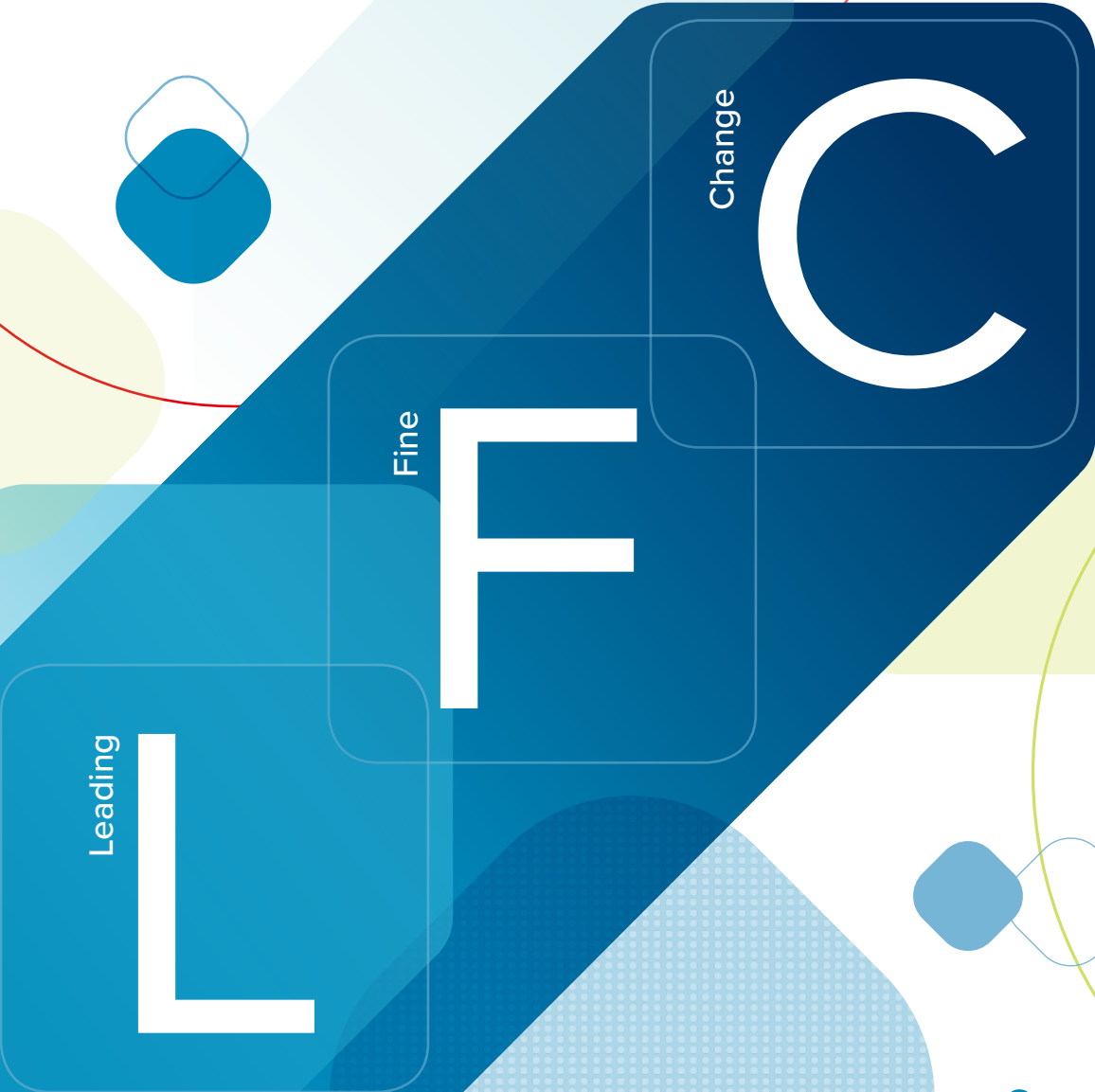


LOTTE Fine Chemical
Sustainability Report 2020



About This Report

LOTTE Fine Chemical (LFC) began issuing its Sustainability Report in 2016 in order to inform internal and external stakeholders of the company's sustainability, and to listen attentively to stakeholder expectations and demands. In this sixth sustainability report, we analyze and report main businesses from the economic aspect, which is the basis for income creation and growth engines, as well as from the social and environmental aspect that determines the company's sustainability. Based on this integrated and transparent reporting on both financial and non-financial performance, LFC seeks to promote sustainable growth and gain stakeholders' trust.

Reporting Period and Scope This report presents data about the company's performance from January 1 through December 31, 2020, and some data include activities conducted by March 2021. Quantitative data includes the outcomes for the last three years to identify trends. This report is mainly on the economic, environmental, and social activities and accomplishments made by the company's worksite in Korea, including the Ulsan complex, Seoul office, and Incheon plant. Some of the disclosed data includes the performance of overseas subsidiaries, direct subsidiaries, and supply chains.

Reporting Principles and Reporting Standard This report was created in accordance with the business model format of the standard integrated reporting framework that was established by the International Integrated Reporting Council (IIRC) and the core options of the Global Reporting Initiative (GRI) Standards, which are international sustainability management reporting guidelines. It also presents data that reflects environmental, social, and governance (ESG) performance and UN's Sustainable Development Goals (SDGs).

Reporting Cycle LFC issues its sustainability report every year, and the latest issuance date is June 2020.

External Assurance Financial information was assured by an independent auditor. Also, in order to ensure the report's objectivity and reliability, a third party assurance was undertaken in accordance with international standards AA1000AS v3 and AA1000APS (2018). A separate assurance took place for greenhouse gas data.

LOTTE Fine Chemical (LFC) takes a long-term perspective when looking at where we are today. Following on from the successes we have achieved so far, we will continue to drive forward the changes needed for a better tomorrow. At the same time, we are always seeking ways to make positive changes for the future.

This commitment has led to product innovation which makes everyday life better, and also brings about "Fine Change" through the right balance between economic and social/environmental values.

Going forward, we will grow in partnership with our stakeholders through creative innovation and relentless challenge, aimed at "Leading Fine Change".

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CEO MESSAGE



Despite the increasingly uncertain business environment, LFC will focus on expanding its new businesses and completing capacity expansion with safety remaining our top priority.

We will also implement ESG management in order to realize our vision of becoming an “Asia Top 10 Fine Chemical Company” through sustainable growth in partnership with our stakeholders.



Dear stakeholders,

This 2020 Sustainability Report is our sixth such report since 2016, and we would like to express our sincerest gratitude for your unwavering trust and encouragement.

2020 was a year of great turbulence due to the outbreak of the COVID-19 pandemic, which led to the imposition of travel restrictions throughout the world and a substantial contraction in international trade, inevitably followed by a global recession. The resulting unfavorable foreign exchange rates further aggravated the damages suffered by Korean companies, many of which are highly dependent on exports. Domestically, a difficult employment situation and rising household debt curbed economic growth in Korea. In addition, changes in government policies regarding safety, the environment, and energy usage imposed extra costs on companies.

Despite this challenging business environment, we proceeded with the planned capacity expansion, further upgraded our quality management, and improved sales efficiency. As a result, we recorded sales of KRW 1,263.6 billion and operating profits of KRW 139.2 billion in 2020, surpassing the performance of many other companies in the industry.

In 2021, we will continue to respond proactively to the on-going COVID-19 crisis and the increasing uncertainty in our business so that we can fulfill our vision of becoming an “Asia Top 10 Fine Chemical Company” and achieve our target of KRW 5 trillion in sales by 2030. To this end, we will focus on the following three strategic tasks for 2021.

First, we will never forget that safety is the foundation of our competitiveness and place the highest priority.

For a chemical company, safety is the key to everything we do. Compliance with safety regulations and procedures is the fastest and most effective way to success, even if at times that does not appear to be the case. Everyone at LFC will always keep safety in mind, and strive to build a culture of safety. Even minor carelessness and indifference in the chemical industry can result in substantial personal injuries and economic losses. We will therefore review in detail our employees' safety awareness and implement any improvements necessary in our safety systems. We will also fulfill our pledge to eliminate all occupational accidents. We will successfully complete new capacity expansions and trials planned for 2021 based on thorough safety management, thereby achieving a zero-accident workplace.

Second, we will ensure successful capacity expansion and new business development.

In order to expand our market share in green materials, we will complete the capacity expansion of the MECELLOSE[®] G and AnyCoat[®] E lines in the first half of 2021, followed by the expansion of the AnyCoat[®] F and MECELLOSE[®] B lines in 2022. In our chemical business, we have completed the capacity expansion of electrolytic cell and ECH production, and we are now planning additional investments in order to make process improvements at all our facilities. With expanded production capacity and new business projects in place, we will work company-wide to ensure that the additional production facilities lead to better business performance as soon as possible.

We will also actively promote digital transformation, especially as the COVID-19 crisis has accelerated the need for such a transformation. The introduction of robotic process automation (RPA) in 2020 has increased the efficiency of our office work, and in 2021, we aim to achieve substantial improvements in productivity through the digital transformation of our production sites.

Third, we will be reborn as a sustainable company through ESG management.

Environmental and social issues, including climate change, are becoming ever more important in both business and society as a whole. As a result, businesses are coming under increased social pressure to implement environmental, social, and governance (ESG) management. LFC has therefore declared 2021 to be the first year of its ESG management, and has set up a dedicated ESG organization which will lay out the company's mid- to long-term roadmap for ESG management and identify the tasks to be undertaken across various areas, including performance measurement and management. We will also continue to fulfill our responsibilities as a global corporate citizen, including by following international initiatives related to ESG such as the UN Global Compact.



In 2020, we achieved outstanding ESG performance – we received A grade in the annual ESG evaluations conducted by Korea Corporate Governance Service (KCGS) for the fourth consecutive year, AA grade in the Sustainvest ESG evaluation for the fifth consecutive year, and Gold Medal Rating from EcoVadis. Going forward, we will make continuous efforts to maintain high standards.

LFC has faced a multitude of challenges throughout its 57-year history, and yet has achieved continuous growth throughout that time. As we stand at another turning point, we will strive to overcome all difficulties and leap forward once again, driven by our collective DNA for taking on challenges time after time, and turning them into opportunities.

We look forward to your continued interest in LFC, and we are grateful for your ongoing support as we face up to the constant challenges of our business and strive to create a better future as a sustainable company.

May 2021

CEO, LOTTE Fine Chemical
Kyung-Moon Jung



LFC AT A GLANCE

Leading by example

LFC has pursued changes and innovations in line with the development of the Korean chemical industry. Established in 1964 as a business involved with general chemistry, the backbone of the chemical industry, we have expanded our business areas to include specialty chemicals and green materials, emerging as a global company.

COMPANY OVERVIEW

Global Specialty Chemical Company

Having faced many changes and challenges over the past 57 years, LFC has grown into a “specialty chemical company” by focusing on preemptive capacity expansion and internal efficiency; cost reduction and quality improvement; and new business development and R&D investment. We are building global competitiveness by sharpening our competitive edge in existing business areas while also striving to secure future growth engines based on capabilities and experiences that we have accumulated in the global market. We are also making every effort to achieve sustainable growth with all our stakeholders based on our own creative labor-management culture.



MILESTONES

1964-1979

Asia's largest urea fertilizer manufacturer

1980-1999

Diversifying chemical product business

2000-2015

Enhancing high value-added specialty chemical business

2016-2018

Strengthening global competitiveness

2019-2020

Building a foundation for sustainable growth



COMPANY PROFILE



KEY FIGURES

- Establishment date: August 27, 1964
- Number of employees: 891¹⁾
- Total assets: KRW 1,874,589 million
- Sales: KRW 1,263,636 million
- Net income: KRW 198,792 million



GLOBAL NETWORK

- Korea: Seoul Office, Incheon Plant, Ulsan Complex (HQ)
- LOTTE Fine Chemical Trading(Shanghai) Co., Ltd.
- Europe GmbH, T/S Center
- America Office

* As of December 31, 2020; Based on consolidated financial statements

¹⁾ Including employees in leave of absence so that the figure is different from the number disclosed through the business report

📄 More information is available in the Appendix section

🎥 LOTTE Fine Chemical PR Film

Asia Top 10 Fine Chemical Company

LFC is making continuous efforts to grow into an "Asia Top 10 Fine Chemical Company". In the research sector, we are expanding our research infrastructure to develop new uses for our products and to provide high-quality customer services and technical support, while carrying out change and innovation activities at our production sites to secure world-class manufacturing competitiveness based on firmly established safe work environment. We are also well positioned to pursue corporate growth in harmony with society and the environment as a truly global first-class company.

Asia Top 10 Fine Chemical Company

VISION

MISSION OF LOTTE GROUP

We enrich people's lives by providing superior products and services

CHEMICALS

Chlorine derivatives
Ammonia derivatives
EUROX®
TMAC

GREEN MATERIALS

MECELLOSE®
HECELLOSE®
AnyCoat®
AnyAddy®

STRATEGIC DIRECTION

01

Focusing on green material business for core growth

02

Strengthening the competitiveness of chemical business, and pursuing selective growth

03

Identifying and advancing into specialty business

SYNERGY CREATION



Cooperation in technologies and R&D



Vertical integration of raw and subsidiary materials



Use of overseas bases



Expansion of new business opportunities

BUSINESS OVERVIEW

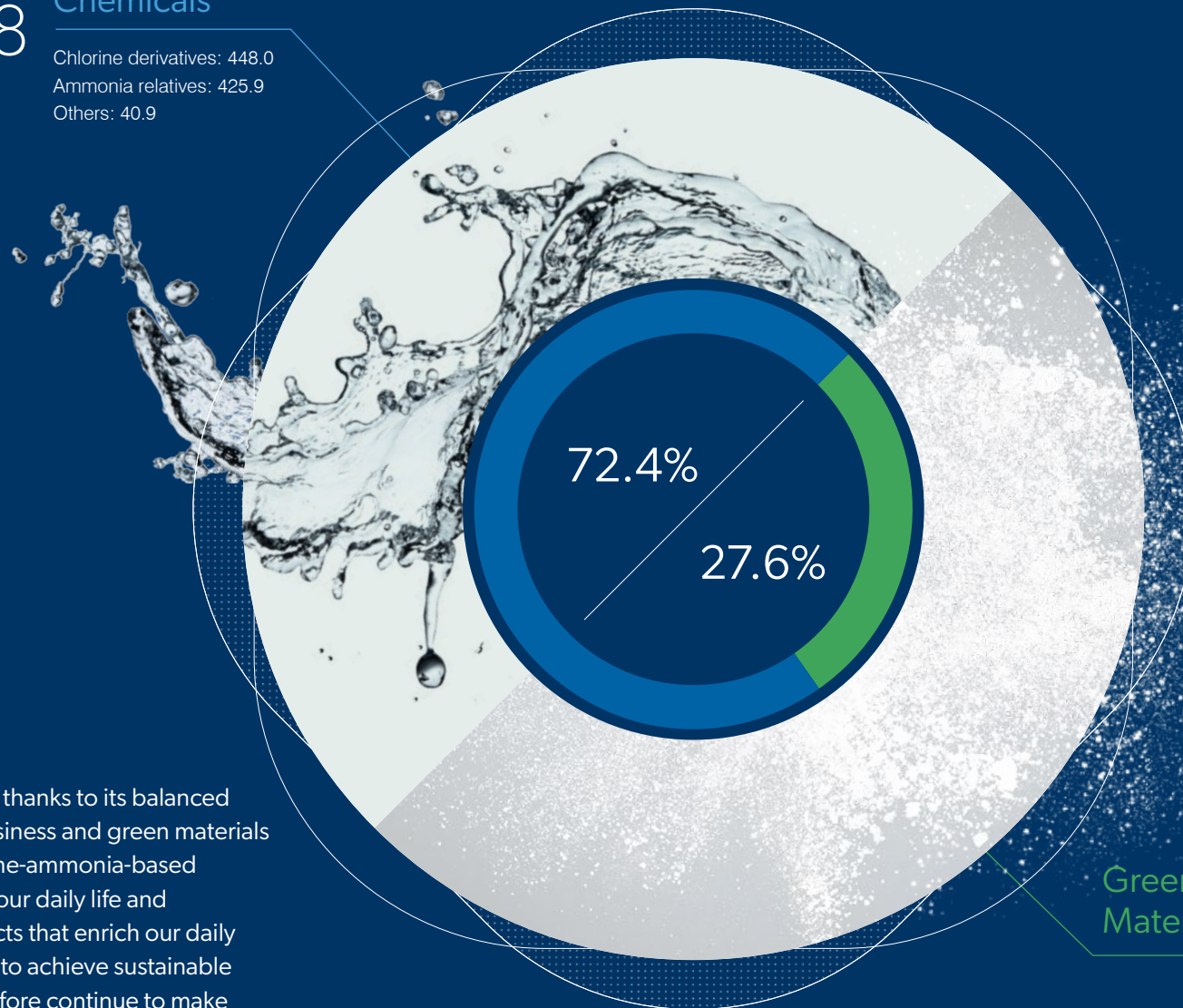
914.8

Chemicals

Chlorine derivatives: 448.0
 Ammonia relatives: 425.9
 Others: 40.9

Sales by Business

(Unit: KRW billion)



Green Materials

348.8

Cellulose derivatives – Industrials: 237.2
 Cellulose derivatives – Foods and Pharmaceuticals: 111.6

LFC has been maintaining stable growth thanks to its balanced product portfolio, of which chemical business and green materials business are the two main pillars. Chlorine-ammonia-based products that serve diverse purposes in our daily life and high-value-added green material products that enrich our daily lives are the key materials that enable us to achieve sustainable growth and make fine change. We therefore continue to make enterprise-wide efforts to upgrade our products based on active R&D and the preemptive capacity expansion.

* As of December 31, 2020; Based on consolidated financial statements



Chemicals

Chlorine Derivatives

APPLICATION



Epichlorohydrin (ECH)

Water-resistant synthetic resin products, ion exchange resins, flame retardants, etc.



Caustic soda

Surfactants, synthetic fibers, dye intermediate, perfume, pesticides, medicines, etc.



Tetramethylammonium chloride (TMAC)

Colorless transparent liquid which is a raw material for TMAH used for semiconductors and LCD/OLED developing solution

Chlorine derivatives are vital in many areas of industry

LFC's chlorine derivatives product group consists of ECH, which is a raw material for epoxy resins, caustic soda, which is used as a basic raw material for chemical products, and PTAC (3-Chloro-2-hydroxypropyltrimethylammonium chloride), which is used as a reinforcing agent for paper. ECH, the main material in waterproof and rustproof paints, is seeing a steady increase due to growing demand from various industrial sectors, including the construction and shipbuilding industries. Caustic soda is a by-product of chlorine, a raw material used in the production of ECH and polyvinyl chloride (PVC), and an essential basic material for the chemical industry. As chlorine derivatives, one of LFC's major business lines, are used in many industries, we aim to enhance our competitiveness in both domestic and overseas markets by expanding our production capacity, creating new markets, and reducing costs.





Chemicals

Ammonia Derivatives

APPLICATION



Ammonia, Anhydrous

Raw materials for nitrogen-based fertilizer (urea, ammonium sulfate, ammonium chloride, and ammonium nitrate), raw materials for nitric acid, rayon, nylon, acrylonitrile, hydrazine, etc.



EUROX[®]

Catalyst reducing solution which reduces the amount of nitrogen oxide discharged from diesel engines

Ammonia derivatives make daily life prosperous

LFC's ammonia derivatives product group consists of ammonia and EUROX[®]. Ammonia is a basic chemical, used as a raw material for fertilizer, synthetic fiber, nylon, and ABS resin. We have the largest ammonia storage facility in Korea and continue to enjoy steady growth based on our outstanding infrastructure. As the development of ships fueled by ammonia is progressing as part of a global carbon neutral policy, ammonia is gaining attention as an eco-friendly energy source. EUROX[®], an exclusive brand of LFC, is a catalyst-reducing solution that reduces the amount of nitrogen oxide discharged from diesel engines. As the market for urea continues to grow, we are strengthening our market dominance by increasing our sales and enhancing product competitiveness based on thorough quality management.



Among LFC's cellulose products, industrial product line consists of MECELLOSE[®] and HECELLOSE[®], while food and pharmaceutical product line is composed of AnyCoat[®] and AnyAddy[®]. These are all eco-friendly products made with raw materials derived from tree pulp and cotton. They add considerable value to the products to which they are applied by substantially improving the functionalities of raw materials, including viscosity, water solubility, and water retention. In 2020, we experienced difficulties due to the global economic downturn caused by the COVID-19 crisis and sluggish demand from downstream industries, but we were able to overcome the crisis and prepare for new growth by expanding the sales of high-value-added products.

We increased our market share for MECELLOSE[®] and HECELLOSE[®] and enhanced our brand image by releasing various products with new specifications tailored to meet customer needs. With regard to AnyCoat[®] and AnyAddy[®], we maintained a pace of growth by promptly supplying products of outstanding quality in response to global trends such as the growing interest in health and the expanding food and drug market. Moreover, in order to move one step ahead of the increase in demand from downstream industries, we expanded our production lines for MECELLOSE[®] and AnyCoat[®], scheduled to start commercial operations in 2021. LFC is expanding its role as a trusted supplier in the global market by identifying and meeting customer needs, while also preemptively responding to market trends, thereby providing high-quality products in a timely manner.

Eco-friendly cellulose derivatives with high functionality and high added value

Cellulose Derivatives



Green Materials



Cellulose Derivatives

APPLICATION



MECELLOSE®

Cement mortar, tile cement, ceramic extrusion, polymers, etc.



HECELLOSE®

Paint, detergents, personal care, home care, medicines, oil drilling, etc.

Industrials (MECELLOSE®, HECCELLOSE®)

MECELLOSE® and HECCELLOSE® are additives in white powder form. MECELLOSE® is added to building cement to improve viscosity, water retention, lubricity, and stability, while HECCELLOSE® is used as a viscosity agent, moisturizer, and stabilizer in diverse sectors, including paint, personal care products, and construction. We are maintaining a stable pace of growth by expanding our market share and enhancing brand image by introducing new products with various specifications to meet our customers' diverse needs.



Website for cellulose derivatives





Cellulose Derivatives

APPLICATION



AnyCoat®

Capsules, tablet coatings
(for stomach and intestines), etc.



AnyAddy®

Food additive, health functional
food coatings, gluten-free
additive, etc.

Foods and Pharmaceuticals (AnyCoat®, AnyAddy®)

AnyCoat® and AnyAddy® are white powder products. AnyCoat® is a coating and capsule material that improves the delivery of pharmaceutical products, while AnyAddy® is a food additive that enhances the texture of food. In line with the rising global interest in health and the growing food and pharmaceutical markets, we are maintaining a robust growth trend by ensuring a stable supply of products of superior quality and providing enhanced technical support services. We will continue to grow through our eco-friendly, high-value-added, high-functional products while contributing to the development of downstream industries.



Website for cellulose derivatives



LFC STRATEGY

Fostering sustainability

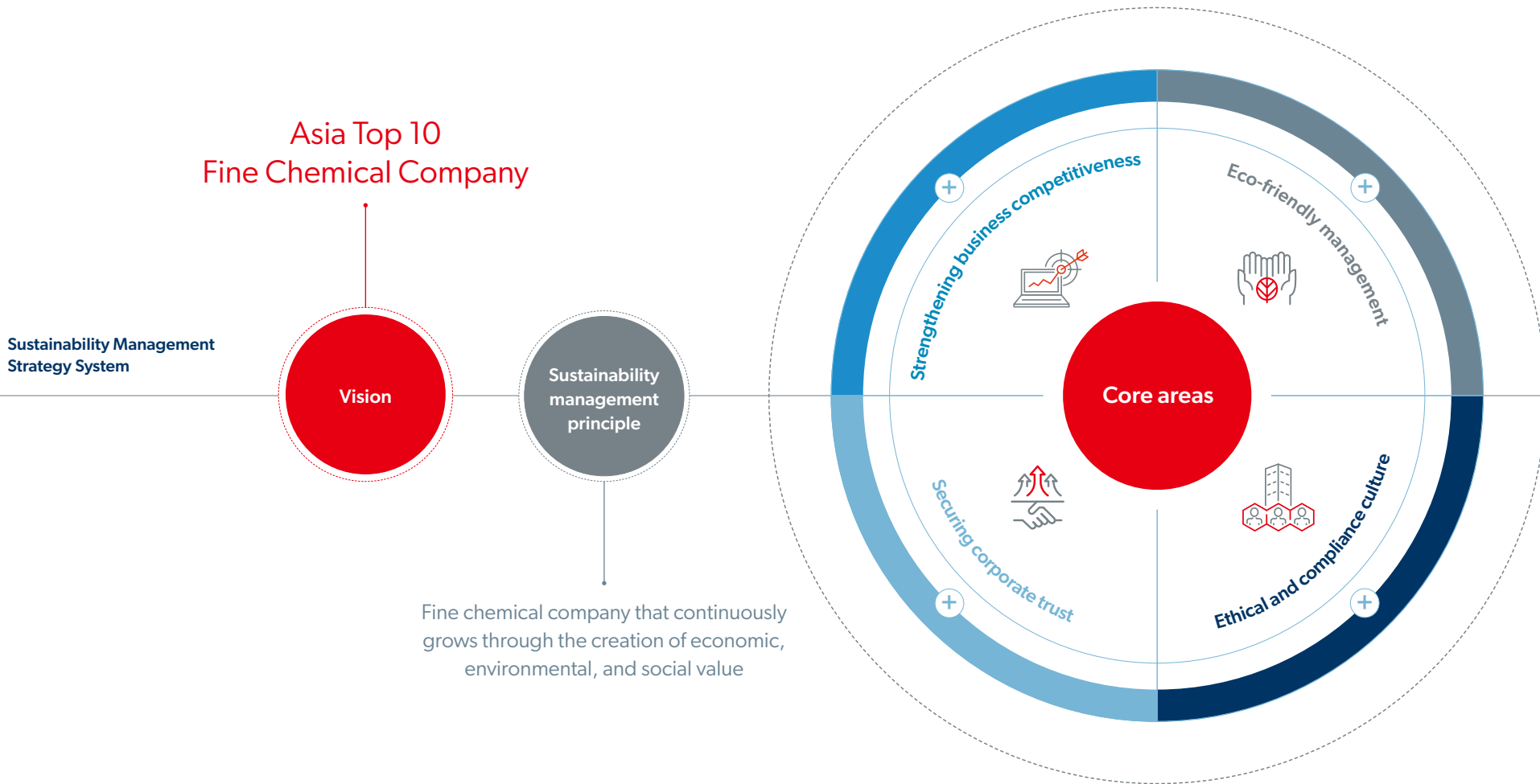
LFC implements sustainability management in line with its corporate strategy. Moreover, we are striving to manage our sustainability management performance at the global level in accordance with international commitments for sustainable development, such as the United Nations Sustainable Development Goals (UN SDGs)¹⁾ and the United Nations Global Compact (UNGC)²⁾.

¹⁾ UN Sustainable Development Goals (SDGs): 17 goals set by the UN that humanity needs to achieve between 2015 and 2030 to ensure the sustainable development of the international community

²⁾ United Nations Global Compact (UNGC): Global initiative that encourages businesses to participate in improving sustainability and corporate citizenship by internalizing ten principles related to human rights, labour, environment, and anti-corruption in their operations and management strategies; and presents practical measures for complying with the mandate

SUSTAINABILITY MANAGEMENT FRAMEWORK

LFC is pursuing sustainability management from a more systematic, long-term perspective based on its sustainability management system, which is aligned with its company-wide management strategies. We have devised our strategic tasks under four directions that take into account all of the relevant economic, social, and environmental values, and are managing them in alignment with the UN SDGs. In 2020, LFC joined the UNGC, a global corporate sustainability initiative, and promoted the internalization of the ten UNGC principles in its business activities, with a particular focus on enhancing the company's sustainable value and creating social values.



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Strategic tasks

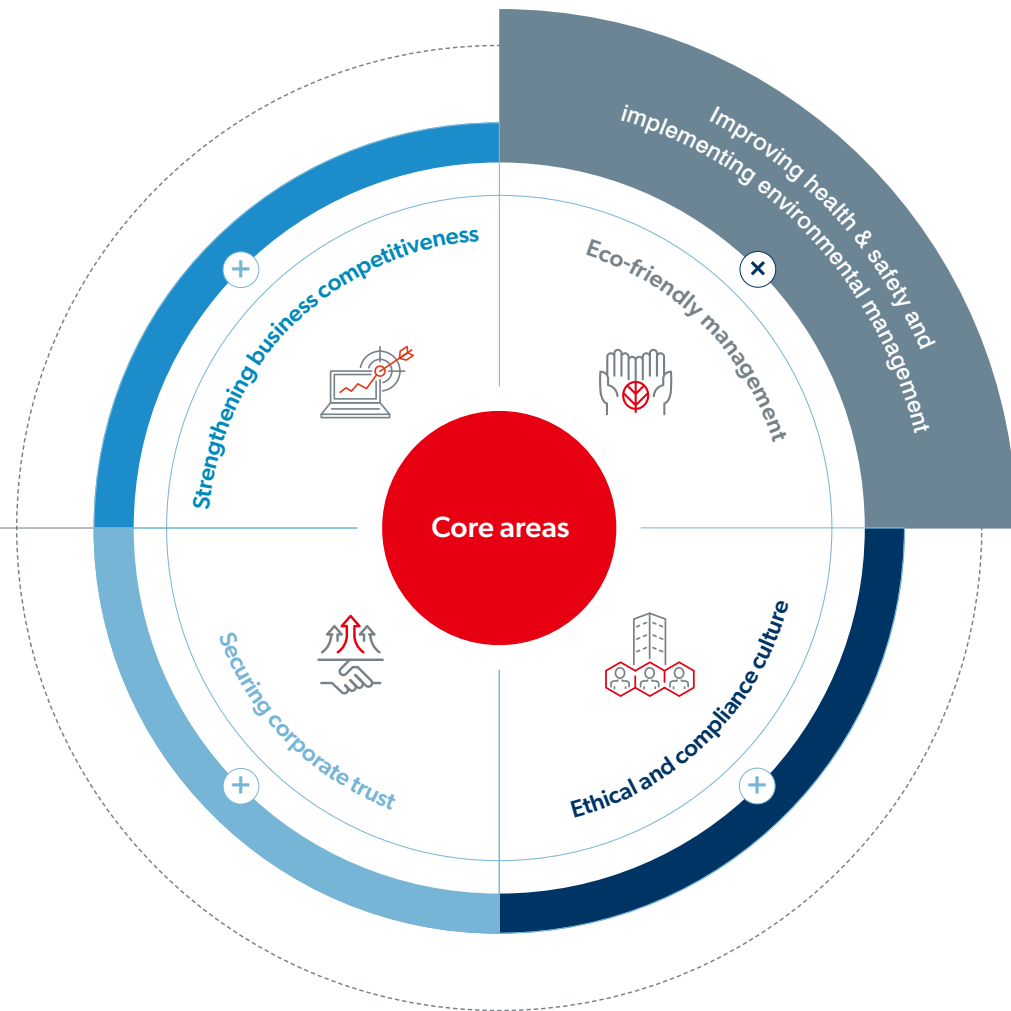
- Systematic implementation of eco-friendly management
- Internalization of a culture of safety and health

Key Achievements in 2020

- Overhauled the organization to be a decision-making body with a dedicated team for each area, with the Head of Manufacturing Group (C-level) playing a central role, for systematic decision-making on environmental & safety management and prompt implementation
- Reduced energy consumption and GHG emissions through energy efficiency improvements and cost innovation activities
- Conducted Safety Culture TF activities, including the upgrade of standard operating procedures (SOP) for a safe workplace and strengthening of safety training criteria for each employee level

📄 More information is available in the Sustainable Value Creation section

Alignment with UN SDGs



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Strategic tasks

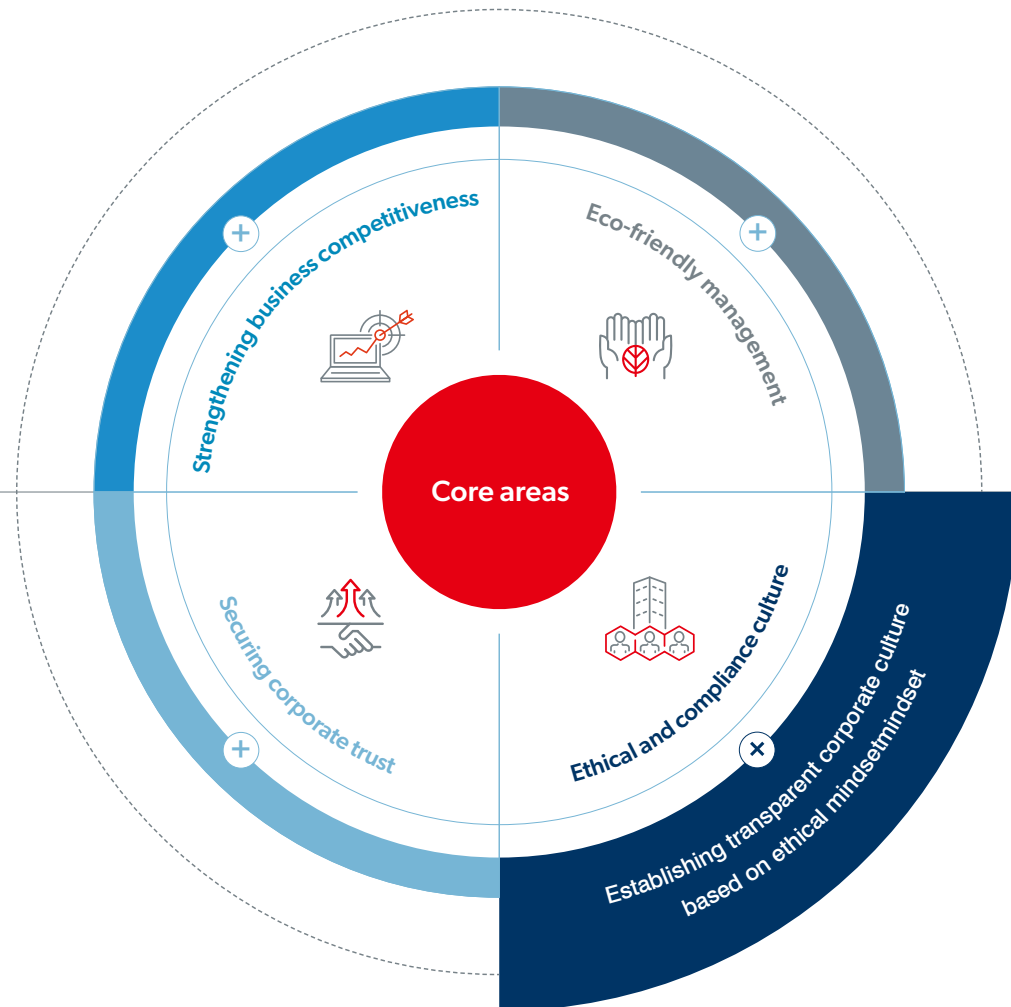
- Establishment of ethical and compliance culture
- Assurance of human rights and the right to work
- Internalization of a fair organizational culture

Key Achievements in 2020

- Appointed a Head of the Legal&Compliance Department directly under the CEO to oversee the Compliance Management Team, Ethics Management Team, and Internal Accounting Management Division to expand expertise in compliance management
- Built a compliance system to diagnose and improve risks in the areas of anti-corruption, personnel and labor, and industrial safety, and to identify non-financial issues and make improvements
- Launched the 3rd Corporate Culture TF in order to derive and implement tasks for the continuous growth of the company and employees, and developed the “Winning Rule – Do it Together!” slogan as a code of conduct

📄 More information is available in the Sustainable Value Creation section

Alignment with UN SDGs



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Strategic tasks

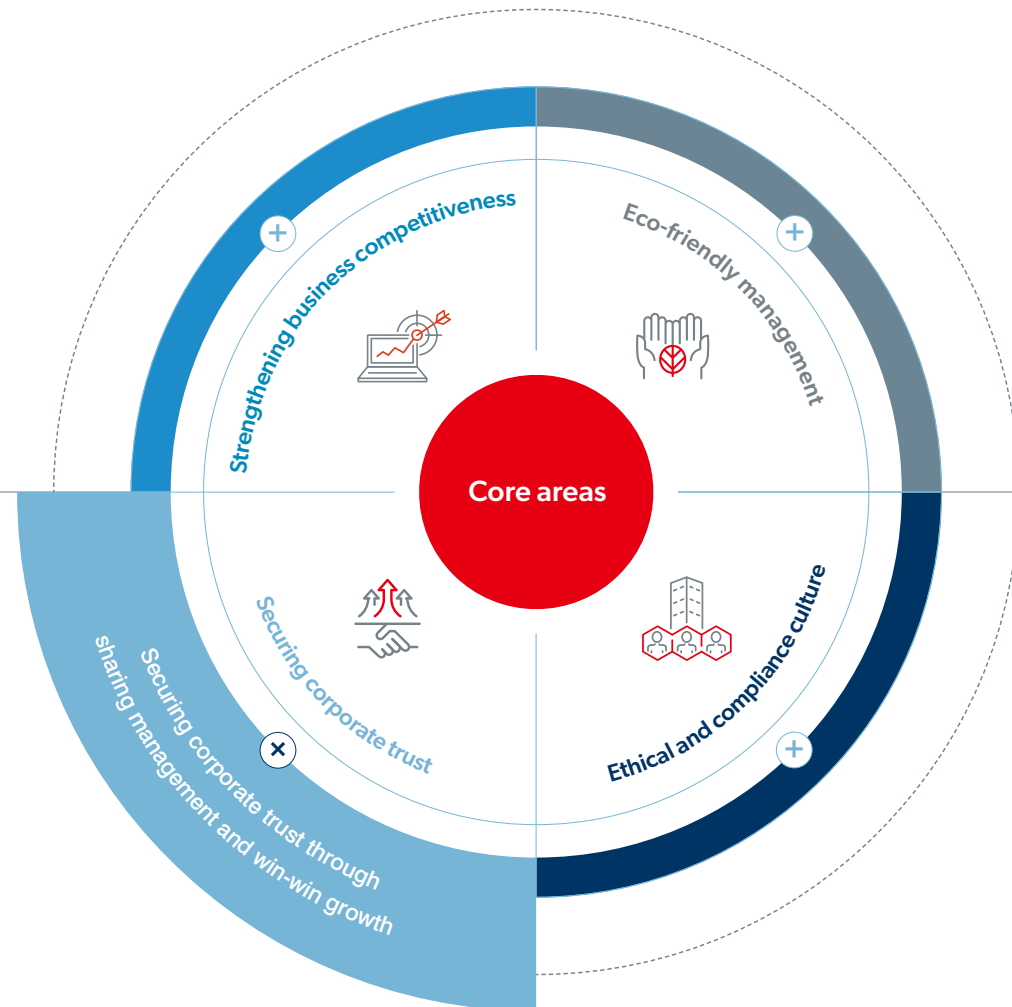
- Contribution to local communities and society
- Win-win growth with partner companies
- Maximization of customer satisfaction through high quality

