

GREEN ENERGY FOR FUTURE

2021 L&F ESG Report



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About This Report

In pursuit of ESG management, L&F publishes its first sustainability report to communicate with various stakeholders and disclose our performance in a transparent manner.

Reporting Period and Scope

This report covers our sustainability activities and performance from January 1, 2021 through December 31, 2021. Some of key operations in the first and second half of 2022 are included to ensure the timeliness of data disclosure as well as the significance of data. For some of achievements, it contains data from the past three years (2019 ~ 2021) to make it possible to track the trend for more accurate analysis.

Reporting Principles

This report aligns with the Core Option of Global Reporting Initiative (GRI) Standards. In addition, it also complies with the UN SDGs (Sustainable Development Goals). When it comes to financial performance, it follows the K-IFRS (Korean version of International Financial Reporting Standards).

Data Assurance

The data in this report have been verified by the Korean Standards Association, an independent verifier, in order to ensure the reliability of this report with AA1000AS v3 applied as the standard for verification. The results are available on page 110~111.

Contact Points

Please contact as for any inquiries regarding the report.

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Cover Story

The cover demonstrates our message to leap towards the world’s No.1 global company based on unparalleled outstanding technology with the pride of a company originating from Daegu. We draw multiple attractions in Daegu and our business areas in the illustration harmoniously, showing our strong will to step forward as a global company in the energy material sector.

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01 L&F Introduction

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CEO Message

Dear esteemed stakeholders,



I would like to extend my sincere gratitude to each and every one of you for your unwavering support and encouragement.

In 2022, we were still in the grip of the COVID-19 pandemic that prolonged over the past three years. And the emergence of daunting challenges, such as the raw material supply & demand imbalance, geopolitical instability, and sharp increases in prices, exchange rates, and interest rates make this year toughest-ever in terms of business operations. Amid the circumstances, L&F never relented in its painstaking efforts to create value conducive to customers, and elevate corporate value to reinvent itself as a world-class electronic materials company. As a result, we made great strides with performances that surpassed the expectations.

In the face of the fast-evolving business environment, the environmental changes, such as the destruction of eco-system, frequent occurrence of natural disasters, and climate change, have poses a threat to the survival of the planet and humankind. These environmental risks put sustainable growth at risk, which requires environmental risk management more than ever.

As sustainable management that encompasses carbon neutrality, RE100, and action on climate change has grown in prominence, L&F made 2022 an inaugural year for ESG management and published its first ESG report in order to share our efforts and progress on this journey towards full-fledged ESG management with shareholders and stakeholders.

Under our ESG vision, ‘We INNOVATE materials for green energy,’ we will put ESG management at our heart, thereby vaulting into a company that puts sustainable management into action. To this end, we plan to create the ESG Committee under the BOD (Board of Directors) in 2023. As of now, the ESG TF makes decisions on ESG-related issues and takes final responsibility for the decisions. But we will upgrade the organizational structure with the establishment of the ESG Committee under the BOD along with the creation of a working group so that we can formulate ESG policies and directions. Going forward, we will draw up company-wide plans by area regarding the environment, society, governance, and data disclosure, thereby embedding ESG value into every corner of our value chain and taking the initiative in ESG management.

In detail, every effort will be made to become safe workplaces for all our employees, and create a healthy culture built on the ethical management system that enables employees to do the right thing and make proper decisions. Furthermore, we will closely work with customers and partner companies to seamlessly manage the supply chain so that we can go hand in hand with suppliers in pursuit of shared growth. In addition, we will carry out more social contribution activities, and hire more local talents, thereby faithfully discharging our social responsibility for the local communities where we operate. Likewise, we will actively reach out to all our stakeholders to put sustainable management first in terms of our business management.

I look forward to your unwavering encouragement and support on this journey.
Thank you very much.

CEO SuAn Choi *SuAn Choi*

Company Overview

Company Profile

(As of June 30, 2022)

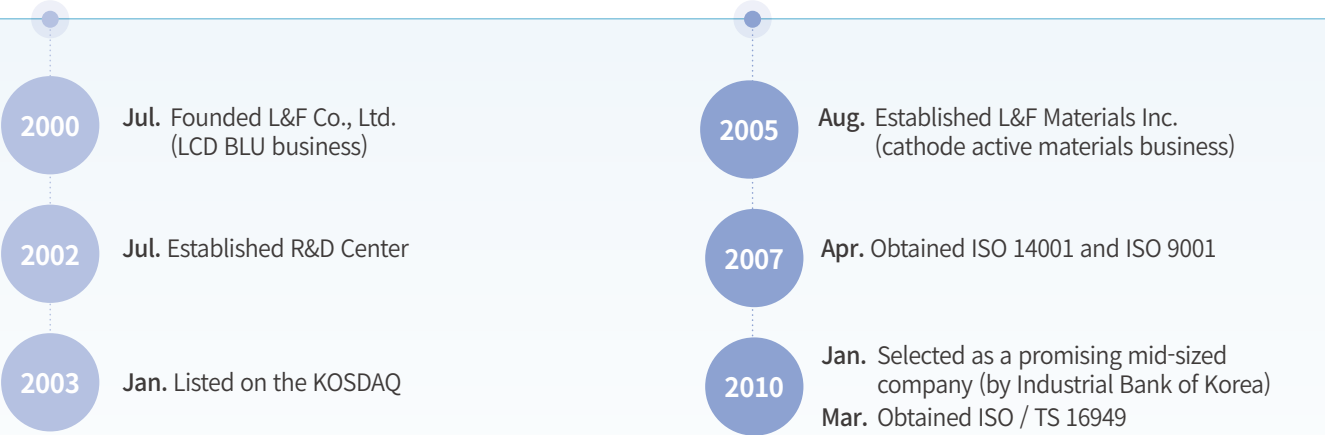
Company Name	L&F
CEO	SuAn Choi
Date of Establishment	July 27, 2000
Address	11, Igokdong-ro, Dalseo-gu, Daegu, Republic of Korea
Homepage	www.landf.co.kr
Market Capitalization	KRW 7.741 trillion (as of December 30, 2021)
No. of employees	1,310*
Key Business Area	Manufacturing and sales of cathode active materials for secondary batteries
Intellectual Property Rights	[16 registered in 2021] [7 registered in 2020 and 6 registered in 2019]

