SolutionPartner

LG CHEM

SUSTAINABILITY REPORT 2016

LG Chem

Business Highlights

Energy Solutions
- Cumulative orders of vehicle batteries: KRW 36 trillion
- The largest market share in ESS (Energy Storage System) Battery

▫ Core Commercialization Phase
: Expect full-fledged growth and profit creation

Water Purifying Solutions
- Secured core technology by acquiring NanoH2O in 2014
- Commercialized the product in 2015 and obtained orders

▫ Initial Commercialization Phase
: Examine business expansion opportunity

Bio Solutions
- Expanded its business into the green bio business by acquiring Dongbu FarmHannong in 2016
- Expanded its business into the red bio business by merging with LG Life Sciences in 2017

▫ Market Entry Phase: Prepare a foundation for core commercialization

Operating Income
= KRW **1,991.9** billion

+9.2%

Capital Expenditures (CAPEX)
= KRW **1,976.6** billion

+14.7%

Dividend
= KRW **368.1** billion

+11.1%

Return on Assets (ROA)
= **6.6%**

+0.3%p

Sustainability Highlights

Composition of CSR Committee
The CSR Committee is led by the CEO to strengthen cooperation between departments and organically connect business activities with CSR activities. Through this, we aim to enhance the company's CSR promotion system and risk management.

Conduct Supplier CSR Audits
LG Chem conducted CSR audits to build a sustainable supply chain and enacted the CSR Code of Conduct for suppliers. In the future, we will strengthen the CSR evaluation system and build a supply chain that meets the highest global standards.

Build Water Resources Inventory
In order to systematically manage water resources across the entire process, we built a water resources inventory for both the domestic and Chinese plants. We will minimize the environmental effects on local communities by continuously enhancing the level of environmental management.

GHG Intensity
= **0.450** tCO_2-eq/product ton

-6.3%

* Domestic sites (Scope 1, 2)

Injury Rate
= **0.18** %

-0.02%p

Social Contribution Expeditures
= KRW **29.5** billion

+ 33%

Inclusion in DJSI Asia Pacific
= **8** years

8 Years

Contents

LG CHEM
SUSTAINABILITY REPORT 2016

LG Chem

A window of innovation that looks to the future with a new perspective of LG Chem

INNOVATIVE SOLUTIONS

ENERGY. WATER. BIO. MATERIAL

BRIGHTER **FUTURE**

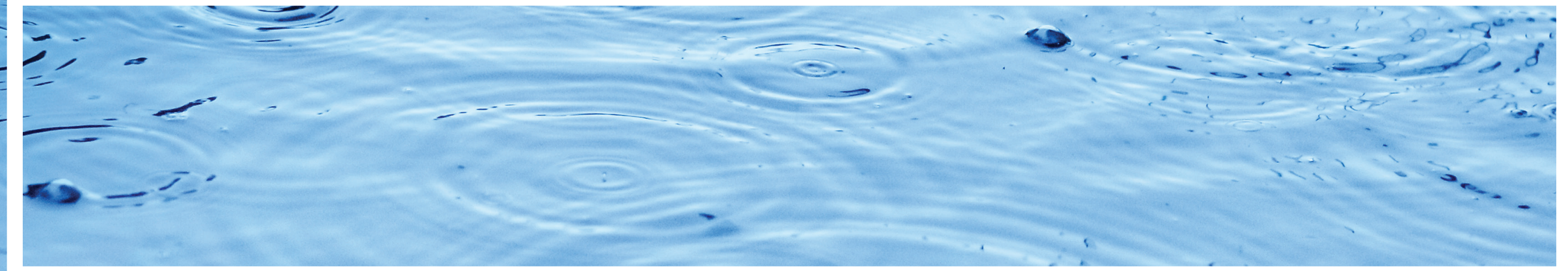
ENERGY SOLUTIONS

Energy Solutions for the next generation

LG Chem is making the earth cleaner, eliminating greenhouse gases
through its energy storing system, which can store energy and use it when it's needed.

BRIGHTER **FUTURE**

WATER PURIFYING
SOLUTIONS



Water Purifying Solutions for the next generation

LG Chem's RO Membrane Technology provides innovative
and sustainable solutions to conserve clean water.

BRIGHTER **FUTURE**

BIO SOLUTIONS

Bio-Solutions for the next generation

LG Chem preserves and protects food and seeds essential to nature's ecosystems.
We also develop medicines and vaccines for a greater quality of human life.

BRIGHTER **FUTURE**

MATERIAL SOLUTIONS

Material Solutions for the next generation

LG Chem has developed a lightweight eco-friendly plastic, which is an ideal substitute for metal. We are also developing other solutions for future materials.

BRIGHTER **FUTURE**

01.
OVERVIEW

CEO Message

Dear stakeholders,
I would like to take this opportunity to express my deepest appreciation for your continuous support for LG Chem.

Although the global economy continues to experience low growth, during the last year, LG Chem successfully increased sales year-over-year and made the largest operating profits in five years since 2011 through the company's efforts at constant innovation that were grounded on strong executive ability under challenging situations. I believe that such results were possible because each business sector made its best endeavors to create customer value with differentiated technology and product competitiveness.

LG Chem greatly improved profitability in the NCC/PO and PVC businesses in the Basic Materials & Chemicals Division and greatly increased sales of high value-added products to develop a superior business model. In the Energy Solutions Division, we achieved continuous sales increases due to the growth in orders for ESS (Energy Storage System) batteries and automotive batteries. In the IT & Electronics Materials Division, LG Chem has bolstered the local supply capability of polarizing plate products in China and maintained the company's well-deserved position as the top provider in the world. Also, the company expanded its business foundation by newly entering the household and industrial water treatment filter market.

Furthermore, LG Chem has secured a competitive edge in the bio business by merging with LG Life Sciences and acquiring FarmHannong to secure future growth engines. The company has acquired GS EM's cathode material business and established a stable supply basis to expand the battery business. LG Chem has focused on improving the structure of its existing business while simultaneously promoting sustainable growth by establishing a balanced business portfolio through the development of future growth engines.

This year, the business management environment is more uncertain compared to previous years due to various risks, such as new levels of protectionism in the US and China and the unstable conditions of the global financial markets because of greater volatility in exchange rates and oil prices. The arrival of the unprecedented Fourth Industrial Revolution also demands changes through a new level of innovation, which will inevitably differ from the methods that were successful in the past.

"LG Chem will pursue fundamental and preemptive change and innovation to ensure its sustainable growth."

LG Chem is attempting to transform its business structure and methods fundamentally and preemptively in order to grow into a sustainable corporation by predicting the future of its customers and markets under such conditions.

"We will establish a sustainable business structure to prepare for the future."

LG Chem will promote the company's mid- and long-term growth engines based on energy, water, bio and materials to establish a foundation to continue to create excellent outcomes as well as prepare to discover and develop new businesses from the perspectives of its markets, customers and competition. The company aims to increase its productivity through manufacturing innovation and the expansion of high value-added products in the existing business.

"We will conduct R&D-centered management, which places the highest priority on customer value."

LG Chem will emphasize performance by connecting business strategies with the full range of R&D activities to develop products with a clear philosophy and vision for its customers. The company will concentrate on the development of innovative technologies that will improve lives, such as innovative batteries, which go beyond the limits of the existing batteries, the next generation fuel cells and OLED display materials.

"We will become a sustainable company, which lasts more than 100 years through the recognition and trust of society."

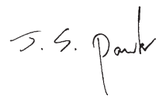
To sharpen the competitiveness of the business despite the rapidly changing management environment, we seek to steadfastly abide by the fundamentals. For this purpose, LG Chem fulfills its economic, social and environmental responsibilities across its management activities such as R&D, purchase, production and sales. We will establish a business structure that is faithful to the company's underpinnings by strengthening its quality and reinforcing the management system to reduce the number of safety accidents to zero. In addition, LG Chem will become a company that grows together with the wider society and is recognized for fulfilling its duties as a corporate citizen, including compliance with the Jeong-Do management philosophy and fair trade, shared growth with suppliers and social contribution.

LG Chem celebrates the 70th anniversary of its founding this year. The company has reached a pivotal moment for growing into a sustainable enterprise beyond its centennial anniversary. LG Chem has endeavored to develop into a global chemical company that creates a sustainable future with our value focused on the philosophy to respect humanity and maintain our passion for taking on challenges despite the turbulent times.

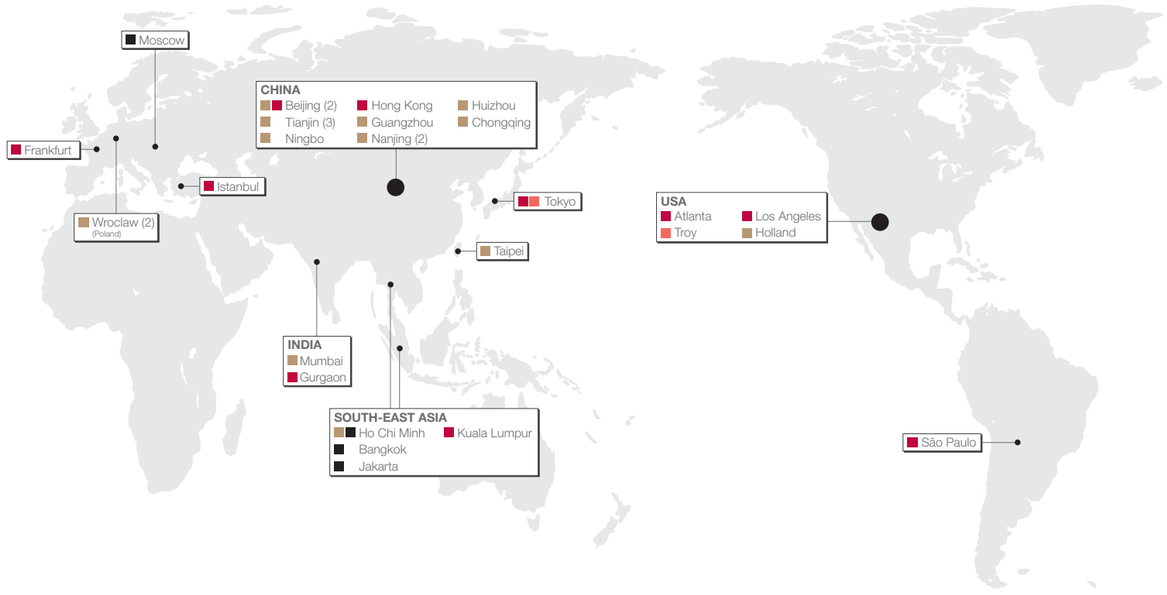
LG Chem will promote the sustainability of its business management based on the continuous innovation of value for our customers and take the lead in creating the best and brightest future possible for our society. We sincerely appreciate your continued support and encouragement.

Sincerely,

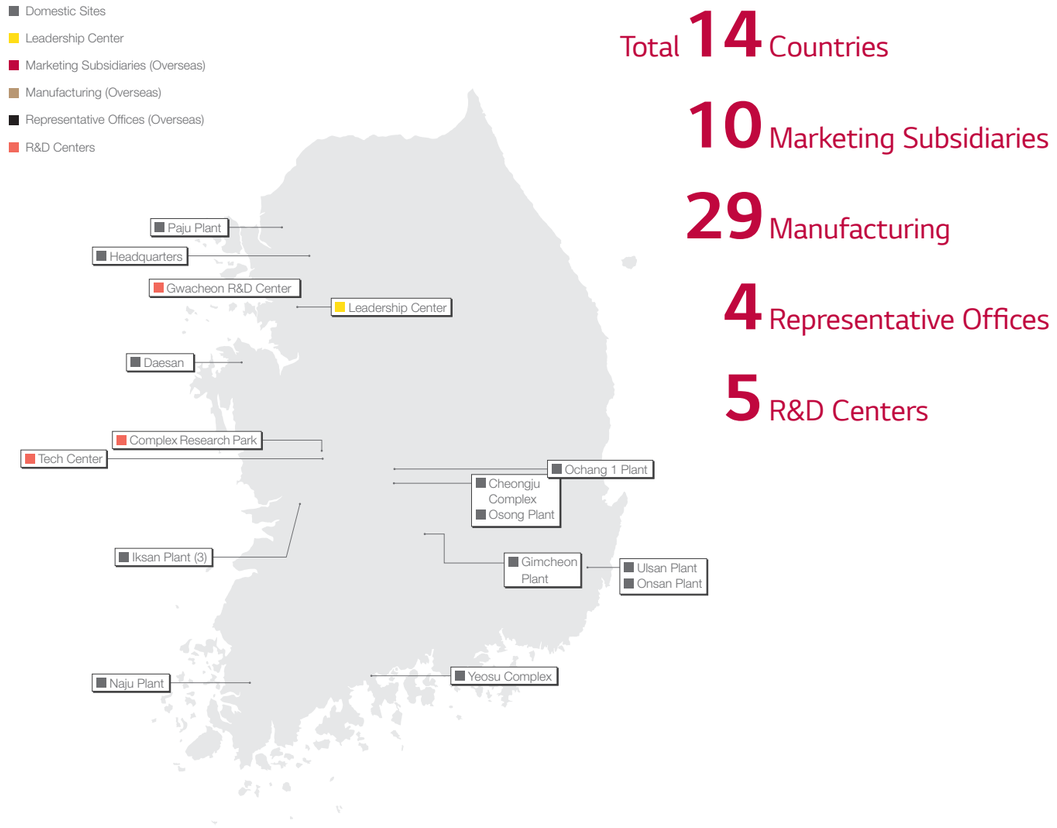
June 2017
CEO and Vice Chairman of LG Chem
Jin-Soo Park



About Us



LG Chem continues to take on challenges and innovate as the country's representative chemical company leading the domestic chemical industry. The company will secure new future growth engines through continuous R&D investments and recruitment of talented personnel, and seeks to improve its business structure by entering the biotech industry following Basic Materials & Chemicals, Energy Solutions, IT&E Materials and Advanced Materials. To achieve our vision to become "A Global Leader that Grows Together with Customers by Providing Innovative Materials and Solutions", LG Chem will fulfill its social and environmental responsibilities and provide innovative value that changes our daily lives.



Total **14** Countries

10 Marketing Subsidiaries

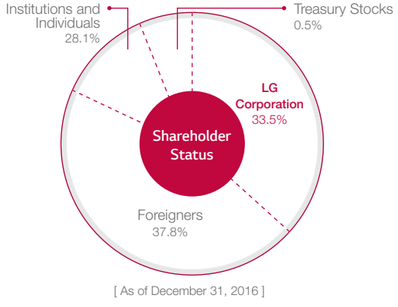
29 Manufacturing

4 Representative Offices

5 R&D Centers

Company Status (As of December 31, 2016)

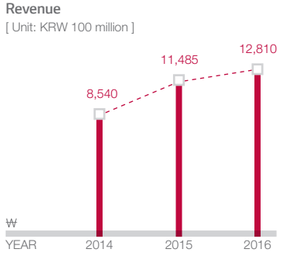
Company Name	LG Chem, Ltd.
Headquarters	LG Twin Tower, 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, South Korea
Foundation	January 1947
Employees	26,658 (14,974 in Korea, 11,684 overseas)

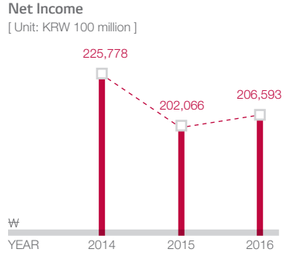


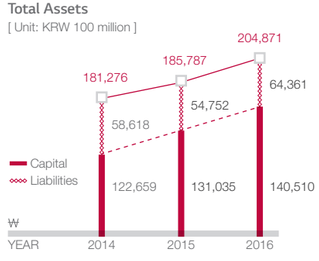
[As of December 31, 2016]

Major Financial Status

[As of December 31, 2016]







Our Business Model

VALUE ADDED BY LG CHEM

INPUT — INPUT OF CAPITAL

Economy

Financial Capital
- Domestic and overseas economic condition
- Response to governmental regulations
- Assets (capital)
- M&A

Manufactured Capital
- Domestic and overseas operations
- Manufacturing facilities

Intellectual Capital
- Core technologies
- Intellectual property rights, patents

Environment

Environmental Capital
- Natural environment
- Energy/water/electric power, etc.

Society

Human Capital
- Professionalism of employees
- Vocational experience and capabilities
- Ethical awareness

Social Capital
- Local community
- Government
- Customers
- Suppliers

VALUE CHAIN

Raw Materials	Our Businesses	Customer	End-user/Public
Naphtha, EDC, etc.	Basic Materials: Production of basic materials such as ethylene, propylene, etc. Development of functional polymers, and eco-friendly and high-functional materials	· Synthetic resins and plastic processing company	· Construction materials
Cathode/Anode Separators, etc.	Energy Solutions: Production and sales of lithium-ion batteries for electric vehicles and ESS Development of battery materials and small-/medium and large-sized batteries	· Automotive (finished vehicles) manufacturer	· Automobiles
TAC film, etc.	IT & Electronic Materials: Production and sales of IT materials including polarizer, LCD glass substrates, semiconductor materials, etc. Production and sales of water treatment RO filters	· Information & communication company	· IT & electronic devices
Millbase, Lithium, etc.	Advanced Materials: Production and sales of display and battery materials such as LCD photoresist, OLED materials, etc.	· Home appliance manufacturer	· Household goods
Pharmaceutical Raw Materials, Organic Compounds, etc.	Life Science: Development of biopharmaceutical, synthetic drugs and vaccines	· Medical sales company	· Medicine
	New Business and Basic Technology: Developing new business, the future growth engine, and strengthening basic technology		

VALUE ADDING ACTIVITIES

- Strengthening Supplier Partnerships
- · R&D and Technology Innovation
  · Response to Climate Change
  · Occupational Safety, Health, and Environment
  · Human Resources Development
- Product Responsibility
- Strategic Social Contribution

OUTCOMES OF BUSINESS — SHARING OF VALUE

* Based on domestic operations

Economy
- Corporate tax KRW 378.8 billion
- Shareholder and investor dividends KRW 368.1 billion
- Domestic and overseas patents 38,989 secured
- The percentage of new products in total sales 33.9%

Environment
- GHG emissions intensity 0.450 tCO_2-eq/product ton (▼6.3%)
- Environmental investment KRW 39.9 billion
- Energy saving KRW 65.8 billion

Society
- Community investment KRW 29.5 billion
- Injury rate 0.18% (▼0.02%p)
- Purchase from suppliers KRW 10,158.2 billion
- Annual wages of employees KRW 1,248.3 billion
- 1,582 new jobs created

Basic Materials & Chemicals

LG Chem improves its profit and loss position by developing the market leading products and creating outcomes based on competitive raw materials, despite uncertainty in the business environment including currency, expanding volatility of oil prices, new protectionism, etc. In addition, the company preemptively switches from marginal business facilities to high-reward production lines under the increasing demand of restructuring and concerns about excessive supply of the petrochemical industry, and builds strong foundations to gain continuous competitive advantages by maximizing profitability through high value added products-centered enhancement of the business structure. In the future, LG Chem will establish a basis for sustainable growth by actively developing new, promising materials for the future.

MANAGEMENT REVIEW

To become a sustainable company, LG Chem should fulfill social and environmental responsibilities in the all processes from R&D to final consumption and create profits in the business.
LG Chem is committed to minimizing its impact on the natural environment and to protecting the safety and health of consumers and continuing to expand material investment in the development of eco-friendly materials such as an eco-friendly plasticizer and eco-friendly synthetic rubber for a tire. In addition, the company is leading the next generation material market by investing in the world's largest single-line plant producing 400 tons/year to commercialize CNT (Carbon Nanotube), 'New Dream Materials'.
LG Chem will do its best to create outstanding outcomes and fulfill social and environmental responsibilities by growing into one of the global material companies through research and investment in new promising materials, and intensive fostering of high-reward businesses.

Okdong Son,
President of Basic Materials & Chemicals Company

2016 BUSINESS HIGHLIGHTS

Basic Materials

- The world's largest NCC plant and no. 1 in the world for energy efficiency

High Value Added Products

- Expand the metallocene polyethylene business and build a dedicated production line based on its proprietary catalyst technology
- Become No.1 in the world for ABS and secure the No.1 position in high value products based on differentiated technology
- Strengthen responses to local customers through operating the EPC plant in Chongqing, China

New Materials

- Complete commercial construction to produce CNT (Carbon Nanotube) 400 tons per year by applying its proprietary technology, and develop usage for battery conductors

Market Prospects

Due to prolonged low oil prices, LG Chem's manufacturing competitiveness is superior to rival countries based on ethane and petroleum in North America. But it is expected that competition becomes serious due to plan to expand commodities by rival countries including China. Especially, as China is expected to reach 80% of commodity self-sufficiency rate in 2020, competition is becoming increasingly fierce. Meanwhile, demand for high value-added products is increasing due to advancement of the consumption structure according to China's policy to promote domestic demand. And demand for petrochemical products is expected to increase due to continuous growth and investment in infrastructure in India and Southeast Asia. In addition, it is expected that demand for new highly functional materials such as lightweight materials is increasing according to next industrial growth like electric vehicles and robots. Therefore, chemical companies achieve competitiveness by promoting various high value-added businesses and simultaneously offering a preemptive response to new demand.

World Oil Price Forecast

*Source: IHS

Business Strategy

The Basic Materials Business Division enhances high value-added products-centered business structure and prepares for the change of future business environment by fostering new promising materials.
LG Chem plans to expand the production of PO products based on its independently developed 'metallocene catalyst and process technology' and is expanding an elastomer plant by investing KRW 400 billion. Through this, the production will increase from 90,000 tons per year to 290,000 tons per year in 2018. In addition, it plans to expand high value-added products such as ABS, EP, SAP, etc. into global neighboring areas.
The company continuously strengthens the world top energy efficiency of the NCC business to prepare the foundation of competitive base materials to expand high value-added business and is expanding production of ethylene by investing KRW 300 billion.
LG Chem completes the construction of a plant for CNT, a new promising material and will build a future-oriented business structure by accelerating carbon and lightweight materials.
Also, LG Chem plans sales of high value-added products from KRW 3 trillion to KRW 7 trillion in 2020.

Energy Solutions

LG Chem expands the supply of eco-friendly electric vehicles, which allows renewable energy to be effectively utilized and provides solutions to supply energy to portable devices by producing automotive batteries, ESS batteries and IT & New Application batteries. Automotive batteries strengthen the best base in the automotive battery market by winning major Supplier Awards of global automobile manufacturers and securing orders of key projects of electric cars. The ESS battery encourages global partnerships by expanding winning orders of large projects for the power grid and signing long-time supply contracts with major power generating companies. It has also proven its excellent product competitiveness by supplying UPS to global IT companies and winning the InterSolar ESS Award 2016 in Germany for ESS for household use. In addition, the IT & New Application battery continues to expand its business by securing customers in new markets such as electric vehicles equipped with cylindrical batteries, power tools, E-bikes, etc, which are expected to have a high growth in the future.

MANAGEMENT REVIEW

LG Chem, which is the only chemical-based company among battery companies in the world, leads the global lithium battery market based on differentiated material technology. Automotive batteries and ESS batteries contribute to the expansion of renewable energy supply and building sustainable cities and ecology. IT & New Application batteries provide energy solutions for customers to lead more convenient life based on technology. In the future, LG Chem will provide solutions to contribute to solving energy and environment problems our society faces based on differentiated products and ultimately try to enrich our life through the consumption of products.

Ung Beom Lee,
President of
Energy Solution
Company

2016 BUSINESS HIGHLIGHTS

Automotive Battery
- Develop products to lead the EV/PHEV market
- Expand the supply of batteries for electric vehicles in accordance with the launching of the 2nd generation electric vehicles
- Start to operate the electric vehicle battery · factory in Nanjing, China

ESS Battery
- Expand the line-up of products based on cells for ESS and strengthen cost competitiveness
- Sign long-term supply contracts and win orders of large electrical grid projects
- Strengthen the best base in key markets for home use

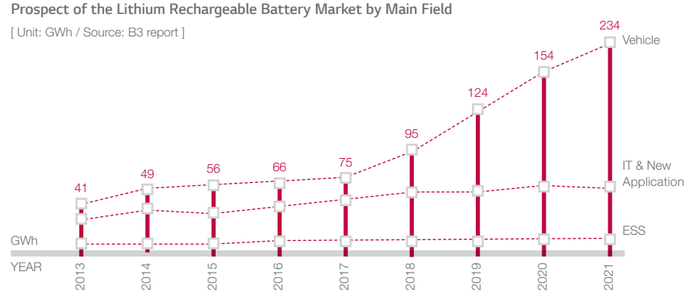
IT & New Application Battery
- Expand new market sales and secure core customers with high growth potential in the future

Market Prospects

The lithium battery market is expected to continue to grow, due to the launching the 2nd generation electric vehicles, fully growing ESS and expanding new markets of IT & New Application batteries. The automotive battery market is rapidly growing as global environmental regulation has been strengthened, and the government's support policy and the sales of popular electric vehicles have been fully implemented. The low voltage market which aims to improve fuel efficiency has also expanded. The commercialization of ESS batteries is proceeding as the policy to promote renewable power generation is expanded and the economic feasibility of lithium batteries is secured. The IT & New Application battery is expected to be developed focusing on new markets such as electric vehicles equipped with cylindrical batteries, power tools, E-bikes, etc.

Prospect of the Lithium Rechargeable Battery Market by Main Field

[Unit: GWh / Source: B3 report]



Major Client Companies for Electric Vehicle Batteries by LG Chem

Korea	Hyundai Motor Company, Kia Motors Corporation
USA	GM, Ford, Chrysler
Europe	Audi, Daimler, Renault, Volvo

Business Strategy

LG Chem aims to achieve the global top position in the battery market and to effectively respond to the change of business environments based on differentiated products, strengthening technology capability and price innovation. The automotive battery plans to continuously win contracts for large projects of next generation electric vehicles.

The ESS battery continues sales expansion by preemptively meeting customer needs and further strengthens the business foundation to lead to market by securing in advance the production ability to prepare for the market's growth.

The IT & New Application battery aims to increase its profitability by converting to the new market-centered business structure and strengthening its competitiveness in the IT market.

IT&E Materials

LG Chem produces and sells RO membranes, next generation growth engines, and IT materials in various fields such as polarizers, LCD glass substrates, OLED materials, semiconductor materials, etc. It has continuously achieved the outcome in LCD and OLED display materials and semiconductor materials. Specifically in terms of polarizers, a core material of displays, LG Chem plans to maximize its profitability by strengthening the local production system in China. It has prepared the foundation to enter functional films, or a new business field, by applying its own technology and acquiring LG Hausys' PSAA (Pressure Sensitive Adhesive Application) business. LG Chem has established the business basis for RO membranes by enhancing product competitiveness and stabilizing its mass production system at an early stage. In the future, LG Chem will lead the improvement of customers' quality of life with high technology-intensive materials.

MANAGEMENT REVIEW

LG Chem provides differentiated value to customers through high technology and tries to ultimately enrich our life.
It provides customers opportunities to grow and creates changes to increase convenience in consumers' lives by increasing products' performance focusing on differentiated materials such as polarizers and functional film, which take the world's first place in the large-sized field. In addition, the company contributes to solving the global issue of water shortage by helping people around the world to get access to clean drinking water through its water treatment business.
Likewise, LG Chem builds a sustainable growth foundation by providing customers and final consumers with a differentiated solution and further tries to provide a much higher quality of life by actively contributing to solving the problems our society faces.

Cheoldong Jeong,
President of IT&E Materials Company

2016 BUSINESS HIGHLIGHTS

Optical Materials

· Continue to take the first place in local supply capability in China

RO Membrane

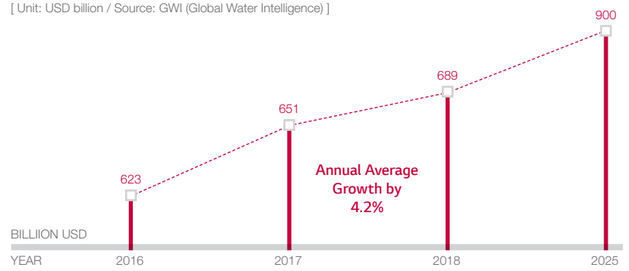
· Expand sales by entering home/industrial markets from the seawater desalination market

Market Prospect

The LCD market attracts continuous investment including the China-centered 10.5 generation production line and the OLED market is expanded around leading companies.
A new business field, RO membranes, is expected to continuously grow due to increasing interest in the global eco-friendly water resources. The global water market exceeded USD 620 billion in 2016, will grow by 4.2% annually and is expected to reach USD 900 billion in 2025.

Size and Prospect of the Global Water Industry Market

[Unit: USD billion / Source: GWI (Global Water Intelligence)]



Business Strategy

Polarizers, as one of the major business sectors of the headquarters, is expected to secure profitability based on strengths such as the internalization of core materials and business foundation secured by preemptive investment in the Chinese market. High functional materials are expected to expand the business portfolio by identifying new areas of application in the vehicle/industrial fields. LG Chem is leading the market by strengthening quality of glass substrates and RO membranes. In particular, RO membranes are expected to strengthen their production competitiveness and expand their product family to increase revenue. After stabilizing RO membranes in the mid- and long-term, their neighboring business expansion is reviewed to take advantage of the full potential of water treatment.

Advanced Materials

LG Chem produces and sells display and battery materials such as LCD photoresist, OLED materials, cathode materials, etc. The company currently operates the display and battery material business and the sustainable business by continuously investing, strengthening technology, and entering overseas markets. A major product, LCD photoresist, has a high market share in the global market based on technology. LG Chem is promoting the development and production of differentiated battery materials such as cathode materials to realize high capacity energy. In addition, it undertakes R&D for the automotive structural adhesive needed for lightweight vehicles and tries to secure the future growth engine. In the future, LG Chem is planning to build continuous growth foundation through expansion of Specialty Chemical business.

MANAGEMENT REVIEW

In our daily life, we use many chemical products. LG Chem develops excellent quality products so that its technology enhances the pleasure of living. Moreover, LG Chem makes efforts to positively impact the world we live in.
LG Chem contributes to the vivid and diverse experiences of end consumers by developing display materials to realize high definition and offers new value to eco-friendly markets by producing safe and high-capacity cathode materials to be applied to electric vehicle batteries.
I wish that the materials that LG Chem produces will offer people more differentiated value and that LG Chem continues to invest actively and contribute to the development of eco-friendly technology for future generations.