Key Achievements in 2020

- Established a new social contribution vision as a "Good partner making a sustainable future" by reflecting internal and external ESG management trends and stakeholder requirements for strategic social contribution activities better aligned with chemical industry
- Improved the post-assessment system conducted once a year to firmly establish win-win partnerships with partner companies based on our commitment to shared growth, and provided incentives to companies that received outstanding evaluation, building long-term partnerships
- Formed a win-win cooperation fund to offer financial support to partner companies – with LFC's deposit of KRW 7 billion in Woori Bank, the Bank provides partner companies of LFC with corporate loans at preferential interest rates within the ceiling of KRW 14 billion

📄 More information is available in the Sustainable Value Creation section

Alignment with UN SDGs



SUSTAINABILITY MANAGEMENT FRAMEWORK

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Strategic tasks

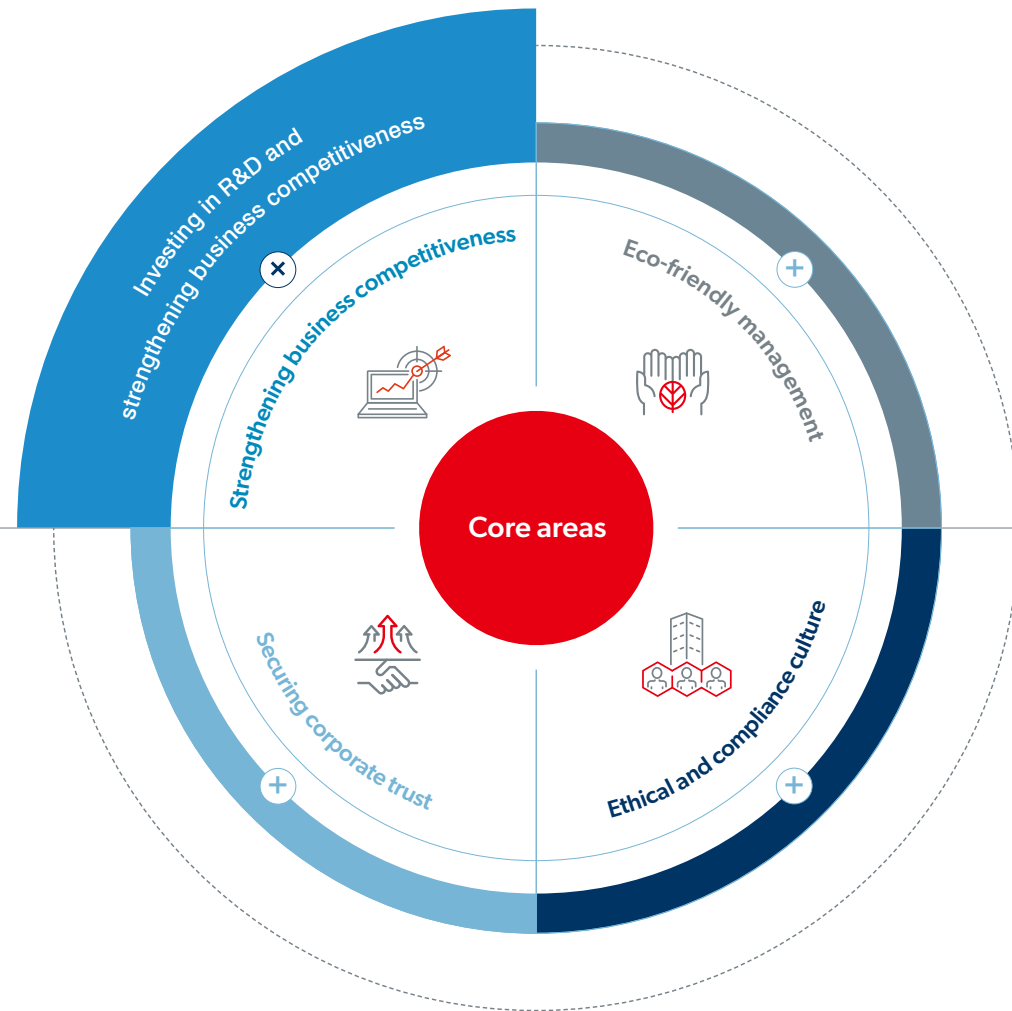
- Strengthening of global manufacturing competitiveness
- Generation of stable revenue

Key Achievements in 2020

- Received the Prime Minister's Citation at the 17th Korea New Growth Management Awards in recognition of our contribution to value-added fine chemical business through the development and localization of a cellulose derivative production technology; and our success in developing new uses and securing competitiveness through continuous investment in the medical material sector
- Opened a food and pharmaceutical material development research center in Magok, Seoul, where the Lotte Central Research is located, in order to enable a strategic response to the growing food and pharmaceutical market; and expanded synergy generation with food and chemical affiliates of LOTTE Group, and promoted cooperation on research with companies based in the Magok Industrial Complex

📄 More information is available in the Sustainable Value Creation section

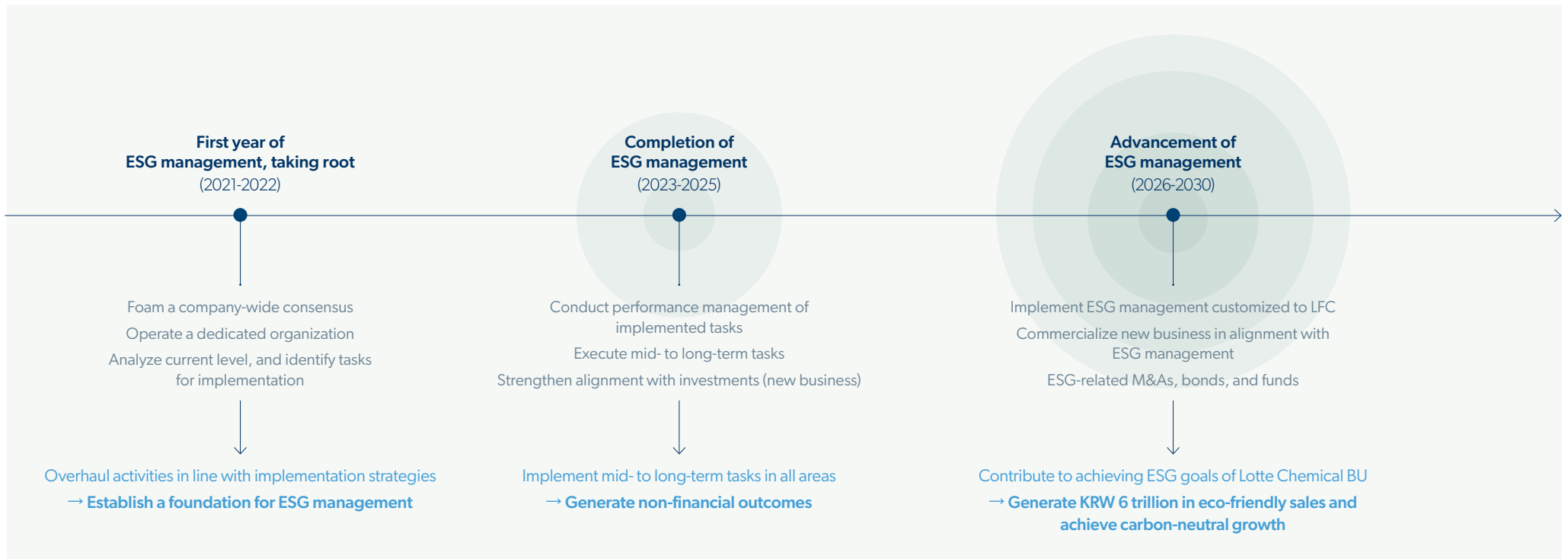
Alignment with UN SDGs



ESG ROADMAP

As climate change and other environmental problems are emerging as threats to human survival, the international community is required to strengthen cooperation to address them. Furthermore, in 2020, in the face of an unprecedented global crisis caused by COVID-19, sustainability has been gaining importance as a survival strategy for businesses. With the recent declaration by Blackrock, one of the world's largest asset managers, to prioritize climate change and sustainability in its corporate investment decisions, responsible investing market that considers environmental, social, and governance (ESG) aspects along with financial performance when evaluating companies is rapidly growing. In addition, stakeholders are calling out for more responsible ESG activities on the part of businesses. Such ESG factors as reduction of carbon emissions, development of eco-friendly products, supply chain management, and workers' human rights are making a greater impact on corporate value. ESG management is therefore becoming essential in corporate management.

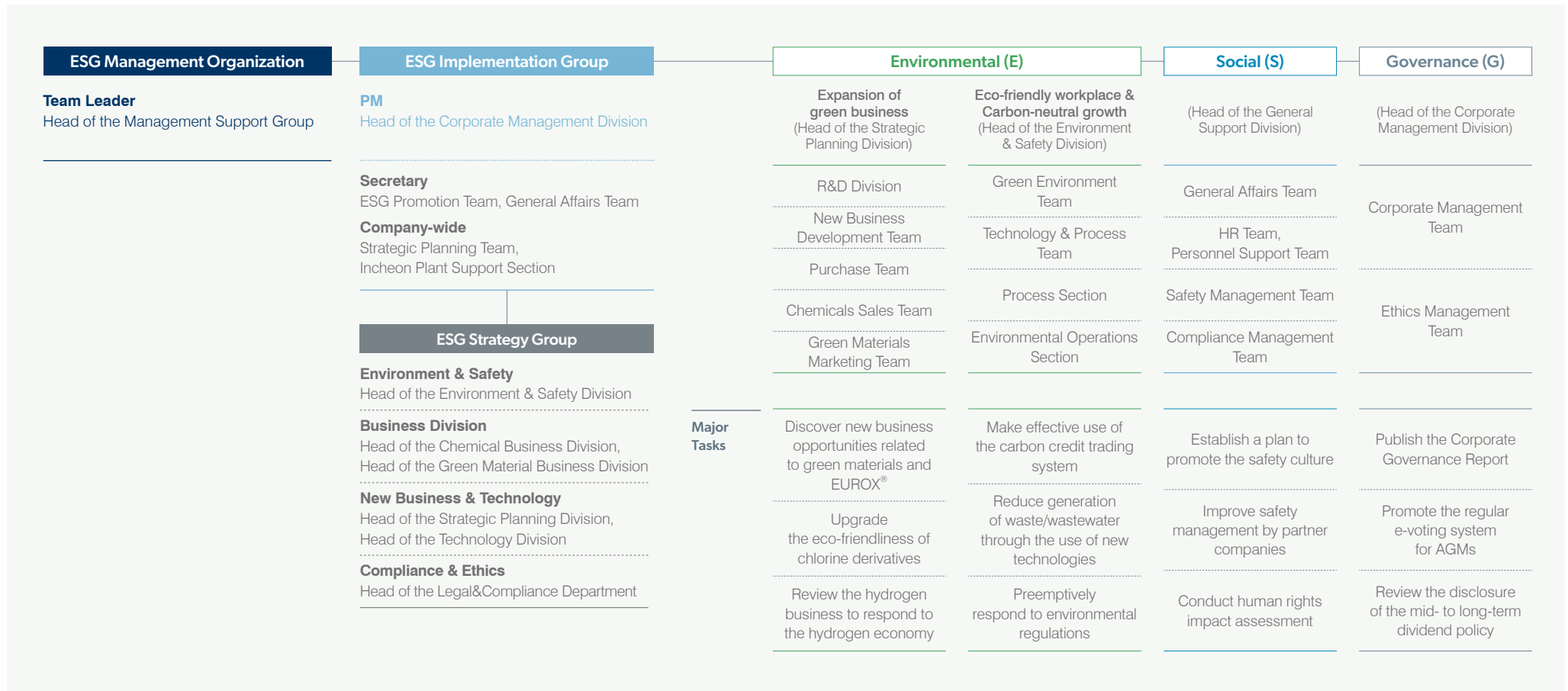
Mid- to Long-term ESG Management Strategies



LFC has been promoting ESG-based activities that consider environmental and social values as well as creating financial results in running its businesses. Our outstanding performance has resulted in a high grade in reputable domestic and overseas ESG evaluations¹⁾. Moreover, to better respond to increasing calls of stakeholders and society for outstanding ESG management, we declared 2021 to be the first year of our ESG management, and set up a mid- to long-term roadmap to realize our plan. We also launched the ESG TF in a bid to address major issues more systematically. Going forward, we aim to create new corporate value and achieve sustainable growth for all our stakeholders by successfully carrying out our ESG management tasks.

¹⁾ A grade in the ESG evaluations conducted by KCGS (4 consecutive years), AA grade in the Sustainvest ESG evaluation (5 consecutive years), and Gold Medal Rating from EcoVadis as of 2020 year-end

ESG Management Organization



BUSINESS MODEL

CAPITAL

Financial



Financial capital of shareholders and investors

Funds raised by the organization through liabilities, equity capital, or subsidies to produce products or provide services

Manufactured



Manufacturing facilities

Buildings, equipment/facilities, and infrastructures used by the organization to produce products or provide services

Intellectual



Knowledge-based intangible assets

Knowledge-based intangible assets including R&D capabilities, intellectual property rights, trademarks, information strategies and systems

Human



Employees with a vision and vocation

Members' ability to understand, develop, and execute the organization's strategies (qualities, potential, experience, driving force for innovation), organizational governance, risk management, and ethical values

Social/Network



Relations and communication with stakeholders

Organizational values, behavior, brand, and reputation that can promote the development of stakeholders and communities

Natural



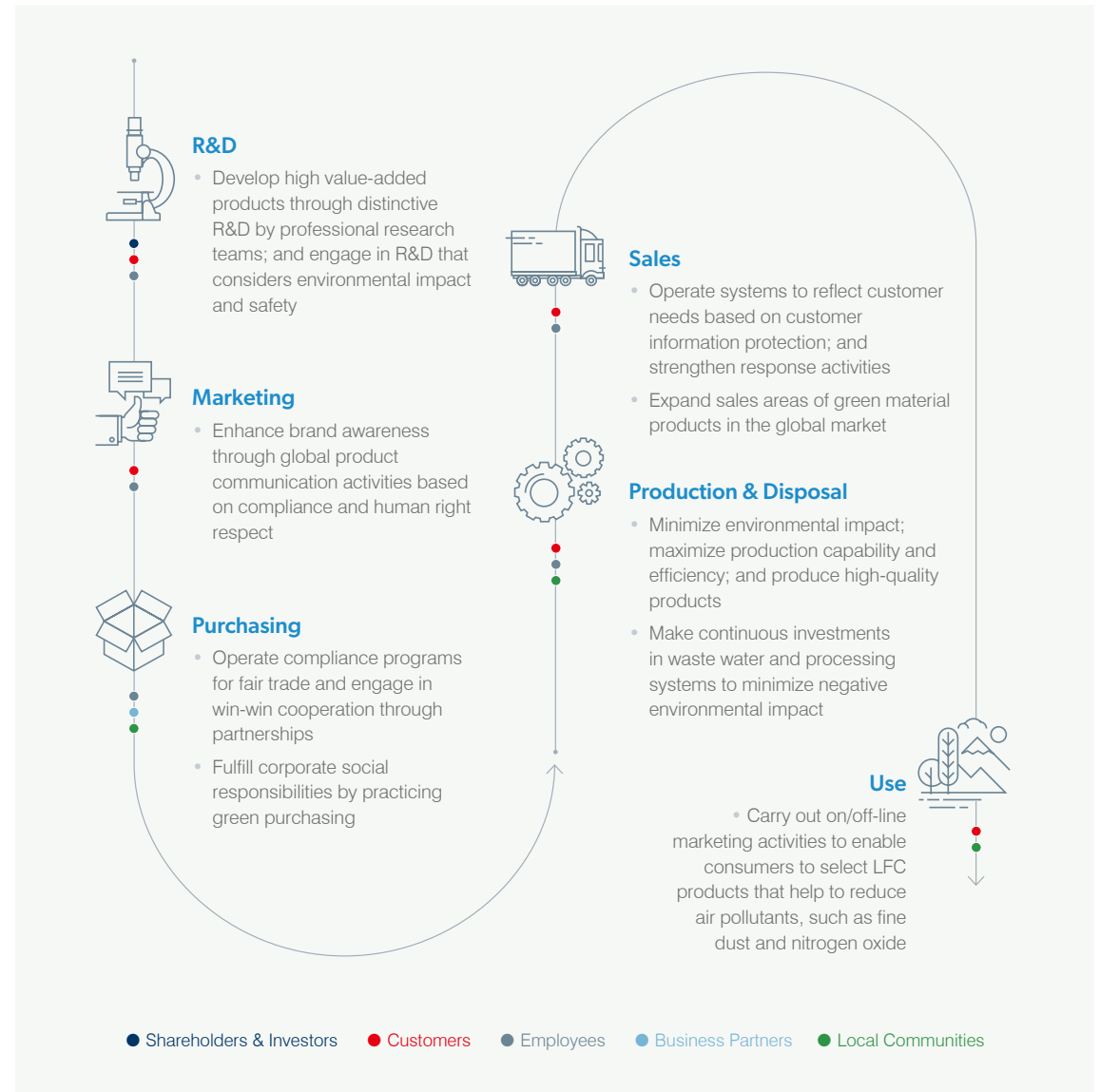
Environmental resources and processes

All environmental resources, including air, water, soil, forests, minerals, and biodiversity, used by the organization to produce products or provide services

INPUT

VALUE CHAIN

2020 OUTPUT



BUSINESS MODEL

CAPITAL	INPUT	VALUE CHAIN	2020 OUTPUT
Financial 	Total assets 1,874,589 KRW million	Total equity 1,649,700 KRW million	
Manufactured 	Investment in capacity expansion (2018-2020) 220.6 KRW billion	Production capacity¹⁾ of MECELLOSE® and HECCELLOSE® 60,909 M/T	Production capacity¹⁾ of ECH 132,752 M/T
Intellectual 	R&D investment 12 KRW billion	R&D personnel 53 persons	Information protection activities Dedicated organization Frequent and regular information security campaigns
Human 	No. of employees 891	Employee compensation²⁾ 119,754 KRW million	Employee training expenditures 704 KRW million
Social/Network 	Social contribution expenditures 2,138 KRW million	Purchasing from partner companies 282.6 KRW billion	Win-win partnership Building a win-win partnership with partner companies
Natural 	Water consumption 12,052,794 tons	Energy consumption 14,483 TJ	Environmental investment 20,699 KRW million Green purchasing 892 KRW million

¹⁾ Production capacity: Daily production capacity (plan) × standard operating days (number of days excluding regular maintenance, minor regular maintenance, emergency stop, etc.)

²⁾ Salary and bonus, welfare benefits, retirement benefits

BUSINESS MODEL

CAPITAL	INPUT	VALUE CHAIN	2020 OUTPUT
Financial	Sales 1,263,636 KRW million	Net income 198,792 KRW million	Shareholders' dividend 38,205 KRW million
Manufactured	Domestic market share of MECELLOSE®/HECELLOSE® 51%	Domestic market share of ECH 45%	Sales of eco-friendly products⁴⁾ 412.3 KRW billion
Intellectual	Patent registrations 30 more cases <small>(254 in 2019 → 284 in 2020)</small>	Information security incidents Zero	Maintaining of information security management system ISO 27001
Human	Job training 31 hours/person	Safety training 24 hours/person	Average length of continuous service 16 years
Social/Network	Donation of urea solution to Gyeongbuk and Jeonbuk provinces to combat the COVID-19 pandemic 40,600 ℓ	Donation of 10,200 seedlings for the Urban Box Farming Campaign to 21 elementary schools in Ulsan 10,200 person	Contribution of KRW 7 billion to the win-win cooperation fund for partner companies 7 KRW billion Support for the establishment of health & safety management systems of partner companies 17 partner companies <small>(from 2014 to 2020)</small>
Natural	GHG reduction through energy conservation tasks 2,754 tCO ₂ eq	Reduction of raw and subsidiary materials consumption through the employee suggestion system 4 KRW billion	Waste recycling rate 90%

⁴⁾ Based on EUROX®, ammonia derivatives, and green materials products

LFC STORY

Creating shared value

LFC strives for strong and healthy growth by balancing its efforts to generate economic value with its commitment to social and environmental values. As a global chemical company which aims to live in harmony with the environment, we are fulfilling our responsibilities as a corporate citizen and building a sustainable tomorrow for all.



Scaling social impact

We deliver meaningful and positive impact on local communities.

LFC always strives to find better ways in which it can grow alongside its local communities by undertaking social contribution activities and creating shared values. We look after those in need in local communities where we operate by offering them love and instilling them with hope. In particular, we are making concerted efforts to help future generations realize their dreams by helping to build a society which accepts differences as a source of inclusion, not as grounds for discrimination.

As part of these efforts, we launched "Ulsan Swings", the first multicultural youth baseball team in Ulsan, the city in which our headquarter is located. Since its founding in 2014, 183 children from multicultural families have been with Ulsan Swings, and we are proud to support their role in making positive changes in our society.

Alignment with
UN SDGs



The Founding of Ulsan Swings

Diversity is essential for the sound growth of society. However, the reality is that people from different cultural backgrounds still face inequality and discrimination. This is especially difficult for children, as discrimination can be an obstacle to their full integration into local communities.

The number of immigrants and naturalized citizens is on the rise in Ulsan, with the number of children from multicultural families attending primary/secondary schools exceeding 3,000 as of the end of 2019. However, there are limited cultural and sports activities available for them to enjoy, and young people from multicultural families have continued to find it hard to adjust to school life, particularly as they advance to higher grades.

LFC therefore decided to launch the city's first multicultural youth baseball team, "Ulsan Swings", in partnership with Ulsan Nam-gu Social Welfare Center and Ulsan Nambu Police Station. Beginning in 2014 with 26 players, some 20 children have continued to join the team each year, where they are able to learn about sportsmanship and teamwork, play or interact with their peers, and develop self-esteem. In self-esteem tests conducted after their baseball activities, 82% of players surpassed the target score, and no members of the team have ever dropped out of school.

Milestone of Ulsan Swings

2014

- Launched "Ulsan Swings", a multicultural little league baseball club

2015

- Hosted a spring camp event
- Conducted talent sharing activities by the in-house baseball club
- Hosted a friendly baseball tournament

2016

- Hosted a summer camp event
- Hosted a friendly baseball tournament

2019

- Hosted a friendly baseball tournament
- Held a baseball academy in association with LOTTE Giants

2018

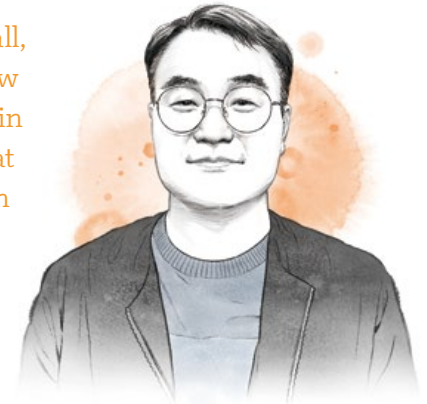
- Ulsan Swings featured in a social studies supplementary book for Ulsan elementary schools
- Hosted a friendly baseball tournament

2017

- Participated in the Special Exhibition, Year of Ulsan Folk Culture 2021 at the Ulsan Museum
- Hosted a friendly baseball tournament

The name "Swings" embodies the idea of moving forward with confidence, as if vigorously swinging a baseball bat.

At the time of the launch of the team in 2014, many parents and children knew very little about baseball, but awareness of and participation in the sport have now grown so much that the team's story has been included in a textbook. We will continue to support the team, so that children from multicultural families move forward with confidence in realizing their dreams.



Sang Min Lee

Manager, Ulsan Nam-gu Welfare Center





“

Ulsan Swings, the first multicultural youth baseball team in Ulsan, was formed through joint efforts between the public and private sectors as a result of their determination to resolve various community issues. This commitment has further improved the corporate image of LFC in the local community. We will continue to support multicultural children, and help them to become not just fully integrated participants, but also leaders in society.

”



Yoo Ri Ju
General Affairs Section,
Ulsan Complex of LOTTE Fine Chemical

Ulsan Swings in Full Swing

Members of Ulsan Swings come from many countries, including China, Japan, Vietnam, the Philippines, the U.S., Canada, Georgia, Cambodia, Egypt, and Mongolia, with children from single-parent families being particularly interested. As a result of the increasing number of young people wanting to join the team, whether to try the unfamiliar sport of baseball or to enjoy it as a long-term hobby, places in the team for 2021 were filled by applicants knocking on the team office door even before the recruitment announcements for 2021 were made.

Ulsan Swings offers young people opportunities to discover their talent for sport and to live their baseball dreams. An elementary school student who joined the team in 2018 instantly fell in love with baseball, and was given additional expert coaching. In 2020, he became the first Swings player to be admitted to an Ulsan middle school with a full baseball program.

Many members of the Ulsan community give strong support to the baseball team to help them rise to the challenges they face. Ulsan Nambu Police Station gives its full support to multicultural families struggling with social issues, Ulsan Nambu Baseball and Softball Association provides the team with baseball supplies, and many local schools and institutions allow the team to use their playgrounds free of charge. Ulsan Swings are thus transcending prejudice and discrimination to unite through sports, as the team members show everyone in their local communities that being different is not wrong.



Growing green impact

We share and nurture eco-friendly values with our local communities.

Based on its social contributions, "Good partner making a sustainable future", LFC undertakes a wide range of community activities in order to deliver hope and happiness to more people. In particular, as a chemical company which strives for harmony with the environment, we are running a green campaign aimed at preserving and enhancing our natural environment for future generations.

We have been making continuous efforts, including voluntary cleaning programs by our employees near to our business sites and the implementation of eco-friendly programs in partnership with the local communities. One of LFC's major eco-friendly social contribution activities is "Urban Box Farming Campaign", an eco-friendly festival which contributes to urban greening in Ulsan where many industrial facilities are located.

Alignment with UN SDGs



“
My kid got a rubber plant from her school.
She loved it because the pot has the name of
her father’s company on it. It’s so cute to see
her watering the plant and tending it with so much
care. Many restrictions and hardships have been
imposed on us during the COVID-19 crisis,
but wouldn’t we be able to overcome them all
if we just joined hands a little more tightly?”



Young Ju Kim & His Family
Electricity Maintenance Section,
Ulsan Complex of LOTTE Fine Chemical



Green Festival with 11 Years of History

With industrialization and urbanization causing the Earth’s temperature to rise, severe weather phenomena are now seen on a regular basis all over the world, including super-typhoons, record heat waves, and widespread torrential rain. Industrialization and urbanization are destroying the balance of the ecosystem, which in turn has a number of adverse effects, including the spread of infectious diseases. Global efforts are therefore required to respond to climate change, which is why LFC has been making continuous efforts to establish eco-friendly business sites and support the government’s eco-friendly policies. We also strive to disseminate eco-friendly values by exploring ways in which people can protect the environment in easy and fun ways in their everyday lives.

“Urban Box Farming Campaign”, which we have been running for 11 years, demonstrates our strong commitment to the environment. We launched the campaign in 2010 in cooperation with Ulsan Life Forest and Ulsan KBS in order to promote urban greening in Ulsan, a heavily industrialized city, and to raise public awareness of the importance of a green environment. What makes the campaign even more significant is the fact that it is an employee-led initiative, with over 100 employees and their families participating in the campaign every year, with expenses largely being covered by employee donations. With its wide range of cultural events and other programs, including performances by local musicians, face painting and culinary experiences, the Campaign has established itself as an eco-friendly local festival for all citizens to enjoy together.



Urban Box Farming Campaign at a Glance



Plant Donation

Box gardens (2010-2019)

30,472

Companion plants (2020)

10,200



Citizen's Participation

Average a year

3,500-4,000 persons



Accumulated Project Expenditures

579 KRW million

Green Power to Defeat the COVID-19 Blues

As the COVID-19 pandemic continued throughout the year, many aspects of normal daily life ceased in 2020. However, LFC continued its push towards a greener and better society, paying particular attention to the mental and physical health of children who were forced to stay at home for extended periods because their schools were closed.

The Urban Box Farming Campaign became a non-face-to-face event in order to prevent the spread of disease, and we donated rubber plants to 10,200 children in 21 elementary schools in Ulsan. The children look after the plants, which are easy to grow indoors and actively purify the air around them, and thus they are helping to cool the Earth in their daily lives. LFC encouraged the children to grow these plants by hosting fun contests and inviting responses to surveys, which elicited such a positive response that the Campaign was featured in local news.

Going forward, we will continue to host box garden and other contests with social value over the long-term, not just as one-off events. In addition, we will measure the qualitative and quantitative social impact of these programs so that we can identify areas for improvement and further share our green values as we work together to overcome the challenges facing our society.

“
I got this rubber plant at school. My gets bored because she can't go to the daycare center, and she is now very excited. We'll take good care of it!
”



ESG Awards & Accolades



A Grade in the ESG Evaluation by KCGS

With such non-financial factors as environmental management, safety, fair trade, ethical management, and corporate governance having an ever-greater impact on corporate value and growth, more and more companies are pursuing sustainability by managing issues relating to environmental, social and corporate governance (ESG).

Since 2011, Korea Corporate Governance Service (KCGS) has evaluated corporate sustainability by analyzing the ESG activities of some 900 Korean listed companies and financial institutions. LFC has earned an A grade in the overall evaluation for four consecutive years from 2017 to 2020, a substantial achievement which demonstrates our potential for sustainable growth and the social value we have created. We will continue to lead efforts towards a sustainable society by further enhancing our ESG management.

Top Grade in the ESG Evaluation by Sustainvest

In 2020, LFC earned AA grade, the highest available, in the ESG evaluation of listed companies (between KRW 500 million and KRW 2 trillion in size) conducted by Sustainvest for five consecutive years. Sustainvest, a specialist in ESG research, has evaluated ESG management of listed companies in Korea since 2006 from the perspective of stakeholders, and shares its results with investors in order to encourage them to consider non-financial as well as financial factors when making investment decisions.

Gold Medal Rating from EcoVadis

EcoVadis is a global sustainability assessment agency which evaluates corporate sustainability in four categories of environment, labor and human rights, ethics, and sustainable procurement. It evaluates approximately 75,000 companies in some 200 industries in 160 countries around the world, based on international standards for sustainability within supply chains. In 2020, LFC earned a Gold Medal Rating in its annual sustainability assessment from EcoVadis, a rating awarded to the top 5% of companies.

Outstanding Culture and Arts Sponsorship Organization Certification

In October 2020, LFC was designated as an outstanding company in "2020 Outstanding Culture and Arts Sponsorship Organization Certification System" hosted by the Ministry of Culture, Sports and Tourism. This certification system recognizes institutions and companies which sponsor culture and the arts in an exemplary manner. LFC was one of 16 companies to be recognized in 2020, largely thanks to its charitable contributions, support in enabling firefighters' families to attend cultural performances, and book donations to children's institutions in Ulsan.



Community Contribution Recognition Certification

Korea National Council on Social Welfare and the Ministry of Health and Welfare have partnered with non-profit organizations in order to identify companies and institutions which offer continued social contribution activities, and to recognize these efforts through "Community Contribution Recognition Certification System". In 2020, LFC was recognized as a company with an outstanding track record in its local community for two years in a row since the launch of the System in 2019.

Government Commendation in Recognition of Excellent Use of the Rural Community Win-Win Cooperation Fund

In 2019, LFC donated KRW 200 million to the Rural Community Win-Win Cooperation Fund, which was launched to promote the sustainable development of rural communities and encourage win-win cooperation between private companies and the agricultural and fishery sectors. In 2020, LFC was awarded a prize by the Minister of Trade, Industry and Energy for its efforts to promote win-win growth between urban and rural areas through a project which donated rice produced in Ulju-gun, whose rice farmers were suffering from lackluster sales due to COVID-19, to under-privileged families in Ulsan and Incheon. We also won a commendation from the Jeonbuk Provincial Office for donation of a urea solution which helps prevent the spread of COVID-19.



Received government commendation for its excellent use of the Rural Community Win-Win Cooperation Fund





SPECIAL REPORT

LFC's Response to COVID-19

Though the world is muted with many places in lockdown, LFC continues its commitment to "leading fine change". The further people stay apart, the closer we stand by our stakeholders.

The COVID-19 pandemic hit the world in 2020, completely changed our way of life and brought about many hardships. In this time of crisis, LFC has worked constantly to deliver a message of hope for the future, and we will always keep our pledge to make positive changes in areas where we excel. We have actively participated in the government's efforts to overcome the crisis, and have continued to create customer value while maintaining social distancing and making the health and safety of our employees, customers, and local communities our top priority. We have helped our local communities overcome the COVID-19 crisis in various ways, in particular by extending targeted support to those in need in these difficult times. Looking to the future, we have prepared ourselves to respond proactively to the challenges and opportunities of the post-COVID era.





Leveraging our expertise



Efforts to minimize business impact in the contactless era

LFC has been successfully adapting to non-face-to-face business practices such as remote working, telecommuting and video conferencing. Teleconferencing has enabled us to conduct business discussions with our domestic and international partners, and to undertake regular inspections. Although face-to-face meetings were limited and most offline events such as exhibitions and seminars were canceled, we utilized our digital infrastructure to provide customer-oriented technical support which transcended the constraints of space and time.

Regarding the management of suppliers of raw materials, we maintained the quality of our raw materials by checking in writing whether all processes, inspections, and operations were running smoothly, instead of verifying in person. As we accumulate experience in how to manage raw materials with minimal face-to-face contact, we will select the best practices and continue to improve our raw materials management in this new era.



Efforts to prevent the spread of infectious diseases in the era of the pandemic

LFC has made concerted efforts to keep its employees safe by preventing the spread of COVID-19 in its business sites. Specialist firms carry out regular disinfection and sterilization, and each department frequently disinfects items in regular use. We take the temperature of all employees as they enter their workplaces, and also make checks during working hours. We have extensively shared information about the symptoms of COVID-19, methods of preventing the spread of the disease, and the location of testing sites in order to raise employee awareness and ensure the right responses on their part.

In addition, we provided employees with not-for-sale hand sanitizers that we have developed from the cellulose ether that is used in the production of foods and pharmaceuticals, exploiting its increased viscosity and alcohol containing composition stabilization functions. All our employees were given KF94 masks, free of charge, being encouraged to focus on personal hygiene to prevent the spread of the disease.

Fulfilling our responsibility

LFC

Participated in Ulsan Pay purchase relay

In May 2020, LFC purchased KRW 1 billion worth of Ulsan Pay, a local currency, and gave it to employees as a gift for Workers' Day. This was a collective effort of our labor and management to support small business owners struggling with the spread of COVID-19, and to help revitalize the local economy in Ulsan. It was also a part of LFC's on-going efforts to fulfill its corporate social responsibilities by contributing to local communities. We will continue to contribute to the growth of these communities in more diverse ways.

Donated urea solution to share hope

In order to help local communities overcome the COVID-19 crisis, in March 2020 LFC donated 20,300 liters of urea solution worth approximately KRW 35 million to the Gyeongbuk Provincial Office, in cooperation with the Foundation for Large, Small and Medium Enterprises, Agricultural and Fishery Cooperation. This was followed by the donation of another 20,300 liters of urea solution to the Jeonbuk Provincial Office in May. The urea solution is used in quarantine vehicles and in health center patient transport vehicles, and is also being used in agricultural machinery rental offices in rural areas which have been suffering from a shortage of manpower during the farming season. The urea solution greatly reduces the fine dust and soot emitted by diesel vehicles by decomposing harmful nitrogen oxides into water and oxygen. It is an essential requirement in all new diesel vehicles and agricultural machinery, and will therefore offer major benefits to the various recipients.

Produced and delivered safety boxes

LFC has been cooperating with Ulsan City government and companies based in Ulsan since 2012 in a drive to revitalize local community volunteering. In 2020, we participated in the "Joint Program for Social Contributions", to produce boxes of safety articles such as masks, hand sanitizers and emergency food. The boxes then were delivered to some 2,100 vulnerable families suffering from economic difficulties and loneliness due to the prolonged COVID-19 crisis.

Promoted win-win cooperation and donated rice to the underprivileged

As part of its efforts to promote the co-prosperity of rural communities and cities, in 2019 LFC contributed KRW 200 million to the Rural Community Win-Win Cooperation Fund, and in 2020 these funds were used to help communities cope with the COVID-19 crisis. In addition, we purchased 18.7 tons of rice from farmers and delivered it to 1,305 households in Ulsan and Incheon, where our business sites are located. This gave support both to farmers who were affected by the halting of school meal services due to COVID-19 and to those in need of immediate food assistance in the cities. In December 2020, we donated rice worth KRW 50 million to local offices in Incheon and in Ulsan.

Donated No-Cook Bags to people in need

In July 2020, LFC's Seoul Office joined hands with the Gangnam-gu Volunteer Center to run the "Hello, No-Cook Bag Sharing Campaign!". This campaign packages no-cook meals such as instant rice and ready-to-eat meals, which are prepared and then distributed to underprivileged people in the Gangnam area of Seoul who are unable to access free meals due to the COVID-19 crisis. 100 no-cook bags, alongside letters of support from employees at LFC's Seoul Office, were delivered through the Gangnam Social Welfare Center.



BUSINESS RESILIENCE

Growing into a high value-added specialty chemical company through effective business management and new market development

Having set itself the goal of achieving KRW 5 trillion in sales and increasing the proportion of sales from specialty chemicals to 70% by 2030, LFC is now responding flexibly to changes in its business environment, including the post COVID-19 era and increased demand for eco-friendly products, through effective and consistent business strategies. In order to strengthen our specialty chemical business, we are prioritizing the discovery of new items in areas in which we already excel, such as the food/pharmaceutical sector and functional materials. In addition, we are implementing step-by-step strategies to establish new businesses based on our PSA¹⁾ system, supported by constant collaboration between our working-level staff and experts.

