, such as Songdo International Business District in Korea and Splendora in Vietnam.
01 - Splendora (Vietnam)
Project Period: 2010. 03 ~ 2013. 08
Scale: Total construction area: 120,000m²
  - Apartments: 268 households
  - Villas: 136 households
  - Town Houses: 117 households

02 - Haeundae LCT The Sharp (Korea)
Project Period: 2015. 09 ~ 2019. 11
Scale: 5 underground levels, 101 ground levels

The Sharp is 'POSCO E&C’s apartment brand that provides sincere richness to customers’ lives through devotion and consideration by focusing on essentials.
POSCO E&C strives to enable residents of The Sharp to have abundant, refined, and happy lives.
OFFICES / COMMERCIAL

01 - Yeouido Parc 1 (Korea)
- Project Period: 2016. 11 ~ 2020. 02
- Scale: 7 underground levels, 69 ground levels

02 - Northeast Asia Trade Tower (Korea)
- Project Period: 2012. 12 ~ 2015. 05
- Scale: 3 underground levels, 68 ground levels

03 - Hana Bank Head Office (Korea)
- Project Period: 2014. 08 ~ 2017. 06
- Scale: 6 underground levels, 26 ground levels

04 - Beijing POSCO Center (China)
- Project Period: 2011. 12 ~ 2015. 06
- Scale: 4 underground levels, 25/33 ground levels

05 - Sejong City Government Office (Korea)
- Project Period: 2010. 10 ~ 2012. 12
- Scale: 1 underground level, 7 ground levels

06 - Canal Walk (Korea)
- Project Period: 2008. 01 ~ 2009. 10
- Scale: 1-2 underground levels, 5 ground levels, 4 buildings

Eco-friendly Certification and LEED
Since 2010 when POSCO E&C received the LEED certification for nature-friendly buildings and structures from the U.S. Green Building Council for the first time for Korean companies, it has acquired the certifications on 16 buildings in total until the first half of 2018. In addition, we are leading eco-friendly city construction by combining technologies such as preventing urban heat island in the summer through introducing building commissioning, minimizing energy consumption and operational issues, strengthening air tightness, eco-friendly glues and carpets, and rooftop landscaping trees.
01 - Tri-Bowl (Korea)
  Project Period: 2008. 10 ~ 2010. 02
  Scale: 1 underground level, 3 ground levels

02 - Art Center Incheon (Korea)
  Project Period: 2009. 05 ~ 2016. 08
  Scale: 2 underground levels, 7 ground levels

03 - Songdo Convensia (Korea)
  Project Period: 1st Phase: 2005. 03 ~ 2008. 06
  2nd Phase: 2015. 12 ~ 2018. 07
  Scale: 1 underground level, 4 ground levels

04 - Daewoo Amara Hotel (Myanmar)
  Project Period: 2014. 02 ~ 2017. 05
  Scale: 2 underground levels, 29 ground levels, 2 buildings (658 rooms)

05 - Songdo Chadwick International School (Incheon)
  Project Period: 2006. 05 ~ 2009. 06
  Scale: 1 underground level, 5 ground levels

06 - Seoul Metropolitan Children’s Hospital (Korea)
  Project Period: 2005. 11 ~ 2008. 01
  Scale: 1 underground level, 6 ground levels (300 beds)

07 - Heavy Ion Accelerator Complex (RAON) (Korea)
  Project Period: 2017. 02 ~ 2020. 08
  Scale: 2 underground levels, 4 ground levels;
  14 experimental labs/facilities including heavy ion accelerators
In this modern society, corporate social responsibility (CSR) demands more roles and expectations than simple profit creation. Therefore, it is required for a company to put in more effort into creating social values while achieving economic performance. POSCO E&C creates various social values through its main business areas: environment, power generation, and steel. Here, we wish to present to our stakeholders, our social contribution through business using ‘Sustainable Development Goals (SDGs).’

**SDGs & POSCO E&C**

The Sustainable Development Goals (SDGs) are a set of 17 goals proposed by the United Nations (UN) to solve social issues and develop global sustainability. The UN requests both public and private institutions around the world to practice the SDGs.

**Projects**

- Improvement of water supply system in Yangon, Myanmar
- Sewage treatment system in Ho Chi Minh, Vietnam
- Kurdistan Coal-fired Thermal Power Plant in Iraq
- Maratib Coal-fired Thermal Power Station in Bangladesh
- Monkiti Coal-fired Thermal Power Plant in the Philippines
- Colon Combined Cycle Power Plant in Panama
- Lempurugua Hydro Power Plants in Indonesia
- Cilegon Gas Holder in Indonesia
- Steel Dust Recycling Plant in Vietnam
- Expansion of Naphtha Cracking Center in Philippines
- Long Son Petrochemical Complex in Vietnam
- Hanso Light Rail System in Vietnam
- Reconstruction of road between Nampula to Nametil in Mozambique
- Seven projects including redevelopment and reconstruction of Jangam District 4 in Korea
- Improvement of residential environment of Shipjeong District

**Notes**

- Projects in developing countries as of September 2018
- Limited to domestic redevelopment/reconstruction projects for Building Works Business Division considering SDGs
POSCO E&C’s Social Contribution

Through its business activities, POSCO E&C intends to contribute to solving social issues and fulfill its role as a corporate citizen by pursuing shared growth and values in society. Therefore, we will identify, contributing factors for sustainable development and practice them as our CSR.

Improving Water Environment in Developing Countries

Main issues related to water environment in developing countries are procurement and treatment of water resources. POSCO E&C approaches sanitary issues of water resources in developing countries through its projects of water supply improvement and sewage treatment.

- Yangon Water Supply System
  - Command pump station, Stormwater detention tank
  - 46,000-ton stormwater detention tank
  - For one million residents
  - Yangon, Myanmar has relatively poor water infrastructure compared to the recent, drastic growth in its population recently. This project of constructing a 46,000-ton stormwater detention tank will supply household water to approximately 1 million residents.

- Ho Chi Minh Sewage Treatment
  - Increased amount of sewage treatment by 320,000 tons/day
  - For one million households
  - In Vietnam, approximately 500,000m³ of wastewater is emitted daily without treatment due to the drastic industrialization and urbanization. Through this project, the capacity of wastewater treatment will increase by about 310,000 tons/day, and about one million households will benefit.

Establishing the Basis for Industrialization

Facilitating industrialization is essential for economic growth and social development of developing countries. POSCO E&C is building facilities for industrialization including steel plants and industrial plants and for social infrastructure including roads and railroads.

- EAF Dust Recycling Plant
  - EAF dust recycling facility
  - Annual production capacity of zinc oxide: 31,500 tons
  - Economic value: USD 79 million
  - In Vietnam, we began the world’s first project that recycles steel dust to zinc oxide. This dust recycling plant can treat 10,000 tons of EAF dust annually and produce 31,500 tons of zinc oxide, which is worth about USD 79 million economically.

- Naphtha Cracking Plant
  - Expansion of existing cracking/production facilities & building hydrogen add-in plant
  - Annual production capacity of Naphtha: 750,000T
  - Economic value: USD 95 million
  - The project of expanding Naphtha Cracking Plant in Naphtha, which is a core material in petrochemical industry, this business will increase the production of Naphtha by about 150,000 tons and its economic value is worth approximately USD 95 million.

- Long Son Petrochemical Complex
  - Annual production capacities of ethylene, 1 million ton, petrochemical product 1.3 million tons, 17% of domestic ethylene production
  - Vietnam's first large-scale petrochemical complex is to be built on Long Son Island, Vung Tau Province, and we are conducting various construction projects including land development, transport facilities, and storage tanks. The complex is expected to produce one million tons of ethylene in the future, thereby contributing to Vietnam's petrochemical industry.

- Hanon Light Rail System
  - A general project of civil engineering structures (8.5 km)
  - 276,000 (capacity of 2020)
  - Vietnam is in the process of establishing a light rail system to solve heavy traffic in the metropolis and to change its motorcycle-oriented traffic system. Our project is for Line 3 and it is expected to serve 276,000 persons daily by 2020.

- Mozambique Roads Construction
  - Two-lane road
  - Nampula - Nametil
  - Two-lane road
  - Mozambique’s 3rd largest city, Nampula has issues with distribution and transportation due to unpaved roads. Our renovation project of a road with the length of 70.6 km connecting Nampula to Southern Nametil will reduce travel time by 15 hours.

Building a Foundation for Stable Power Supply

Although electricity is an essential factor in life, many people do not have enough supply. We are contributing to a modern power supply by building various power plants, including water power, thermal power, and combined power.

- Kabat Coal-fired Thermal Power Plant
  - Power capacity of 300 MW
  - For about 800,000 persons
  - The industrialization of Iraq was greatly impacted by the political issues and civil wars. The power generation capacity of this power plant is 300MW which can cover the supply of daily electricity to 880,000 persons including the residents of a nearby city, Erbil (population of about 850,000).

- Matarbari Coal-fired Thermal Power Plant
  - Ultra-supercritical technology
  - Power capacity of 1,000MW
  - For about 13 million persons
  - About 26% of population of Bangladesh do not have access to power supply due to lack of electric power infrastructure. This 1,200MW power plant will provide electricity to about 13 million people, which is about 8% of total population of Bangladesh.

- Masinloc Coal-fired Thermal Power Plant
  - Ultra-supercritical technology
  - Power capacity of 1,200MW
  - For about 2.9 million persons
  - The Masinloc project was implemented in accordance with the energy infrastructure expansion plans of the Government of the Philippines to meet the increasing demands for electricity. The Masinloc power plant will cover electricity for about 2.9 million residents in the northern part of the Philippines.

- Colon Combined Cycle Power Plant
  - Liquefied natural gas power station
  - Power capacity of 381 MW
  - For about 150,000 persons
  - In alignment with its 6% annual economic growth and increasing demands for energy, Panama is actively investing in the energy infrastructure. The Colon power plant, Panama's largest, is responsible for 23% of total power generation in the country and will supply stable electricity to 150,000 households in the industrial complex and the nearby residential area.

- Lampong/Hasang Hydro Power Plants
  - Hydropower
  - Power capacity of 35.4 / 42 MW
  - For about 430,000 people
  - According to the policy of enhancing electrification rate by the Indonesian Government, the construction of Lampung/Hasang Hydro Power Plants will be carried out as a turnkey project. These two power plants will generate about 100 MW of power and supply electricity to 430,000 residents.

- Cilegon Gas Holder
  - Gas holder in the Integrated Steel Plant
  - Recycled Energy 150MW
  - This project is to build a gas holder that recycles off-gas generated in the PT Krakatau Posco Integrated Steel Plant in Cilegon, Indonesia. The gas holder will enable recycling of energy similar to annual power generation of a small power plant (150 MW).

Improving the Deteriorated Living Environment

Everyone has rights to the basic needs to maintain quality of life. We provide quality of housing by renovating deteriorated residential areas through redevelopment/rebuilding projects.

- Redevelopment/Reconstruction
  - Total area of 605.9 ha.
  - New supply to 13,809 households
  - As it has been 40 years since the urbanization and facilitation of apartment supply, demands for redevelopment/reconstruction are increasing nationwide. We are implementing redevelopment/reconstruction projects in 7 sites including Vietnam-Dong, Buatan, and Langgam-Dong, Seoul and plan to supply new housing to 13,809 households.

- Living Environment Improvement Project in Shipjeong District 2
  - Public rental housing supply
  - As the living environment improvement project in Shipjeong District 2 with a concentration of deteriorated/substandard housing will be proceeded with the City Regeneration New Deal Project and a total 5,678 new households will be provided. We are contributing to various public policies on housing welfare including housing supplies for young singles/newly-married couples and rental fee limitations.

POSCO E&C SUSTAINABILITY REPORT

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Board of Directors

The board of directors at POSCO E&C is composed of three executive directors and three independent directors. Among the independent directors, two directors were assigned by the Public Investment Fund (PIF) of Saudi Arabia to enhance transparency and independency in the decision-making of the board.

Roles & Operation

The board discusses statutory requirements, management and finance-related issues, and other agendas that have direct and indirect impacts on business goals indicated in the bylaws of POSCO E&C. Regular meetings are held every second Thursday in January, March, May, July, September, November, and December; however, the dates are subject to change if necessary. The extraordinary general meetings (EGMs) are held on ad-hoc basis for any urgent matters. In 2017, a total of seven board meetings were held to make decisions on various items required for business operation. In particular, pre-sharing of information and opinions regarding the meeting items was facilitated after the standardization of management session in 2016, thereby reducing time for decision-making.

Audit System

POSCO E&C nominates an auditor through the general shareholder’s meeting. The auditor monitors accounting and business activities of the company and is guaranteed to independent authorities using an internal system for accessing any necessary information related to management. The Corporate Audit Department is also run to fulfill a supplementary role when conducting internal audits.

Shareholder Structure

The shareholders of POSCO E&C include: POSCO, 52.8%; The Saudi Asian Investment Company* 38.0%; Pohang University of Science & Technology (POSTECH), 2.1%; employees and minority shareholders, 7.1%.

*The Saudi Asian Investment Company is a special-purpose entity founded by the Public Investment Fund (PIF) of Saudi Arabia.

52.8% POSCO

38.0% Saudi Asian Investment Company

7.1% POSTECH

2.1% Employees & Minority Shareholders

Board Performance by Year

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Directors</td>
<td>No. of Meetings</td>
<td>16</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>No. of Items</td>
<td>45</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Attendance Rate of Directors</td>
<td>%</td>
<td>90.8</td>
<td>91</td>
<td>92.9</td>
</tr>
</tbody>
</table>

Risk Management

POSCO E&C enhances its crisis response ability by continually strengthening its management of unexpected risks including natural disasters and oil price fluctuation that may occur during its business management activities. Our Risk Management Group, established for more effective risk management, is our means to create a global risk management system for successful and stable business operations.

Integrated Risk Management

Construction industry not only is easily influenced by the statuses of each country and/or group where the projects are conducted, but also requires a long period of time. POSCO E&C therefore performs thorough project risk management in the overall process from initiation to operations by analyzing and managing any potential risk factors. Moreover, our preliminary identification and prevention measures for potential risk factors are enhanced with a database of risk factors with high potential.

Risk Management - Project Award Stage

POSCO E&C runs the internal project deliberation process before initiation on all projects with a certain volume. Through the project presentations, we explain the project and review schedules, and through the quotation review meetings, we check the feasibility of project quotation and lead time. The risk review meetings are held afterwards to check risks as commercial terms, quotations, and countermemos. In addition, any high-risk projects, identified by the standards of profit rate, compliance risks, soundness appraisal, new countries of first-time projects, and new type of construction, are limited to be submitted to the business deliberation. Finally, we decide on project participation by running company-wide project deliberation committees, if agreed by majority of attendance and majority of electronic votes.

Risk Management - Project Operation Stage

During the project operation stage embedded with various potential risk factors, stricter risk management is necessary for successfully implementing the project and achieving goals. POSCO E&C runs the Health Check System that provides financial information at each stage of project operation, thereby securing financial soundness and stability. The financial data collected from big data, when they exceed certain critical standards, are sent to the management and site supervisors to enable them to take preemptive actions toward potential risks. Moreover, we operate the CQSS* which was converted from the Six Sigma (SS), POSCO’s own site innovation activity, for construction sites in order to identify opportunity factors and risks of cost, quality, speed and safety at early stage and to conduct improvement activities.