Kisu Ro,
Executive Vice President of Advanced Materials Business Unit

2016 BUSINESS HIGHLIGHTS

Display Materials

- Development and production of a mass supply of color LCD photoresist for the 2017 LCD TV
- Development of light-emitting layer and common layer materials for the 2017 and 2018 OLED TV
- Development of OLED common layers for the 2017 smartphone

Rechargeable Battery Materials

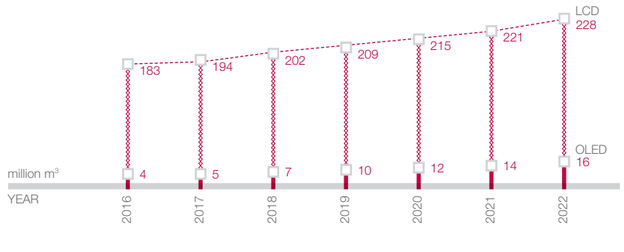
- Completion of investment in 2 new lines for volume expansion of cathode materials

Market Prospect

In this bleak situation where domestic panel companies are closing old production lines and are focusing their production of panels on high-definition and large screens, it is hard for the domestic LCD material market to grow quantitatively. Meanwhile, as the Chinese market strengthens investment in ultra large LCD production lines based on the government support, there are lots of growth opportunities in China. OLED materials are expected to grow rapidly because the Apple smartphone that will be released later in 2017 will adopt OLED and Chinese smartphone companies will also adopt it. In addition, domestic display companies strengthen the response ability to supply by increasing OLED production lines. In the global market, it is expected that global chemical companies will fiercely compete for leadership. In the case of TVs, LG Display will continue to grow its capacity to lead the high-definition TV market and expand its supply, through which it is expected that LG Display will continue its high growth. As the rechargeable battery market grows around the second generation electric vehicles, the demand for high-capacity cathode materials continues to increase.

Size of the Display Market

[Unit: million m³/ Source: IHS '17. Jan.]



Business Strategy

In the case of LCD materials, LG Chem focuses on high-value LCD photoresist to realize high brightness and reproduce high color in the domestic market, and promotes continuous growth by fully entering the Chinese market through the discovery and expansion of Chinese client companies.
LG Chem prepares for high growth of smartphone OLED materials by strengthening technology based on light-emitting materials and maintains its position as the world's top 3 producer of 2017 and 2018 OLED TVs by securing mass production technology in TVs.
In addition, it aims to provide differentiated value by supplying polyimide substrates, or core materials of flexible displays.
To prepare for growth of the second generation electric vehicles LG Chem built two additional productions lines for cathode materials in 2016. The company will lead the next generation market by not only using its own differentiated technology but increasing productivity and expanding supply.

Life Sciences

In 2003, LG Chem developed 'Factive', a fluoroquinolone antibiotic medicine, to develop medicine to contribute to the improvement of human health and obtained the US FDA approval of new drugs for the first time in the country. The company has expanded its business into bio, vaccines and synthetic drugs. It will secure its competitiveness in the global market based on active investment and R&D capacity to intensively foster the Red Biotechnology as the future growth engine.

MANAGEMENT REVIEW

LG Chem creates value for the future and aims to grow as a sustainable chemical company that will use chemistry for the benefit of human life. To this end, the company makes continuous efforts for healthy future by choosing energy, water and biotechnology as the mid to long term growth engines and entering the Red Biotechnology market in 2017.

LG Chem entered the UN Global Marketplace based on vaccines to prevent various diseases and save many lives from diseases. It contributes to the improvement of patients' health by developing new and effective drugs and improving the effectiveness of existing medicines.

In addition, LG Chem tries to secure technologies to develop new drugs in cooperation with pharmaceuticals, academics, relevant research institutes, etc. through 'Open Innovation'.

In the future, LG Chem will grow with our society by actively investing in the continuous development of new drugs and R&D based on the belief that technology to save people and the world has a future.

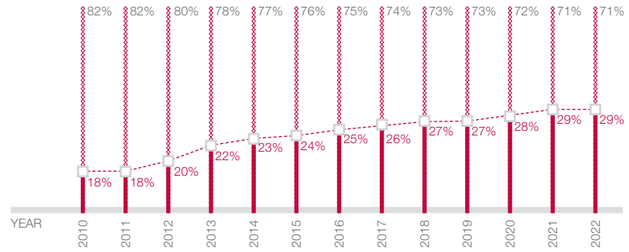
Jeewoong Son,
Executive Vice President of Life Sciences Company

Market Prospect

The Red Bio market is expected to show continuous growth of 5-6% a year from USD 1.1 trillion in 2015 to USD 1.6 trillion in 2022 following aging population and the increased awareness of healthy life as the consequence. In particular, the proportion of biomedicines including vaccines will experience high growth from 24% in 2015 to 29% in 2022. Meanwhile, R&D spending is continuously increasing according the industry's characteristics based on R&D investment and increasing demand for patients' safety and effectiveness. Therefore, it is expected that activities to increase R&D investment and its efficiency will become the core competitiveness of the Red Bio industry.

Status and Prospect of Sales Proportion of Biopharmaceuticals and Conventional Medicines (on the basis of Prescription Medicines and General Medicines)

[Source: EvaluatePharma]



Business Strategy

The Life Science Division aims to strengthen the new drug pipeline based on its capacity and resources and promote bio, zemiglo and vaccines as a cash cow to build up its virtuous circulation system before a merger. LG Chem tries to grow as one of the global innovative companies by solidifying the existing strategy through strengthening of its capacity and merger synergies, and enhancing its business portfolio by expanding new drug development based on stable investment resources after the merger. For this, LG Chem has secured additional professional manpower and strengthened Open Innovation to focus on global new drug development.

Official Launching of 'FarmHannong'

With the emerging food shortage all across the world recently, green biotechnology has drawn attention as the core solution to this phenomenon. The world market is expected to grow by 6% annually from some USD 10 million in 2014 to more than USD 14 million. The green bio market continues to be active as new markets expected for high growth emerge due to greater demand for crops. In addition, genetic engineering technology and precision agriculture solutions are expected to have high future growth prospects. The top six companies with the highest global market share have created stable revenues by achieving an annual average growth rate of operating profits of 15%. They have led industrial innovation and strengthened their market leadership through continuous acquisitions and mergers between companies.

LG Chem entered the green bio market by acquiring the country's top green bio company, Dongbu FarmHannong, on April 19, 2016 and renaming it as FarmHannong. Since its establishment in 1953, FarmHannong has led the green bio field for some 60 years with agriculture related products such as crop protectants (pesticide), seeds, fertilizers, etc. The company has held its leading position in the country with the largest share (27%) in the domestic crop protectants and the second-largest share (19%) in the domestic seed and fertilizer market. It accomplished sales of KRW 628.3 billion and operating profit of KRW 22.1 billion. With official launching of FarmHannong, LG Chem plans to actively foster the agrichemical business based on its organic synthesis, separation and refinery technology in the petrochemical industry, and know-how to operate large plants.

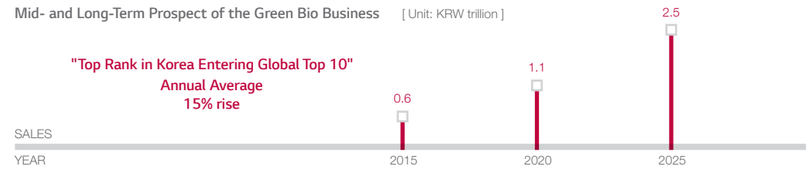
FarmHannong aims to enter the global top 10 by building a differentiated business foundation, intensively promoting the Asian market and building the global business foundation for the next 10 years. For this purpose, it is establishing strategies, a growth path and business models that set it apart from other leading companies.

The growth strategy of FarmHannong is primarily to produce vegetables and food crops and to intensively promote the Asian market of which high growth is expected and the global top 6 companies are relatively weak in the seed business. Simultaneously, FarmHannong pursues differentiation in the traditional breeding business by using genetic engineering and big data technology and plans to conduct a review of a genetically modified seed business model with potential possibility. Through this, the company will grow to become one of the companies to lead the Asian vegetable/crop seed market and enter the global top 10 in 2025.

FarmHannong secures the global business foundation in the crop protectant business and strengthens product development capacity by actively cooperating with the outside and strengthening its own R&D capacity. For this, it plans to acquire a medium-sized company and builds a high-reward business structure by developing its own differentiated finished goods and new original goods.

Finally, FarmHannong examines business opportunities focusing on precision agriculture which is in the initial market formation stage and secures necessary relevant capacity. By linking green bio with air conditioning systems, sensors and greenhouses made from special materials, it provides integrated solution to reduce costs and increase agriculture productivity to secure customers and promote sustainable business.

Mid- and Long-Term Prospect of the Green Bio Business [Unit: KRW trillion]



Strategy to Grow the Green Bio Business

Purpose and Intention	Enter the Global Top 10 in 2025 based on Business Models and Strategy different from Top 6	
	2015	Targets to Achieve in 2025
	· Sales: KRW 0.6 trillion · The largest share in the domestic crop protectant market The second-largest share in the domestic seed/fertilizer market	· Sales: KRW 2.5 trillion · Expand its business in the overseas market focusing on the Asian market
Mission	Seed	Crop Protection
	Secure the global leadership of vegetables and food and the business foundation of GM seeds	Secure the Asia-centered global leadership based on sale of differentiated finished goods and development of original goods
Intensive Areas	· Asia-centered vegetables and food · Global common crops * Choose a GM seed business area later	· The global market (Asia-centered expansion in the initial entry stage) · Accelerate the development of generic finished goods and differentiated original goods

LG WAY

The LG Way is the foundation of LG employees' way of thinking and conduct, aimed at achieving our goal of 'No. 1 LG.' LG's vision is composed of 'Customer Value Creation' and 'People-Oriented Management' on the basis of 'Jeong-Do Management,' LG's unique code of conduct. LG Chem is actively pursuing the title of 'No. 1 LG' through daily practice of the LG Way.

Behavioral Mode
Jeong-Do Management

Vision
Respect No 1. LG

Management Principles
Customer-Value Creation / People-Oriented Management

Ethical management and code of conduct to enable capability development and fair competition.

Integrity
Work done with utmost transparency according to principles and standards.

Fair transaction
Provide equal opportunities and fair treatment in every transaction.

Fair-competition
Improve capabilities through with which one can beat rivals in fair competition.

The ultimate goal of LG is to be recognized as a market leader in business performance as well as in management practices.

To Customers
A trustworthy brand that provides the best products and services.

To Investors
A secure investment that yields sustainably high returns.

To Employees
A exceptional workplace that attracts talented individuals.

To Competitors
A leader that dominates, and a leader to learn from.

The fundamental organizational principle guiding LG from beginning as a firm.

Customer-Value Creation
Customer-First / Substantive value delivery / Innovation-driven creation.

People-Oriented Management
Self-Management and creativity / Respect for human dignity / Capability development and actualization / Performance-based rewards.

LG Chem's Vision and Core Values

LG Chem practices the 3 Shared Values – 'Customer Value Creation', 'Strong Implementation' and 'Mutual Respect' to achieve its vision, the 'Global Leader Growing with Customers by Providing Innovative Materials and Solutions.'

LG Chem's Vision

Innovative Materials
We deliver the best materials with unrivaled prices and performance, designed to improve the performance of customers' products and lead customer businesses to success.

Innovative Solutions
We identify problems in customers' businesses, solve them, and improve performance by incorporating our services and knowledge into products and offering value aligned with customers' individual needs.

Growing with Customers
We grow with our valuable customers by delivering innovative values that help them thrive and prosper.

Global Leader
We strive to be a company that is trusted and admired by our customers, the most attractive choice to our investors, the workplace of choice for the best and the brightest, and feared and emulated by our competitors.

Core Values

Customer Value Creation
We deliver value that substantially improves customers' performance and competitiveness. We act to enhance customer value with a customer-centric mindset and a deep understanding of both our customers and the market.

Strong Implementation
Strong implementation is essential to bringing corporate objectives and aspirations to fruition. It is a systematic process that requires an objective view of reality, thorough analysis, and concrete planning to achieve our goals.

Mutual Respect
Mutual respect plays a key role in building teams and the capacity to make breakthroughs. This teamwork, strengthened by mutual recognition and respect, is what empowers us to achieve our goals.

Sustainability Management System

LG Chem has selected and practiced the 10 core objectives in the areas of economy, environment, and society to achieve its vision, 'Sustainable Chemistry for Human and Environment,' and has established the 4 sustainable management principles as the guidelines for implementing sustainable tasks and business activities.

Sustainability Management System

Vision

Sustainable Chemistry for Human and Environment

Principles of Sustainability

We abide by the principles of sustainability to create sustainable value.

01	02	03	04
We provide environmentally friendly and innovative materials and solutions.	We adhere to business ethics as a corporate citizen.	We make products and run operations in sustainable ways.	We contribute to the growth of communities using our unique capabilities.

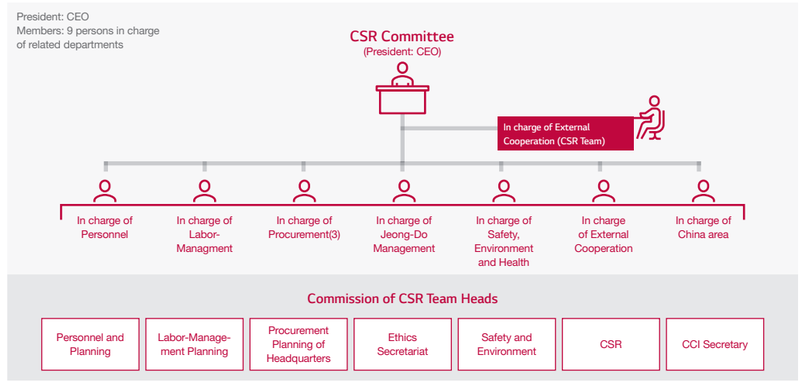
Tasks

Economic	Environmental	Social
· Expanding markets and increasing sales · Improving customer value	· Strengthening product responsibility · Responding to climate change and reducing energy use · Reducing the environmental impacts of industrial operations	· Reinforcing safety and health · Strengthening compliance with fair trade · Strengthening partnerships with business partners · Pursuing strategic social partnership · Respecting human rights and developing talent

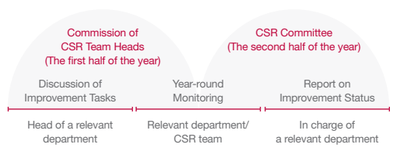
CSR Governance

LG Chem has newly composed the CSR committee to strengthen CSR governance and build a companywide CSR promotion system suitable for global companies. The committee, whose president is the CEO, consists of 9 board members in charge of personnel affairs, labor and management, procurement, Jeong-Do management, safety, environment and health, external cooperation, general management in China, etc. The commission of CSR team heads shall discuss in advance agendas decided by the committee.
The CSR committee meeting will be held annually and be in charge of a function to discuss CSR performance, a planning report and main issues. LG Chem will grow into a company to fulfill social responsibility on a global level by actively promoting CSR strategy and forming consensus on CSR through the committee on an enterprise-level.

Organization of the CSR Committee



Operation Process of the CSR Committee



Main Agendas of the CSR Committee in 2016

Lectures on global change in CSR and risk management necessity
Report of the results of the holding company' CSR committee
Report of plans and performance to improve the company's CSR

* As the result of CSR inspection conducted by the holding company, the group's common CSR improvement tasks

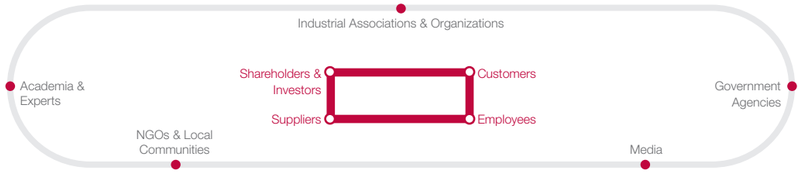
Tasks to Intensively Promote CSR in 2017

Issue Division	CSR Risk Management Improvement Tasks
Suppliers' CSR	· Build suppliers' CSR evaluation system and conduct a field inspection · Strengthen a field inspection of CSR of the "n"th supplier of major businesses
Working Hours	· Preventive management of excessive working hours (Ex: In case of exceeding standard working hours, an alarm activates)
Conflict Minerals	· Build a management system including a supplement to a system and regulations relating to cobalt
Safety, Environment	· Reconfirm the safe management of chemical substances and improve the management process

Stakeholder Engagement

LG Chem organizes its major stakeholders into groups including shareholders & investors, customers, employees, suppliers, NGOs and local communities, academia & experts, industrial associations and organizations, media, government agencies, etc. LG Chem is listening to the objective opinions regarding sustainable management and its major businesses through the company's relevant stakeholders.

Key Stakeholders Groups and Communication Channels



Stakeholder groups	Expectations		Communication Channels	
Shareholders & Investors	· Long-term growth · Creating and distributing profits	· Transparent corporate infor mation disclosure	· Corporate presentations · General shareholders' meetings	· Financial information disclosure · Credit ratings
Customers	· Open communication with customers · R&D capabilities	· Improving product quality and safety	· Collecting customer feedback	· Product liability monitoring
Employees	· Improving the corporate culture · Participating in a wide range of corporate operations	· Promoting employee benefits · Reinforcing employee safety and health	· Employee satisfaction survey · Labor-management committee	· Company magazines · Safety and environmental committee
Suppliers	· Supporting suppliers and providing training	· Fair sharing performance with suppliers	· Shared growth committee · Supplier presentations	· Business and technical support programs
NGOs & Local Communities	· Strategic social partnerships · Investing in local communities	· Local CSR activities by over seas subsidiaries	· Education	· Community cooperation in welfare businesses
Academia & Experts	· Industry-academic cooperation	· Technological development	· Consultation	· Joint R&D activities
Industrial Associations & Organizations	· Responding to new regulations	· Chemical management	· Councils and forums on sustainability	· Industry and business related business associations
Media	· Creating and distributing profits · Social partnership activities	· Technological innovation	· Informal press meetings	
Government Agencies	· Shared growth · Fair trade and compliance	· Occupational safety and health	· Advice on industrial policies	· Various pilot projects

Visit of the Chinese Academy of Social Sciences

The Research Center of Corporate Social Responsibility of the Chinese Academy of Social Sciences, Chinese companies including the Alibaba Group, Huadian Corporation, China Gold Group, etc. persons in charge of CSR, and professors of University of International Business and Economics in China visited LG Chem in June, 2016 to discuss and experience the company's CSR activities. LG Chem has ranked high in evaluating foreign-funded enterprises' CSR in China. In the future, LG Chem will continue to fullfill corporate responsibility in local communities in foreign countries including China.

Holding a Meeting of the Stakeholders

LG Chem has held a stakeholder meeting to seek areas for improvement and directions for development by actively collecting stakeholders' opinions about the company's sustainable management activities and sustainability reports. The company is listening to various opinions by inviting professionals in various fields including investment institutes, academics, international organizations, industrial associations, media, NGOs, etc. LG Chem plans to positively examine opinions suggested by the meetings to reflect on the company's management activities and raise the transparency and utilization of the reports in connection with the development direction of the sustainability report.

Agendas Discussed by the Meeting of the Stakeholders

Review and Improvement of the Sustainability Report

- Review and improvement of the 2015 Sustainability Report
- Application methods of the 2016 Sustainability Report

Review and Improvement of LG Chem's Sustainable Management Activities

- Collection of review opinions of LG Chem's sustainable management promotion status by stakeholders
- Suggestions on future directions for promoting LG Chem's sustainble management

NO	Classification	Name	Position
1	NGO & Local Communities	Byounggi Kim	Team head of Kids & Future Foundation
2	Academia & Experts	Jaeeun Kim	Professor of Seoul School of Integrated Sciences & Technologies
3	Academia & Experts	Jiseok Kim	In charge of energy innovation of the British Embassy in Korea
4	International Organization	Eunkyung Lee	Team head of UN Global Compact Network Korea
5	Shareholders & Investors	Jiyeon Lee	Researcher of the CAPE Investment & Securities
6	Media	Hyunsang Jeong	Team head of Shindonga
7	Industrial Associations & Organizations	Hongjun Choi	Manager of the Korea Petrochemical Industry Association

Main Opinions and Reflection of the Meeting of the Stakeholders

We collect feedback on the report contents, report configuration and sustainable management through a meeting of the stakeholders. The main feedback and a plan to reflect the report are as follows:

Division	Main Opinions of the Stakeholders	Plan to Review and Reflect
Review and Improvement of the Sustainability Report	· Contents focusing on the stakeholders	· Emphasis on core performance and construction of contents so that the report is easy to understand · Strengthen investor-centered reporting including business performance, prospect of future, etc.
	· Status to address negative issues and transparent information disclosure	· Examine to reflect main negative issues on a report
Review and Improvement of LG Chem's Sustainable Management Activities	· Establish the mid- and long-term sustainable management plan and the detailed purpose (KPI)	· Set the KPI and the mid- and long-term objectives by major issue of sustainable management
	· Strengthen links between management activities and sustainable management	· Examine the development of Business Case (CSV) by the main business headquarter
	· Strengthen the sustainability of supply chain	· Build suppliers' CSR management systems including human rights, anti-corruption, etc.

Commentary from Vice President of Corporate Affairs Department

"Recently many stakeholders around companies pay attention to the corporate social responsibility through management which faithfully sticks to the basics and principles, coexists with society and the corporate financial performance. I think a company's own efforts are necessary to improve such activities, but it is more significant to listen to the voices of people outside the company. LG Chem makes great efforts to communicate with the outside world by holding meetings with stakeholders and publishing the sustainability report. The company also promotes various activities to increase social/environmental value across the entire value chain."

Jun-Sung Park,
Vice President of
Corporate Affairs
Department

Materiality Assessment

LG Chem prepares a report by complying with the decision on report subject and the content configuration suggested by GRI (Global Reporting Initiative) G4 Guidelines. Especially in the materiality assessment in 2016, the company has chosen report subjects by analyzing the influence of each subject on the creation of LG Chem's mid- and long-term financial value besides existing materiality assessment process. The details of the materiality assessment process are as follows:

Materiality Assessment Process

Composing the Issue Pool

Issues raised by stakeholders

We examined issues raised by the major stakeholders such as the government and media. The company drew keywords based on major news articles related to LG Chem and the chemical industry in 2016.

- Target Media: 12 national dailies including Chosun Ilbo and Joonang Ilbo, internet newspa pers, TV news, economic dailies.

Analysis of international standards

We examined international standards and initiative requirements related to sustainable management and the chemical industry.

- UNGC (UN Global Compact)
- GRI (Global Reporting Initiative) G4
- ISO26000 / EICC /DJSI
- SASB (Sustainability Accounting Standards Board) Chemical Sector
- SDGs(Sustainable Development Goals), etc.

Benchmarking of the same industries

We examined issues mainly handled by global chemical and bio companies based on the result of the materiality assessment of benchmarking target companies.

- Target Companies: 16 global chemical and bio companies

Draw a total of 26 issues in the issue pool

Analysis of Effects

Business Relevance

We weighed the importance of global benchmarking issues according to international standard requirement level, the frequency of media exposure by issue based on the composed issue pool. We have understood the correlation between drawn issues and LG Chem based on LG Chem's vision, philosophy and internal communication resources.

Impact Relevance

We collected opinions about financial effects by issue through separate surveys of and in-depth interviews with analysts of and institutional investors in the chemical industry. We analyzed and reflected financial effects reflected by elements such as Magnitude, Probability and Externalities with reference to the SASB Materiality Methodology.

Meeting of the Stakeholders

Reflection of Stakeholder Opinions

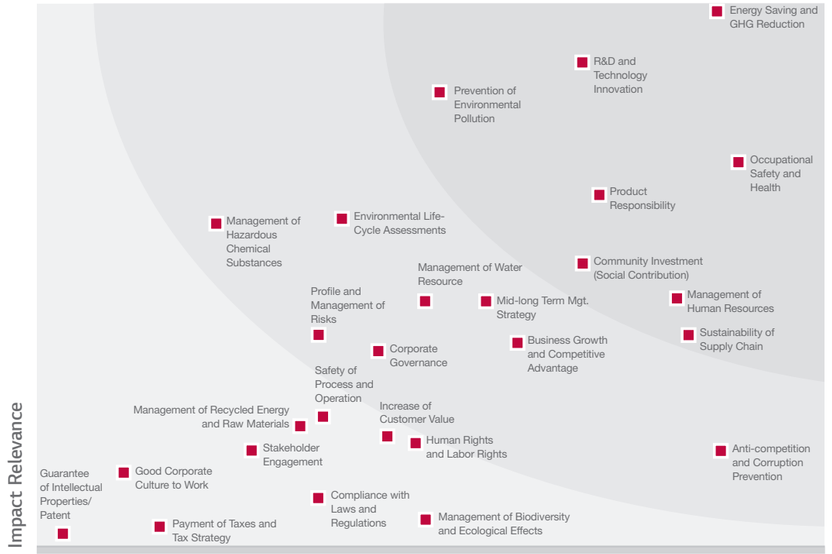
By inviting the various groups of stakeholders with LG Chem, we collected opinions about the sustainability of the chemical industry and LG Chem and reflected the result on the process to draw important issues.

Selection of Material Issues

Combination and Analysis of Results

We composed the materiality matrix by combining the results of the meeting of stakeholders, business effects and business relevance, and selected top 8 issues as material issues (reporting subjects) by prioritizing drawn issues.

The Result of Materiality Assessment



Rank	Material Issues	GRI G4 Aspect	Page
1	Energy Saving and GHG Reduction	Energy, Emissions	62-67
2	R&D and Technology Innovation	Products and Services	50-55
3	Occupational Safety and Health	Occupational Health and Safety	68-75
4	Prevention of Environmental Pollution	Raw Material, Water, Emissions, Effluents and Waste, Compliance, Overall	68-75
5	Product Responsibility	Customer Health and Safety, Compliance	56-61
6	Community Investment (Social Contribution)	Local Communities	90-95
7	Management of Human Resources	Employment, Training and Education, Diversity and Equal Opportunity, Child Labor, Forced or Compulsory Labor	82-89
8	Sustainability of Supply Chain	Supplier Environmental Assessment, Supplier Assessment for Impacts on Society , Supplier Assessment for Labor Practices, Supplier Human Rights Assessment	76-81

02.
VALUE ADDING ACTIVITIES

Our Target and Performance

●: Target achieved ◐: Target on schedule ○: Target behind schedule

	KPI	Achievements in 2016	Status	Mid-long term Target	Impact area
R&D and Technology Innovation issue. 01 We reinforce technologies and expertise through activities so as to strengthen R&D capacity such as securing R&D professionals and open innovation and creating a sustainable value based on eco-friendly technology.	Reinforcing R&D investment	· Expand R&D investment · New business and long-term projects among all R&D investment · Maintain investment proportion by 25% (26.6% in 2016) · The proportion of R&D investment to sales: 32%	◐ Target on schedule	Expand R&D personnel to 6,100 and R&D investment to KRW 1,397.6 billion by 2020	Upstream Operations Downstream
Reinforcing Product Responsibility issue. 02 We contribute to clients' success by maintaining high quality and managing the environmental and social impact of our products from development of products to final consumption.	Improvement of chemical management	· Establishment of the substance management system according to the Act on Registration and Evaluation, etc. of Chemical Substances · Support to respond to the regulation of chemical sub-stances: 223 cases · Prepare and distribute the manuals on responding to chemical regulations: 8 cases	◐ Target on schedule	Efficient response to customers' demand for the compliance with green guarantees and regulations	Upstream Operations Downstream
Response to Climate Change issue. 03 We reduce GHG emissions and energy usage and preemptively respond to domestic and overseas regulations for GHG emissions by building an eco-friendly process.	Reduce greenhouse gas emissions compared to BAU	· Conduct a company-wide energy management performance evaluation system · Discover new items to save energy · Establish its procurement strategies in emissions and build procurement processes · Improve the energy portal system · 5 domestic plants were certifed as excellent plants by the Competition of Korea Superior Energy Performance(K-SEP) · Energy saving reached KRW 65.8 billion	◐ Target on schedule	Reduce greenhouse gas emission by 23% below BAU by 2020	Upstream Operations Downstream
Safety, Health and Environmental Management issue. 04 We prevent injuries by strengthening the effectiveness of the safety/environment audit and internalizing safety culture, and promote reduction of pollutants and the efficiency of resources by continuously improving the working environment in all workplaces.	Zero accidents	· Conduct the regular, project, and special inspections (Total of 50 inspections) · Promoting a project to improve the safety culture · Reorganizing the operating/working manuals for each business division	◐ Target on schedule	Maintain zero accidents	Upstream Operations Downstream
	Expand domestic and overseas plants for the water inventory	· Build domestic plants for the water inventory	◐ Target on schedule	Expand overseas plants for water inventory by 2020	
Strengthening Relationships with Suppliers issue. 05 We provide suppliers with financial and non-financial support to grow with LG Chem by recognizing them as partners and increasing sustainability across the entire supply chain in order for them to comply with their social responsibility.	Build suppliers' CSR Manage-ment System	· Conduct 2 CSR Audits (Basic Materials & Chemicals and Energy Solution Divisions) · Enactment of the Suppliers' Code of Conduct	◐ Target on schedule	Regularly assess suppliers on CSR management and build risk management system by 2020	Upstream Operations Downstream
	Reinforcing suppliers' compet-itiveness	· Win the superior grade in the win-win index · Increase the financial support by KRW 62.9 billion and expand the interest reduction by 2.1 percentage point · Support the productivity innovation partnership and the certified safety and health management of suppliers	◐ Target on schedule	Increase the support fund for shared growth to KRW 200 billion by 2020 (accumulation of 5 years)	
Human Resources Development issue. 06 We secure talented people, support diverse programs to enable employees to demonstrate their capabilities and enhance satisfaction by building an advanced welfare system and organizational culture.	Training talented human resources and supporting changes in the organizational culture	· Education expenses per person: KRW 1.12 million · Education time per person: 50.2 hours · Enactment of the Global Human Rights & Labor Policy · The ratio of female managers increases by 1.3 percentage points over the previous year · Enactment of the practice guidelines for leaders to change the organizational culture	◐ Target on schedule	Build an HR System for sustainable growth	Upstream Operations Downstream
Strategic Social Contribution issue. 07 LG Chem strategically focuses on youth education in chemistry and the green/energy fields by reflecting its characteristics and contributes to solving local communities' problems through social contribution activities for each plant.	Promote employees' partic-ipation in social contribution and investment in local communities	· Chemistry Camp: Some 50 children of employees of FarmHannong participate in the program · Fun Chemistry Park: Expansion of areas (1,400 participants from 5 areas including Daejeon and Ochang) · LG Social Fund: 21 social enterprises in the green field received the benefit · New social contribution program in which employees partic-ipate (Social contribution activities to preserve biodiversity)	◐ Target on schedule	Expand the beneficiaries of social contribution activities in the green and youth education fields	Upstream Operations Downstream

R&D and Technology Innovation

R&D is one of the linchpins in creating corporate value in the chemical industry. But as technological competition between companies gets fierce across the world and technology barriers get higher, it is difficult to remain competitiveness by existing methods. To this end, many companies are going beyond developing core technologies to developing original technologies for the survival and prosperity. At the same time, R&D talents are being secured and creative and autonomous research environments are being supported for research personnel to exert their best ability. LG Chem increases R&D productivity by linking all research activities to business strategy and creates visible R&D outcomes through the timely development of the promoting business. In addition, the company prepares for the future by developing core technology and original technology, discovers next generation growth engines by continuously increasing R&D investment and takes a leap to become a R&D-centered company by strengthening the competitiveness of its existing business.