* Includes executives and non-standard employees

Mission and Vision



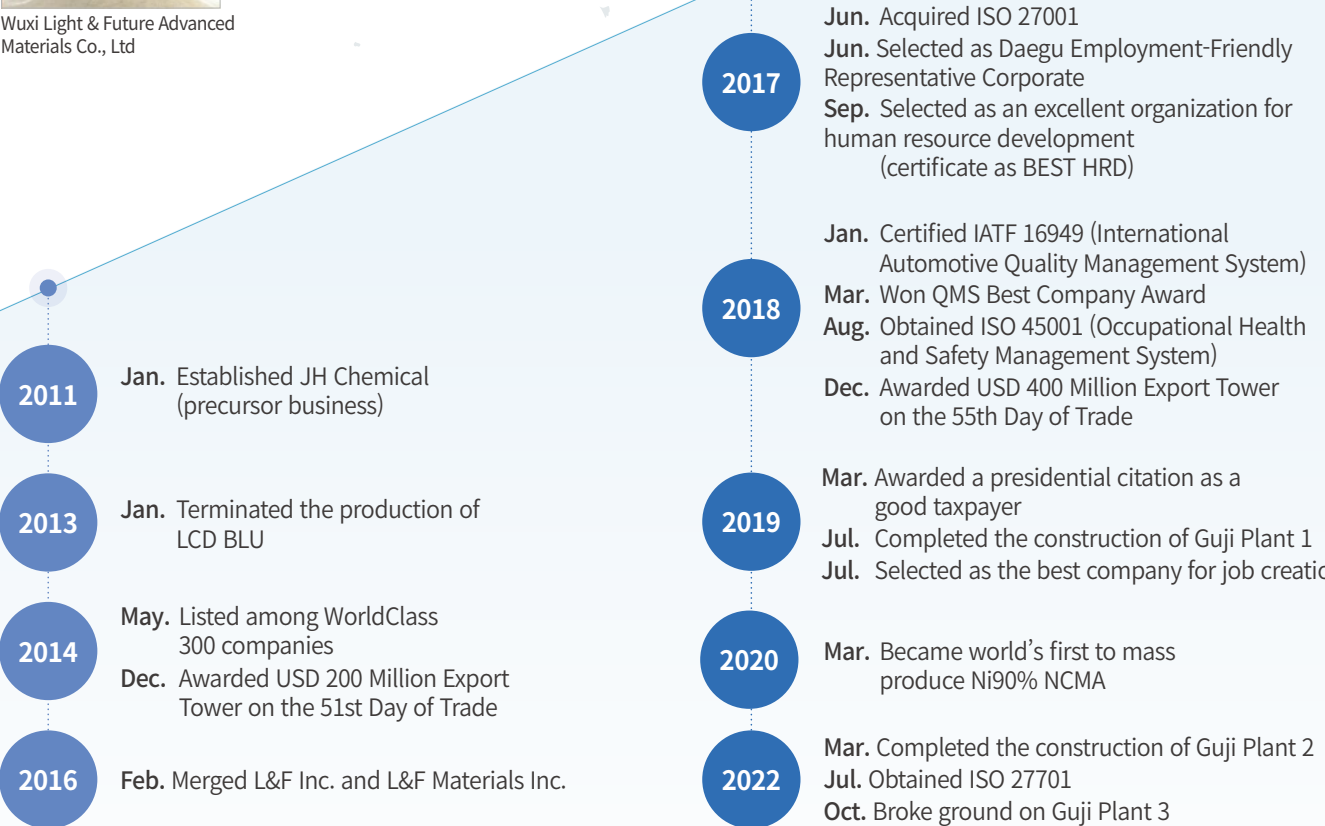
History



Business Sites

Domestic
Headquarters, 6 manufacturing plants
(1 plant under construction), R&D Center