LFC will strengthen its green materials business by investing a total of KRW 180 billion in cellulose products. We will expand the MECELLOSE[®] plant with an investment of KRW 115 billion in the first half of 2021, and expand the AnyCoat[®] Incheon plant with an investment of KRW 23.9 billion. In addition, we plan to complete the capacity expansion of our food and pharmaceutical product facilities worth KRW 37 billion in the first half of 2022. In February 2021, in order to improve our competitiveness in biopharmaceuticals and the market for meat alternatives, both of which are growing rapidly due to the spread of COVID-19, we relocated the Food and Pharmaceuticals Development Team to the LOTTE R&D Center, where the R&D divisions of six food-related LOTTE Group companies are already located.

Following the announcement by the Korean government of a national roadmap for revitalizing the hydrogen economy, LFC is examining how it can respond, and we will play our role at the Group level to the expected rapid rise in demand for hydrogen. We are also reviewing our energy consumption relating to power and steam, which accounts for a large proportion of our manufacturing costs, to see where we can make improvements. In addition, in September 2020 LFC invested KRW 290 billion as a limited partner of a private equity fund for the acquisition of Solus Advanced Materials.

¹⁾ Pool → Screen/Selection → Action Plan

DIGITAL TRANSFORMATION

Promoting growth and improving efficiency through digital innovation

The Fourth Industrial Revolution has brought about a new era in which change has become normal, with digital technology being applied ever more widely throughout both industry and society. LFC has therefore established strategies to promote growth and improve efficiency through the extensive use of digital technology in its business operations. In the EUROX[®] business, we improved customer proximity by building a virtual workspace and enabling the real-time exchange of information between stakeholders in the value chain. We also changed our customer service from a post-request to a pre-request service, based on an analysis of accumulated customer data, thus increasing customer satisfaction. In addition, LFC is making its back office work more efficient by using blockchain and other technologies to simplify the processes involved in executing contracts.

In 2020, we applied robotic process automation (RPA) more extensively to standardize repetitive tasks and to create an environment in which the time thus gained can be used to generate more added value instead. In 2021, we will expand the use of RPA and accelerate improvements in efficiency. In addition, we will strengthen the competitiveness of our production sites, and, more importantly, make them safer, by launching a smart factory pilot project, promoting paperless workplaces, and applying intelligent technologies.

LFC will build on its successes in applying digital technologies by continuing to pursue change management and responding rapidly to changes in its business environment. We will also monetize the value of the data we continue to accumulate through our business operations.

New Business Areas & Progress

New business areas	Background for implementations	Progress as of 2020	Goal for 2021	Goal for 2030
Food and pharmaceutical materials	Expanding high-value-added areas based on cellulose business			
High functional materials	Selectively expand based on chlorine/amine-based business	R&D and business feasibility evaluation → (detailed) execution plan	On-spec acquirement and customer certifications of pilot products by securing technologies	Increasing the portion of specialty chemicals to 70%
Electronic materials	Expand and align with toner and semiconductor raw materials business			

GREEN PROMISE 2030

Declaring green goals and ESG business strategy

In February 2021, Lotte Chemical Business Unit (BU) announced its "Green Promise 2030", which focused on the green strategies and targets to achieve sales of KRW 6 trillion in eco-friendly business and carbon-neutral corporate growth by 2030. The BU also unveiled its new slogan, "Make Every Step Green", which represents its pledge to take each single step carefully to protect the planet and its corporate commitment to expanding the Group's eco-friendly business and promoting sustainable growth Group-wide. To this end, LFC is partnering with the major member companies of the Chemical BU, including LOTTE Chemical, LOTTE Aluminum, and LOTTE INEOS Chemical, to form an eco-friendly consultative body which will leverage the expertise of each company to pursue the discovery of new business opportunities. The BU plans to make strategic investments worth KRW 5.2 trillion in four key areas – strengthening eco-friendly business, expanding the virtuous cycle of resources, responding to climate change, and creating a green ecosystem.

LFC is committed to sustainable eco-friendly business based on detailed strategies which are centered on using new technologies and new processes to reduce waste and wastewater, and which will also substantially expand its eco-friendly green materials business. In addition, we will work in partnership with the other member companies of the Chemical BU to ensure that our future success will also lead to the creation of more value for all our stakeholders.

Charting new horizons



Sustainable Management System

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Corporate Governance

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Risk Management

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Materiality Analysis

Corporate Governance

LFC has established advanced corporate governance based on a transparent and professional decision-making system centered on the BOD and is practicing responsible business management.

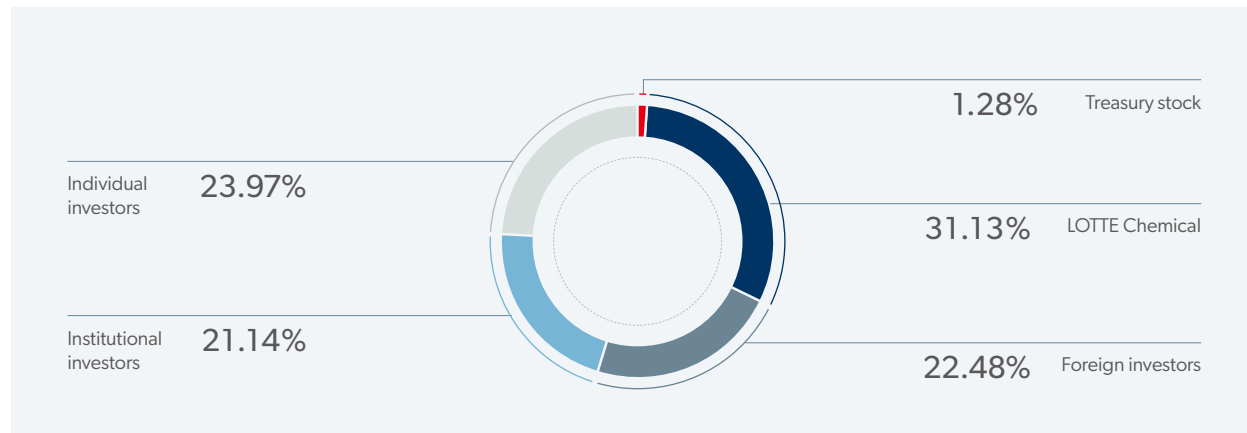
Shareholder Value

LFC strives to protect the rights and interests of its shareholders and enhance their value in diverse ways. To this end, we announce the convocation of an annual general meeting (AGM) three weeks in advance, which is longer than the minimum requirement of two weeks, so as to provide shareholders with sufficient time to contemplate the agenda. We also make efforts to hold an AGM on a day when many AGMs are expected to be held in order to secure a quorum for decision-making and facilitate shareholders' exercising of their voting rights. Shareholders can exercise their right to make suggestions of agenda in writing or electronically up to six weeks before an AGM. In the meanwhile, we continue to pay dividends as part of shareholder return policy, and we determine the dividend amounts in consideration of the investments required for the company's sustainable growth as well as our business performance and cash flow conditions. Each shareholder is given voting rights based on the number of shares held.

We decided to introduce and implement the electronic voting system at the BOD held on February 25, 2021 in a bid to expand the voting rights of our shareholders and to enhance their convenience. Accordingly, shareholders could exercise their voting rights electronically, at the 57th AGM held in March 2021, without having to attend the meeting in person. With the introduction of the new system, we aim to further strengthen trust with our shareholders and increase both corporate and shareholder.

LFC provides in-depth IR data to meet the level of information demanded by its shareholders, help them better understand the company, and build trust with them. As part of such efforts, we announce the results of our business performance every quarter and also hold conference calls or face-to-face meetings with overseas institutional investors whenever necessary. In addition, we have set an internal control system in place to prevent management or controlling shareholders from engaging in internal transactions or transactions with themselves for their own personal interests. In 2020, with the spread of COVID-19, we replaced our face-to-face meetings with conference calls and, when unavoidable, held face-to-face meetings in spacious conference rooms while scrupulously following the rules on quarantine and social distancing.

Major Shareholders



Stock Information

Number of shares issued	25,800,000
Paid-in capital	KRW 129.0 billion
Share price ¹⁾	KRW 55,200
Market capitalization	KRW 1,424.2 billion

¹⁾ Based on the 2020 year-end share price

Board of Directors

BOD status

The Board of Directors (BOD) is LFC's top decision-making body, and has voting rights on corporate management and overall business operations. We ensure the transparency of the BOD in order to carry out management activities based on rigorous checks and balances. As of March 2021, our BOD consists of three inside directors, three outside directors, and one non-executive director, all of whom are experts in their respective fields. Based on the principle of independence, the external directors provide expert opinions on the company's major decisions from the perspective of sustainability, and also assess and review the company's performance.

The BOD meets regularly according to an annual operation plan, and extraordinary BOD meetings can be convened whenever it is necessary to make an urgent decision. To prevent conflicts of interest when the BOD makes a decision, voting rights of a director who has an interest in a specific item of agenda are restricted in accordance with the Commercial Act and the BOD Regulations.

Transparency and independence of the BOD

As LFC's total assets amounted to less than KRW 2 trillion at the end of the previous year, we are not obligated to form an external director nominating committee. However, we elect our directors via nomination by the BOD and a resolution of the AGM to ensure the fairness and independence of our corporate governance. Directors are required to satisfy the qualifications set forth in the relevant laws and the Articles of Incorporation, and to demonstrate integrity, sound ethical awareness, and a proper work ethics. Furthermore, they must represent long-term, balanced interests of all shareholders and other stakeholders of the company. LFC therefore elects outside directors who have no significant personal interests in the company and can make independent decisions.

Expertise and diversity of the BOD

LFC does not discriminate on the basis of gender or age in the appointment of directors, and guarantees diversity and expertise in the BOD so as to allow its members to represent rights and interests of shareholders and other stakeholders in a balanced way. Directors who are experts endowed with extensive expertise or experience in the fields of business administration, economy, accounting, law, and technology provide opinions on their respective areas of expertise and support the company's rational decision-making.

BOD Profile

Classification	Name	Key profile
Inside Directors	Kyung-Moon Jung	Currently CEO, LOTTE Fine Chemical
		2016-2019 Head of the Management Support Group, LOTTE Fine Chemical
		2016 Head of the Planning Division, LOTTE Chemical
	Woo-Chan Kim	2014-2016 Managing Director of the Vision Strategy Office, Policy Division of LOTTE Group
		Currently Head of the Management Support Group, LOTTE Fine Chemical
		2019-2020 Head of the HR Department, Basic Materials, LOTTE Chemical
	Jun-Hyuk Shin	2017-2019 Head of the HR Department, LOTTE Chemical
		2013-2017 Head of the Administration Department, Daesan, LOTTE Chemical
		Currently Head of the Strategic Planning Division, LOTTE Fine Chemical
Jun-Hyuk Shin	2017-2018 Head of the Purchasing Division, LOTTE Fine Chemical	
	2016-2017 Manager of the Material Purchasing Division, LOTTE Fine Chemical	
	2014-2016 Manager of the Purchasing Division, LOTTE Fine Chemical	

Classification	Name	Key profile
Outside Directors	Chang-Soo Lee	Currently CEO of the Happy Space Tax Accounting Office
		2019-2020 Adjunct Professor, Graduate School of Industrial and Entrepreneurial Management, Chung-Ang University
		2012-2015 CEO, KPMG Korea
	Kyung-Hyun Ahn	2004-2012 Deputy CEO, KPMG Korea
		Currently Professor, Department of Chemical and Biological Engineering, School of Engineering, Seoul National University
		Currently Head of the Nano-structure Polymer Processing Center
Ho-Joong Kim	2004-2008 Associate Professor, Seoul National University	
	Currently Professor, College of Business, School of Business, Konkuk University	
	2009-2013 Member, Professional Accounting Deliberation Committee, Financial Supervisory Service	
Non-executive Director	Boo-Ok Jung	2008-2009 Vice President, Korean Accounting Association
		Currently Head of the HR Innovation Office, LOTTE Group
		2015-2019 Head of the Polymer Business Division, LOTTE Chemical
Boo-Ok Jung	2014-2015 Head of the SM/BTX Business Unit, LOTTE Chemical	

BOD activities

The BOD holds regular and extraordinary meetings as necessary and deliberates upon and resolves the company's major management issues as set forth in the relevant laws, the Articles of Incorporation, and the BOD Regulations. A meeting of the BOD is convened by its chairperson or a director appointed by the BOD. Notification of convocation is made seven days before a BOD meeting. Resolutions are made with the majority of the directors in attendance and with a majority of the votes of the directors present, except as otherwise stipulated in accordance with the relevant laws.

LFC transparently discloses information on the BOD, including its composition and performance, as well as its sub-committees and major resolutions, on the company website. In addition, we regularly disclose business reports and make prompt and accurate disclosures of information that can have a material impact on our shareholders and other stakeholders as required by the relevant laws.

In 2020, we held a total of ten board meetings, during which the BOD deliberated on, decided, and reported 34 items of agenda. The average attendance rate of the outside directors was 100%.

Major BOD Resolutions and Reports in 2020

Date	Key agenda	Decision	Director attendance (Total)	Outside director attendance (Total)
Feb. 10	Agenda 1 Approval of the financial statements and business report for the 56th fiscal year (2019)	Passed	6 (6)	3 (3)
	Agenda 2 Donations	Passed		
	Report 1 Report on internal accounting control system operations in 2019	-		
Feb. 27	Agenda 1 Amendment to the regulations on the payment of executives' retirement benefits	Passed	6 (6)	3 (3)
	Agenda 2 Decision on the holding of the 56th AGM and other items of agenda presented for discussion	Passed		
	Agenda 3 Payment of a performance bonus to the CEO	Passed		
	Agenda 4 Amendment to the operating rules of the Compensation Committee	Passed		
	Report 1 Report on the audit of accounting and business in 2019	-		
	Report 2 Report on the auditor's opinion on internal accounting control system operations	-		
	Report 3 Report on the results of compliance control and compliance with the fair trade regulations	-		
Mar. 24	Agenda 1 Appointment of the CEO	Passed	7 (7)	3 (3)
	Agenda 2 Commission of the directors' duties	Passed		
	Agenda 3 Appointment of BOD's sub-committee members	Passed		
	Agenda 4 Approval of the limit on the remuneration of directors for the 57th fiscal year	Passed		
	Agenda 5 Approval of the remuneration limit for executives in 2020	Passed		
Apr. 29	Report 1 Business performance for the 1st quarter of 2020 and the outlook for the 1st half	-	7 (7)	3 (3)
	Report 2 Report on a temporary reduction of the salary of internal directors	-		
	Report 3 Amendment to the internal accounting control rules and management standards	-		

Date	Key agenda	Decision	Director attendance (Total)	Outside director attendance (Total)
Jun. 25	Agenda 1 Sale of shares of Hantok Chemical (affiliated company)	Passed	7 (7)	3 (3)
	Agenda 2 Approval of limits on transactions with major shareholders	Passed		
Jul. 29	Agenda 1 Partial purchase of real estate to be used by the LOTTE Consortium Research Complex	Passed	7 (7)	3 (3)
	Report 1 Business performance for the first half of 2020 and annual outlook	-		
	Report 2 Amendment to the internal accounting control rules and management standards	-		
Sep. 23	Agenda 1 Investment in capacity expansion of the food and pharmaceuticals production lines	Passed	7 (7)	3 (3)
	Agenda 2 Investment in the Skyscraper Long-Term Strategic Fund	Passed		
	Report 1 Investment performance and outlook in 2020	-		
	Report 2 Report on the status of compliance control and compliance with the fair trade regulations	-		
Nov. 04	Report 1 Business performance for the 3rd quarter of 2020 and outlook for the year	-	7 (7)	3 (3)
Nov. 26	Report 1 Report on the reorganization of executives	-	6 (7)	3 (3)
	Report 2 Report on the promotion, retirement and transfer of executives	-		
Dec. 16	Agenda 1 Establishment of the 2021 business plan	Passed	6 (6)	3 (3)
	Agenda 2 Approval of comprehensive limits on transactions with major shareholders in 2021	Passed		
	Agenda 3 Amendment to the BOD operating rules	Passed		
	Agenda 4 Amendment to the regulations on executive remuneration	Passed		

Sub-committees of the BOD

To enhance the expertise and efficiency of management activities, LFC formed various sub-committees of the BOD, including the Management Committee, Audit Committee, Transparent Management Committee, and Compensation Committee.

Audit Committee The establishment of an audit committee is a legal obligation for listed companies that record total assets of no less than KRW 2 trillion at the end of the previous year. Companies that record less than KRW 2 trillion can choose whether to establish a committee in accordance with the Articles of Incorporation. Even though LFC is not obligated to do so, we formed the Audit Committee in order to increase corporate transparency and business efficiency, and elected its members at the recommendation of the BOD.

Evaluation and remuneration

We regularly conduct independent evaluations of the directors' activities and performance at the end of each term, and reflect the results of these evaluations in the decision to reappoint them. Directors' remuneration is executed within the limit of the total remuneration for directors after obtaining the approval of an AGM. The remuneration for internal directors is calculated by reflecting the value of their job performance. Performance-based remuneration is paid by comprehensively evaluating measurable factors, such as sales, and unmeasurable factors, such as core tasks and mid- to long-term performance of expectations. Each external director is offered the same amount of remuneration within the limit of the total remuneration for directors approved at an AGM. Annual remuneration for directors and auditors of more than KRW 500 million per person is disclosed in the business report in accordance with the relevant laws and regulations.

Composition of the Sub-committee

Sub-committee	Composition	Member	Roles and responsibilities
Management Committee	3 inside directors	Kyung-Moon Jung, Woo-Chan Kim, Jun-Hyuk Shin	<ul style="list-style-type: none"> Improve efficiency of management and operation Resolve matters delegated by the BOD
Audit Committee	3 outside directors	Chang-Soo Lee, Kyung-Hyun Ahn, Ho-Joong Kim	<ul style="list-style-type: none"> Ensure the transparency and management efficiency of the company
Transparent Management Committee	3 outside directors 1 inside director	Chang-Soo Lee, Kyung-Hyun Ahn, Ho-Joong Kim, Woo-Chan Kim	<ul style="list-style-type: none"> Secure transparency in managing the company by establishing the fair trade compliance system
Compensation Committee	3 outside directors 1 inside director	Chang-Soo Lee, Kyung-Hyun Ahn, Ho-Joong Kim, Woo-Chan Kim	<ul style="list-style-type: none"> Secure objectivity and transparency in calculating the remuneration of directors Determine the limit on the remuneration of registered directors to be submitted to the AGM Other matters as delegated by the BOD

* As of March 2021

Audit Committee Activities in 2020

Date	Key agenda	Decision	Director attendance (Total)	Outside director attendance (Total)
Feb. 10	Report 1	-	3 (3)	3 (3)
	Report 2	-		
Feb. 27	Report 1	-	3 (3)	3 (3)
	Report 2	-		
	Report 3	-		
	Agenda 1	Passed		
	Agenda 2	Passed		
	Agenda 3	Passed		
Apr. 29	Report 1	-	3 (3)	3 (3)
	Report 2	-		
	Report 3	-		
Jul. 29	Report 1	-	3 (3)	3 (3)
	Report 2	-		
	Report 3	-		
Nov. 4	Report 1	-	3 (3)	3 (3)
	Agenda 1	Passed		
Nov.12	Report 1	-	3 (3)	3 (3)
Dec. 16	Report 1	-	3 (3)	3 (3)
	Agenda 1	Passed		

Risk Management

LFC has established an integrated risk management system that encompasses both financial and non-financial aspects in order to better respond to potential risks, thereby building business resilience.

Risk Management System

Against the backdrop of growing uncertainty in the business environment and increasing calls for corporate social responsibility, LFC has established an effective system to respond to both financial and non-financial risks and conducts monitoring.

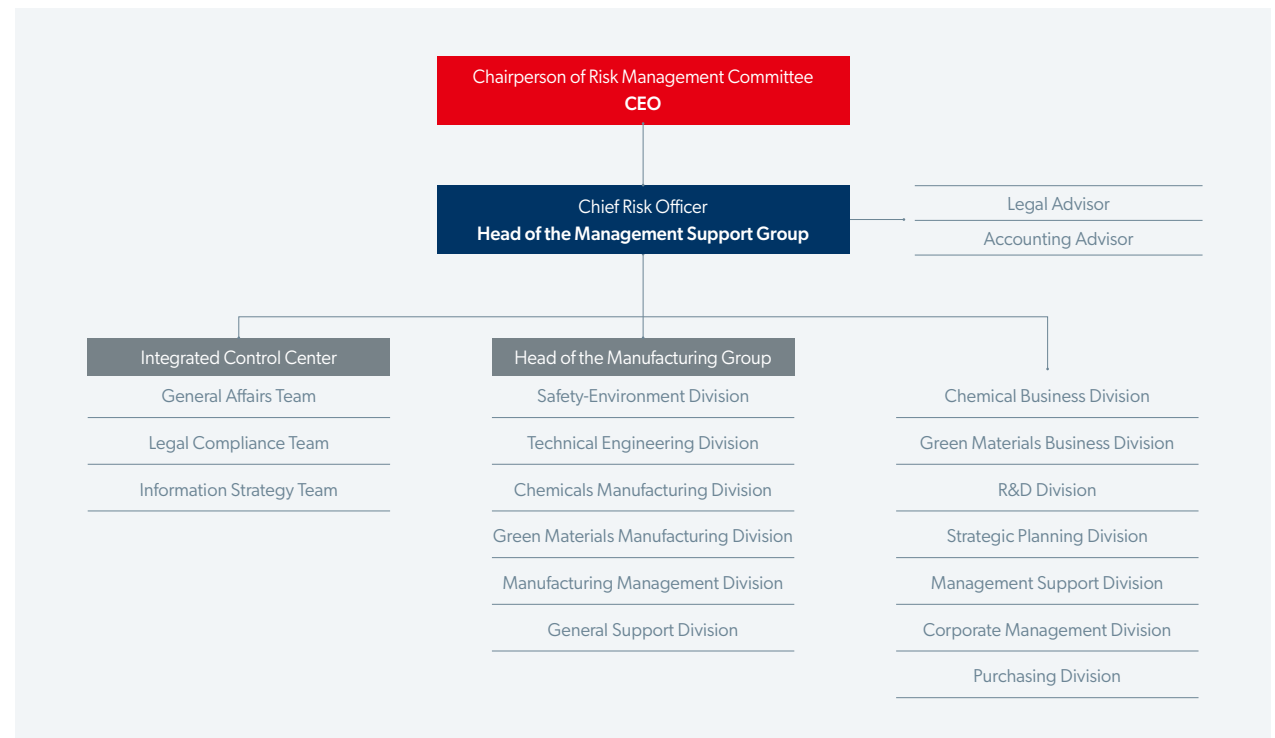
Risk management organization

In 2017, LFC launched a risk management organization to respond proactively and effectively to the various threats arising from the rapidly changing business environments at home and abroad. We also have been reinforcing our risk management at the company level by enacting management regulations and establishing management processes. We define risk as “all unintended internal and external factors that may cause financial, material, or personal loss to our company’s management”, and categorize our risk management into enterprise-level risk management (financial and non-financial) and business-specific risk management, which enables us to respond flexibly to each situation. If a risk arises, we follow the internal risk management process for prompt decision-making and early response while responding to the issues with the approval of the BOD and the various subcommittees within the Board.

Risk response process

By operating a response process according to the level of risk, LFC promptly responds to risks that could hinder its corporate value, inflict economic losses, and damage the company’s reputation. For level A and B risks with high level of threats, the Risk Management Committee is convened in order to decide on and implement a company-wide response. For level C risks, which have a relatively lower risk level, the executive in charge responds quickly, after which a report is written up and submitted to the Risk Management Committee.

Risk Management Organization



Internal control

LFC has established an effective internal control system supported by a series of internal accounting control regulations, improvement of the relevant systems, and the conduct of proactive audits and investigations. Based on this system, it makes continuous efforts to enhance corporate value in the long term by monitoring and improving the company's performance.

Improving internal accounting management A company has an obligation to disclose its stakeholders on details of its business management situation. Accordingly, it should accurately record all matters related to its business performance and financial condition in accordance with the relevant laws, accounting standards, and internal regulations, while all its accounting records must be supported by the appropriate accounting information. The internal accounting control system is an internal control system designed to provide reasonable assurance that the company's financial statements have been prepared and disclosed in accordance with the accounting standards in order to achieve the purpose of conducting internal accounting management. The system therefore refers to a process that is continuously implemented by all members of the organization, including the regulations and the organizations that manage and enforce the rules and regulations.

LFC has established its own rational and effective internal accounting control system by setting necessary policies and procedures based on its internal accounting control standards, which are designed to enhance the reliability of its financial information. In accordance with Article 8 of the Act on the External Auditing of Stock Companies, amended in November 2018, the certification of an internal accounting control system has been strengthened from examination to external audit, and the government has applied model standards that reflect the fully revised internal control concept system since 2020. LFC has therefore reorganized its internal accounting control system and the related regulations and formed a permanent organization to take charge of internal accounting control.

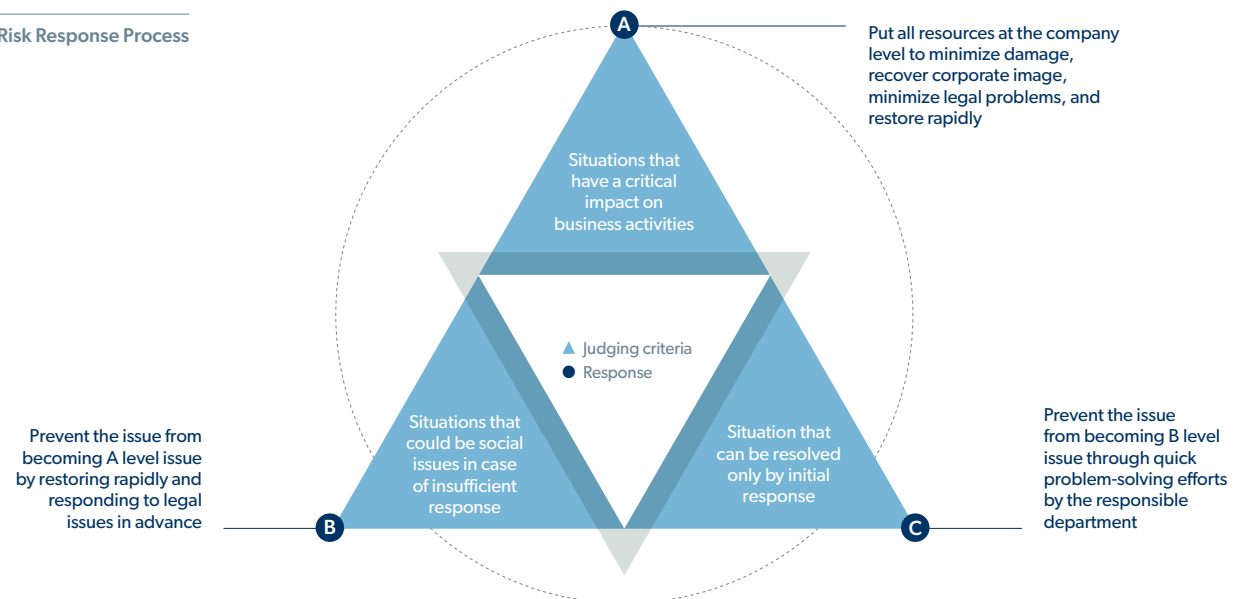
In 2020, we worked with an accounting firm to conduct a consulting to improve our internal accounting control system, and thus secured such outputs as control descriptions, workflow charts, and descriptions; overhauled related regulations; and established an operating system for effective evaluation and operation. Based on that, we conducted an evaluation of the design and operation of our internal accounting in 2020 and found that the system was effectively designed and operated from the viewpoint of materiality. Going forward, we will make continuous improvement through the evaluation of the system's operational status. We will also continue strengthening the level of our accounting transparency and risk management by constantly updating our internal accounting control system to respond to changes in such external environment as modifications of the laws and

regulations, and to changes in such internal environment as business models, organizations, business procedures, and new systems.

Establishing an advanced audit system In order to improve our internal regulations related to audit work, we enacted two additional regulations in 2020, including the regulation on the handling of disclosures by, and the protection of, whistleblowers, and the regulation on internal audits. In the former, such matters are included as exceptions from whistleblowing disclosure, disadvantageous measures, protection of reporters acting in the public interest, and the implementation of supportive measures. In the latter, we have added the Audit Committee to those persons and entities invested with the authority to conduct audits, specified the qualifications required of members of the audit department, and stipulated audit work procedures that allow fair and efficient auditing to be conducted.

In addition, LFC makes continuous efforts to improve unreasonable practices through audits by theme in connection with the Group policies and cooperation among the Group affiliates. Going forward, we will continue improving our corporate governance structure through the stable operation of the internal accounting control system and the Audit Committee. We will also strive to prevent the kinds of risks that can occur in areas vulnerable to corruption by reinforcing the preventive audit system, while building an advanced audit operation system by improving the expertise of the audit personnel through training conducted by external experts and by increasing external communication.

Risk Response Process



Risk Management Areas

LFC categorizes its financial risks into four types – exchange rate, liquidity, interest rate, and credit – and classifies its non-financial risks into seven types – personnel and labor, purchasing, health and safety, environment, ethics and compliance, security, and public relations.

	Risk type	Response measures
Financial	Exchange rate Risk of loss due to a sharp fluctuation in the exchange rate	<ul style="list-style-type: none"> • In case of current transactions and fund transactions, transactions are made in the local currency, or the currency of deposit and expenditure is matched to suppress the occurrence of exchange position • Active exchanges of opinions with domestic financial institutions on foreign exchange risk management • Realization of a sound, stable financial structure by establishing a foreign exchange management system that prohibits speculative foreign exchange transactions
	Liquidity Risk of loss due to liquidity management failures	<ul style="list-style-type: none"> • Liquidity risk management and maintenance of proper liquidity level through periodic fund balance forecasting and adjustment • Prediction and monitoring of liquidity at all times to maintain an appropriate level of unused borrowing limits and meet the demand for operating funds • Flexible maintenance of funding capacity within the credit limit through active sales activities
	Interest rate Risk of loss due to volatility of interest rates	<ul style="list-style-type: none"> • Reduction of interest rate uncertainty and minimization of financial costs through reduction of high interest rate borrowings and improvement of long/short-term borrowing structure • Interest rate risk management through constant monitoring of domestic and international interest rate trends and establishment of countermeasures
	Credit Risk of non-compliance with the contractual terms of the counterparty and financial institution	<ul style="list-style-type: none"> • Credit risk management by systematically evaluating the financial credit rating of counterparties • Maintenance of appropriate collateral for counterparties • Report on the monthly collection delay status and countermeasures for financial assets whose collection has been delayed • Adherence to the principle of working with banks that have high international credit ratings
Non-financial	Personnel and labor Collapse of collaborative labor-management relations due to personnel/labor issues	<ul style="list-style-type: none"> • Promotion of corporate culture improvement activities and implementation of programs to increase employee satisfaction • Establishment of cooperative labor-management relations through regular labor-management consultations and communication channels
	Purchasing Loss in sales/production due to failure in the supply and demand for raw and subsidiary materials	<ul style="list-style-type: none"> • Monitoring of international price trends of raw and subsidiary materials and operation of a flexible inventory • Engagement in activities designed to foster friendly and cooperative relationships with suppliers and monitoring of supply chain trends at all times • Diversification of supply chain to improve supply and demand stability
	Health and safety Property damage and personal injury, suspension of business, and decline of corporate image due to industrial accidents and disasters	<ul style="list-style-type: none"> • Development of the ability to cope with similar situations by providing regular training for each situation in preparation for environmental disasters and factory accidents • Compliance with the safety-related laws and regulations; and cooperation with external professional institutions to detect risk factors beforehand and implement improvement activities
	Environment Sanctions on production and decline of corporate image due to non-compliance with the environmental regulations and resulting in environmental pollution	<ul style="list-style-type: none"> • Minimization of risks through regular implementation of legal and regulatory environmental risk assessment • Establishment of environmental targets and execution of plans that exceed internal and external environmental management thresholds
	Ethics and compliance Risk of external sanctions for violations of ethics regulations and laws	<ul style="list-style-type: none"> • Provision of information on laws and regulations, such as corporate legislation trends and corporate-related legislation issues, to employees as needed • Prevention of possible legal violations through regular compliance training and frequent monitoring of compliance • Establishment of a strict reporting process through permanent operation of the ethical management violation reporting system
	Security Business disruption and financial loss due to information security incidents	<ul style="list-style-type: none"> • Provision of security training and constant monitoring under the supervision of a dedicated information protection organization • Prevention of leakages of important company information with the introduction of an information protection program
	Public relations Deterioration of company's reputation due to negative media coverage	<ul style="list-style-type: none"> • Sharing of company-related issues with employees and conduct of activities aimed at halting the spread of rumors • Regular monitoring of company- and product-related media coverage and active response to negative reports

Stakeholder Engagement

We strive to create sustainable value in partnership with our stakeholders by listening to and encouraging their participation through various communication channels.

Stakeholder Communication and Engagement

LFC defines customers, shareholders and investors, partner companies, employees, government, and local communities as major stakeholders that directly or indirectly influence our business activities while also being influenced by us. Stakeholder opinions are collected through various communication channels and reflected in our major business and management activities. We will continue to identify stakeholder opinions through active communication with them, derive points for improvement and look for ways to change and develop in a better direction.

Communication Frequency: ● Year-round ① Quarterly ◆ Once a year

Stakeholder group	Communication channel	Stakeholder opinion	LFC's response and activities
Customers (Individual customers / Corporate customers)	<ul style="list-style-type: none"> ● "Online Shinmungo", a whistleblowing system ● Product seminar ① Customer service office ◆ Customer satisfaction survey ① Onsite visit by the Technology Department ● Voice of customers, website 	<ul style="list-style-type: none"> • Secure new growth engines • Strengthen R&D • Identify risks of each sector • Increase customer satisfaction • Respond to customer needs in an active manner 	<ul style="list-style-type: none"> • Respond in relation to customer needs and products • Respond to complaints related to product quality and shipping on a regular basis, and manage details through customer satisfaction surveys • Designate staff responsible for providing responses in relation to products online, and regularly/frequently make onsite visits and provide training in relation to products
Shareholders & investors	<ul style="list-style-type: none"> ◆ AGM ● Public disclosure ◆ Company presentation 	<ul style="list-style-type: none"> • Innovate in areas of infrastructure, costs, etc. • Increase dividends and investments for new growth engines • Strengthen the transparent, ethical mindset • Expand IR activities 	<ul style="list-style-type: none"> • Strive to maximize shareholder value • Establish sound corporate governance, and engage in activities for shareholders • Increase transparency of company operations • Maximize shareholder value through management performance distribution strategies, including dividends
Partner companies (Contractors / Material suppliers / Product OEMs)	<ul style="list-style-type: none"> ● Online Shinmungo ● Training for partner companies 	<ul style="list-style-type: none"> • Ensure fairness in selecting partner companies • Provide benefits to excellent partner companies • Manage the safety mindset of the supply chain 	<ul style="list-style-type: none"> • Expand support for partner companies (technology, personnel) • Manage risks, and strengthen risk management • Provide training related to safety and subcontracting transactions, and implement an internal incentive system • Provide support for technology development/protection, and dispatch experts
Employees & Employees' families	<ul style="list-style-type: none"> ● Soh-tong Insight, an internal communication channel ① Labor-Management Council ① Industrial Safety and Health Committee 	<ul style="list-style-type: none"> • Strengthen training (capability, ethics, human rights, safety, etc.) • Improve working environment • Respect labor-management agreements 	<ul style="list-style-type: none"> • Guarantee the right balance between work and personal life • Develop capability-strengthening programs • Expand welfare benefits for employees • Strive to improve working environment • Adopt a training system that is in line with the trend
Local community & the environment (Government agencies and local governments / Local residents / NGOs)	<ul style="list-style-type: none"> ● Social contribution activities ● Participation in local councils ● Environmental cleaning activities for local communities 	<ul style="list-style-type: none"> • Strengthen voluntary social contribution activities • Increase investments for eco-friendly management • Publicize environmental conservation activities 	<ul style="list-style-type: none"> • Carry out social contribution activities, and strengthen eco-friendly management • Conduct continuous social contribution activities that leverage the company's expertise • Strengthen environmental conservation activities and programs, such as the Urban Box Farming Campaign

Materiality Analysis

In our pursuit of sustainable management, we are identifying and reposing to stakeholders' needs and interests, thereby making positive impact.

Process for Selecting Material Issues

Materiality assessment is the process of identifying the various ESG issues that may affect the company and its stakeholders. LFC conducts an annual materiality assessment survey targeting its domestic and foreign stakeholders, including employees, to identify material issues.