Link to SDGs

- 7 Affordable and Clean Energy
- 9 Industry, Innovation and Infrastructure
- 13 Climate Action

LG Chem's Activities

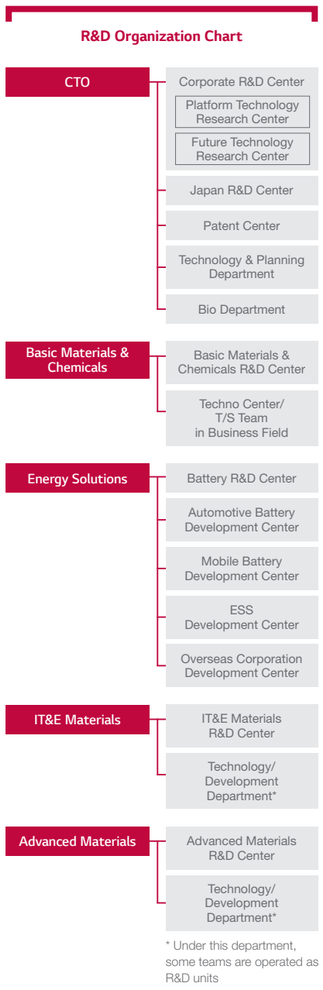
- We contribute to the environment by developing eco-friendly technology to reduce consumption of energy and resources.
- We contribute to strengthening the country's R&D capacity by participating in industry-university cooperation and the government-supported national research projects.

R&D Promotion System

Company-wide R&D Promotion System

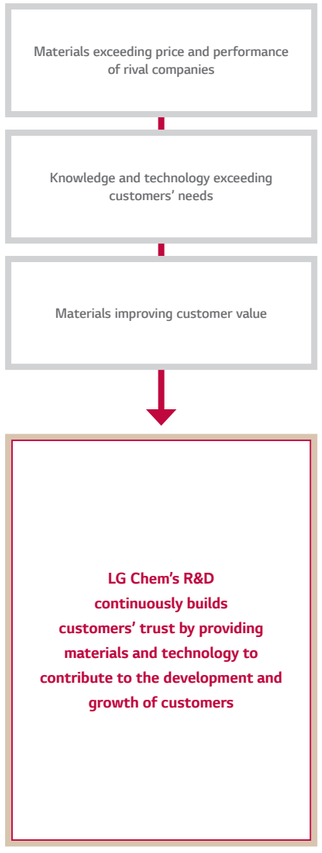
LG Chem is operating systematic and efficient R&D promotion system reflecting the by characteristics of each business.
The company is playing a role of support and control, to conduct R&D related to business in the technology strategy/technology planning field for a corporation and a division. Important decision making and report items will be decided during the business report meetings for the first/second half of the year which all affiliates participate in, and the holding company and the R&D strategy meeting organized by the head of the business division.
During the first half of the year, LG Chem establishes a 5-year goal and decides new businesses and strategies to prepare for the future. During the second half of the year, the company discusses on a detailed R&D plan in its short-term plan for the following year. About 60% of target points of executive directors in the R&D field are composed of items reflected by R&D activities by individual member and project to create continuous outcome in the R&D field. Through this, the sales goals, case numbers and launching schedules of new products of main projects, and quality of mass products required by customers are directly reflected into the purpose of the research director and the head of a research/development center, and simultaneously the individual purpose of each project.
Besides, LG Chem listens to stakeholders by preparing a cooperation channel for the mutual growth of small- and medium-sized businesses on the homepage of the company and its technology research center to register technological issues or suggestion by business partners.

R&D Organization Chart



* Under this department, some teams are operated as R&D units

LG Chem's R&D Vision



R&D Capacity Building

Securing R&D Talents

It is important to secure and foster talented people with excellent capacity to develop differentiated products and technology to lead the market. LG Chem conducts various recruitment activities at home and abroad to raise competitiveness and support the early commercialization of future tasks. The company also recruits talents needed in the new research fields such as bio through industry-university cooperation program with good universities in the country and conducts promotion activities about R&D back-up personnel through exchange meetings, industry-university workshops and Lab Tour which researchers visit major research teams in the country.

Fostering R&D Talents

LG Chem implements R&D common/professional capacity and management capacity education to build R&D capacity of researchers. The company also conducts a mentoring program and orientation education for new researchers. It helps researchers to develop professional knowledge in polymer chemistry, organic chemistry, analytical chemistry, material engineering, electrochemistry and optics through invitation lectures of experts and E-learning. In addition, LG Chem implements patent education and methodology to solve problems to enhance R&D capacity, and supports them to develop professional knowledge by contacting latest technology trends through seminars and academic conferences.
Furthermore, the company continuously conducts education related to R&D management such as accounting, marketing, research tasks management and commercialization to create outcomes through R&D connected to each division's strategy. In the case of researchers who execute many overseas buisnesses, LG Chem provides them with customized language education to work smoothly.

Promotion of Open Innovation

Open innovation is a new paradigm that a company actively utilizes commercialization through outside ideas and paths. LG Chem is actively promoting open innovation. The company exchanges with Open Network companies which have various global network such as Innocentive and YourEncore, and cooperates with other research centers and universities at home and abroad. LG Chem runs various technology exchange systems such as annual technology exchange meetings to share research outcome with all researchers and task presentations to share technology issues and monthly research tasks to facilitate inner research cooperation.

Signing of Research Partnership for Open Innovation

LG Chem signed an MOU with the College of Agriculture & Life Science of Seoul National University for research and cooperation to develop green biotechnology. The MOU will lead LG Chem and Seoul National University to jointly develop core technology in the green bio field such as seeds, crop protectants, etc. by investing KRW 5 billion in the future.
For this, LG Chem has selected 11 core research tasks including several tasks related to the future food, which is expected to contribute to securing competitiveness in the green bio field that the company promotes as new business. LG Chem will do its best to contribute to strengthening the country's competitiveness in the green bio industry through close industry-university cooperation.

Development of High Functional/ High Value-added Basic Materials

Development of CNT (Carbon Nanotube) Products

CNT is a material with superior properties over existing materials. For example, it has the same electric conductivity of copper, the same thermal conductivity of diamond, and 100 times the strength of iron. Therefore, CNT has a wide application range from a secondary battery to aircraft body. LG Chem built the system to mass produce CNT through the world's largest fluidized-bed reactor developed by the company and developed products of which purity, conductivity and strength are 10% better than those of rival companies. In addition, the company released not only existing powder shape CNT, but compressed CNT for customers' convenience. Besides, LG Chem developed various products such as liquid CNT. In the future, it plans to expand sales by applying it to a conductor of a second battery and a compound product.

Development of High Purity ABS Base Resin (SAN)

SAN is an ABS(Acrylonitrile Butadiene Styrene)-based resin with excellent heat and chemical resistance, which give wide application in various products such as home appliances including refrigerator display shelves, office supplies and miscellaneous goods. LG Chem has developed high purity SAN, such that the remaining oligomer and monomer are reduced by more than 80% compared to existing SAN by developing new polymerization process and recovery system. Through this, the ABS quality is significantly improved. LG Chem aims to expand sales by entering not only the high value-added ABS market for food contact and vehicles, but existing markets.

Development of High Performance SAP (Super Absorbent Polymer)

LG Chem is developing differentiated products to address continuously intensifying competition of the diaper market. Recently the company has developed SA for premium diapers which have the characteristics of rapid absorption and high transmittance by applying nanoparticle coating technology and complex void formation technology. LG Chem will accelerate the development of the next generation diaper products by applying the developed technology to premium diapers for customers in Europe and the USA.

Development of Next Generation Display Materials

Development of Room Temperature Setting Ink Materials for OLED

This material is used for organic/inorganic composite blocking layers to protect plastic OLED elements from external moisture and oxygen, and is an essential element to manufacture OLED. LG Chem minimizes shrinkage occurred when hardening a polymer by using the material and secures adhesive strength on the surface of various inorganic material substrates during the process at room temperature. In the future, LG Chem will provide solutions to manufacture the next generation display such as folding displays and thinner and flexible displays.

Development of New Acrylic Film for Low Moisture Transmission and Low Light Leakage Polarizing Film

The polarizing plate protective film market tends to replace a TAC film■ by an acrylic film due to price and the hygroscopic property. LG Chem started to develop a method to apply general PMMA■■ instead of expensive cyclic PMMA with high heat resistance. The company also differentiated from other products through the optimization of primers, application of new UV absorbent and removal of unnecessary additives. LG Chem will lead the IPS(In-Plane Switching) TV market by securing cost competitiveness of acrylic films.

■ TAC Film: It protects a polarizing plate used for LCD TVs, monitors, laptops, smartphone.
■■ PMMA: Acronym of Polymethyl methacrylate

Selected as the Asia IP Elite Company

LG Chem was selected as the 'Asia IP Elite Company' of the year during the IP Business Congress held by IAM (Intellectual Asset Management), an intellectual property journal, on December 5, 2016. The IPBC is the world's largest event where IP business professionals participate in and share and discuss related issues. The event has been held in every country annually starting from Amsterdam in 2008. The award highly evaluated LG Chem's ability to address patent disputation with rival companies, utilization of intellectual properties through patent negotiation and licensing, and strategic management ability of intellectual properties through the analysis of patent statistics. In the future, LG Chem will try its best to create and utilize intellectual properties suitable for a global chemical company.

Development of Materials for Eco-friendly Products

Development of Energy Saving Window Film

The solar control window films account for KRW 500 billion among the window film market. Of which the ones for vehicles account for 65% and the ones for construction account for 35%. Especially the construction films are expected to expand in the market due to change of the government policy related to environment. LG Chem has developed energy saving window films satisfying both high thermal barrier and thermal insulation properties. The company will enter the market by promoting domestic and international client companies, and further expand the eco-friendly product market by developing differentiated products such as high transmission factors.

Development of High-Capacity Cathode Materials

Cathode materials supply ions in batteries are the core components contributing to the implementation of high-capacity batteries. LG Chem could realize the characteristics of high capacity cathode materials compared to existing cathode materials by developing three-component layered cathode materials, and developed excellent safe products. LG Chem will provide new value to eco-friendly issues, the world's mega trends, by applying it to small batteries for IT and batteries for electric vehicle.

Development of Battery Technology to Lead the Market

Development of Algorithm to Maximize Power of Electric Vehicles

LG Chem has developed self-learning algorithm technology to predict power of vehicles through real-time learning. The technology predicts available maximum power by real-time voltage and current data of batteries. Through which the company can minimize lead time and expenses compared to existing map-based algorithm. It is expected to lead the electric vehicle BMS (Battery Management System) market in the future as it rapidly reacts to a market.

Development of High Energy Density Standard Compact Module

LG Chem has developed the standard compact module with high energy density. The company maximizes space utilization inside a module to achieve maximum energy density by a minimum size module. It can also create a highly synergistic effect by enhancing the cooling function of a module through the application of a thermal adhesive developed by LG Chem. The development of such standard module is contributing to preparing foundation for LG Chem to lead the global electric vehicle market by securing cost competitiveness and improving the productivity.

Development of Micro Cylindrical Battery

LG Chem has expanded applicable wireless smart device areas by developing and mass producing micro cylindrical batteries that are 1/50th the size of existing batteries. The battery is applicable to micro smart devices such as smart pen and smart wireless earphone. As a result, LG Chem achieved longer battery hours and efficiency of smart devices and secured the competitive edge for product differentiation. LG Chem is leading the future IT market by continuously developing batteries of various designs.

Strengthening Management of Intellectual Properties

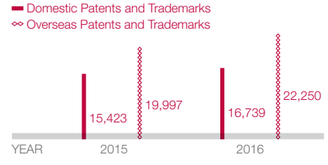
Securing Patent Competitiveness

LG Chem promotes strategic patent management from a product development stage to a commercializing stage to secure patent competitiveness. As a part of it, the company tries to secure strategic patent and a strategy to address other companies' patent for each stage to develop products. LG Chem builds a patent portfolio focusing new business including discovering excellent patent through IP-R&D associated activities about main technology in future new business and the advanced material field. As of 2016, LG Chem held some 38,989 intellectual properties, of which 20% belong to the future growth engine field and the information & electronics material field, and 43% are in the battery field. In the future, LG Chem will concentrate its energy on strengthening patent competitiveness in the future new business field.

Systematic Management of Patents

LG Chem operates by building the system to establish patent strategy in the enterprise level from R&D activities to business department areas. Personnel in charge of IP supports each stage from an initial R&D stage to commercialization to establish the strategy of application and secure the patent for each stage. The company also strengthens the expertise of intellectual property activities by recruiting patent experts including patent attorneys and law experts. LG Chem trains local patent experts by dispatching personnel in charge of patent to overseas strategic areas.

Status of Holding Intellectual Properties



Reinforcing Product Responsibility

As the demand to strengthen producers' responsibilities to manage and supervise products from production process increases, the country has continuously strengthened the laws on the product responsibility in the process of manufacturing such as the Product Liability Act. Especially in the chemical industry, the systems to manage chemicals and chemical products such as the Act on Registration, Evaluation, etc. of Chemicals and the Chemicals Control Act have been introduced, and the demand for the environmental safety of chemicals is gradually increasing. In case that products are not tightly managed, chemical accidents can greatly damage the environment and safety of a local community. When using products, it can cause harmful effects on consumers' health. In addition, companies can directly experience negative effects such as financial losses and reputation damage. LG Chem is aware of product responsibility, complies with the international regulation guidelines and examines eco-friendliness when procuring materials. Besides, the company tightly manages quality by establishing an organization in charge of quality to increase customer value, and implements quality management including training quality professionals and practicing 6 sigma activities.

Link to SDGs

3 Good Health and Well-being

12 Responsible Consumption and Production

LG Chem's Activities

- Minimize social and environmental negative effects in all processes from the development of products to final consumption.
- Minimize effects to customers' health by tightly managing harmful chemical substances contained in products and protect the environment and human rights in troubled regions by restricting the use of conflict minerals.

Product Responsibility and Quality Control System

System to Promote Product Responsibility

LG Chem provides customers with eco-friendly and competitive materials and solutions to 'increase customer value' and simultaneously contributes to a sustainable future. For this, the company conducts various activities with its vision of becoming 'Eco-Product Solution Partner' to derive and provide efficient and valuable solutions in environmental and economic perspectives to all manufacturing processes from R&D to a product disposal.

LG Chem runs the system and regulations comprising all processes from the procurement of raw materials to sales of final products to guarantee eco-friendly chemical products. Through the 'Eco-friendly Supply Chain Management Guidelines' including domestic and international regulations such as EU REACE Regulation, SVHC, CA Proposition 65 and conflict minerals, LG Chem has established the criteria for materials which can be used by the company and distributed the relevant criteria to suppliers to comply with them.

The company approves purchasing materials that have been verified by each plant and the safety environmental department at the head office as eco-friendly materials after obtaining the material component information from suppliers through the material component inspection system.

In addition, the department of the procurement and the department of environmental safety directly communicate with suppliers to manage eco-friendly materials, and the department of quality and the CSR team communicate with client companies to control product quality.

Management of Harmful Chemical Substances

Management of Product Safety

LG Chem, as a manufacturer and supplier of materials and products that are closely related to our life, tries to reduce the influence of our products on the health of customers and the environment. For this, LG Chem strictly verifies substances subject to control according to product environmental management skills from raw materials for all products. The company classifies substances subject to control into three phases according to the risks associated with hazardous substances and has organized a business system that all materials can be purchased after verifying their control items. The company reviews the guarantee to control products through the chemicals management system of resources and products, CHARMs (Chemical Assurance and Regulation Management System). It verifies maleficence and the risk of materials by building a computer network through which the MSDS (Material Safety Data Sheets) for all materials can be reviewed, and supports the issuance of the product environmental guarantee within the system.

Response to Regulation of Chemical Substances

LG Chem verifies whether to register new materials and existing materials subject to registration by building the management system of substances subject to registration according to the Act on Registration, Evaluation, etc. of Chemicals, and tightly examines the manufactured or imported quantity according to registered quantity. The company reports quantity and usage of new chemical substances and existing chemical substances to manufacture, import and sell to the Ministry of Environment, and conducts complete enumeration of imported materials. In addition, LG Chem joined the consortium of the Korea Petrochemical Industry Association and acts as the representative of a joint registration consultative group. The company plans to complete joint registration of 17 substances manufactured by LG Chem on time, until June 2018 by securing the data to evaluate maleficence and risks.

Furthermore, LG Chem responds to the Chemicals Control Act by building and running the system to restrict the procurement and examine the reported import quantity of toxic substances.

Global Level Management of Chemical Substances

LG Chem preemptively responds to global regulations by preparing the responsive manual for global product environmental regulations to reduce risks related to regulations on chemical substances in performing global business. The company subdivides the criteria for product component management into each material and regulation, including restrictions on and the prohibition of harmful substances designated at home and abroad by revising the existing 'Development and Management of Eco-friendly Products' as the 'Management of Product Environment'. LG Chem also provides the activity guidelines across product development, production and supply to respond to whether to include halogen free products.

Besides, the company provides the latest MSDS of enterprise products in 33 languages through the IT system and reflects the requirements by global client companies and the latest trends of laws on a form to guarantee issuance. LG Chem shares global regulation trends with suppliers of materials by holding a meeting to respond to regulations on chemical substances annually.

Compliance with Social Responsibility of Products

Management of Conflict Minerals

Conflict minerals are four minerals (tin, tantalum, tungsten and gold) mined in troubled regions such as Democratic Republic of the Congo and its neighboring countries. LG Chem supports the policy to prohibit the use of conflict minerals and tries to comply with it to prevent violation of human right, exploitation of labor, loss of lives and environmental pollution in the conflict regions. The company collects and manages refinery information of conflict minerals and whether to use the minerals from suppliers which use 4 minerals. It also monitors suppliers and component information of materials to be supplied from the purchasing phase through IT system. In addition, LG Chem distributes the guidelines to manage eco-friendly supply chain to suppliers and prohibits in principle the use of conflict minerals.

Reinforcing Product Responsibility Capacity

Training Product Responsibility for All Employees

Recognizing the importance of product responsibility among employees, LG Chem conducts various education activities to comply with social and environmental responsibility of products in business activities, such as education on MSDS preparation and management for managers in related departments such as purchase, development and quality, and education on the Act on Registration, Evaluation, etc. of Chemicals, substance registration process, and response to trends in production environment regulations.

Sharing Product Responsibility Information

LG Chem provides quality managers at each business sector with the newest information on global product environmental safety and hazardous substance regulations through the Safety & Environment Portal. Essential aspects of regulations by country are shared to prevent corporate and legal regulations from being violated.

Sharing Meetings to Respond to Chemical Regulations among Suppliers

LG Chem held sharing meetings to respond to chemical regulations to share information on trends of various domestic and foreign chemical regulations in order to strengthen response and to support procurement suppliers' compliance with chemical regulations.

The 2016 sharing meeting to respond to chemical regulations was participated by 268 employees from 218 suppliers and to share understanding in global product environment regulations, China's response to chemical substance registration regulations and increase of accuracy of MSDS, the understanding of the Act on the Registration and Evaluation of Chemicals and its response strategy, and the precautions and insufficient cases when entering material ingredients. In the future, LG Chem plans to actively support suppliers to take appropriate response to chemical regulations.

Creation of Customer Value through Quality Innovation

LG Chem runs a quality management organization for each business sector to manage quality suitable for the characteristics of products and business and holds the quality meetings quarterly of the chief executives in charge of quality management in 4 group companies including LG Chem. In addition, LG Chem has recently established an organization 'in charge of quality/innovation' under the CEO based on the philosophy of quality by the chief executives, and makes every effort to strengthen quality capacity and spread the innovation culture in the organization, such as building a quality system through various programs, discovering and implementing tasks to improve Six Sigma and training quality/innovation talents.

Quality Innovation for Each Business Sector

The Basic Materials & Chemicals Division conducts a quality survey of 106 customers and 21 products to control quality from the customers' perspective and reflects discovered CTQ (Critical to Quality) on quality management. It also runs a quality monitoring system to manage it. In addition, the division unfolds solution activities for 45 customers at home and abroad. Besides, it built a 6 sigma system and established a belt education system to promote the approval of quality experts such as GB (Green Belt), BB (Black Belt) and MBB (Master Black Belt) for all employees.

The Energy Solutions Division implements quality assurance activities for each phase by running quality management organizations for each business sector such as vehicles, ESS and small batteries in the quality center. It also runs an independent trust and quality organization under the quality center. In order to specially assure product quality in the development/mass production phase, the division enhanced core quality management tool and continues to promote zero defects including strengthening detectability using big data and developing new inspection methods. In addition, in response to the reinforced quality requirement demanded by global automakers, the division has newly established and runs an organization in charge of recurrence prevention (FMEA: Failure Mode and Effect Analysis) and PM (Project Manager). It supplies successful next generation EV batteries suitable for requirements by global automakers through cooperation with client companies from the development phase of batteries.

As a result, LG Chem was designated as an excellent supplier by main client companies (GM, Volkswagen) and was awarded for its contribution to development in 2016.

The IT&E Materials Division raises customer satisfaction and reduces internal loss by implementing the quality management of suppliers and running a quality committee hosted by the division director and an organization in charge of quality to enhance response ability and quality management capacity. In addition, the division runs a quality management system suitable for product properties.

The Advanced Materials Business Unit runs an organization in charge of quality to raise customer satisfaction and has built a quality accident prevention system and quality management system appropriate for the characteristics of the field by newly establishing quality/innovation departments under the field. In addition, it promotes 6 sigma projects by strengthening support for 6 sigma to improve quality and enabling all employees to secure GB (Green Belt).

■ Awards in 2016
- GM Overdrive Award: Contribute to the successful development of next generation EV (Awarded 4 suppliers in the world)
- GM Supplier of the Year: Selected as an excellent supplier (Contribute to development and distribution of electric vehicle battery)
- Volkswagen Group Award 2016: Selected as an excellent supplier

Responsible Mineral Sourcing

LG Chem is recognizing the child labor issue that arises during the Cobalt mining process in Democratic Republic of the Congo raised by Amnesty International as an important global human rights issue in a conflict area.

LG Chem has established Due Diligence policy by revising the Supplier's Code of Conduct and eco-friendly SCM guideline. Our Due Diligence policy defined a 5 steps framework according to the 'OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas' and designated Cobalt as managed materials subject to conflict minerals. Meanwhile, LG Chem conducted the CSR Audit for the first suppliers (cathode material manufacturers) in our supply chain and confirmed the future plan and the appropriateness to respond to the Cobalt issue such as efforts to manage Cobalt for second suppliers and the change of origin. In the second half of 2017, the company will conduct an audit for Cobalt smelting companies and examine whether to manage Cobalt according to Due Diligence 5 steps framework. LG Chem is a member of the RCI (Responsible Cobalt Initiative) which Democratic Republic of the Congo, NGOs, and Upstream/Downstream companies related to Cobalt participated in, CCCMC (China Chamber of Commerce of Minerals, Metals and Chemicals) holds and OECD supports. LG Chem will make efforts to solve the child labor issue fundamentally through cooperation with related institutes and actively conduct activities to eradicate an infringement upon human rights including child labor for responsible mineral sourcing.

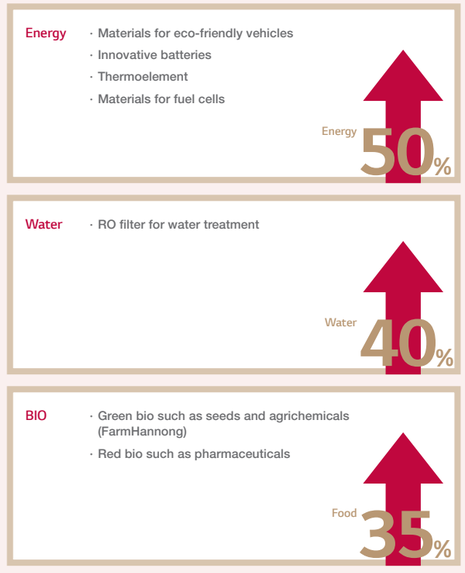
Our Effort on S&E Value Creation

Our Businesses for Social Needs

LG Chem is fostering the three fields such as energy, water and bio that are expected to see increased demand from increase in population as the mid to long term future growth engines. The company will provide innovative solutions to problems faced by people through continuous R&D, and grow into one of the 'Global Top 5 Chemical Companies' with balanced business portfolio by 2025.

LG Chem's Mid- and Long-Term New Growth Engine

<Global Trends 2030> published by the National Intelligence Council:
Expect great increase of the world demand in the future due to population growth



Measuring Our Social & Environmental Value

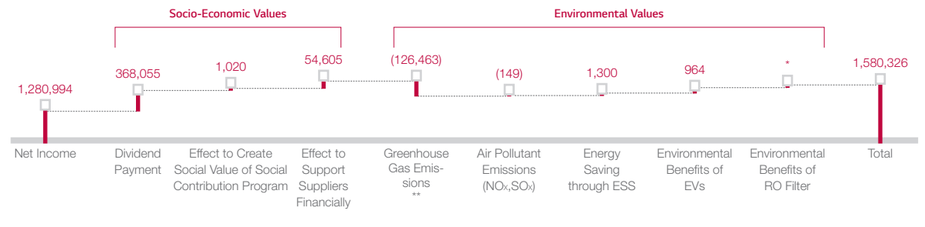
LG Chem's social activities widely impact societies and environments across its supply chain and on local communities where LG Chem's workplaces are located. Therefore, it is essential to discern positive or negative externalities and their impact due to business activities. The company conducted its first pilot test for analyzing the Social and Environmental Profit and Loss (SE P&L) in 2016. Range of measurement and reliability were restricted due to lack of methodology and limits to data collection but in the mid- and long-term, highest-quality methodology will be introduced and the expansion of evaluation ranges will be reflected on decision making in management. LG Chem will build a leading business model to innovatively contribute to a solutions regarding social and environmental issues and minimize risks by fulfilling its social and environmental responsibility.

The results from the pilot analysis of the SE P&L conducted in 2016 are as follows:

LG Chem generated financial value of KRW 1,280.9 billion as its net profit in 2016.The company suffered relatively high environmental losses such as greenhouse gas emissions during the operation of the business but created positive social and environmental value through the following business activities:

1) Payment of Dividends;
2) Effect to create social value through major social contribution programs (For the result of SROI analysis, see page 93);
3) Effect to support suppliers financially such as shared growth fund, technology support, and direct support fund;
4) Effect to save energy at workplaces using ESS (based on Ochang Plant and Iksan Plant in the country);
5) Effect to improve environment by reducing greenhouse gas emissions and air pollution according to distribution of batteries for EVs.

Furthermore, it is expected that positive external effects such as the effect to preserve water resources followed by reuse and purification of industrial water through RO filters though it was not reflected on the pilot analysis.



Base Year: 2016/ Range: Domestic/ Unit: KRW million
* Externality factors which were not reflected on the pilot analysis in 2016 but plan to be reflected in the future
** Amount of energy reduction reached KRW 65.8 billion in 2016 (Activities to respond to climate change such as greenhouse gas emission reduction is being expanded)

Response to Climate Change

With the global warming issue being continuously raised, shared efforts to respond to greenhouse gas reduction across the world and climate change are made. Korea set a goal to reduce national greenhouse gas emissions by as much as 37% of BAU by 2030. To this end, the government conducts various activities for greenhouse gas reduction such as the greenhouse emission trading scheme. Meanwhile, corporations can be directly affected financially due to buying emission allowance units and be indirectly affected when the problem of production is caused by droughts, typhoons and natural disasters due to climate change.
LG Chem continues activities to respond to climate change to turn such crises into opportunities. The company reduces greenhouse gases by improving process efficiency based on the management of energy use and greenhouse gases, by improving the process efficiency based on management of energy use and greenhouse gas, and continues direct and indirect efforts to respond to climate change by producing energy-efficient products and high value-added products.

Link to SDGs

7 Affordable and Clean Energy

13 Climate Action

LG Chem's Activities

- Derive a way to reduce energy expenses through energy reduction activities such as analysis of low-efficient processes.
- Establish an annual greenhouse gas reduction goal, implement improvement activities to achieve this goal and reflect procurement expenses of emission allowance units in production costs.

Climate Change Strategy and Implementation System

Climate Change Strategy

LG Chem strengthens competitiveness in reducing greenhouse gases and energy, preemptively responds to global regulations and unfolds various support activities to perform Green Business.