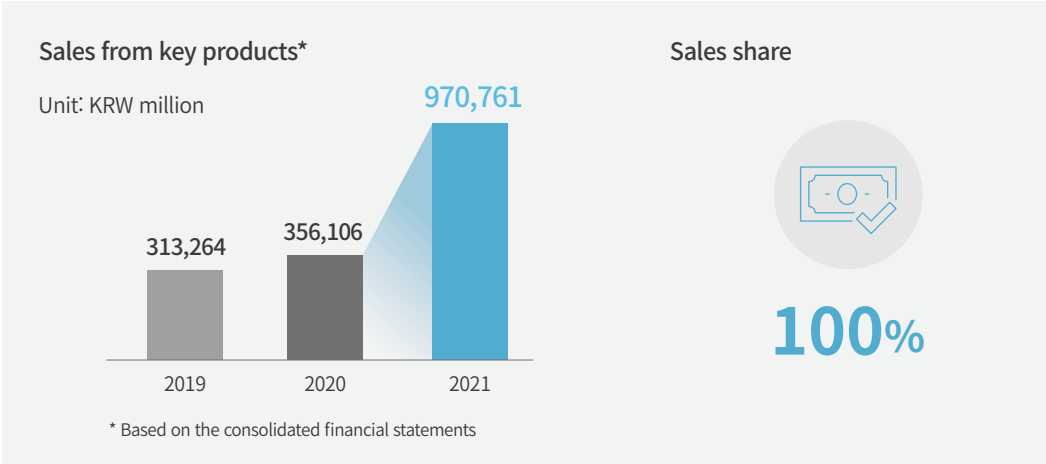
Overseas
1 manufacturing plant



Business at a Glance

Product Portfolio

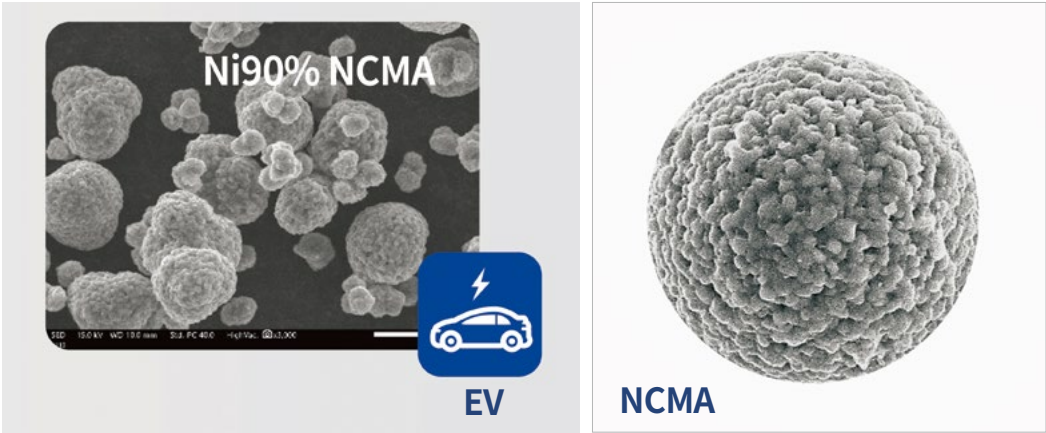
With the emergence of the BoT (Battery of Things) era where things are powered by batteries, eco-friendly, economic secondary batteries have become a global trend since they are capable of charging and storing electric energy. L&F is now evolving into a company that leads the next-generation industry as a provider of cathode materials, a core element which accounts for 40% of battery production cost.



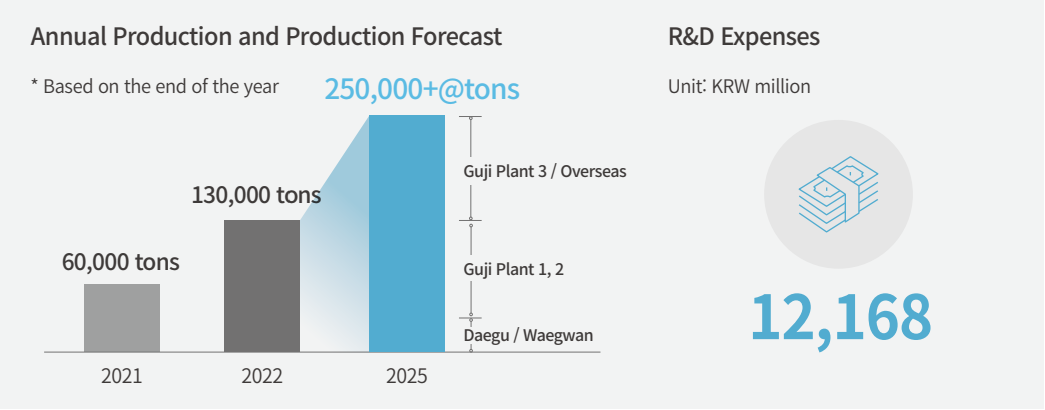
What are Cathode Materials?

Cathode materials, referred to as cathode active materials, determine the capacity and average voltage of a cell, and also enable battery charging.

L&F is a maker of NCMA cathode, a core element of rechargeable batteries for EVs (electric vehicles). In recent years, we became the world's first to mass produce cathode that contains 90% nickel, higher than the existing ones, which makes itself more stable and efficient. We received the permit to sell and the product is now on sale. In the years to come, we will accelerate the development of high-nickel cathodes, and also scale up the mass production.

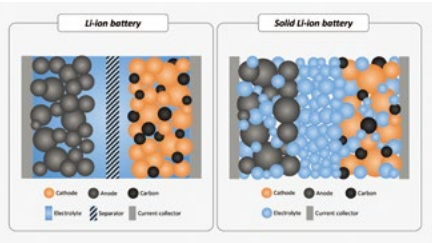


L&F is committed to putting ESG management into action, and constantly researching into ways of making our future more sustainable in pursuit of innovation. The market demand for cathode materials is projected to triple. In response, we are working on the construction of a plant to meet growing demands from customers with a focus on sustainable R&D activities. by 2025, we will have a capacity of manufacturing more than 250,000 tons of cathode materials, more than double the current level.



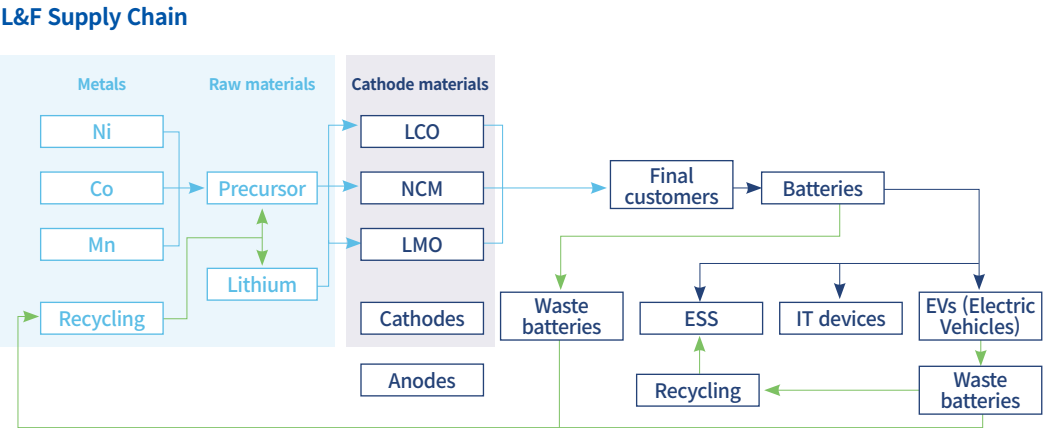
Next-Generation Cathode Materials

L&F is making intensive investments in the development of next-generation cathode materials for all-solid-state batteries which utilize solid state electrolytes instead of the electrolytes used for lithium-ion batteries. The all-solid battery boasts outstanding stability and energy density while having several disadvantages, such as slow lithium ion movement, side reaction at the interfaces and lower conductivity. We are devoting ourselves to resolve the drawbacks by studying on the surface treatment technology so that we can lead the industry with distinctive strategies, thereby evolving into a global company.