Materiality Assessment Process

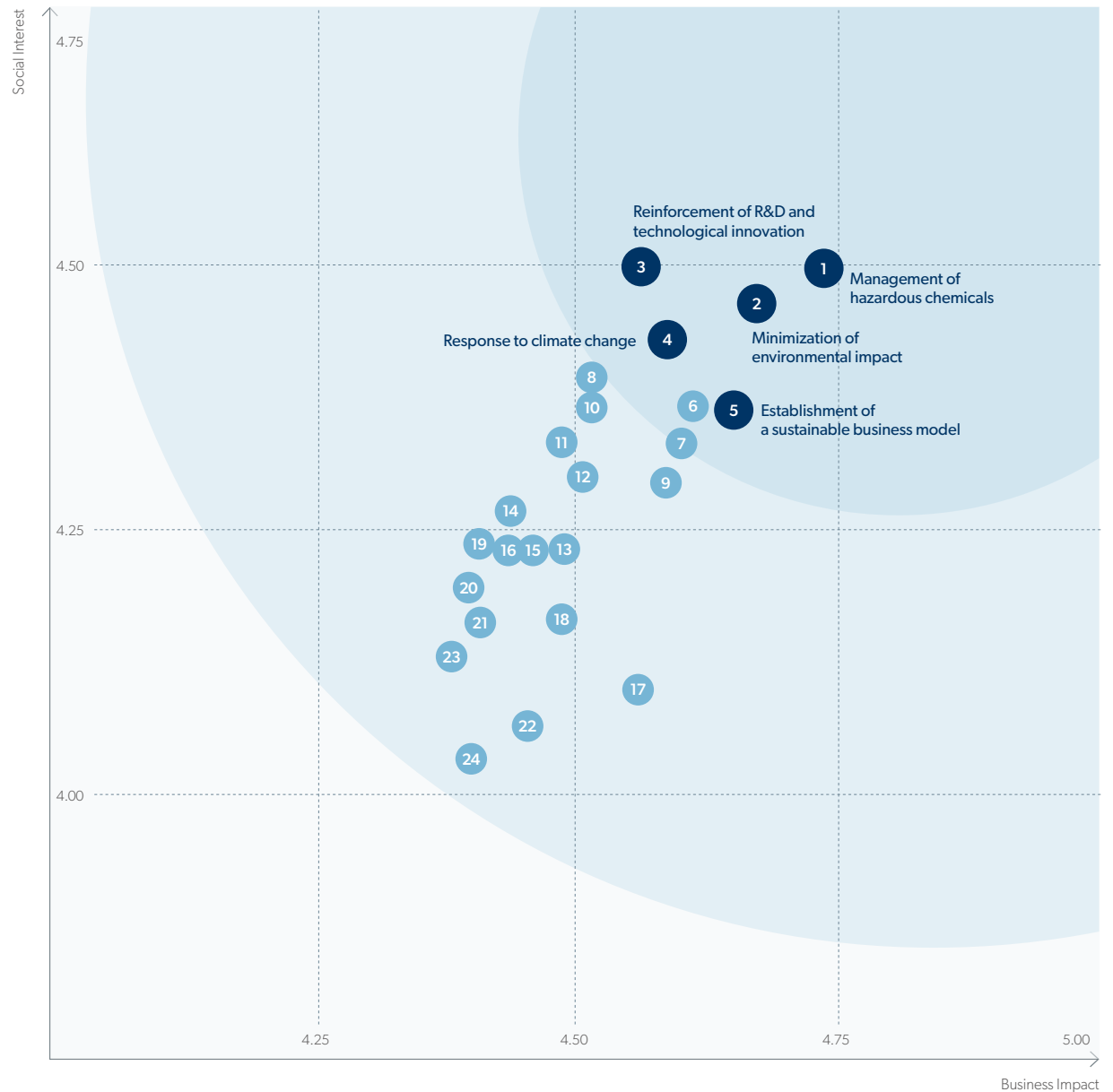


Results of Selecting Material Issues

The analysis of the results of the materiality assessment survey on the 24 ESG issues led to the selection of the following five issues – management of hazardous chemicals, minimization of environmental impact, reinforcement of R&D and technological innovation, response to climate change, and establishment of a sustainable business model – as material issues for LFC’s sustainable growth.

No.	Area	Issue	Stakeholders	Page
1	Environmental	Management of hazardous chemicals	Customers, partner companies, employees, local community & the environment	50-51
2	Environmental	Minimization of environmental impact	Employees, local community & the environment	48-51
3	Business	Reinforcement of R&D and technological innovation	Customers, shareholders & investors, partner companies, employees	80-84
4	Environmental	Response to climate change	Shareholders & investors, employees, local community & the environment	46-47
5	Business	Establishment of a sustainable business model	Customers, shareholders & investors, partner companies, employees	31

No.	Area	Issue	Page
6	Social	Workplace health and safety	52-55
7	Governance	Fair trade and compliance with laws and regulations	60-61
8	Governance	Preemptive integrated risk management	37-39
9	Environmental	Expansion of eco-friendly product development	11-12, 14, 31, 83-84
10	Governance	Establishment of a sound corporate governance	33-36
11	Business	Creation and distribution of economic value	19, 86-87
12	Governance	Internalization of ethical management	58-60
13	Social	Enhancement of customer satisfaction	78
14	Environmental	Use of sustainable resources	50-51
15	Social	Mutual growth through win-win activities with partner companies	74-75
16	Social	Reinforcement of protection of customers' personal information	79
17	Social	Work-life balance of employees	64-65
18	Social	Employee competency development	62-63
19	Social	Customer safety and product responsibility	77
20	Social	Contribution to local communities	21-26, 30, 70-73
21	Social	Stakeholder engagement and communication	40
22	Social	ESG management and support for partner companies	48, 55, 61, 75
23	Social	Protection of and respect for human rights	66
24	Social	Labor-management relations based on mutual trust and respect	67



Sustainable Value Creation

02

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Improving Health & Safety and Implementing Environmental Management

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Establishing Transparent Corporate Culture Based on Ethical Mindset

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Securing Corporate Trust Through Sharing Management and Win-Win Growth

80

Investing in R&D and Strengthening Business Competitiveness

01.

Improving Health & Safety and Implementing Environmental Management



TREND & CONTEXT

The Global Risks Report 2021, published by World Economic Forum (WEF), presented a number of environmental issues, such as extreme weather, climate change, environmental destruction, and the loss of biodiversity, as major risks. The international community has been also strengthening related regulations and supporting various systems, which could be both risks and opportunities to businesses.

Workplace accidents continue to occur, raising social interest in safety issues and leading to continuous improvements of such regulations as the Occupational Safety and Health Act and the Act on Penalty of Fatal Accidents. In particular, the scope of safety management has been expanded to cover all the workplaces of an enterprise, including those of its partner companies, due to the enactment and amendment of the related regulations, stipulating increased responsibilities, sanctions and penalties for employers, including the suspension of operations and the halt of business in the event of a serious accident. As such, far more systematic and thorough workplace safety management is required.

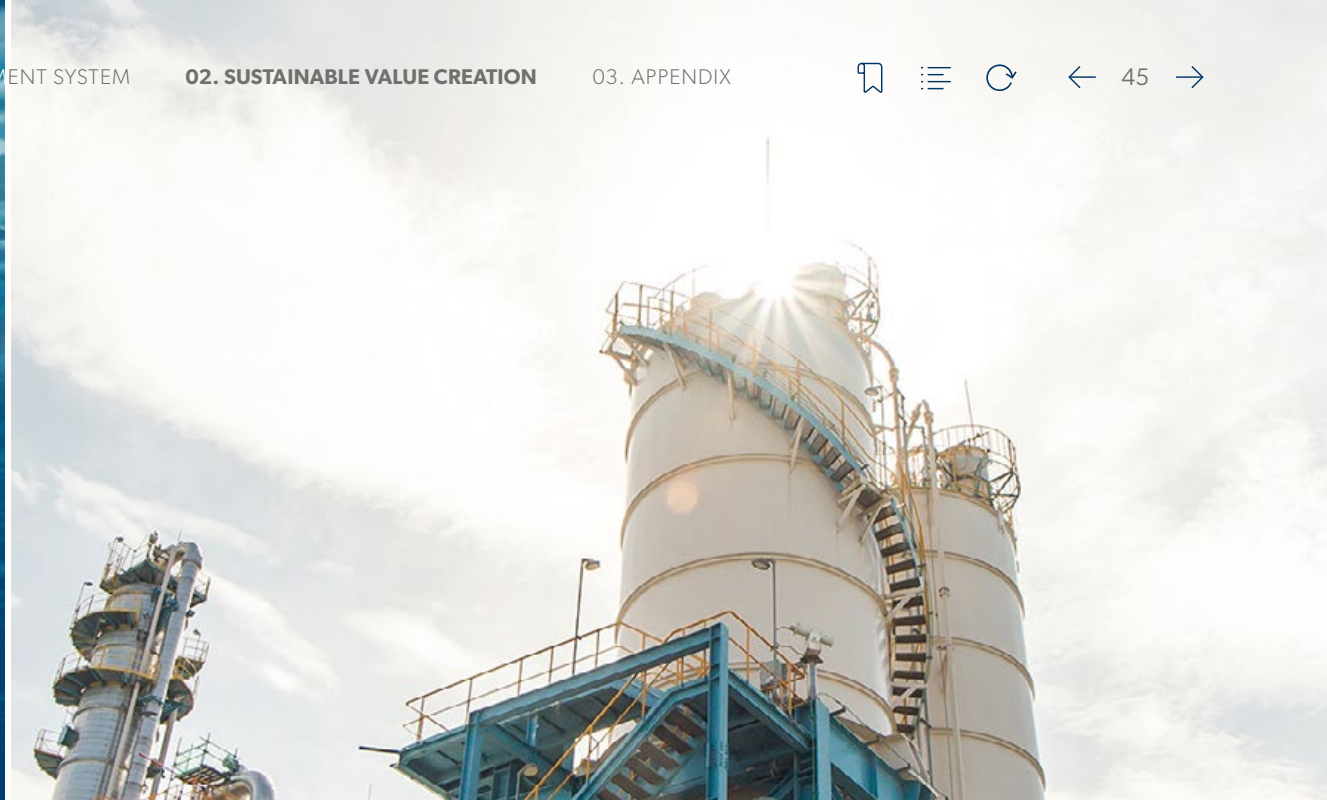
OUR APPROACH

LFC is actively reducing its GHG emissions based on the company-wide environmental management system and environmental safety decision-making organization, while also striving to minimize environmental impact throughout the entire product lifecycle. In February 2021, Lotte Chemical BU, including LFC, announced the “Green Promise 2030” strategy which aims to achieve carbon-neutral growth and generate sales of KRW 6 trillion in eco-friendly business through four core tasks – responding to climate change, strengthening eco-friendly business, expanding the virtuous cycle of resources, and creating a green ecosystem.

We are well aware of that workplace safety is a core element of business activities. We have therefore established and are operating a health and safety management system based on ISO 45001. We are also promoting activities designed to internalize a safety culture, with the Safety Culture TF playing a central role. Going forward, we will be more active in helping our partner companies prevent workplace accidents in line with the strengthening of the related regulations.

01.

Improving Health & Safety and Implementing Environmental Management



2020 ACHIEVEMENTS

GHG reduction through an energy conservation task¹⁾



2,754 tCO₂eq

Waste recycling rate



90%

Environmental investment



20,699 KRW million

Improvement of health & safety deficiencies



83.8%

(4,048 issues were identified of which 3,393 were improved)

Support for partner companies' establishment of the health and safety management system (KOSHA 18001)



17 companies²⁾

Operational improvement of safety inspections



92%

(709 problems were identified of which 653 were improved)

Alignment with UN SDGs



* As of 2020 year-end

¹⁾ GHG reduction amount = Reduction by energy source (power, steam, etc.) X Emission factor by energy source

²⁾ Cumulative total from 2014 to 2020

Improving Health & Safety and Implementing Environmental Management

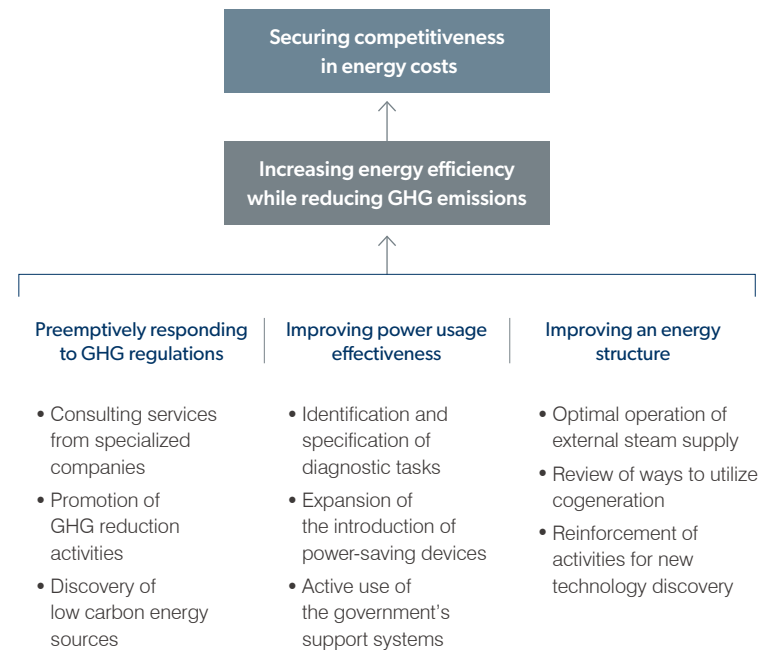
Systematic Eco-friendly Management



Response to Climate Change

Climate change is happening faster than expected due to increase of GHG emissions caused by energy consumption, adversely affecting not only the ecosystem but the society as a whole. LFC is taking preemptive measures to respond to climate change by establishing a dedicated energy efficiency organization, establishing a long-term roadmap to secure global energy competitiveness, and complying with the related regulations including the GHG emissions trading system. In particular, in order to achieve the emissions allowance of the GHG emissions trading system, we have assigned reduction targets to the production division and are implementing our own reduction activities and trading mechanisms. Moreover, in February 2021, Lotte Chemical Business BU announced the “Green Promise 2030” strategy which aims to achieve carbon-neutral growth and generate sales of KRW 6 trillion in eco-friendly business through four core tasks – responding to climate change, strengthening eco-friendly business, expanding the virtuous cycle of resources, and creating a green ecosystem.

Directions to Secure Competitiveness in Response to Global Climate Change



Energy Management

Integrated energy management system LFC has established an integrated energy management system and manages the energy consumption of all major energy-consuming devices in Ulsan, Seoul, and Incheon in real time. Since 2012, we have operated the Energy Innovation Day so that related departments such as technology (establishment of guidance and an improvement plan), production (guidance application and improvement efforts), and energy (establishment of system and daily feedback) can work organically towards more efficient energy conservation.

Energy efficiency innovations LFC is making strenuous efforts to supply more affordable, high-quality products to customers while curtailing costs in a business environment where international oil prices and exchange rates have fluctuated considerably. We have set energy efficiency and cost saving as key performance indices (KPI) of our production departments. Since 2015, we have been implementing a company-wide integrated innovation program to induce energy innovation activities, such as collecting and rewarding the creative ideas of our employees through a knowledge suggestion. In 2020, we derived approximately 10 energy conservation tasks and thus reduced 96 TJ of energy consumption.

Energy Conservation and GHG Reduction Performance in 2020

Items	Reduction of energy consumption	Reduction of GHG emissions
Reduction of power usage through optimization of the #1 cooling tower fan operation		
Reduction of steam consumption through rationalization of steam usage at the HEC plant		
Reduction of power usage through optimization of the IA compressor operation		
Reduction of steam consumption through rationalization of steam usage at the MA plant		
Reduction of power costs through optimization of the TMAH concentration for the TMAH electrolyzer	96 TJ	2,754 tCO ₂ eq
Improvement of electricity basic unit through temperature out control of the TMAH electrolyzer		
Reduction of power usage through minimization of operating loss for the MECELLOSE [®] high voltage inverter		
Reduction of steam consumption through optimization of urea solution production temperature		
Reduction of power usage through optimization of urea solution transfer pump		
Reduction of power usage for the PA compressor operation		

GHG Reductions

LFC is securing the competitiveness of its response to climate change by conducting company-wide activities to reduce greenhouse gas (GHG) emissions. Our efforts include energy diagnosis, facility efficiency improvement, processes improvement, and adoption of new technologies. We are also strengthening our measure, reporting, and verification (MRV) system for real-time GHG and energy management systems and measuring instruments, by enhancing our internal regulations in accordance with the Energy Use Rationalization Act and the Greenhouse Gas & Energy Target Management System. We identify and implement tasks aimed at reducing energy consumption and GHG emissions, with the executives in charge of different production departments playing a central role. By assigning each team and division its own reduction target and having the Production Innovation Team manage the KPI, we are gaining preemptive learning effects regarding the GHG emissions trading scheme from the internal perspective, while externally enhancing our image as an eco-friendly company.



96_{TJ}

Amount of GHG reduction
by deriving and implementing energy
conservation tasks

Energy Consumption

	2018 ¹⁾	2019 ¹⁾	2020
Direct energy consumption	642	732	249
Indirect energy consumption	14,605	14,256	14,234
Total emissions	15,247	14,988	14,483
Consumption intensity	0.006	0.006	0.006

(Unit: TJ, TJ/Product-ton)

¹⁾ Modified figures for 2018 and 2019 based on the confirmed amount of GHG emissions and an energy statement

GHG Emissions

	2018 ¹⁾	2019 ¹⁾	2020
Total emissions	673,967	668,678	627,996
Direct emissions (Scope 1)	78,572	83,242	57,506
Indirect emissions (Scope 2)	595,395	585,436	570,490

(Unit: tCO₂eq)

¹⁾ Figures for 2018 and 2019 are modified based on the confirmed amount of GHG emissions and an energy statement

Integrated Environmental Management

Environmental Management System

All employees of LFC are working in unison to create environment-friendly workplaces based on their commitment to environmental management while striving to minimize the company's environmental impact throughout the entire product development, production, and disposal process. The Ulsan plant has implemented the environmental management system, which has been evaluated annually through internal and post-external audits to continuously develop its environmental management system since it first acquired the ISO 14001 environmental management system certification in 1996. In addition, we have been monitoring environmental management trends at home and abroad as well as customer requirements to make further improvements.

Environmental management organization LFC overhauled its environment and safety promotion organization around the Manufacturing Group at the end of 2020, with the aim of systematically making decisions and promptly performing tasks related to its environmental and safety management. The Green Environment Team, under the Environment & Safety Division, which is in charge of planning and managing company-wide environmental policies, sets environmental goals and guidelines so that all departments can participate in eco-friendly activities and reduce the generation of pollutants. We have also launched a specialized unit for each element to promote work, maintain a solid environmental management system, and respond efficiently to ESG-related issues.

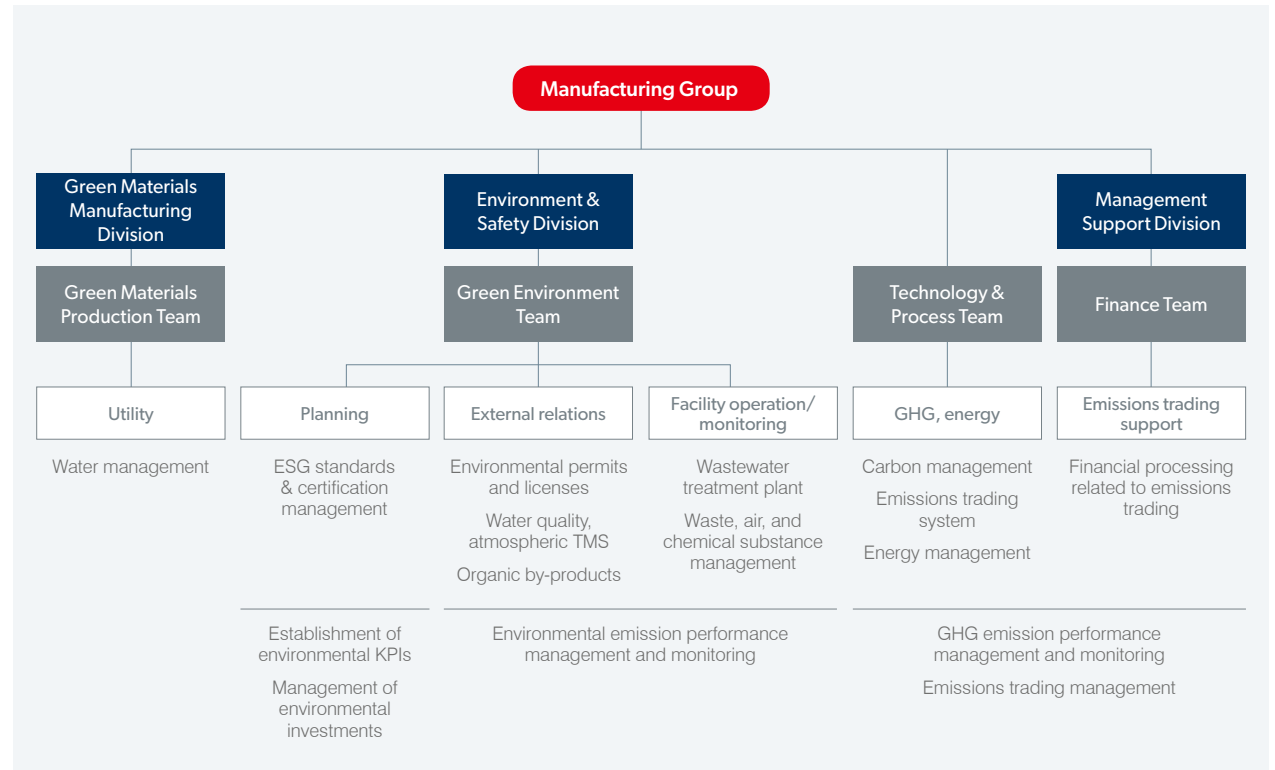
Environmental management status check process LOTTE Group has established and managed the corporate environmental management system regarding ESG at the Group level. It conducts on-site inspections for each of its subsidiaries to check their specific environmental management risks and solve problems or take necessary measures. The Group reviewed LFC's plans and procedures related to its environmental management tasks in 2020 to identify areas for improvements, establish the relevant processes, and upgrade the procedures. We also collected and reported information on water and air quality as well as waste discharge each month to ensure that we identify any abnormalities in our processes and take actions as early as possible. In addition, we have set an in-house verification system in place, and review our management activities for each area of our environmental management on an annual basis, thereby making improvements to have better process.

Environmental training We regularly conduct education and training with the aim of establishing eco-friendly workplaces, preventing chemical accidents, and minimizing damages in the event of accidents. In accordance with the Chemical Substances Control Act, we also provide education for managers and employees who are responsible for handling hazardous chemicals. We work together with our partner companies to build eco-friendly workplaces by providing training opportunities to those of their employees who may have been left behind in this area. In 2020, all our employees and our major in-house partners completed an online training program on virtuous resource circulation and eco-friendly management conducted at the group level. Our training on hazardous chemicals records a 100% completion rate among our employees each year.



Providing online education on eco-friendly management to employees and business partners

Environmental Management Organization



Employee suggestions system LFC has been operating an employee suggestions system which manages its employees' ideas and performance since 1968, with the aim of promoting the efficient operation of its workplaces by optimizing plant operations, improving the working environment, and reducing the use of raw and secondary materials. This system enables employees to freely present their ideas for improvement of their worksites, while the company awards suggestions with practical applications, thereby promoting further development of the system. In 2020, nine ideas, including measures to reduce hydrochloric acid usage at the electrolytic plant and MC steam consumption, were awarded, and the suggestions have enabled us to save a total of KRW 4 billion in production costs and the reduction of raw and subsidiary materials.

Environmental Performance Management

Based on the Group's sustainable growth evaluation index, LFC annually identifies the current status, performance, and improvement points in its environmental management. We set and manage detailed indicators such as establishment/performance of an organization devoted to environmental management, training system, environmental goals, control of pollutant emissions, and management of hazardous chemical substances. We are also improving our eco-friendly performance continuously based on the metrics.

Environmental Goals

	Goal	Plan	Outcome	Targets to be met	Due
2020 Achievements	Respond to the Chemical Substances Control Act	Improve hazardous chemical handling facilities	Facility improvement (KRW 2 billion investment)	Completed	Dec. 2020
	Respond to the enforcement of the Special Act on Improvement of the Atmospheric Environment in Atmosphere Control Zones	Complete the permission on emissions allocation amount	Permission on emissions allocation completed	Completed	Jul. 2020
2021 Goals	Respond to the Act on Integrated Management of Environmental Pollution Facilities	Aim for an integrated environmental management permission	On-site verification of existing licenses completed	In progress	Dec. 2022
	Respond to the amendment to the Act on the Registration, Evaluation, Etc. of Chemicals	Registration of substances that are manufactured or imported 1,000 tons or more	Agreement and data acquisition plans made	In progress	Dec. 2021

Environmental Performance Data

Large classification	Medium classification	Small classification	Unit	2018	2019	2020
Eco-friendliness	Eco-friendly products and services	Purchase of eco-friendly products and services	KRW million	2,198	5,458	892
		Sales of eco-friendly products and services	KRW billion	352.3	379.6	412.3
Water	-	Water consumption	Ton	12,451,795	12,272,848	12,052,794
	-	Water reuse	Ton	892,346	946,157	951,158
Waste	-	Waste discharge	Ton	79,950	80,428	74,675
	-	Waste recycle	Ton	56,416	67,442	67,021
Air pollutants	NOx	Actual emission concentration	ppm	23	14	8
		Emissions	kg	16,775	13,643	8,559
		Legal limit	ppm	130	130	60
	SOx	Actual emission concentration	ppm	0	5	8
		Emissions	kg	19.3	1,192	1,600
		Legal limit	ppm	100	100	70
	Dust ¹⁾	Actual emission concentration	ppm	3	4	3
		Emissions	kg	10,544	8,968	6,330
		Legal limit	ppm	25	25	15
Water pollutants	COD	Actual discharge concentration ¹⁾	ppm	38.47	33.12	35.57
		Discharge	kg	350,076	299,798	329,860
		Legal limit	ppm	90 (Linked treatment) 40 (Direct discharge)	90 (Linked treatment) 40 (Direct discharge)	90 (Linked treatment) 40 (Direct discharge)
	BOD	Actual discharge concentration	ppm	6.5	4.6	4.0
		Discharge	kg	58,772	41,241	37,150
		Legal limit	ppm	80 (Linked treatment) 10 (Direct discharge)	80 (Linked treatment) 10 (Direct discharge)	80 (Linked treatment) 10 (Direct discharge)
	SS	Actual discharge concentration ¹⁾	ppm	19.80	19.01	16.43
		Discharge	kg	180,140	172,067	152,421
		Legal limit	ppm	90 (Linked treatment) 10 (Direct discharge)	90 (Linked treatment) 10 (Direct discharge)	90 (Linked treatment) 10 (Direct discharge)
Chemicals	-	Discharge	Tons	52	64	62

¹⁾ Modified figures for 2018 and 2019 due to the expansion of the observation range of dust emissions from TMS facilities only to all

Environmental Investment

LFC has been making continuous investments in the environmental sector with a goal of reducing pollutant, increasing the efficiency of each plant's processes, and optimizing plant intensity. We have also established an annual investment plan to implement our environmental management and make investments based on the plan.

Expanding investment in chemical substance management In 2018, LFC registered 13 substances subject to The Act on the Registration, Evaluation, Etc. of Chemicals, and submitted information on human and environmental hazards for each substance to the Ministry of Environment in order to ensure in-time manufacturing and import of the substances. We also prepared for the scheduled expansion of our plants while improving the efficiency of wastewater treatment by installing a primary sedimentation tank at wastewater treatment plant and improving direct discharge facilities. In 2019, as a part of our efforts to improve hazardous chemical handling facilities, pursuant to the Chemical Substances Control Act, we strengthened monitoring functions by installing sprinkler facilities automatically connected to gas detection facilities. We also minimized the possibility of environmental accidents by increasing the capacity of our facilities to prevent leaks of hazardous chemical substances and accelerating automation. In addition, as the air pollutant emission standards have been strengthened, we have expanded our environmental investment to reduce the generation of fine dust and particulates while also optimizing treatment facilities.

In 2020, as the target of registration in the Chemicals Evaluation Act had been expanded to all existing chemical substances, we registered substances which we handle more than 1,000 tons per year. We also invested heavily in improving our air pollution prevention facilities to respond to the allocation of pollutants and the expansion of the total hydrocarbons (THC) regulations following the strengthening of the regulations on the total amount of air pollutants.

Investing in energy conservation and waste recycling facilities In 2020, LFC invested a total of KRW 18,476 million in installing energy recovery facilities and improving the processes needed to eliminate heat loss factors, aimed at saving energy and recycling waste. We will continue to invest in our plant facilities in order to reduce energy consumption and waste generation associated with the nature of the chemical manufacturing industry.

Green purchasing LFC practices strategic green purchasing based on its policy of securing eco-friendly, high-quality products at the best possible prices. In 2020, we invested KRW 892 million in the purchase of green products such as low-power LEDs, low-power electrodes, and low-power separation membranes that can reduce energy consumption and minimize standby power.

Minimizing Negative Environmental Impacts

Management of Hazardous Chemical Substances

LFC tallies and controls all the chemical substances that it receives and issues, ranging from raw materials to products, thereby thoroughly controlling the substances. Notably, we have established and operated the LCMS (LOTTE Chemical Management System), re-established a whole process management system for hazardous chemicals, and increased work efficiency through systematic management of chemical substance information.

In 2020, in accordance with the newly amended Chemicals Evaluation Act, we registered seven chemical substances that we handle in excess of 1,000 tons among the chemical substances that we import or manufacture in excess of over 1 ton each. We were also active in usage inspection such three materials as DMA, PTAC, and TMA-HCl, acting as the representative company of the consultative body. We plan to complete data registration through materials purchase and production by the end of 2021, the deadline for registration. In addition, we are constantly improving our facilities for handling hazardous chemical substances in accordance with the Chemical Substances Control Act in order to prevent accidents such as chemical substance leakages, and we are responding to and complying with the relevant laws and regulations.

Investment in Energy and Waste Facilities in 2020

Investment	Goal	Effect	Total investment	Investment made in 2020
Installation of organic matter incinerators	Reduce wastewater discharge (through installation of wastewater treatment facilities), reuse raw materials, and produce additional energy	Waste recycling, energy conservation (GHG reduction)		
Installation of heat exchangers to recover waste heat from concentration processes	Recover waste heat (improvement of electricity intensity)	Energy conservation (GHG reduction)		
Installation of No.1 ECH MVR	Recover waste heat (reduction of steam consumption)	Energy conservation (GHG reduction)	KRW 38,640 million	KRW 18,476 million
Installation of diluted ammonia water (9%) manufacturing facilities	Install ammonia water production facility for denitrification	Installation of eco-friendly production facilities		
Recycling of reverse osmosis concentrated water	Reduce wastewater discharge and recycle resources (water)	Waste recycling		
Improvement of emission facilities in producing green materials	Recycle heat from emissions reprocessing/incineration (steam production)	Energy conservation (GHG reduction)		
Improvement of hot water system in producing MECCELLOSE®	Eliminate heat loss factors (reduction of steam consumption)	Energy conservation (GHG reduction)		



Green Purchasing Policy

Implement the environmental management vision and policy by facilitating green product purchasing

Prevent resource waste and environmental pollution by facilitating green product purchasing, and fulfill corporate social responsibilities



Management of Water Resources and Water Pollutants

Water used in our production, process, and utility facilities operations is supplied through water intake sources near each of our manufacturing plants that meet the standards for appropriateness of use. Also, the utility department based at each of our business sites takes the lead in optimizing our water consumption and expenditure through constant monitoring and process improvement.

LFC has established a system for monitoring the sources of wastewater generation in its production processes and manages their status on a daily basis by setting targets for the amount generated. We are also making continuous efforts to reduce water consumption and wastewater generation by improving wastewater recycling processes.

We have improved our ability to remove pollutants by installing and operating multimedia filters (MMF) designed to reduce pollutants in our final wastewater treatment plants. Moreover, we have strengthened our internal standard on water pollutant discharge to 50% of the permissible regulatory limit, while making various efforts to reduce our pollutant emissions, including management of the discharge concentration standard for wastewater generated by production process. Wastewater discharged from the Ulsan complex is first treated at the wastewater treatment facility within the complex, and is then treated at the Yongyeon Sewage Treatment Plant operated by Ulsan City. Some wastewater is discharged directly into coastal waters via the MMF.

Pollutant Management

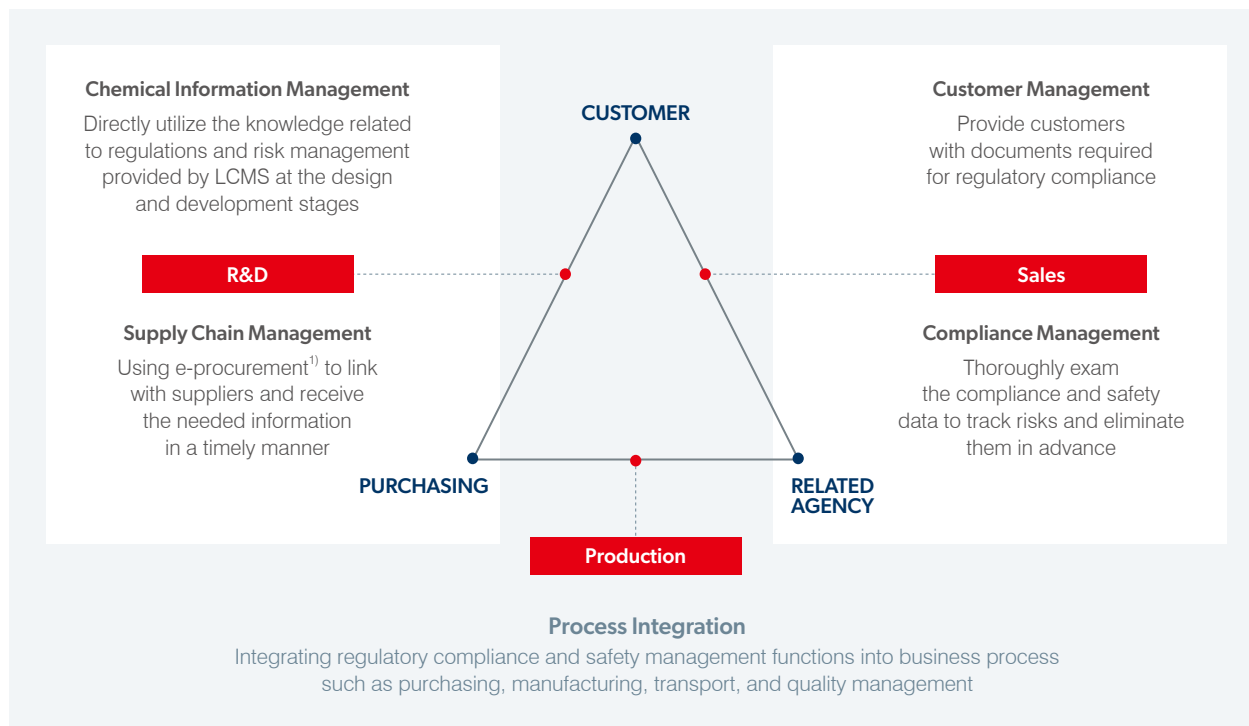
In accordance with The Special Act on the Reduction and Management of Fine Dust, we have implemented emergency reduction measures at our workplaces that emit air pollutants in the event of a high concentration of fine dust since 2019. Accordingly, in 2020, when Emergency Fine Dust Reduction Measures were required, we set targets for our emission of sulfur oxides (SOx) and nitrogen oxides (NOx) to 20% below the existing levels to 10.6 kg/day for SOx and 117 kg/day for NOx, in order to respond to the related regulations.

In response to the total pollutant amount regulation followed by the enforcement of The Air Management Zone Act, in January 2020 LFC was allocated 100% of the company's estimated nitrogen oxide emissions. We are responding to the total pollutant amount regulation to prevent any disruption of our overall plant operations even in the case of an addition to or expansion of our production facilities. Also, we started to improve our air pollutant treatment facilities in 2020 in order to comply with the enhanced emission standards following the establishment of specific air pollutant emission allowance standards and the expansion of the total hydrocarbon regulatory targets as the amendment to the Clean Air Conservation Act went into force. With completion scheduled for 2021, we have invested KRW 15.8 billion in the installation of new incineration boilers for the perfect treatment of non-aqueous materials as part of a wider effort to make improvements at each of our manufacturing plants.

Waste Discharge Management

LFC manages the entire waste treatment process using an online system in its business operations, sets an annual waste discharge target, makes continuous investments, and carries out taskforce activities aimed at reducing the generation of waste materials. By continually converting landfill waste into recycled waste, we increased our recycling rate from 84% in 2019 to 90% in 2020.

Chemical Substance Management System



¹⁾ In-house supply chain system

Improving Health & Safety and Implementing Environmental Management

Building a Culture of Safety and Health



Workplace Safety Management

Safety and Environmental Management System

LFC has acquired the ISO 45001 health & safety management system certification, based on the consensus of the company and all its employees regarding the importance of safety, and we operate a safety management system in accordance with the prevailing international standards. We will continue to improve our safety value by applying solid safety standards based on our global-level on-site safety management practices. We will realize our vision of “a workplace that is free of accidents, pollution, and illness” by introducing and implementing a clear and concise process for dealing with the causes of occupational accidents.

As industrial safety-related laws are being strengthened and corporate responsibility for safety is increasing, we are reinforcing our health and safety management at the level of corporate governance by setting an annual health and safety plan and obtaining the approval of the BOD, the company’s highest decision-making body. In 2021, we plan to reinforce our safety and environment capabilities, which are crucial in the chemical industry, by focusing on three strategies – achieve zero serious accidents, building a safety culture, and improving partner companies’ safety level.