Risk Management - Global CSR

POSCO E&C aims to successfully implement projects by managing various CSR risks in economic, social, and environmental aspects that may occur in overseas projects and continue to become a sustainable global construction company. We use the Project Life Cycle (PLC) checklist to manage the risks of environment, safety, process, and quality at project sites. We also practice systematic management of the issues related to local laws, labor environment, and O-HSE by country through Country Reports. In addition, we have derived 232 risk factors based on our accumulated database from the overseas project sites and are using them to check and manage risks by situation at worksites.

Project Award Stage

Reporting of Project Kickoff

Review our engagement in the projects in regular countries to prevent sunk cost fallacy occasioned by unnecessary costs.

Project Presentation

Share project information to identify and review any short-term, potential risks and response plans (hosted by Sales Group).

Risk Review Meeting

Identify every risk and plan response measures (hosted by Risk Management Group with relevant departments in legal, finance, and quotation, etc.).

Project Presentation

Decide on project implementation after reviewing risk response measures (hosted by CEO with CEO, division head & executive directors).

Project Operation Stage

Health Check System

Evaluating items; such as economy (currency, quality, etc.), environment, safety, social issues, product responsibility, and suppliers, etc.

COUNTRY REPORT

Quality, Health, Safety and Environment (Q-HSE) issues Management by country

PLC Checklist

Evaluation items; such as economy (currency, quality, etc.), environment, safety, social issues, product responsibility, and suppliers, etc.

Risk Management - Project Award Stage

Project Operation Stage

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Stakeholder Engagement & Materiality Test
1. Smart Management, Smart Construction
2. Safety-prioritized Culture
3. Compliance
4. Eco-friendly Construction
5. Talent Management & Organizational Culture
6. Customer Satisfaction Management
7. Win-win Growth through Collaboration
8. Systematic Social Contribution
STAKEHOLDER ENGAGEMENT & MATERIALITY TEST

Stakeholder Engagement & Materiality Test

POSCO E&C conducts the Materiality Test annually to identify our stakeholders’ issue of interest and effectively reflect them in our business activities.

In 2018, we created an issue pool from international standards indices such as Global Reporting Initiative (GRI) Standards, ISO 26000, SDGs, and Dow Jones Sustainability Indices (DJSI). Then, we assessed priorities of each issue derived based on the analysis of media research, benchmarks, and surveys to independent sustainability experts and internal stakeholders. After the series of processes, the finalized issues are transparently disclosed in this sustainability report.

Stakeholders

POSCO E&C categorized its stakeholders who have direct and/or indirect impacts into six groups to efficiently reflect their needs on our business activities. Based on these groups, we created diverse communication channels to identify fundamental needs of each stakeholder group. This year, the issues with the highest concern of the stakeholders were related to economy and safety, and these issues were considered when selecting significant matters.

Materiality Test & Mapping Results

<table>
<thead>
<tr>
<th>Material Issues</th>
<th>Approaches</th>
<th>Reporting Stakeholders</th>
<th>GRI Topic</th>
<th>Reported Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
<td>Securing New Growth Engine, Strengthening Technology, Smart Construction</td>
<td>Employees, Investors</td>
<td>Other Business Issues</td>
<td>53</td>
</tr>
<tr>
<td>Safety</td>
<td>Employee Safety &amp; Health, Strengthening Safety Assessment, Reinforcing Safety Quality</td>
<td>Employees, Customers, Suppliers</td>
<td>(403) Occupational Health and Safety</td>
<td>57</td>
</tr>
<tr>
<td>Ethics &amp; Compliance</td>
<td>Strengthening Ethics Management &amp; Abiding by Law</td>
<td>Employees, Suppliers</td>
<td>(415) Socioeconomic Compliance</td>
<td>63</td>
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<tr>
<td>Employees</td>
<td>Improving Labor-Management Culture &amp; Labor Condition</td>
<td>Employees</td>
<td>(419) Employment</td>
<td>71</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Customer Satisfaction Management</td>
<td>Employees, Customers</td>
<td>(415) Customer Health &amp; Safety</td>
<td>75</td>
</tr>
</tbody>
</table>

Material Issues & Approaches

- Review international standard indices related to sustainability management such as GRI Standards, ISO 26000, SDGs, DJSI, etc.
- Derive an issue pool of 40 issues related to sustainability management of POSCO
- Identify risk/opportunity factors of derived issues
- Plan for effective response measures
- Transfer and manage key activities and performance to relevant departments
- Develop sustainability report
- Report to the board or directors and receive feedback
- Disclose on-/offline to the stakeholders

Material Issues

- Economy
- Safety
- Ethics & Compliance
- Environment
- Societal Contribution
- Collaboration

Stakeholder Management Issues

- Employees
- Suppliers
- Environment
- Customers
- Investors
- Society

Communication Channels

Employee

- Labor-management Joint Site Visits (monthly), Labor-management Councils (quarterly), Great Work Place (GWP) Surveys (annually), Young Board Activities, Company Bulletin Boards, and others

Supplier

- Win-win Growth Support Group (monthly), Supplier Satisfaction Surveys (once or twice/year), Regular Meetings, and others

Environment

- Environmental Idea Presentations (annually), Green Partnership for Eco-friendly Construction and R&D (50 companies), and others

Customer

- Customer Satisfaction Surveys (annually), ‘The Sharpest’ Homemakers Advisory Group, Website, and others

Society

- Social Contribution Activities, Online Grievance Reception Channels, and others

POSCO Group’s Business Presentations (quarterly), Electronic Disclosures, Responses to Credit Rating, and others

- Performance Media Research, Benchmarking, and Stakeholder Assessment on the Issues
- Conduct Materiality Test of Each Issue
- Select 8 material issues from 13 reporting issues through the test

Material Issues

- Environment
- Safety
- Ethics
- Economy
- Society
- Collaboration

Selected Issues

Economy
- Securing New Growth Engine, Strengthening Technology, Smart Construction
- Employee Safety & Health, Strengthening Safety Assessment, Reinforcing Safety Quality
- Improving Labor-Management Culture & Labor Condition
- Customer Satisfaction Management
- Economic
- Social
- Environmental

Selected Stakeholders

- Employees
- Suppliers
- Customers
- Investors
- Society
- Collaborators

Selected GRI Topics

- (403) Occupational Health and Safety
- (415) Socioeconomic Compliance
- (398) Effluents and Waste
- (419) Employment
- (415) Customer Health & Safety
- (413) Local Communities

Selected Reporting Issues

- Securing New Growth Engine, Strengthening Technology, Smart Construction
- Employee Safety & Health, Strengthening Safety Assessment, Reinforcing Safety Quality
- Improving Labor-Management Culture & Labor Condition
- Customer Satisfaction Management
- Economic
- Social
- Environmental
Corporate Social Responsibility (CSR) holds various meanings; however, the most fundamental requirement for a company is the economic responsibility. The economic power of the company has direct impacts on its stakeholders’ growth and further affects the society and the economy of a country. POSCO E&C takes multilateral efforts to respond to the changes in external business conditions. We pursue restructuring based on selection and concentration, capability differentiation centered on Front-End Engineering Design (FEED), discovering new growth engines, and Smart Construction. As a result, we were able to achieve orders worth KRW 10 trillion and revenue worth KRW 7 trillion. POSCO E&C will continue to respond to the changes in business environment by practicing the 3 innovation tasks such as creating customer value and strengthening the implementation capacity for global projects.

EXECUTIVE MESSAGE

We strive to secure new growth engines for sustainable development.

POSCO E&C accomplished our first big growth by entering into the construction industry with steel plants and then achieved another big growth by entering into the energy area. Now, we want to do our best to find the third growth engine for industry with steel plants and then achieved another big growth by entering into the construction area. POSCO E&C accomplished our first big growth by entering into the construction area. POSCO E&C is building customers’ trust in diverse areas of plant, infrastructure, energy, and construction based on high technology in overall processes of construction projects including design, kickoff, and test runs. We also make effort in technology development and business diversification to become a world leader in the construction area.

Mission

To make modern people’s lives newer and abundant

Vision

Global Smart Player in Steel Construction & Concession

Strategic Directions
Build Advanced FEED Capacity
Create Portfolio for O&M Business
Sophisticate Core
Make Target Countries Home

Portfolio

EPC Business
Urban Infrastructure Division
Plant Division

O&M Business
Roads, Water Treatment, Building Lease, FM

Companywide Business Strategy & Goals

POSCO E&C is building customers’ trust in diverse areas of plant, infrastructure, energy, and construction based on high technology in overall processes of construction projects including design, kickoff, and test runs. We also make effort in technology development and business diversification to become a world leader in the construction area.

POSCO E&C’s 2017 & Turn-around

Even after the recovery of the global economy and the increase in oil price, our overseas orders continued to decrease in 2017. In addition, our public project orders also decreased due to the reduction of government’s budget for Social Overhead Capital (SOC). To respond to such business environments, POSCO E&C devoted ourselves to stabilizing business through internal management and business reorganization.

Practicing Internal Management

Since 2017, we have been focusing on profit management by engaging in a ‘100-day Turn-around 100 Days Campaign’. We also have established management system to prevent risks in overall project processes and concentrated on profit-based project activities. As a result of these efforts for internal management, we recorded a much higher revenue (KRW 7 trillion) and profit rate (4.3%) than the previous year.

Business Restructuring Based on ‘Selection and Concentration’

The core of POSCO E&C’s business restructuring are rationalizing and streamlining. We practice portfolio optimization, selection and concentration in competitive business, and rearranging of non-core projects/assets. Therefore, we were able to rearrange a far number of projects that overlap in portfolio and non-core projects overseas, and this led to improved performances and profits.

Smart Management

POSCO E&C is focusing on seeking new items for continuous economic outcome and creation. We set FEED-based EPC and O&M as our main strategic directions and plan to practice Smart Management to actively respond to drastically changing business environments.

Securing Advanced FEED Capacity

POSCO E&C focuses on research and development of FEED. The FEED refers to the approved basic design that is conducted after the suitability test during the project planning stage. This can be considered as the key area that decides the added value of projects as technical tasks and overall costs are derived during this stage. We currently are securing differentiated FEED technologies in various ways based on the Six Main Products. As of 2017, we acquired a total of 32 FEED technologies including WP technology and cost efficiency technique. Until 2020, we plan to secure a total 148 FEED technologies through continuous technology development.

Creating Portfolio for O&M Business

O&M Business is an emerging business that delegates operating of facilities and/or equipment and maintaining its functions in place of the owner. POSCO E&C intends to standardize O&M Business in the areas of roads, environment, and building lease to reinforce the collaboration among different business divisions. We also strive to strengthen our business portfolio in various fields such as urban redevelopment, private remodeling, renewable energy, and rental housing projects.

Sophisticating Main Products & Localization of Target Countries

For a company to grow constantly, not only entering and succeeding in new areas of business is important, but also continuously maintaining main products and markets. Therefore, we plan to reinforce activities of the Six Main Products* and projects in Four Target Countries**. As the four target countries have high needs for developing industrial facilities and SOC, we expect projects to be acquired in various fields.

*Mental Issues POSCO E&C Sustainability Report

**The Six Main Products : Steel, Power Generation, LNG, Railroads, Water Treatment, Housing

*The Four Target Countries : Indonesia, Philippines, Vietnam, Saudi Arabia
Smart Construction
2018 is the beginning of our new leap toward creating future businesses. However, both domestic and overseas environments for the construction industry are not so optimistic. In order to accomplish both recovery from such environment and creation of new businesses, competitiveness for innovative construction is of utmost importance. We, therefore, plan to standardize the Smart Construction as our sustainable growth engine.

Definition of Smart Construction
Smart Construction is the process that integrates overall construction process with digital data-based BIM and combines information & communications technology (ICT) such as virtual construction, modularization of building materials and equipment, and intellectualization of construction, thereby minimizing wastes in productivity and maximizing value creation.

Key Points of Smart Construction Processes
➊ Building Information Modeling (BIM)
BIM refers to the model and process that conducts integrated management of construction processes in overall based on digital data, thereby maximizing the construction productivity.

➋ Pre-con (Pre-construction)
Pre-con is a method that enables all relevant companies to optimize cost, lead time, and quality through BIM and virtual construction before the actual construction. During the virtual construction, errors or shortcomings can be identified and the amount of materials needed can be predicted to contribute to cost reduction and quality improvement.

❼ Smart Construction Process
- Pre-fab (Pre-fabrication)
Pre-fab is a construction technique to manufacture the sub-components in other sites ahead of time and then assemble them together on the construction field. Through the BIM and Pre-con, we are able to preview key information and potential interferences in each process of pre-fabricated structure and create an optimized design for each construction module.

- Smart Tool Application
In Smart Construction, various Smart Tools are used. Through the application of optimized technology instruments based on tools such as A.I., Big Data, BIM, and Drones, POSCO E&C strives to improve structures’ qualities; strengthening safety management, enhancing design accuracy, and preventing errors.

Future Directions
The core business strategy of POSCO E&C is ‘innovation’. We intend to foster a differentiated competitiveness by setting technology development and business diversification as the ‘Dual Engines’ in order to maintain growth even in the rapidly changing business environment. We will enhance our competitive edge for our key competence, EPC Business Division, and strengthen business portfolio of new growth engine such as O&M Business. In addition, we will do our best to secure innovative building competitiveness through active R&D such as Smart Construction and FEED technology development.

Use of BIM
POSCO E&C utilizes BIM mainly in the phases of kickoff, design, construction, and maintenance, and has accomplished various performances. In particular, its 3D-based designing enhances construction quality by pre-identifying errors or interferences, and it also increases accuracy in squaring (cost calculation of construction) process. Furthermore, BIM contributes to advancement of site management in the areas of distribution and drawing plans.

Mid- to Long-term Plan for BIM
POSCO E&C is reinforcing the BIM execution capacity on a companywide level to secure the standardization of Smart Construction. We set this goal to realize the integrated management system of field operation by expanding the current level of BIM use which is reviewing interferences and errors in the construction process to the complete process of construction by 2021.

BIM
The building information modeling (BIM) is the integrated management model and process that all information including design, process, and materials about the structure is converged in the form of digital data. BIM enables integrated management of all information, which could not have been printed on the 2D paper drawings, and leads to not only efficient design and construction, but also high-quality outcome. This model is a key factor of the Smart Construction which requires organic combination and operation in overall process.

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SAFETY-PRIORITIZED CULTURE

Safety is a crucial area in the corporate management as it is directly connected to lives of human beings. Its importance is relatively higher in industries as construction which has a higher frequency of industrial disasters and safety incidents than others. POSCO E&C strives to create a culture that prioritizes safety. In the field operation, we strengthen safety practices through standard safety activity cycles, regular safety & health evaluations, and special safety inspections, while in the head office, we work on establishing systematic safety management process by acquiring a safety & health system and building suppliers’ voluntary safety & health management system.

EXECUTIVE MESSAGE

Safety & Health Center / Managing Director, Jongrae Kim

We practice the basics of safety, systemize safety based on PDCA, which is supported through rigorous management and monitoring.

The unfortunate accidents in the past are attributed to lack of management by POSCO E&C. We will strengthen our system of safety management and monitoring in all process of "Plan → Do → Check → Act (PDCA)’ to enable the field workers to be equipped with basics of safety.

The Four Directions of Safety Management

POSCO E&C presents the four directions for strengthening the safety management to realize systematic safety management.