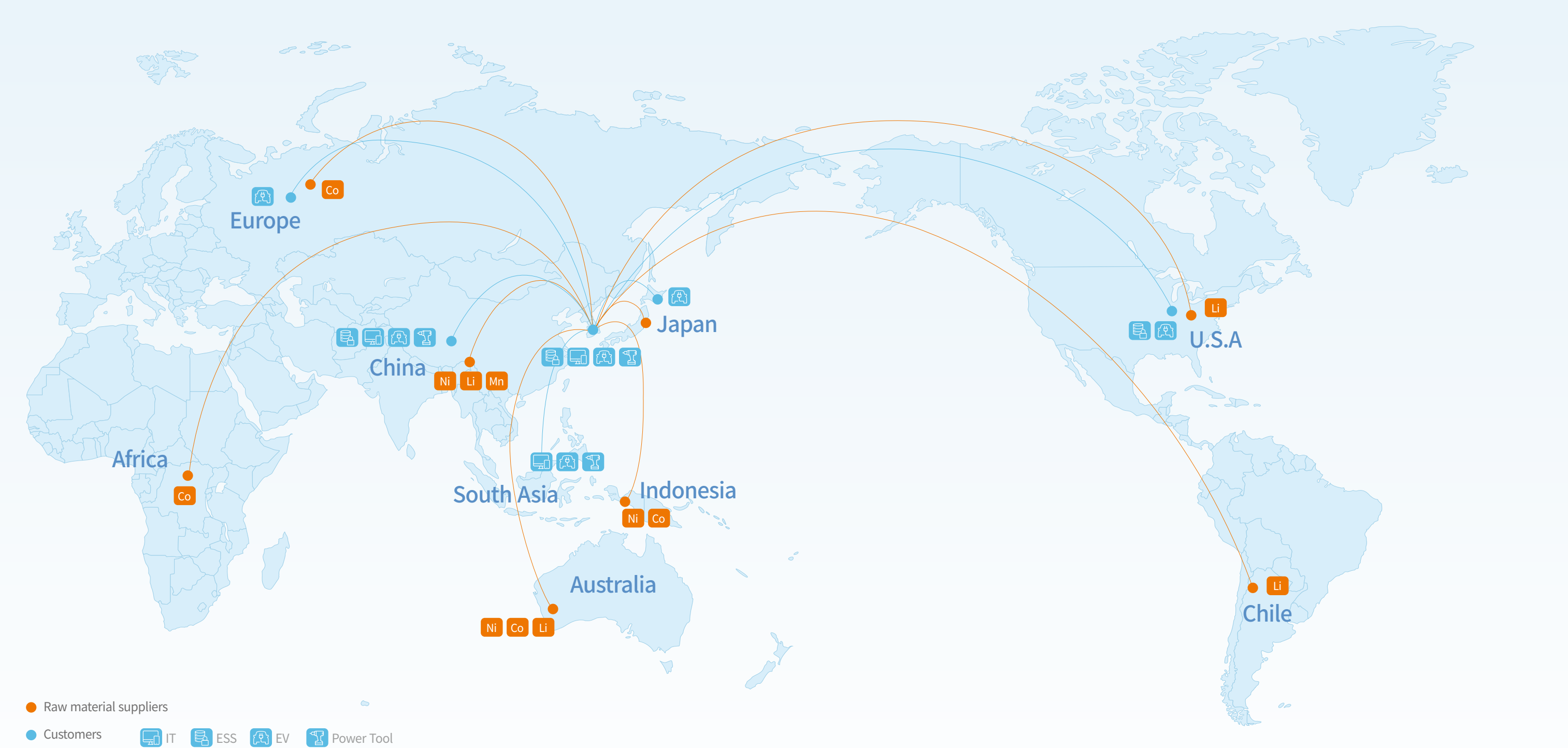
16 intellectual property rights acquired

* Based on 2021



GLOBAL NETWORK

Our global supply network directly and indirectly encompasses North America, Europe, Japan and Southeast Asia beyond Korea.
Through the global cooperation system, we are broadening the scope of our network, thereby expanding our presence into the global stage.



02 ESG Focus Area

- 16 ___ Strategies for ESG Management
- 18 ___ Environmental Management for Net Zero
- 24 ___ Dissemination of a Responsible Supply Chain
- 30 ___ Creation of Social Value Conducive to Local Communities



Strategies for ESG Management

With the aim of maintaining our stature as a global top tier in the green energy sector, and also attaining sustainable growth, we have set up our ESG vision, ‘We INNOVATE materials for green energy.’ Along with this, we have drawn up eight strategic directions and eleven key tasks based on ‘INNOVATE,’ a keyword that clearly demonstrates our iron will to persistently innovate ourselves for sustainable management in the face of the fast-evolving external and internal business environment.

Mission ▶

Global Green Energy Material Enterprise for
Creating Cleaner Environment

Strategic Directions ▶

I

Improving resource efficiency

N

Net zero transition

N

New ideas towards zero pollution

O

Outstanding product quality

Key Tasks ▶

Improve the efficiency of resource use and elevate value

Make all-out efforts to combat climate change

Reinforce the management of pollutants and hazardous substances

Sharpen quality-based product competitiveness

L&F is innovating itself to deliver full-fledged ESG management, and also to usher in a sustainable future.
Our future with innovative oxide materials