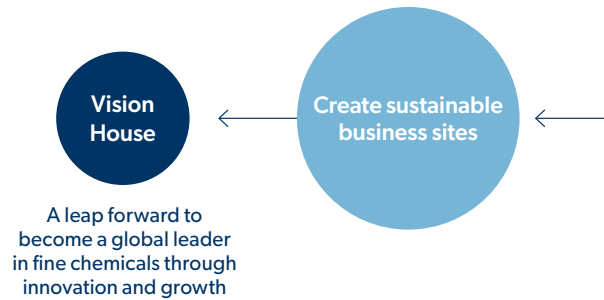
Health and Safety Policy

- 01 We place top priority on environment, health & safety (EHS) in management, and prioritize environment and safety throughout the entire process of product design, production and use, and disposal
- 02 We continue to provide employee education and training with the aim of ensuring that all our employees comply with the relevant laws, regulations, and other requirements and participate in environmental safety accident prevention activities
- 03 We prioritize the establishment of an advanced environment, health and safety management system and the stabilization and development of a process safety management (PSM)¹⁾ system to provide various types of support, promote the efficient use of energy, prevent environmental pollution and occupational accidents, and maintain a pleasant working environment
- 04 Based on Responsible Care (RC)²⁾ activities, we fulfill our corporate social responsibilities by engaging in open dialogue with other companies near to our business sites, local residents, customer, and shareholders

¹⁾ Process Safety Management (PSM): In accordance with Article 44 of the Occupational Health and Safety Act, the PSM helps prevent major occupational accidents by requiring that business sites - such as petrochemical plants containing hazardous facilities with a risk of serious accidents - prepare a process safety report that includes process safety data, process risk assessment, and safe operation and emergency action plans, and act accordingly

²⁾ Responsible Care (RC): An international initiative that is undertaken by business operators in the chemical industry, with the goals of ensuring safety, the environment, and health throughout the life cycle of chemical products, from development through to the manufacture, sales, use, and disposal, and that businesses reflects this commitment to their management policies to implement the relevant environmental, health and safety measures

Safety & Health Management Vision



Safe business site		
Adopt special plant management	Achieve zero-accident business sites	Implement a campaign to "Make equipment work well and look like new"
Competitive business site		
Strengthen competitiveness of existing businesses	Develop growth engines	Ensure quality to satisfy customers
Happy business site		
Secure capabilities	Fulfill duties	Spread a culture of empathy

Health and Safety Management Plan for 2021

Achieve zero serious accidents	Building a safety culture	Improving partner companies' safety level
<ul style="list-style-type: none"> Respond to the Severe Disaster Law <ul style="list-style-type: none"> Overhaul internal regulations on roles and responsibilities Internalize legal obligations Engage in activities to prevent falling accident <ul style="list-style-type: none"> Distribute falling accident prevention guidance Conduct safety checks for falling accident prevention Prevent contact with hazardous substances <ul style="list-style-type: none"> Overhaul personal protective equipment standards for works performed near hazardous substances Expand activities to prevent occupational accidents <ul style="list-style-type: none"> Conduct safety inspections and monitoring tailored for each class Apply a safety stop system 	<ul style="list-style-type: none"> Promote basic safety compliance activities <ul style="list-style-type: none"> Improve safe workplace pedestrian paths Promote activities aimed at recovering the original form of facilities Promote compliance with the basic safety rules Establish a system for constant response to infectious diseases <ul style="list-style-type: none"> Comply with personal hygiene management rules Establish response infrastructure and scenarios for each business site Raise personal safety awareness <ul style="list-style-type: none"> Make the implementation of the safety rules mandatory Change to process-centered work goal consciousness Operate the safety culture and process safety TF <ul style="list-style-type: none"> Foster experts in process safety Enhance on-site PSM¹⁾ execution ability Improve the accident response system 	<ul style="list-style-type: none"> Partner company safety manager certification system <ul style="list-style-type: none"> Give the certification after the evaluation by the Safety Management Team Improve safety management capability during work Prevent the risk of single-person works <ul style="list-style-type: none"> Improve one-man work procedures and JSA²⁾ Evaluation of partner companies' safety environment <ul style="list-style-type: none"> Conduct pre- and post-contract evaluation of safety management levels Provide incentives according to safety management performance External professional safety manager <ul style="list-style-type: none"> Deploy professional safety managers to minimize blind spots during regular maintenance

Health and Safety Organization

In order to reinforce and manage our health and safety management system, we have reorganized the environment and safety division into a separate organization in charge of workplace health and safety with the Safety Management Team under its direct control.

Safety & Health-related Councils

Meeting name	Hosted by	Frequency	Attendee	Main issues
Weekly CEO Meeting	CEO	Weekly	CEO, Head of the Manufacturing Group, and executives	Report on the implementation status of key execution tasks; and Sharing key safety & environment issues and trends
Plant Weekly Meeting	Head of the Manufacturing Group	Weekly	Head of the Manufacturing Group, executives, and heads of departments	Report on the implementation status of detailed execution tasks
Plant Safety & Environment Meeting	Head of the Manufacturing Group	Monthly	Head of the Manufacturing Group, executives, and heads of departments	Sharing the KPI of key safety & environment performance and trends
Safety Contact	Heads of Departments & Leaders	Weekly	Managers and above	Sharing safety & environment trends, issues, and guides; and Presenting implementation plans
Occupational Safety and Health Committee ³⁾	Occupational Safety and Health Committee	Quarterly	Committee members from the labor and the management	Discussing safety & environment policy and measures to correct deficiencies
Working level meeting	Occupational Safety and Health Committee	As needed	Committee members from the labor and Safety Management Team	Examine and discuss safety & environmental deficiencies

¹⁾ PSM: A comprehensive process safety management (PSM) system that addresses matters related to daily management and emergency response to prevent major occupational accidents caused by fire, explosion, or the leakage of hazardous materials, and to minimize damages

²⁾ JSA: Job safety analysis (JSA) which classifies tasks into major steps, identifies hazards and potential accidents at each step, and develops and researches measures to eliminate, minimize or prevent them

³⁾ The Occupational Safety and Health Committee is composed of 50% of the labor and 50% from the management

Internalization of Safety Culture

Operating the Safety Culture TF LFC launched the Safety Culture TF in 2019 with the aim of improving its safety culture across all its business sites. The TF carried out five major tasks during that same year, including the formation of a dedicated organization, improvement of safety awareness, reinforcement of subcontracting management, renewal of safety regulations, and enhancement of facility management in vulnerable areas in accordance with the Lotte Chemical BU's policy of levelling up its safety culture. In 2020, as a mid- to long-term task of reforming our safety culture to prevent major occupational accidents and disasters, we enhanced our open-source standard operating procedure (SOP) as part of our efforts to reinforce our training standards for each class. In 2021, we plan to focus on establishing a safety design system in the workplace as a basic safety activity, further strengthening the role of each position, and make compliance with the safety rules mandatory in all our business processes.

Safety education To raise our employees' safety awareness and encourage them to make voluntary safety management efforts, we set monthly themes, conduct regular safety training, and promote discussion about major safety-related issues. Through our internal communication channels, we send regular warnings to our employees about health, safety, and environmental issues, as well as sharing and disseminating information on equipment maintenance and personal and public health in accordance with our Safety, Environment, and Health Manual, so that they can quickly respond to accidents. We will continue to implement safety education and information sharing to establish a safety-first culture and help minimize the occurrence of accidents due to human error.

Safety Golden Rules Due to the innate characteristics of chemical plants, there is a high risk of experiencing large-scale accidents caused by minor mistakes. Noting that the cause of a large-scale accident is often a small mistake or simple disregard for the basic procedures and principles, LFC has established "Safety Golden Rules" which consist of the eight safety principles that are the core principles of our on-site safety management, after considering the characteristics of our business and workplaces. We have also developed a safety culture based on our employees' voluntary participation and preemptive safety management efforts. We have increased the effectiveness and visibility of the Safety Golden Rules by presenting them in keywords and pictograms rather than rules in the form of descriptive sentences. They are highly visible throughout the company as we actively encourage our employees to internalize them. Based on the newly-established Golden Rules of Safety, our employees are following the rules that they chose and determined, rather than rules set by the Safety Management Division or according to the Group policy, and they are joining forces to build the highest level of safety culture in the industry.

Safety Contact At all training sessions and meetings, ranging from small meetings to morning shift assemblies and executive meetings, we have a "safety message" shared as the first item of agenda for no more than five minutes. If needed, a Safety Contact Box is set up in each meeting room to allow the participants to share their opinions on safety.

Safety Stop This campaign aims to have the habit of re-entering workplaces only when safety has been secured after stopping work immediately and notifying everyone nearby of the occurrence of the risk. The campaign minimizes the occurrence of accidents caused by misjudgment as employees do not arbitrarily judge and attempt to resolve dangerous situations on their own.

Non-face-to-face Safety and Environment Quiz Olympics LFC's Incheon Plant holds various events designed to raise employee's interest in and understanding of safety and environmental issues with the aim of build a safety culture. In 2020, in consideration of the COVID-19 situation, it held the Safety and Environment Quiz Olympics via a non-face-to-face mobile app, and awarded employees who excelled at the event in a bid to promote the internalization of safety awareness.

Advancement of On-site Safety Management

Operating safety inspection themes We select four safety inspection themes and conduct intensive inspections according to those themes on a monthly basis. In 2020, we conducted inspections on 65 themes, including wastewater, gas equipment, firefighting equipment, filling equipment, and asbestos management, and detected 709 problems, of which we improved 653. To raise awareness of safety across the company, we summarized the results of our activities and posted them on our in-house portal, Soh-tong Insight, and disseminated them through our regular health and safety training and e-mail.

Going forward, we plan to establish and implement a detailed annual plan on monthly themes and activities related to the safety of our business sites, as carry out themed training on the following month's activities during the regular safety training in an effort to raise employee's interest and participation in corporate activities.



Employee Safety & Health Training

	2018	2019	2020
Regular safety training	24 hours/person		
Emergency response drill	Monthly per department, Bimonthly at the company level		

Safety management based on behavior between tasks Previous work permit was more focused on the management at the preparation stage, so that there were some problems and possibilities of being lack of proper management after the work starts. In order to prevent the kind of safety problems that could arise from such a practice and raise the level of work management, we shifted the focus of our attention on safety management from work preparation (unsafe state) to work performance (unsafe behavior) to achieve more intensive management of our work performance per se. By conducting safety inspections during work, we can now check our safety levels separately before work, during work, and after work. Furthermore, in order to minimize the risk of serious occupational accidents during work, we plan to simplify and clarify our standards for safety gear, operate a safety patrol focused on preventing fall accidents, and establish a safety management system to achieve zero accidents during our maintenance and repair services.

Support for Partner Companies' Health & Safety Management

To minimize occupational accidents at our business sites, the health and safety management of not only our own employees but also that of our partner companies is important. We have therefore been supporting the establishment of the health and safety management system (KOSHA 18001) by our in-house partner companies since 2014, with the goal of achieving accident-free business sites through win-win cooperation with them. Our health and safety management system enables the employees and teams of our partner company to assess risks according to the scope and content of their work, voluntarily establish and execute measures for reducing risks, and examine their effectiveness using the "Plan-Do-Check-Action" cycle.

As of 2020 year-end, we have supported the establishment of the health and safety management system since 2014 for 17 of our partner companies while helping newly-contracted partner companies with their efforts to acquire health and safety system certifications. We also supported follow-up and renewal evaluations so that our partner companies could maintain their health and safety management system. We provide incentives to outstanding partner companies according to the results of our quarterly inspection of partner companies, thereby encouraging them to focus on health and safety management.

Employee Health Management

Operating Health Management Programs

Management of work environments LFC has specialized agencies diagnose its work environments twice a year in order to identify and manage the employees' level of exposure to harmful factors handled at its workplaces. By applying in-house standards that are higher than the legal standards, we continue improving our work environments so that our employees can work pleasantly.

Health support system We support our employees with their medical expenses on an annual basis. We support comprehensive health check-ups for employees over the age of 30 and help them detect diseases early by allowing special tests to be added to suit their health status in addition to the basic test items. We are also operating an expansive medical expenses support system that covers not only our employees but also their spouses, direct relatives and lineal descendants. We have also improved the flexibility of our health support system so that our employees can choose either a case-by-case settlement or a semi-annual compensation system to further raise their satisfaction with the system.

Our Ulsan Complex runs a health management center where employees can undergo a health checkup or receive a health consultation whenever necessary. It appoints an occupational health care provider from a local university hospital to carry out employee health management and conduct education on occupational diseases for each department.

Psychological counseling center We have set "Do Dream" psychological counseling center at our Ulsan Complex, and help employees effectively overcome the various types of stress that can occur in daily life both at work and at home. Staffed by a professional counselor, the center not only offers psychological counseling but also conducts various types of psychological tests and runs organizational communication activation programs, meditation programs, and book rentals with the aim of supporting employees' mental health. The counselor regularly visits our Seoul and Incheon business sites to eliminate blind spots in mental health support services. Upon request, the expert provides a wide range of companywide services, including psychological counseling programs for our employees' families as well. We also consistently deliver information on mental health through a monthly internal mail and online bulletin board, and provide information on and offer psychological tests as well as meditation programs.

17 partner companies

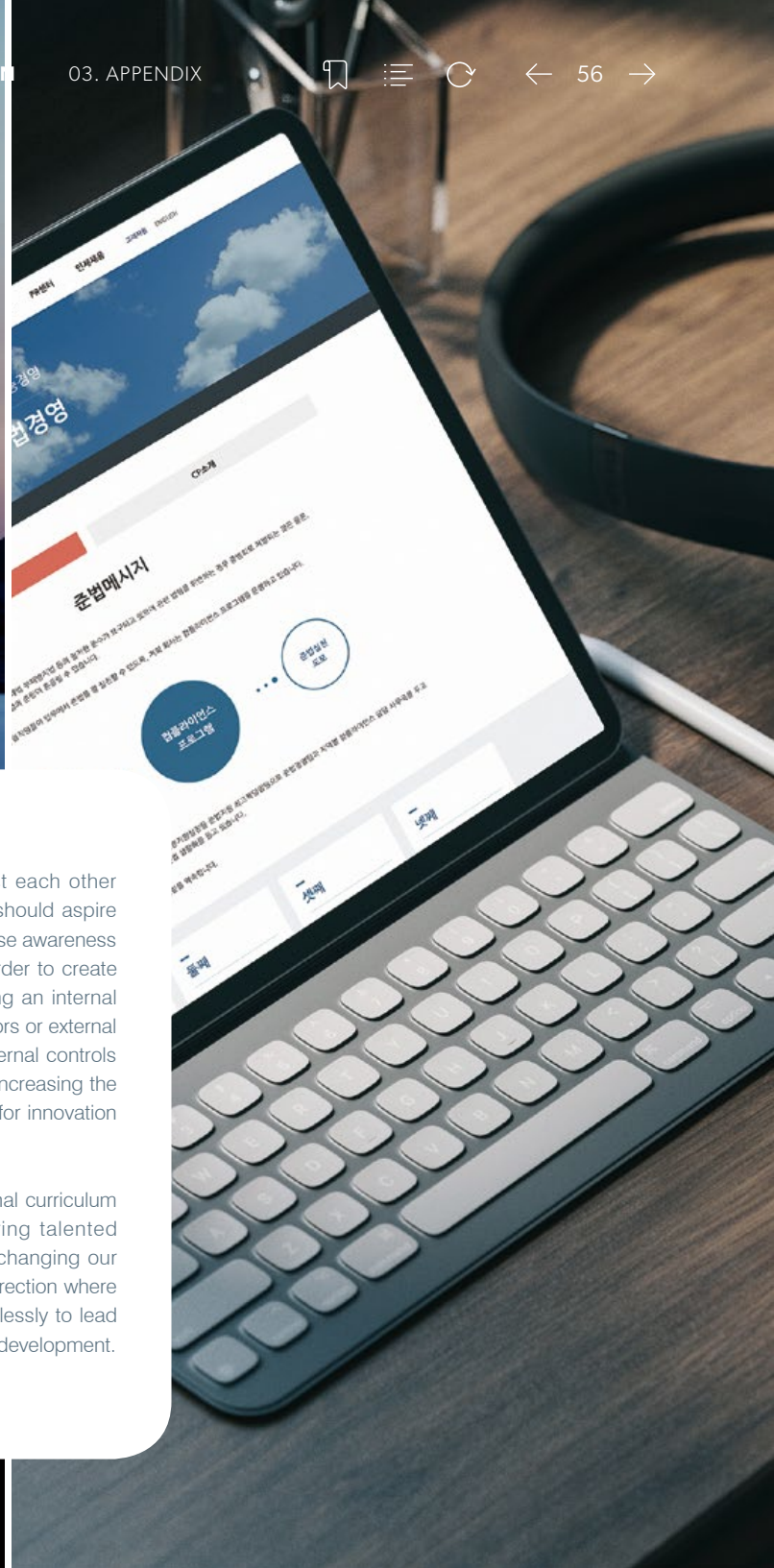
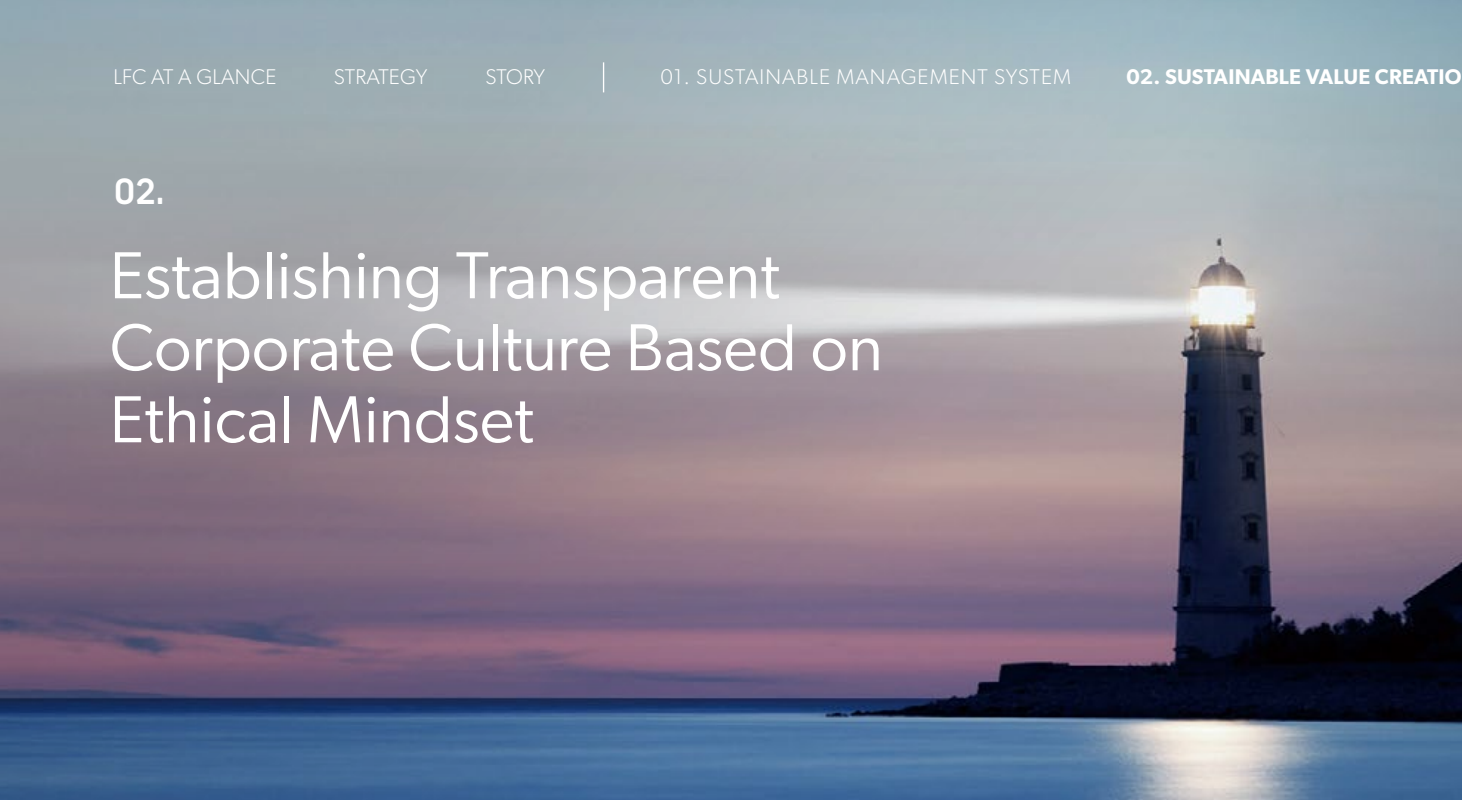
Providing support in their efforts to establish safety & health management system



"Do Dream" psychological counseling center

02.

Establishing Transparent Corporate Culture Based on Ethical Mindset



TREND & CONTEXT

As the influence of major corporations on nations and local communities grows, the level of demand for business ethics and compliance is also increasing. In particular, in case of companies that operate business in several countries, a decline in corporate value is inevitable if they fail to comply with compliance required by those countries and an international community. Corporate ethics has therefore become the basic mandate to which employees must adhere.

Employees play a key role in corporate management, serving as a driving force of innovation. Amidst the backdrop of rapid change and growing uncertainties triggered by the Fourth Industrial Revolution and the COVID-19 pandemic, the importance of securing and cultivating excellent talents is being further emphasized. As such, companies are intensifying their efforts to enhance employees' satisfaction by maintaining excellent talents through competency development support and fair performance evaluations, as well as providing a safer and more comfortable working environment and operating diverse systems to guarantee work-life balance.

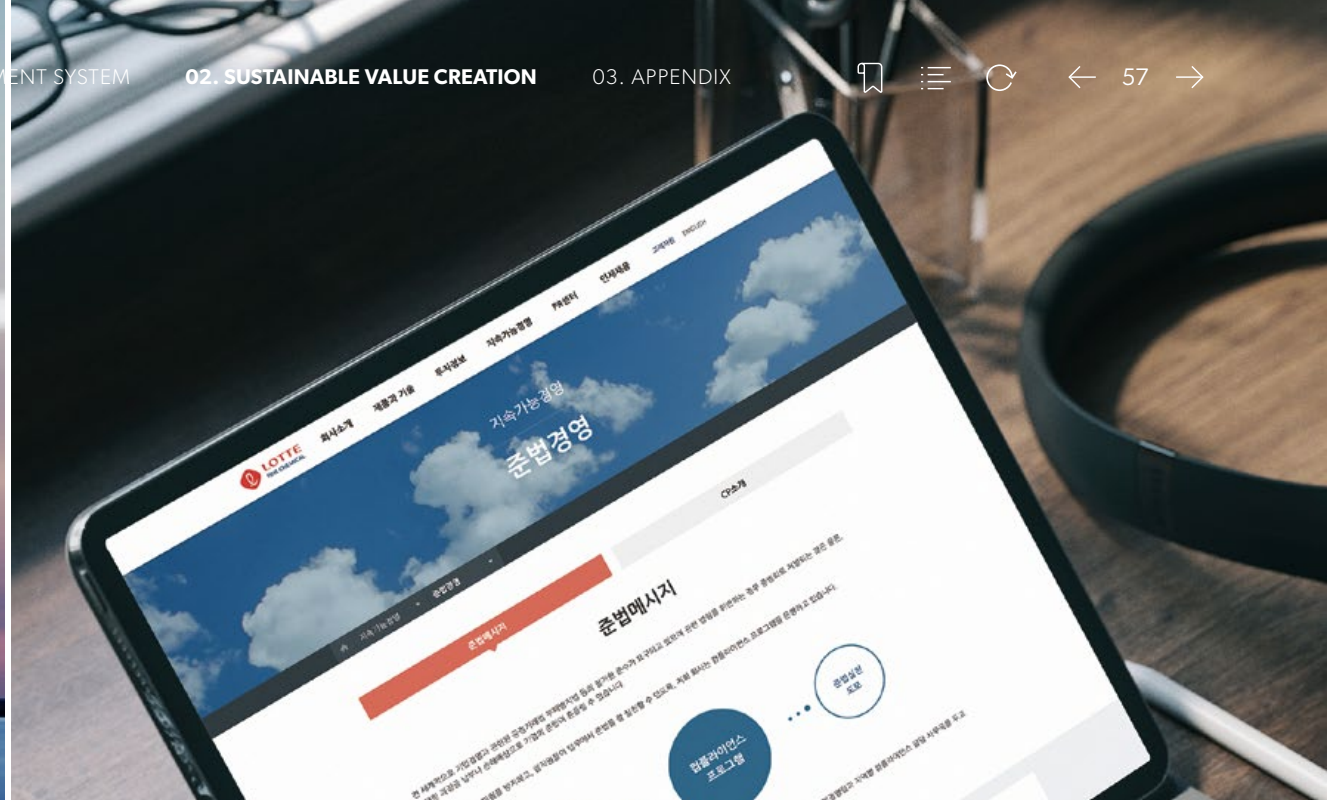
OUR APPROACH

A clean and prosperous world where everyone can trust each other completely. That is the beautiful future we, LOTTE family, should aspire towards. As a member of LOTTE Group, LFC is striving to raise awareness of the importance of business ethics and compliance in order to create a better tomorrow for all its stakeholders. We are operating an internal control system to protect corporate values from internal factors or external stimuli. We also encourage our employees to follow the internal controls so that they are not exposed to unnecessary risks, thereby increasing the trust of stakeholders and society and laying the foundation for innovation in the most desirable direction.

LFC's innovation begins with people. We offer an educational curriculum composed of diverse programs with the aim of nurturing talented people who are active in the global market. We are also changing our organization, including R&D organization, toward a better direction where our global talents are not afraid of failure and can work tirelessly to lead the innovation of the company as well as their own personal development.

02.

Establishing Transparent Corporate Culture Based on Ethical Mindset



2020 ACHIEVEMENTS

Percentage of employees who have received training on anti-corruption and human rights



100%

No. of cases of corruption and corrective actions



1

(investigation and action completed)

Parental leave rate



89%

Appointed a Head of the Legal&Compliance Department directly under the CEO to expand expertise in compliance management



Established a compliance system to diagnose and improve risks in non-financial areas



Launched the 3rd Corporate Culture TF and the developed the slogan "Winning Rule – Do it Together!"



Alignment with UN SDGs



* As of 2020 year-end

Establishing Transparent Corporate Culture Based on Ethical Mindset

Building a Culture of Ethics and Compliance

Improving Ethics in the Workplace

LFC runs its business in a transparent and fair way and does not take unfair personal gains or receive or provide inappropriate gifts or entertainment. We also respect and comply with anti-corruption laws and the regulations, at home and abroad, related to our business activities where we operate.

Ethical Management System

LFC has published a Code of Conduct to ensure that it can make the correct decisions and take the appropriate actions whenever any of its members faces an economic, legal or ethical dilemma. We comply not only with all the relevant laws and corporate regulations related to our business performance, but also expect our various business partners, including our partner companies, to follow standards as stringent as our own Code of Conduct. Compliance with these standards is one of the most important factors we consider when deciding whether to work with an organization. In addition, we have established an ethical management system that presents the basic procedures and standards that employees should follow in performing their work, with the goal of establishing ethical management as an integral part of our corporate culture. Based on the ethical management system, we will continue to prevent unfair business handling and unethical behavior from taking place and identify and manage any matters that need improvement so that ethical management can develop into a sound organizational culture.

LOTTE Personnel Code of Conduct



Trust with Our Employees

People who are truly precious to each other as part of a family. Trust is what binds us together as one.



Trust with Our Customers

Making LOTTE products and services to be first choice of customers. This is the strength of trust.



Trust with Our Partners

People who become one with partner companies based on trust. It is us, LOTTE people.



Trust with Our Shareholders

People who grow together with LOTTE. We protect shareholder assets and increase their mid-to long-term values by running our business with integrity and transparency.



Trust with Society

A company trusted by society for contributing to society and setting an example. This is what LOTTE pursues as a responsible business.

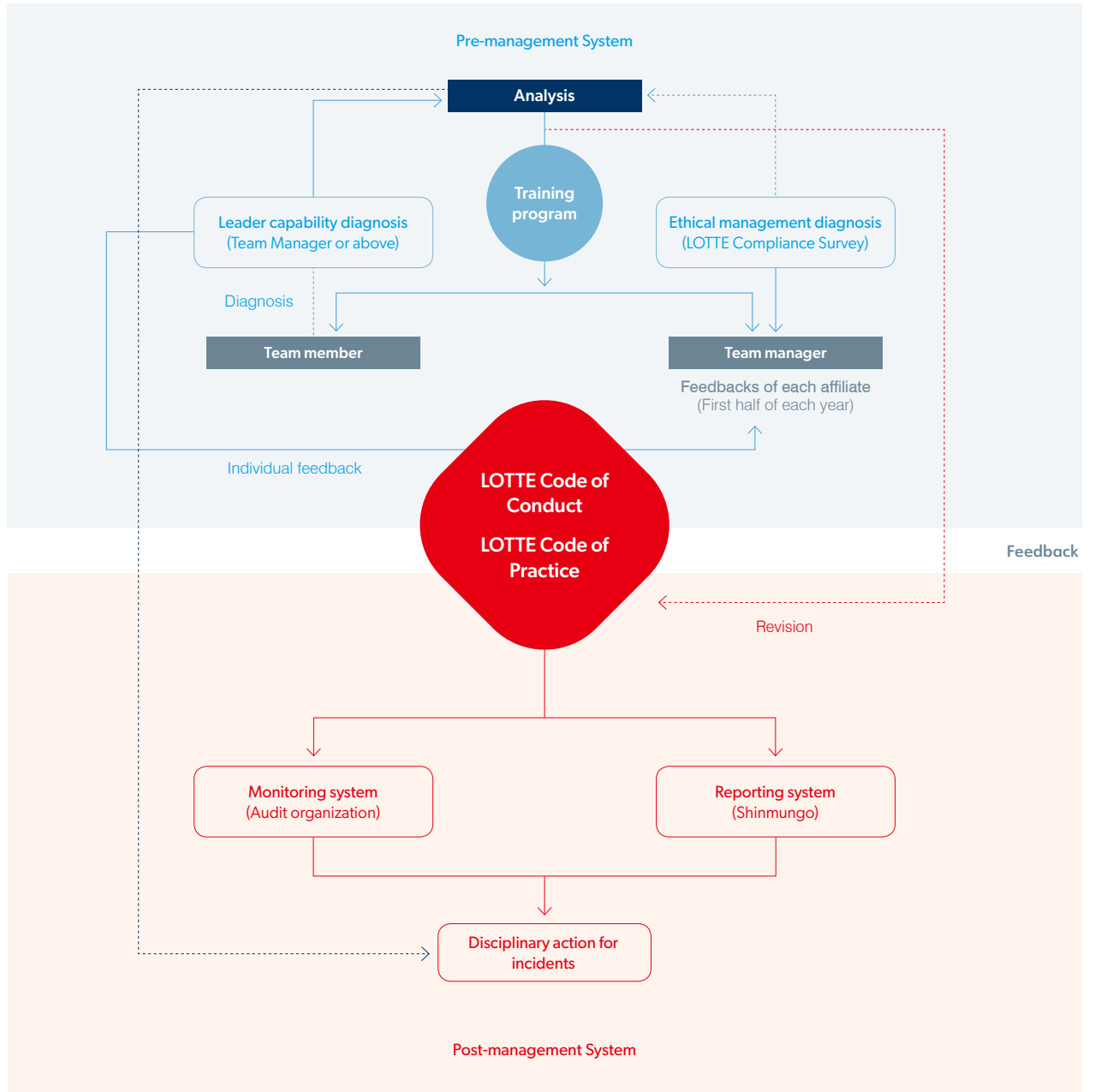
Trust with Society

A company trusted by society for contributing to society and setting an example. This is what LOTTE pursues as a responsible business.

Ethical Management Implementation System



Business Ethics Management System



Ethical Management Reporting Channel

LFC operates an online reporting channel, "Shinmungo", in addition to the similar one run at the Group level so that its employees and partner companies can report any unfair business handling and unethical matters as well as propose improvements. All reports are investigated according to the relevant procedures, and when irregularities are confirmed, the corresponding corrective measures are taken, including disciplinary action, process improvement, and ethical management education, so as to prevent their recurrence.

We keep the identity of whistleblowers and the contents of their reports strictly confidential to ensure that they do not suffer any disadvantages due to their reports. We also protect all the relevant information. Besides whistleblowers, we equally protect all those who cooperate with us about relevant incidents by providing statements, data, etc. We take all necessary measures, such as disciplinary action, in accordance with Article 14 of the Company's Public Interest Reporting Regulations, in the event of a violation of the whistleblower's protection. However, in the event of violations committed by the whistleblowers themselves, they may be exempted from disciplinary action, or such action may be reduced.

Types of Corrupt Acts to Be Reported

- 01 Embezzlement of public money, bribery
- 02 Unfair handling of business
- 03 Violations of the fair trade rules by employees and affiliates
- 04 Requests for or offers of money or entertainment
- 05 Unfair stake participation in unlisted trading companies
- 06 Dual employment
- 07 Other matters that violate the Code of Ethics

Reporting Channels

Shinmungo of LFC <https://www.lottefinechem.com/management/complaintWrite>

Shinmungo of LOTTE Group <http://www.lotte.co.kr/compliance/inquiry.do>

E-mail lfcaudit@lottechem.com

Phone +82-52-270-6125

Fax +82-52-270-6129

Establishing a Culture of Ethics

LFC continuously provides ethical management training based on the Code of Conduct and the Code of Practice of LOTTE Group, and posts guidelines on ethical management for employees at its internal portal. In addition, we send a letter of ethics management from the CEO to our partner companies in order to demonstrate our commitment to ethical management. We also assess the ethical status of all employees and conduct a capability diagnosis of our leaders in our efforts to ensure that ethical management takes root at LFC.

Raising Employee Awareness of Compliance

In running a business, it is required to comply with the Improper Solicitation and Graft Act and the Monopoly Regulation and Fair Trade Act. Violations of the relevant laws may be punished as a felony. Businesses must also pay enormous fines or compensation for damages, which can have a significant impact on their corporate value. LFC therefore sets a compliance management system in place as well as compliance programs to prevent these potential risks and enable employees to practice compliance in their business processes.

Internalizing Compliance Management

Compliance is no longer optional, but mandatory. Violations of the law do not simply result in the punishment of one person, rather they may threaten the existence of the company itself. All of us at LFC are therefore striving to building a compliance culture based on integrity and transparency, which will enable us to grow into a global leader in the fine chemical industry that is respected and trusted by all.

Compliance management organization and system In order to expand roles and expertise of compliance management-related tasks, LFC in 2020 appointed a Head of the Legal&Compliance Department who oversees the Compliance Management Team, Ethics Management Team, and Internal Accounting Management Division. In 2019, the BOD appointed the Compliance Officer as an executive in charge of presenting the overall direction of compliance management, such as establishing and implementing LFC's compliance management strategies. Specialized departments under the executive constantly monitor the status of compliance management to prevent unethical conduct, and conduct various other activities to enhance their employees' awareness of compliance.

Report Handling Procedure



* If an accusation is found to be unfounded, the relevant incident ends with a report on the investigation results

Compliance management training LFC conducts annual compliance management training to ensure that employees voluntarily implement compliance management and to increase awareness. We conduct various activities related to compliance management in order to form a consensus among employees about compliance, and provide mandatory training on compliance and ethical management for new recruits. In 2020, to prevent the spread of COVID-19, we conducted compliance training via real-time online broadcasting in place of the face-to-face training. The result of the post-program evaluation showed such high attendance and satisfaction rates that we plan to actively use online training in the post-COVID era as well. All our employees attended corporate-wide compliance management training in 2020, including training on the Improper Solicitation and Graft Act, thereby enhancing our employees' attitude to compliance management, and our directors also attended training on the said Act.

Compliance management monitoring LFC conducts monitoring every year to diagnose observance of the compliance management code and the level of the culture of practicing compliance management, and reflects the results in its management activities in order to promote the continuous development of activities that practice compliance management.

Strengthening Compliance Management

Building a compliance system LFC worked with external consulting company to build a a compliance system that diagnoses and eliminates risks in the areas of anti-corruption, HR and labor, and industrial safety. Having completed this task in 2020, we are currently carrying out improvement activities for identified issues based on the results obtained through the system, and plan to manage them systematically in the future.

Compliance Management Vision



Compliance Management Organization by Task

Internal transactions	Collusion	Subcontracting	Public disclosure
Accounting Team	Legal Compliance Team	Purchasing Team	Corporate Management Team

Operating the compliance program To promote voluntary compliance with the fair trade laws, LFC adopted the compliance program (CP) in 2006 and is striving to prevent unfair trade conduct and to build a fair trade culture. CP is both a compliance system and a code of conduct established and operated internally to ensure voluntary compliance with the fair trade laws and regulations.

We systematically and efficiently operate CP, with central roles performed by the Legal Compliance Team, which oversees all work related to fair trade, and based on collaboration between compliance officers in different divisions. We create and distribute a fair trade handbook, which is used as a work manual, and also provide regular training to onsite departments on amendments to the relevant laws. LFC conducts internal diagnoses of the relevant departments and operates an internal system designed to prevent and inspect the possibility of legal violations by having internal fair trade experts review the company's overall business, including new businesses, sales, and purchasing.

Furthermore, LFC has enacted compliance regulations, and operates various training programs for each core factor. To strengthen our fair trade capabilities, we provide systematic CP training to employees in charge of fair trade and subcontracting according to each job function. Targeting high-risk departments, including the sales and subcontracting-related departments, we examine compliance-related matters and report the results to the management, thereby raising awareness among the employees in charge and taking the necessary corrective measures.

Enactment of the Regulation on Contract and Legal Review In October 2020, LFC enacted "the Regulation on Contract and Legal Review" as an institutional mechanism that requires the legal review of contracts and important decision-making. Since the enactment of the regulation, we have informed all our employees of the regulation, and their awareness of the necessity of legal review has increased accordingly, to the extent that legal reviews on diverse issues are now being conducted actively.

Helping partner companies raise awareness of compliance As part of a fair trade practice program conducted in collaboration with our partner companies, we provide them with our training materials, conduct regular inspections of the relevant departments, and constantly listen to their opinions. We will carry out various activities, such as education on the anti-corruption laws and the receipt of anti-corruption pledges, in a bid to help our partner companies and overseas agencies eradicate corruption from their business practices.

Commitment to Compliance Management



First,
LFC shall strive to generate positive energy empowering everyone to advance together.

Second,
LFC shall strictly comply with the laws and regulations by referring to the manual and other supplementary documents whenever a violation is suspected. In case of doubt, we shall clarify the matter by consulting with the Compliance Management Team and complying with them based on a clear understanding of the relevant laws and regulations.

Third,
all LFC employees shall actively cooperate in the compliance-related activities conducted by the Company, including all compliance programs.

Fourth,
LFC shall ensure that any of its employees who violate the above policies or commit illegal acts will be subject to severe sanctions in accordance with its regulations.

Establishing Transparent Corporate Culture Based on Ethical Mindset

Increasing Employee Value



Human Resources Management

Recruiting Talents

People of LFC LFC looks for talents who do not fear failure, make endless efforts to develop skills, and know the value of cooperation and win-win. In particular, we provide quality jobs to people who pursue change based on creative thinking and endless innovation; work hard to become the best based on a sense of ownership and responsibility; and communicate and harmonize with colleagues based on trust. To this end, LFC operates a transparent, fair recruitment process, and thus grows together with its employees.

People who do not
fear failure

People who are
committed to making
the best out of their
skills

People who know the
value of collaboration
and win-win

Internship program In 2020, LFC introduced an internship program in an effort to secure talents suitable for the organization and its tasks. We are striving to secure qualified human resources in a variety of ways, such as on-the-job training and the presentation of assignments, while operating mentoring programs and other forms of support designed to help interns adapt quickly to the organization and determine their organizational and job suitability through direct or indirect job training during the 8-week internship period.

Nurturing Talents

LFC helps its employees to grow into business leaders through diverse arrangements and systems. Our leading talent nurturing programs include a female talent nurturing program, a job function training program, a global competency training program, and a knowledge training program. To foster talents, we invested a total of KRW 700 million in education and training expenses in 2020, providing approximately 31 hours of education per person.