The company has a high level energy management system by building an energy management system (ISO50001) at domestic and overseas plants and has reflected procurement expenses of emission allowance units on the cost by promoting the greenhouse gas accounting of emission allowance units every month to minimize climate change regulatory risks as the emission trading scheme implemented since 2015.

LG Chem promotes greenhouse gas reduction by monitoring greenhouse gas emissions and collects information such as projects to reduce energy monthly.

In addition, LG Chem conducts education on the greenhouse gas emission trading scheme at plants and an energy management system for managers at plants annually to train professional personnel.

In addition, LG Chem awards excellent cases to save energy and reflects activities to respond to climate change on duty by reflecting performance to reduce energy and greenhouse gases on duty for employees.

Governance to Respond to Climate Change

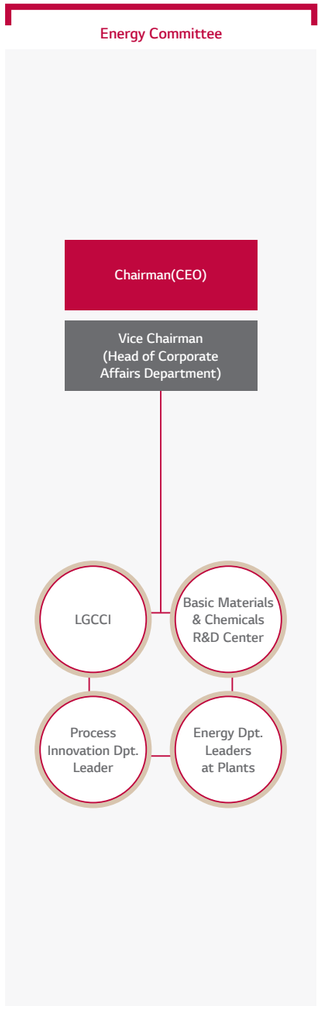
The work to respond to the company-wide energy and climate change is promoted by the corporate Energy/Climate Team and the departments related to energy for plants and operated by the company-wide Energy Committee.

The team manages the greenhouse gas emission trading scheme, energy use and reduction of energy at plants, inspects and supports energy consumption at plants, response to the government's energy policy and provision of climate change information to clients. It also shares performance to reduce energy consumption and greenhouse gas emissions of the year and plans of the following year and awards excellent cases through the corporate Energy Committee consisting of the CEO and plant managers.

In addition, the team strengthens energy saving activities such as the preemptive response to the emission trading scheme and raises awareness of energy saving intention at plants by spreading certification system by outside institutions such as Korea Superior Energy Performance(K-SEP) to each plant.

Stakeholder Engagement

LG Chem expands activities to strengthen competitiveness to respond to climate change such as reduction of greenhouse gases and energy saving through communication with various stakeholders. The company provides carbon information of products such as information to reduce greenhouse gases and carbon labeling for customers and announces energy and greenhouse gas data through Sustainability Reports and Annual Reports. In addition, LG Chem communicates with the governmental organizations by participating in reduction projects and policy advice to the government, and the emission trading scheme.



Risk Management of Climate Change

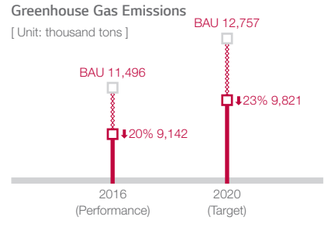
Identify Risks from Climate Change

A manager in charge of greenhouse gases at each plant analyzed the related status such as new business discovery and the government's regulations due to climate change, divided climate change risks into three areas including regulatory aspects, physical aspects and others, and drew issues that can occur from each aspect. Based on this, LG Chem selected risks and opportunities according to each issue and established ways to respond to climate change such as new business expansion, energy saving activities and greenhouse gas reduction activities. Through this, LG Chem has established the basis to perform quantitative and qualitative effect evaluations and financial effect due to climate change. In the future, LG Chem derives a way to respond to climate change by understanding risks and opportunities according to climate change at all plants at home and abroad, and makes efforts to implement it.

Strengthen Management of Greenhouse Gas Emissions

Setting GHG Reduction Target

LG Chem has established greenhouse gas reduction goals as well as a 23% reduction of BAU by 2020 and mid/long-term energy intensity saving goals with an overall aim to reduce greenhouse gas emissions and energy consumption. LG Chem continues improvement activities to achieve the goals and has consequently achieved its annual reduction goal every year. In the future, the company plans to continue to engage in greenhouse gas and energy reduction activities.



Advancement of the Portfolio of Greenhouse Gas Emission Trading

Since the enforcement of emissions trading scheme in 2015, it is expected that operating expenses increase due to response to regulations. LG Chem will maximize the reduction of greenhouse gas emissions and establish the strategy to buy emission allowance units by 2017. In addition, the company effectively responds to related risks such as the government regulations followed by implementation of the emission trading scheme. LG Chem automated the entire process of greenhouse gas accounting for greenhouse gas emissions. The company prepared 'the Guidelines to Buy Emission Rights' according to the emission trading scheme by analyzing external factors for emission markets in 2016 and minimized financial risks that can occur by implementation of the system.

LG Chem's Climate Change Risks

Aspects	Issue	Risk	Opportunity	Response Activities
Regulatory Aspect	· Mandatory greenhouse gas emissions reporting · Implement the emission trading scheme · Strengthen the energy efficiency of products	· Increase in operating expenses due to response to regulations	· Expand new businesses such as eco-friendly products	· Build a greenhouse gas inventory · Accounting treatment for emission allowance units · Develop eco-friendly products such as ESS
Physical Aspect	· Increase of average temperature · Change in precipitation due to drought and heavy rain · Uncertainty of physical crises	· Increase in energy operating expenses · Damage to plants due to unusual weather · Decrease in production	· Creation of opportunity in the water industry according to increased water risks	· Strengthen internal energy saving activities · Management of risks at plants · Develop RO filter products
Others	· Enhance brand image · Uncertainty of social factors · Uncertainty of market signals	· Decrease of market value · Decrease in demand for products and services	· Enhance corporate image through preemptive response activities	· Expand communication channels with stakeholders

Support for the Greenhouse Gas Reduction of Small/Medium-sized Companies

LG Chem implements 'Green Credit' businesses to support the greenhouse gas reduction of small/medium-sized companies. The Green Credit businesses facilitate the greenhouse gas reduction of small/medium-sized companies through cooperation between large companies which have financial resources and technology but low reduction potential for greenhouse gases, and small/medium-sized companies which have high reduction potential but lack funds and technology. This way, companies subject to regulations can relieve the burden. LG Chem contributes to achieving the national greenhouse gas reduction goal by finding small/medium-sized companies which have high reduction potential for greenhouse gas and introducing facilities to improve process efficiency. In addition, such efforts are recognized as LG Chem's greenhouse gas reduction so that the company relieves the burden to reduce greenhouse gas emissions. LG Chem provides technical and financial support for small/medium-sized companies' emission reduction to contribute to the reduction of greenhouse gas emissions and mutual cooperation among large and small/medium-sized companies.

Enhance Energy Efficiency

Spread Energy Storage System (ESS)

LG Chem enhances energy efficiency at workplaces and reduces electric expenses by introducing ESS (Energy Storage System). The company built ESS with total capacity of 50 MWh including 22.7 MWh in Iksan Plant, 21.2 MWh in Ochang Plant and 6.3 MWh in Yeosu VCM Plant. This is equivalent to the daily power consumption supplied to some 4,000 households of four. LG Chem can preemptively prevent risks according to change in electricity purchase prices. Furthermore, LG Chem controls the additional establishment of power plants and implements continuous energy expense reduction at workplaces through its saving power during peak hours.

Participation in the Competition of Korea Superior Energy Performance(K-SEP)

LG Chem has participated the competition of K-SEP since 2015. K-SEP selects excellent plants by measuring and evaluating objectively the energy saving performance of plants which built the energy management system. Ochang and Naju plants were certified by the K-SEP in 2015 and the Yeosu SM, Ulsan, Gimcheon, Daesan, Cheongju plants are recognized as excellent plants for an energy management system this year. LG Chem expands excellent plants by participating in sustainable business.

Advancement of the Energy Portal

LG Chem advanced the Energy Portal to more actively support activities to reduce energy consumption and greenhouse gas emissions at workplaces.

The company can implement an energy management system at workplaces through a computer network by newly building an energy management module and increased understanding and usage about reduction cases by discovering energy reduction cases of technology DB.

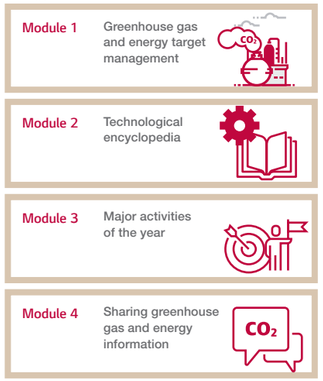
Besides, LG Chem continuously supports energy/greenhouse gas reduction activities at workplaces by sharing greenhouse gas emissions and energy reduction performance.

Inspection of Energy Efficiency

LG Chem plants promote projects discovering improvements to reduce energy by diagnosing distillation facilities through cooperation with the Technology Research Center. LG Chem inspected a total of 9 distillation facilities including the VCM and PVC plants in Daesan, and the Bohai plant in China, and drew ways to reduce energy expenses of KRW 1.47 billion through each division's activities. The company conducted energy inspections of waste heat and cooling water and drew up ways to reduce energy expenses of KRW 2.23 billion with LG Electronics.

Besides, LG Chem makes efforts to discover ideas to improve core production facilities by having the process analyzed by a manager through conducting energy consulting. In the future, the company will continue to reduce energy at plants by strengthening the capacity of engineers and conducting various energy diagnosis activities.

Energy Portal



Strengthening Process Energy Efficiency

2016 Energy Management Leadership Awards

LG Chem Ochang Plant received the "CEM Award of Excellent Energy Management Plants"

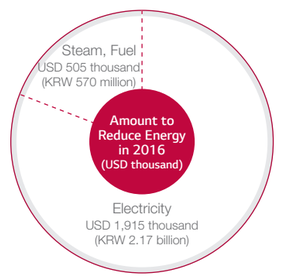
LG Chem Ochang Plant was designated one of the winners in energy management from the 'First CEM Energy Management Leadership Award' held by the Clean Energy Ministerial (CEM). CEM is a high-level global forum of 24 major countries including US, EU and China that generate more than 75% of the total global greenhouse gas emissions and 3 international agencies including the International Energy Agency. CEM Energy Management Leadership Award was established in 2016 to recognize organizations employing the ISO 50001-certified energy management systems to save energy and reduce costs.

Thirty-five businesses in 20 countries competed for the award. LG Chem received one of the top honors for its commitment in employing the energy management systems across all of its domestic plants. Especially Ochang Plant participated in the energy management performance evaluation held by the Korea Energy Agency and was recognized the result to save energy by 9.39% for a year of 2014. Through this award, LG Chem was recognized as the world's top level in energy management technique and ISO 50001-certified energy management system by energy experts in the world.

Reduction of LGCBH Energy Expenses

The Tianjin plant in China (LGCBH) derives energy reduction themes, and execution and cooperation methods by making up a task force team consisting of the production, public services, process technology, energy and purchase teams. LGCBH built the Hot Water System through cooperation between plants and reduced the usage of cooling water used in the VCM process and steam used in heating CA saline water by using waste heat generated in the VCM process. Through this, LGCBH saved KRW 5.5 billion per year and uses the remaining heat for heating facilities. In addition, the remaining steam generated by LGCBH's steam reduction through cooperation between offices in China is delivered to LGCBT to reduce steam purchase expenses. Through this, LGCBH reduced USD 360,000 energy expenses annually. LGCBH reduced energy consumption by changing a method to operate a cooling tower to recover additional energy as surplus flux is generated by decreasing usage of cooling water. LGCBH also makes efforts to reduce power costs by participating in the Chinese government's direct power transaction schemes. Likewise, LGCBH created KRW 2.7 billion worth of improvement effects in 2016.

Amount to Reduce Energy



TOTAL USD 2,420K
(KRW 2.74 billion)

* Average Exchange Rate: KRW1,131/USD

Safety, Health and Environmental Management

Demands for safety, health and environment management at workplaces have continuously been emphasized. With the increased demand for strengthening punishment against industrial accidents recently, the occurrence of such accidents is leading to significant financial losses and damage to company image.

In-depth discussion upon industrial safety and health has been conducted internationally and activities to develop international standards of safety and health management systems have been carried out. Particularly in the chemical industry, the safe treatment and use of hazardous and harmful substances are discussed as the main agenda to create safe workplaces and to this end, the appropriate campaigns and strategies have been established.

LG Chem, as a chemical company engaged in global businesses, has internalized high level safety, health and environment management according to such movement. LG Chem implements advanced safety/environment inspections suitable for the characteristics of work at all workplaces at home and abroad. In addition, the company creates an organizational culture in which employees voluntarily comply with safety and environment related regulations, and implements education on safety, health and environment management for employees to protect professional human resources.

Link to SDGs

- 3 Health and Well-being
- 11 Sustainable Cities and Communities
- 12 Responsible Consumption and Production
- 13 Climate Action
- 14 Life Below Water

LG Chem's Activities

- Protect safety and health of all employees by creating safe and healthy workplaces.
- Minimize environmental effects caused to local community through activities such as management of air pollution, wastes, and waste water.

Promotion System of Safety, Health and Environment

Safety, Health and Environmental Management System

LG Chem is operating the systematic Safety, Health & Environmental System based on strategies and goals in accordance with ISO 14001, OHSAS 18001 and KOSHA 18001. In addition, the company announces its intention of the Safety, Health and Environment Management publicly and establishes the Safety, Health and Environment Policy to demonstrate the company's steadfast commitment. Based on this, LG Chem implements internal regulations for each plant and conducts business. In addition, LG Chem reflects accident prevention evaluation results based on its proprietary activities, field management activities and accident points totaled the number of safety and environment accidents and legal violations for employees above a team leader on work evaluation to prevent safety and environment accidents.

Safety, Health and Environmental Governance

The Corporate Safety and Environment Committee which discusses the main decision making about safety and environment is composed of chief executives in charge of safety and environment at each plant and members of the Management Committee. The committee is held twice a year and discusses the main issues related to safety and environment, major promotion results and future plans.

Safety, Health, and Environmental Policy

LG Chem recognizes that safety, health and environment (SH&E) is the fundamental element for securing differentiated competitiveness, and will implement the following principles to continuously improve performance in safety, health and environment based on clear goals and strong executive ability.

- We will comply with laws and regulations and establish SH&E rules leading the industry at home and abroad.
- We will drive continuous innovation throughout the entire life cycle of the product to supply environment-friendly products and services.
- We will provide a safe and healthy work environment, and ensure the principle-adhering corporate culture.
- We will support our suppliers and local communities in improving the SH&E practices based on our social responsibility.
- We will open information transparently and sincerely communicate with stakeholders.

LG Chem organized a labor-management Occupational Health and Safety Committee at each plant, consisting of an equal number of employees and management, and conducts an inquiry of and decides the main issues related to safety and environment. Through this, LG Chem prevents accidents that can occur at plants and manages the health of employees.
Furthermore, LG Chem discusses safety and environment improvements and shares excellent cases among plants through the Corporate Safety and Environment Working Committee, meetings of managers, and workshops for managers.

Increase Role & Responsibility in Safety and Environment through SH&E Performance Conference

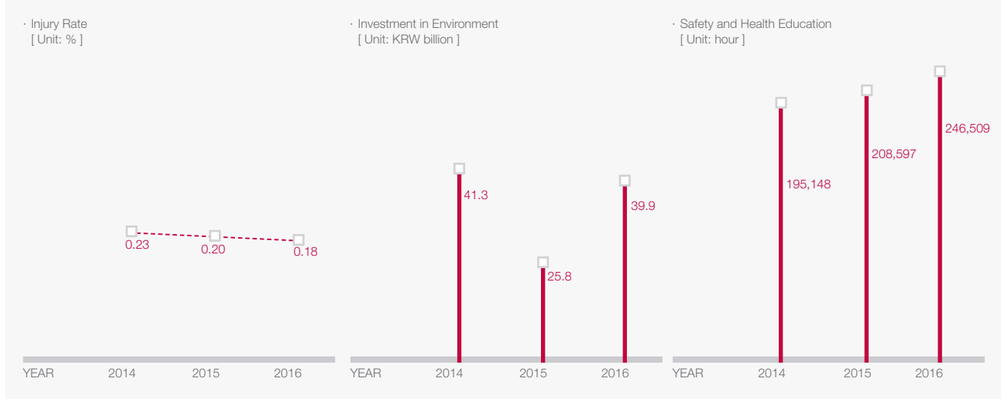
LG Chem held a SH&E Performance Conference in November 2016 to share activities and performance to prevent safety and environment accidents at plants at home and abroad.
The meeting was participated by 210 employees from plants at home and abroad, and suppliers. Also, best practices in safety and environment and excellent supplier cases were presented. LG Chem contributes to increasing response ability and strengthening roles of and responsibilities for safety and environment by organization.

Corporate Safety and Environment Conference

Division	Contents	Members	Periods
Committee	·Decision making about main issues of safety and environment ·Review of safety and environment accidents and discuss improvements	· President: CEO · Members: Members of the Management Committee*, Resident executives/Plant managers, Chief managers in China, Managers of safety, health and environment, Promotion managers and Managers of glass substrate business	Once per half year
Working committee		· President: Manager in safety, health and environment · Members: Heads of safety and environment departments at plants	Once per half year
Meeting of managers		Manager in safety, health and environment, Manager in safety and environment at a plant	Once every two months
Workshop for managers		Managers of safety and environment departments at plants	Frequently
SH&E Performance Conference	· Increase roles of and responsibilities for safety and environment · Provide B/M opportunity of excellent cases among plants · Increase pride of safety and environment work · Prepare communication among plants	CEO, Members of the Committee, Managers in production/safety & environment/suppliers at home and abroad	Once per year
Technology exchange meeting (China)		Heads and managers of safety and environment departments at plants at home and in China	Once per year

* CEO, Heads of business divisions (5), CTO, CFO, CHO, Manager in management planning

Main Performance in Safety, Health and Environment Management in 2016 (Limited to domestic operations)



Advance the Level of Safety and Environmental Culture

Improve Safety Culture at Workplaces

LG Chem promotes a project to improve safety culture to advance safety level across an organization and quantitatively evaluate the current organizational safety culture level. The project is implemented in 4 phases including evaluation of safety culture and system, education and consulting, development of evaluation system and training evaluators, and reevaluation of safety culture and system. The company evaluated safety culture and safety and health systems through questionnaires and interviews in 2016. Currently LG Chem is evaluating the Yeosu and Daesan plants and plans to expand to other plants through validation in the future.

Project to Improve Safety Culture

1. **Evaluation(Safety Culture/System)**
   - Evaluation of Safety Culture (Questionnaires, Interviews)
   - Evaluation of Safety and Health System
2. **Education and Consulting**
   - Education on Safety and Health Leadership
   - Inspection of Accidents and Consulting on Cause Analysis
   - Consulting on Behavior-based Safety
   - Development of Education and Training System
3. **Development of Evaluation System and Training Evaluators**
   - Development of Evaluation System
   - Training Evaluators
4. **Reevaluation**
   - Evaluation of Safety Culture (Questionnaires, Interviews)
   - Evaluation of Safety and Health System

Advance the Level of Safety and Environment Culture at Each Plant

Strengthen Executive Ability of Safety and Safety Consciousness

LGCNJ has the largest number of injury accidents in the Chinese corporation and accounted for 91% of accident cases from 2013 to 2015 in the Chinese corporation. The plant needed to improve safety culture at workplaces. Therefore, LG Chem made it formulate thorough actions by dividing necessary actions during operating facilities into 5 phases and prevented accidents occuring due to failure to comply with safety rules by holding a 5-minute meeting of safety before work. In addition, LG Chem implemented safety education to decrease injury rate of employees who worked for less than 1 year. The company also made it comply with safety rules by strengthening punishment against violators and managers in the case of violating safety rules, even in the case of no injury accidents. As a result, the number of workplace accidents during operating facilities decreased by 91% over the previous year and the number of accidents of employees who worked for less than 1 year decreased by 89% over the previous year.

Workplace Accidents during Operation

Number of accidents compared with previous year **-91%**

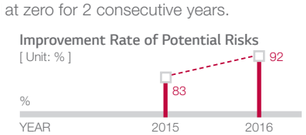
Accidents of Employees for Short Length of Service

Number of injury accidents compared to previous year **-89%**

Strengthen Expertise in Safety Inspection

LGCYX has ultimately improved a safety management level through improvement of traditional safety inspection process. LGCYX has changed the traditional 'Comprehensive Safety Examination' into the 'Professional Safety Inspection' and has implemented an intensive inspection of a special area by selecting an inspection area each time. It has also designated a manager to implement monthly and yearly professional inspection plans in case of finding the unsatisfied at the field. In addition, LGCYX increased safety knowledge of inspectors by implementing education for them before inspection and established the criteria for safety inspection by distributing yearly inspection education materials to each department. It has conducted a follow-up action about the inspection result by using IT system. As a result, the improvement rate of potential risks increased from 83% in 2015 to 92% in 2016 and the number of safety accidents has been maintained at zero for 2 consecutive years.

Improvement Rate of Potential Risks



Enhancement of Professional Capacity in Safety and Environment

LG Chem runs a course to train PSM (Process Safety Management) experts for a safety and environment occupational group, safety engineers at the current department, and safety and environmental managers to enhance safety and environmental management level of employees. The relevant course educates process safety related laws, HAZOP (Hazard & Operability Review) related practice, safe facilities practice, process risk management strategy and K-PSR (KOSHA Process Safety Review). LG Chem will strengthen more capacity of employees related to safety and environment by newly establishing a course of preventive maintenance of facilities for facility stability and evaluation of work risks.

Prevention of Safety and Environment Disasters

Inspection of Safety and Environment at Plants

LG Chem divides the safety and environment inspection system into regular inspection, project inspection and special inspection. Regular inspection is conducted for all plants every three years and inspects management system, process safety, facility and work safety, occupational health, fire fighting and dangerous substances, and environment. Project inspection is conducted for items required by the management and the safety and environment issues. Special inspection is conducted for plants with high possibility of disasters or history of serious disasters.

In total, 50 regular inspections, project inspections and special inspections have been conducted in 2016. In addition, LG Chem plans to conduct not only regular inspection but in-depth inspection for plants with many accidents. It also plans to inspect the facility management system of small plants and the system of newly established plants. LG Chem will continuously inspect the emergency response system without advance notice to internalize emergency response at plants.

Reorganization of Operating/Working Manuals for Each Business Division

LG Chem reviewed operating/working manuals for each business division to promote a zero rate of accidents related to safety and environment. The company implements inspection by deciding whether to correspond actual operation to work standards, evaluation of process and work risks, management of high-risk facilities, safety management at the field, etc. as checking items. The Basic Materials & Chemicals Division implemented sampling inspection by selecting a production team for each factory and plans to expand the inspection across all plants in 2017.

Performance of Inspection of Safety and Environment in 2016

Regular inspection	8 plants in the country (including 6 FarmHannong plants) 4 overseas production corporations
Project inspection	- Inspect facility management system (large overseas plants) - Inspect high risk facilities (5 plants in China) - Intensively inspect prevention of accidents (5 plants in the country) - Consulting to respond to the Chemicals Control Act (small plants) - Inspect the emergency response system without advance notice (11 plants in the country)

Activities to Prevent Safety and Environment Disaster at Each Plant

Securing Safety through Removal of Process Risk Factors

The Daesan plant of LG Chem has established comprehensive safety measures and removed risk factors in advance to reduce accidents such as fires and leaks, and potential risk factors that increased due to aging by operating facilities for a long time.

The plant inspected facilities in a dead zone such as piping and electricity facilities to derive improvements and problems and removed risk factors by inventing and improving safety equipment to prevent similar accidents from occurring, like accidents from falls. In addition, it established the facility management system to enable real-time communication between public affairs and production departments, zero inspection omission and data analysis of piping facilities. Therefore, the plant has achieved a zero fire/explosion accident due to leaks and static electricity.

Establishment of Emergency Response System reflected by Process Characteristics

The Cheongju plant newly built and expanded the production facilities based on a clean room such as high functional materials and display materials by promoting business change from industrial materials to information and electronic materials. Therefore, the plant established the emergency response system suitable for closed processes.

The plant rapidly detects and suppresses fires, and evacuates people by establishing the disaster prevention center-centered comprehensive emergency response system. It has also established the comprehensive disaster prevention monitoring system including the monitoring system for each plant and enabled 'visualized emergency response' by linking CCTV to fire detectors. In addition, the Cheongju plant trains assistant managers in fire safety management for each factory and conducts emergency response training to strengthen emergency response capacity for each factory. In the result, the plant can mobilize managers at the scene and respond within the golden time when emergency situations are underway and strengthen the stability of the process by operating the comprehensive emergency response system that is optimized for the clean room process.

Management of Employees' Health

LG Chem prevents occupational diseases by removing health risk factors that can occur when employees are performing their jobs, and operates and manages the safety and health business by focusing on health management regulations that enable employees to work in a healthy manner. The head of safety/environment department of the division takes responsibility for the management of employees' health at each division and supports the management of their health at all plants. The head of safety and environmental inspection department regularly evaluates the management status of health at plants and asks a department of which health management is not satisfactory to take corrective actions.

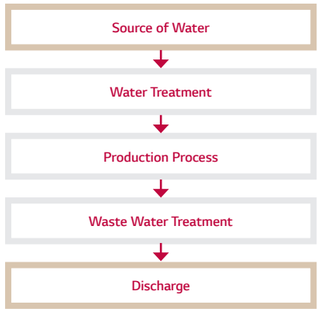
Management of Environmental Effects at Each Plant

Management of Water Resources

LG Chem identified water balance in all processes from a source of water to be supplied to workplaces to water used at a plant and waste water by establishing water inventory at all plants in the country, and analyzed the characteristics and expenses of water by usage. Through this, LG Chem identifies water risks at each plant according to the supply and demand of water, and is preparing countermeasures.

Water Mgt. Process

[Target: 12 plants in the country and 1 corporation in China]



- Establishment of Inventory: 13 plants (Flow Balance, Main Facilities, Management Spec, Usage, etc.)
- Understanding and Analysis of Risks: Supply and Demand/ Use/Outside/Other Risks

Health Management System of Plant

Division	Head of Safety and Environment Department	Heads of Departments
Responsibility and Role	1) Establish and implement health management and education plan 2) Designate a health manager or proxy management 3) Measure and manage the working environment 4) Implement physical exams and manage those employees that are suspected of having diseases 5) Inspect musculoskeletal diseases and run prevention programs 6) Monitor evaluation, registration and wearing of protective gear 7) Run a health management center 8) Operate programs to increase health	1) Establish and implement health management plans of a department 2) Implement and manage health education of a department 3) Improve the result to measure the working environment 4) Manage employees suspected of occupational diseases of a department 5) Manage the closed working environment 6) Improve risk factors of musculoskeletal diseases 7) Monitor provision and wearing of protective gear 8) Implement other health promotion programs

Management of Employees' Health at Home and Abroad

Improvement of Working Environment and Increase of Health of Employees

Taiwanese corporation(LGCTW) promoted various activities with the aim of "Joy at Work, Healthy Lifestyle" for employees to work in a pleasant working environment and increase their mental and physical health. The corporation evaluates the safety of the manufacturing process and production lines, increases work efficiency by providing ergonomic equipment, and simultaneously decreases the injury rate. In addition, it provides medical specialists' diagnosis monthly and implements a project to increase health and a program to relieve stress to increase employees' health.

Management of Environmental Effects at Each Plant

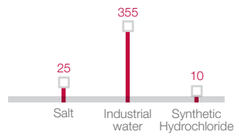
Management of Waste Water and Wastes

Zero Accident through Reduction and Recycling of Wastes

The Yeosu VCM Plant reduces waste water and wastes, and implements activities to prevent accidents that can occur during transportation of wastes. For this, the plant prevents accidents during transportation by restricting the supply and demand of sulfuric acid within the Yeosu industrial complex. It also reduced potential contamination and the absolute quantity of waste water by recovering salt included in discharge water and using it as raw materials at the CA2 plant. In addition, the Yeosu Plant improves costs by reducing synthetic hydrochloric acid at the CA2 plant through recycling of diluted hydrochloric acid with potential risks as process raw materials. In addition, the Yeosu Plant has built 'Integrated Waste One-stop Systems' to manage systematically from waste generation to discharge and legal management for effective waste management as discharge of waste increases due to continuous establishment and extension of the Yeosu Plant. The system can monitor in real time all stages from waste generation to vehicle dispatching, waste discharge, and legal management, and reduce spending time and human errors occurred during waste discharge.

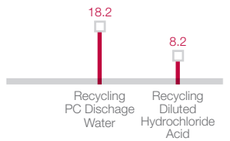
Amount to Reduce Wastes

[thousand tons/year]



Expected Performance to Reduce Wastes

[KRW 100 million/year]



Reduction of Emissions by Recycling Waste Water

The Cheongju Plant was expected to rapidly increase wastewater generation due to expansion of a RO filter plant but had a problem that a site and investment costs were needed for installing wastewater treatment facilities. The plant reduced wastewater discharge by recycling wastewater and using it in the RO filter process instead of installing new treatment facilities. Through which it reduced more wastewater than the method to use discharged wastewater as industrial water by directly using it in the process after the Technology Research Center validated its quality. In addition, the plant could treat wastewater at the existing RO filter facilities instead of new wastewater treatment facilities and consequently reduced KRW 3.96 billion worth of investment costs and treatment expenses.

Effect to Reduce Wastewater Discharge by Applying RO Filter

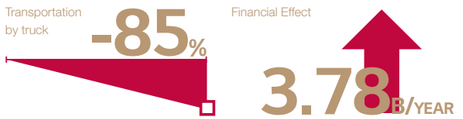
[Unit: m^3/day]

Management of Harmful Chemical Substance

The Daesan Plant established an improvement policy in the aspects of facilities, systems and people and reestablished management system, transportation methods and treatment facilities of harmful chemical substances to remove the root cause to leakage of harmful chemical substances through TFT activities to respond to leakage accidents of harmful chemical substances and the Chemicals Control Act. The plant applied color paint and paint to detect acidity to treatment facilities of harmful chemical substances to secure facility stability. In addition, Daesan Plant built self-treatment systems and alternative fuel conversion systems, and strengthened the criteria for management of carcinogenic substances to secure stability of liquid transportation in the system aspect.