ESG Vision ▶

We **INNOVATE** materials for green energy

V

Value of mutual growth

A

Accountability for employees

T

Transparent governance

E

Enhance compliance

Establish the ESG management system for supply chain

Respect employees and develop their capabilities

Build a decision-making structure that takes ESG into account

Step up compliance

Seek for the mutual growth with local communities

Spread a culture of safety and security

Embed ethical management into every corner

FOCUS #1

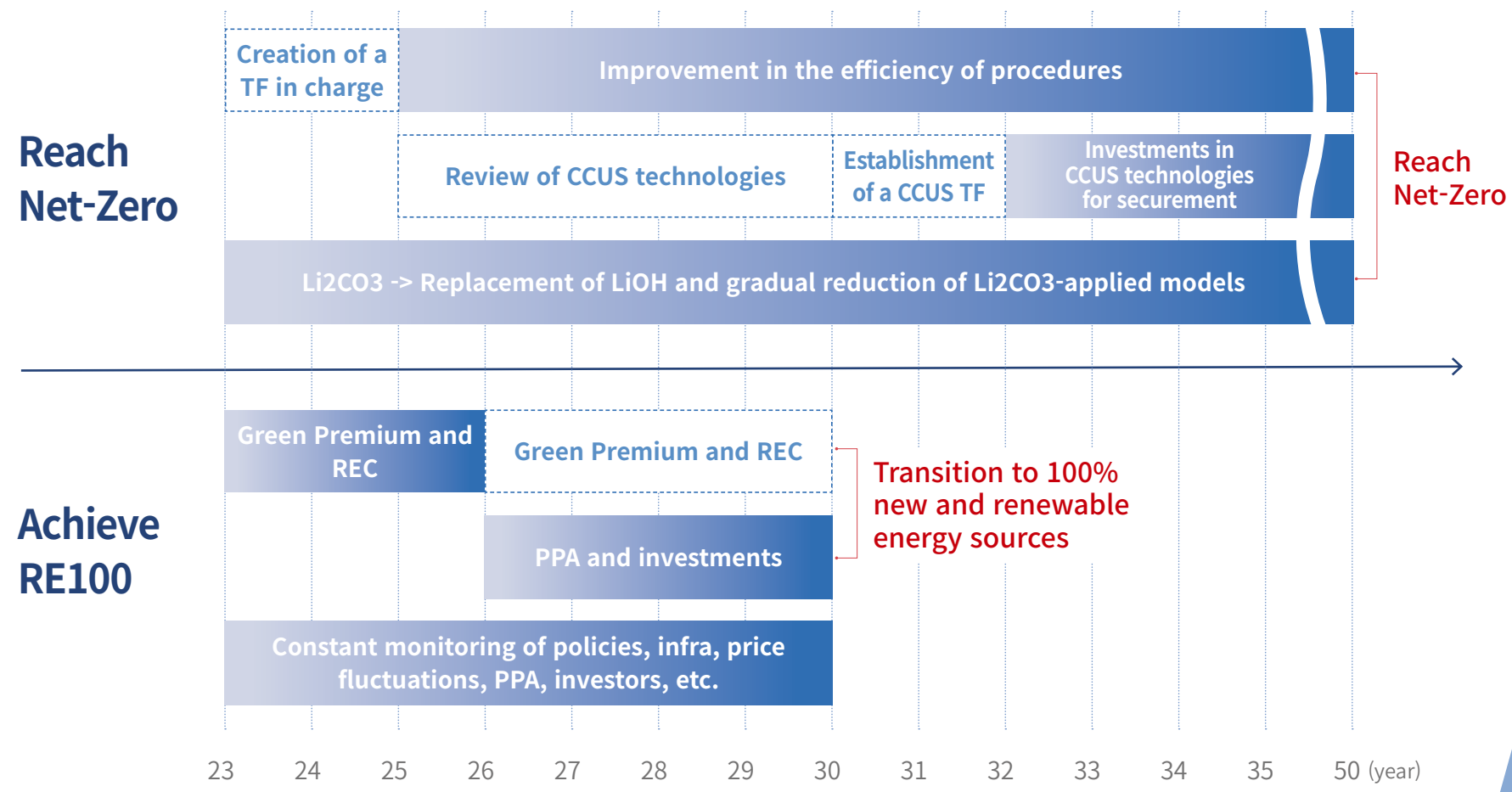
Environmental Management for Net-Zero

Climate change has become a global daunting challenge, bringing more frequent calamities and natural disasters and accelerating environmental destruction. Against this backdrop, companies are required to take action to achieve the common goal of the global society, carbon reduction, by minimizing their carbon footprint.

L&F has also joined the efforts to combat climate change. In detail, we declared the 2050 carbon neutrality, which was followed by the establishment of a roadmap for net-zero. And we will secure CCUS technologies to gradually mitigate the amount of lithium carbonate used, conduct energy saving activities, and transition to 100% new and renewable energy to reach net-zero.



Our Roadmap for Carbon Neutrality



Grand Prize for
leading company in
resource circulation




Commitment


Awarded Prime
Minister Citation
in 2022

Commitment 1. Energy Management

UN SDGs Target



13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.



7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

* Energy mix: diversification of energy sources

Declaration and Goals

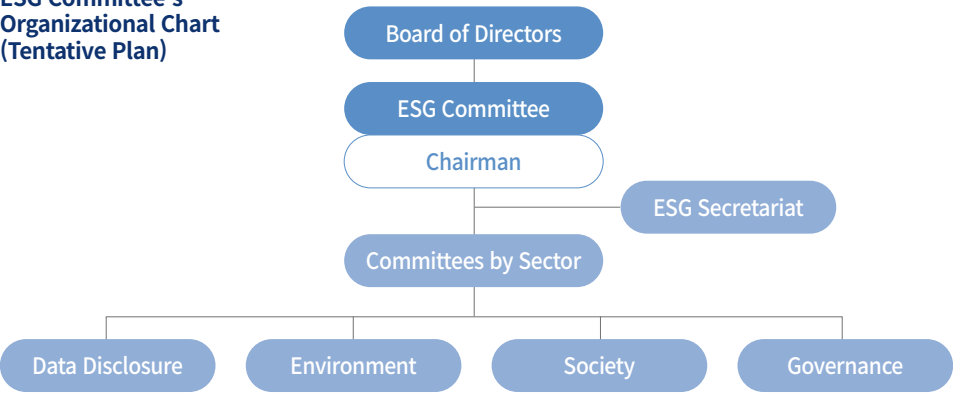
L&F set up its 2050 roadmap for net-zero. Under the goals of transitioning to 100% new and renewable energy sources by 2030, and also reducing energy costs in response to the soring prices in oil and raw materials, we have carried out a campaign for energy management, thereby scaling down our indirect carbon emissions. And we will mitigate carbon emissions stemming from power consumption so as to contribute to overcoming global warming.

93% of carbon emissions come from electricity consumption. In response to climate change, multifaceted efforts are being made including the shift toward more renewable energy sources instead of electricity we have used more for the extension work of the plant, and an energy saving campaign. Furthermore, we have measured the GHG (Greenhouse Gas) emissions and energy consumption within the business sites, based on the results, step-by-step measures are coming under review, such as the introduction of Green Premiums, REC procurement, or power purchase agreement. In addition, the energy saving campaign will be carried out on a persistent manner to make environmental management permeate every corner of our lives.