Nurturing female talents LFC is making a wide range of efforts to establish an organizational culture that values diversity and to foster female talents. We operate a separate TF for the nurturing of female talents, with a focus on qualitative nurturing of female talents and building the infrastructure needed to transform LFC into a great workplace for women. We regularly hold meetings of female talents to promote communication among them, in addition to a forum intended to promote their self-development and develop their leadership skills. In 2020, we remodeled the existing maternity care center in order to improve the working conditions of female employees, while allowing pregnant staff to work from home.

We have also launched the Working Mom Mentoring Program for career development, soft landing, and networking for female employees who return to work. Furthermore, to identify and reflect the education sessions and systems necessary for female talents, we conducted a survey on female talent across the company, and, based on the results, we will conduct women's leadership diagnosis and training in 2021.

Job function training program LFC operates internal training programs to strengthen the professional knowledge and competencies that are required by job function, including management strategy, purchasing, accounting, and finance. It supports its employees in their efforts to complete the training provided by outsourced professional organizations and acquire the relevant job certificates. In addition, we are running an onsite training technology academy to develop safety and manufacturing competitiveness, thereby securing a knowledge base. We continually foster in-house job experts, and actively conduct engineer training using in-house lecturers. Furthermore, in cooperation with the Engineering Development Research Center (EDRC) of Seoul National University, we have introduced vocational training courses for smart digital engineering professionals in the field of chemical engineering, as well as vocational training courses for new employees on-site.

Global competency training program We help our employees enhance their global competencies through in-house language courses and external language courses, including courses offered over the phone. We also pay their foreign language evaluation test fees, and hold in-house language speech events to reinforce their language skills and develop an organizational culture of learning. To improve their global HR competencies, we help our key talents to attend international conferences, and operate learning programs for research. We also hold expatriate forums, offer training to staff due to be dispatched overseas, and distribute global reports about global management and overseas business issues as part of our continuous efforts to help them improve their integrated global capabilities.

Knowledge training program In order to ensure our employees to acquire the basic attitude and knowledge required as a member of LFC, we provide training on the company's key values, anti-corruption training, sexual harassment prevention training, and training to improve their perceptions of the disabled. To strengthen leadership competencies, we offer leadership diagnoses, a SERICEO program, and a training course for promoted persons. We have introduced a roadmap for nurturing talent to strengthen our digital transformation capabilities and run the related training sessions. We also support our employees' attendance at forums in diverse fields so that they can identify the latest business and social issues and develop business insights.

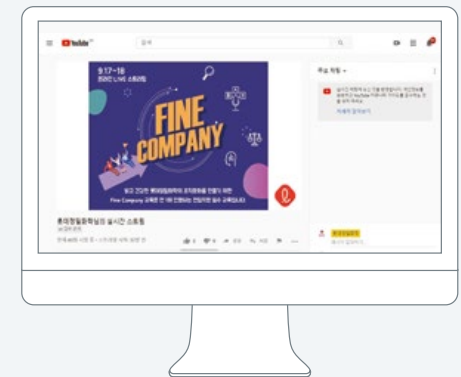
Fair Evaluation and Compensation

To motivate our employees and deliver fair feedback, we have established a transparent and fair performance management system. In addition, we have put in place systems designed to ensure that fair compensation is provided according to individual and organizational evaluations. Fairness is guaranteed through a system that allows employees to raise objections against performance compensation. In 2020, we sought to ensure a more systematic and transparent evaluation and compensation by introducing the application "L-listen", which is designed to allow frequent evaluations of our employees' individual achievements and competencies, as well as to offer constant coaching and conduct interviews on performance.

Fine Company Course

LFC runs the "Fine Company" program which consists of legally mandated education courses, for our employees and those of our major in-house partner companies, in our efforts to build a culture of integrity. Fine Company course consists of five classes – education on the prevention of sexual harassment in the workplace; education to improve awareness of the disabled in the workplace; education on the prevention of workplace harassment; information security education; and compliance management education. We strive to increase employee engagement in the course by running it in tandem with an organizational revitalization program.

We ran the Fine Company course in September 2020 with 30 people seated in a venue that normally accommodates up to 100 people so as to comply with the social distancing standards and quarantine rules due to the spread of COVID-19. After the social distancing level was raised, we offered the course online. We held an in-house knowledge sharing speech event to encourage our employees to actively participate in training programs and increase communication among them.



Building a Great Workplace

Improving the Corporate Culture

In March 2020, LFC launched the 3rd Corporate Culture TF with the goal of deriving and executing action tasks for the sustainable growth of the company and its employees. The TF is composed of 15 employees with various backgrounds and roles (including different workplaces, departments, and duties) under the Management Support Group, so that various opinions from the field can be reflected in the corporate culture activities. It also operates the following three subcommittees, each of which fulfills different roles and assignments.

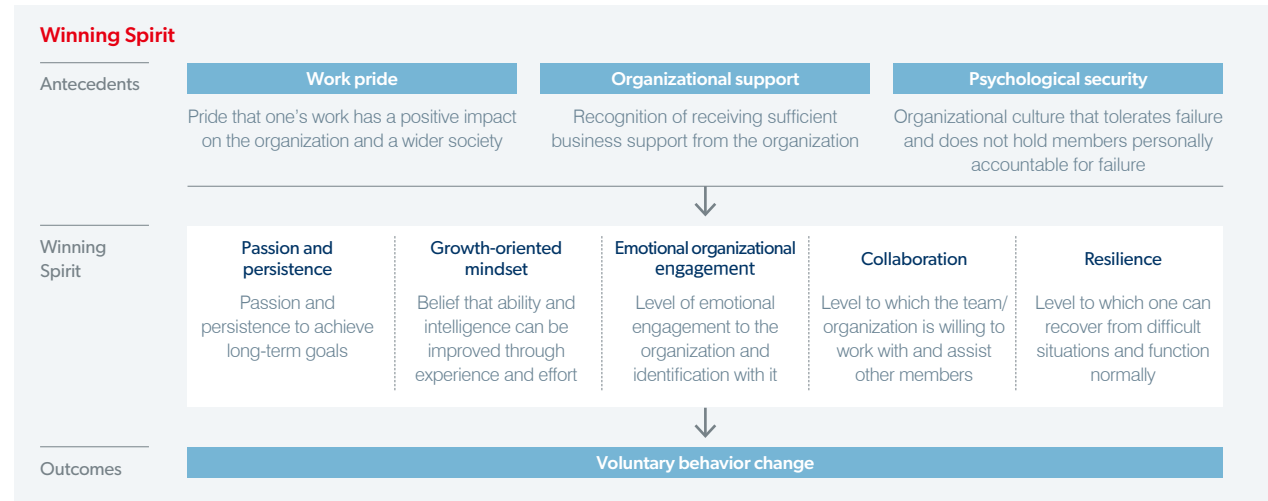
The Corporate Value Subcommittee is focused on improving employees' work engagement and creating results through internalization of the "Winning Culture" based on the "Winning Spirit", which is being emphasized at the Group level in a bid to overcome the COVID-19 crisis and prepare for social changes and a new era thereafter. It has also tried to lead changes in employees' behavior by establishing and disseminating the "Winning Rule", a companywide code of conduct. The Employee Happiness Subcommittee supports the growth of employees in the areas of job competency and leadership, and implemented plans designed to cultivate female talents. The Social Values Subcommittee is dedicated to boosting customer service and unifying the company's CSV activities.

The TF completed 11 tasks in 2020. It held an employee ballot to develop "Do it, Together!" as LFC's unique "Winning Rule", along with the company's core values, "Challenge, Communication, and Cooperation", as well as specific action plans to realize them.

Work-life Balance

Flexible working systems LFC has put in place a flexible working-hours system that enables employees to adapt their work schedules to their childcare hours and self-development needs, thereby increasing job satisfaction and boosting work efficiency. Furthermore, we adopted the PC-off system in January 2019 to comply with the Labor Standards Act and to increase efficiency during work hours, and also introduced an attendance management system in April of the same year to manage the 52-hour workweek system more effectively. In addition, in accordance with the Pledge to Practice 10 Major Tasks for Work Innovation of the Ministry of Employment and Labor, we are establishing a work environment in which overtime is reduced and contacting employees after work hours is strictly avoided.

LOTTE Group's Winning Culture



LFC's Winning Rule



Maternity care system LFC encourages its employees to use their maternity leave and parental leave in order to guarantee long-term work conditions to competent female talents and to contribute to the resolution of the social issue of the low birthrate. As of 2020, 89% of the female employees eligible for parental leave are using this system, and male parental leave is also mandatory, with 75% of those eligible using the system for the past three years.

We provide full support for safe childbirth for our female employees by operating a work-hour reduction system and offering time for checkups during pregnancy. We also offer 10 days of paid paternity leave to spouses and a gift to congratulate them on the birth of their child. In addition, female employees with a child who is about to enter elementary school can use the leave of absence system to take care of children entering school. LFC also operates the Daddy School (training before leave) for male employees who are taking parental leave to promote their early adaptation after returning to work, and Mom's Healing (training for return to work), Working Mom One-on-One Mentoring for female employees who take parental leave, as part of its diverse efforts to build a family-friendly work environment and help employees strike a healthy work-life balance.

We ensure that the use of parental leave does not lead to any discriminatory treatment or disadvantages in relation to one's employment, salary, or career path. We run a self-development support system that allows users to use the online education site of the LOTTE Group even during a leave of absence.

Outplacement program LFC operates an outplacement system that provides support in various areas – including life planning, work competency, life management, and future planning – in conjunction with specialized education companies in order to strengthen the psychological stability and re-employment capacity of executives and employees who have retired from the company. Furthermore, we have expanded the scope of the program by providing support for taking the career consulting content newly introduced on LOTTE Group's online paid lecture site, so as to broaden access to career change support training and enable more employees to design their post-retirement life.

Certified as a family-friendly company¹⁾ LFC has established a wide range of systems to help its employees strike the right balance between work and family life. In addition, we run programs that enable employees and their families to share a healthy, flexible organizational culture, including watching a baseball game as a group from a business site, giving children of employees opportunities to participate in volunteer activities, helping employees send their

parents on a tour, and holding a winter ski camp and the One Mind Festival. In recognition of these efforts, in 2018 LFC was recertified, and continues to maintain its status, as a family-friendly company by the Ministry of Gender Equality and Family.

Certified as a leisure-friendly company LFC was chosen as a leisure-friendly company in 2019 by the Ministry of Culture, Sports and Tourism and the Regional Culture & Development Agency. The qualification will remain valid until 2022. A leisure-friendly company is a model company that supports its workers in their efforts to strike a healthy balance between work and leisure. As of 2020, a total of 217 companies are listed as such companies. We will continue striving to create a corporate culture that values employees' work-life balance and to promote activities designed to support a leisure-oriented life for our employees.

Creating a Happy Workplace

Workplace daycare centers In order to create an environment in which working parents can work without having to be worried, we have established a workplace daycare center, whose operations are entrusted to the Puruni Childcare Support Foundation, a specialized support organization for workplace daycare centers. As of 2020, the 4th year since its opening in 2017, the daycare center is caring for a total of 49 children aged 1-4 years old. We regularly hold a daycare management committee to listen to and reflect parental requirements.

Support for club operations LFC operates a cultural life support system designed to create a pleasant work environment for employees and boost their satisfaction with life at the company. Employees can freely create their own clubs, while LFC provides the necessary financial support for cultural life to clubs that meet the internal criteria. At present there are 21 clubs in operation, including scuba diving, performance-viewing, soccer, and bowling clubs among others.

Support for condos and summer resorts We support our employees' holiday accommodation needs by offering stays in condominiums and summer resorts every year and operating a practical welfare system designed to help them establish a healthy work-life balance. As of 2020, we have a membership for a total of 16 condos nationwide, and we strive to provide benefits to all our employees by providing the equivalent of 1,998 nights of accommodation. In addition, we supported employees' summer vacations by offering accommodation in four leading hotel and residence accommodation facilities in the country for 645 nights during the peak vacation season (July 24-August 23).



¹⁾ Family-friendly company certification: A system granted by the Minister of Gender Equality and Family to companies and public institutions that operate a family-friendly system in an exemplary manner and meet the requirements of family-friendly laws, through an evaluation of their efforts to support childbirth and rearing, implement the flexible work system, and create a family-friendly workplace culture

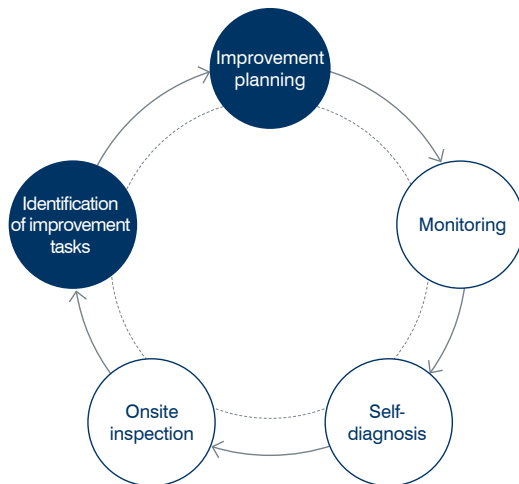
Respecting and Protecting Human Rights

Human rights are basic fundamental rights and freedoms that are granted to everyone. As a member of the UN Global Compact (UNGC), LFC respects the protection of internationally declared human rights and supports the principles of human rights, such as preventing and avoiding any involvement in human rights violations. We are doing our best to establish a sound organizational culture in which all our members are fully respected anytime, anywhere, without prejudice, coercion, or discrimination.

Human Rights Management System

At LFC, we respect each individual employee's human rights in accordance with our human-centered management philosophy and the basic rights regarding human dignity and value as stipulated in the Constitution of South Korea. We prohibit forced labor and child labor, observe the Labor Standards Act, and strictly prohibit discrimination based on academic background, region of origin, gender, age, religion, or race. In particular, LFC guarantees the fair treatment of all its employees in its HR and welfare systems, encompassing everything from employment and assignment, to promotion, wages, training, and retirement. During the statutory training sessions run in 2019, LFC provided human rights training to all its employees through a lawyer to prevent workplace verbal abuse, and training on the Act on the Prevention of Workplace Harassment. As a result of these efforts, there were no cases of discrimination during the reporting period in 2020, and none of LFC's business areas ran the risk of violating the freedom of collective bargaining.

Working Condition and Human Rights Risk Management Process



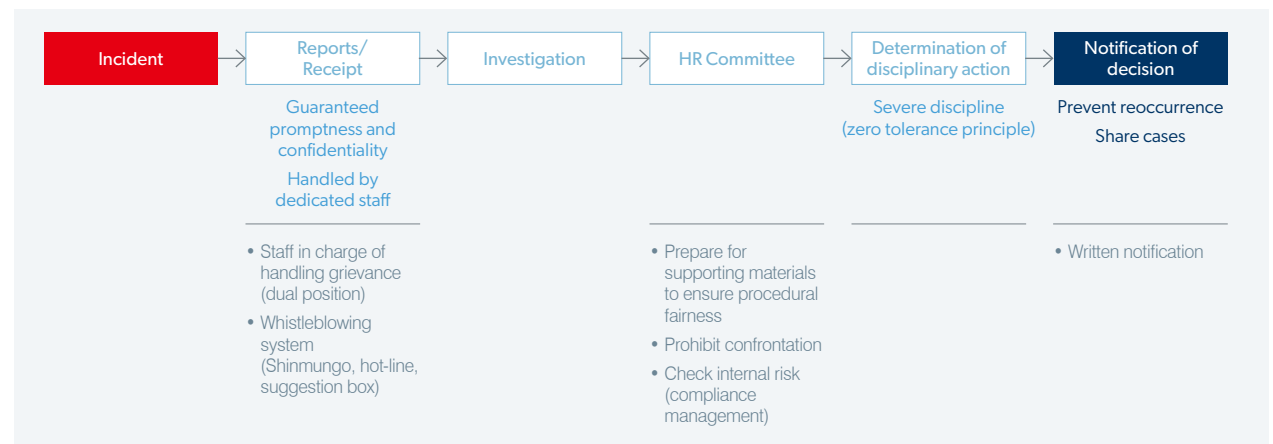
Operating Grievance Center

In order to receive reports and resolve various kinds of employee grievances, such as human rights violations, workplace harassment, and discrimination, we established the Grievance Center in 2019 to operate on-line and offline reporting channels. A grievance counselor is assigned to each business site as a way to respond quickly and actively to reports of grievances. The identity and anonymity of whistleblowers is thoroughly managed to protect them from possible disadvantages such as secondary damage or discrimination.

Requirements for 'Respect for Human Rights' in the LOTTE Code of Conduct

- We shall respect human rights anytime, anywhere in all our business activities.
- We shall uphold our values and standards regarding respect for human rights and disseminate them to our partner companies.
- We shall endeavor to ensure that our business does not have any negative impacts on human rights.
- We shall guarantee and support human rights in our local communities.
- We shall familiarize ourselves fully and comply with the local labor laws.
- We shall not tolerate child labor in the workplaces of our company or our partner companies, and shall comply with local laws and international standards for the minimum age.
- If it is necessary to recruit an employee under the age of 18, we shall consult with the Head of the Legal&Compliance Department and check the minimum age requirement in accordance with the applicable laws and regulations.
- We shall not tolerate any coercion, restraint or other types of forced labor.

Grievance/Sexual Harassment Prevention & Handling Process



Mutual Trust-based Labor-management Culture

Expanding Employee Communication

LFC has established a wide range of online and offline channels to cultivate a strong communication culture and an open and productive work environment.

Mentoring program LFC runs an in-house mentoring program for all its employees, including new recruits, to help new members adapt to the organization as quickly as possible. This program deepens employees' understanding of the company and their respective duties by providing them with an opportunity to experience various activities in and outside the Company for around four months, with support from mentors who are chosen in consideration of the characteristics of their work and job positions. In addition, a reverse mentoring program has been in place to allow employees of different generations to share insights and communicate with each other.

Soh-tong Insight LFC shares management and company news, useful daily life information, and information on employee family events and club events through "Soh-tong Insight", an internal online communication portal. Notably, employees can freely communicate with the company and resolve difficulties through the Soh-tong Avatar, an anonymous bulletin board. We also strive to communicate with customers and potential employees through social media channels.

Regular meetings LFC holds such regular meetings as meetings led by the CEO and C-level executives for new employees and female talents, and the Fine Lunch Day, a lunch gathering where employees with similar positions share their concerns. These events are designed to promote mutual communication, stronger ties, and exchanges of opinions among employees.

Labor-Management Council In order to promote dialogue between labor and management and to reflect the needs of employees, LFC holds the Labor-Management Council, a regular labor-management communication channel, once a quarter. The Council, which is composed of ten members from management and labor, each, collected and discussed 15 items of agenda as well as various other practical topics in 2020. We are now proceeding with the follow-up measures, as well as making concerted efforts to reflect the voice of the field in the company's business management through constant communication and discussion between working-level personnel.

Labor Union

Established in 1971, LFC's labor union continues to practice various labor-management joint programs to build win-win labor-management relations under the vision of a "creative partnership". All employees in assistant manager or lower positions are eligible to become a member pursuant to the collective agreement, and they can freely join and leave the union as they please. As of the end of 2020, the membership stood at 432, accounting for around 80% of the employees eligible for union membership.

Labor Union Membership

2018	2019	2020
69%	76%	80%

* Percentage of union members compared to employees eligible for union membership (assistant manager and below)

432

No. of people with labor union membership



Wage negotiation signing ceremony in 2020



Soh-tong Insight

TREND & CONTEXT

As a member of society, a company can receive social support when it coexists harmoniously with such various stakeholders as customers, partner companies, and local communities, which will enable it to achieve sustainable growth. As social awareness and calls for corporate social and environmental responsibility increase, the impact of supply chain, including safety, environment, and human rights, on corporate value has been also increasing. Many companies have therefore recognized their suppliers as partners for mutual growth, and are focusing on more systematic and efficient supply chain management and win-win cooperation.

Product responsibility is also essential in sustainable growth of a company because the source of its survival and growth lies in creating customer value through the provision of high-quality products and services. In today's rapidly changing business environment, which is characterized by fierce competition, companies are required to concentrate on creating differentiated customer value by accurately identifying and responding to customer needs in a timely manner.

OUR APPROACH

LFC is striving to achieve sustainable management by running its business in economically, socially, and environmentally responsible ways. In particular, we seek to grow into an enterprise that contributes to making positive changes for society as a "Good partner making a sustainable future". To this end, we communicate and cooperate with local community organizations and carry out strategic social contribution activities.

In addition, we are paving the way to win-win growth with our partner companies by operating various competitiveness enhancement programs, including financial and competency development support, based on solid partnerships with them. We are also focusing on creating differentiated customer value by leveraging our product quality as both the foundation of and the driving force for growth. In order to secure the highest level of quality, we have established a quality management system based on ISO standards and are performing quality enhancement activities. We also communicate with our customers through diverse channels and are striving to improve customer satisfaction.

03.

Securing Corporate Trust Through Sharing Management and Win-Win Growth



2020 ACHIEVEMENTS

Social contribution expenditures



2,138 KRW million

Employee participation rate in social contributions¹⁾



38.5%

No. of elementary school students participated in the Urban Box Farming Campaign



10,200

Win-win cooperation fund for partner companies



7 KRW billion

No. of VOCs handled



410 cases

No. of leakage/theft of customer information



Zero

Alignment with UN SDGs

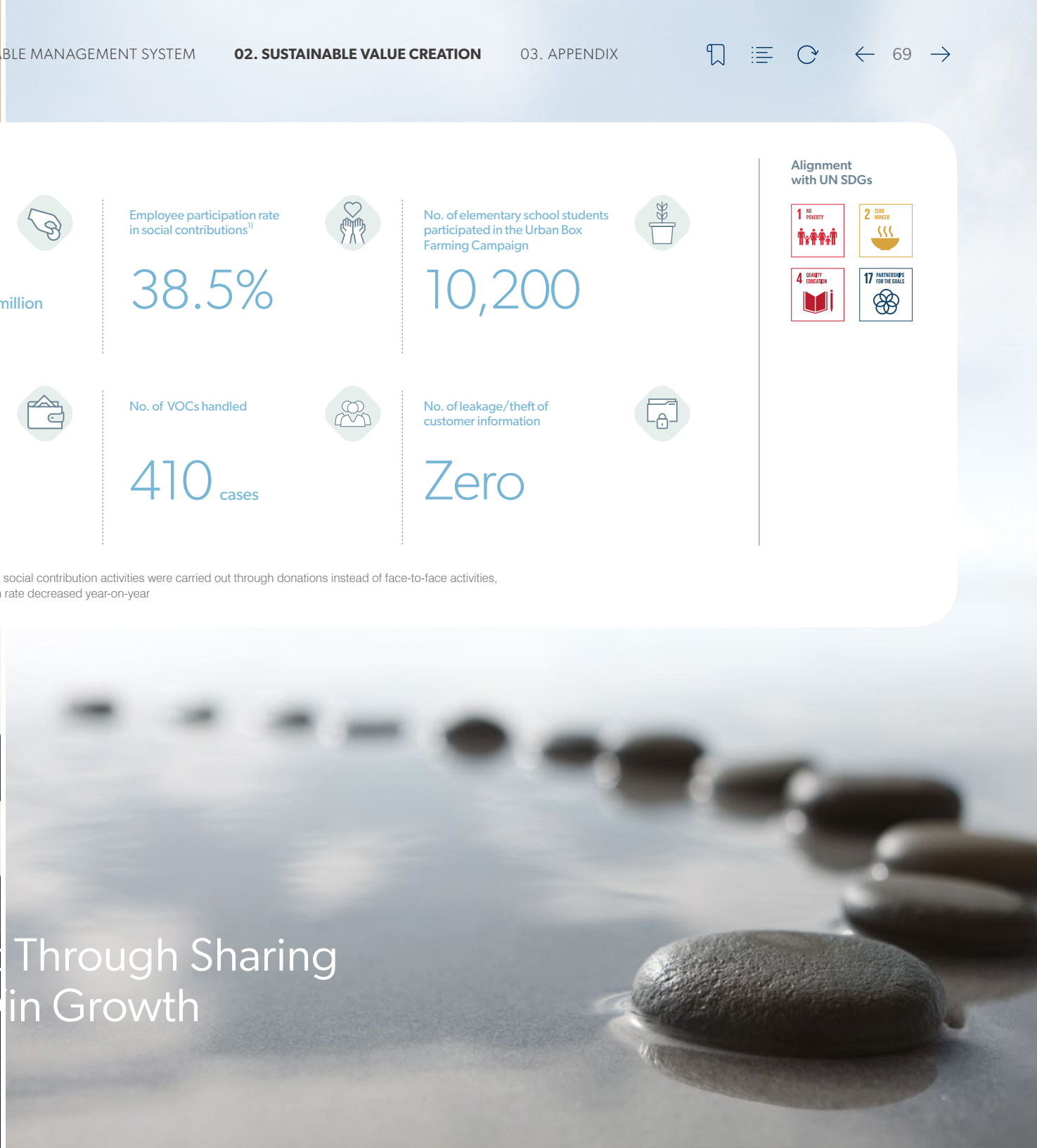


* As of 2020 year-end

¹⁾ Due to the spread of COVID-19, social contribution activities were carried out through donations instead of face-to-face activities, and thus employee participation rate decreased year-on-year

03.

Securing Corporate Trust Through Sharing Management and Win-Win Growth



Securing Corporate Trust Through Sharing Management and Win-Win Growth

Social Contributions

CSR System

CSR Strategy

In line with the internal and external ESG management trends, LFC has established a new corporate social responsibility (CSR) vision as a “Good partner making a sustainable future” at the end of 2020. We then added “alignment with chemical industry” to our CSR categories, thereby conducting strategic CSR activities leveraging our expertise as a chemical company. We have set detailed areas of activities – children/youth and women; local community; local environment; alignment with chemical industry; and collaboration with LOTTE Group and other related organizations – and implemented various programs based on respective customized strategies. In 2021, we will strengthen our existing social contribution activities, identify new CSR activities related to the chemical industry, and promote joint CSR activities in partnership with LOTTE Group and other chemical affiliates of the Group to create synergy.



CSR Organization

In order to conduct our CSR activities more efficiently, LFC has formed a volunteer team dedicated to a specific program at each business site. The CSR Secretary is in charge of operating funds and establishing strategies for social contributions. LFC also holds the annual Volunteer King Awards Ceremony, which selects and awards employees with an outstanding volunteering performance in order to encourage employee participation in the company's CSR activities.

Social Contribution Fund

LFC's social contribution fund consists of a matching grant sponsored by the Company and other contributions. The matching grant is a social contribution fund that is raised through employee donations and the company's contribution of the equivalent sum.



Employee donations

Deductions from employees' salaries, donations of prize money of employee idea contest



Company matching grant

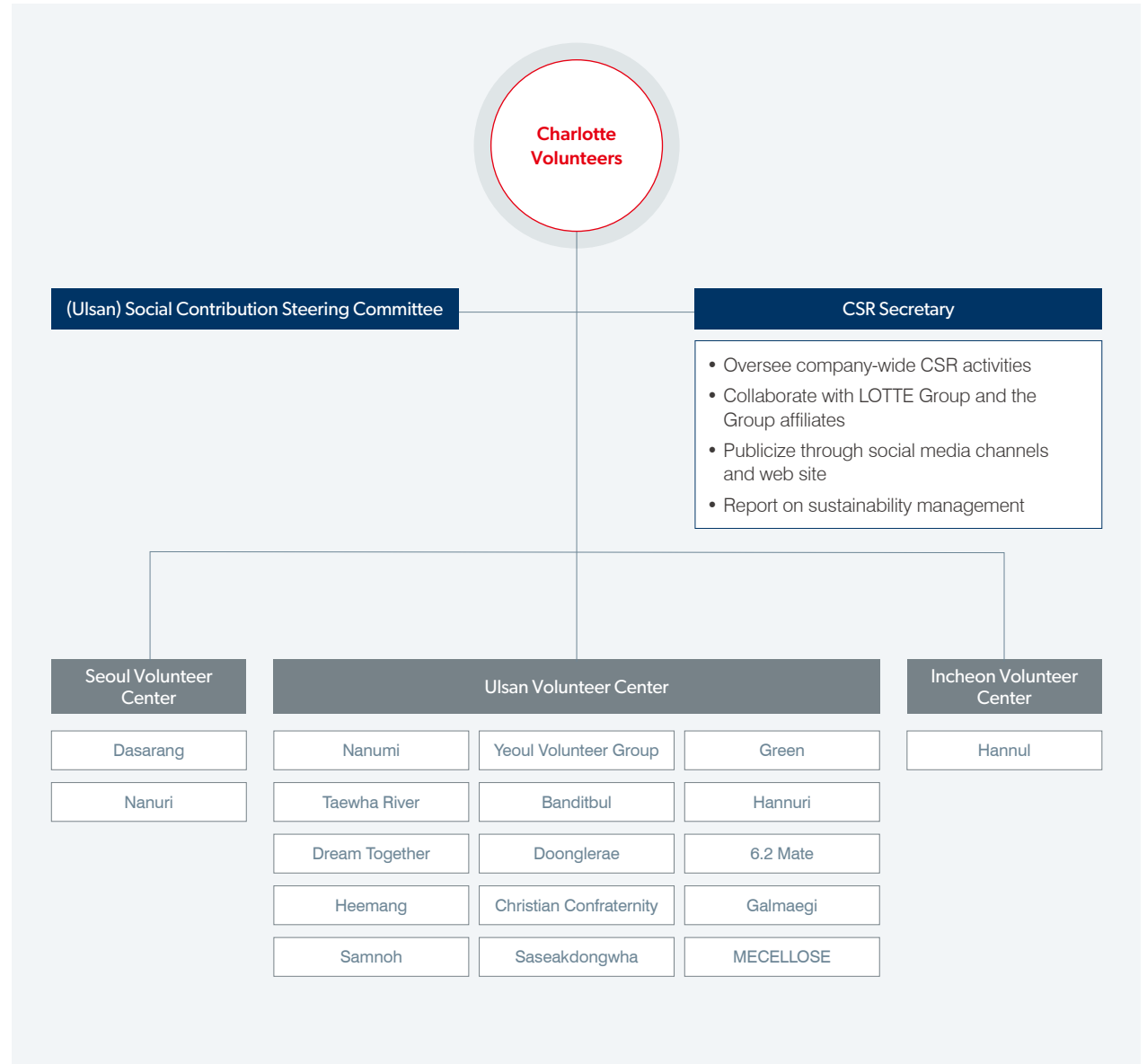
Matching grant provided by the company at a ratio of 1:1 with funds raised by employees



Company contributions

Donations made by the company for national disaster relief and local community development

Organization for CSR Activities



Key CSR Activities

FINE Dream

Donation of books To improve reading environment for children and promote the development of a reading culture, we have donated some 7,100 books including basic chemistry books to schools, local children's centers, and social welfare organizations in Ulsan since 2017. We have also held a book concert aimed at encouraging children to read books. The donated books include the basic chemistry books which we believe are instrumental in motivating children to increase their interest and understanding of chemistry in their daily lives, and those books requested by teachers, students, and parents, such as learning collections and books on the humanities.

Happy Love House LFC, in partnership with the MICOS Children's Center, carries out activities designed to improve the residential environment of low-income families. Each year we select one family for whom the volunteer group installs wallpaper and replaces furniture and lights as part of our effort to create cleaner, safer residential spaces. In 2020, we repaired the home of a child from a multicultural family whose dream is to become a teacher. We will continue providing support so that children can dream of a future, full of hope, in their safe homes.

Sponsorship for Ulsan Swings In 2014, LFC established "Ulsan Swings", a multicultural little league baseball club, in partnership with Ulsan Nam-gu Social Welfare Center and Ulsan Nambu Police Station, as part of our efforts to help children from multicultural families plan for a future full of hopes and dreams. In 2020, we provided them with an opportunity to improve their sportsmanship and to train mind and body through theoretical education, basic sports training, basic physical training, and team building games by sponsoring a series of baseball classes.

FINE Society

HANDS ON volunteer activities LFC's Charlotte Volunteers have been conducting "HANDS ON" volunteer activities since 2015, in which any of its employees can make and donate items using their spare time. They have produced and delivered 2,180 pop-up books through active participation so far. In 2020, with the aim of developing the creativity of children from multicultural families and low-income households, a total of 177 employees and their families participated in making pop-up books over a period of about one month, producing 350 pop-up books and donated to the Ulsan Metropolitan City Volunteer Center.

Holiday and year-end hope sharing activities LFC carries out annual hope-sharing activities on Lunar New Year's Day, Chuseok (harvest festival), and at the end of the year at its business sites in Ulsan and Incheon. In 2020, we delivered gifts (New Year's holiday food kits, protective clothing for cold weather, etc.) to six institutions instead of participating in holiday events there due to COVID-19. We took part in the 'Santa Expedition' campaign organized by ChildFund Korea for the first time during the year to deliver household goods and pay heating bills for children from low-income families.

Donating daily necessities to overcome the COVID-19 crisis In May 2020, LFC donated 400 boxes of daily necessities worth KRW 40 million. Each box contained 21 convenience food items for low-income families suffering from restrictions due to COVID-19 in 14 neighborhoods in Nam-gu, Ulsan. In December, we delivered daily necessities worth KRW 8 million to people in need living near our business sites in Ulsan and Incheon.

Dietary support for low-income people with disabilities Since 2016, LFC has held a ginseng chicken soup sharing event for people with disabilities to help them combat the hot summer. As we were not able to hold such a gathering last year due to COVID-19, we delivered 306 sets of vitamins worth KRW 4 million to help low-income people with disabilities have a healthy summer.



Donation of books



HANDS ON volunteer activities

Key CSR Activities

Categories	Beneficiaries	Details
FINE Dream	Children/youth and women	Sponsorship for Ulsan Swings, a multicultural little league baseball club; book donations to children in Ulsan; Mom's Happiness : FINE Trip; Love House activity to improve residential environment, etc.
FINE Society	Local community	Sharing love with neighbors at the end of the year and on public holidays; support activities for people with disabilities in Ulsan during summer; sharing kimchi of love; HANDS ON volunteer activities to support the underprivileged, etc.
FINE Eco	Local environment	Urban Box Farming Campaign; Incheon coastal clean-up volunteer activities; Campaign to Protect Bamboo Shoots in the Bamboo Forest of the Taehwa River Grand Park, etc.
FINE Chemi	Alignment with chemical industry	Scholarship for chemistry majors at UNIST (Ulsan Institute of Science and Technology), donation of urea solution, etc.
FINE Synergy	The Group and related organizations	Donations to LOTTE Foundation for Arts, Community Chest of Korea, and Korea Ski Association; use of the Farming and Fishing Community Win-Win Cooperation Fund, etc.

Local CSR activities by union members Members of the LFC labor union created a social contribution fund in April 2020, and signed a memorandum of understanding (MOU) on social contribution activities to support the environmental conservation activities of the Ulsan Environmental Movement Association. The two organizations have since promoted environmental monitoring, environmental volunteering, and environmental education and experience programs together. In particular, the union members and their families are committed to participating in various activities beyond simply making donations. As their first joint project in 2020, members of the two organizations conducted two air quality monitoring projects that could not be carried out in 2019 due to a lack of budget. As Ulsan is home to many industrial facilities, the air quality monitoring project should be carried out regularly to track trends, an activity now made possible by the execution of the MoU. Internally, it is a significant move in that the members of our labor union have voluntarily committed themselves to environmental preservation. LFC will continue to expand the scope of its social contribution activities to meet the needs of its local communities.

In July 2020, the LFC labor union's "Volunteers of Love" delivered and installed 47 table shields worth about KRW 4 million to help enhance hygiene for children who use children's centers in Ulsan. Made of transparent acrylic, the shields prevent the transmission of droplets of saliva without obstructing vision, allowing children to enjoy meals or education sessions without having to worry about the disease.

FINE Eco

Urban Box Farming Campaign Launched in 2010, the Urban Box Farming Campaign is our signature eco-friendly CSR activity through which we have been delivering some 30,000 saplings and seedlings to local citizens over the past ten years. In 2020, due to the COVID-19 crisis, we held the annual event as a non-face-to-face sharing activity, distributing rubber tree seedlings with excellent air purification capabilities that grow well indoors to 10,200 students at 21 elementary schools in Ulsan in cooperation with Ulsan Life Forest and Ulsan KBS.

Incheon coastal clean-up volunteer activities LFC carries out coastal clean-up activities in Incheon as part of its efforts to promote the sustainable preservation of marine resources. Following our debris collection activity in the coastal area of Oido, Incheon in 2019, we joined forces with Incheon Port Authority to carry out environmental clean-up activities at Incheon New Port Bridge and the surrounding wetlands in 2020. We are now planning to carry out more systematic and continuous marine debris clean-up activities

in the near future by establishing active cooperative relationships with such organizations as Incheon Port Authority and Incheon Regional Office of Oceans and Fisheries.

FINE Chemi

Scholarship for chemistry majors at UNIST To contribute to fostering future talents in the chemical industry and support the dreams of students from disadvantaged households, LFC has joined hands with Ulsan Community Chest of Korea to run a scholarship program for students majoring in chemical engineering at Ulsan National Institute of Science and Technology (UNIST). The program provided books and living expenses to a total of 20 students in 2020, and in 2021 we plan to develop new support programs to promote eco-friendly research and donate laboratory equipment, in addition to the scholarship program.

Donation of urea solution As part of CSR activities leveraging our business capabilities, we donated about 40,000 liters of EUROX[®] urea solution to Gyeongbuk and Jeonbuk provinces in collaboration with Korea Foundation for Cooperation of Large & Small Business, Rural Affairs. The donated solution was delivered to agricultural machinery rental offices in rural areas suffering from a shortage of COVID-19 quarantine vehicles and ambulances, as well as a labor crunch, during the farming season.

FINE Synergy

Mom's Happiness : FINE Trip In June 2020, LFC signed an MOU with Bobath Memorial Hospital Bobath Children's Hospital to conduct a new social contribution program called "Mom's Happiness : FINE Trip". The program provides full travel packages to families with children who rarely if ever travel due to intractable health disorders, in order to increase the effectiveness of their rehabilitation treatment and help strengthen family ties. In 2020 we gave a present of trip to 12 families, whose feedback will be used to create an even better program in the future.