Besides, the plant operates a first response team to leakage accidents and installed shut-off valves at rainwater drainage to prevent diffusion of leakage accidents. In addition, it conducts a themed inspection on treatment facilities of harmful chemical substances with the current department and the environment team to raise safety and environmental consciousness of employees. The plant also increased response ability to emergency situation by distributing manuals to respond to leakage accidents. As a result, the synthetic rubber plant achieved zero leakage accident in 2016.

Reduction of Transportation by Truck and Its Effect



Improvement of Air Quality

The Naju Plant has installed and operates an FCTO system since 2012 to remove H_2S (hydrogen sulfide) gas generated in synthetic gas process but caused environmental problems including an unpleasant smell generated by discharging SOx through a crack in the ventilation hole. Therefore, the plant installed NaOH (sodium hydroxide) spray at a cooler located at the back of FCTO. As a result, the SOx figure decreased by more than 93% resulting in improvement of bad odor. The plant plans to expand the relevant system to the process that an unpleasant smell is generated by H_2S or SOx.

Strengthening Relationships with Suppliers

Cooperative relations with excellent suppliers are recognized as essential elements for the sustainable growth beyond securing a stable supply chain as competition between companies is intensifying, and the development and convergence of technology are accelerating in the global market. In particular, cooperation with suppliers that have expertise in the specific field becomes an important strategy to secure the basis for future growth such as new technology development and new business advancement.

The importance of such cooperative relations is not limited to economic cooperation. External stakeholders expect the company to play a responsible role in social issues across a supply chain and complies with social responsibility.

LG Chem has built healthy cooperation networks and also pursues sustainable growth in various fields such as the economy, society and environment by creating fair transaction culture, running suppliers' win-win support system and strengthening the CSR management systems of suppliers.

Link to SDGs

- 8 Decent Work and Economic Growth
- 9 Industry, Innovation and Infrastructure
- 12 Responsible Consumption and Production

LG Chem's Activities

- Strengthen the relationship with SMEs and ensure internal stability of the company's supply chain through various supports based on 5 major strategies of shared growth.
- Strengthen sustainability across supply chain by implementing examination and management for suppliers' management activities to comply with social responsibility.

System to Promote Relationship with Suppliers

LG Chem actively promotes the shared growth based on sound cooperation culture under the shared growth's 5 major strategies including fair trade, financial support, safety & environment/energy activities, strengthening suppliers' capabilities and communication, etc. for the sustainable growth with suppliers. Through this, LG Chem is striving to establish partnership to lead the market in order to raise the sustainability of LG Chem through the competitiveness of suppliers.

Particularly, when suppliers are having difficulty, LG Chem receives and treats it through an online grievance system for suppliers in the Procurement Portal and tries to communicate with suppliers by receiving various requests and delivering discussion issues through the corporate CSR team and a procurement manager for each business division.

In addition, the company reflects shared growth activity performance in the performance evaluations of executives and sectors, to comply with shared growth principles in employees' performing business.

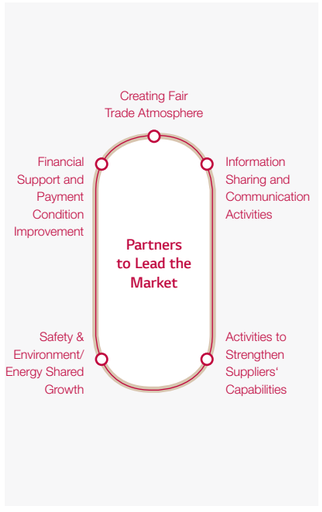
Besides, LG Chem receives all suppliers' written consent to comply with the CSR code of conduct including human rights and labor, ethical management, safety and environment, conflict minerals, etc. for responsible procurement. If not faithfully implemented, the company has prepared the guidelines to demand suppliers' improvement.

Through such activities, LG Chem strengthens suppliers' competitiveness in the economic, environmental and social aspects and ultimately increases the company's sustainability.

Operation of an Organization in Charge of Shared Growth

LG Chem has organized the Shared Growth Steering Committee, which is a company-wide supreme resolution body under the CFO as the president to systematically practice shared growth and support suppliers. The committee discusses important issues related to shared growth and examines detailed activities by participation of main sectors including fair trade, finance and economy, and R&D. In addition, the corporate CSR team plans and manages company-wide shared growth activities such as support to suppliers and management of CSR risk of suppliers and workplaces.

Shared Growth's 5 Major Strategies



Creating Fair Trade Atmosphere

Compliance with Fair Subcontracting Trade

LG Chem reflects 4 practices of the Fair Trade Commission such as conclusion of a contract, and issuance and preservation of documents on the company's rules and announces it to suppliers through the Procurement Portal to prevent unfairness in collaboration with suppliers. Also, the company introduces a standard subcontract agreement recommended by the Fair Trade Commission and immediately reflects revision of the Fair Transaction in Subcontracting Act on the agreement.

In addition, LG Chem operates an unfair subcontract trade practices prevention system. Besides, the company operates a conflict resolution committee to rapidly resolve various conflicts occurred during transactions with suppliers.

In case of conflict, LG Chem divides it into grades according to the response level and systematically proceeds with reporting, follow-up action, and reoccurrence prevention measures according to the manual.

Operation of the Internal Audit Committee

LG Chem operates the Internal Audit Committee for subcontracting transaction to prevent unfair subcontracting transaction and manages preliminary and follow-up auditing to ensure fairness and legitimacy in subcontracting. The committee which purchasing executives and team heads reviews the propriety of price decision and signing subcontracts and the legitimacy of the procedures and standards for registration and cancellation of suppliers.

Financial Support and Payment Condition Improvement

Financial Support

LG Chem conducts financial support activities such as direct financial support, shared growth fund, network and family loan, and shared growth investment resources for smooth fund operation of suppliers. The direct financial support which is a loan program to support new investment of suppliers directly grants no-interest loans through recommendation by each business division and examination by a department of finance and economy. The shared growth fund is a low interest loan fund designed to solve financial difficulty of suppliers. The total subsidy was expanded to KRW 62.9 billion and the interest rate was decreased by 2.1%p in 2016. In addition, LG Chem operates network and family loans to support the investment/operating fund according to trade performance in cooperation with financial institutions. The company also supports research and development, development of human resources, increase of productivity, entering overseas markets, and energy saving by creating shared growth investment resources to strengthen suppliers' capability.

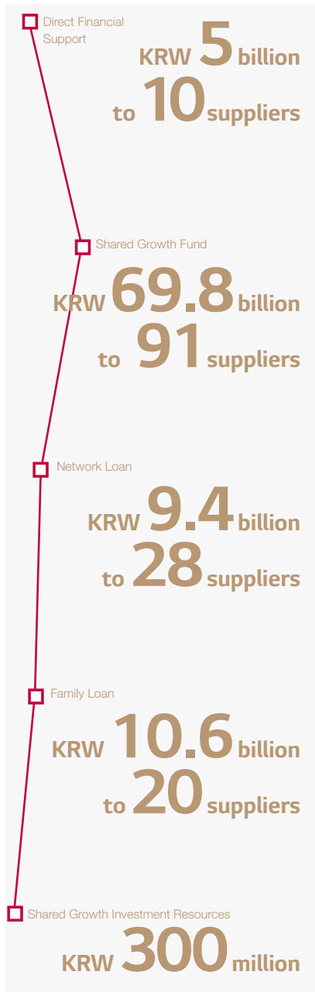
Operation of the Shared Growth Payment System

LG Chem introduced the Shared Growth Payment System to reduce the financial burden placed on secondary and tertiary suppliers. This system is a safety payment method with no recourse that secondary and tertiary suppliers can encash bonds issued by large companies early at a main bank with credit equal to large companies. Through this, primary suppliers can pay for delivered goods by issuing shared growth bonds to secondary suppliers. Since the interest rates for large companies are applied, financial expenses can be saved on the part of suppliers.

Status of Shared Growth Payment System in 2016

11,964 cases
KRW 515.9 billion

Status of Financial Support to Suppliers (accumulated)



Safety & Environment and Shared Growth Activities

Energy Shared Growth

LG Chem has concluded an MOU with the Korea Energy Agency and supported all processes including energy reduction education, inspection, investment and performance management to SME clients and suppliers. Through this, the company supports SMEs to voluntarily build energy management systems. Every year, selected client companies and suppliers are provided with support for the development of the greenhouse gas inventory and management tools. In addition, the Energy Shared Growth Fund, currently amounting to KRW 4 billion, has been formed to create financial support for such projects. In 2016, LG Chem conducted energy inspection for 21 client companies and suppliers. From this, it identified 82 energy-saving technologies, reduced greenhouse gas emissions by 2,771 tons per year and recorded energy expense saving effect of KRW 870 million.

Safety and Health Management Support for Suppliers

LG Chem supports suppliers to acquire safety and health management certification (KOSHA 18001) through consulting, and education and training to establish the safety management systems. LG Chem increases suppliers' production by decreasing serious accident risks and injury rate of suppliers, improves the working environment, and enhances safety management level across the supply chain.

Information Sharing and Communication Activities

Operating Procurement Portal

LG Chem operates the Procurement Portal by computerizing all purchasing processes including suppliers' registration, order, bidding, contract, etc., and makes them simply treat reception and transmission, and preservation of various documents necessary for trade. Through this, LG Chem provides the transaction environment that suppliers can trust by increasing transparency in transaction procedures and convenience of work.

Operation of the Cooperation Window with SMEs for Shared Growth

LG Chem operates a win-win cooperation window through additional development or commercialization by cooperating with the company using suppliers' technology or materials.

Suppliers' Communication Activities

LG Chem regularly holds a meeting with suppliers to share business status and issues and listen to their opinions. In addition, LG Chem has its management visit suppliers' production sites and tries to improve difficulties in the collaboration and trade process.

The Energy Solutions division has operated a battery cooperation meeting consisting of 3 sectors (Cell Raw Materials, Pack Components, Facilities) since 2016 and promotes information exchange between member companies through several meetings including a quarterly general meeting and a subcommittee. Moreover, the company carries out shared growth activities based on the cooperation system to achieve cost competitiveness and productivity by performing innovative tasks with suppliers.

General Meeting of a Battery Cooperation Meeting

Activities to Strengthen Suppliers' Capabilities

Suppliers' Productivity Improvement and Support to Export

LG Chem strengthens suppliers' competitiveness and self-reliance by supporting extra expenses necessary for export and consulting on productivity improvement. The company also provides productivity innovation solutions to management and manufacturing sectors by deriving productivity improvement tasks suitable for the characteristics of suppliers and supports direct expenses (customs duty, distribution agency) needed for suppliers' export.

Supporting Talent Recruitment

LG Chem supports suppliers who participate in the governmental job fair under LG Chem's brand image to improve competitiveness by recruiting talents. Also, the company provides employment incentives to relieve suppliers' employment costs burden.

Education for Suppliers' Employees

LG Chem provides suppliers' employees with online education programs for free and increases their satisfaction by providing customized curriculum for them through preliminary demand survey. In 2016, 194 employees from 40 suppliers participated in the education program.

Besides, LG Chem operates the 'Polymer Processing School' to raise the expertise of suppliers' employees, presenting technological know-how on design and development of plastic products such as basic understanding of plastic and basic knowledge of injection molding. In 2016, all 101 employees of suppliers participated in the education programs.

Strengthen Suppliers' Technology Capacity

LG Chem provides suppliers with various services and customized solutions such as support to product development and quality development, and joint development of components and materials and other technical support activities by R&D, production and technology departments to strengthen suppliers' technology capacity.

Participation in Production Innovation Partnership

LG Chem is participating in the production innovation partnership held by the Ministry of Trade, Industry and Energy and the Large & Small Business Cooperation Foundation to support suppliers' export competitiveness and increase of productivity. LG Chem collected KRW 125 million for a business fund and promotes program by supplier based on 3 themes such as management innovation, manufacturing innovation and support to export facilitation.

In 2016, five suppliers in the battery, and information and electronic sectors participated in the partnership. As a result, five suppliers created positive outcomes such as total KRW 450 million worth of financial effect and average increase of sales by 13.8%. Especially Dongshinmotech among participating suppliers increases productivity of battery packs and greatly improves process defects. DA Technology enhances management system through process improvement based on the participation of all management and heads of departments.

Financial Effect of 5 Participated Suppliers (Total)

Sales **13.8%**

Financial effect (total) **KRW 450 million**

In addition, the company provides SMEs with manufacturing technology and facility to use the patents of LG Chem free of charge in developing and commercializing new technologies.

Roadmap to Manage CSR in the Supply Chain

~2016 Enactment of the CSR Code of Conduct
- Enact Suppliers' Code of Conduct
- Conduct a CSR Audit of Main Suppliers

~2017 Establishment and Operation of the CSR Evaluation System
- Develop Self-inspection and Evaluation Tools of Suppliers
- Establish Follow-up Management Methods

~2018 Establishment of Methods to Strengthen CSR Evaluation
- Educate Suppliers
- Establish Methods to Regularize and Expand CSR in Supply Chain Evaluations

~2019 Establishment of Global Standard
- Enhance Management Capability and CSR Level across the Supply Chain

Establishment of the Sustainable Supply Chain

Strengthening Suppliers' CSR Management

Recently, many companies including global client companies increasingly demand to increase social responsibility across the supply chain. Recognizing this, LG Chem is building a CSR evaluation system across the supply chain by deriving promotion tasks to strengthen the CSR capability of suppliers. In 2016, the company brought in the Code of Conduct for suppliers on human rights and labor, ethical management, safety and environment, and conflict minerals to strengthen the management of suppliers, and implemented CSR Audits for major suppliers.

In addition, the procurement department reflected CSR evaluations in the evaluation of new suppliers' registration by establishing CSR management guidelines and prepared the system to conduct visiting inspections to improve the suppliers with low compliance with CSR Code of Conduct. LG Chem will increase the CSR level of supply chains and the satisfaction rates of client companies by establishing a CSR evaluation system to lead global standards by 2019.

CSR Audit of Suppliers

LG Chem implemented a field audit to establish a sustainable supply chain management system. Through this, the company examines whether suppliers faithfully understand and implement suggested CSR items by the Code of Conduct. In addition, the company prevents CSR related risks that can occur in supply chain by deriving the field that is appropriately managed and the field that needs to improve. In 2016, the corporate procurement team, the CSR team and the third party evaluation agency visited 2 suppliers, conducted a field audit, examined documents about labor & human rights, ethical management, safety/health/environment, and ethical use of raw materials, and interviewed with managers. In addition, they visited a safety and environment field and examined safety and health management at workplaces. As a result, they drew positive evaluation items such as intention to comply with laws and employees' satisfaction and maintaining zero-disasters in safety and health and improvement issues such as managing hazardous substances and conflict minerals, gender equality and tracking contract companies' wage.

The Result of CSR Audit of Suppliers in 2016

L&F Co., Ltd.	Date: June 8, 2016 **Positive Findings** 1) Establishment of the corporate ethical management system and the chief executive's intention to comply with the code of ethics 2) Maintain zero-disasters in safety and health 3) High satisfaction of employees **Improvements** 1) Management and monitoring of the entrusted operation of safety/health managers 2) Strengthen management of toxic substances 3) Establish a management system for conflict minerals
Albemarle Chemical Korea	Date: June 9, 2016 **Positive Findings** 1) Internal communication of the company's code of conduct and the chief executive's intention to comply with laws 2) Employees' satisfaction (labor hours, payment, etc.) 3) Implement safety and health management at a workplace **Improvements** 1) Guarantee equal gender opportunity and treatment 2) Support for work-life balance 3) Establish contract companies' wage tracking systems

Human Resources Development

Sustainability and growth of a company originates from talented personnel. All activities to recruit talented personnel and raise employees' capacity and satisfaction directly lead to creation of a company's performance. In addition, a company's recruitment of talented personnel solves unemployment and unstable employment to contribute to local economy activation.

Therefore, it is extremely important in sustainable management activities to provide all people with equal employment opportunities to acquire various talented personnel, create an organizational culture where employees work pleasantly, and motivate them to engage their work by offering fair rewards for their performance.

LG Chem secures talented personnel and simultaneously contributes to local community activation by recruiting talented personnel in a fair manner, and prepares various support systems for employees to contribute to both the company and home. In addition, it creates an organizational culture to work effectively and encourages employees to exceed performance for appropriate rewards.

Link to SDGs

5 Gender Equity

8 Decent Work and Economic Growth

LG Chem's Activities

- We provide all with an equal employment opportunity regardless of gender, religion and race.
- We provide decent jobs to promising personnel and contribute to promoting local economy by recruiting talented people annually.

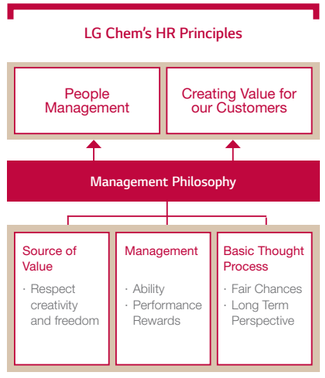
Human Resources Management

Personnel Principles of LG Chem

LG Chem recruits the best talent across the world regardless of race, nationality and gender, and trains core talented people by providing them with more tasks and educational opportunities through fair and objective evaluation. In addition, the company gives the best treatment to talented people without discrimination.

LG Chem has created the 'LG Chem Global Guidance on Human Rights and Labor' and complied with the protection of human rights of employees, protection of child workers, mutual cooperative labor-management relation. Furthermore, the corporation supports the UN Global Compact's Human Rights and Labor Principles, the Universal Declaration for Human Rights, the UN Commission of Human Rights' UN Guiding Principles on Business and Human Rights: Ruggie Framework.

LG Chem's HR Principles



Recruiting Talented People

Recruiting Global Talented People

LG Chem performs the 'BC Tour,' an event where the management directly participates and recruits local talented students to acquire global talented people. In 2016, the company visited China, the USA and Japan to conduct the recruitment event and held the 'LG Techno Conference' to introduce LG's future business direction and R&D technology. In addition, it runs an internship program targeting foreign students studying in the country to strengthen business capacity by securing talented people by overseas offices and let them enter local offices.

Advance Procurement of Talent

LG Chem supports the grant of scholarships for future human resources, provides them with job opportunities, and secures talented people in advance through the 'Advance Procurement Talent' consisting of R&D Scholarship, Industry-University Cooperate Program, Global Internship, Industry-University Cooperative Internship etc.

Best Ability, Best Results, and Best Benefits

Highest Capability

LG Chem recruits the most talented people from around the world regardless of their race, nationality, or gender.

- Recruiting creative and original talent
- Department assignment based on the recruit's preference and aptitude
- Providing incentives to core talent in consideration of the market value and business influence

Highest Performance

LG Chem provides more tasks and training opportunities to excellent employees through fair and objective evaluation, eventually promoting them to become the core talent of the company.

- Objective and fair evaluation
- Providing systematic training opportunities
- Providing individual promotion consultation and a career development planning system

Highest Compensation

LG Chem provides the best benefits to top talent regardless of their race, nationality, gender, religion, disability, region, or affiliation.

- Salary system based on personal ability and performance
- Fair rewards based on performance
- Promotion by selection

Advance Procurement of Talent

Program	Contents
R&D Scholarship	Scholarship for domestic and foreign R&D masters and doctors; employment opportunities after graduation
Industry- University Cooperative Program	Customized education and scholarship for masters/doctors graduating from MOU universities;
Global Internship	Advancing cultivation and verification of global talent; mentoring of team heads in addition to employment opportunities
Industry-University Cooperative Internship	Long-term internship with credits during semesters (4 months); employment oppor-tunities after internships

Recruitment of Local Talented People

LG Chem conducts various programs to train talented people and allow them to enter the company to contribute to balanced development of local economy and solving youth unemployment. In 2016, the company established the LG Smart Convergence Engineering Department in Pusan National University and Chonnam National University to train professional personnel suitable for the industrial characteristics. In addition, it signed the 'Battery Customized Trach Agreement' with Chungbuk National University to train engineers in natural sciences or engineering specialized in battery business in the Chungbuk area. LG Chem also supports vocational capacity development training through the Employment Stepping-stone Program.

Increase of Variety of Human Resources

LG Chem contributes to social development by providing all with equal opportunities and increasing the diversity of members. As part of this, the company is creating jobs for handicapped people by operating the 'Haengbok Nuri', which is a handicapped people oriented subsidiary of the company. 'Haengbok Nuri' is in charge of operating cafes, cleaning the environment and managing welfare facilities in Ochang, Cheongju and Daejeon Plants. As of 2016, a total of 117 handicapped employees worked for 'Haengbok Nuri'. In the future, LG Chem will continue to fulfill its social responsibilities through its human resources composition considering the diversity such as women, the handicapped and the minorities.

Fostering Talents

Fostering Talents for Leading the Market

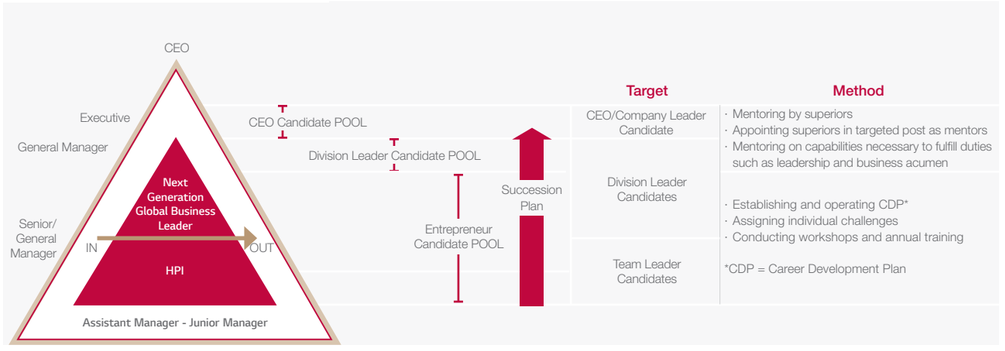
LG Chem is conducting trainings for the future entrepreneurs of HPI (High Potential Individuals), the next-generation global business leaders and a pool of division leader candidates to polish the talents of those who can lead the market. In 2016, the company strengthened coaching and mentoring programs for entrepreneur candidates to secure the insight of organizational operations and capability on business performance. Also, it seeks to train the core talents strategically through the improvement of customized HPI courses for ranks and the year of employment.

Increasing Leadership Capacity by Rank

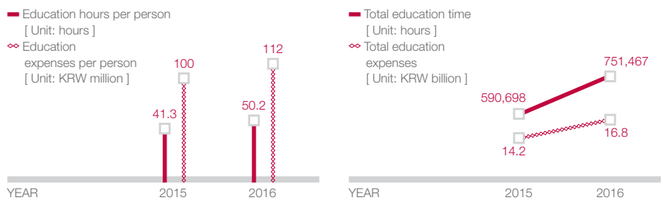
LG Chem implements annual leadership education for all employees to increase leadership capacity by rank. The education consists of organization management, and organization development and strategy. In 2016, the company tried to increase leadership capacity for job performance through the timely provision of customized contents by duty and organization. LG Chem will increase leadership capacity for employees by developing leadership education courses on which more various subjects are reflected.

Leadership Education System for Each Position

Entrepreneur Cultivation System



Performance of Human Resource Development in 2016



Training Female Leaders

LG Chem has operated a program to increase leadership capacity of female HIPs and a pool of team head candidates to increase influence on an organization and support for establishing a career road map and vision as female leaders.

The program allows them to to set up strategy to accomplish high performance and their own brand in relation/cooperation/agreement based on the understanding of internal/external environments and the self-awareness acquired from individual/group activities.

Strengthening Job Competence by Occupational Group

LG Chem strengthens business competitiveness by training professionals in purchase and quality. In 2016, its headquarters newly established and have run the Academy on quality and purchase. The Procurement Academy has been opened, based on participation of in-house professionals and consists of 8 courses such as 'Understanding of Purchase and Logistics', 'Practice of Procurement Trade', etc. The Quality Academy has also started six courses such as 'Quality Mind and Cost', 'Training Course of CQE and CRE', etc. to conduct education to be connected with the performance of employees. Besides, LG Chem continues to run education courses including Operation/Marketing Academy, 'LG Chem Academy' to increase the expertise of new employees, etc. In 2017, the company aims to maximize educational effects by introducing the Flipped Learning method to teach and discuss offline after Prior Learning online.

Training Field Meister

LG Chem implements the Field Meister system to select field talented personnel who meet prescribed requirements as Meister Expert and compensate employees who actively develop their ability. In 2016, the company developed 21 education courses in the public affairs/facility field to prepare a foundation to foster Meisters. In addition, LG Chem brought this system to the production field and established an education system based on each process. In the future, LG Chem will try to contribute to the creation of business performance by training field workers as the best technology/duty experts through systematic development of core capability.

Training Global Talented People

LG Chem maximizes the performance of global business by educating resident employee candidates in foreign offices and training local excellent employees overseas.

For candidates of sojourning employees, the company runs prior training program including foreign languages, leadership, cultures, finance, job education and coaching by newly establishing an organization to train resident employees separated from the current job and establishing a training plan considering individual capacity and characteristics to bear the result just after dispatching. It also runs the high intensive foreign language course to learn local language and the local expert course to perform research tasks about local countries and local language for 8 months.

For local employees at overseas offices, LG Chem provides the equivalent compulsory job training in Korea in local languages. The company implements E-learning courses on Korean language and intensive courses on Korean language to invite talented people to the country. LG Chem contributes to strengthening the capacity of overseas offices by inviting new employees and talented people for overseas offices to the country and implementing customized job education, education on leadership, understanding of LG Group and LG Chem, etc.

Performance Evaluation and Reward

LG Chem respects the creativity and autonomy of individual employees and offers competitive wages and welfare by complying with performance-based personnel management principles.

Fair Performance Evaluation System

LG Chem raises employees satisfaction and provides motivation through a fair performance evaluation system. The performance evaluation system evaluates the contribution to the team, task difficulty, achievement, etc. to evaluate not only the result of performance but its process and outcome. The system also reflects the ability of individual employees, team work, and domestic and foreign environment change on evaluation.

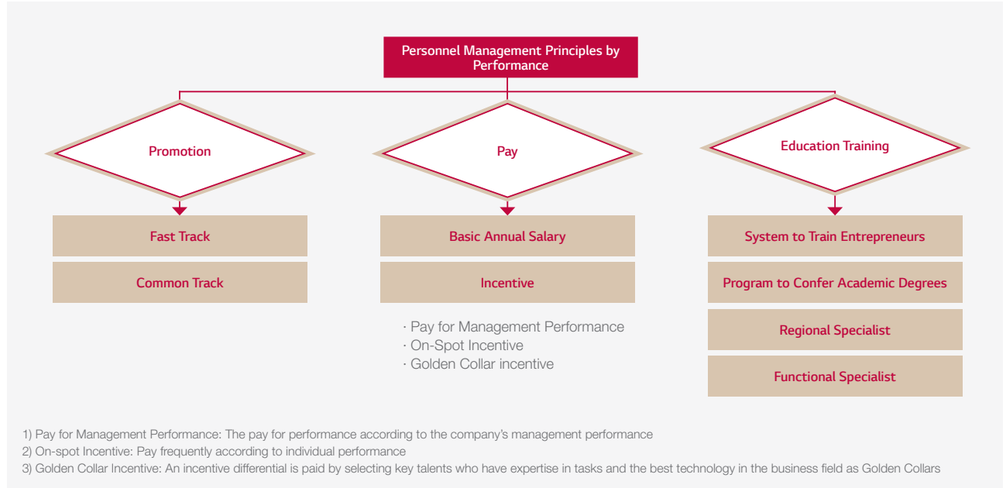
Besides, LG Chem evaluates the job performance of an individual based on ability by rank and occupational group, and likewise conducts systematic evaluation by evaluating the LG Way-reflected attitude. In 2016, all employees subject to the performance evaluation were evaluated.

Welfare Promotion of Employees

Provision of Welfare

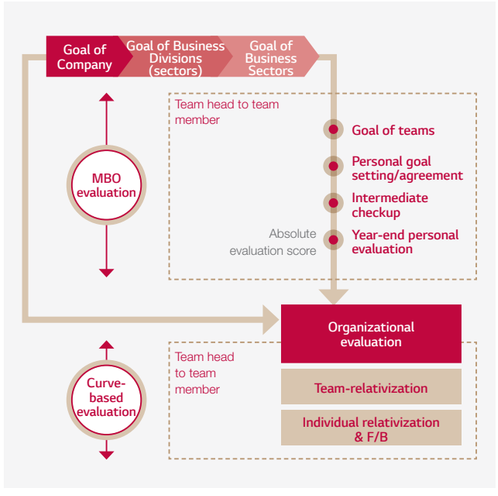
LG Chem raises the employee satisfaction by supporting them to lead a healthy and happy life and supports various welfare programs to enable them to maintain the balance between work and life. The company also runs a Retirement Pension Plan for employees to live based on a stable income after retirement. It runs defined benefit (DB) and defined contribution (DC) pension plans based on legal standards.

Performance-based Personnel Management Principles of LG Chem



1) Pay for Management Performance: The pay for performance according to the company's management performance
2) On-spot Incentive: Pay frequently according to individual performance
3) Golden Collar Incentive: An incentive differential is paid by selecting key talents who have expertise in tasks and the best technology in the business field as Golden Collars

Performance Evaluation System of LG Chem



Benefit System

Support Area	Item	Description
Family Support	Housing loan	Loan for employees of one year+ service; company house and dormitory
	Children's school expenses	Supporting tuition fees for children attending middle/high schools and universities
	Family events/ emergencies	Expenses and leaves for family events, Support consumables for reception of guests
	Childbirth /Maternity Support	A workplace nursery and a feeding room, Programs to support family psychological counselling
Health Support	Medical expenses	Medical expenses for employees, spouses, and children
	Health examination	Regular health examination
	Health/psychological consultation	Consultation with specialists such as health managers and psychologists
Leisure Support	Recreation center	3 recreation centers
	Company club	Supporting more than 150 clubs at different workplaces
	Prize for long-term service	Souvenirs and trips in commemoration of long-term service
	Selective welfare	Support self-development, health improvement, use of personal points for the purpose of leisure and E-Shop

Building the Labor-Management Partnership

Communal Labor-Management Relationship

LG Chem promotes horizontal labor-management relation that respects the respective role of each employee on the equal footing of labor-management relation. Based on management principles, 'Customer-value Creation' and 'People-oriented Management', LG Chem practices labor-management partnership with participation and cooperation. Through this, the company creates continuous outcome, achieves the world-level competitiveness, improves the quality of life of employees and takes communal labor-management to contribute to social development as its vision.