1. Introduce Safety Engineering

- Assurance of safety from the design stage
- Safety management using smart technology
- Technical Safety TF-operation

2. Advance Safety Management

- Support suppliers with capacity building for safety management
- Increase in the rate of full-time employment for safety managers
- Identify key point for high-risk construction

3. Apply Fail-Safe System

- Expansion of budget plan for safety management
- Application of double protection measures
- Standardization of safety management model in construction industry standard

4. Innovate Organizational Culture

- Reinforcement of Safety & Health Organization
- Strengthening of management-level safety accountability
- Enhancement of every employee’s safety awareness

Introducing Safety Engineering

The introduction of safety engineering refers to the technological readiness for eliminating safety risk factors from the design and planning phases. POSCO E&C endeavors to standardize the Safety Engineering based on the database of incidents in the past 10 years and reflecting of analysis results on engineering and also conducts risk management based on smart technology to create safer work environment. The Technical Safety Teams are formed in the fields to monitor risk factors of design, structure, and construction methods in the major structures.

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Applying Fail-Safe System

We run a multi safe measure, the Fail-Safe System, to protect field workers even in the unexpected circumstances. The double protection measures that exceed the legal standard for safety facility are applied in all worksites, and additional safety facilities are set in high-risk places. We also increased installation of protection goods and emergency kits.

Establishing Safety-Priority Organizational Culture

We built the basis for securing a safety-priority organizational culture by extending safety organization to division-level and appointing Chief Safety Officer (CSO). The safety-related appraisals and compensation system such as expansion of safety KPI and safety performance compensation system were reinforced to motivate employees’ voluntary actions. In addition, campaigns such as companywide safety competition and site inspection were conducted to create a safety practicing culture.
Continuous Development of Safety & Health Management System

POSCO E&C runs its safety & health management system which exceeds the Occupational Health and Safety Act and relevant regulations. In 2001, we acquired certifications (KOSHA 18001, OHSAS 18001) in safety & health management system, and in 2018, we became the first Korean company to be certified with ISO 45001, which is the new international standard for safety and health area.

Future Directions

All of our safety & health management activities - Safety Management TFT, organizational restructuring and appraisal / strengthening rewards system, supplier safety management, and ISO 45001 certification - are aimed for the 'systemization of safety'. We will abide by the basics of safety, fully equip with safety management system, and eliminate safety risk factors through technical reviews, thereby realizing voluntary safety management.

ISO 45001

In June 2018, POSCO E&C acquired ISO 45001, which is the international occupational health and safety management system, for the first among Korean construction companies. This shows our companywide efforts in establishing safety-priority organizational culture and our will to create safety business environment.

Features of ISO 45001

There are four aspects that makes ISO 45001 different from the existing standards.

1. Emphasize CEO’s leadership to secure safety & health at workplaces
2. Share the awareness of safety & health companywide
3. Discuss with labors and engage them in safety system planning
4. Operate by integrating/connecting with ISO 9001 (quality) and ISO 14001 (environment)

 Acquisition of ISO 45001 and POSCO E&C’s Response

POSCO E&C intended to maintain continuity of safety management by introducing the safety & health management system under its goal, ‘Zero Critical Accidents’. Acquiring and implementing of ISO 45001 supplemented/advanced our safety & health system, and we improved our management system through the approaches below:

- Reinforce System: Create, expand, and reinforce safety & health policy and relevant processes
- Enhance Safety Awareness: Extend safety KPIs, Build safety performance rewards system for employees
- Manage Suppliers: Give preferences to outstanding suppliers in safety, Strengthen incentives for outstanding suppliers
- Expand Employee Engagement: Guarantee labors’ engagement in the decision-making process of safety related areas such as risk evaluation and amendment of relevant procedures
PROMISE FOR SAFETY

Recently, several safety incidents occurred in the construction sites managed by POSCO E&C including Haeundae LCT site. POSCO E&C feels strongly about its responsibilities in these accidents. We would like to show our sincere regrets and apologies to the deceased, families of the deceased, other victims and their families. We will plan for systematic measures to prevent recurrences of such incidents and conduct thorough management.

Ministry of Employment and Labor to Execute Special Audit on the Head Office and Construction Sites of POSCO E&C

The Ministry of Employment and Labor (MOEL, Minister Youngju Kim) had conducted special audit (June 18 - July 20, 2018) on POSCO E&C’s head office and 24 construction sites followed by continued fatal accidents (5 cases, 8 deaths) and announced the results. This audit inspected the safety & health management system including safety organization and budget and supplier support system in the head office, and it checked the measures for preventing workers’ occupational accidents in the sites. As a result, 16 sites with lack of falling prevention measures are subject to judicial actions, in the sites. As a result, 16 sites with lack of falling prevention measures are subject to judicial actions, 24 sites that did not conduct safety & health training properly were fined, 1 site with poor safety facility was sanctioned of operation, and the head office also was fined for violation of appointing safety/health managers and misuse of safety management budget. The MOEL will order POSCO E&C to expand safety investment and budget, strengthen supplier support, and increase rate of full employment of safety managers, while constantly monitoring the company’s fulfillment.

Cause Analysis of Safety Incidents

POSCO E&C created the safety management TFT under CEO after recent safety accidents. The TFT conducted multidimensional analyses of the causes of the accidents in the companywide level. In particular, a total of 121 cases of safety incidents in the past three years were reviewed. According to the analysis result of the cases, several issues in planning, management, and safety measures were found. Therefore, we categorized the causes of safety accidents into three as below and strived to prepare the integrated corrective action plans for safety management.

Issues with Planning
- Work Method Defects (74 out of 121)
  - Lack of managers: 22%
  - Shortcomings of planning: 21%

Issues with Management
- Failure of Safety Procedure (77 out of 121)
  - Defects in day-off management: 21%
  - Defects in high-risk management: 35%

Issues with Safety Measures
- Poor Condition of Safety Facilities (35 out of 121)
  - Improvement of protective equipment: 21%
  - Improvement of work environment: 18%

*6 cases of diseases among 136 occupational accidents for the past 3 years were excluded.

Back to Basics, Prioritizing Safety

Strengthening Basic Safety
Small accidents that may occur from technical failures, such as collapsing, crumbling, fire/explosion, suffocation/poisoning, can be led to larger accidents. POSCO E&C established the Technical Safety Group to prevent potential large accidents and manage work processes.

Strengthening System Safety
We will establish the cycle that can keep the basic safety. Based on the PDCA cycle, we will systemize and manage our safety activities that involve voluntary engagement of all PMs, managers, and suppliers.

Virtuous Cycle of PDCA-based Safety Management

Identify Hidden Risks (Beginning of Safety)
- Discussion between suppliers and POSCO E&C
- Analysis of previous cases / Case study for changes in environment
- Plan for safe working measures

Response to Feedback
- Take strict actions to safety principle violations
- Take actions to unstable status and unsafe processes
- Strictly, but warm-heartedly

Pledge by POSCO E&C

We will focus on the basics.
We will emphasize the basics of safety to every employee.
We will become a building company that prioritizes safety of employees and workers based on the basics.
We will establish the safety management system with basic safety as a start and practice continuous management of the system operation.

*We will practice towards “Zero Safety Accidents” without forgetting that the top priority of industrial fields is safety, and 1% mistake is 100% failure.
COMPLIANCE

The European Union (EU) recently imposed large fines to global companies for unfair trade practices. The requirements related to fair trade and corruption prevention are becoming higher globally, and even in Korea, various policies and regulations for ‘establishing fair market’ by the Fair Trade Commission (FTC). POSCO E&C also recognizes the establishment of compliance management and ethics & fair trade system as the crucial factors for sustainability management. Therefore, we are endeavoring standardization of transparent and fair trade culture and internalizing the ethics management based on faith and trust.

EXECUTIVE MESSAGE

Corporate Audit Department / Executive Director, Jaeho Ryu

Ethical Management is one of the top priorities of POSCO E&C’s principles.

It is very important to prevent individual’s deviations and/or violations. So, POSCO E&C strives to form a perfect management system of the issues. Our efforts for Ethical Management will be a healthy nutrient for our growth to the best construction company.

Strategic Goals Implementation Directions

Minimizing risks of ethical FCPA*

- Strengthen monitoring for preventing unethical behaviors
- Enhance synergy through participation trainings
- Supplement compliance programs for preventing anti-corruption risks

Minimizing risks of Fair Trade Act violations

- Regularly check legal compliance
- Strengthen activities for preventing conflicts of subcontracting with suppliers

*FCPA : Foreign Corrupt Practices Act

PREVENTION ACTIVITIES

Compliance risk management through prevention system for legal violations, Employee training for ethics & fair trade, Amendment and distribution of code of ethics

MONITORING ACTIVITIES

Regular monitoring of stakeholders for ethics, anti-corruption, and fair trade by the Fair Trade Group

FOLLOW-UP ACTIVITIES

Standard process for preventing recurrence of unfair trade behaviors, Management of legality of subcontracting by establishing follow-up system for legal violations, Offering of disadvantages to employees who violated law

Efforts to Enhance Employees’ Compliance Awareness

Reporting System for Transparent Management

We run the Whistleblower System online to receive reports and complaints related to violations of company or employees and fair trade. This system is run by the Corporate Audit Department and the personal identities of whistleblowers are completely protected. In addition, we collect grievances and opinions of employees through the company bulletin board online. In addition, we provide stickers with whistleblowing reporting related to unfair trade to enable suppliers’ employees to use POSCO E&C’s reporting system.

Prevention Activities

Management of legality of subcontracting by establishing follow-up system for legal violations, Offering of disadvantages to employees who violated law

Monitoring Activities

Regular monitoring of stakeholders for ethics, anti-corruption, and fair trade by the Fair Trade Group

Follow-up Activities

Standard process for preventing recurrence of unfair trade behaviors, Management of legality of subcontracting by establishing follow-up system for legal violations, Offering of disadvantages to employees who violated law

Material Issues POSCO E&C Sustainability Report

MATERIAL ISSUE 01.
MATERIAL ISSUE 02.
MATERIAL ISSUE 03.
MATERIAL ISSUE 04.
MATERIAL ISSUE 05.
MATERIAL ISSUE 06.
MATERIAL ISSUE 07.
MATERIAL ISSUE 08.

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It is very important to prevent individual’s deviations and/or violations. So, POSCO E&C strives to form a perfect management system of the issues. Our efforts for Ethical Management will be a healthy nutrient for our growth to the best construction company.
Amending & Distributing Code of Ethics

In 2018, we amended the Code of Ethics and guidelines to abide by with the Act on the Prevention of Corruption in accordance with amendment of the Improper Solicitation and Graft Act. This was implemented to respond to the changes in regulations related to Ethics Management followed by the amendment of the Improper Solicitation and Graft Act and the four ethical behaviors in 2017 and to enhance employees’ understanding.


2003
• Set and announced the Code of Ethics

2015
• Added a Charter of Ethics
  (Provided specific standard for monetary values of bribery, etc.)

2016
• Amended the article about the Improper Solicitation and Graft Act
  (Indicated the four unethical behaviors, etc.)

2018
• Referred articles about the Improper Solicitation and Graft Act
  (Articles of money, valuables, congratulations/condolences expenditure, outside lecturer fee, etc.)

Efforts for Securing a Fair Trade Culture

Activities for Preventing Legal Violations

POSCO E&C conducts activities to prevent legal violations by managing the standard subcontracting agreement. The electronic contract system enables fair and transparent management of overall process before purchasing, and major issues related to fair trade are shared to all employees by posting the Fair Trade Report on the bulletin board online. In addition, we run the ‘Start Up Council’ system that performs collecting VOCs of suppliers and developing fair trade pledges.

Reinforcing Monitoring of Fair Trade Culture

We prevent conflicts of subcontracting by identifying them through monthly monitoring of suppliers with potential risks. In 2017, we ran subcontracting clean-up at eight worksites to conduct training and consulting on relevant regulations and cases of subcontracting disputes as a means of settling fair trade culture.

Establishing Standard Process to Prevent Recurrence of Unfair Trade

In order to prevent unfair special contracts, we enforced the use of standard purchase specification by introducing electronic system. And, we also prevent non-issuance of documents for additional construction by allowing suppliers to check any additional works when applying for payments every month.

Establishing Follow-Up System for Fair Trade

POSCO E&C conducts audits on all subcontracts with order amount of KRW 500 million or higher. The self-audits are performed based on the construction reports which contain the results of inspections on constructed structures.

Supplier Construction Report* Checklist

• Subcontractors Status (construction, services, etc.)
• Appropriateness of milestone payment
• Receipt of subcontractors and sending of official document
• Status of distributing work procedure
• Guaranteed securities management
• Suitability of additional allowances for cost fluctuation
• Fair trade risks, etc.
• Construction Report: A document for recording inspection results of constructed structures.

Future Directions

POSCO E&C have put various efforts to systemize the Compliance Management including establishment of standard process for preventing unfair trade behaviors. We plan to continuously monitor and improve the current systems. Moreover, we will strive to prevent deviations and violations of not only our employees, but also all the stakeholders who share the business areas with us.

Clean-POSCO System

The Clean-POSCO System is to enforce every employee to record and manage all solicitations occurred in the worksites and activities, thereby creating transparent POSCO E&C. If any employee does not register such issues, he/she will be imposed with strict penalty.

Types of Solicitations to be Recorded

• Requests for special treatment in purchasing and contracting
• Requests for preferences in employment
• Requests for excessive favors and preferences
• Requests for inconsiderate management such as inspections, etc.

Registration Method

Install ‘Clean-POSCO’ application and record based on the Five Ws.

Access main page through PC application

* Improved the standard of system operation by informing those who asked for solicitations that the information about their names, request details, and beneficiaries must be recorded in the system, registering the solicitations in the system even if they were recanted (for this case, the reporting can be anonymous, and registering even if they are uncertain to be considered as solicitations.
ECO-FRIENDLY CONSTRUCTION

POSCO E&C devises measures to identify various environmentally hazardous factors such as noise and dust and mitigate their negative impacts. Through the R&D and reinforcement of field environment management, we try to reduce environmental pollutants as well. We are continuing eco-friendly construction activities by standardizing systematic environmental management such as focused management in high-risk sites, optimization of environmental management process, and introduction of environmental management system (ISO 14001). In addition, we increased supports for suppliers' environmental management to comply with relevant regulations in overall supply chain.

EXECUTIVE MESSAGE

We will carry out innovative improvements of environmental issues including chronic noises and dusts from the construction sites and support for prevention.

POSCO E&C set noise reduction at apartment construction sites as an innovation task and plans to pursue construction standard and patent through the pilot tests and expert consulting this year. We will become a leading company of environmental management in the domestic building industry by paying attention and solving issues that may arise in the construction environment.

Eco-friendly Strategy System and Focused Goals

POSCO, in accordance with the group-level ‘POSCO Group Environmental Management Policy’, conducts activities applied with environmental perspectives in overall business management. In particular, POSCO E&C recognizes environment as a core factor of business strategy and set environmental management visions to perform.

Eco-friendly Construction Activities

POSCO E&C performs diverse activities to realize eco-friendly construction in overall project process.

Research and Development (R&D)

We are continuing to develop building methods to reduce energy consumption and greenhouse gases (GHG) emissions, along with developing and introducing energy-efficient equipment. We own the highest number of LEED certification in Korean construction industry. And, we are also recognized for our outstanding technologies such as Zero-energy Building, Certification, and Outstanding Awards at 2017 Korea Intelligent Awards.

Designing

POSCO E&C minimizes energy consumption of building structures by maximizing insulation and also offers eco-friendly structures with great energy efficiency through eco-friendly materials and designs. In addition, we developed the analysis system for environmental performance and energy based on the Building Information Modeling (BIM) which is an integrated information management technology for building structures.

Based on this design, we were able to reduce 60% of energy consumption in apartments as of December 2017, and in January 2018, Pangyo Techno Valley III Corporate Support Hub Project became the first non-housing structure to receive energy certification in Korea.