LOTTE Pleasure Box Campaign LFC has been taking an active part in the Pleasure Box Campaign, LOTTE Group's flagship CSR activity, offering a helping hand to neighbors in need. The campaign is designed to deliver boxes filled with everyday necessities. In 2020, LFC participated in the campaign for the second consecutive year by delivering a pleasure box containing childcare products and daily necessities to 1,300 single mothers and their children suffering from the effects of the COVID-19 crisis in partnership with LOTTE Holdings and the LOTTE Welfare Foundation.



Incheon coastal clean-up volunteer activities



Signing ceremony for the MOU of Mom's Happiness : FINE Trip



Establishing Transparent Corporate Culture Based on Ethical Mindset

Win-Win Growth with Partner Companies

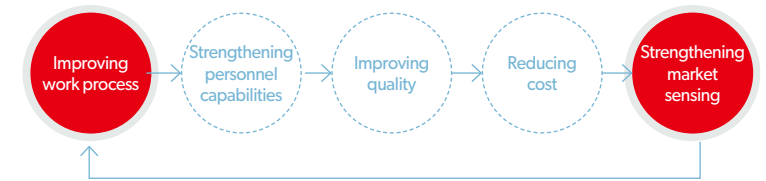


As the business environment becomes increasingly diverse and specialized, the roles and partnerships of suppliers are becoming even more important to the sustainable business growth. Emphasizing the importance of cooperative relationships with its business partners, LFC actively provides them with opportunities to develop their human resources, improve their quality and technical capabilities, and enhance competitiveness in order to grow together based on mutual respect.

Win-Win Growth System

LFC maintains fair cooperative relations with its partner companies by engaging in diverse win-win initiatives, such as signing fair trade agreements and improving the contract system, based on its five win-win growth strategies – improving work processes, strengthening personnel capabilities, improving quality, reducing costs, and strengthening market sensing. To ensure fair and transparent business transactions when trading with other companies, LFC creates a standard contract on major contract changes, etc. and receives confirmation from the Compliance Department.

Win-win Growth Strategies



Communication with Partner Companies

We have set a variety of communication channels in place, including in-house online Shinmungo system, so that our partner companies can raise issues at any time in the event of unreasonable requests or violations of the regulations on our part. We encourage them to utilize the channels actively, and plan to launch regular meetings with them soon. We will continue to expand opportunities for them to voice their opinions and make suggestions through frequent communication as a way of building more trusting, solid business relationships.

Post Evaluation of Partner Companies

LFC is firming positive relationship with its partner companies under the principle of win-win cooperation and shared growth. In 2020, we upgraded our annual post-evaluation system for our suppliers in order to facilitate the establishment of long-term partnerships with our most outstanding suppliers and, based on the results of the evaluation, offered them various incentives including priority contract renewal. The evaluation largely focuses on work performance, environment and safety, and cooperation with us. In an effort to make the evaluation as fair as possible, we consider each partner company's characteristics in configuring the evaluation items and allotted points.

Environmental impact assessments LFC conducts environmental impact assessments of the activities of in-house and outsourcing partner companies who perform logistics, manufacturing management, manufacturing, or subcontract work based on their individual contracts with us. We provide outstanding companies with various incentives, such as provision of priority in signing a contract, according to the results of their evaluation. For partner companies whose business has negative environmental impacts, we help them establish improvement and management measures aimed at preventing and reducing such impacts.

Items for Post Evaluation of Partner Companies

Category	Detailed evaluation items
Work performance	<ul style="list-style-type: none"> • No. of process and product issues • Level of productivity (yield) • Innovation efforts
Environment and safety	<ul style="list-style-type: none"> • Mandatory health and safety education • Emergency drills and preventive measures • Safety self-inspection and activities • Performance in environmental impact assessment
Cooperation	<ul style="list-style-type: none"> • Compliance with the settlement process • Cost reduction proposals

Business Partner Support Programs

Financial Support for Partner Companies

LFC pays in cash, excluding drafts, so that payments can be made to its partner companies quickly. In particular, for small and medium-sized businesses, we complete payment within 15 days of closing the tax invoice. In addition, we have introduced a system of early payment for suppliers that urgently need funds during the year-end, New Year holidays, and major holidays.

Win-win cooperation fund In March 2020, we signed an agreement with Woori Bank to provide financial support to our partner companies. The agreement enables us to offer support to outstanding partner companies with a certain amount of loan resources that we create through an initiative designed for shared growth between manufacturing businesses and the financial institution, with loans made by the institution to the partner companies we recommend. We deposited KRW 7 billion for one year at the interest rate, deducting the preservation interest rate from the market real term deposit rate, so that the Bank can provide preferential loans and interest rates for our partner companies. Accordingly, Woori Bank provides loans to our partner companies up to a limit of KRW 14 billion, which is double of financial resources provided by us, and operates a preferential loan interest rate system in accordance with the Bank's preferential standards. Thanks to this win-win fund system, our partner companies can secure vital financial resources for their operations/facilities at lower interest rates than those offered by the market.

Support for Partner Companies' Capacity Building

LFC provides training on health, safety, and the environment to the in-house partners based at its production sites in order to help them secure extensive business expertise. We are currently preparing to offer online training courses designed to help our partner companies build the knowledge and competences of their employees, followed by courses on business management, language studies, and specialized job functions.

Establishing Transparent Corporate Culture Based on Ethical Mindset

Quality Innovation and Customer Satisfaction



Quality Improvement

Quality Management System

In order to achieve its goal of “Securing Global Top-tier Quality Competitiveness”, LFC acquired the quality management system (ISO 9001: 2015) certification in 2017, and has continued to maintain it while developing its quality management system. In addition, we are making various efforts, such as establishing the processes, building a quality assurance (QA) system, identifying defects and making improvements. In the near future, we will continue with our quality stabilization efforts by strengthening the foundation for advanced quality management and improving our quality competitiveness.

Strategic Direction for Quality Management

Focusing on basics and principles

Leading quality management that starts with raw materials
Standard management customized to products



Quality Improvement Activities

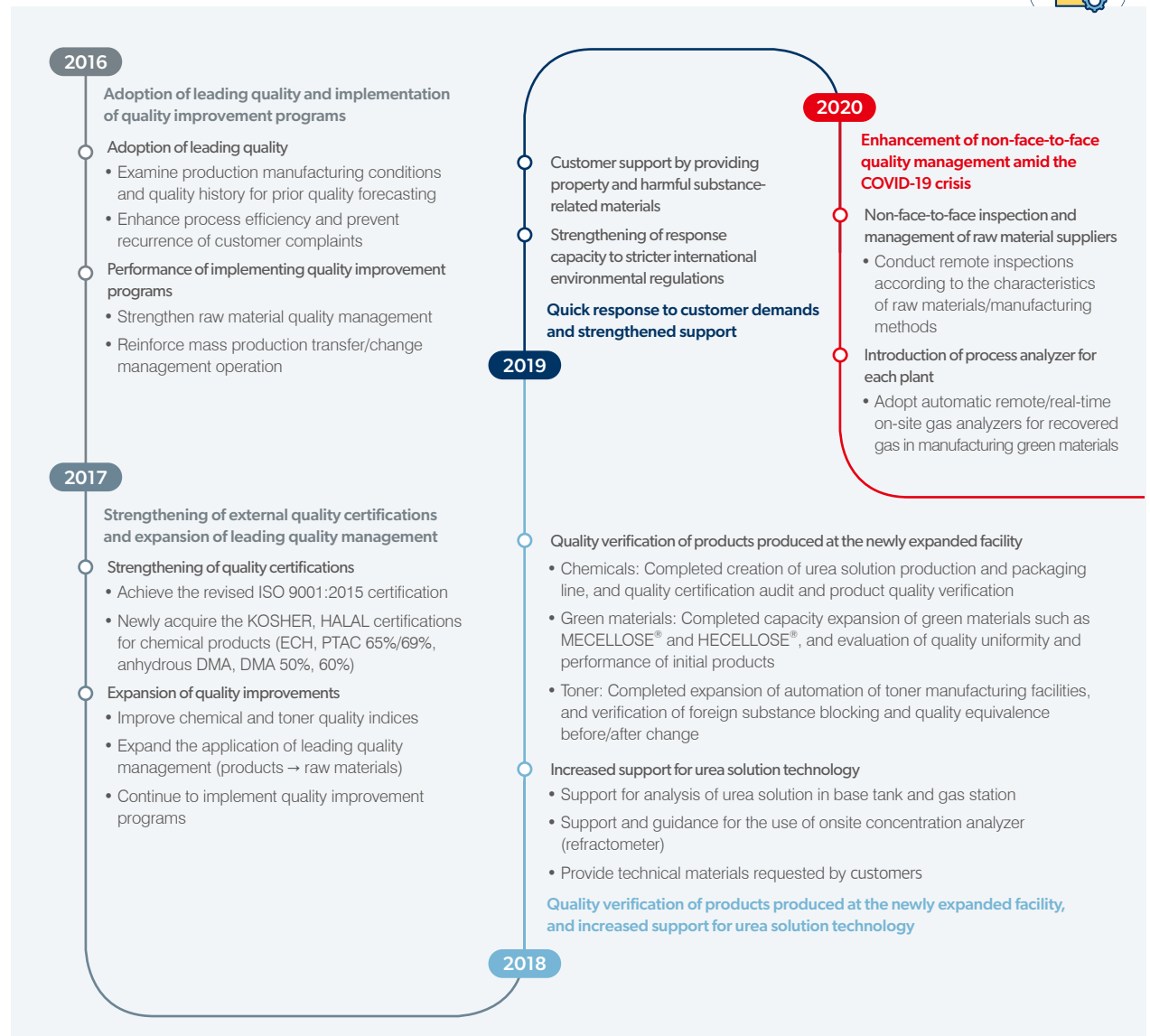
Quality process audit To address customer complaints and inappropriate matters, we conduct process audits during which we reexamine our quality management system and inspect the way we work on our established quality assurance processes. In so doing, we also check whether our production activity-related processes, inspections, and operation processes are being effectively executed, thereby examining the reliability of the products and services we provide to our customers. We are also striving to establish a culture in which our employees perform according to such standards and processes. We will continue to select key themes by quarter through the process audits.

Strengthening the quality management of raw and subsidiary materials Each business division aims to enhance its quality management by considering the characteristics of raw and subsidiary materials, chemicals, and catalysts. We will further strengthen our quality and supplier management of raw and subsidiary materials that are subject to focused management, and apply this practice to the new material and supplier certification process. We will also establish a quality verification system for raw materials and products at the initial phase of their adoption for continued maintenance and management.

Expansion of process inspection and quality management We have been constantly adopting additional automatic on-site analyzers in a bid to optimize our quality management practices. In 2020, we reviewed the introduction of automatic on-site analyzers for nine products, installed equipment to analyze the composition of recovered gas in the process of manufacturing green materials at our business sites, and upgraded our abilities in the areas of quality improvement and quality predictability through real-time monitoring. This has also eliminated the risks involved with taking and moving product samples, and thus enabled us to establish a process that satisfies both safety and quality requirements.

Addition of certified items to meet overseas customers' requirements LFC first obtained the Halal¹⁾ certification, a Muslim practice, in 2017 which was followed by two additional chemicals and green materials products each in 2020. Muslims make up 25% of the world's population, and about 80% of Muslims live in Asia and the Middle East. By meeting customers' requirements in these regions through the Halal certification, we have bolstered our product reliability. We have also secured the essential certification to promote our new green materials in Southeast Asia, which is expected to contribute to our market expansion in those regions.

Directions to Ensure Quality



¹⁾Halal: A generic term for products that are strictly produced according to Islamic law and allowed to be consumed by Muslims

Customer Satisfaction Enhancement

Customer Communication

LFC has been improving customer satisfaction and driving corporate growth by establishing a customer response system that links all parts from sales to production, quality, and research, and by responding promptly to voice of customers (VOCs). We provide our customers with data on physical properties and hazardous substances, reinforce our responses to the trend of strengthening global environmental regulations, and continue to make improvements to our services.

Better responding to customer feedback on EUROX® Six out of 52 consumer inquiries about EUROX® in 2020 were about inferior packaging. To address this issue, we began making improvements to the related processes and facilities in February, and ended up upgrading 27 packaging processes. We have evaluated the effectiveness of the improvement measures we have implemented over the past five years and are currently promoting their standardization to prevent the recurrence of the related issues. In the reevaluation process, we have deployed an advanced analysis technology to objectively analyze the causes of problems, in addition to the related legal issues, and provided our customers with the results, further raising their satisfaction with our follow-up management efforts.

We systematically manage VOCs received through various channels including the EUROX® homepage and the ARS in our EUROX® order management system. Meanwhile, we have appointed a TS (Technical Support) officer as a part of our continuous improvement efforts to promptly handle VOCs.

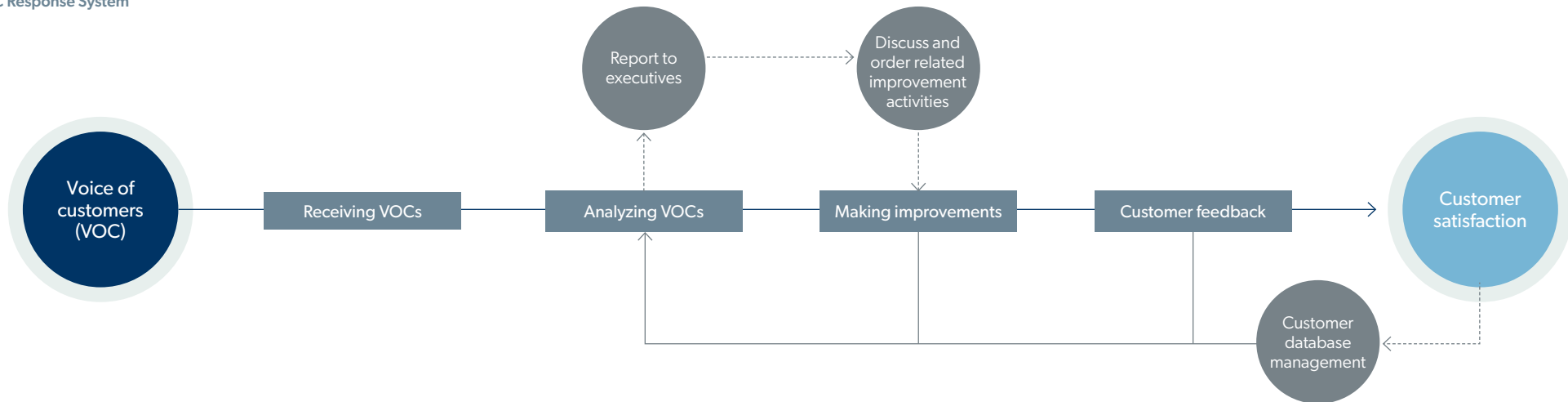


VOC Status by Product

(Unit: Case)

	2018	2019	2020
Toner	10	23	9
Green materials	64	68	96
Chemicals	146	190	305
Total	220	281	410

VOC Response System



Protecting Customer Information

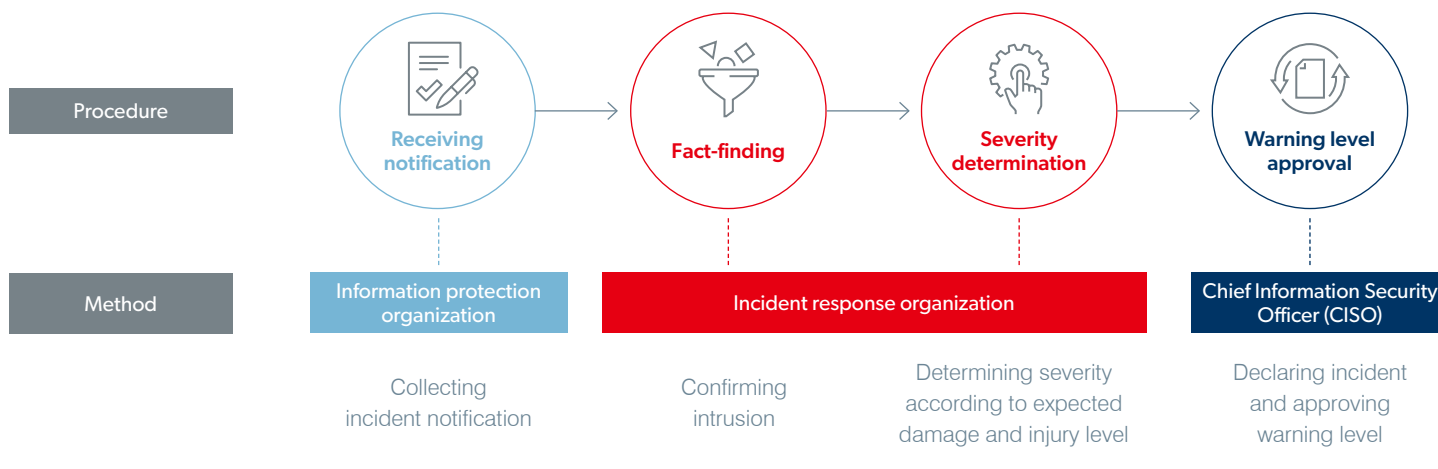
With the increasing risk of data breaches and misuse in line with the development of ICT, LFC has established a strong corporate information security policy and system that exceeds the legal requirements, with which all our employees must strictly comply.

Information protection implementation system To strengthen our information security, we run an organization committed to information protection and take the highest level of protection in accordance with the relevant laws including the Personal Information Protection Act. We have adopted the LOTTE Group's integrated control system in a bid to establish and operate a system that allows us to respond quickly and accurately to information security issues. We conduct IT vulnerability checks once a year to determine whether there are any information security vulnerabilities at our website and our established systems, and take the necessary actions immediately.

Internalization of information security To raise awareness of the importance of and need for information protection and to implement safe lifecycle management of personal information, we require all our employees to undergo regular training and manage and supervise their performance strictly. We have designated the first Monday of each month as "Information Protection Day" during which we share with them incidents and precautions related to information security. We also conduct physical security inspections of our business sites on "Clean Office Day" held on a quarterly basis.

Monitoring of customer information leakages Since 2017, LFC has been successful in maintaining its ISO 27001 certification, which is an international standard on information protection. We have also built a personal information management system and monitor personnel responsible for handling personal information to prevent leaks, forgeries, and falsifications of personal information. We immediately notify customers in the event of data breaches and take measures to minimize damages. In addition, we run security drills each quarter to prepare for email virus attacks as part of our efforts to prevent cyberattacks.

Response Process to Information Breach



TREND & CONTEXTS

Chemical industry, a key industry of the national economy, has continued to develop on the back of technological advances, productivity improvements, and market development. Fine chemical industry, as an intermediate material industry, supplies raw and subsidiary materials to automobile, electronics, and construction sectors after receiving raw materials from basic chemical industries such as oil refining and petrochemicals. Its core competencies include such factors as the experience and know-how through continuous R&D and the establishment of a production system that responds to market demand in a timely manner.

Fine chemical industry has great growth potential as demand for its products has risen significantly due to technological advances and specialization, the recent conceptual expansion of the ability to create high value-added, and the growing demand for health and well-being products and services. Meanwhile, it is experiencing a paradigm shift fueled by increasing demand for functional high-quality materials, the accelerating pace of technological innovation, and the strengthening of global environmental regulations.

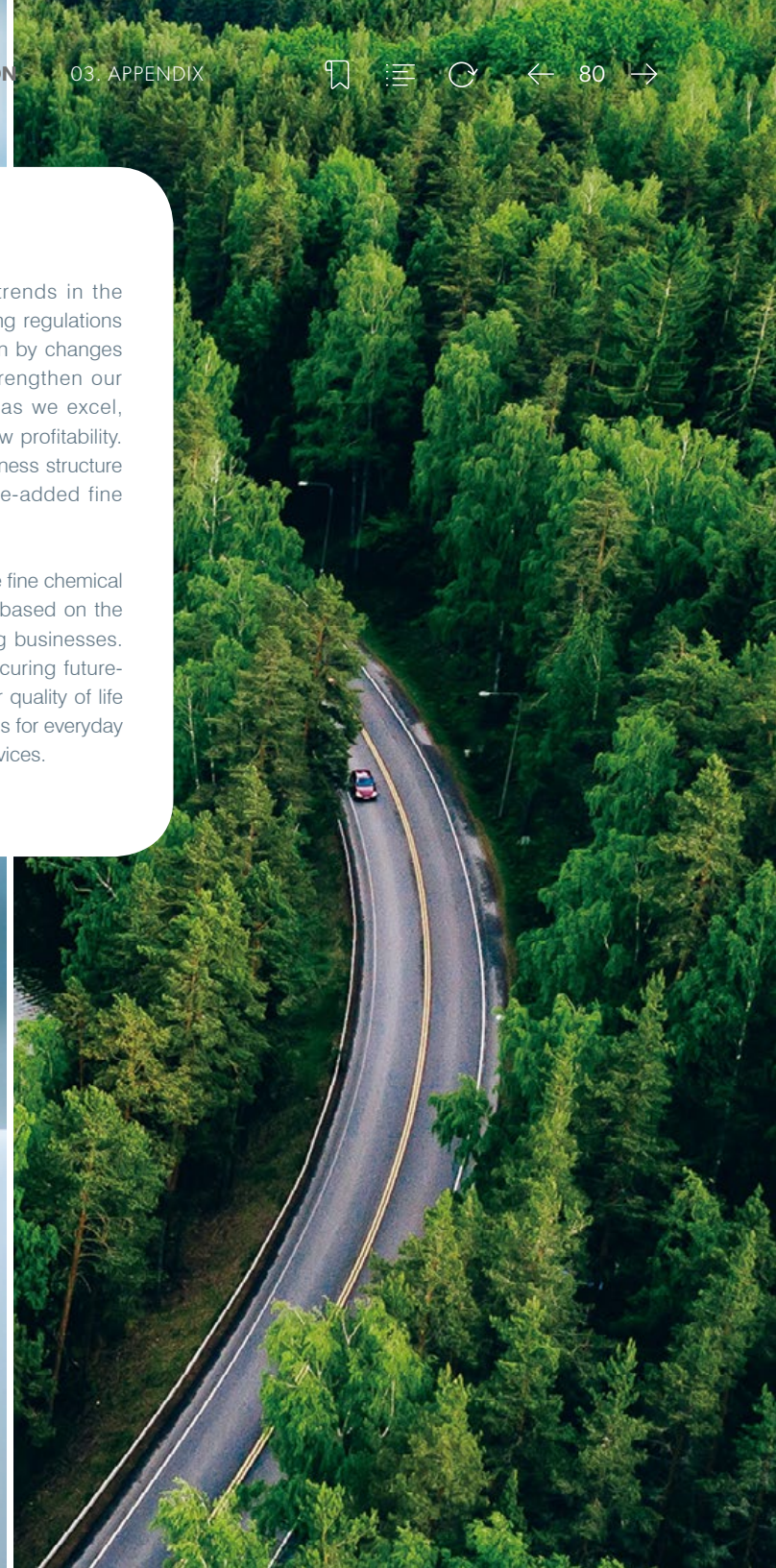
OUR APPROACH

LFC is focused on proactively responding to mega-trends in the industry, such as changes at home and abroad, increasing regulations in EHS, and growing demand for specific materials driven by changes in consumer preferences. To this end, we strive to strengthen our global competitiveness by expanding business in areas we excel, while restructuring our business in areas with relatively low profitability. Moreover, we make continuous efforts to upgrade our business structure by expanding new businesses in the field of high value-added fine chemicals.

As an enterprise in the technology- and knowledge-intensive fine chemical industry, LFC is continuously expanding its R&D efforts, based on the core competencies that it has accumulated in its existing businesses. In particular, we are concentrating our capabilities on securing future-oriented technologies so that we can contribute to a better quality of life for mankind by providing next-generation specialty chemicals for everyday life, environmental protection, and electric and electronic devices.

04.

Investing in R&D and Strengthening Business Competitiveness



2020 ACHIEVEMENTS

R&D investment

12 KRW billion



Additional patents

30 cases

254 in 2019, 284 in 2020



Won the Prime Minister's Citation at the 17th Korea New Growth Management Awards



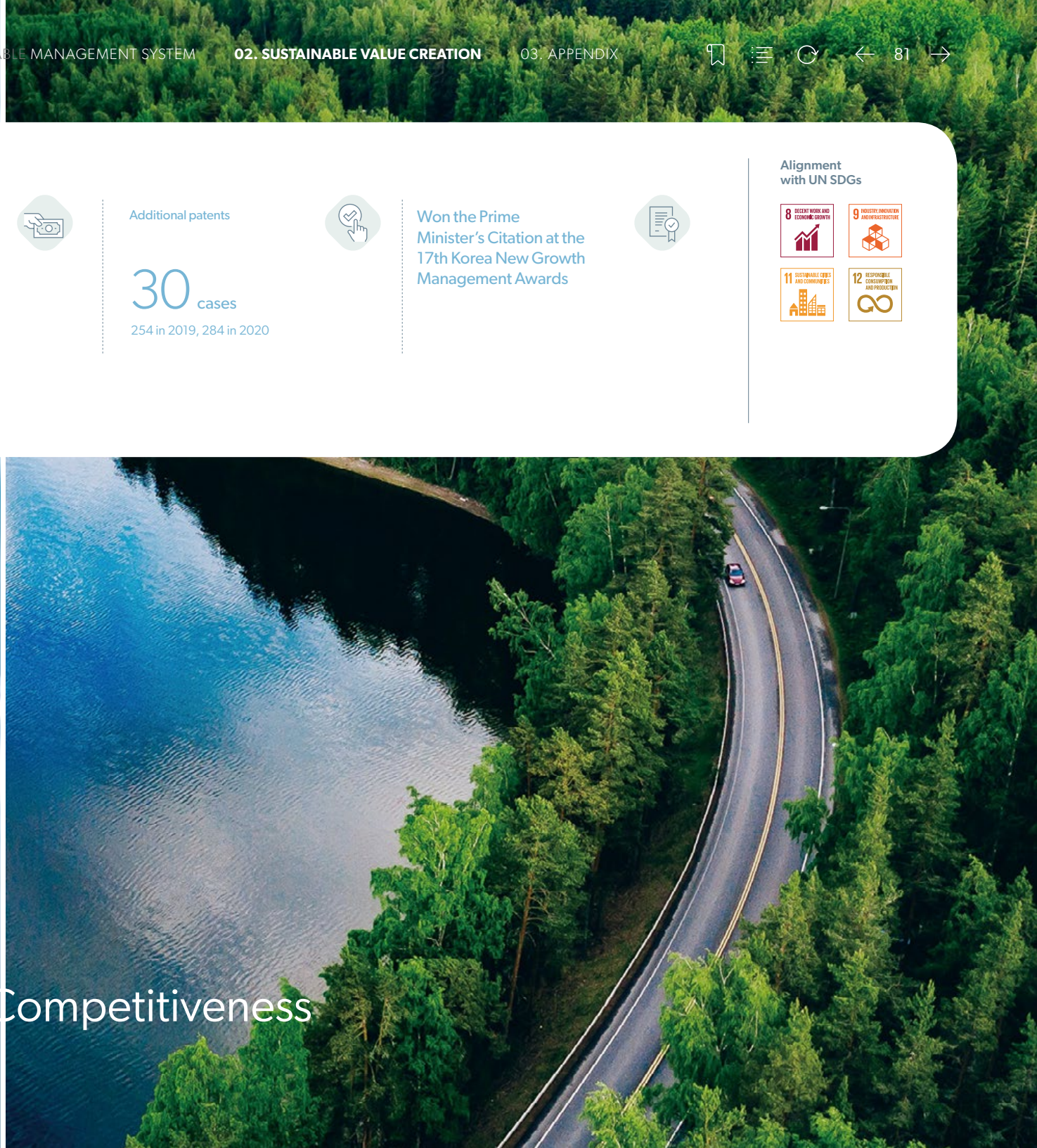
Alignment with UN SDGs



* As of 2020 year-end

04.

Investing in R&D and Strengthening Business Competitiveness



Investing in R&D and Strengthening Business Competitiveness

R&D Capabilities



R&D Execution System

R&D Strategy

We conduct wide-ranging research based on the experiences and professional capabilities that we have accumulated over several decades, with the focus on enhancing the competitiveness of our existing businesses and increasing the implementation of our new businesses by strengthening technical capabilities and taking advantage of our outstanding technology platform. Doing so has played a key role in our efforts to realize our corporate vision, as it has helped us secure our distinctive technological prowess.

Asia Top 10 Fine Chemical Company

Securing Competency for "Specialty Solution R&D"



Supporter

Strengthen existing business competitiveness

Develop new products and reduce manufacturing costs

Enhance non-face-to-face T/S and expand the customer base

Establish the new D-Process technology



Creator

Develop new business items

Develop new manufacturing technologies for specialty chemicals (HPC, TPC, CSA, CCS, NSAT, PVP)

Secure leading technologies needed to respond preemptively to the emerging hydrogen economy



Innovator

Improve R&D efficiency

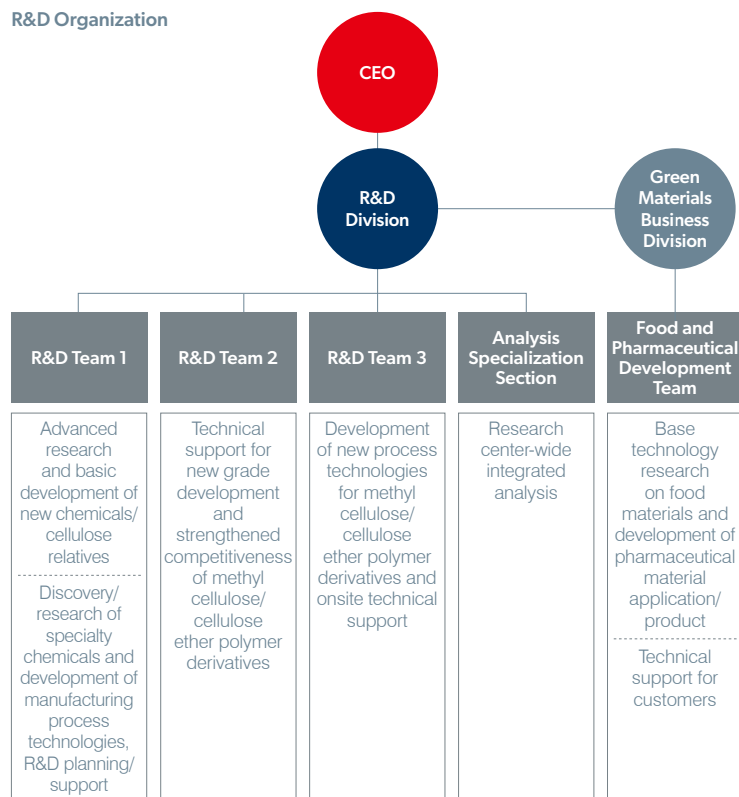
Strengthen R&D network activities

Improve the efficiency of research organizations/ infrastructure

R&D Organization

The R&D Division of LFC, a cradle of next-generation technology development, has focused on promoting technological innovation and securing sustainable growth engines by concentrating its R&D on specialty products related to cellulose derivatives, food and pharmaceutical materials, and eco-friendly materials. In addition to one analysis team, the division consists of four teams in fine chemicals, including amine relatives and chloride relatives, and specialty chemicals including cellulose ether polymers for industrial use and food and pharmaceutical uses. It is striving to reinforce LFC's core technologies to enable the company to achieve its vision through specialty products. Focusing on the development of profit-maximizing technologies as well as new products utilizing our existing capabilities, the division plays a pivotal role in enabling us to leap forward as a top-notch specialty chemical company that contributes to human happiness.

R&D Organization



Key R&D Achievement

Cellulose Derivatives

Expansion of general-purpose additive MECELLOSE® for construction As general-purpose goods are consistently required in the construction additives market, we have developed a series of MECELLOSE® ETC products with specialized functions rather than simple general-purpose ones. The ETC standard improves not only adhesive strength but also the open time in tile cement applications, and can also be applied to finishing materials such as cement plaster and gypsum plaster. We are developing ETC standards with improved adhesion strength and open time, and superior workability.

MECELLOSE® which minimizes lumps in mortar Lumps, which often occur in gypsum plaster mortars, hinder work progress. Customers are therefore calling for the manufacturers of cellulose ether to come up with products that can minimize the occurrence of lumps. In line with this market demand, LFC is committed to developing high-performance gypsum plaster additive products that can minimize the occurrence of mortar lumps by introducing a new process to the existing MECELLOSE® manufacturing technology.

Development of high performance MECELLOSE® for ceramic extrusion The use of ceramic extruded products (catalyst supports) to reduce harmful substances is increasing due to the growing demand for reduced exhaust gas emissions from automobiles and internal combustion engines, driven by rising environmental awareness. As such, the need is growing for thickeners with low undissolved fiber content and enhanced extrudability and shape retention so as to improve the performance of ceramic extrusion products, secure productivity in diverse working conditions and environments, and produce extruded products with fine inner wall viscosity. Based on these technical requirements, we have developed MECELLOSE® products optimized for ceramic extrusion products, contributing greatly to improving our customers' productivity and performance in the manufacture of extruded products.

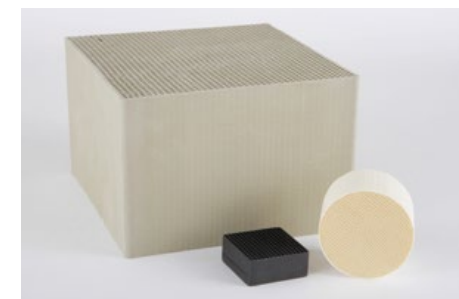
Development of the viscosity agent HECELLOSE® EXT for oil drilling The need for viscosity agents has continued in many areas of industry, in addition to the construction industry. LFC has developed and supplies the HECELLOSE® EXT series product, a specialized viscosity agent for oil drilling, and is receiving good reviews from the market. The EXT grade is effective for the removal and transportation of rock based on its high viscosity, and has high compatibility with the usage environment and other materials as a result of its stable saline solubility. By continually developing and expanding the EXT grade series, which boasts outstanding properties and versatility, we are expanding our product line-ups.



General-purpose additive MECELLOSE® for construction



MECELLOSE® which minimizes lumps in mortar



High performance MECELLOSE® for ceramic extrusion

Continuous fundamental research and development of cellulose derivatives

LFC is focusing its R&D capabilities on the development and commercialization of various new cellulose derivatives in line with the increasingly segmented and specialized customer needs. As well as developing new high-efficiency processes to enhance manufacturing competitiveness, we are expediting the development of manufacturing technology for food/pharmaceutical products, for which the requisite properties are becoming increasingly diverse. In particular, we are researching new cellulose derivatives for widespread use in the construction industry and developing eco-friendly super absorbent resins using the derivatives, as well as developing non-cellulose thickening agents that improve workability and work quality by increasing the viscosity of paints, and we are also working hard to develop high-quality, high value-added products to meet customer needs and earn trust from the market.

Chemical Products

R&D on new amine/chlorine-based chemical products and processes LFC is working hard to develop its competitiveness by continually generating research outcomes in the chemical business environment, where there is increasing competition for survival as a result of the ongoing technological integration and advancement.

We have been conducting research on quality improvements to enhance the quality and performance of EUROX[®], a catalyst reducing solution that reduces the amount of nitrogen oxide discharged from diesel engines, and to differentiate its performance, while also providing reliable technical support to our customers. To develop new downstream product technologies for our chlorine-based chemical business, we have adopted new technologies and are conducting research focused on mass production, which is leading to tangible outcomes. In addition, we are striving to secure competitiveness by reducing the cost of existing chemical products through such tasks as diversification of the chemicals used in chemical processes. Going forward, we will sharpen our competitive edge based on our technological prowess despite amid the increasingly fierce competition, thereby leading the market.

Food and Pharmaceutical Materials

Development of pharmaceutical materials and formulation research LFC's four grade excipients of HPMC, which were recently developed especially for sustained-release tablets¹⁾, have been significantly increasing sales in the relevant area, proving themselves to be suitable HPMC excipients in generic and incrementally modified drugs (IMDs), which are expected to grow steadily in the global pharmaceuticals market. We are also focusing on formulation research in various forms of open innovation, including joint research and entrusted technology development, and, based on these efforts, we develop and provide products and professional technical services that satisfy the needs of pharmaceutical companies, which are our major customers.

Development of new uses for food and pharmaceutical materials By filling up vacant technologies of the cellulose ether material business and analyzing the technical barriers to markets that can be entered, LFC has been setting the priority of its material commercialization projects, and thus advancing into new markets. We are supplying materials that are appropriate for each use to the areas that it can newly enter, such as personal care, feed, and agriculture, and expanding the scope of application of food and pharmaceutical materials through key application technology-based commercialization support, by developing new formulations that utilize the main physical properties of our materials including films and hydrogels.

Research on uses for food alternatives The trend in the food market is changing rapidly as customer needs become increasingly diverse. AnyAddy[®] is a food material that improves the properties of food alternatives, including meat alternatives and gluten-free foods that are rapidly gaining acceptance around the world. LFC is striving to provide distinctive products and services through its continuous efforts to reflect market trends and develop customer-tailored uses.

Development of materials for the cultured meat scaffold LFC is seeking to strengthen its portfolio by developing new materials to secure sustainable competitiveness in the food and pharmaceutical material sectors. In 2020, we conducted research on the synthesis of new cellulose derivatives using our products with the aim of developing materials necessary for the cultured meat market, which is expected to lead the next-generation meat market.

Development of next-generation new food and drug ingredients We will continue to promote the development of new materials necessary for new growth industries such as alternative meat and biological engineering. We also plan to develop new application fields and conduct preemptive research activities to secure differentiated food and drug material technologies and products.

Won the Prime Minister's Citation

at the 17th Korea New Growth Management Awards in 2020



LFC won the Prime Minister's Citation at the 17th Korea New Growth Management Awards held in December 2020. The Korea New Growth Management Awards, hosted by Maeil Broadcasting Network and sponsored by the Ministry of Trade, Industry and Energy, aim to identify and reward companies with next-generation growth engines based on creative source technologies required for the new normal era after the COVID-19 pandemic.

LFC was awarded the prize in recognition of its success in developing and localizing Korea's first cellulose derivative production technology, fostering the technology into a high value-added fine chemical business, and developing new uses through continuous investment to secure competitiveness in the field of medical materials, which is difficult for latecomers to be well positioned. Going forward, we will make continuous efforts grow into an "Asia Top 10 Fine Chemical Company" through continuous research and proactive investment.