Plan to Establish an ESG Committee

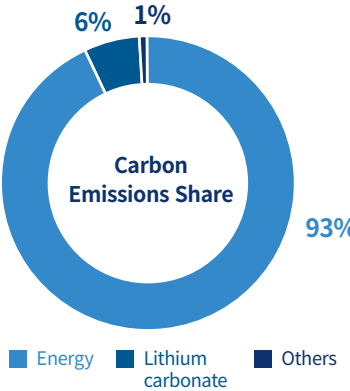
Currently, the ESG TF is a final decision-making body in charge of environmental, social, and governance affairs, including the matters regarding carbon neutrality and responses to climate change, taking final responsibility for the decisions. Taking charges of all environmental-related issues, the ESG TF makes discussions and conducts a variety of activities, such as the measurement of energy use or the review of energy mitigation targets. In 2023, we plan to create an ESG Committee under the BOD to establish company-wide plans by sector, such as environmental, social, or data disclosure, thereby playing a leading role in delivering ESG management.

ESG Committee’s Organizational Chart (Tentative Plan)



Transition to New and Renewable Energy

0.4653 tons of carbon emissions are released per MWh of electricity. Being aware that a large amount of carbon emissions come from power consumption, we set up our target to convert to the 100% use of new and renewable energy. Ahead of the entrance into overseas markets, various ways of transitioning to renewable energy by country, such as introduction of Green Premiums, REC procurement, or the third-party PPA. On top of that, we analyzed the energy consumption of each plant. Based on the results, we came up with carbon emissions scenarios to build systematic strategies for energy management.

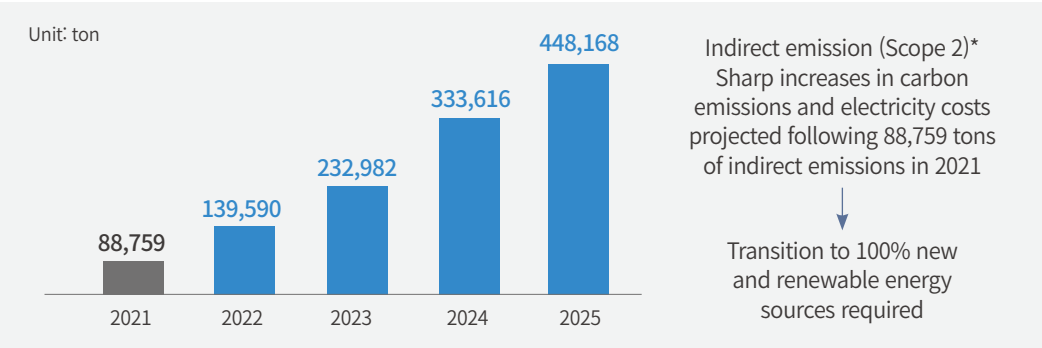


Energy Consumption Status*

Category	Key Indicator	Unit	2019	2020	2021
Total	Total consumption	GJ	520,477	632,311	1,859,971
	Consumption intensity	GJ/KRW million	1.66	1.78	1.93
	Fuel	GJ	3,412	3,537	5,233
	Electricity	GJ	517,065	628,774	1,854,738
Daegu	Total consumption	GJ	520,477	632,311	678,976
	Consumption intensity	GJ/KRW million	1.66	1.78	0.70
	Fuel	GJ	3,412	3,537	4,175
	Electricity	GJ	517,065	628,774	674,801
Waegwan	Total consumption	GJ			246,248
	Consumption intensity	GJ/KRW million			0.26
	Fuel	GJ			158
	Electricity	GJ			246,090
Guji	Total consumption	GJ			906,038
	Consumption intensity	GJ/KRW million			0.94
	Fuel	GJ			348
	Electricity	GJ			905,690
R&D Center	Total consumption	GJ	-*		26,474
	Consumption intensity	GJ/KRW million			0.03
	Fuel	GJ			552
	Electricity	GJ			25,922
Branch in Gimcheon	Total consumption	GJ			2,234
	Consumption intensity	GJ/KRW million			0.00
	Fuel	GJ			0
	Electricity	GJ			2,234

* Guji Plant 1: Constructed in July 2019, data collected starting from 2021
* Guji Plant 2: Data excluded since the construction was completed in March 2022
* Waegwan Plant, R&D Center and Branch in Gimcheon: Data collected starting from 2021

Expected Carbon Emissions from Power Consumption*



* Blue bar graph shows expected emissions

Energy-Saving Campaign

L&F established a new and renewable energy conversion plan and has carried out a campaign to reduce energy consumption since June 2022. Aiming at 'reducing 100W per person a day,' we save electricity and water consumption, encouraging engagement with various events.

Energy-Saving Campaign Details

Saving Electricity

We strive to lessen unnecessary power waste by reducing the use of air conditioners and heaters while setting and maintaining them at appropriate temperatures. We encourage using stairs rather than elevators for the 4th floor and below, thereby saving energy. We also block standby power* of electrical appliances when they are not in use.

Operation Status of Cooling and Heating Equipment

Location	No. of energy-saving units in operation	No. of idle units per day
CRM Division	2units -> 2units	0
SCM Division	5units -> 3units	2
Finance Center, Business Support Division	5units -> 3units	2
Human Resources Division, Information Security Team	3units -> 2units	1
Management Planning Division	1units -> 1units	0

* Standby power: energy consumed even when the power is turned off, which is consumed regardless of whether or not electrical appliances are in use. It has 6% reduction effect in power consumption

- Separate operation of air conditioners and heaters in common spaces on each floor
- C/R and offices on each floor are individually operated when in use
- Operation of dehumidification function in high humidity weather
- Regular operation of fan function in air conditioners for moisture removal

Saving Water

We checked if there were any leaks in faucets, toilets, and pipes. In addition, we have induced people to turn off the tap while washing their personal containers, such as tumblers, and to reduce shower time in the shower room.

Saving Gas

With an aim to save gas, we encourage people to set the hot water temperature to 40-45°C and to use ‘away mode.’ Piping, valves, and distributors in the workplace are regularly cleaned and inspected to ensure efficient use and prevent excessive energy use.

Energy-Saving Event



Energy Saving Contest



No Leftover Food Day



Energy Saving Promotion Day

Commitment 2. Zero Waste

UN SDGs Target



12.5

By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.