Purchase and Procurement

The purchase and procurement are very important part in the process of construction industry. POSCO E&C puts various efforts to activate uses of low-carbon/eco-friendly products. Since 2016, we discuss about plans for improving low-carbon/eco-friendly products and technologies and for activating purchase through presentations and technology support programs to the suppliers.

Construction

POSCO E&C thoroughly conducts environmental management at the worksites through the analyses of cases by construction types (i.e. apartments, building, roads, etc.) and by environmental factors (i.e. dust, wastes, noise, vibration, etc.).

For the remodeling and reconstructing sites, management plans for demolition and disassemble process are established and distributed to all sites. After the construction, we perform site visits to prevent any remaining environmentally hazardous factors. We strengthen guidance through regular visits, wastes categorization, and recycling training towards the sites with high potential of wastes.

*Explosive demolition at Bundang Office of Korea Gas Corporation (2017. 6. 15)
Fine Dust Management
We have managed gas emissions from construction equipment through voluntary improvement activities for fine dust reduction. The fine dust caused by excavators, forklift trucks, dump trucks, pump trucks, and ready-mix concrete (remicon) are measured monthly, and various actions for fine dust reduction from the Ministry of Environment (MOE) is introduced to the field sites, including replacement of machinery that exceeds standards.

Reinforcing Voluntary Improvement Activities of Environmental Management
POSCO E&C executes voluntary improvement activities of environmental management to achieve Zero Environmental Incident. The improvement activities on the sites in the beginning stage of construction or in downtown areas were expanded from twice a week to three or four times a week due to high risks of environmental issues.

In addition, we also increased the number of the activities from 19 to 24 by including wastes disposal by classification and watering management during demolition/disassembly, etc.

1. Simply measure fine dust from construction equipment
   - Measure fine dust concentration level monthly as voluntary improvement activities at worksites
   - Control the level II or below, which is the standard of MOE

2. Take corrective actions for equipment exceeding the MOE standard
   - Adjust operation of equipment with overlaid or sudden stops
   - Perform maintenance such as replacing lubricating oil of engines

3. Re-measure fine dust after corrective actions
   - Re-check whether they meet the level II or below

4. Recommend to replace equipment exceeding the standard
   - Explain to suppliers and/or equipment owners about governmental aid system

Environmental Complaints Prevention
We work on complaints prevention activities in the construction sites in downtown area. If any complaints are reported, the worksite, Environmental Group, and Legal Group discuss about response plans. In March 2018, we developed the Guidebook for Environmental Complaints Management and distributed them at the worksites for better negotiations regarding environmental disputes and complaints.

Future Directions
The goal of POSCO E&C’s eco-friendly management is more focused on prevention activities through proactive risk management than solving after the issues are occurred. We will continue to endeavor to prevent environmental issues and aid implementing successful projects.

NOISE REDUCTION OF APARTMENTS FRAME CONSTRUCTION

Followed by the recent increase in reconstruction and mega projects in downtown areas, the complaints related to environment also has increased. The apartment construction, in particular, creates bigger impacts on people as they are performed close to living areas (about 30-40 m away). The continuous complaints on environmental issues lead to additional actions such as imposing fines, sanctioning construction, and creating compensation, which result in lead time increase, cost increase, and profit decrease.

According to the analyses of main causes of environmental complaints, noise was found to be the biggest cause. Especially, the noise from dismantling of aluminum casting during the framework construction creates high level of noise.

We identified the problems of the existing disassembly methods, and now we are in the process of effect analysis by the experts from the Conflict Committee of the MOE, collecting ideas for reducing noise in the field.

In addition, we closely reviewed the pilot projects at sites, by the experts from the Conflict Committee of the MOE, and now we are in the process of effect analysis. The existing methods of disassembling aluminum casting were conducted in three ways. However, these methods had issues with increasing labor costs, inadequate noise level, and low work efficiency.

Therefore, POSCO E&C began setting improvement plans for noise reduction. The core issue was to minimize impact noise during the disassembly aluminum casting while blocking noise transfer to victim area.

We identified the problems of the existing disassembly methods, and now we are in the process of effect analysis by the experts from the Conflict Committee of the MOE.

We set noise reduction plans during casting disassembly as the innovative task and are working on to find a way to efficiently reduce noise. In 2017, we estimated the possibility and effectiveness to apply in the field through pilot projects, and in 2018, we plan to pursue construction standardization and patents through field tests and external experts’ consulting.

### Improvement Activities
19 items
24 items

### Voluntary Improvement Activities
- Pins removal
- Aluminum foam falling and impact

### Improvement Activities
- Noise Wall
- Drop-down System
- Noise Barriers

**Category**
- Noise Level (JBL)
- Remarks

<table>
<thead>
<tr>
<th>Category</th>
<th>Noise Level (JBL)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pins removal</td>
<td>105</td>
<td>Railroads when trains pass by</td>
</tr>
<tr>
<td>Aluminum foam falling</td>
<td>110</td>
<td>Steam / Rock bands</td>
</tr>
<tr>
<td>Aluminum foam falling and impact</td>
<td>120</td>
<td>Thunder / Planes departing and landing</td>
</tr>
</tbody>
</table>

This is a method to pull down one sheet of castings at once with two people in one group. Although it does not generate noise, about 4 to 5 times of regular workforce is required, and the lead time is longer.

This method is to pull down one sheet of castings by 30-50 cm and another sheet afterwards. This can reduce noise as the falling height is low, but it requires high workforce.

This is installing 1-cm thickness of polycarbonate noise wall on windows of framework. The noise control effect is great, but the cost of materials is high.
TALENT MANAGEMENT & ORGANIZATIONAL CULTURE

Employees are the reasons behind POSCO E&C’s continuous growth, even in the drastically changing business atmosphere. We recognize that acquisition and nurturing of key talents is the main decision-making components to strengthen future competitiveness. Moreover, we pay special attention to employee welfare and strive to create a corporate culture that values the ‘work-life balance’.

EXECUTIVE MESSAGE

We strive for talent development based on the philosophy of respecting human beings and intend to achieve fair and reasonable talent management.

Followed by the changes in government policy in labor-related area, POSCO E&C put a lot of efforts in improving HR system. We plan to have close communication with the employees as one of the means. In addition, we are working on capacity building and nurturing of our talents in alignment with the changes in external environment. We will provide supports in improving POSCO E&C’s competitiveness through reasonable talent management and cultivation.

Talent Management System

POSCO E&C nurtures global talents who can play leading roles in the global market to realize ‘Smart Player in Steel Construction & Concession’. As the Smart Industry based on big data, artificial intelligence (AI) and internet of things (IoT) has been emerging recently, we are working on cultivating creative, professional human resources who can embed the Industry 4.0 technologies in the construction sites and business divisions.

TFT for Organizational Culture Innovation

POSCO E&C plans to accelerate collaboration and create synergy among the employees by activating communication and mutual exchange. In March 2017, we created The Plus Task Force Team (TFT) and selected 24 goals to achieve toward improving organizational culture.

Organizational Culture & Welfare

The Plus Campaign for Improving Organizational Culture

We practice The Plus Campaign to establish strong and active organizational culture. This campaign is conducted under the four themes: ‘Organization = Performance’, ‘Leader = Initiative’, ‘Employee = Loyalty’, and ‘Customer = Happiness’ to create active corporate culture that the employees are happy with.

POSCO E&C the Plus!

Strong Organizational Culture to Recover Crisis through Leaders’ Initiatives and Employees’ Voluntary Engagement

Organization = Performance

Contribute to organization’s performance by sharing company’s vision and cooperating mutually

Leader = Initiative

Leaders show best examples by respecting employees and aiding their capacity building

Employee = Loyalty

Employees increase their loyalty through field-based management and enhanced pride

Customer = Happiness

Provide more happiness to customers by emphasizing trust and pursuing shared growth

Establishing Labor-Management Relations through Mutual Respect

POSCO E&C is building a sound labor-management relation based on mutual respect through the Labor-management Councils and regular meetings with the Labor Union. Moreover, we run communication channels with our employees to discuss such important matters as management activities and employee treatment and further to reflect their opinions in the business activities.

Implementing Deferred Retirement

The Deferred Retirement System of extending retirement age to 60 years old is executed to guarantee employee to maintain their high-quality lives. Therefore, we offer the wage peak system from the age 56 and prevent retirement pay from decreasing through the transition to the defined contribution (DC) plan for retirement pension system.

Work-Life Balance

POSCO E&C provides various supports to the families of its employees. We created the childbirth grants to aid employees who conceive or adopt children and also vacation to those who had subfertility. In 2018, we will expand the size of the corporate childcare center to reflect employees’ needs.
Talent Cultivation System

Group-wide Integrated Corporate Title System and Experts Cultivation

The P Corporate Title System was introduced to create integrity and collaborative culture in the POSCO Group by unifying the job title, position, and roles. In the future, we plan to apply this system to the local employees overseas. In addition, we intend to support the employees with expertise in certain areas to implement performance creation tasks by starting the POSCO Certified Professional (PCP) System.

Training System

Under the goal, ‘Strengthening Competitiveness for Global E&C Business’, we systematically manage the Talent Cultivation System based on the three core strategies. The operation of POSCO E&C’s the Three Core Competence Training is allocated to the head office and POSCO Group University depending on POSCO E&C’s the Three Core Competence Training is allocated on the specialty and expertise of the industry.

Leadership Training by Corporate Title

We provide leadership trainings for each job position to accelerate our innovation. The Leadership Academy is an online training program under the academic credit system, and the completing courses are set as basic requirements for promotion.

Core Job Experts Cultivation Training

We are cultivating experts in sales, contract management, and risk management to activate overseas sales and reinforce project execution capacity. The outstanding human resources are selected from each business division and assigned with courses depending on jobs. In 2017, a total of 87 experts were trained.

Employment and Appraisal/Compensation Program

Talent Employment

We plan to strengthen our business and technological competencies by recruiting new and/or experienced human resources with global capacity and expertise. POSCO E&C operates fair employment process and all the applicants are not discriminated against their nationality, gender, religion, etc.

Appraisal & Compensation Program

We established the appraisal and compensation system based on personal ability and performance. For the organizations with high job connection with other departments, we perform integrated performance management by running the matrix appraisal system. In 2017, we improved our compensation system such as increase rate of base pay and payment rate of bonus.

POSCO E&C runs training courses to cultivate project managers (PMs) who can execute overall process of projects from project promotion to construction. Under the goals of project operation and management/leadership capacity building, theoretical learning, assignments completion, and real-world experience trainings are provided for seven months.

In 2017, the courses such as executives’ lectures and decision-making training were operated to enhance overseas project capabilities, and a total of 362 PMs have been trained since 2003 in these courses.

Smart Construction TFT

The TFT composed of experts in relevant fields is establishing various strategies using Smart Construction technology to improve profitability and secure building competitiveness. In addition, the mutual cooperation system with business divisions and Technology Group strengthens the expertise. In order for continuity and internalization of its work, we are reviewing the possibility for operating the TFT as a regular organization.

POSCO E&C reinforces HR supports to create the Smart Construction, which is a key matter of sustainable growth.

HR SUPPORT FOR SMART CONSTRUCTION

POSCO E&C operates various nurturing programs for the experts in the four smart technologies by: creating the Group Talent Creation Center and external professional institutions.

POSCO E&C SUSTAINABILITY REPORT
CUSTOMER SATISFACTION MANAGEMENT

From industrialization and urbanization to Industry 4.0, customers’ needs are changing and becoming more demanding. POSCO E&C realizes the need to fulfill customer needs and achieve customer satisfaction through quality and service management. We are creating and maximizing sincere customer satisfaction by developing technologies that listen to the voice of customers (VOCs).

EXECUTIVE MESSAGE
Construction Support Office II / Executive Director, Sanggil Woo

We will get closer to the customers by understanding through communication and sympathy with the customers.

POSCO E&C launched ‘The Sharp’ in 2002 to create housing brand that enhances quality of customers’ lives and have taken many efforts to get closer to the customers continuously. We will do our best for customer satisfaction under the philosophy, ‘understanding’ from the design stage to move-ins.

Customer Satisfaction Management Strategic Goals
Enhancing construction quality and customer service is the key of POSCO E&C’s customer satisfaction management. In order to realize the customer satisfaction management, we built the quality management system in accordance with the global standards. Moreover, we prevent quality risks through preemptive quality management. We also plan to strengthen measures for quality management and finally achieve ‘Zero Construction Defects’.

The POSCO Quality
Top class quality that touches customers’ heart

Accomplish Zero Construction Defects
- Strengthen quality training of foreign materials
- Strongen quality test management
- Conduct quality test of construction materials
- Strengthen quality assessment system
- Select inadequate, vulnerable construction types and derive inadequate causes
- Develop solutions by 4M
- Conduct data offering and coaching of customized quality management at each project site
- Run the “Quality Improvement Day”
- Strengthen quality training of foreign workers

Realizing Preemptive Quality Management System
We prevent crucial defects and respond to potential quality risks preemptively by establishing voluntary quality management system at project sites. At the project kick-off sites, we conduct separate visit training and quality inspections, and for the sites with insufficient standard, we conduct customized supporting activities. In addition, we developed manuals and guidelines for quality management for all project sites to maintain constant level of quality.

Establishing Quality Management System
We established programs to improve construction quality based on the quality management system, ISO 9001 and eliminated the waste factors from the overall process of construction. Moreover, we conduct quality inspections on all project sites to respond to customer requirements proactively.

Building Quality Prevention System through Big Data Analysis
We build the prevention system for quality issues by analyzing the quality data in the perspectives of 4M (Manpower, Materials, Machines, and Methods) using the big data. This contributes to solving quality risks at project sites by deriving reasons of quality inadequacy and providing solutions in the forms of analysis cases and training cases.

Strengthening Global Quality Capacity
We assigned professional quality managers at overseas project sites to realize standardized quality management and aid them to acquire international quality qualifications to build their capacity. Since 2017, we established special terms of overseas project suppliers’ quality to clearly show our quality standards. Moreover, we conduct cultivation training for overseas quality management experts by selecting outstanding human resources in project management and operate various training courses such as practical training for quality management system, intensive training for overseas quality management, and courses at certification assurance agencies, thereby strengthening global capacity for quality management capacity.
The Six Tasks of Quality Management Reinforcement Plans for Preventing Critical Accidents

The accidents occurred at construction sites due to defects or poor quality may lead to large-scale injuries and fatalities. Therefore, POSCO E&C set the Six Tasks of Quality Management Reinforcement Plans for Preventing Critical Accidents and manages these tasks from 2018.

**Strengthen Quality-based Assessment System**

In order to strengthen the quality assessment system based on construction quality, we are strengthening construction inspections at project sites and expanding reinforcement of human resources and inspection period. We conduct special coaching and theme inspections on the vulnerable construction types with frequent defects.

**Strengthen Structure Safety Assurance**

Rebars and concrete are important materials directly related to the stability of structures, but it is difficult to visually check them after processing. We conduct non-destructive check on bearing walls and pillars of structures once or more every year to strengthen safety and quality management.

**Strengthen Quality Test and Material Check**

We measure the materials’ performances such as Reincon strength, insulation density, and rebar tensile force. From 2018, we are striving to enhance the trust in overall quality test and materials check by enforcing confirmation of quality test results and conducting execution evaluation of contracted testing agencies.

**Strengthen Quality Management of Materials of Temporary Structures**

Due to the recent increase of accidents from temporary structures, necessity for quality management of temporary structure materials have enraged. The project sites plan and conduct tests of the materials, while the head office reviews suitability, check implementation status, distributes best practices of the quality tests.