¹⁾ Sustained-release tablets: Tablets made to release an active ingredient slowly (pharmaceuticals made into a rounded disc or cone by lumping together powder or crystalline drugs).

Appendix

03

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Financial & Non-Financial Performance Summary

Summarized Financial Statements

Classification	Unit	2018	2019	2020
Current assets	KRW million	716,359	860,530	516,803
Cash and cash equivalents	KRW million	6,827	10,561	9,072
Short-term financial instruments	KRW million	50,000	50,000	7,719
Financial assets at fair value through profit or loss	KRW million	260,742	398,005	142,557
Accounts receivable	KRW million	215,390	210,466	187,429
Other current financial assets	KRW million	4,698	3,779	8,455
Other current assets	KRW million	6,668	9,904	9,118
Inventories	KRW million	172,033	177,815	152,453
Non-current assets	KRW million	983,671	932,155	1,357,786
Long-term financial assets	KRW million	25	22	22
Financial assets at fair value through profit or loss	KRW million	0	0	347,994
Financial assets at fair value through other comprehensive income	KRW million	12,056	9,653	10,023
Other non-current financial assets	KRW million	1,847	1,907	754
Investment in joint venture	KRW million	241,927	208,763	192,778
Property, plant and equipment	KRW million	701,983	670,935	757,431
Investment properties, net ¹⁾	KRW million	–	8,816	3,531
Right-of-use assets ¹⁾	KRW million	–	7,954	19,089
Intangible assets, net	KRW million	25,818	24,104	22,887
Defined benefit asset, net	KRW million	0	0	3,260
Other non-current assets	KRW million	15	1	17
Total assets	KRW million	1,700,030	1,792,685	1,874,589
Current liabilities	KRW million	228,509	282,524	169,703
Non-current liabilities	KRW million	93,623	17,048	55,186
Total liabilities	KRW million	322,132	299,572	224,889

¹⁾ Publicly disclosed since 2019

Classification	Unit	2018	2019	2020	
Equity attributable to owners of the parent	KRW million	1,377,898	1,493,113	1,649,700	
Capital stock	KRW million	129,000	129,000	129,000	
Capital surplus	KRW million	302,905	302,905	302,905	
Other components of equity	KRW million	18,802	18,802	18,802	
Accumulated other comprehensive income	KRW million	(18,778)	(20,656)	(20,075)	
Retained earnings	KRW million	945,969	1,063,062	1,219,068	
Non-controlling shareholders' equity	KRW million	0	0	0	
Total equity	KRW million	1,377,898	1,493,113	1,649,700	
Sales	KRW million	1,371,696	1,311,271	1,263,636	
Operating profit	KRW million	210,714	189,666	139,233	
Net profits	KRW million	214,923	168,372	198,792	
Profit attributable to owners of the parent	KRW million	214,923	168,372	198,792	
Earnings per share	KRW	8,438	6,611	7,805	
Number of entities included in consolidation	Company	2	2	3	
Operating profit margin	%	15.40	14.50	11.00	
Debt ratio	%	23.4	20.1	13.6	
ROE	%	15.6	11.3	12.1	
CAPEX	KRW billion	92.4	70.1	460.3	
Sales portion by business	Chemical Business	%	78.2	75.6	72.4
	Green Material Business	%	21.8	24.4	27.6
Sales by business	Chemical Business	KRW billion	1,072.3	991.7	914.8
	Green Material Business	KRW billion	299.4	319.6	348.8
Portion of exports	Domestic sales	%	45	59	55
	Exports	%	55	41	45

Summarized Financial Statements

Classification	Unit	2018	2019	2020
Countries to which green material products are exported	Country	83	79	78
Portion of export by region	Asia	21	26.1	28.3
	Europe	14	16.5	12.8
	China	13	12.1	13.0
	North America	15	19.6	15.4
	South America	11	5.0	7.5
	Middle East/Africa	9	4.7	7.5
	Japan	14	13.5	12.3
	CIS	3	2.5	3.2
Number of shares issued	Share	25,800,000	25,800,000	25,800,000
Net profits	KRW billion	214.9	168.4	198.8
Capital ratio	%	81.1	83.3	88.0
Global market share of green materials business	%	9.3	8.9	10.1
R&D investment	KRW billion	11.9	11.4	12.0
Export portion of Green Materials Business Division	%	94	94	95
Fixed income securities	KRW billion	80.0	80.0	0

Distribution of Economic Value

Classification	Unit	2018	2019	2020	
Shareholders	Dividend	KRW million	43,299	43,299	38,205
	Sub total	KRW million	43,299	43,299	38,205
Employees	Salaries & bonus	KRW million	92,836	90,953	92,064
	Employee benefits	KRW million	21,568	19,610	19,350
	Severance benefits	KRW million	7,477	7,305	8,339
	Training expenses	KRW million	1,030	914	704
	Sub total	KRW million	122,912	118,781	120,457
Government & public institutions	Corporate tax and other taxes	KRW million	60,892	60,236	51,225
	Sub total	KRW million	60,892	60,236	51,225
Local communities	Expenditures in social contributions	KRW million	956	2,300	2,138
	Membership fee	KRW million	140	222	142
	Sub total	KRW million	1,096	2,522	2,280
Business partners	Facility investment	KRW million	92,223	70,111	460,323
	Subcontracting costs	KRW million	21,058	21,771	22,732
	Purchasing costs	KRW million	334,217	314,400	282,581
	Advertising expense ¹⁾	KRW million	2,921	2,660	3,605
	Sub total	KRW million	450,419	408,942	769,241
Total	KRW million	678,618	633,780	981,408	

¹⁾ Made adjustment for the 2018 figure according to the recalculation of sales promotion expenses since 2018

Environmental Performance

	Classification	Unit	2018	2019	2020
Product	Production volume ¹⁾	Ton	2,609,089	2,539,982	2,477,875
	Direct energy consumption	TJ	642	732	249
Energy ²⁾	Indirect energy consumption	TJ	14,605	14,256	14,234
	Total energy consumption	TJ	15,247	14,988	14,483
	Energy consumption intensity	TJ/ Product-Ton	0.0058	0.0059	0.0058
	Reduction by executing tasks to reduce energy consumption	TJ	100	169	96
	Total water consumption	Ton	12,451,795	12,272,848	12,052,794
Water	Water consumption intensity	Ton/ Product-Ton	4.8	4.8	4.9
	Water reuse	Ton	892,346	946,157	951,158
Water intake by source	Stream water	Ton	12,451,795	12,272,848	12,052,794
Greenhouse gas (GHG) ³⁾	Total emissions	tCO ₂ eq	673,967	668,678	627,996
	GHG emissions intensity	tCO ₂ eq/ Product-Ton	0.258	0.263	0.253
	Direct emissions (Scope 1)	tCO ₂ eq	78,572	83,242	57,506
	Indirect emissions (Scope 2)	tCO ₂ eq	595,395	585,436	570,490
	Reduction by executing tasks to reduce energy consumption ⁴⁾	tCO ₂ eq	4,387	7,450	2,754
Other air pollutants	NOx emissions ⁵⁾	kg	16,775	13,643	8,559
	Actual emission concentration of NOx	ppm	23	14	8
	Legal limit of Nox emissions	ppm	130	130	60
	SOx emissions ⁶⁾	kg	19.3	1,192	1,600
	Actual emission concentration of SOx	ppm	0	5	8
	Legal limit of SOx emissions	ppm	100	100	70
	Dust emissions	kg	10,544	8,968	6,330
	Actual emission concentration of dust	m ³	3	4	3
	Legal limit of dust emissions	m ³	25	25	15

	Classification	Unit	2018	2019	2020
Wastewater	Total weight of wastewater	Ton	9,100,200	9,051,428	9,274,803
	Wastewater discharge intensity	Ton/ Product-Ton	3.5	3.6	3.7
Water pollutants	COD discharge	kg	350,076	299,798	329,860
	COD discharge intensity	kg/ Product-Ton	0.13	0.12	0.13
	Actual discharge concentration of COD ⁷⁾	ppm	38.47	33.12	35.57
	Legal limit of COD discharge	ppm	90 (Linked treatment) 40 (Direct discharge)	90 (Linked treatment) 40 (Direct discharge)	90 (Linked treatment) 40 (Direct discharge)
	BOD discharge	kg	58,772	41,241	37,150
Water pollutants	BOD discharge intensity	kg/ Product-Ton	0.02	0.02	0.01
	Actual discharge concentration of BOD ⁷⁾	ppm	6.5	4.6	4.0
	Legal limit of BOD discharge	ppm	80 (Linked treatment) 10 (Direct discharge)	80 (Linked treatment) 10 (Direct discharge)	80 (Linked treatment) 10 (Direct discharge)
	SS discharge	kg	180,140	172,067	152,421
	SS discharge intensity	kg/ Product-Ton	0	0	0
Water pollutants	Actual discharge concentration of SS ⁷⁾	ppm	19.80	19.01	16.43
	Legal limit of SS discharge	ppm	90 (Linked treatment) 10 (Direct discharge)	90 (Linked treatment) 10 (Direct discharge)	90 (Linked treatment) 10 (Direct discharge)

¹⁾ Modified figure for 2018 to reflect data which were not reported. Modified figure for 2019 to reflect 9% ammonia water production quantity, which was not reported

²⁾ Modified figures for 2018 and 2019 based on the confirmed amount of GHG emissions and an energy statement

³⁾ Modified figures for 2018 and 2019 based on the confirmed amount of GHG emissions and an energy statement

⁴⁾ GHG reduction amount = reduction amount by energy source (power, steam, etc.) X emission factor by energy source

⁵⁾ Emission reduction due to temporary boiler operation in June 2020

⁶⁾ Sulfur oxides emissions were reduced by using only clean fuel in boilers in 2018, small amounts were detected in 2019 due to old filters

⁷⁾ Modified figures for 2018 and 2019 based on the confirmed amount of actual emissions

Environmental Performance

	Classification	Unit	2018	2019	2020
Waste	Total weight of waste	Ton	79,950	80,428	74,675
	Waste discharge intensity	Ton/ Product-Ton	0.03	0.03	0.03
	Specified waste	Ton	848	813	533
	General waste	Ton	79,103	79,614	74,142
	Incineration	Ton	1,200	1,184	2,370
	Landfill	Ton	22,310	11,723	5,277
	Others	Ton	24	78	7
	Recycling	Ton	56,416	67,442	67,021
	Recycling rate	%	71	84	90
Hazardous chemicals	Discharge of hazardous chemicals	Ton	52	64	62
Investment and procurement	Environmental investments	KRW million	6,151	1,731	20,699
	Green procurement	KRW million	2,198	5,458	892
Environmental investment	Noise	KRW million	203	92	-
	Hazardous chemicals	KRW million	876	448	2,999
	Energy	KRW million	177	325	187
	Water quality	KRW million	4,810	1,940	1,445
	Air quality (including odor)	KRW million	85	216	16,068
Environmental education	Percentage of employees having received environmental education	%	100	100	100
Energy consumption by Incheon Plant		TOE	2,647	2,768	2,854
Eco-friendly product sales		KRW billion	352.3	379.6	412.3

Social Performance

	Classification	Unit	2018	2019	2020	
Employees	Total number of employees	Person	858	863	891	
	By gender	Male	Person	756	753	777
		Female	Person	102	110	114
	By employment type	Full-time	Person	828	831	846
		Part-time	Person	30	32	45
	By age	Under 30	Person	91	93	110
		30-50	Person	656	632	610
		Over 50	Person	111	138	171

Classification	Unit	No. of employees by business site	By gender		By employment type			By working hours			
			Male	Female	Full-time	indefinite employment contract	Part-time	All day	Short-time working	Leave of absence	
No. of employees by business site	Ulsan	Person	675	629	46	648	5	22	665	0	10
	Seoul	Person	174	116	58	158	10	6	162	0	12
	Incheon	Person	42	31	11	40	0	2	42	0	0

* As of 2020 year-end

Social Performance

Classification		Unit	2018	2019	2020	
Employment	New employee hires	Total No. of newly hired employees Person	38	30	47	
	Employee turnover	Employee turnover rate %	0.2	1.2	0.4	
	Parental leave	No. of employees eligible for parental leave	Person	22	33	38
		No. of employees on parental leave	Person	14	28	34
		Parental leave rate	%	64	85	89
	Industrial accidents	No. of employees over 12 months after returning to work	Person	14	28	34
		No. of industrial accidents	Case	4	4	1
		Industrial accident rate	%	1	0.6	0.2
	Employee education and training	Lost work hours	Hour	1,872	1,872	8,136
		Total hours of employee education/training	Hour	34,731	31,124	25,566
		Hours of education/training per person	Hour	43	39	31
	Length of service	Expenditures in education/training per person	KRW 10,000	127	113	86
		Average length of continuous service	Year	15	15	16

Classification	Unit	No. of employees by business site	By gender		By age			
			Male	Female	Under 30	30-50	Over 50	
Employment by business site	Ulsan	Person	34	30	4	28	6	-
	Seoul	Person	9	5	4	5	3	1
	Incheon	Person	4	2	2	4	-	-
Employee turnover by business site ¹⁾	Ulsan	Person	2	2	-	2	-	-
	Seoul	Person	1	-	1	1	-	-
	Incheon	Person	1	-	1	-	1	-

* As of 2020 year-end

¹⁾ Excluding people whose contract has been expired, other irregular workers, and advisors

Classification	Unit	No. of employees eligible for parental leave			No. of employees on parental leave		
		Total	By gender		Total	By gender	
			Male	Female		Male	Female
Parental leave by gender	Person	38	25	13	34	21	13
		Parental leave rate			89%	84%	100%

* As of 2020 year-end

Classification		Details	Unit	2018	2019	2020
Wages and benefits	Employee benefits	Percentage of welfare cost to sales	%	1.6	1.5	1.5
	Female	No. of female leaders	Person	4	3	4
Diversity	Minority groups	Persons with disabilities	Person	23	23	26
		Recipients of patriots & veterans benefits	Person	42	43	43
		Foreigners	Person	2	1	1
Human rights	Human rights training	Hours of human rights training	Hour	1	1	1
		Percentage of employees having received human rights training	%	100	100	100
Anti-corruption	Anti-corruption training	Percentage of executives having received anti-corruption training	%	100	100	100
		Percentage of employees having received anti-corruption training	%	100	100	100
Anti-corruption	Incidents of corruption and actions taken	No. of cases of corruption	Case	0	0	1
		No. of disciplinary actions or dismissals due to corruption	Case	0	0	1
		No. of contracts terminated, or not renewed due to corruption	Case	0	0	0
		No. of lawsuit against the company or its employees	Case	0	0	0

Social Performance

Classification		Details	Unit	2018	2019	2020
Safety & health	Safety & health assessment	Percentage of product/service categories having received industrial safety assessment	%	100	100	100
	Regulatory compliance	Fines for violation of industrial safety regulation	KRW million	0	0.5	7.6
	Deficiencies in safety & health	No. of cases identified	Case	6,567	3,643	4,048
		No. of cases improved	Case	5,756	3,039	3,393
		Percentage of improvement	%	87.7	83.4	83.8
Safety training	Safety training hours	Hour	24	24	24	
Marketing communication	Regulatory compliance	Fines for non-compliance with regulations concerning marketing communications, including advertising and promotion	KRW million	0	0	0
		Incidents of non-compliance with regulations concerning marketing communications, including advertising and promotion	Case	0	0	0
Customer satisfaction	Complaints	Receiving and handling of VOCs	Case	220	281	410
		Complaints received from the external agency or government concerning leakage of customer privacy	Case	0	0	0
		Number of identified leaks, thefts, or losses of customer data	Case	0	0	0
PSM rating	Ulsan Complex	Rating	P	S	S	
	Incheon Plant	Rating	S	S	S	

Classification		Details	Unit	2018	2019	2020
Labor union		No. of labor union members	Person	414	411	432
		Percentage of union members compared to employees eligible for union membership	%	69	76	80
		No. of full-time union members	Person	3	3	3
		Collective agreement application rate ¹⁾	%	100	100	100
Social contributions		Employee participation rate in social contributions	%	93.7	72.5	38.5
		Expenditures in social contributions	KRW million	956	2,300	2,138
		Employee volunteer hours per person	Hour	3.1	3.1	3.5
Supply chain management	Partner company purchase	Amount of purchase	KRW billion	334.2	314.4	282.6
		Chemical business	%	56	54	57
	Percentage of business partners' purchase	Green materials business	%	27	31	27
		Others	%	5	3	3
		Packaging supplies	%	4	5	6
		Utility	%	3	5	2
	Chemicals	%	5	2	5	

¹⁾Based on the application rate agreed on the annual wage negotiation

GHG Verification Statement



This Assurance Statement has been prepared for LOTTE FINE CHEMICAL CO., LTD.

Terms of Engagement

Lloyd's Register Quality Assurance Ltd. was commissioned by LOTTE FINE CHEMICAL CO., LTD. to provide independent assurance on its Greenhouse Gas (GHG) Inventory Report for the calendar year 2020 (the report) against "GHG Emission Trading System Scheme for quantification and reporting of GHG emissions in Korea" and "Monitoring Plan of calendar year 2020" using "Verification guideline for GHG emission trading system in Korea". The report relates to direct GHG emissions, energy indirect GHG emissions and energy consumption.

Management Responsibility

LR's responsibility is only to LOTTE FINE CHEMICAL CO., LTD. LR disclaims any liability or responsibility to others as explained in the end footnote. The management of LOTTE FINE CHEMICAL CO., LTD. is responsible for preparing the report and for maintaining effective internal controls over all the data and information within the report. Ultimately, the report has been approved by, and remains the responsibility of LOTTE FINE CHEMICAL CO., LTD.

LRQA's Approach

LR's assurance engagement has been carried out in accordance with our verification procedure using "Verification guideline for GHG emission trading system in Korea" to reasonable level of assurance.

The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- Visiting sites and auditing management system to control the data and records regarding GHG emissions and energy uses
- Interviewing the relevant persons responsible for managing and maintaining data and associated records
- Reviewing the historical data and information back to source for the calendar year 2020.

Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a reasonable level of assurance, and at the materiality of the professional judgement of the verifier and at the materiality level of 2.5%.

LRQA's Opinion

Based on LR's approach, we believe that the report is prepared in accordance with "GHG Emission Trading System Scheme for quantification and reporting of GHG emissions in Korea" and "Monitoring Plan of calendar year 2020" using "Verification guideline for GHG emission trading system in Korea" and the GHG emissions data in the Table 1 is materially correct except for the following qualifications:

- AC Tar used for hydrochloric acid manufacturing facility (#1 ECH) (Serial No. 10) shall be analyzed at least every month as required component analysis cycle, but it was not met. Therefore, the emission factor was recalculated conservatively according to the conformity assessment guidelines.
- According to conservative recalculation procedure, the GHG emission from use of AC Tar was recalculated and presented approximately 13,516 tCO₂eq. The error caused by this is estimated less than the level of materiality.

Table1. GHG emissions reported in the Report

Scope (as defined within GHG Emission Trading System Scheme for quantification and reporting of GHG emissions in Korea)	Year 2020
Direct GHG Emissions (Scope 1)	57,506.455
Energy Indirect GHG Emissions (Scope 2)	570,490.506
Total GHG Emissions	627,996

* Data is presented in tonnes of CO₂ equivalent.

LR Reference: SEO 6019655

Dated: 25 March 2021

Il Hyoung Lee

Issued by: Lloyd's Register Quality Assurance (Korea) Ltd. For and
On behalf of Lloyd's Register Quality Assurance Limited.
17F, Sinsong Building, 67, Yeoeuinaru-ro, Yeongdeungpo-gu, Seoul, Korea

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Independent Assurance Statement

Dear Stakeholders of LOTTE FINE CHEMICAL

KFQ has been requested by LOTTE FINE CHEMICAL to conduct an independent assurance on the 2020 Sustainability Report for LOTTE FINE CHEMICAL (further 'the Report'). KFQ has responsibility to provide an opinion of independent assurance in accordance with scope of assurance, based on standard, methodology and limitations stated in this Assurance Statement.

KFQ was not involved in the process of preparing the Report and the information and presentation of data within the Report is the responsibility of LOTTE FINE CHEMICAL.

Standard and Scope of Assurance

The assurance was planned and carried out in accordance with following criteria based on international standard, AA1000AS v3, AA1000APS(2018) and GRI standards :

- Compliance with AA1000AS
 - Application of Type 1 (Adherence to Principles of Inclusivity, Materiality, Responsiveness and Impact) with Moderate Level
- Compliance with GRI standards according to the criteria of "Core Option"
 - GRI Standard reporting principles
 - GRI Universal Standards
 - Topic Specific Standards
 - Management Approach for Topic-specific Standard
 - Procurement Practices: 204-1
 - Anti-Corruption: 205-1
 - Anti-Competitive Behavior: 206-1
 - Energy: 302-1, 302-4
 - Emissions: 305-1, 305-2, 305-5, 305-7
 - Waste: 306-1, 306-3, 306-4
 - Employment: 401-1, 401-3
 - Labor/Management Relations: 402-1
 - Occupational Health and Safety: 403-2, 403-3
 - Training and Education: 404-1, 404-2
 - Diversity and Equal opportunity: 405-1
 - Non-discrimination: 406-1

- Human Rights Assessment: 412-2
- Local Communities: 413-1
- Marketing and Labeling: 417-2, 417-3
- Customer Privacy: 418-1

Methodology

In order to assess credibility of sustainability performance of the Report, we reviewed process and system for preparation of the Report, as well as available data and information. Non-financial information was reviewed based on internal data of LOTTE FINE CHEMICAL, such as latest sustainability report, disclosed Business Report and compared with information from media and internet. Financial information was investigated whether data in the Report are correctly reported from DART (Data Analysis, Retrieval and Transfer System), an Electronic Disclosure System managed by Financial Supervisory Service. Validity of report descriptions and processes for materiality assessment, data collection and management, and report preparation are assessed through interview during on-site verification. It was confirmed that the findings from above steps such as error, inappropriate information and ambiguous expressions are properly complemented by LOTTE FINE CHEMICAL.

Competency and Independence

The assurance team was organized in accordance with KFQ's internal regulations. KFQ has no conflict of interest which could threaten the independence and impartiality of verification, other than providing third-party audit services in the LOTTE FINE CHEMICAL business.

Limitations

The completeness and responsiveness of sustainability performance in the Report has inherent limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, assessment is conducted based on provided data and information without verification for original data of specified performance information which is out of assurance scope.

Findings and Conclusions

As a result of the above assessment, we confirm that the content of this report fulfills the requirements of the 'Core option' of GRI Standards and secured reasonable basis to assurance level of Type 1 in accordance with AA1000AS v3. Within the scope of the assurance activities above, we could not find further significant error or inappropriate information from the final Report against the following principles:

• Inclusivity

Whether LOTTE FINE CHEMICAL is actively identifying stakeholders and enabling their participation in establishing an organization's material sustainability topics, and the developing strategic countermeasures.

- LOTTE FINE CHEMICAL is collecting opinions from various stakeholders including customers, investors, cooperative companies, employees, local communities and government through communication channels such as Web Page, Labor-management Council, Internal Communication Platform. Omission of major stakeholders was not found.

• Materiality

Whether each topic is considered in overall sustainability management activities by identifying and prioritizing the most relevant sustainability topics in consideration of impact on the organization and stakeholders.

- LOTTE FINE CHEMICAL conducted a materiality assessment in terms of stakeholder's interest and business importance. They identified important issues, derived priorities, and reported sustainable management activities and performance without omission of major issues.

• Responsiveness

Whether LOTTE FINE CHEMICAL has established a communication process with stakeholders to respond to the needs, interests, and expectations of stakeholders that affect sustainability performance.

- LOTTE FINE CHEMICAL has been reporting activities and performance that addresses needs and concerns of stakeholders which were identified from materiality assessment process and responds to their opinion by taking into consideration for its overall management.

• Impact

Whether LOTTE FINE CHEMICAL has considered sufficient aspects of the impact of material topics based on its understanding of related stakeholder concerns.

- KFQ confirms that LOTTE FINE CHEMICAL is identifying and monitoring for impact of material topics of stakeholders such as services and research activities and reporting them to the extent possible.

Recommendation for Improvement

KFQ recommends following developmental approaches in order to systematize sustainability management in the future and to disclose results of the report effectively.

- As a new member of the UN Global Compact, we look forward to continuance in disclosing practice achievements related to 10 principles of UNGC, including Human Rights, Labor, Environment, and Anti-Corruption.
- In the future, we anticipate LOTTE FINE CHEMICAL properly discloses not only safety & health and mutual cooperation, but also management of its partner's response on climate change. The action shall allow stakeholders to clearly understand LOTTE FINE CHEMICAL's efforts for ESG Management and Carbon Neutrality.



May, 2021

Seoul, Korea

Korean Foundation for Quality (KFQ)

Ji Young Song, CEO

Ji Young Song

GRI Standards Index

Universal Standards

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GRI 102: General Disclosure			
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	305-2	Energy indirect (Scope 2) GHG emissions	47, 88
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	49, 88
Effluents and Waste	306-1	Water discharge by quality and destination	88
	306-3	Significant spills	No significant spill
	306-4	Transport of hazardous waste	Not applicable

Social Performance (GRI 400)			
GRI Standard		Disclosure	Page
Employment	401-1	New employee hires and employee turnover	90
	401-3	Parental leave	65, 90
Labor/Management Relations	402-1	Minimum notice periods regarding operational changes	At least 30 days in advance
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	90
Occupational Health and Safety	403-3	Workers with high incidence or high risk of diseases related to their occupation	91
	404-1	Average hours of training per year per employee	90
Training and Education	404-2	Programs for upgrading employee skills and transition assistance programs	62-63
	405-1	Diversity of governance bodies and employees	89, 90
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	89, 90
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	66
Human Rights Assessment	412-2	Employee training on human rights policies or procedures	90
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	70-73
	417-2	Incidents of non-compliance concerning product and service information and labeling	No violation concerning product supply
Marketing and Labeling	417-3	Incidents of non-compliance concerning marketing communications	No violation concerning marketing communications
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	91
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	91



UN Global Compact

LFC joined the UN Global Compact (UNGC) in December 2020 and declared its commitment to compliance with the 10 principles on human rights, labour, environment, and anti-corruption. Moving forward, we will make continuous efforts to comply with the principles and disclose the results of our practices.



UN Global Compact – 10 Principles

	Principles	Related activities	Page
Human Rights	<p>01. Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p>02. make sure that they are not complicit in human rights abuses.</p>	<ul style="list-style-type: none"> Supporting human rights principles such as respect for the protection of internationally declared human rights and efforts to avoid any involvement in human rights violations Running an on/offline reporting channel, Grievance Center, since 2019 to receive reports and resolve various types of employee grievances such as human rights violations, workplace harassment, and discrimination; and rapidly and proactively responding to reports received by appointing a grievance officer to each business site according to the Complaint/Sexual Harassment Prevention and Treatment Process Offering legally required training sessions that have contents related to human rights protection, such as the prevention of verbal abuse against all employees, anti-bullying laws in the workplace, etc. 	66
Labour	<p>03. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;</p> <p>04. the elimination of all forms of forced and compulsory labour;</p> <p>05. the effective abolition of child labour; and</p> <p>06. the elimination of discrimination in respect of employment and occupation.</p>	<ul style="list-style-type: none"> Building win-win labor-management relations by conducting various labor-management joint programs, with the labor – formed in 1971 (membership eligibility: assistant managers and below under a collective agreement) – playing a central role Prohibiting forced labor and child labor, and complying with the Labor Standards Act Strictly prohibiting discrimination based on education level, geography/regional affiliations, gender, age, religion, race, etc.; and ensuring fair treatment of employees in recruitment, assignment, promotion, salary, education, and retirement 	66-67
Environment	<p>07. Businesses should support a precautionary approach to environmental challenges;</p> <p>08. undertake initiatives to promote greater environmental responsibility; and</p> <p>09. encourage the development and diffusion of environmentally friendly technologies.</p>	<ul style="list-style-type: none"> Establishing a company-wide environmental management decision-making organization centered on the Manufacturing Group; and setting environmental goals and presenting environmental guidelines so that all teams of the company can participate in company-wide eco-friendly activities and the reduction of pollutants, with the Green Environment Team under the Environment and Safety Division planning and managing environmental policies Checking environmental management risks through on-site inspections between affiliates, and developing measures required to resolve issues detected Made investment of KRW 18.5 billion in 2020 in the installation of energy recovery facilities and improvement of the process of removing heat source loss factors, etc. aimed at saving energy and recycling waste Promoting strategic green purchases in accordance with the green purchasing policy – made investment of KRW 890 million in 2020 in the purchase of green products such as low-power LEDs, low-power electrodes, and separators that can minimize energy consumption and standby power 	46-51
Anti-Corruption	<p>10. Businesses should work against corruption in all its forms, including extortion and bribery.</p>	<ul style="list-style-type: none"> Having a code of conduct in place and encouraging all employees to comply with related laws and company regulations Running the Shinmungo to receive reports on unfair business handling and unethical matters, and investigating reported cases and taking follow-up measures according to the procedures Establishing an ethical management guideline for employees, and posting it on the company website Diagnosing ethical mindset status of all employees 	58-61

Product List

Category	Product Name	Abbreviation	Chemical Formula	CAS No.	Characteristic / Purity	Packing	Application	Others
Cellulose Ethers	MECELLOSE®	MC		9004-67-5	White or yellowish powder	20kg: Paper bag with PE inner liner 350kg: PP Jumbo bag with PE inner liner	Tile adhesives, EIFS/ETICS, Plasters & renders, Ceramic & cement extrusion, Joint compounds, Paints & coatings	
		HPMC		9004-65-3				
		HEMC		9032-42-4				
	Hecellose®	HEC		9004-62-0		25kg: Paper bag with PE inner liner 450kg: PP Jumbo bag with PE inner liner	Paints & coatings, Personal care, Joint compounds, Oil field, Emulsion polymerization, Detergents, Construction applications	
	AnyCoat®	HPMC		9004-65-3		20kg, 25kg: Fiber drum with PE double inner bag	Film coating, Binder, Sustained release, Formulation, Capsule making	Certificate: Kosher, ISO 9001, DMF
		HPMC-P		9050-31-1				
		HPMC-AS		71138-97-1				
	AnyAddy®	MC		9004-67-5		20kg, 25kg: Fiber drum with PE double inner bag or PE inner liner	Foods, Dietary supplements	Certificate: FSSC 22000 (GFSI)
		HPMC		9004-65-3				
		HPMC-P		9050-31-1				
Chlor-Alkali Derivatives	Sodium Hydroxide		NaOH	1310-73-2	Liquid, 25%, 50% ap. solution	Tank lorry, Bulk vessel, Pipe	Chemical agent, Pulp & paper processing	
	Sodium Hypochlorite	HYPO	NaOCl	7681-52-9	Colorless or slightly yellow liquid, 12% solution	Tank lorry	Bleaching agent, Disinfectant	Domestic only
	Hydrogen		H ₂	1333-74-0	Gas, 99.99%	Pipe	Hydrogen peroxide raw material, Hydrodesulfurization	Domestic only
	Hydrochloric Acid		HCl	7467-01-0	35% aq. solution	Cylinder, Tank lorry	Agrochemicals, Pharmaceuticals	Domestic only
	Methyl Chloride	MC	CH ₃ Cl	74-87-3	Colorless, liquefied gas, 99.9% min.	940Kgs Cylinder	Agrochemicals, Organic synthesis, Quaternary ammonium salt	
	Chloroform	CFM	CHCl ₃	67-66-3	Colorless, clear, volatile liquid, 99.9% min.	250Kgs steel drum, ISO-tank, Tank lorry, Bulk vessel	Pharmaceuticals, Solvents, Fluorocarbon refrigerants (R-22)	

Category	Product Name	Abbreviation	Chemical Formula	CAS No.	Characteristic / Purity	Packing	Application	Others
Chlor-Alkali Derivatives	Epichlorohydrin	ECH	C_3H_5OCl	106-89-8	Colorless, clear, 99.9% min.	240Kgs steel drum, ISO-tank, Tank lorry, Bulk vessel	Epoxy resin, Synthetic glycerin, Water treatment chemicals	EU REACH registered
	S-Quata [®] (3-chloro-2-hydroxy PropylTrimethyl Ammonium Chloride)	PTAC	$C_6H_{15}Cl_2NO$	3327-22-8	Colorless liquid, 65% min. (S-Quata 885), 69% min. (S-Quata 889)	230Kgs PE drum, 1.1MT IBC, Flexibag, Tank lorry	Additives for starch, High-quality pulp, Personal care product	EU REACH registered
Ammonia Derivatives	Monomethylamine	MMA	CH_3NH_2	74-89-5	Colorless liquid, 40% min.	170Kgs steel drum, 20MT ISO-tank	Pharmaceuticals, Alkylalkanolamines (MDEA), Soil fumigant, Pesticide	
	Dimethylamine	DMA	$(CH_3)_2NH$	124-40-3	Colorless liquid, 50%, 60% min. gas, 99.8%	160Kgs steel drum, 19MT ISO-tank, High pressure ISO-tank	Rubber vulcanization accelerator, Agrochemicals, Surface active agent, Water treatment	
	Trimethylamine	TMA	$(CH_3)_3N$	75-50-3	Colorless liquid, 30% min.	Tank lorry	Surface active agent, Anion exchange resin, Agrochemicals	
	Trimethylamine-HCL	TMA-HCL	$(CH_3)_3NHCl$	593-81-7	Colorless liquid, 57% min.	Tank lorry, Flexibag	Livestock feed, Pharmaceutical intermediates, Anti-static agent, Additives for starch	
	Eurox [®]		$(NH_2)_2CO$	57-13-6	Colorless urea solution, 32.5% and 40%	10L PET, 3.5L PET, EBD V1.5, Bulk vessel	Selective catalytic reduction (De-Nox) in diesel engine (32.5% for automobile, 40% for industry)	
	Ammonia		NH_3	67-56-1	Colorless liquid, 99.5% min.	Tank lorry, Pipe	Urea, Caprolactam, Acrylonitrile, Hydrazine	
	Tetramethyl Ammonium Chloride	TMAC	$(CH_3)_4NCl$	75-57-0	Colorless solution, 58% min.	20MT ISO-tank, Tank lorry	TMAH raw material, Oil & gas industry	
Tetramethyl Ammonium Hydroxide	TMAH	$(CH_3)_4NOH$	75-59-2	Colorless solution, 20% or 24.9% min.	190Kgs PE drum, 20MT ISO-tank, Tank lorry	Photoresist development, Anisotropic etchant		

History



1964-1979

Asia's largest urea fertilizer manufacturer

- 1964 Korea Fertilizer Industries, established
- 1967 Korea Fertilizer Industries, nationalized
- 1976 Initial public offering (IPO)

1980-1999

Diversifying chemical product business

- 1980 Construction of methylamine (MA) and dimethylformamide (DMF) plant, completed
- 1994 Acquired by Samsung Group, company name changed to Samsung Fine Chemical
- 1994 MECELLOSE[®], launched
- 1995 Production of TMAC, commenced
- 1999 Production of ECH and caustic soda, commenced



2000-2015

Enhancing high value-added specialty chemical business

- 2000 AnyCoat[®], launched
- 2001 Production of PTAC, commenced
- 2008 Construction of EUROX[®] plant, completed
- 2009 Production of polymer toner, commenced
- 2010 The China subsidiary, established
- 2011 HECELLOSE[®], launched
- 2012 Capacity of MECELLOSE[®] plant, AnyCoat[®] plant, and polymer toner plant, expanded
- 2013 Capacity of ECH and caustic soda, expanded
- 2014 A subsidiary and T/S Center in Europe, established
- Oct. 2015 Decision made on acquisition by LOTTE Group

2016-2018

Strengthening global competitiveness

- Feb. 2016 Company name, changed to LOTTE Fine Chemical
- Apr. 2018 Construction of MECELLOSE[®] F2 plant, completed
- Jun. 2018 America Office, established
- Dec. 2018 Construction of HECELLOSE[®] 2 plant, completed



2019-2020

Building a foundation for sustainable growth

- Apr. 2019 Construction of AnyCoat[®] D plant, completed
- Dec. 2019 Chosen as a leisure-friendly company
- Dec. 2019 Chosen as a company recognized for local community contribution
- Dec. 2019 Received the USD 600 Million Export Tower Award
- Sep. 2020 Invested as a limited partner of a private equity fund for the acquisition of Solus Advanced Materials
- Dec. 2020 Received the Prime Minister's Citation at the Korea New Growth Management
- Dec. 2020 Continued to be chosen as a company recognized for local community contribution
- Dec. 2020 Recognized as an excellent company in providing support for culture and arts

Membership

Korea Electric Engineers Association	Korea Gas Safety Corporation Information Member
Ulsan Electric Association	KISANHYUP
Korea Customs Logistics Association	Korea Association of Occupational Health Nurses
Ulsan Shipper Logistics Council	Ulsan Chamber of Commerce and Industry Korean Nurses Association
Ulsan Chamber of Commerce and Industry	Volunteer Fire Department Specializing in Chemicals
Ulsan Chief Manager Council	Korea Industrial Technology Association (KOITA)
Ulsan Plant Head Council	Ulsan R&D Head Council
Yeochon Industrial Complex Plant Head Council	Drymix. Info
University of Ulsan, School of Chemical Engineering Adjunct Professor Council	Korea Industrial Technology Association (KITA)
Reserve Forces Commander Council	Korea International Trade Association
National Emergency Plan Association	Fair Competition Federation
Ulsan Branch of Emergency Plan Council	Korea Management Association
Ulsan Civil Defense Working Council	Korea Institute Chemical Engineers
Korea Hydrogen Industry Association	The Federation of Korean Industries
General Affairs Department Association of Major Large Enterprises in Ulsan	Korea Economic Research Institute
Ulsan Yangsan Enterprises Federation	Korea Chlor Alkali Industry Association
Korea Chemicals Management Association	Korea Food Materials Industry Association
Ulsan Prosecutor's Office Environmental Protection Association	Korea Specialty Chemical Industry Association
Ulsan Environmental Engineering Association	Korea Responsible Care Council
Ulsan Yecheon Safety Association	Korea Listed Companies Association
Korea Fire Safety Institution	Incheon Environmental Volunteer Association
Korea Industrial Safety Association	Incheon Environmental Engineering Association
Southern Fire Safety Promotion Council	Global Compact Network Korea
Ulsan Safety Communication Committee	

* As of December 31, 2020

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