For this, LG Chem is running its own labor-management cooperation model on the level of corporate management, the worksite and collective bargaining. On the level of corporate management, LG Chem raises the value of the company and its members by increasing trust in the management and strengthening communication. On the level of the worksite, the company raises productivity by systematically training technical talents in the field and complying with basics and principles. On the level of collective bargaining, the company is building a business-oriented labor-management partnership through a reasonable and productive negotiation culture and labor-management participation and cooperation to increase productivity.

Three-dimensional model for Labor-Management Relations

Create Corporate Culture of Great Work Place

Innovative Organizational Culture to Lead the Market

LG Chem continuously performs innovative activities in 7 challenge areas to change an organizational culture such as complying with basics and principles, and innovating working methods to lead the market.

In 2016, LG Chem shares the guidelines to practice organizational culture innovation (change, communication and focusing on core tasks) with leaders to innovate customer value, supports them to promoted innovation activities, and supports organizational unit-based innovation activities to establish environment to focus on core tasks.

Besides, LG Chem runs a women's mentoring program and a lounge for women to train female talents. The company contributes to organizational stabilization and synergy creation by supporting PMI (Post-Merger Integration) activities such as education to understand LG Chem and core value conducted in 2016 for M&A organizations.

7 Challenges to Innovate Organizational Culture

7 CHALLENGES TO INNOVATE ORGANIZATIONAL CULTURE TO LEAD THE MARKET	
Innovation of working methods	· Listening, discussion, acting and simplifying protocols
	· Work Intensive & Smart
	· Performs self-directed tasks
	· Promote collaboration
Compliance with basics and principles	· Comply with safety & environment principles
	· Practice Jeong-do management
	· Comply with work regulations

PROMOTION TO INNOVATE ORGANIZATIONAL CULTURE TO LEAD THE MARKET	
Sharing the direction of the organizational culture innovation	· Share the guidelines to innovate leader-initiated organizational culture (change, communication, focusing on core tasks)
	· Diagnose and improve the innovative organizational culture
	· Run the eye-catching board to share organizational culture messages (once a month across all domestic and overseas plants)
Domestic and foreign organizational unit-based innovation program	· Support to build the environment focusing on core tasks by organization to innovate customer value
	· Support to create synergy and stabilize organizations through PMI (Post-Merger Integration) activities for M&A organizations
	· Understanding LG Chem and its core values
	· Support programs to innovate organizational culture for overseas offices
Strengthen communication and variety of members	· Run a women lounge site and women's mentoring program to train female talents

Innovation Activities to Leader-initiated Organizational Culture

LG Chem established the guidelines for leader-initiated organizational culture innovation by drawing items to innovate such as change, communication and focusing of core tasks through collection of employees' opinions and in-house surveys to lead the market and guage customer value. Leaders take initiatives to innovate the organizational culture by sharing the guidelines with leaders and conducting relevant education. In the future, LG Chem will make practical changes to the organizational culture through continuous examination and support.

The Practical Guidelines to Innovate the Organizational Culture for Leaders

Change
- Share business/management environment
- Share dream and vision with employees
- Create creative/autonomous work environment

Communication
- Understand myself and team members
- Build trust with team members
- Active communication

Focusing on Core Tasks
- Simplify report/meeting, etc.
- Business coaching according to types of subordinates
- Remove work irrelevant to customer value

Strengthening Communication of Employees

LG Chem conducts the employees association and the meeting between the CEO and female talents annually in recognition of the fact that communication in the field contributes ideas to lead the market. In addition, the company listens to main issues through meetings by rank and occupational group, and introduces various support systems for employees to immerse into the task. Besides, LG Chem collects various opinions of employees by running Chemi-Talk, the channel aiming to communicate among employees, in G-Portal, in-house intranet.

Support Employees to Immerse in the Task

Various issues that can happen at home and the workplace greatly affect employees' immersion in the task. Therefore, LG Chem creates the environment for employees to immerse in the task by running the Women Lounge site, Women's Mentoring Program and EAP (Employee Assistant Program) in G-Portal, in-house intranet.

With the gradual increase in female talents recently, the Women's Lounge site supports the compatibility between work and family life, fostering female talents, sound workplace culture and related institutions. The Women's Mentoring Program gives advice and consultation regarding concerns such as work capacity, increase of leadership and organizational life by matching a female employee and a mentor inside or outside of the company.

Besides, LG Chem provides mental health checkups, counselling, personality test and aptitude test.


Meeting between CEO and female talents

Strategic Social Contribution

The corporate social responsibility through co-existence with local communities has been strengthened in the world. Local communities are not just beneficiaries but have a win-win relationship with other companies. Therefore, it is important to seek a way to develop with local communities. To this end, firms are trying to contribute to the creation of the local communities' value through various social contribution activities.

Recently, they increase the value of companies and local communities simultaneously through social contribution activities reflected by the characteristics of business and strategies of companies. In accordance with such a trend, LG Chem promotes the strategic social contribution activities reflected by the social contribution policy in LG Group and the characteristics of the chemical industry. LG Chem focuses on 'Youth Education' which provides educational programs related to chemistry and the environment. The enterprise also promotes 'green/energy' businesses in which the company shares with the society and solves climate change issues.

Link to SDGs

- 4 Quality Education
- 7 Affordable and Clean Energy
- 10 Reduced Inequalities
- 13 Climate Action

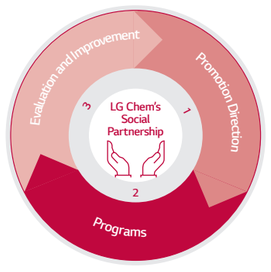
LG Chem's Activities

- We provide education on chemistry and environment that are rarely available to youths.
- We contribute to the implementation of social and environmental values by supporting vulnerable groups based on profits of PV generation through Green Partnership Project.
- We support social enterprises in green field businesses through LG Social Fund.

System to Promote Social Contribution

LG Chem conducts various social contribution activities, focusing on such areas as Youth Education, Green and Energy fields, in accordance with business character and global trend based on LG's social contribution policy 'Love That Makes Young Dreams Come True'. The corporate CSR team takes charge of operating company-wide social contribution activities, and planning and promoting new business and the plant task support team takes charge of social contribution activities at each plant. The CSR committee with the CEO as the president approves new business and is reported about the current status of main social contribution activities. The result of social contribution activities is reflected in the performance evaluation of the head and members of the CSR team and the head and members of the plant task support team. LG Chem surveys participants in each social contribution program for satisfaction and improvement, through which it collects opinions from stakeholders. The survey results will be reflected to improve the next year's social contribution programs.

In addition, LG Chem analyzes social contribution and effectiveness through SROI (Social Return on Investment) analysis about main social contribution programs such as the Chemistry Park and Chemistry Camp.



1	Youth Education-centered Social Contribution · Direction to promote social contribution · Love that Makes Young Dreams Come True	Social Contribution using the Characteristics of LG Chem's Businesses · Eco-friendly/Energy Field
2	Youth Education Field · Increase interest in environment and chemistry (Customized education for elementary/middle/high school)	Eoo-friendly/Energy Field · Green Partnership Project, LG Social Fund
3	LG Guidelines to Evaluate Social Contribution · The aspect of solving social issues · The aspect of using business strength	

Participation in Social Contribution and Increase Awareness

Employees' Participatory Program

LG Chem planned and promoted the new social contribution program to induce employees' voluntary participation and interest in social contribution activities. In 2016, the CSR committee approved a new plan about employees' participatory program on the theme of 'Biodiversity'. In 2017, we visited the Bamseom Island which is an ecological landscape protected area and a Ramsar wetland to remove harmful plants and clean the environment.

In addition, social contribution programs are run by the task support team at plants and each plant contributes to development of a local community through the 'LG Exchange of Love', a welfare facilities support project run by the LG Welfare Foundation.

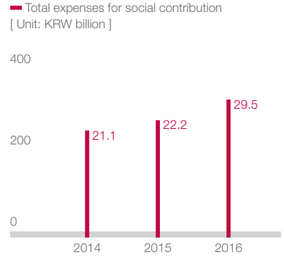
Besides, LG Chem operates the Twin Angel Fund, a fund for social contribution activity based on employees' voluntary participation. 100% of the Twin Angel Fund is matched by LG Chem to raise a separate fund. Twin Angel Fund and matching funds are utilized to support social contribution activities at each plant.

Education of Social Contribution

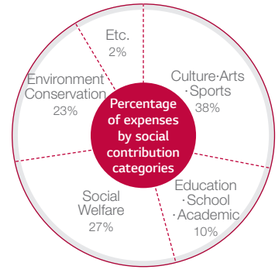
As social contribution is emphasized as a company's important activities to co-exist with a local community, LG Chem increases employees' awareness of social contribution and conducts education on CSR for corporate executives overseas, employee consultative bodies and new employees. The education contents comprise the LG Chem's direction and system of social contribution, and major programs introduction.

Furthermore, for corporate executives overseas, the education program is targeted to identifying and performing programs to solve social issues in association with LG Chem's strategic direction.

Status of Social Contribution Expenses*



* Status of social contribution expenses is limited on the country
* As social contribution expenses additionally include promotion expenses, direct business expenses, etc., the data is different from the one of the previous year.



The Measurement of Effectiveness of the Social Contribution Program

LG Chem measures the social and economic effects of programs by monetizing input-output of programs through SROI (Social Return on Investment), an improved method to apply the ROI (Return on Investment) concept in social and environmental sectors. In 2016, LG Chem evaluated the 'LG Chem Fun Chemistry Park', 'LG Chem Chemistry Camp' and 'Upcycling Program' and the summary of the evaluation results are as follows:

	Benefits of Main Stakeholders and Measurement of Change				Output of SROI
	Beneficiary Group	Volunteer Participants	Partner Institutions	LG Chem	
LG Chem Fun Chemistry Park	· Experience-centered science (chemistry) education · Opportunity for one-day experience education in the capital region	· Increase voluntary service and extracurricular activities	· Maintain employment and expand infrastructure · Develop new curriculum	· Increase brand intimacy and image	→ Ratio of output to input **117.6%** (7.8%p ▲)
LG Chem Chemistry Camp	· Experience-centered science (chemistry) education · Spread the spirit of sharing through global citizenship education	· Strengthen leadership capacity · Increase voluntary service and extracurricular activities	· Maintain employment and expand infrastructure · Develop new curriculum	· Increase brand intimacy and image	→ Ratio of output to input **190.6%** (7.4%p ▲)
Upcycling Program	· Opportunity of practice-based environmental education · Increase recognition and practice of environment and resources saving · Opportunity of environmental and chemistry education	· Increase extracurricular activities	· Maintain employment and expand infrastructure	· Increase intimacy and communication · Create donation culture within an organization	→ Ratio of output to input **116.3%** (3.2%p ▲)

Youth Education-centered Social Contribution

LG Chem Chemistry Camp

'LG Chem Chemistry Camp' is LG Chem's major youth social contribution program consisting of 3-day camp for students of middle school students neighboring the company plants. The Chemistry Camp helps students get familiar with chemistry through interesting chemical games and creative experiments and learn the value of living together, vision education and safety education through the 3-day community life.

In January 2017, three themed programs were conducted on the theme 'Chemistry Makes Us Interesting and Healthy' through four Chemistry Camps.

In cooperation with Yonam College, the camp implements the 'Tasty Chemistry' program where participants cook with and learn chemistry principles from professors and student at the Food Service Industry department; the 'Chemistry in Daily Life' program where they can learn chemistry principles in daily life by making portable water purifiers and air fresheners; and the 'Interesting Chemistry' program that explains the story of chemistry in our daily lives through quizzes and games.

The camp has been conducted a total of 51 times since 2005, and more than 6,000 students have participated.

LG Chem Fun Chemistry Park

LG Chem has operated the 'LG Chem Fun Chemistry Park', a chemistry class for elementary schools, in neighborhoods surrounding its plants since 2015. 'LG Chem Fun Chemistry Park' is an experience-based learning program where student participants in four experience booths test and experience various themes such as chemistry, the environment, and energy. In addition, a magic show using chemistry is presented to help students to have interest in chemistry.

The experiencing hall operated under four themes consists of the 'LG Chem Hall' where students can explore various chemical products and gain new knowledge, 'Energy Zone' and 'Life Zone' under the theme of real life chemistry, and 'Education Zone' where students learn about global citizenship and practice sharing. In 2016, more than 1,440 elementary school students in 5 areas including Daejeon and Ochang participated in various experiments and simulation classes.

Upcycling Program

LG Chem has operated the 'Upcycling Program' in which high school students and employees manufacture goods in daily life by using waste resources in cities since 2015.

As a part of the program, the 'Green Chemi-Environment Club' program provides upcycling education for students. Also, students convey what they have learned to those in the youth welfare institutions nearby as 'Peer Tutors.' In 2016, more than 200 students from 10 environment clubs in Seoul and Yeosu participated in this education contribution program.

In addition, LG Chem operates the 'Upcycling Experience Program' for employees including new ones, which contributes to increasing interest in environmental issues and spreading donation culture.

Social Contribution Reflected by the Characteristics of Business

Green Partnership Project

LG Chem promotes the 'Green Partnership Project' for local communities where the division and plants are located. The project installs the solar energy generation-based 'Hopeful Green Power Plant' and use subsequently generated funds to support financially disadvantaged youth. The project is a sustainable social contribution plan with an applied economic model, which is expected to be operated for 20 years. LG Chem tries to collect the maximum for the development fund by selecting the optimum site with each local government, and plans to expand target areas in the future.

LG Social Fund

'LG Social Fund' is a program dedicated to supporting eco-friendly, social economic organizations, under joint operation between LG Chem and LG Electronics. Since 2011, LG Chem has operated the 'LG Social Fund' with the government departments, academics and NGOs for the first time in the country as a multilateral cooperation model which each expertise is applied to. The 'LG Social Fund' supports organizations with high growth potentials, public contribution, and innovation in eco-friendly areas. The 'LG Social Fund' has financially supported 110 companies (free support and interest-free loans) since 2011. LG Chem has built a social campus in the industry-university cooperation hall of the Korea University in 2015. So far, total 15 companies have moved into the campus as the recipients of rents and education support. Besides, the company supports their growth through consulting on increase of productivity, training in advanced countries, and networking workshop. LG Chem will continuously conduct customized support to social and economic organizations in the country with LG Electronics and fulfill its role to create a virtuous cycle of enterprise ecology in the country.

Contribution to Local Communities through Social Contribution by Each Plant

Genie Day at Local Childcare Centers' program - Yeosu Plant

The Yeosu Plant has organized Genie Day every year since 2010 primarily through the support of volunteer clubs to solve difficulties of local childcare centers. It has supported 71 local childcare centers so far. In 2016, individual support goods, and joint support goods such as fire detectors and throwing type fire extinguishers were donated to 13 childcare centers with an aim to protect children from fire accidents.

Dong-go-dongrak Program – Daesan Plant

The Daesan Plant has conducted the 'Dong-go-dongrak Program' for high school students since 2014 to train local talents. Various programs are in place to assist students in planning their academic future and career such as the project's mentorship providing students with opportunities to explore career choices creatively; the college entrance briefing session helping bridge the information gap between cities and agricultural regions; the chemical analysis experience increasing interest in and understanding of chemistry; and the cultural courses for youth providing various cultural benefits. In particular, the project's mentorship program matches 3~4 students and one employee at the Daesan Plant and contributes to enhancing students' fulfillment and practically helping prepare for the college entrance examination. With awareness as a partner of local communities, LG Chem will operate more diverse and sincere 'win-win programs between a company and a local community' to contribute to youth's dream and development of local communities.

Book Sending Campaigns - Ochang Plant

The Ochang Plant has donated 'books with hope' to schools and youth welfare facilities in the locality of the plant since 2012 to support the dreams and hopes of youth. The plant selects facilities which hardly enjoy cultural benefits considering the facility environment and geographical conditions. As of now, the Ochang Plant has donated 4,500 books to 22 youth facilities and schools in Cheongju.

Junior Science Class – Research Center

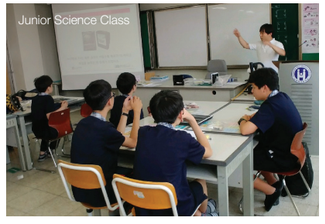
Since 2004, the LG Chem Research Center has operated the 'Junior Science Class' as a way to donate LG Chem's talent to elementary school students. Researchers with professional degrees at the Research Center visit adjacent elementary schools and participate in science classes to provide children with opportunities to learn more about life science. In 2016, the Research Center provides opportunities to have interest and experience in science to students by developing textbooks reflected by the characteristics of LG Chem's products such as ESS, SAP and polarizing plates. An experience study was conducted for more than 200 elementary school students from 2 schools and 4 local childcare centers. Students made 'nude headphones' by using magnets and coils during the session. More than 1,500 students in total have participated since 2004.

1-Company 1- Army Campaign

Since entering sisterhood relationship with the 1st Infantry Division in 2011, LG Chem has provided comfort articles and presents of money every year. In the first half of 2016, 75 family members of employees visited security sites on the occasion of the Memorial Day. During the day, participants visited Dora Observatory and the 3rd underground tunnel located in the 1st Infantry Division to experience importance of security and donated comfort articles. In the second half of the year, the CEO visited the battalion of the 1st Infantry Division to encourage soldiers and delivered comfort articles such as daily supplies and presents of money as well as a library (book cafe) to foster knowledge of soldiers.

Social Contribution of Overseas Corporations

Overseas corporations conduct voluntary services focusing on support to events and cooperation with local communities. The US corporation (LGCMI) supports representative local festival, 'Festival of Lights in Holland' and 'Labor Day Truck Parade' and local employees participate in local events to increase familiarity with local residents. The Poland corporation (LGCWR) proceeds with a museum visit program for special students and conducts events participated in by employees on Christmas and Children's Day.



03. SUSTAINABLE GOVERNANCE

Corporate Governance

LG Chem's Board of Directors consists of seven directors, including two executive directors, one non-executive director, and four independent directors. The BOD plays the role of LG Chem's supreme decision-making body which has the authority to appoint and dismiss executive officers and hold responsible executive officers who exercise actions that directly affect shareholder profit. LG Chem's independent directors have a wealth of experience in various areas including chemistry, energy sourcing, IT/electronics as well as technology, law, finance, and accounting. These members are responsible for monitoring and advising in all important aspects related to business operation and contribute to development of the company and protection of shareholders' rights and interests. They also conduct surveillance and checks against the management to establish transparent governance structure. In addition, in case that a director has interest in special issues, his/her voting right is limited to ensure that the BOD makes fair decisions.

Board of Directors

* As of March, 2017

Executive Directors

Park, Jin-Soo Chairperson of the BOD
Former CEO of Hyundai Petrochemical
Former CEO of LG Petrochemical
Current Vice Chairman & CEO of LG Chem
* Concurrent post: Representative Director of FarmHannong

Jeong, Ho-Young
Former CFO of LG Display
Former CFO of LG Household & Health Care
Current CFO of LG Chem
* Concurrent post: Auditor of LG Academy

Non-Executive Director

Koo, Bon-Joon Chairperson of the Nomination Committee for Independent Directors
Former CEO of LG International
Former CEO of LG Electronics
Current Vice Chairman of LG Corp.
* Concurrent post: Director of LG Electronics and LG Sports

Independent Directors

Kim, Se-Jin Chairperson of the Audit Committee
Former member of the National Competitiveness Reinforcement Subcommittee
Former Professor of Economics, Washington State University
Current President of Korea Fund Ratings

Ahn, Young-Ho Member of the Audit Committee
Former Standing Commissioner, Korea Fair Trade Commission
Current Adviser at Kim & Chang

Char, Kook-Heon
Former American Physical Society-Fellow
Current Gutenberg Research College-Fellow
Current Professor at the School of Chemical and Biological Engineering, Seoul National University

Jeong, Dong-Min Member of the Audit Committee
Former Chief Prosecutor at Daejeon District Public Prosecutors' Office
Former Chief Prosecutor at Seoul Western District Public Prosecutors' Office
Current Partner at Barun Law LLC

Transparent and Independent Governance Structure

Transparency in the Election of Directors

LG Chem runs the Nomination Committee for Independent Directors under the Board of Directors. The committee is composed of three members and recommends independent director candidates to the BOD. Among the recommended candidates, independent directors are appointed through the general meeting of shareholders. To ensure the transparent and fair election of independent directors, the Nomination Committee for Independent Directors is composed of more than 2/3 of members as independent directors.

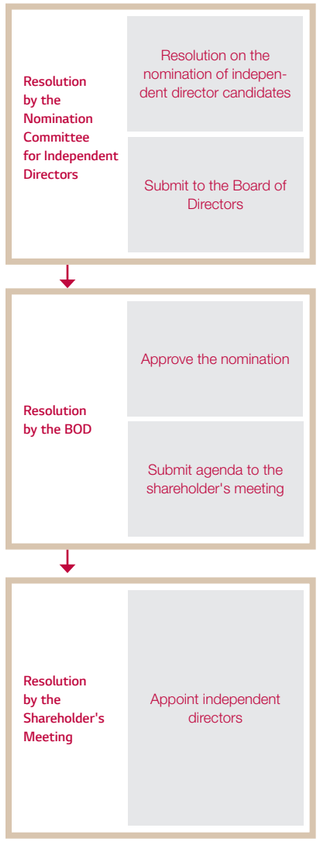
Independence of the Audit Committee

The Audit Committee has the authority to audit the company's accounting treatment and directors' duty. The committee can require directors to report operating activities or inspect the company's businesses and asset status. The Audit Committee is composed of all independent directors to secure its independence.

The regular meeting of the committee is held to establish, execute, and evaluate internal audit procedures. In particular, management results shall be reported quarterly to the committee. Tight monitoring of business management is conducted through evaluation and approval of internal accounting systems and internal monitoring system.

In case that important issues to report to the Audit Committee such as nonrecurring accidents occur, a special meeting of the committee is held to collect opinions for auditors.

Election Process of Independent Directors



Board Secretariat

The Board Secretariat established under the legal sector conducts preliminary explanation to directors before a meeting of the Board of Directors to effectively fulfill the role and responsibilities of the BOD and helps directors examine agenda based on enough information. In addition, the secretariat analyzes agendas for the previous five years and classifies regular and frequent agenda. Through cooperation with managers of the BOD by department, reference to agenda DB and analysis of laws and the company rules, the secretariat prevents omission of agenda and examines legitimacy and appropriateness of agenda.

Stakeholder Communication

The Board Secretariat receives opinions about issues submitted and reported to the BOD from relevant departments before holding a board meeting. In addition, the secretariat communicates with stakeholders through internal and external communication channels including public disclosure and IR events. Important decisions on management resolved by the BOD shall be immediately made public to provide related information to shareholders and stakeholders. Major business issues related to investors' interests are disclosed through the Data Analysis, Retrieval and Transfer System (DART) of the Financial Supervisory Service and the Korea Exchange (KRX) and LG Chem website.

Board Activity and Evaluation

Board Activities

The regular Board meetings decide main agenda submitted according to laws and the Board of Director Regulations. The special board meetings are held to deal with urgent management issues. In 2016, the board held 10 meetings resulting in 38 approvals and 9 reports. In addition, the board visits key plants in Korea, and subsidiaries in overseas countries to conduct on-site oversight.

Board of Directors Evaluation and Compensation

Members on the Board of Directors receive compensation decided through the resolution of the general shareholders meetings and the compensation is granted according to wage regulations. An executive directors' wage is calculated in reflection of her or his position's value and grade and is composed of performance-related pay based on yearly wage and management performance of the previous year. Performance-based pay for directors is paid within the limits of 0 to 150% of base salary after an overall evaluation is conducted in terms of quantitative indicators such as sales and operating income, and non-quantitative indicators such as an evaluation of core tasks and the degree to which long-term expectations have been fulfilled.

The upper limit of wages of the board of directors decided by the general shareholders meeting in 2016 is KRW 8 billion, and the total amount of wages paid was KRW 3.24 billion. Wages for individual directors and auditors that exceed KRW 500 million are made public through a business report in accordance with related law.

Activities of the Board of Directors and its Committees

Division	Subdivision	Detailed Division	2016	Unit
Board of Directors	Attendance	Executive Directors (Standing)	100	%
		Independent Directors (Non-executive)	100	%
	Number of Meetings		10	-
	Number of Agenda Submitted	Approval	38	cases
		Report	9	cases
Audit Committee	Number of Meetings		6	-
	Number of Agenda Submitted	Approval	3	cases
		Report	12	cases

2016 Compensation for Directors

	Number of people	Total payment (KRW million)	Average compensation per person (KRW million)
Registered Directors (Independent Directors and Audit Committee members excluded)	5	3,020	604
Independent Directors (Audit Committee members excluded)	1	-	-
Audit Committee members	4	221	55

* As of December 31, 2016, directors/auditors who retired within the year of 2016 are included, excluding the incumbent directors/auditors

Agenda Planning Process of the Board of Directors

Collection of Agenda
- Analyze agenda submitted in the past 5 years (132 approvals/ 56 reports) -> Standardize 34 regular/ frequent agenda
- Review enactment and revision of related laws
- Review the company rules
- Verify agenda by department

Review of Agenda
- Verify essential entered matters of agenda
- Analyze legitimacy and appropriateness of agenda
- Verify obligation of public disclosure and period of public disclosure of individual agendum

Confirmation of Agenda
- Final examination of legitimacy and appropriateness of public disclosure and its contents
- Preliminary explanation to directors and confirm agenda

Follow-up Examination
- Examine whether to omit and analyze agenda resolved by the BOD in the previous year when preparing a business report and a sustainable management report
- Examine whether to omit agenda according to related laws and regulations by verifying the minutes of the BOD by Jeong-do Management TFT at the beginning of each year

Independence of Independent Directors

LG Chem defines the criteria for judging the independence of independent directors under the Commercial Code to ensure that the Board of Directors can fulfill its duty to 'check and balance' management. Independent directors currently represent 57% of the entire board in accordance with the criteria.

1. Director, executive officer, and employee engaging in the company's business operations or director, auditor, executive officer, and employee who has engaged in the company's business operations within the past two years
2. Majority shareholder or the spouse and direct-line ancestor/descent
3. Director, auditor, executive officer or employee of a company if the company is a majority shareholder
4. Spouse and direct-line ancestor/descent of a director, auditor or executive officer
5. Director, auditor, executive officer or employee of the company's parent company or subsidiary
6. Director, auditor, executive officer or employee of the company who has special interests such as a business relationship with the company
7. Director, auditor, executive officer or employee of another company where the company's director, executive officer or employee serves as a director or executive officer

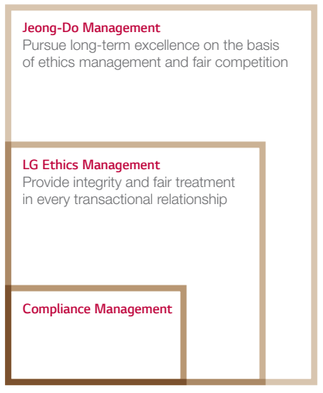
Business Ethics

Jeong-Do Management

Jeong-Do Management Principles

'Jeong-Do Management' is LG's own way of behavior that plays fair by continuously developing ability based on ethics management.

All of LG Chem's domestic and overseas employees and suppliers practice Jeong-Do Management in everyday management activities.



Status to Address Violations of Jeong-Do Management

Division	2014	2015	2016	Unit
Inspection by the ethics office	68	56	55	Cases
Persons punished 1)	15	21	29	Persons
Discharged persons due to corruption	9	5	10	Persons

1) More that heavy punishment

LG Code of Ethics

The LG Code of Ethics suggests the basic direction of Jeong-Do Management and is the criteria of value judgement and right behavior that all employees shall comply with. All of LG Chem's domestic and overseas employees and plants perform business based on the Code of Ethics. The details of the LG Code of Ethics are posted on the LG Jeong-Do Management website for all the stakeholders to read them.

* LG Jeong-Do Management Website (http://ethics.lg.co.kr)

Practice Jeong-Do Management in Life

LG Chem implements regular Jeong-Do Management education for all employees and suppliers according to education and promotion system of Jeong-Do Management. The company continuously shares the true meaning of Jeong-Do Management, "Fair Play by Developing Ability", Jeong-Do Management campaigns, Jeong-Do Management newsletters which are sent to all employees once a week. From 2016, LG Chem has developed 'Practicing Jeong-Do Management in Life' activities to improve process, discover risks and break down traditional practice of each task voluntarily and actively.

* Jeong-Do Management Event (Excellence Awards at a slogan contest)
- Compliance with the Basics is a promise to go together
- Jeong-Do Management is not norms in a notepad but habit in life

Reporting System

LG Chem runs the 'Corruption Reporting Systems' to prevent unfair transactions and rapidly address the violation of Jeong-Do Management such as employees' corruption and accepting bribes. Internal employees and external stakeholders can report violations anonymously and by a real name on the LG Jeong-Do Management homepage. In the case of reporting by a real name, LG Chem strictly protects the confidentiality of an informant and the contents of reports to prevent causing disadvantages to the informant. In case of verifying the company's loss reduction or contribution to Jeong-Do Management, LG Chem runs the 'Compensation System for Corruption Report' to compensate an informant. Besides, LG Chem runs the win-win bulletin board with suppliers to solve their difficulties.

Guarantee of Fair Transaction

LG Chem encourages suppliers to participate in practicing LG Jeong-Do Management. The company introduces Jeong-Do Management and conducts the 'Not to Offer and Receive Gifts' leads the practice of Jeong-Do Management by sending Jeong-Do Management letters regularly and conducting the 'Not to Offer and Receive Gifts' movement.