100% recycling of waste refractories and wastewater Recycling 350 tons of waste toxic substances per year

Obtaining platinum level in Zero Waste to Landfill (ZWTL) global certification

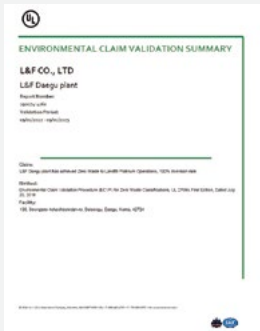
Identification of Current Status and Problems

L&F made efforts to grasp the current waste generation status, identify problems, and focus on improving them. We analyzed the waste toxic substances and refractories generated during the production process, followed by implementing systematic improvement activities for each waste. We also managed monthly waste emissions in accordance with ESG recommended public indicators. On top of that, we acquired Zero Waste Landfill (ZWTL) certification verified by UL Solutions, the global leader in the applied safety science sector, in July 2022.

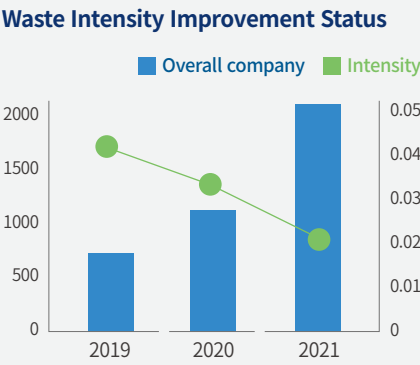
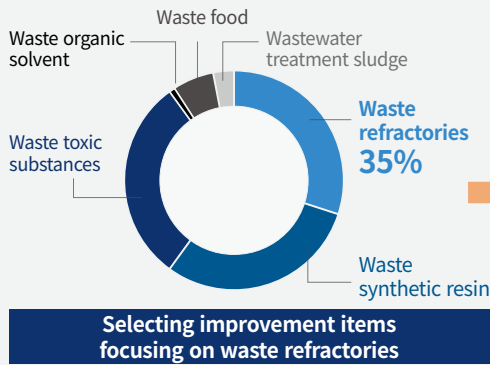
Company-wide Waste Generation Status in 2021*

Waste Type	Description	Generated amount (ton/year)	Treatment method	Category
Waste refractories	Waste saggar	686.5	Recycling	Business site waste
Waste synthetic resin	General waste, etc.	733.1		
Waste toxic substances	Waste powder	357.2		Designated waste
Waste organic solvent	Ethanol	31.2		
Waste food*	Leftovers, by-products, etc.	85.9		Business site living waste
Wastewater treatment sludge*	Waste sludge	55.5		Business site waste
Total		1949.4		

* Guji Plant 2 was excluded from the company-wide waste generation calculation as it was completed in March 2022
* Waste food was counted from 2021
* Wastewater treatment sludge is generated only at the wastewater treatment facility for treating the wastewater of the water washing process at Guji Plant 1



Daegu Plant ZWTL Certificate



FOCUS #2

Dissemination of a Responsible Supply Chain

Cobalt is a mineral whose demand and price have skyrocketed recently due to the influence of electric vehicles and smartphones, and it accounts for half of the total production in the Democratic Republic of the Congo. However, the inhumane issues in the course of production, including child labor, aroused significant social repercussions. Companies are required to understand the impact of human rights violations in the entire processes of their products, from raw material procurement to production and distribution.

In recognition of the severity of human rights issues, L&F implements policies to secure a responsible supply chain. We encourage our partner companies to join the ESG management promotion process for transparent policies and activities. We have established the Supplier Code of Conduct and request signatures. Going forward, we will strive to further solidify corporate responsibility by developing compliance and ESG evaluation indicators.



Commitment 1. Transparent Management of Conflict Minerals

UN SDGs Targets



8.7

Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.



16.2

End abuse, exploitation, trafficking, and all forms of violence against and torture of children.

Declaration and Goals

As human rights violations such as child labor in the cobalt supply chain have emerged as a global issue, we have thought the ways to enhance the management of cobalt and conflict minerals, recognizing their significance. Enacting the ‘Responsible Sourcing Policy,’ we strive to fulfill the corporate responsibility of preventing human rights violations such as child labor in production.

We expect all raw material suppliers, especially cobalt producers, to follow our <Responsible Sourcing Policy>, building a management system for the entire supply chain. we will establish a production process in which a sound supply chain is ensured in procuring cobalt and conflict minerals.

Responsible Sourcing Policy

Since joining the RCI (Responsible Cobalt Initiative) in 2016, we have paid close attention to securing raw materials from conflict and high-risk areas. As part of these efforts, we have established a ‘Responsible Sourcing Policy’ containing the requirements for cobalt and conflict minerals in high-risk areas to secure an ethical supply chain and called for new cobalt producers to sign it.

Extracts from Responsible Sourcing Policy

Regarding the procurement of raw materials, including cobalt, from high-risk and conflict areas,

- L&F expects its suppliers to circumvent all minerals from conflict affected smelters.
- Minerals related to the mining, transport, trade, handling, processing, or export which supports stateless and non-state groups, directly or indirectly are regarded as conflict-affected.
- L&F expects its suppliers to disclose the origin of materials, when it is required, which are connected to potential human rights violations such as child labor, compulsory or forced labor and any forms of modern slavery and human trafficking - especially in case of mining and extraction.
- The suppliers are requested to carry out and meet their due diligence obligations along the supply chain. This includes the implementation of measures which ensure that the minerals used by suppliers - particularly tin, tantalum, tungsten, gold, and cobalt - do not contribute to the direct or indirect support of armed conflicts or are in connection with the violations of human rights.
- Suppliers need to establish policies and due diligence practices to reasonably assure that products and components supplied to L&F are not sourced from conflict minerals.

Supervision of Suppliers’ Management of Conflict Minerals*

* Cobalt included

As the management of conflict minerals within the supply chain has come to the fore, we recognized the need to strengthen the existing supply chain in more systematic ways. In response, we check the basic financial structure, production capacity, quality control, and processing technologies before registering new raw material suppliers through our own CSR checklist while reviewing the policy and management system of conflict minerals including cobalt, thereby preventing various human rights violations.