**Expand Quality Improvement Day**

We are expanding the existing quality inspection activities to enhance workers’ quality awareness and improve construction quality. Through the Quality Improvement Day, workites carry out quality resolution, training quality inspection, and result reporting, and the head office checks the results, provides feedback, and reflect them in worker quality assessment.

**Strengthen Quality Training for Foreign Workers**

Followed by increased number of foreign workers at domestic sites, it became necessary to make the quality training easy to understand. Therefore, we plan to prevent defects of construction by developing guidelines and conducting tailored training. We currently have the quality guideline in four different languages including Chinese and Vietnamese.

### 'Grand Prize' at 2017 Construction Quality Management Awards

POSCO E&C was recognized for its activities and performances regarding quality by receiving 'Grand Prize' at 2017 Construction Quality Management Award, hosted by the Construction Association of Korea (CAK) and sponsored by the Ministry of Land, Infrastructure and Transport (MOLIT). We will continue to strengthen our competitiveness through quality innovation.

### 1st Place in Apartment Sector of KS.QEI for 10 Years in a Row

POSCO E&C’s 'The Sharp' won the 1st place in Apartment Sector of the Korea Standard Quality Excellence Index (KS.QEI) for 10 consecutive years. Moreover, 'The Sharp' is becoming a global brand by also winning the 1st place in Apartment Sector in the Brand Customer Loyalty Index (BCL) for 2 consecutive years as well.

### 'The Sharp' Apartment Enhancing Value of Life

POSCO E&C launched the apartment brand, ‘The Sharp’ in 2002 under the goal to provide housing to enhance values of customers’ lives. We are striving to provide unparalleled living spaces based on human-focused designs.

**Customer-focused Cultural Space of 'The Sharp'**

The Sharp offers its own premium landscapes such as plaza with grass, brooklet, gardens, and family vegetable gardens. In addition, various community places for networking such as kids swimming pool, mom’s cafe tea garden, and farm garden are also provided.

**Design of 'The Sharp' that Understands Customers**

The Sharp relentlessly endeavors to develop for customers’ comforts. The Sharp realizes the space to maximize customers’ easiness and satisfaction through the designs from the angles of wall sockets to bathroom towel hangers with mobile phone holders.

**Future Directions**

POSCO E&C will strive to accomplish ‘Zero Construction Defect’ and realize customers’ affection through thorough quality management. We will do our best from project order to maintenance to enhance building quality and customer satisfaction.

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**Focused Case**

**The Sharp' Apartment Enhancing Value of Life**

POSCO E&C received VOCs from order to maintenance and conducts through quality management from before to after move-ins. Before the construction, we host the quality discussion meetings and provide lounge and greeting services. We also enhance customer satisfaction through the ‘collaborated defect inspection system’ that checks and repairs the defects run by relevant departments.

#### Preliminary Inspection Process for Residents

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-10</td>
<td>managers conduct full checks of all households to prevent defects</td>
</tr>
<tr>
<td>D-35</td>
<td>Construction-related personnel and relevant departments gather to share opinions and feedbacks on the quality</td>
</tr>
<tr>
<td>D-30</td>
<td>future residents visit the structure before the completion and request for any defects to be fixed</td>
</tr>
<tr>
<td>D-30</td>
<td>Final check on the defects found during pre-inspection</td>
</tr>
<tr>
<td>D-15</td>
<td>Final Check</td>
</tr>
<tr>
<td>D-15</td>
<td>Final Check</td>
</tr>
<tr>
<td>D-10</td>
<td>Full Check</td>
</tr>
<tr>
<td>D-5</td>
<td>New Home Visiting Days</td>
</tr>
<tr>
<td>D-5</td>
<td>Quality Discussion Meeting before Construction</td>
</tr>
<tr>
<td>D-0</td>
<td>Final Check</td>
</tr>
<tr>
<td>D-0</td>
<td>Discussion</td>
</tr>
<tr>
<td>D-0</td>
<td>Visiting Days</td>
</tr>
<tr>
<td>D-0</td>
<td>Full Check</td>
</tr>
</tbody>
</table>

---

**Differentiated Service for Customers**

POSCO E&C receives VOCs from order to maintenance and conducts through quality management from before to after move-ins.

Before the construction, we host the quality discussion meetings and provide lounge and greeting services. We also enhance customer satisfaction through the ‘collaborated defect inspection system’ that checks and repairs the defects run by relevant departments.
WIN-WIN GROWTH THROUGH COLLABORATION

The added value of the construction industry is created through the cooperation with suppliers. POSCO E&C recognizes shared collaboration as an essential factor for strengthening its competitiveness in the competition with global construction companies. Therefore, we intend to establish master plans for shared collaboration and move forward with our suppliers. We will continuously endeavor to reinforce fundamental competitiveness in the supply chain through the various and practical collaboration activities such as technological cooperation, building shared collaboration infrastructure, and spreading win-win growth culture.

EXECUTIVE MESSAGE  
Purchase & Contract Office/Executive Director, Tae-Gun Kim

We plan to become a global company through continuous shared growth with our suppliers.

There are many companies in different industries worldwide that builds close relationship with their suppliers for a long period of time. POSCO E&C recognizes its suppliers as companions and provides utmost supports for strengthening their technological competence. Furthermore, we intend to become more sustainable company by strengthening the fundamental competitiveness of our supply chain.

Execution Strategies & Goals for Shared Collaboration

In January 2018, POSCO E&C established the ‘Shared Collaboration Section’ exclusive for creating shared value (CSV) to perform strategic shared collaboration. The Shared Collaboration Section promotes the three execution strategies: activate technological cooperation, establish shared collaboration infrastructure, and expand win-win growth culture. Based on the strategies, the section performs various activities to build practical shared collaboration supply chain. We plan to continue shared collaboration activities under the goals to activate technological cooperation and share performances.

VISION  WIN-WIN CSV* for the Tomorrow

MISSION Create industrial ecosystem by enhancing competitiveness of SMEs and POSCO E&C

THE THREE EXECUTION STRATEGIES  
- Activate technological cooperation
- Establish shared collaboration infrastructure
- Expand win-win growth culture

Activating Technological Cooperation

Activating Performance Sharing System

POSCO E&C operates various systems for activating technological cooperation with its suppliers and promotes performance sharing system to provide more practical support. The performance sharing system is a profit-based shared collaboration activity by sharing profits or benefits with the parties engaged in joint business activities.

- Performance Sharing System

Reforming System for Activating Technological Cooperation

POSCO E&C plans to activate technological cooperation with the suppliers by reforming the existing systems and establishing new systems.

Considering the suppliers with insufficient capitals, we indicate clearly in the agreement about the range of monetary compensation caused by proposal failure to enable recovery from sunk cost generated during the cooperation process. Also, to prevent unexpected issues, we operate review processes for patent application and possibility of selling to third parties.

Developing Shared Collaboration Platform

We developed the shared collaboration platform to lead suppliers to easier proposals of practical technologies. The platform enables to prevent ethical risks and offers such information as review results, real-time feedback, and transparent compensation system. We will continue to put various efforts for activating technological collaboration.
Fundamental Infrastructure for Shared Collaboration

Managerial Support
We run executive ‘Win-win Cooperation’ team to improve the issues of small and medium enterprises (SMEs) using the expertise and experience of our executives. In 2017, 18 executives performed 17 tasks toward 19 SMEs. In 2018, we will focus on consulting activities to enhance safety awareness and prevent accidents to the suppliers in major construction areas.

In addition, we develop technological competitiveness of the suppliers by providing tailored training vocational trainings in technology, IT, and business administration, and we also perform activities to support the Quick Six Sigma (Q5O) innovation of the suppliers by putting investment through Industrial Innovation Campaigns.

Performance of POSCO E&C Executives win-win Cooperation team

<table>
<thead>
<tr>
<th>Participants and Supports</th>
<th>No. of Executives</th>
<th>No. of Suppliers (Tasks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Division</td>
<td>4</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Business Division</td>
<td>13</td>
<td>14 (14)</td>
</tr>
<tr>
<td>Safety Center</td>
<td>1</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>19 (17)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of Execution Tasks - No. of Tasks (No. of Suppliers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 (9)</td>
</tr>
<tr>
<td>5 (5)</td>
</tr>
<tr>
<td>2 (2)</td>
</tr>
<tr>
<td>1 (3)</td>
</tr>
</tbody>
</table>

Financial Support
We run financial support programs for the suppliers to focus on business operation without concerns about budgets need in production and operation. We provide loans with low interests through the Win-Win Growth Fund and sureties for loans from credit rating institutions based on transaction history and contracts for the suppliers with low credit rating. In 2018, we plan to expand the size of the Win-Win Growth Fund for more active financial supports.

Technology Support
We promote joint R&D for new technology, financial aids for R&D, and joint application/registration for patents, and we also share benefits through the performance sharing system. Furthermore, we provide unstinting supports for strengthening technological competitiveness of our suppliers by transferring technologies and patents.

Supporting Sustainability Management
We offer trainings in ethics and safety to our suppliers. For establishing independent safety management system, we conduct safety consulting such as evaluation of safety management activities to the suppliers in need of acquiring KOSHA 18001.

In the first half of 2017, one supplier acquired the certification through this program.

Diffusion of Win-Win Growth Culture
POSCO E&C publishes continuously performs shared collaboration system and activities by publishing relevant letters internally and running supplier meetings regularly.

Expanding Supplier Meetings and VOCs
We run supplier meetings to share best practices of shared collaboration. In 2017, 43 VOCs were received during the two meetings, and improvement activities for 27 cases were conducted. In 2018, we will expand the communication channel with the suppliers by holding lunchbox meeting.

Transparent Transactions with Suppliers
Enhancing Fairness in Supplier Selection
POSCO &C complies with the four guidelines of the Fair Trade Commission (FTC) when registering and operating new suppliers. Moreover, we have internal audit committee to review the fairness in contracting and prices of all subcontracts with certain amount of transactions to check the compliance with relevant laws.

Purchasing Total Cost of Ownership (TCO)
TCO is a total cost generated from purchased item or service, delivery-in-progress to customers, and post-delivery. POSCO &C secures construction quality and prevents additional cost generation caused by project delays, design changes, and lead time delays by allowing bidding of the suppliers considered to be excellent in quality management and construction.

Complying with the Code of Ethics
Since 2014, we have included the articles from the code of ethics which reflects articles related to human rights and labor required by the global initiatives such as the Universal Declaration of Human Rights, the UN Guiding Principles of Business and Human Rights, the International Labour Organization (ILO), and ISO 26000. 98% among all domestic contracts are traded in accordance with the code of ethics.

POSCO E&C – IS DONGSEO Technological Cooperation

Best Practice of Product Development : Jije Site in Pyeongtaek
POSCO &C – IS DONGSEO Technological Cooperation
Improved price-performance ratio through ultra-high-strength PHC pile development using ferronickel slag (price and bearing strength)

Best Practice of Product Improvement : Giheung Site in Yongin
POSCO E&C – IDA E&C Technological Cooperation
Developed duct processing technique applicable in heat ducts using eco-friendly red clay materials (antibacterial and moisture control)

Realizing Social Value through Trade
We formed strategic alliances with the suppliers with certifications of disability employment and continue expanding purchase for them.

We plan to find more suppliers who can contribute to solving social issues and increase proportions of transactions with them.

Future Directions
POSCO &C endeavors to build core capacity of its suppliers through technological cooperation, while developing various means to create stronger relationship with the suppliers in a long-term. In particular, the Shared Collaboration Platform, implemented since 2018, is an important task to create sustainable relationship with our suppliers. In the future, we will strive to create real shared value and fulfill social responsibility through various activities to continue mutual collaboration with our suppliers.
SYSTEMATIC SOCIAL CONTRIBUTION

To achieve sustainable growth, a company must communicate and live with the community by reflecting its value and strategy. POSCO E&C is aware of that the community's growth is a basis for virtuous cycle from positive impact on its business to potential growth and pursues to create social value through social contribution activities for solving social issues. Especially, we focus on the three activities: 'Supporting Socially Vulnerable Groups (Smile)', ‘Nurturing Future Talents (Hope)’, and ‘Supporting Culture & Arts (Culture)’ to contribute to making better community. We will fulfill our responsibility as a corporate citizen, look after neglected neighbors, and become a beloved company in the community.

EXECUTIVE MESSAGE

Communications Department / Executive Director, Jaeyul Lee

As an accountable corporate citizen, we will get closer to the local community by creating social value.

Since its foundation, POSCO E&C have performed social contribution activities multidimensionally by understanding that shared growth with the community is a corporate social responsibility (CSR). We will create social values based on the core capacity reflecting our industrial nature and build shared collaboration with the local community by reflecting its value and strategy. To achieve sustainable growth, a company must communicate and live with the community by creating social value through social contribution activities for solving social issues.

HEALTH & SAFETY

POSCO E&C conducted various social contribution activities through partnerships with socially recognized institutions. We expand the social contribution infrastructure and social influence through the cooperative relations with public institutions including the Ministry of Foreign Affairs (MOFA), Ministry of Culture, Sports and Tourism (MCST), Ministry of Health and Welfare (MOHW) and National Fire Agency (NFA), local governments including Incheon Metropolitan City and Incheon Metropolitan City Office of Education, and other institutions such as Inha University Hospital and NGO.

Public-Private Cooperation Partnership

POSCO E&C conducts various social contribution activities through partnerships with socially recognized institutions. We expand the social contribution infrastructure and social influence through the cooperative relations with public institutions including the Ministry of Foreign Affairs (MOFA), Ministry of Culture, Sports and Tourism (MCST), Ministry of Health and Welfare (MOHW) and National Fire Agency (NFA), local governments including Incheon Metropolitan City and Incheon Metropolitan City Office of Education, and other institutions such as Inha University Hospital and NGO.

POSCO 1% Sharing Activity

The ‘1% Sharing Activity’ is a POSCO Group-wide activity to share wages. In 2017, a total of KRW 880 million was funded through the employee donation and company's matching grant and used for social contribution in various areas.

Domestic Social Contribution Activities

Smile Activity : Supporting Socially Vulnerable Groups

The Smile Activity focus on the socially vulnerable groups based on shared collaboration with the local communities.

Fire Preventing/Living Environment Improving Activities

We aid in improving living places exposed to risks of fire by repairing homes and installing fire prevention facilities in cooperation with the local fire stations. In 2017, as a result of our efforts, we were rewarded with the Minister’s Award and the Head of NFA’s Award in the Fire Safety & Welfare Businesses of NFA.

Seasonal Voluntary Activities

In collaboration with the Salvation Army and local welfare organizations, we conduct sharing activities toward socially vulnerable groups in the local communities especially in Incheon, Pohang, and Busan in accordance with seasonal period such as New Year and Thanksgiving Day, and Boknal.

New Year

Rice delivery (December)

Boknal

Chicken Soup with Ginseng (July)

Thanksgiving Day

Warm heart sharing (September)

End-year

Rice delivery (December)

Employee Regular Activities

Making Beautiful Incheon (March to October)
Hope Activity : Nurturing Future Talents
Talent cultivation is a definite way of investment that not only decides on the future of a company, but also a shortcut to enhance national competitiveness in a macroscopic aspect. POSCO E&C spurs health growth of children and teenagers through future talent nurturing.