Compliance Management

Compliance Management System

To systematically respond to legal risks and prevent illegal activities occurring from the company's management, the company understands domestic and overseas laws and regulations to comply with for operation of business and examines whether employees comply with laws and regulations. For this, LG Chem has operated the compliance control system and the compliance support officer appointed by the Board of Directors directs compliance control work. The compliance support officer conducts compliance education and compliance inspection and reports whether to comply with the compliance control standard to the Board of Directors annually. In addition, to support activities of the compliance support officer, the company operates the Compliance Support Team under a person in charge of legal affairs and performs compliance support activities through cooperation with related departments.

Strengthening Compliance Education

LG Chem conducts online and offline compliance education for employees. In 2016, the company conducted online education about the subcontracting act, cartel, and infringement of trade secrets with the theme of 'Collection of Competitive Information and Compliance Issues' for administrative and technical employees. In addition, as the Improper Solicitation and Graft Act took effect, offline education for departments for government relations and plants was conducted to increase compliance awareness and understanding of employees. This program was completed by 1,500 employees. Besides, to prevent compliance risks that can be occurred after acquiring Dongbu FarmHannong and GSEM, offline compliance education was conducted separately. In addition, education about compliance with local laws was conducted for dispatched workers at overseas corporations. To raise effect of compliance education, LG Chem conducted customized offline education by rank/duty such as a course to increase leadership of team heads and offline education by subject such as LG compliance guidelines, cartel, anti-corruption regulations, and education for working members of the Board of Directors.

Activities to Prevent Compliance Risks

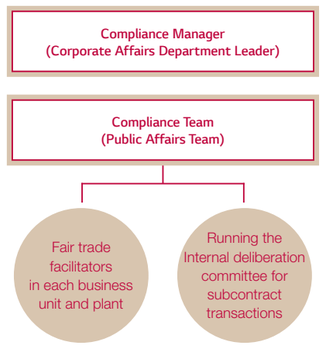
As the Improper Solicitation and Graft Act took effect in 2016, LG Chem understood legal risks by conducting interviews and surveys of main departments for government relations and plants, and notified notes to the entire company. In addition, the company improves work process to deal with congratulatory or condolence money and gives legal advice related to the Anti-Bribery and Graft Act(Kim Young-ran Act).

Fair Trade Compliance Program

Running Fair Trade Compliance Program

LG Chem has set up the 'Guidelines of Fair Competitiveness' after introducing the Fair Trade Compliance Program. The company established, implemented and reported the operating plan of the Fair Trade Compliance Program by organizing a compliance team under a fair trade compliance manager. In addition, LG Chem executes preliminary reviews of subcontract transactions by establishing an internal review committee for such transactions to prevent unfair trade that may occur when dealing with small- and medium-sized suppliers.

Fair Trade Compliance Program Organization



Compliance Checkup and Education

LG Chem runs the Compliance Program focusing on preventive activities and implements compliance education and annual review of agent transactions, subcontract transactions, internal transactions and cartel. In 2016, the company greatly increased review departments and personnel by expanding a purchase department-centered review in the past to all persons in charge of purchase, production, quality and subcontract. Through which it raised compliance consciousness and was fully aware of risks violating subcontract laws. In addition, LG Chem implements customized fair trade education by rank and occupational group such as customized education by job characteristic, second year education by rank, education for new team heads, etc. to spread fair trade compliance across the company.

Internalization of Fair Trade Culture

To establish the right and fair trade culture, LG Chem distributes Do's & Don'ts and the manual for fair trade compliance reflecting the enacted and revised laws and practical affair issues. In addition, the company has the 'Guidelines for Compliance with Subcontract Laws' in place to transact all business activities and decisions making based on compliance consciousness. Besides, it tries to raise voluntary compliance consciousness of employees by implementing an annual 'Promise to Comply with Fair Trade' targeting the entire fair trade law and the 'Prohibition of Cartel and Unfair Action'. Moreover, LG Chem supports early establishment of fair trade culture by applying the same Compliance Program to newly incorporated organizations.

Risk Governance

Company-wide Risk Management System

LG Chem preemptively manages risks with its company-wide risk management system comprising of daily management, integrated management, verification, and supervision. The daily management includes risk identification, cause and correction analysis through business activity monitoring. The integrated management includes each division's risk inspection and response measures through the RMC (Risk Management Committee). We provide guidelines to every division so that each division's risk management team can predict and respond to each risk scenario.

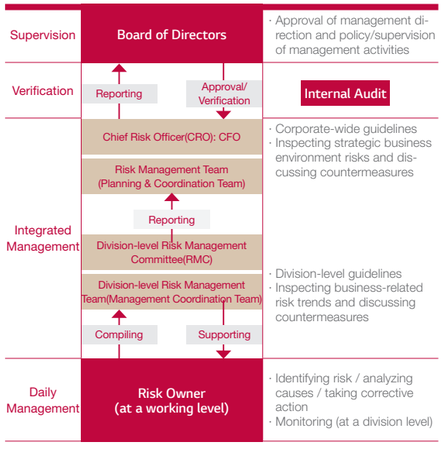
The CFO is the chief executive of risk management who discusses the corporate guidelines and risk response measures. The BOD approves the final direction and policy of risk management and supervises risk management activities.

Analysis and Management of Risks

LG Chem derives risks in various aspects through interview, analysis of work process by function, company-wide mid-term strategy, etc. The company manages the risks by classifying them into prevention and response-centered risk, response-centered risk, prevention-centered risk, and acceptable risk based on the probability of occurrence and the evaluation of effectiveness.

In addition, LG Chem discusses response measures and intensively examine business environment change when establishing business plan and mid-term strategy to prevent and reduce the risk occurring. The company also discusses company-wide support matters and main issues of the business division through the Business Management Council held by the CFO every month.

Company-wide Risk Management System



Analysis and Management of Risks

Division	Related Risks	Response Activities
1. Prevention and Response-centered Risk	· Inappropriate portfolio composition risks and decision making risks to invest in global strategic regions due to lack of finding new growth business · Risks related to securement and maintenance of new customers	· Establish prevention and response system with intensive management of risks (operate regular meetings)
2. Response-centered Risk	· Risk of occurring environment and safety accidents · Risk of occurring large/group claims	· Establish response measures by expected scenario
3. Prevention -centered Risk	· Risk of generating long-term and obsolete inventory · Risk of credit crisis	· Develop regular and preventive activities to reduce frequency
4. Acceptable Risk	· Risk related to media	· Implement monitoring to prevent risk transition

Prevention of Risk Recurrence

To prevent risks from recurring, LG Chem implements the follow-up management. LG Chem examines risks through an Internal Audit and takes countermeasures to prevent risks from recurring. Moreover, all major projects are evaluated based on sales, profit/loss data, and investments in comparison with investment plans for the last 3 years. For projects whose results were different from predicted outcomes, major factors are examined through follow-up inspection to improve the success rate of future investments.

Internal Control System

LG Chem operates the Internal Control System based on the IACS (Internal Accounting Control System) Framework to secure the reliability of financial data, effectiveness and efficiency in business operations, and ensure compliance with applicable laws and policies. LG Chem continues to operate the Internal Control System for the Board of Directors, management, and other members to secure trust of investors and strengthen management's responsibility for risks.

Identification of Main Risks and Response Activities

LG Chem identifies financial and non-financial risks which can cause important effects on management environment and classifies main risks by cause to implement strategic risk management.

Division	Risk Factors	Potential Impacts	Mitigating Actions
Business Risk	Management of order	· Necessity of systematic management due to increase of winning project order and large-sized projects	· Secure profitability through management from a quotation stage · Establish response basis to risk of loss
	Expansion of new businesses; fierce competition	· Fierce competition in emerging markets and rapid growth of competitors may decrease the business competitiveness	· Expand technology-based divisions, strengthen global competitiveness of existing businesses, and invest more into R&D · Strengthen the competitiveness in the area of new businesses
	Sales and production	· Mid/long-term growth rate decrease and inefficient resource operation due to inappropriate business portfolios	· For mid/long-term strategies and business plans, the focus is on analyzing changes in business environments · Responses to each indicator such as oil price and exchange rates · Analysis of short-term business environments and risks with the head office and overseas subsidiary companies
	Reinforcing product responsibility	· Occurrence of violation of laws and chemicals-related accidents generates loss of brand image, decline in trust, and operating loss	· Strengthen material safety education for persons in charge of hazardous and harmful materials · Strengthen preliminary filtering of substances exceeding the criteria for laws related to chemical substances at home and abroad, and find alternative materials to hazardous materials
	IT system management and information security	· Leakage of confidential information and data manipulation of the manufacturing and distribution processes may cause · Negligence in management of internal information can cause legal responsibility or decrease competitivenes	· Maintain the company-wide information protection organization and operate an information protection association · Establish DB encryption/DB access control system for retaining customer information · Education for employees on information security and data management
Financial Risk	Investment	· When investment results in a failure to achieve profit gain, it is likely to cause financial loss and deterioration of cash flow	· An investment committee is operated for each business sector · Examine investment from the corporation and operate the corporate investment committee · Operate a company-wide contract examination committee to manage general risks of major large-size projects
	Finance	· Exposed to various financial risks such as market risk, credit risk, and liquidity risk	· Risk management at each dedicated division · Preliminary identification and assessment of financial risks
Social/ Environmental Risk	Safety and environmental management	· Financial damage such as business suspension and penalties and negative effects such as damaged corporate image from violation of related laws	· Strengthen company-wide safety and environment management such as the Safety and Environment Committee held by the CEO · Regular and special inspections of safety and environment in all plants at home and abroad · Enact company-wide safety and environmental policies and regulations, and build the safety and environment portal
	Response to carbon policy changes	· Increase of production costs caused by operational expenses due to investment in energy conservation and purchase of emission trading right	· Strengthen company-wide response capabilities through the Energy Committee held by the CEO · Decision-making of investment into energy reduction for effectiveness maximization · Preliminary prediction of expenses for emissions trading
	Management of water resources	· Increase trade technical barriers due to emergence of various regulations related to water footprint and incur loss due to export restrictions	· With water resource risks regarded as a business opportunity factor, fully enter water treatment operations market · Pilot project involving water resource inventories in domestic and Chinese plants

04. OUR PERFORMANCE

Economic Performance

Consolidated Income Statement [Unit: KRW million]

Item	2014	2015	2016
Sales	22,577,830	20,206,583	20,659,296
Operating Income	1,310,761	1,823,568	1,991,920
Net Income	854,025	1,148,531	1,280,994
Owners of the parent	867,924	1,152,987	1,281,124

Income Statement [Unit: KRW million]

Item	2014	2015	2016
Sales	19,675,975	17,334,109	17,264,845
Operating Income	1,133,125	1,620,092	1,813,245
Net Income	823,496	1,203,855	1,379,589

Consolidated Financial Statement [Unit: KRW million]

Item	2014	2015	2016
Current assets	8,146,821	8,655,605	9,226,934
Non-current assets	9,980,825	9,923,123	11,260,126
Total asset	18,127,646	18,578,728	20,487,060
Current liability	4,809,049	4,798,981	5,446,851
Non-current liability	1,052,745	676,225	989,242
Total liability	5,861,794	5,475,206	6,436,093
Owners of the parent	12,139,945	12,991,465	13,937,352
Non-controlling interests	125,907	112,057	113,615
Total equity	12,265,852	13,103,522	14,050,967

Financial Statement [Unit: KRW million]

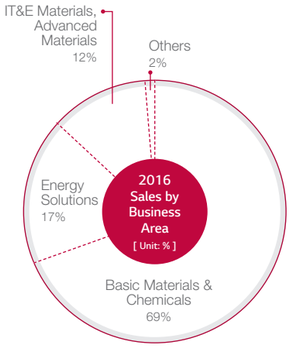
Item	2014	2015	2016
Current assets	6,756,841	7,114,410	6,784,724
Non-current assets	9,136,605	9,117,186	9,991,170
Total asset	15,893,446	16,231,596	16,775,894
Current liability	3,738,040	3,412,605	3,138,763
Non-current liability	603,829	374,428	160,800
Total liability	4,341,869	3,787,033	3,299,563
Total equity	11,551,577	12,444,563	13,476,331

Financial Ratio [Unit: %]

Item		2014	2015	2016
Stability Indicators	Current ratio	169.4	180.4	169.4
	Debt-to-equity ratio	47.8	41.8	45.8
	Dependency on borrowing	23.9	20.3	20.6
Profitability Indicators	Operating income margin	5.8	9.0	9.6
	Net income margin	3.8	5.7	6.2
	ROA	4.8	6.3	6.6
	ROE	7.3	9.1	9.4
Growth Indicators	Sales growth	(2.4)	(10.5)	2.2
	Operating income growth	(24.8)	39.1	9.2
	Net income growth	(32.8)	34.5	11.5
	Total assets growth	3.9	2.5	10.3

Business Results by Business Area [Unit: KRW million]

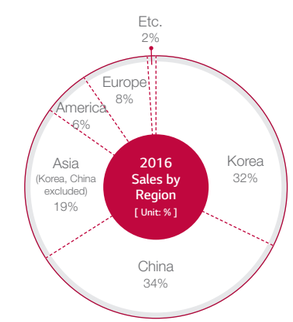
Business Area	Item	2014	2015	2016
Basic Materials & Chemicals	Sales	17,080,354	14,463,487	14,281,574
	Operating Income	1,117,308	1,676,940	2,138,625
Energy Solutions	Sales	2,835,754	3,147,106	3,561,601
	Operating Income	64,858	520	(49,337)
IT&E Materials, Advanced Materials	Sales	2,661,722	2,595,990	2,490,794
	Operating Income	132,422	146,348	(54,965)
Others	Sales	-	-	325,327
	Operating Income	(3,827)	(240)	(42,403)
Total	Sales	22,577,830	20,206,583	20,659,296
	Operating Income	1,310,761	1,823,568	1,991,920



Regional Sales [Unit: KRW million]

Region	2014	2015	2016
Korea*	7,895,399	6,510,954	6,684,895
China	6,851,706	6,693,042	6,935,977
Asia (Korea, China excluded)	4,805,364	4,022,590	3,861,368
America	1,209,538	1,161,018	1,218,167
Europe	1,402,163	1,539,219	1,678,694
Etc.	413,660	279,760	280,195
Total	22,577,830	20,206,583	20,659,296

* Domestic sales include export totals according to local LC conditions



Economic Achievement for Each Stakeholder

Stakeholder	Item	2014	2015	2016	Unit
Employees	Total annual wage [1]	999,884	1,215,543	1,248,273	KRW million
	Average wage per head	73	85	83	KRW million
Government	Income tax expense	305,836	401,112	378,834	KRW million
Suppliers	Purchase of raw materials	13,400,114	9,337,722	10,158,175	KRW million
Shareholders & Investors	Total dividends	294,520	331,287	368,055	KRW million
Community	Expenses for social contribution [2]	21.1	22.2	29.5	KRW billion

1) Total wages: Excluding employee benefits and retiring allowance reserve; excluding registered officers; applying the Korean standard
2) As social contribution expenses additionally include promotion expenses, direct business expenses, etc., the data is different from the one of the previous year.

Tax Policy

LG Chem is aware that compliance with tax laws and tax risk management including the maximizing of shareholder value are important factors to contribute to the national finance.
LG Chem has established and henceforth operated strict principles and regulations related to taxes. For the international transaction with overseas corporations, the company has implemented the reasonable transfer price policy suitable for the OECD guidelines on transfer prices and domestic tax laws.
LG Chem has local corporations and branch offices in China, the USA, Poland, India, etc. The company fulfills its duty to submit the various documents required by the relevant countries' tax authorities and its duty to pay tax including the corporation tax according to the relevant countries' tax laws. Detailed information regarding taxes is notified publicly.

2016 Raw Material Purchase [Unit: KRW million]

Business Sector	Purchase	Item	Use	Seller
Basic Materials & Chemicals Division	6,743,616	Naphtha, EDC, etc.	PE/PVC materials	GS Caltex, Oxy Chem, etc.
Energy Solutions Division	1,736,811	Cathode, Anode materials, separation membranes, etc.	Battery materials	Hitachi, Mitsubishi, etc.
IT & Electronic Materials / Advanced Materials Division	1,492,893	Materials and separators, etc.	Polarizer , LCD materials	Fuji, SANYO, BASF Korea , etc.
Etc.	184,855	Granule, etc. .	Chemical fertilizer materials	Others

R&D Activities

Classification	2014	2015	2016	Unit
R&D Workforce	3,148	3,360	4,116	Person
R&D Investement	513.4	594.3	667.1	KRW billion
Sales to R&D Investment Ratio	2.3	2.9	3.2	%
New Product Sales	6763.5	7146.7	7068.4	KRW billion

Social Performance

Employees by Region [Unit: person]

Category	2014	2015	2016
Korea	13,623	14,280	14,974
China	9,955	10,448	10,104
Europe	552	495	495
Asia(China excluded)	424	445	397
America	374	527	688
total	24,928	26,195	26,658

* Data includes part-time employees for domestic sites. and only regular employees for overseas sites.

Job Creation

- Job Creation by gender [Unit: person]

Category	2014			2015			2016		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Korea	216	1,185	1,401	137	973	1,110	267	1,315	1,582
Overseas	2,868	3,913	6,781	1,395	2,835	4,230	733	1,576	2,309

Job Creation by age group [Unit: person]

Category	2015	2016
10s	1	5
20s	653	920
30s	336	475
40s	78	130
50s	27	39
60s	15	13

* Data is limited to domestic workplaces

Turnover Rate

Category	2014		2015		2016		Unit
	Female	Male	Female	Male	Female	Male	
No. of retirement	60	336	63	328	75	389	person
Turnover rate	0.4	2.5	0.4	2.3	0.5	2.6	%
No. of turnover (voluntary)	54	210	55	190	68	232	person
Turnover rate (Voluntary)	0.4	1.5	0.4	1.3	0.5	1.6	%

* 2014 and 2015 data were changed reflecting the changes in calculation of domestic retirement rates and voluntary retirement rates
* No. of voluntary retirement: Excluded involuntary cases such as disciplinary dismissal, retirement etc.

Senior Management Hired from the Local Community

Category	2014	2015	2016	Unit
Locally hired employees in management position	358	459	475	person
Percentage of locally hired employees in management position	64	72	66	%

* Data is limited to China(LGCCI) and overseas manufacturing facilities

Diversity

- No. of Socially Vulnerable Workers [Unit: person]

Category	2014	2015	2016
Korea	407	428	471
Overseas	264	438	522

* Domestic data is limited to the handicapped and veterans.
* Overseas data is limited to the handicapped, minorities and veterans.
* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

- Office Workers by gender

Category	2014		2015		2016	
	Female	Male	Female	Male	Female	Male
Korea	1,314	5,952	1,384	6,377	1,558	6,580
Overseas	823	1,785	873	1,814	940	1,971

* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Female Employees in Management Position

Category		2014	2015	2016	Unit
No. of female employees in management position	Korea	302	367	454	person
	Overseas	99	120	137	person
Percentage of female employees in management position	Korea	4.2	4.7	5.6	%
	Overseas	3.8	4.5	4.7	%

* Percentage of female employees in management position = No. of female employees in management position / Total office workers *100
* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Maternity/Child-care Leave

Classfication	2014	2015	2016	Unit
No. of maternity leave beneficiaries	91	90	149	person
No. of child-care leave beneficiaries	72	75	126	person
No. of employees who have not returned since child-care leave	4	7	10	person
Ratio of those returning to work	94.44	90.67	92.06	%
No. of employees working for 12 months or more after a maternity leave	55	69	88	person
Ratio of employees working for 12 months or more after a maternity leave	91.67	89.61	93.62	%

* Data is limited to domestic workplaces

Labor Union

Classfication		2014	2015	2016	Unit
Korea	No. of members	5,863	6,065	6,437	person
	Admission rate	74	77	75	%
Overseas	No. of members	6,234	9,114	8,736	person
	Admission rate	95	96	95	%

* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Education for Employees

Classfication	2014	2015	2016	Unit
Education hours per person	-	41.3	50.2	hours
Education expenses per person	113	100	100	KRW million
Total education hours	-	590,698	751,467	hours
Total education expenses	15.3	14.2	16.8	KRW million

* Data is limited to domestic workplaces

Major Management System Certification

Classification		Worksite
OHSAS 18001	Korea	Yeosu Plant, Ochang 1 Plant, Paju Plant, Gimcheon Plant, Daesan Plant, Cheongju Plant, Research Center(Daejeon)
	Overseas	LGCBT, LGCTW, LGCWR, LGCNA
ISO 14001	Korea	Yeosu Plant, Naju Plant, Ochang 1 Plant, Paju Plant, Gimcheon Plant, Daesan Plant, Ulsan Plant, Iksan Plant, Cheongju Plant, Research Center(Daejeon)
	Overseas	LGCBT, LGCBJ, LGCTW, LGCMI, LGCWR, LGCVZ, LGCVH, LGCNA
Green Company	Korea	Yeosu Plant, Naju Plant, Ochang 1 Plant, Daesan Plant, Ulsan Plant, Iksan Plant, Cheongju Plant
KOSHA 18001	Korea	Naju Plant, Ochang 1 Plant, Daesan Plant, Iksan Plant
ISO 50001	Korea	Yeosu Plant, Daesan Plant, Ochang 1 Plant, Cheongju Plant, Naju Plant, Iksan Plant, Paju Plant, Gimcheon Plant, Ulsan Plant, Research Center(Daejeon)

Injury & Severity Rate [Unit: %]

Classification			2014	2015	2016
Employee	Injury Rate	Korea	0.23	0.20	0.18
		Overseas	0.48	0.21	0.13
	Severity Rate	Korea	0.06	0.03	0.04
		Overseas	0.07	0.06	0.03
	LTIFR	Korea	0.86	0.68	0.60
		Overseas	1.31	0.57	0.46
	OIFR	Korea	0.00	0.00	0.00
		Overseas	0.03	0.00	0.00
Contractors	Injury Rate	Korea	0.40	0.40	0.42
		Overseas	0.14	0.00	0.00

* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Safety & Health Education for Employees [Unit: hours]

Classification	2014	2015	2016
Korea	195,148	208,597	246,509
Overseas	26,281	152,550	39,300

* 2014, 2015 data of domestic workplace were changed since Ochang 1 Plant changed calculation method.
* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Social Contribution

Classification		2014	2015	2016	Unit
Total Social Contribution Expenses	Korea	21.1	22.2	29.5	KRW billion
	Overseas	441	276	361	KRW million

* Overseas data is limited to China (LGCCI) and overseas manufacturing facilities. The 2014-2015 data includes the CSR expenses of LG DAGU.
* The data is different from previous year after reflecting direct business expenses and promotional expenses in the social contribution.

Total Value of Political Contributions

Classification	2013	2014	2015	2016	Unit
Total value	2,815,557	3,272,042	2,651,346	3,434,531	KRW thousand

* Data is limited to domestic workplace

Top 5 Groups for Policy Contributions in 2016

Name of Organization	Type of Organization	Amount of Payment	Unit
The Federation of Korean Industries	Industrial Association, Etc.	1,312,000	KRW thousand
Korea Economic Research Institute		320,000	
Korea Petrochemical Industry Association		288,204	
Korea PC·BPA Council		187,469	
Korea Employers Federation		171,070	

* Data is limited to domestic workplace

Supplier Management

Management Items	2015	2016
Number of registering new suppliers among the first suppliers	298	290
Proportion of new suppliers to conduct screening of the social field (human right/labor/society, etc.)	93	96
Total number of registered suppliers	3,764	3,673
Number of suppliers to conduct document investigation (Audit)	795	843
Number of suppliers to conduct visit survey (Audit)	273	316
Number of suppliers to take corrective action	4	22
Number of suppliers to be suspended transaction temporarily or permanently	4	2

* Limited to domestic workplaces

Customer Satisfaction

Classification	2014	2015	2016	Unit
NPS Score	45.4	60	64.9	Score
Data Scope [1]	75.7	76.1	93.3 [2]	%

1) In 2014-2015, the survey targeted clients with top sales in specific business divisions.
2) In 2016, clients of all business divisions excluding business divisions for the internal transaction were surveyed. Clients of all business divisions except one division answered to the survey.

Status of Jeong-Do Management

- Jeong-Do Management Activities

Classification		2014	2015	2016	Unit
Inspection by the ethical office	Korea	43	38	30	case
	Overseas	25	18	25	case
Persons punished [1]	Korea	14	19	8	person
	Overseas	1	2	21	person
Discharged persons due to corruption	Korea	8	4	6	person
	Overseas	1	1	4	person

1) Persons under heavy punishment or grimmer

-Sharing Jeong-Do Management Policy

Division	2016	Unit
Number of the board members who are delivered Jeong-Do Management policy	7	person
Proportion of of the board members who are delivered Jeong-Do Management policy	100	%

* Data is limited to domestic workplace

Environmental Performance [1]

[1] Overseas data is limited to China (LGCCI) and overseas manufacturing facilities.

Raw Materials

Classification		2014	2015	2016	Unit
Korea	Total amount	15,514,628	15,185,371	16,894,226	ton
	Intensity	1.05	1.01	1.02	ton / product ton
	Total amount of recycled raw materials	31,703	22,662	22,994	ton
Overseas	Total amount	1,685,098	1,796,652	1,415,571	ton
	Intensity	0.82	0.84	0.69	ton / product ton

Water Resource

- Water Usage by Water Sources

Classification		2014	2015	2016	Unit
Korea	Ground water	411,328	390,705	456,229	m^3
	Industrial water	52,586,938	51,910,865	54,193,340	m^3
	Municipal water	840,141	894,848	936,143	m^3
	Surface water	1,742,803	2,199,537	977,777	m^3
	Rainwater collected directly and stored by the organization	0	0	8	m^3
	Total	55,581,210	55,395,956	56,563,489	m^3
	Intensity	3.776	3.696	3.423	m^3 / product ton
Overseas	Ground water	440,998	14,617	0	m^3
	Industrial water	1,015,262	921,712	3,584,706	m^3
	Municipal water	5,456,249	5,659,367	3,736,233	m^3
	Surface water	4	3	2	m^3
	Etc.	42,649	676,721	632,731	m^3
	Total	6,955,158	7,272,417	7,953,670	m^3
	Intensity	3.43	3.42	3.86	m^3 / product ton

Waste Management

- Wastewater Management

Classification		2014	2015	2016	Unit
Korea	Amount of wastewater discharged	12,400,976	13,383,269	14,956,833	m^3
	Intensity of wastewater discharged	0.843	0.893	0.905	m^3 / product ton
	Amount of wastewater recycled	1,240,866	923,446	1,051,806	m^3
	Recycling rate	9.1	6.5	6.6	%
Overseas	Amount of wastewater discharged	3,731,330	3,898,912	4,102,909	m^3
	Intensity of wastewater discharged	1.82	1.83	1.99	m^3 / product ton
	Amount of wastewater recycled	1,557,442	1,683,179	1,805,663	m^3
	Recycling rate	29.4	30.0	30.6	%

* Amount of wastewater discharged and recycled in 2014 has been changed reflecting the change in amount of wastewater recycled of Paju Plant in 2014.

-Waste Management

Classification			2014	2015	2016	Unit
Korea	Waste generation	General waste	115,609	109,770	111,686	ton
		Hazardous waste	50,323	67,631	91,443	ton
	Recycling rate		67	73.2	67	%
	Total amount of waste generated		165,932	177,401	203,129	ton
	Intensity		0.011	0.012	0.012	ton / product ton
Overseas	Waste generation	General waste	41,781	43,821	33,766	ton
		Hazardous waste	11,191	13,305	14,621	ton
	Recycling rate		24.5	28.9	41.8	%
	Total amount of waste generated		0.026	0.027	0.024	ton / product ton
	Intensity		52,970	57,126	48,386	ton

* Total amount of hazardous waste was increased since products of Naju Plant were transferred to Ulsan Plant.

Pollutants Management

-Discharge of Water Pollutants [Unit: ton, kg/product ton]

Classification		2014		2015		2016	
		Amount	Intensity	Amount	Intensity	Amount	Intensity
Korea	COD	684	0.046	689	0.046	679	0.041
	T-N	234	0.016	243	0.016	276	0.017
Overseas	COD	144	0.071	385	0.181	379	0.184

-Emission of Air Pollutants [Unit: ton, kg/product ton]

Classification		2014		2015		2016	
		Amount	Intensity	Amount	Intensity	Amount	Intensity
Korea	Dust	146	0.01	141	0.009	143	0.009
	NOx	1,073	0.073	991	0.066	1,041	0.063
	SOx	299	0.02	285	0.019	102	0.006
Overseas	Dust	81	0.040	60	0.028	18	0.009
	NOx	214	0.106	235	0.110	164	0.079
	SOx	27	0.013	17	0.008	14	0.007

* Data changed in 2014, 2015 reflecting the correction of overseas corporations emission data

Hazardous Chemical use and Management

- Total Use of Toxic Substances

Classification		2014	2015	2016	Unit
Korea	Amount	3,341,244	5,623,781	6,651,512	ton
	Intensity	0.227	0.375	0.403	kg/product ton
Overseas	Amount	1,273,618	1,365,685	698,491	ton
	Intensity	0.623	0.642	0.34	kg/product ton

Environmental Investment

Classification	2014	2015	2016	Unit
Korea	41,326,113	25,821,718	39,926,074	KRW thousand
Overseas	2,304,847	10,998,055	1,674,367	KRW thousand

Energy Use

Classification		2014	2015	2016	Unit
Korea	Direct Energy	83,492	90,257	97,622	TJ
	Indirect Energy	51,126	49,793	50,565	TJ
	Total	134,605	140,035	148,187	TJ
	Intensity	9.145	9.343	8.968	GJ/product ton
Overseas	Direct Energy	2,254	1,783	1,868	TJ
	Indirect Energy	6,652	9,286	8,608	TJ
	Total	8,905	11,069	10,476	TJ
	Intensity	4.354	5.199	4.921	GJ/product ton

Scope 1, Scope 2 Greenhouse Gas Emissions

Classification		2014	2015	2016	Unit
Korea	Direct emission	4,504,759	4,815,354	5,119,076	tCO_2-eq
	Indirect emission	2,571,216	2,385,513	2,319,920	tCO_2-eq
	Total	7,075,962	7,200,851	7,438,996	tCO_2-eq
	Intensity	0.481	0.480	0.450	tCO_2-eq/product ton
Overseas	Direct emission	159,067	110,394	129,587	tCO_2-eq
	Indirect emission	1,194,699	1,407,502	1,574,172	tCO_2-eq
	Total	1,353,766	1,517,896	1,703,759	tCO_2-eq
	Intensity	0.662	0.713	0.828	tCO_2-eq/product ton

Scope 3 Greenhouse Gas Emissions (Korea)

Classification	2014	2015	2016	Unit
Electricity resold	27,377	16,806	16,770	tCO_2-eq
Wastewater discharge	17,462	18,313	20,491	tCO_2-eq
Waste disposal	13,383	12,354	13,524	tCO_2-eq
Water use	16,816	18,611	18,779	tCO_2-eq
Employee business trip	1,940	2,188	2,478	tCO_2-eq

05. APPENDIX

About this Report

General Characteristics

LG Chem has published sustainable management reports every year since 2006 with stakeholders' opinions reflected in each report. Our 11th 2016 Sustainability Report outlines sustainability management activities and outcomes of major aspects derived through materiality assessment and future plans in detail to raise the quality of the report.

Reporting Principles

This report complies with the Core Option 'in accordance with' the GRI(Global Reporting Initiative) G4 Guidelines which is an international guideline for sustainability reporting. Also, the report complies reflects some of the principles and contents provided by IIRC (International Integrated Reporting Council). In addition, the report reflects the 10 principles of UNGC, ISO 26000, and core requirements of EICC. The Financial information in this report complies with the standards of K-IFRS.

Reporting Period

This report covers activities from January to December 2016. For more accurate comparison of major sustainable management achievements, data spanning 3 years time frame, from 2014 to 2016, is included. Specific information before 2016 and 2017 is included that may significantly affect stakeholders.

Reporting Scope

The report covers the domestic production plants in Yeosu, Cheongju, Ochang, Ulsan, Gimcheon, Naju, Iksan, Daesan, and Paju as well as the head office in Seoul and one technical research center (Daejeon, Gwacheon). Overseas worksites include the nine production corporations – LGCCI, LGCNJ, LGCNA, LGCTJ, LGCBJ, LGCGZ, LGCBH, LGCBT, LGCYX - as well as those in other countries - LGCTW, LGCMI, LCVH, LGCVZ. LGCWR, etc. (Except corporations that were recently founded, initiated, or are currently in preparation during 2016). Economic data covers all consolidated companies. Some social and environmental data sets of a different reporting scope are separately indicated.

Independent Assurance

To secure reliability, DNV GL implemented independent assurance based on three principleso of AA1000AS(2008); Inclusivity, Materiality and Responsiveness. Subsequent results are presented on page 118-119.

Additional Information

To improve stakeholder accessibility to information, LG Chem has published Sustainability Reports both in Korean and English. They are also available at LG Chem Website(http://www.lgchem.com).

Independent Assurance Statement

Introduction

LG Chem, Ltd. ("LG Chem") commissioned DNV GL Business Assurance Korea Ltd. ("DNV GL"), part of DNV GL Group, to undertake independent assurance of 2016 Sustainability Report (the "Report"). 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 provided in good faith.

Scope of assurance

The scope of assurance included a review of sustainability activities and performance data over the reporting period from 1st January to 31st December 2016. This included:

- Evaluation of adherence to the principles for defining the sustainability report content set forth in the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines 4.0
- Evaluation of adherence to AccountAbility principles provided in AA1000 AccountAbility Principles Standard (APS) 2008.
- Evaluation of the process for determining material aspects for reporting and the management approach to material issues and the process for generating, gathering and managing the quantitative and qualitative data in the Report.

Basis of our opinion

We performed our work as per AA1000AS(2008) and we provide a Type 1 engagement and a moderate level of assurance as stated in AA1000AS. The audit was carried out in April through June 2017 and the site visits were made to the Headquarters in Seoul and Daesan complex of LG Chem in Daesan, Korea. We undertook the following activities as part of the assurance process:

- challenged the sustainability-related statements and claims made in the Report and assessed the robustness of the underlying data management system, information flow and controls;
- interviewed representatives from the various departments;
- conducted document reviews, data sampling and interrogation of supporting databases and associated reporting system 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 LG Chem's associated companies, subsidiaries, suppliers, contractors and any third-parties mentioned in the Report. DNV GL did not interview external stakeholders as part of this Assurance Engagement. Financial statements of LG Chem., data announced on DART system of the Financial Supervisory Service (http://dart.fss.or.kr), and data on its websites are not included in the scope of assurance. Data assurance was conducted by checking the basis in a limited scope, including inquiry, analysis, and limited sampling method, on the data collected by LG Chem. The aggregation and calculation process for building economic performances is reviewed by the verification team. Also, environmental and social data were verified using the aggregated data. The directors of LG Chem have sole responsibility for the preparation of the Report. The responsibility of DNV GL in performing the assurance work is to the management of LG Chem in accordance with the terms of reference. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Conclusion

On the basis of the work undertaken, nothing comes to our attention to suggest that the Report does not properly describe the adherence to the Principles in AA1000APS(2008) nor is prepared 'in accordance' with GRI G4 Core option. Further opinions with regards to the adherence to the following Principles in the AA1000APS(2008) are made below;

The Foundation Principle of Inclusivity

LG Chem. has identified internal and external stakeholder groups such as Shareholders and Corporate performance rating Organization, Customers, Employees, Suppliers, NGOs and Local Communities, Academia and Expert, Industrial Associations and Journalist and Government. LG Chem. engages with the stakeholders at the company and business unit levels through various channels. The examples of approaches to engagement with selected stakeholders, material issues and response of LG Chem. are described in the Report.

The Principle of Materiality

LG Chem has conducted materiality assessment to prepare the Report. Various issues have been derived by analysing the topics covered in various global initiatives and standards, major stakeholder expectations, 16 industry peers' reports and media reports. Subsequently the issues are prioritized by taking into account the impact on and the relevance to the business of LG Chem. and the interest of stakeholders. In addition, LG Chem has grouped the 8 material issues into 21 aspects defined in GRI G4 and presented its management approaches on the respective aspects in the Report. The verification team has reviewed the materiality assessment process and nothing comes to our attention that would cause us to believe that material issues identified from the assessment are not reported.

The Principle of Responsiveness

The communication process with stakeholders has been established and appropriate responses to stakeholders' views, concerns and expectations are reflected in the report. The Report covers the sustainability categories of economic, environmental and social impacts and provides stakeholder with the sustainability performance results associated with material issues and decisions during the reporting period. The verification team has reviewed the responsiveness process and nothing comes to our attention that would cause us to believe that responsiveness for material issues are not reported.

Report Quality: Accuracy and Reliability

We found a limited number of non-material errors and these were corrected prior to inclusion in the Report. The data presented in the report were gathered from the teams responsible for data control in LG Chem. The verification team interviewed the Person-in-charge, reviewed the process of gathering and processing data and information, and the supporting documents and records. The depth of data verification is limited to the aggregated data. Based on sampling verification and other reported information and available evidence, nothing comes to our attention that would cause us to believe that the data and information presented in the Report have any intentional error or material misstatement. However, the accuracy and reliability of the data and information from the international operations can be more improved.

Competence and Independence

DNV GL Business Assurance is part of DNV GL Group and a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance. Our environmental and social assurance specialists are present in over 100 countries. The assurance work was performed by independent team which meets DNV GL's competence requirements. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. The verification team has complied with DNV GL's Code of Conduct.

18 June 2017
Seoul, Korea

DNV·GL

AA1000
Licensed Assurance Provider
000-10

Country Representative
DNV GL Business Assurance Korea Ltd.

LG Chem Code of Conduct for Suppliers

LG Chem, Ltd. (“LG Chem”) is committed to be a global chemical company that carries out its roles and responsibilities as a member of global society. We strive to provide sustainable solutions that can contribute to resolve social/environmental problems, while endeavoring to adhere to the basic principles of sound growth of the business.
We have established the “LG Chem Code of Conduct for Suppliers” based on international norms, standards and legal requirements to fulfill our social responsibilities at global level and to achieve sustainable performances. We particularly expect mutual support from our supplier (the “Company”) to comply with the following standards.

A. The Company does not hire any person below the legal working age, and complies with the legal requirements for juvenile labor regarding minimum age, working hours and working conditions.
B. The Company prohibits all forms of involuntary labor, including forced labor, labor exploitation, and establishes employment contracts that clearly define the working conditions in the employees’ native languages.
C. The Company prohibits all forms of discrimination such as race, skin color, age, gender, place of origin, physical disability, pregnancy, religion, political views, labor union membership or marital status in terms of employment, promotion, remuneration, educational opportunities, etc.
D. The Company respects the human rights of all employees, and effectuate humane working circumstance by prohibiting any sexual harassment, abuse, punishment, psychological or physical coercion, violent language, etc.
E. The Company abides by all legal requirements related to maximum working hours, days of work, minimum wage, welfare and remuneration, etc.
F. The Company respects the employee’s right to have association and collective bargaining in accordance with local laws and regulations. Employees can communicate with the management with regard to their working conditions without any risk of discrimination, retaliation, threats or harassment.
G. The Company maintains the highest level of integrity in all transactions and relations, and strictly prohibits any types of corruption including undue acquisitions of improper advantages or bribery, while fully complying with all legal requirements related to anti-corruption. The Company also guarantees confidentiality and protection of whistle-blowers.
H. The Company must comply with legally mandated precautionary measures including evaluating and eliminating hazardous matters, providing regular education and emergency trainings, disseminating personal protective equipment, etc., to ensure that employees can work and live (if accommodation is provided) in a safe and healthy environment.
I. All required environmental permits, approvals, and registrations shall be obtained and maintained in the most recent versions. The Company shall devote utmost efforts to minimize the adverse impact of their manufacturing process on the environments and local community, such as hazardous substances, solid waste, waste water, air emissions, resource reduction, etc.
J. The Company shall prohibit the use of conflict minerals and materials sourced through any illegal and unethical processes including the processes where human rights are infringed, and shall establish a precautionary system.
In addition, the Company must be able to provide due diligence measures of the origin and chain of custody on raw materials in accordance with [Appendix1], and actively cooperate with LG Chem’s due diligence.

Acknowledgement for LG Chem Code of Conduct for Suppliers

We agree to fully acquaint and comply with the LG Chem Code of Conduct for Suppliers.

1. We are fully aware of the contents of the LG Chem Code of Conduct for Suppliers, and are committed to faithfully comply with the requirements therein which we recognize as significant factor as a supplier who carries out transactions with LG Chem.
2. If LG Chem requests a survey or a visit to our company in order to audit our compliance with this LG Chem Code of Conduct for Suppliers, and asks that we take any corrective measures based upon the results of such audit, we will make our best efforts to cooperate and to respond to any request of LG Chem to the extent our operational activities, intellectual property rights and other rights are not adversely affected.
3. We will devote our best efforts in requesting of our employees as well as our suppliers for their compliance with the terms and conditions of this LG Chem Code of Conduct for Suppliers.

This Acknowledgement is made in two original copies, one for the Company and the other for submission to LG Chem.

[ ]date [ ]month [ ]year

Company Name:
Representative Director: (Signature or stamp)
To LG Chem, Ltd.

[Appendix1] Due diligence policy

1. Due diligence Target

Minerals	Conflict minerals(Tin, Tantalum, Tungsten, Gold), minerals mined in conflict affected and high-risk areas such as cobalt
Conflict-Affected Areas	Democratic Republic of the Congo, Sudan, Rwanda, Burundi, Uganda, Congo, Zambia, Angola, Tanzania, Central African Republic
High-risk Areas	The areas where The UNITED STATES DEPARTMENT OF LABOR regulates

2. Due diligence Standard

OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

No	Steps	Contents
1	Establish strong company management system	· Establish Due diligence Policy and management system (Ref : OECD Guidance Annex II) · Communication with stakeholders, including suppliers (Relevant provisions included in the contract) · Supply chain history management
2	Identify and assess risk in the supply chain	· Identify risks in supply chain · Assess risks of suppliers based on OECD Guidance Annex II
3	Design and implement a strategy to respond to identified risks	· Devise and adopt a risk management plan identified in the ‘Identify and assess risk in the supply chain’ phase · Report findings of the supply chain risk assessment and risk management plan to the designated senior management of the company
4	Carry out supply chain due diligence at identified points in the supply chain	· Due diligence based on OECD Due Diligence Guidance (Conduct independent third-party audit)
5	Report on supply chain due diligence	· Publicly report on supply chain due diligence result (through Sustainability management report, Annual report, etc.)

[Appendix2] References for the LG Chem Code of Conduct for Supplier

The following standards were used in referencing this LG Chem Code of Conduct for Supplier, on which additional information can be found at the sites listed:

EICC Code	www.eiccoalition.org/standards/code-of-conduct/
ILO International Labor Standards	www.ilo.org/global/standards/lang-en/index.htm
ISO 14001	www.iso.org
OECD Guidelines for Multinational Enterprises	www.oecd.org
OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas	http://www.oecd.org/investment/mne/mining.htm
SA8000 and SAI (Social Accountability International)	http://www.sa-intl.org/

Sustainability Management Indices

GRI G4 General Standard Disclosures

Aspect	Index	Content	Page	SDG Goals
Strategy & analysis	G4-1	Statement from the most senior decision-maker of the organization	20-21	
	G4-2	Key impacts, risks, and opportunities	102-103	
Organization Profile	G4-3	Name of the organization	22-23	
	G4-4	Primary brands, products and services	24-35	
	G4-5	Location of the organization's headquarters	22-23	
	G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	22-23	
	G4-7	Nature of ownership and legal form	97-99	
	G4-8	Markets served(including geographic breakdown, sectors served, and types of customers and beneficiaries)	24-25	
	G4-9	Scale of the organization(Total number of employees, net sales, total capitalization, products and services)	22-23	
	G4-10	Total number of employees	22, 108	Goal 8
	G4-11	Percentage of total employees covered by collective bargaining agreements	110	Goal 8
	G4-12	Describe the organization's supply chain	76-81	
	G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	Business Report 20-21	
	G4-14	Report whether and how the precautionary approach or principle is addressed by the organization	102-103	
	G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	126-128	
	G4-16	Memberships of associations(such as industry associations) and national or international advocacy organizations in which the organization	126-128	
Identified material aspects and boundaries	G4-17	Entities included in the organization's consolidated financial statements or equivalent documents	Business Report 10-16	
	G4-18	Process for defining the report content and the Aspect Boundaries	44-45	
	G4-19	Material aspects identified in the process for defining report content	45	
	G4-20	Report the Aspect Boundary within the organization	50,56,62,68,76,82,90	
	G4-21	Report the Aspect Boundary outside the organization	50,56,62,68,76,82,90	
	G4-22	Effect of any restatements of information provided in previous reports, and the reasons for such restatements	104-115	
	G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	117	
Stakeholder Engagement	G4-24	List of stakeholder groups engaged by the organization	42-43	
	G4-25	Basis for identification and selection of stakeholders with whom to engage	42-43	
	G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	42-43	
	G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	42-43	
Report Profile	G4-28	Reporting period for information provided	117	
	G4-29	Date of most recent previous report	117	
	G4-30	Reporting cycle(such as annual, biennial)	117	
	G4-31	Contact point for questions regarding the report or its contents	129	
	G4-32	The 'in accordance' option the organization has chosen	117, 122-125	
	G4-33	Organization's policy and current practice with regard to seeking external assurance for the report	118-119	

Aspect	Index	Content	Page	SDG Goals
Governance	G4-34	The governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	41, 97-99	
	G4-38	Composition of the highest governance body and its committees	97-99	Goal 5, 16
	G4-39	Report whether the Chair of the highest governance body is also an executive officer(and, if so, his or her function within the organization's management and the reasons for this arrangement)	97	Goal 16
	G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed	97-99	Goal 16
	G4-49	The process for communicating critical concerns to the highest governance body	97-99	
	G4-50	Nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	97-99	
	G4-51	Remuneration policies for the highest governance body and senior executives for the below types of remuneration	97-99	
Ethics and Integrity	G4-56	Organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	100	Goal 16
	G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	100	Goal 16

GRI G4 Specific Standard Disclosures

Material Issues	Aspect	Index	Content	Page	SDG Goals
Energy Saving and GHG Reduction	Energy	G4-DMA	Management approach	48-49, 62	Goal 7, 13
		EN3	Energy consumption within the organization	115	Goal 7, 13
		EN4	Energy consumption outside the organization	115	Goal 7, 13
		EN5	Energy intensity	115	Goal 7, 13
	Emission	G4-DMA	Management approach	48-49, 62	Goal 7, 13
		EN15	Direct greenhouse gas(GHG) emissions(Scope 1)	115	Goal 7, 13
		EN16	Energy indirect greenhouse gas (GHG) emissions(Scope 2)	115	Goal 7, 13
		EN17	Other indirect greenhouse gas(GHG) emissions(scope 3)	115	Goal 7, 13
		EN18	Greenhouse gas(GHG) emissions intensity	115	Goal 7, 13
		EN19	Reduction of greenhouse gas(GHG) emissions	65	Goal 7, 13
Product Responsibility	Customer Health and Safety	G4-DMA	Management approach	48-49, 57	Goal 3, 12
		PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	Business Report 291	Goal 3, 12
	Compliance	G4-DMA	Management approach	48-49, 57	Goal 3, 12
		PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Business Report 291	Goal 3, 12
Occupational Safety and Health	Occupational Safety and Health	G4-DMA	Management approach	48-49, 69	Goal 3, 12
		LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	111	Goal 3, 12
		LA7	Workers with high incidence or high risk of diseases related to their occupation	74	Goal 3, 12
		LA8	Health and safety topics covered in formal agreements with trade unions	70-71	Goal 3, 12

GRI G4 Specific Standard Disclosures

Material Issues	Aspect	Index	Content	Page	SDG Goals
Prevention of Environmental Pollution	Raw material	G4-DMA	Management approach	48-49, 69	Goal 12, 13
		EN1	Materials used by weight or volume	113	Goal 12, 13
	Water	G4-DMA	Management approach	48-49, 69	Goal 12, 13, 14
		EN8	Total water withdrawal by source	113	Goal 12, 13, 14
		EN10	Percentage and total volume of water recycled and reused	113	Goal 12, 13, 14
	Emission	G4-DMA	Management approach	48-49, 69	Goal 3, 12, 13
		EN21	NOx, SOx, and other significant air emissions	114	Goal 3, 12, 13
	Wastewater and Waste	G4-DMA	Management approach	48-49, 69	Goal 3, 12, 13
		EN23	Total weight of waste by type and disposal method	114	Goal 3, 12, 13
	Compliance	EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Business Report 291	Goal 12, 13
	Overall	G4-DMA	Management approach	48-49, 69	Goal 12, 13
		EN31	Total environmental protection expenditures and investments by type	115	Goal 12, 13
R&D and Technology Innovation	Products and Services	G4-DMA	Management approach	48-49, 51	Goal 7, 9, 13
		EN27	Extent of impact mitigation of environmental impacts of products and services	52-55, 61	Goal 7, 9, 13
Community Investment	Indirect Economic Impacts	G4-DMA	Management approach	48-49, 91	Goal 4, 7, 13
		EC7	Development and impact of infrastructure investments and services supported	92-95	Goal 4, 7, 13
		EC8	Significant indirect economic impacts, including the extent of impacts	92-95	Goal 4, 7, 13
Management of Human Resources	Market Presence	G4-DMA	Management approach	48-49, 83	Goal 5, 8
		EC6	Proportion of senior management hired from the local community at significant locations of operation	109	Goal 5, 8
	Employment	G4-DMA	Management approach	48-49, 83	Goal 5, 8
		LA1	Total number and rates of new employee hires and employee turnover	108	Goal 5, 8
		LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	87	Goal 5, 8
		LA3	Return to work and retention rates after parental leave, by gender	110	Goal 5, 8
	Training and Education	G4-DMA	Management approach	48-49, 83	Goal 5, 8
		LA9	Average hours of training per year per employee by gender, and by employee category	86, 110	Goal 5, 8
		LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	84-87	Goal 5, 8
		LA11	Receiving regular performance and career development reviews, by gender and by employee category	87	Goal 5, 8
	Diversity and Equal Opportunity	G4-DMA	Management approach	48-49, 83	Goal 5, 8
		LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	108	Goal 5, 8
	Equal remuneration for women and men	G4-DMA	Management approach	48-49, 83	Goal 5, 8
		LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	Business Report 275	Goal 5, 8
Management of Human Resources	Child Labor	G4-DMA	Management approach	48-49, 83-84	Goal 8
		HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	84	Goal 8
	Forced of Compulsory Labor	G4-DMA	Management approach	48-49, 83-84	Goal 8
		HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	84	Goal 8
Sustainability of Supply Chain	Supplier Assessment for Impacts on Society	G4-DMA	Management approach	48-49, 77	Goal 8, 9, 12
		SO9	Percentage of new suppliers that were screened using criteria for impacts on society	112	Goal 8, 9, 12
	Supplier Assessment for Labor Practices	G4-DMA	Management approach	48-49, 77	Goal 8, 9, 12
		LA14	Percentage of new suppliers that were screened using labor practices criteria	112	Goal 8, 9, 12
	Supplier Human Rights Assessment	G4-DMA	Management approach	48-49, 77	Goal 8, 9, 12
		HR10	Percentage of new suppliers that were screened using human rights criteria	112	Goal 8, 9, 12

GRI G4 Specific Standard Disclosures – Other Disclosures

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	EC3	Coverage of the organization's defined benefit plan obligations	Business Report 83	
Anti-corruption	SO5	Confirmed incidents of corruption and actions taken	100, 112	
	SO6	Total value of political contributions by country and recipient/beneficiary	111	
Anticompetitive Behavior	SO7	Total number of legal actions for anticompetitive behavior, antitrust, and monopoly practices and their outcomes	Business Report 291	
Compliance	SO8	Monetary value of significant fines and total number of non monetary sanctions for noncompliance with laws and regulations	Business Report 291	

ISO 26000

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	Protecting consumers' health and safety	57-61
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	Consumer service, support, and complaint and dispute resolution	57-61
	Consumer data protection and privacy	N.A
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	Education and awareness	57-61
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	Education and culture	91-95
	Employment creation and skills development	83-84, 108
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SASB(Sustainability Accounting Standards Board) Chemicals

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Air Quality	Air emissions for the following pollutants: NOx (excluding N2O), SOx, volatile organic compounds (VOCs), and hazardous air pollutants (HAPs)	114
	Number of production facilities in or near areas of dense population	N/A
Energy & Feedstock Management	Total energy consumed, percentage grid electricity, percentage renewable	115
	Percentage of raw materials from renewable resources	N/A
Water Management	(1) Total water withdrawn, percentage in regions with High or Extremely High Baseline Water Stress and (2) percentage recycled water usage	113
	Number of incidents of non-compliance with water quality permits, standards, and regulations	115
Hazardous Waste Management	Amount of hazardous waste, percentage recycled	114
Safety & Environmental Stewardship of Chemicals & Genetically Modified Organisms	Percentage of products that contain Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) substances of very high concern (SVHC)	N/A
	Percentage of products that contain Class I World Health Organization (WHO) Acute Toxicity Hazard Categories pesticides	N/A
	Discussion of strategy to (a) manage chemicals of concern and (b) develop alternatives with reduced human and/or environmental impact	58-61
	Percentage of products by revenue that contain genetically modified organisms (GMOs)	N/A
Product Design for Use-phase Efficiency	Revenue from products designed for use-phase resource efficiency	N/A
Political Spending	Amount of political campaign spending, lobbying expenditures, and contributions to tax-exempt groups, including trade associations	111
	Five largest political, lobbying, or tax-exempt group expenditures	111
Health, Safety, and Emergency Management	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	111
	Number of transport incidents	N/A
	Challenges to the Safety Systems indicator rate (Tier 3)	69-73, 110-111
	(1) Total recordable injury rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	111
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EICC

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	Documentation and Records	97-99
	Supplier Responsibility	81

10 Principles of UN Global Compact

	10 principles	Content	Page
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights; and	Based on its management philosophy of respecting humans, LG Chem supports international declarations related to protection of human rights, and ensures that no human rights abuse occurs in all its business operations, by including human rights in partner evaluation.	84
	2. Make sure that they are not complicit in human rights abuses.		
Labor	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	By creating LG Chem Global Human Rights Guidelines, the company protects human rights of executives and employees, prohibits forced labor, child labor, and discrimination, and establishes mutually cooperative labor-management relations.	84, 88
	4. The elimination of all forms of forced and compulsory labor;		
	5. The effective abolition of child labor; and		
	6. The elimination of discrimination in respect of employment and occupation.		
Environment	7. Businesses should support a precautionary approach to environmental challenges;	LG Chem is conducting process-specific greenhouse gas reduction activities in order to preemptively respond to emissions trading and ensures mid-to-long-term improvement by establishing mid-to-long-term reduction targets and reduction targets per energy intensity. Also, the company is creating eco-friendly value through developing eco-friendly technology and products.	51-54, 74-75
	8. Undertake initiatives to promote greater environmental responsibility; and		
	9. Encourage the development and diffusion of environmentally friendly technologies.		
Anti Corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery.	Having termed integrity management as its unique behavioral pattern, LG Chem operates integrity management implementation program and reporting system. Also, the company prevents corruption in all its forms by strengthening internal subcontracting management system, reinforcing regulatory compliance training for locally hired employees of its overseas operations, and operating fair trade voluntary compliance program.	100-101

Membership in Organizations and Associations

Name of Organization
Korea PC·BPA Council
UN Global Compact Network Korea
Fair Competition Federation
Korea Customs Logistics Association
Green Company Council
Chamber of Commerce and Industry
Business Institute for Sustainable Development(BISD)
Korea Display Industry Association
Maekyung Safety & Environment Leaders(SEL) Club
Seoul Chamber of Commerce and Industry
International Institute of Synthetic Rubber Producers
Korea Business Council for Sustainable Development
Korea Electric Vehicle Association
Korea AEO Association
Korea Association for Chief Financial Officers
Korea Exchange
Korea Employers Federation
Korea Management Association
Korea Mecenat Association
Korea Vinyl Environmental Council
Korea Invention Promotion Association
Korea Industrial Technology Association
Korea Listed Companies Association
Korea Petrochemical Industry Association
Korea Fire Safety Association
Korea Smart Grid Association
Korea Drug Research Association
Korea Crop Protection Association
Korea Power Exchange
Korea Battery Industry Association
The Korean Information Display Society
Korea Intellectual Property Association
Korea Chlor Alkali Industry Association
Korean Standards Association
Korea Chemical Industry Council
Korea Environmental Management Association
Korea Environmental Preservation Association

Awards and Recognitions

Awards	Presented by
Dow Jones Sustainability Indices (DJSI), Asia Pacific & Korea	S&P Dow Jones Indices, Robeco SAM
Intersolar Award in the EES category	INTERSOLAR
Energy Management Leadership Award, the Best Company	Clean Energy Ministerial (CEM)
Korea's Best Management Award in Social Value	KMAC
The Most Admired Companies in Korea's Top Prize in the petrochemical industry	KMAC
Korea Prestige Brand Awards' Grand Prize in the Filler category (YVOIRE)	Korea Economic Daily
GM 'Supplier of the Year' Overdrive Award	General Motors
National Academy of Engineering of Korea Award (Vice Chairman Park Jin-soo)	National Academy of Engineering of Korea
POSCO's Cheongam Awards in Technology (President Kim Myung-hwan)	POSCO TJ Park Foundation
CDP Korea Awards Climate Change: Leadership A	CDP Korea
Carbon Disclosure Project (CDP) Awards: Sector Leader for Raw Materials	CDP Korea
IP Business Congress' Asia IP Elite Company of the Year	IAM (Intellectual Asset Management)

Participation Information

Korea

CSR Team, Planning & Coordination Team, Credit Management & Compliance Team, Investor Relations Team, Ethics Office, HR Planning Team, Talent Recruiting Team, Global HR Team, Leadership Development Team, Competency Development Team, Corporate Culture Transformation Team, Employee Relations Team, HR Planning & Coordination Team, HR Service Team, Safety & Environment Team, Safety & Environment Audit Team, Public Affairs team, Energy / Climate Change Team, Technology Management Team, IP Strategy Team, Bio Strategy Team, Planning Team. Basic Materials & Chemicals, Management Strategy Department. Energy Solution, Management Strategy Team. IT&E Materials, Business Strategy Team. Advanced Materials, Management Strategy Team. Life Sciences, Procurement Strategy Team. Basic Materials&Chemicals, Procurement Strategy Team. Energy Solution, Procurement Strategy Team. IT&E Materials

Overseas

LGCCI.Business Coordination Department.GA Team.PR Part, LGCNJ.HR&GA Dept,HR&GA Vice Dept,GA T,Legal Part, LGCMI.Accounting/Purchasing Team, LGCCI.Safety & Environment Team , LGCNA,Vice President, Corporate Culture Part, LGCVZ. HR & IR Team, LGCBH,Management Department,HR Team,General Affairs Part, LGCTJ.Operating management.GA Part, LGCVH.General Affairs Department, LGCBT.HR/GA P, LGCYX. Administration Team.Public Relationship part, LGCWR.Administration Team, LGCGZ.HR&GA Team.GA part, LGCTW.Logistics & GA Team, LGCBJ.Security&Facility Team.Environment&Admin Part, LGCCQ,General Administration Team,HR/GA Part

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http://www.lgchem.com

Establishment Date
January 1947

Paid-in Capital
KRW 369,500 million (As of December 31, 2016)

Number of Issued Shares
73,900,021 Shares (As of December 31, 2016)

Status of Listed Stock Exchanges
Korea Stock Exchange: 051910.KS

Transfer agent and registrar
Securities Agent Services Team in the Korea Securities Depository
4Gil 23 Yoinaru, Youngdeungpo-gu, Seoul, Korea

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Yeongdeungpo-gu, Seoul, Korea

LG CHEM

SUSTAINABILITY REPORT 2016

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