➊ Construction Training Academy
POSCO E&C has operated the ‘Construction Training Academy’ after signing MOU with Incheon Metropolitan City and Office of Education since 2016 in response to the Free Semester System, the national educational policy project. During the academy, the Talent Donation Group and Happy Builder visit the local middle schools to lecture about basic knowledge of construction and share field experiences. In 2017, a total of 2,200 students in 16 middles participated in the academy.

➋ Incheon Childcare Center Activity, One & One
The One & One activity is a matching activity of 37 departments of POSCO E&C with 37 childcare centers in Incheon region. Since 2010, the employees have visited the childcare centers monthly to perform activities such as wall papering, floor paper replacement, room repairs, along with the arts and physical education and reading guides. In 2018, we developed specialized program for fulfilling educational desire of the students with the ChildFund Korea and began providing educational curriculum consulting, outside lecturers, and educational fund.

➌ Ggumnamu Scholarship
The Ggumnamu Scholarship is a fund raised from the employees’ Coin Jar Campaign, external lecturing activities, and ethical fund that has been used to the high school students since 2011. In 2016, the scholarship was provided to 35 students including high school students from low-income families and North Korean defectors in Incheon and Pohang regions.

Culture Activity : Supporting Culture & Arts
Culture and art are the key contents of modern creativity industry and important factors to determine the quality of life. POSCO E&C puts its efforts in developing performance industry and important factors to determine the quality of life.

➊ Making Beautiful Incheon Cultural Performance
POSPO E&C supports health growth of children and teenagers through future talent nurturing.

➋ Various activities are performed including activation of parks in Songdo International City and cultural performances. These activities have lasted since 2016 in collaboration with the Incheon Facilities Corporation and the Salvation Army, and in 2017, five environmental improvement activities and three cultural performances were conducted. The culture performance held regularly in Songdo Central Park offered meaningful and joyful time to the Incheon citizens.

❼ Overseas Social Contribution Activities
POSCO E&C promotes overseas social contribution activities in entered countries annually to create shared value and execute strategic social contribution followed by the needs of project sites and local communities.

Overseas Smile Activity : Medical Support
In the developing countries where medical infrastructure is insufficient, there are many people who do not have access to basic medical services. The Overseas Smile Activity intends to provide basic medical services to the socially neglected groups. In April 2017, we performed medical support activities in Philippines with the medical team from the Inha University Hospital, and in August, we provided the Korean Medicine services in Myanmar with the Korean Medicine Service Team (KOMSTA).

Overseas Children Chorus Competition
As Incheon’s representative company, we began hosting the children chorus competition for the first in Incheon. This created opportunities to share children’s musical talents and expanding chorus culture in Incheon. A total of 1,600 children in 57 teams participated in the 2nd competition held in 2017, and the 3rd competition will be held in November 2018.

Overseas Culture Activity : Culture Sharing Festivals
POSCO E&C holds Culture Activities such as Korean tradition education and culture sharing festivals in the entered countries with the Happy Builder to take friendlier approach to these countries using outstanding cultural contents of Korea. In August 2017, we held the culture sharing event with the Korean Embassy in Myanmar. Korean culture education including traditional handicrafts and food were provided toward Yangon Foreign Language University students and the ‘Golden Wave Festival’ was held to share cultures of the two countries. In November 2017, we conducted another cultural exchange activity called ‘Global Harmony’ in Panama with the Korean Foundation for International Cultural Exchange (KOFICE), and this was the first overseas voluntary activity in Panama with cultural contents theme after 55 years of diplomatic relations between Korea and Panama.

Overseas Hope Activity : Educational Supplies Donation
We provide various educational supplies including PC, laptops, and beam projectors to support the talents in local communities overseas.

Future Directions
The social contribution activities of POSCO Family including POSCO E&C aims for social value creation. While focusing on solving social issues through supporting of socially neglected groups and shared growth with local communities, we will keep finding activities with our industrial nature. Based on this, we will contribute to growth of society members and improving quality of life.

POSCO E&C’s SOCIAL CONTRIBUTION AND SDGS
POSCO E&C conducts its own activities that can strengthen connection to core capacity and specialty and contribute to achieving the United Nation’s Sustainable Development Goals (UN SDGs).

<table>
<thead>
<tr>
<th>SDGs Goal</th>
<th>Approaches to SDGs Subjects</th>
<th>Connection to POSCO E&amp;C’s Social Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are many cases of neglects of the diseases that can be easily cured. POSCO E&amp;C plans to reduce these issues through active medical services in overseas countries.</td>
<td>Overseas medical service with Inha University Hospital</td>
<td>+ Overseas medical service with Inha University Hospital</td>
</tr>
<tr>
<td>Youth unemployment is an emerging issue in the Southeast Asia with rapid economic development. POSCO E&amp;C conducts projects for nurturing overseas construction experts.</td>
<td>Construction technician cultivation in Myanmar (beginning in August 2018, 60 participants)</td>
<td>+ Construction technician cultivation in Myanmar</td>
</tr>
<tr>
<td>Preventing fire by repairing deteriorated houses is very important in creating sustainable living spaces. Since 2013 POSCO E&amp;C, using its industrial nature, has performed improvement activities of living environment for fire prevention toward fire vulnerable groups with the NFA.</td>
<td>Domestic living area improvement activities for preventing fire</td>
<td>+ Domestic living area improvement activities for preventing fire</td>
</tr>
<tr>
<td>+</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

MATERIAL ISSUES POSCO E&C SUSTAINABILITY REPORT
## Summary of Consolidated Financial Statement

<table>
<thead>
<tr>
<th>Category</th>
<th>36th Fiscal Year</th>
<th>35th Fiscal Year</th>
<th>34th Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quick Assets</td>
<td>4,455,136</td>
<td>5,651,494</td>
<td>5,973,501</td>
</tr>
<tr>
<td>Inventories</td>
<td>3,754,245</td>
<td>4,696,630</td>
<td>5,229,099</td>
</tr>
<tr>
<td><strong>Noncurrent Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investments</td>
<td>700,881</td>
<td>954,636</td>
<td>744,402</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>7,233,477</td>
<td>7,823,514</td>
<td>8,244,069</td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Noncurrent Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>4,561,546</td>
<td>4,686,845</td>
<td>3,993,520</td>
</tr>
<tr>
<td><strong>Issued Capital</strong></td>
<td>209,033</td>
<td>209,033</td>
<td>209,033</td>
</tr>
<tr>
<td><strong>Consolidated Capital Surplus</strong></td>
<td>1,066,753</td>
<td>1,119,293</td>
<td>1,121,177</td>
</tr>
<tr>
<td><strong>Consolidated Accumulated Other Comprehensive Income and Loss</strong></td>
<td>-29,375</td>
<td>-75,946</td>
<td>-14,635</td>
</tr>
<tr>
<td><strong>Consolidated Retained Earnings</strong></td>
<td>1,380,541</td>
<td>1,305,168</td>
<td>1,983,691</td>
</tr>
<tr>
<td><strong>Noncontrolling Interests</strong></td>
<td>44,979</td>
<td>23,437</td>
<td>39,896</td>
</tr>
<tr>
<td><strong>Total Capital</strong></td>
<td>2,671,931</td>
<td>2,580,985</td>
<td>3,339,162</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>7,019,190</td>
<td>7,128,082</td>
<td>8,871,421</td>
</tr>
<tr>
<td><strong>Operating Profits (Loss)</strong></td>
<td>305,372</td>
<td>-509,017</td>
<td>138,905</td>
</tr>
<tr>
<td><strong>Profit for the Period from Continuing Operations before Deducting Corporate Tax (Loss)</strong></td>
<td>189,654</td>
<td>-777,956</td>
<td>-42,074</td>
</tr>
<tr>
<td><strong>Net Profit for Continuing Operations (Loss)</strong></td>
<td>80,315</td>
<td>-678,227</td>
<td>-82,515</td>
</tr>
<tr>
<td><strong>Net Income (Loss)</strong></td>
<td>80,315</td>
<td>-678,227</td>
<td>-82,515</td>
</tr>
<tr>
<td><strong>Earnings per Share of Controlling Shareholders</strong></td>
<td>81,891</td>
<td>-662,419</td>
<td>-74,226</td>
</tr>
<tr>
<td><strong>Earnings per Share of Noncontrolling Shareholders</strong></td>
<td>1,959</td>
<td>-15,845</td>
<td>-1,962</td>
</tr>
<tr>
<td><strong>Consolidated Earnings per Share (Loss)</strong></td>
<td>83,850</td>
<td>-678,244</td>
<td>-84,188</td>
</tr>
<tr>
<td><strong>Number of Companies Included in Consolidated</strong></td>
<td>26</td>
<td>40</td>
<td>40</td>
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</tbody>
</table>
## PERFORMANCE DATA

### ECONOMIC PERFORMANCE

**2017 Revenue by Business Division**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td></td>
<td>7,856</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>41,097</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td>11,625</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Infrastructure</td>
<td></td>
<td>8,105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate-related Service</td>
<td></td>
<td>1,018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Service</td>
<td></td>
<td>1,114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>53,693</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**2017 Revenue by Region**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td></td>
<td>52,693</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overseas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southeast Asia</td>
<td></td>
<td>7,442</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td></td>
<td>6,363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>2,757</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**R&D Investment and Certification**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D Investment</td>
<td>KRW 100 million</td>
<td>437</td>
<td>165</td>
<td>278</td>
</tr>
<tr>
<td>R&amp;D Investment to Revenue Ratio</td>
<td>%</td>
<td>0.67</td>
<td>0.30</td>
<td>0.43</td>
</tr>
<tr>
<td>No. of Professional Researchers</td>
<td>persons</td>
<td>65</td>
<td>70</td>
<td>69</td>
</tr>
</tbody>
</table>

**Economic Value Distribution**

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Wages</th>
<th>Total Purchase Amount</th>
<th>Donations &amp; Social Contribution Expenditure</th>
<th>Dividends</th>
<th>Corporate Tax</th>
<th>Interests</th>
<th>Total Economic Value Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed Values</td>
<td>Wages</td>
<td>5,050</td>
<td>40,485</td>
<td>39</td>
<td>1,093</td>
<td>567</td>
<td>59,492</td>
</tr>
<tr>
<td></td>
<td>Service Fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Material Purchase Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retirement Pay</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials</td>
<td>11,884</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recipients</td>
<td>Employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Society</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creditors</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL PERFORMANCE

#### Amount of Materials Used

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>1,000 tons</td>
<td>275</td>
<td>259</td>
<td>272</td>
</tr>
<tr>
<td>Cement</td>
<td>1,000 tons</td>
<td>133</td>
<td>197</td>
<td>120</td>
</tr>
<tr>
<td>Non-renewable Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ascon</td>
<td>1,000 tons</td>
<td>234</td>
<td>235</td>
<td>245</td>
</tr>
<tr>
<td>Remicon</td>
<td>1,000 m³</td>
<td>2,463</td>
<td>2,994</td>
<td>3,360</td>
</tr>
<tr>
<td>Sand</td>
<td>1,000 m³</td>
<td>97</td>
<td>74</td>
<td>27</td>
</tr>
<tr>
<td>Gravel</td>
<td>1,000 m³</td>
<td>80</td>
<td>8,379</td>
<td>6,368</td>
</tr>
</tbody>
</table>

#### Amount of Energy Consumed by Site

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td></td>
<td>18.07</td>
<td>17.71</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td>114.00</td>
<td>126.18</td>
<td></td>
</tr>
<tr>
<td>Steam</td>
<td></td>
<td>11.00</td>
<td>15.25</td>
<td>15.18</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>143.86</td>
<td>159.07</td>
<td></td>
</tr>
<tr>
<td>Total Amount of Energy Consumed by Site</td>
<td></td>
<td>562.13</td>
<td>612.63</td>
<td></td>
</tr>
</tbody>
</table>

#### Amount of Water Resources Used

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Water</td>
<td>tons</td>
<td>665,010</td>
<td>694,841</td>
<td>608,920</td>
</tr>
<tr>
<td>Ground Water</td>
<td>tons</td>
<td>275,742</td>
<td>85,082</td>
<td>234,784</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>tons (%)</td>
<td>23,359(2.5)</td>
<td>36,584(4.5)</td>
<td>17,628(2.1)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>954,111</td>
<td>816,507</td>
<td>861,332</td>
</tr>
</tbody>
</table>

#### Amount of Water Resources Used

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal Water</td>
<td>tons</td>
<td>665,010</td>
<td>694,841</td>
<td>608,920</td>
</tr>
<tr>
<td>Ground Water</td>
<td>tons</td>
<td>275,742</td>
<td>85,082</td>
<td>234,784</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>tons (%)</td>
<td>23,359(2.5)</td>
<td>36,584(4.5)</td>
<td>17,628(2.1)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>954,111</td>
<td>816,507</td>
<td>861,332</td>
</tr>
</tbody>
</table>

### GHG Emissions

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG Emissions</td>
<td>tCO₂e</td>
<td>31,614</td>
<td>30,530</td>
<td>30,483</td>
</tr>
<tr>
<td>Scope1</td>
<td>tCO₂e</td>
<td>5,639</td>
<td>4,676</td>
<td>2,780</td>
</tr>
<tr>
<td>Pohang Head Office, Songdo Office, etc.</td>
<td>tCO₂e</td>
<td>1,139</td>
<td>1,050</td>
<td>1,040</td>
</tr>
<tr>
<td>Domestic Construction Sites</td>
<td>tCO₂e</td>
<td>4,500</td>
<td>3,616</td>
<td>1,740</td>
</tr>
<tr>
<td>Scope2</td>
<td>tCO₂e</td>
<td>25,975</td>
<td>25,854</td>
<td>27,702</td>
</tr>
<tr>
<td>Pohang Head Office, Songdo Office, etc.</td>
<td>tCO₂e</td>
<td>5,988</td>
<td>5,930</td>
<td>6,687</td>
</tr>
<tr>
<td>Domestic Construction Sites</td>
<td>tCO₂e</td>
<td>19,987</td>
<td>19,924</td>
<td>21,015</td>
</tr>
<tr>
<td>Other Indirect GHG Emissions (Scope 3)</td>
<td>tCO₂e</td>
<td>63,365</td>
<td>53,931</td>
<td>51,952</td>
</tr>
<tr>
<td>Emissions per Unit</td>
<td>tCO₂e/XKRW 1 billion</td>
<td>4,8363</td>
<td>5,5548</td>
<td>4,8252</td>
</tr>
<tr>
<td>Scope1</td>
<td>tCO₂e/XKRW 1 billion</td>
<td>0.8626</td>
<td>0.8508</td>
<td>0.4401</td>
</tr>
<tr>
<td>Scope2</td>
<td>tCO₂e/XKRW 1 billion</td>
<td>3.9736</td>
<td>4.7040</td>
<td>4.3850</td>
</tr>
</tbody>
</table>

*Emissions per Unit = Amount of GHG Emissions / Revenue (Non-consolidated)

*The Emissions per Unit is different from that of the previous year's report due to the change in reporting standard (consolidated → non-consolidated). The numbers of new/accumulated patent registration of 2015 and 2016 were corrected in accordance with the information recorded in the Korea Intellectual Property Rights Information Service (KIPRIS) of the Korean Intellectual Property Office (KIPO).
Wastewater Discharge

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>201,833</td>
<td>130,521</td>
<td>165,200</td>
</tr>
</tbody>
</table>

*Data collected from domestic sites

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>tons</td>
<td>44,762</td>
<td>77,073</td>
<td>35,545</td>
</tr>
<tr>
<td>Temporary or Part-time</td>
<td>tons</td>
<td>6,816</td>
<td>15,120</td>
<td>6,455</td>
</tr>
<tr>
<td>Incineration</td>
<td>tons</td>
<td>133,409</td>
<td>120,755</td>
<td>217,151</td>
</tr>
<tr>
<td>Total</td>
<td>tons</td>
<td>589,149</td>
<td>451,102</td>
<td>579,151</td>
</tr>
</tbody>
</table>

*Data collected from domestic sites

<table>
<thead>
<tr>
<th>Category</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Wastewater Treatment</td>
<td>KRW 1 million</td>
<td>11,596</td>
<td>9,978</td>
</tr>
</tbody>
</table>

Biodiversity Conservation

POSCO E&C implements various activities for conserving biodiversity near the project sites. In the domestic sites, we conduct protection activities on wild animals including otters and oystercatchers and on plants including Ganghwa Maehwamareun Habitat. Moreover, we protect and aid in safe transferring of any wild animals and plants in need of protection.

Social Impact Assessment of Suppliers

In order to enhance sustainability of the suppliers, POSCO E&C conducts social impact assessment of suppliers on the certified status of ISO 14001, management standard of environmental pollutants prevention (wastes discharge, atmospheric emission, etc.), and implementation of environmental training. The results of the assessment are reflected on the comprehensive assessment of the suppliers.

Voluntary Improvement Activities for Environmental Management at Sites

We conduct voluntary improvement activities for environmental management at construction sites. In 2017, a total of 1,283 activities were conducted to improve the site environment. Starting in May 2018, we are gradually strengthening the management including reduction activities for fine dust from construction equipment.

Voluntary Improvement Activities for Environmental Management at Sites

We conduct voluntary improvement activities for environmental management at construction sites. In 2017, a total of 1,283 activities were conducted to improve the site environment. Starting in May 2018, we are gradually strengthening the management including reduction activities for fine dust from construction equipment.

No. of Suppliers Received the Environmental Impact Assessments

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>588</td>
<td>536</td>
<td>522</td>
</tr>
</tbody>
</table>

Suppliers Identified with Negative Environmental Impacts

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>233</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>

No. of Suppliers Improved/Discussed about Negative Environmental Impacts

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>

**SOCIAL PERFORMANCE**

**Employees**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employees</td>
<td>persons</td>
<td>3,921</td>
<td>3,364</td>
<td>3,987</td>
</tr>
</tbody>
</table>

*The data includes the number of employees of POSCO Engineering following by the M&A, therefore, are different from the data of the business report.

**Executives**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executives</td>
<td>persons</td>
<td>43</td>
<td>34</td>
<td>35</td>
</tr>
</tbody>
</table>

**Benefits System**

- Children’s school expenses
- Benefits card support
- Stable livelihood & housing loans
- Maternity subsidy support
- Congratulatory & condolatory money;
- funeral supplies
- Supports for leave due to work-related and non-work-related or disease
- Support for indemnity health insurance
- Gifts for Family Month
- Flexible work schemes
- Partial day leave system
- Smart Work support
- Family care leave system
- Reduced work hours during early parenting period
- Fertility treatment leave

**Other Systems**

- Health check (including spouse)
- Recreational & fitness facilities
- Lodging fees for overtime workers
- Daycare centers
- Social contribution activities
- Costs for family visits
- Infirmary, nursing areas

**Voluntary Improvement Activities for Environmental Management at Sites**

POSCO E&C conducts voluntary improvement activities for environmental management at construction sites. In 2017, a total of 1,283 activities were conducted to improve the site environment. Starting in May 2018, we are gradually strengthening the management including reduction activities for fine dust from construction equipment.

---

**TOTAL**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>3,921</td>
<td>3,364</td>
<td>3,987</td>
</tr>
</tbody>
</table>

*Data collected from domestic sites

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**APPENDIX**

**POSCO E&C SUSTAINABILITY REPORT**

---

**EXECUTIVES**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executives</td>
<td>persons</td>
<td>43</td>
<td>34</td>
<td>35</td>
</tr>
</tbody>
</table>

*The data includes the number of employees of POSCO Engineering following by the M&A, therefore, are different from the data of the business report.

---

**Employees**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>3,921</td>
<td>3,364</td>
<td>3,987</td>
</tr>
</tbody>
</table>

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**Suppliers Identified with Negative Environmental Impacts**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>233</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>

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**No. of Violations to Environmental Laws and Regulations**

<table>
<thead>
<tr>
<th>Category</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary Sanctions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-monetary Sanctions</td>
<td>7</td>
<td>9</td>
<td>0</td>
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</tbody>
</table>

*Data collected from domestic sites

---

**Rate of Employees with Disabilities**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.83</td>
<td>0.83</td>
<td>0.83</td>
</tr>
</tbody>
</table>

---

**Amount of Wastes Generation (by treatment method)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>tons</td>
<td>44,762</td>
<td>77,073</td>
<td>35,545</td>
</tr>
<tr>
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<td>tons</td>
<td>6,816</td>
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<td>tons</td>
<td>133,409</td>
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<td>Total</td>
<td>tons</td>
<td>589,149</td>
<td>451,102</td>
<td>579,151</td>
</tr>
</tbody>
</table>

*Data collected from domestic sites

---

**Amount of Wastes Generation (by type)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated</td>
<td>tons</td>
<td>20</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Onsite</td>
<td>tons</td>
<td>8,676</td>
<td>11,399</td>
<td>3,431</td>
</tr>
<tr>
<td>Construction</td>
<td>tons</td>
<td>580,453</td>
<td>439,696</td>
<td>575,703</td>
</tr>
<tr>
<td>Total</td>
<td>tons</td>
<td>589,149</td>
<td>451,102</td>
<td>579,151</td>
</tr>
</tbody>
</table>

*Data collected from domestic sites

---

**Rate of Wastes Recycling**

<table>
<thead>
<tr>
<th>Year</th>
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<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76</td>
<td>69.9</td>
<td>61.4</td>
</tr>
</tbody>
</table>

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**Rate of Compliance to Environmental Laws and Regulations**

<table>
<thead>
<tr>
<th>Year</th>
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<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90%</td>
<td>95%</td>
<td>98%</td>
</tr>
</tbody>
</table>

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**No. of Suppliers Identified with Negative Environmental Impacts**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>233</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>

---

**No. of Suppliers Improved/Discussed about Negative Environmental Impacts**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>

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**Suppliers Identified with Negative Environmental Impacts**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>233</td>
<td>126</td>
<td>156</td>
</tr>
</tbody>
</table>
**Rate of Regular Performance Appraisals**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Hires</td>
<td>persons</td>
<td>89</td>
<td>35</td>
<td>668</td>
</tr>
<tr>
<td>- Male</td>
<td>persons</td>
<td>78</td>
<td>33</td>
<td>640</td>
</tr>
<tr>
<td>- Female</td>
<td>persons</td>
<td>2</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>- New Hires Rate</td>
<td>%</td>
<td>2.1</td>
<td>1.1</td>
<td>16.8</td>
</tr>
</tbody>
</table>

**Turnover**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>persons</td>
<td>94</td>
<td>358</td>
<td>43</td>
</tr>
<tr>
<td>- Female</td>
<td>persons</td>
<td>2</td>
<td>70</td>
<td>2</td>
</tr>
<tr>
<td>- Turnover Rate</td>
<td>%</td>
<td>2.5</td>
<td>12.9</td>
<td>1.1</td>
</tr>
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</table>

**Talent Cultivation**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Hours per Employee</td>
<td>hours</td>
<td>38</td>
<td>63</td>
<td>46</td>
</tr>
<tr>
<td>Training Costs per Employee</td>
<td>KRW 10,000</td>
<td>40</td>
<td>55</td>
<td>59</td>
</tr>
</tbody>
</table>

**Employee Grievance Treatment**

- POSCO E&C operates various channels to receive complaints including corruption and irregularities, violations related to fair trade, and employees' grievances and suggestions, and the identities of the whistleblowers are securely protected.

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Grievance Filed</td>
<td>cases</td>
<td>198</td>
<td>180</td>
<td>494</td>
</tr>
<tr>
<td>- Cyber Smimming</td>
<td>cases</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>- The Plus Gwangjang</td>
<td>cases</td>
<td>195</td>
<td>178</td>
<td>491</td>
</tr>
<tr>
<td>Avg. Days to Respond</td>
<td>days</td>
<td>1.9</td>
<td>1.1</td>
<td>1.7</td>
</tr>
</tbody>
</table>

**Sexual Harassment Prevention**

- POSCO E&C regulated the terms related to preventing sexual harassment in the ‘Sexual Harassment Prevention Guidelines at Work’ and enforces the employees to abide by the guideline. During the occurrences of issues of sexual harassment, personal identities of the victims are securely protected, and the perpetrators are referred to the personnel committee and are penalized through discipline, dismissal, or suspension.

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disciplinary Actions for Sexual Harassment</td>
<td>cases</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sexual Harassment Prevention Training</td>
<td>hours per employee</td>
<td>1.37</td>
<td>1.47</td>
<td>1.96</td>
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**No. of Agreements Signed in Consideration of Human Rights**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Significant Agreements Signed</td>
<td>85</td>
<td>69</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>No. of Significant Agreements Signed in Consideration of Human Rights (%)</td>
<td>6</td>
<td>34</td>
<td>37</td>
<td></td>
</tr>
</tbody>
</table>

**Ethics and Compliance Training**

- POSCO E&C established a smooth communication relationship between labor and management. In case of any significant changes in the corporate management, we share the information between labor and management. In case of any significant changes in the corporate management, we share the information between labor and management.

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics/ Fair Trade Training</td>
<td>Hours of</td>
<td>Training</td>
<td>Practice Level Evaluation</td>
<td>********</td>
</tr>
<tr>
<td>Supplier Ethics Training</td>
<td>Hours of</td>
<td>Training</td>
<td>Subcontracting</td>
<td>Clean-up</td>
</tr>
</tbody>
</table>

**Cases of Violations to Regulations Related to Safety and Health of Products and Services**

- In 2017, there was no any case of our products and services (building structures) violating regulations (Asbestos Safety Management Act, etc.) regarding safety and health of the customers.

**Cases of Breaches of Customer Privacy**

- POSCO E&C protects personal information of its customers safely through the personal information protection system and ISO 27001 certification. In 2017, there was not any report regarding personal information in the VOCs and violations to regulations through breaches of customer privacy.

**Local Community**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Volunteer Activities</td>
<td>Hours per Employee</td>
<td>32.1</td>
<td>29.0</td>
<td>24.6</td>
</tr>
<tr>
<td>Total Hours</td>
<td>126,791</td>
<td>119,129</td>
<td>114,784</td>
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</tr>
<tr>
<td>1% Sharing Activities of Employees</td>
<td>KRW 100 million</td>
<td>6.4</td>
<td>5.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Social Construction Investments</td>
<td>KRW 100 million</td>
<td>12.8</td>
<td>11.4</td>
<td>8.8</td>
</tr>
</tbody>
</table>

**Safety and Health**

- In 2017, there was not any case of our products and services (building structures) violating regulations (Asbestos Safety Management Act, etc.) regarding safety and health of the customers.
## GRI INDEX

### GRI STANDARDS _基礎 (GRI 100)

<table>
<thead>
<tr>
<th>Topic No.</th>
<th>Title</th>
<th>Page</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>102-1</td>
<td>Name of the organization</td>
<td>1, 7-8</td>
<td></td>
</tr>
<tr>
<td>102-2</td>
<td>Activities, brands, products, and services</td>
<td>17-42</td>
<td>Business Report</td>
</tr>
<tr>
<td>102-3</td>
<td>Location of headquarters</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>102-4</td>
<td>Location of operations</td>
<td>5-8</td>
<td></td>
</tr>
<tr>
<td>102-5</td>
<td>Ownership and legal form</td>
<td>7-8</td>
<td></td>
</tr>
<tr>
<td>102-6</td>
<td>Mains served</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>102-7</td>
<td>State of the organization</td>
<td>5-8, 8, 88-89, 92</td>
<td>Majority of the constructions of the company are constructed through its suppliers*</td>
</tr>
<tr>
<td>102-8</td>
<td>Information on employees and other workers</td>
<td>71-74, 93-94</td>
<td></td>
</tr>
<tr>
<td>102-9</td>
<td>Supply chain</td>
<td>9, 79-82</td>
<td></td>
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<tr>
<td>102-10</td>
<td>Significant changes to the organization and its supply chain</td>
<td>9, 79-82</td>
<td></td>
</tr>
<tr>
<td>102-11</td>
<td>Precautionary Principle or approach</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>102-12</td>
<td>External initiatives</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>101-13</td>
<td>Membership of associations</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>102-14</td>
<td>Statement from senior decision-maker</td>
<td>3</td>
<td>Business Report</td>
</tr>
<tr>
<td>102-18</td>
<td>Values, principles, standards, and norms of behavior</td>
<td>9-18</td>
<td></td>
</tr>
<tr>
<td>102-19</td>
<td>Governance structure</td>
<td>47</td>
<td>Business Report</td>
</tr>
<tr>
<td>102-20</td>
<td>List of stakeholder groups</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>102-21</td>
<td>Collective bargaining agreements</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>102-22</td>
<td>Identifying and selecting stakeholders</td>
<td>51-52</td>
<td></td>
</tr>
<tr>
<td>102-23</td>
<td>Approach to stakeholder engagement</td>
<td>51-52</td>
<td></td>
</tr>
<tr>
<td>102-46</td>
<td>Key topics and concerns raised</td>
<td>51-52</td>
<td>Business Report</td>
</tr>
<tr>
<td>102-47</td>
<td>List of material topics</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>102-48</td>
<td>Restatement of information</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>102-49</td>
<td>Changes in reporting</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>102-50</td>
<td>Reporting period</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>102-51</td>
<td>Date of most recent report</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>102-52</td>
<td>Reporting cycle</td>
<td>1</td>
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<tr>
<td>102-53</td>
<td>Contact point for questions regarding the report</td>
<td>1</td>
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<tr>
<td>102-54</td>
<td>Name of reporting in accordance with the GRI standards</td>
<td>99-100</td>
<td></td>
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<tr>
<td>102-55</td>
<td>GRI content index</td>
<td>95-96</td>
<td></td>
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<tr>
<td>102-56</td>
<td>External assurance</td>
<td>99-100</td>
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<tr>
<td>103-1</td>
<td>Explanation of the material topic and its Boundary</td>
<td>53, 53S(E3)D717,73,79,83</td>
<td></td>
</tr>
<tr>
<td>103-3</td>
<td>The management approach and its components</td>
<td>53, 53S(E3)D717,73,79,83</td>
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</tr>
<tr>
<td>103-4</td>
<td>Evaluation of the management approach</td>
<td>53, 53S(E3)D717,73,79,83</td>
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</table>


### GRI STANDARDS _ECONOMIC PERFORMANCE (GRI 200)

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<tr>
<th>Topic No.</th>
<th>Title</th>
<th>Page</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>201-1</td>
<td>Direct economic value generated and distributed</td>
<td>88-90</td>
<td></td>
</tr>
<tr>
<td>204-1</td>
<td>Proportion of spending on local suppliers</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>205-2</td>
<td>Communication and training about anti-corruption policies and procedures</td>
<td>63</td>
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</tbody>
</table>

### GRI STANDARDS _ENVIRONMENTAL PERFORMANCE (GRI 300)

#### GRI STANDARDS _ENVIRONMENTAL PERFORMANCE (GRI 300)

<table>
<thead>
<tr>
<th>Topic No.</th>
<th>Title</th>
<th>Page</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>302-1</td>
<td>Materials used by weight or volume</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>302-2</td>
<td>Energy consumption within the organization</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>302-3</td>
<td>Water withdrawn by source</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>302-4</td>
<td>Water recycled and reused</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>304-2</td>
<td>Significant impacts of activities, products, and services on biodiversity</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>305-1</td>
<td>Direct (Scope 1) GHG emissions</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>305-2</td>
<td>Energy indirect (Scope 2) GHG emissions</td>
<td>90-91</td>
<td></td>
</tr>
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<td>305-6</td>
<td>GHG emissions intensity</td>
<td>90-91</td>
<td></td>
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<tr>
<td>306-1</td>
<td>Water discharge by quantity and destination</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>306-2</td>
<td>Waste by type and disposal method</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>307-1</td>
<td>Non-compliance with environmental laws and regulations</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>308-1</td>
<td>New suppliers that were screened using environmental criteria</td>
<td>90-91</td>
<td></td>
</tr>
<tr>
<td>308-2</td>
<td>Negative environmental impacts in the supply chain and actions taken</td>
<td>90-91</td>
<td></td>
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</tbody>
</table>

### GRI STANDARDS _SOCIAL PERFORMANCE (GRI 400)

#### GRI STANDARDS _SOCIAL PERFORMANCE (GRI 400)

<table>
<thead>
<tr>
<th>Topic No.</th>
<th>Title</th>
<th>Page</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>401-1</td>
<td>New employee hires and employee turnover</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>401-2</td>
<td>Benefits provided to full-time employees that are not provided to temporary or part-time employees</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>401-3</td>
<td>Parental leave</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>403-1</td>
<td>Workers representation in formal joint management-worker health and safety committees</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>403-2</td>
<td>Programs for upgrading employee skills and transition assistance programs</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>403-3</td>
<td>Percentage of employees receiving regular performance and career development reviews</td>
<td>93</td>
<td>Business Report</td>
</tr>
<tr>
<td>405-1</td>
<td>Diversity of governance bodies and employees</td>
<td>93-94</td>
<td></td>
</tr>
<tr>
<td>405-2</td>
<td>Incidents of discrimination and corrective actions taken</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>408-1</td>
<td>Operations and suppliers at significant risk for incidents of child labor</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>409-1</td>
<td>Operations and suppliers at significant risk for incidents of forced or compulsory labor</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>412-1</td>
<td>Employee training on human rights policies or procedures</td>
<td>63-66</td>
<td></td>
</tr>
<tr>
<td>412-2</td>
<td>Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>413-1</td>
<td>Operations with significant actual and potential negative impacts on local communities</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

*The Safety & Health Committee is not operated, and no changes in management activities are included through this line.*

### APPENDIX

**POSCO E&C could not find any projects that may have crucial, practical, potential, or negative impacts that may have crucial, practical, potential, or negative impacts on local communities.**

- **POSCO E&C could not find any construction activities suitable for the community to offset impacts of products and services.**
- **POSCO E&C could not find any construction activities suitable for the community to offset impacts of products and services.**

### POSCO E&C SUSTAINABILITY REPORT

- **http://www.poscoenc.com/company/philosophy.asp**
- **http://www.poscoenc.com/service/sustain_report.asp**
GLOBAL INITIATIVES

UN GLOBAL COMPACT

In 2012, POSCO E&C joined the UN Global Compact and expressed our commitment to the Ten Principles in the four fields of human rights, labor, environment, and anti-corruption. We are committed to fulfilling our corporate social responsibility by reflecting international standards for sustainable management and by carrying out a variety of related activities.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Principle</th>
<th>Notable actions by POSCO E&amp;C</th>
<th>Page</th>
<th>GRI Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human rights</td>
<td>01.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>63~64</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>02.</td>
<td>Businesses should seek to avoid it where it is not incompatible with their human rights responsibilities</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>03.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>04.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>05.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>06.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>07.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>08.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>09.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
<tr>
<td></td>
<td>10.</td>
<td>Businesses should support and respect the protection of internationally proclaimed human rights; and</td>
<td>59~60</td>
<td>401-2, 401-4, 401-7, 401-8, 404-1, 404-4, 404-6, 404-11</td>
</tr>
</tbody>
</table>

AWARDS & MEMBERSHIPS

<table>
<thead>
<tr>
<th>Major Awards</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017 May</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
<tr>
<td></td>
<td>2017 June</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
<tr>
<td></td>
<td>2017 July</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
<tr>
<td></td>
<td>2017 September</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
<tr>
<td></td>
<td>2017 November</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
<tr>
<td></td>
<td>2017 December</td>
<td>1st Place, India Infrastructure Awards 2017 (India)</td>
</tr>
</tbody>
</table>

GHG EMISSIONS ASSURANCE STATEMENT

Scope (as defined within GHG Target Management Scheme in Korea)

- Direct GHG Emissions
- Energy Indirect GHG Emissions
- Total GHG Emissions

Data is presented in tonnes of CO₂ equivalent.
THIRD-PARTY ASSURANCE STATEMENT

Introduction
POSCO ENGINEERING & CONSTRUCTION Co., Ltd ("POSCO E&C") commissioned DNV GL Business Assurance Korea, Ltd. ("DNV GL"), part of DNV GL Group, to undertake independent assurance of POSCO E&C Sustainability Report 2017-18 (the "Report"). The directors of POSCO E&C have sole responsibility for the preparation of the Report. The responsibility of DNV GL in performing the assurance work is to the management of POSCO E&C in accordance with the terms of reference. DNV GL’s assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been prepared in good faith.

Scope of assurance
The scope of assurance includes a review of non-financial data and sustainability activities and performance data over the reporting period from 1st January to 31st December 2017 in the POSCO E&C Sustainability Report 2017-18 (Korean version). This also includes:
• Evaluation of the Report on the adherence to the reporting principles for defining report content and the reporting principles for defining report quality set forth in the Global Reporting Initiative (GRI) Sustainability Reporting Standards.
• Evaluation of the process for determining material topics for reporting and the management approach to material topics and the process for generating, gathering and managing the quantitative and qualitative data in the Report.

Basis of our opinion
We’ve performed our work using DNV GL’s assurance methodology VeriSustain™, which is based on our professional experience, international assurance best practice including International Standard on Assurance Engagements 3000 (ISAE 3000). We applied the limited level of assurance. The assurance was carried out from August 16th September 2018. The site visits were made to Songdo office of POSCO E&C in Korea.

Assurance activities were conducted based on sampling as follows:
• interviewed representatives from the various departments and reporting subsidiaries;
• conducted document reviews, data sampling and interrogation of supporting databases and associated reporting systems as they relate to selected content and performance data;
• reviewed the materiality assessment report.

Limitations
The engagement excludes the sustainability management, performance and reporting practices of POSCO E&C’s subsidiaries, associated companies, suppliers, contractors and any third-parties. DNV GL did not interview external stakeholders as part of this Assurance Engagement. The engagement excludes the sustainability management, performance and reporting practices of POSCO E&C’s subsidiaries, associated companies, suppliers, contractors and any third-parties. DNV GL did not interview external stakeholders as part of this Assurance Engagement. The engagement excludes the sustainability management, performance and reporting practices of POSCO E&C’s subsidiaries, associated companies, suppliers, contractors and any third-parties. DNV GL did not interview external stakeholders as part of this Assurance Engagement.

Sustainability Context
The Report shows stakeholders the POSCO E&C’s approach to material topics, its implementation system and goals, its main activities and efforts. In addition, the Report describes the key achievements in 2017 which help the stakeholder understand the sustainability management of POSCO E&C. In particular, this Report provides internal summaries with executives with regards to material topics. Readers of the Report can measure the level of interest in the material topics among internal stakeholder, especially executives and have a better view on the management approach. In addition, POSCO E&C addresses corrective actions taken against the accident to prevent the recurrence and to improve its Health & Safety management system. Employees’ commitment to the safety is also provided. POSCO E&C increases in applying new ICT technologies to improve the productivity.

Materiality
POSCO E&C has conducted the materiality assessment to prepare the Report. The relevant 40 issues are selected by analyzing the global sustainability initiatives and international standards. Since then, POSCO E&C has prioritized the issues to 13 important issues by reviewing prior years’ report and news articles and integrating the rating result by stakeholders. The 13 important issues selected from the materiality assessment were grouped into 8 final material topics. The assurance team reviewed the materiality assessment process and confirmed that the material topics prioritized from the process are addressed in the Report.

Completeness
The Report has covered the material topics and sustainability performances of POSCO E&C for the reporting period. The reporting boundary is set up to 96 domestic projects including the headquarters. The assurance team has not noted any intentional omissions of the performance results on material topics within the reporting boundary.

In addition, the evaluation of the adherence to the principles related to report quality is as follows:

Balance, Comparability, Accuracy, Timeliness, Clarity and Reliability
The assurance team has sampled data and tested accuracy and reliability. The assurance team interviewed the data owners and reviewed the data gathering process with the supporting documents and records. The depth of data verification is limited to the aggregated data level. Based on the test, the intentional error or misstatement is not noted. The data owners were able to demonstrate to trace the origin of the data and to interpret the processed data in a reliable manner. The data was identifiable and traceable. In addition, the Report provides the last three-year performance on material topics, helping stakeholders understand the changes in organizational performance over the years.

Competence and Independence
DNV GL applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have compiled with the DNV GL Code of Conduct1 during the assurance engagement and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV GL was not involved in the preparation of statements or data included in the Report except for this Assurance Statement. DNV GL maintains complete impartiality toward stakeholders interviewed during the assurance process. DNV GL did not provide any services to POSCO E&C that could compromise the independence or impartiality of our work.

Conclusion
On the basis of the work undertaken, nothing comes to our attention to suggest that the Report does not properly address the adherence to the Principles for defining report content in GRI Standards nor is prepared ‘in accordance’ with GRI Standards - Core option. Further opinions with regard to the adherence to the Principles are made below.

Stakeholder Inclusiveness
POSCO E&C has identified internal and external stakeholder groups such as Employees, Customers, Suppliers, Investors, Environment and Society. POSCO E&C conducts stakeholder engagement activities through various channels. The examples of approaches to engage with the selected stakeholders and relevant organizations are described in the Report. In addition, POSCO E&C presents the relevance of stakeholders with the selected material topics through the materiality assessment.
### HISTORY OF INNOVATION

#### 1994 - 2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995. 08.</td>
<td>Developed MIDAS-BDS (Building Design System) program for structural analysis &amp; design</td>
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<tr>
<td>1995. 09.</td>
<td>Won contract for ARCO special steel plant in Egypt (annual production 1.4 million tons)</td>
</tr>
<tr>
<td>1995. 10.</td>
<td>Started construction of Diamond Plaza in Ho Chi Minh City, Vietnam</td>
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<tr>
<td>1996. 04.</td>
<td>Started construction of POS Plaza in Shanghai, China</td>
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<tr>
<td>1996. 07.</td>
<td>Won contract for KOBRAESCO plant in Brazil</td>
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<tr>
<td>1996. 10.</td>
<td>Acquired ISO 9001 certification</td>
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<tr>
<td>1997. 01.</td>
<td>Won contract for Posven HBI (hot-briquetted iron) plant project in Venezuela</td>
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<tr>
<td>1999. 12.</td>
<td>Won contract for Tavazon blast furnace in Iran (first overseas blast furnace project by a Korean construction company)</td>
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<tr>
<td>2000. 04.</td>
<td>Obtained ISO 14001 certification</td>
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#### 2001 - 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>2001. 12.</td>
<td>Received order for stainless steel expansion project at Zhangjiagang Port in China</td>
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<tr>
<td>2002. 02.</td>
<td>Changed company name to POSCO E&amp;C</td>
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<tr>
<td>2002. 03.</td>
<td>Announced the # (The Sharp) apartment brand</td>
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<tr>
<td>2003. 06.</td>
<td>Obtained OHSAS 18001 certification</td>
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<tr>
<td>2003. 10.</td>
<td>Held launch ceremony for Songdo International City</td>
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<tr>
<td>2005. 03.</td>
<td>Won contract for Hadeed CCL (color-coating line) in Saudi Arabia</td>
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<tr>
<td>2005. 06.</td>
<td>Started construction of 909 Kapilalani condos in Hawaii</td>
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<tr>
<td>2006. 08.</td>
<td>Developed Splendora, first self-contained city in Vietnam</td>
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<tr>
<td>2006. 09.</td>
<td>Won contract for Ventanas coal-fired power plant in Chile (first Korean construction company to advance into Central/South America)</td>
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<tr>
<td>2007. 09.</td>
<td>Won contract for POSCO blast furnace in India (India’s largest single plant)</td>
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<tr>
<td>2007. 12.</td>
<td>Won contract for new project of Asia Special Steel Co. in Japan</td>
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<tr>
<td>2008. 04.</td>
<td>Took over Daewoo Engineering</td>
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<td>2009. 03.</td>
<td>Won contract for Nol Bai–Lao Cai A1 section highway in Vietnam</td>
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<tr>
<td>2009. 09.</td>
<td>Received order for Kalipa Combined Cycle Plant in Peru (first Korean construction company to enter Peru market)</td>
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<tr>
<td>2010. 03.</td>
<td>Won contract for high-rise financial complex in Cambodia (Vattanac Capital Tower)</td>
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<tr>
<td>2010. 05.</td>
<td>Won contract for highway construction in Uzbekistan</td>
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<tr>
<td>2010. 05.</td>
<td>Completed Songdo office and moved in</td>
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<td>2010. 09.</td>
<td>Won contract for desalinated water storage and recovery facility in Abu Dhabi</td>
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<tr>
<td>2010. 10.</td>
<td>Started construction of Krakatau Steel integrated steelworks in Indonesia</td>
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#### 2011 - 2018

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<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2011. 12.</td>
<td>Won contract for CSP integrated steelworks in Brazil, worth US $4.43bn (largest order won by a Korean construction company for an overseas steelmaking plant)</td>
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<tr>
<td>2012. 02.</td>
<td>Ranked 1st in winning contracts in the domestic construction industry (KRW 14.4 trillion in 2011)</td>
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<tr>
<td>2012. 11.</td>
<td>Won contract for Krakow Waste-to-Energy Plant in Poland</td>
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<td>2013. 04.</td>
<td>Received order for Nam Lik 1 Hydroelectric Power Plant in Laos</td>
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<td>2015. 04.</td>
<td>Won contract for 101-story Haeundae LCT The Sharp</td>
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<td>2015. 06.</td>
<td>Saudi PIF acquired 38% stake in POSCO E&amp;C</td>
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<tr>
<td>2016. 02.</td>
<td>Won contract for Colon Combined Cycle Power Plant and LNG facility in Panama</td>
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<td>2016. 07.</td>
<td>Rose to 3rd place in construction capability assessment</td>
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<td>2016. 11.</td>
<td>Won contract for Yeouido Parc 1 development project (KRW 1.12 trillion)</td>
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<td>2017. 02.</td>
<td>Merged with POSCO Engineering</td>
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<td>2017. 08.</td>
<td>Won contract for Matarbari coal-fired power plant in Bangladesh (KRW 9,500 billion)</td>
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<tr>
<td>2017. 11.</td>
<td>Won contract for JG SUMMIT PKG 1 Petrochemical Plant in Philippines (KRW 2,200 billion)</td>
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<tr>
<td>2018. 03.</td>
<td>Won contract for Vietnam’s first petrochemical complex (KRW 7,500 billion)</td>
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<td>2018. 07.</td>
<td>Obtained ISO 45001 for the first in Korean construction industry</td>
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<tr>
<td>2018. 07.</td>
<td>Won contract for Samcheok Thermal Power Plant in Korea</td>
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