CSR Checklist for Conflict Minerals

Category	Criteria	Score
Sourcing policy for conflict minerals including cobalt	Possessing certifications of conflict minerals including cobalt	10
	Conducting due diligences for responsible mineral sourcing	8
	Having plans complying with the OECD due diligence guidelines for responsible mineral supply chains in conflict and high-risk areas	6
	No relevant plans currently in place	4

The major raw material suppliers among the material producers are required to conduct a self-inspection with our checklist to review their sourcing process of conflict minerals, followed by a document report. We thoroughly examine our suppliers to check whether they respect workers with dignity and humanitarian treatment, run businesses in an ethical manner, are equipped with appropriate reporting and disciplinary procedures, and prevent child labor and severely extended working hours through a document report.

On top of the report assessment in accordance with the CSR checklist, we have made multilateral efforts to manage conflict minerals, by reviewing the sustainability report of raw material suppliers and the membership status of the RMI (Responsible Minerals Initiative). Looking ahead, we will reinforce our commitment to boost the management system for conflict minerals with the constant advancement of the CSR checklist.



Commitment 2. ESG Together with Partners

UN SDGs Targets



12.6 Encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle.



12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

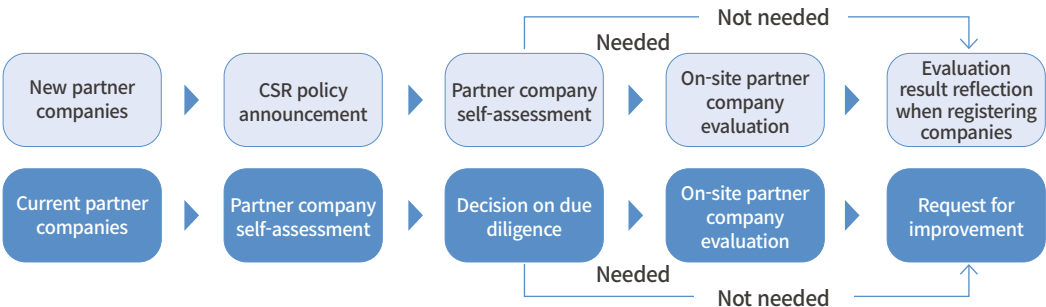
17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Declaration and Goals

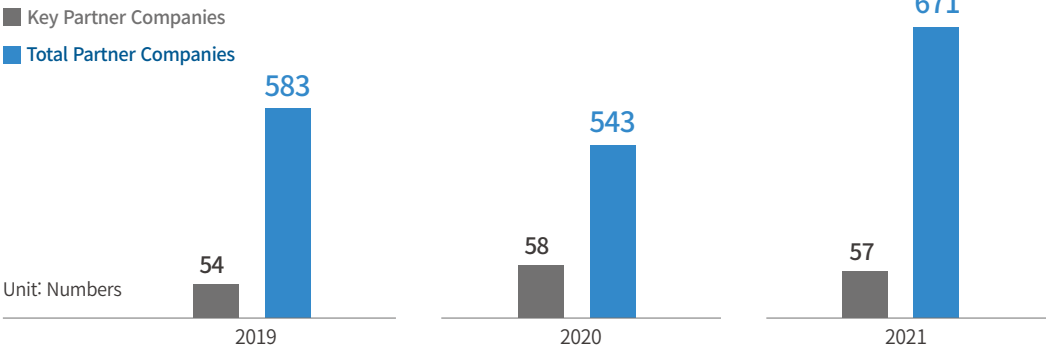
In the hopes of the participation of our partner companies in the fulfillment of social responsibility and efforts, we are pursuing ESG management encompassing the entire supply chain. We aim to spread ESG management to partner companies in various fields such as parts and facilities beyond the raw materials sectors to establish sustainable partnership.

We strive to ensure transparent management of all factors having an impact on the sustainable growth of the organization, such as environment, safety, and health, on top of personnel and ethics, throughout the value chain. With a view to establishing a sound supply chain, we have developed our own ESG evaluation index for partner companies which will serve as the standard of ESG evaluation for the key partners in 2023. ESG management will be gradually expanded everywhere in the supply chain.

Management of New and Current Partner Companies



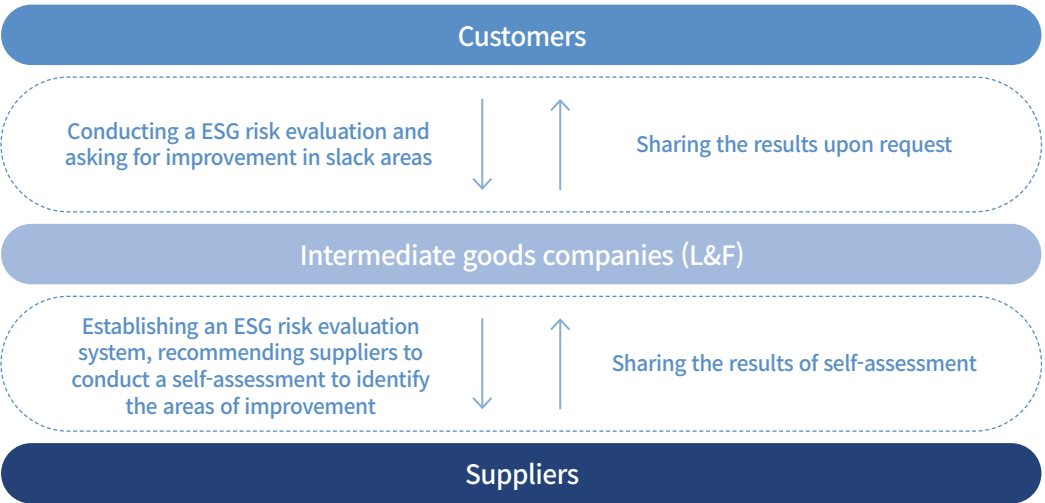
No. of Our Partner Companies



Evaluation Indicators for Better ESG Management of Our Partner Companies

With the growing calls for the ESG management of supply chains, we developed the ESG evaluation indicators to strengthen the ESG management system. In 2022, the previous CSR self-checklist was advanced into the ESG evaluation indicators for partner companies which will be utilized in the ESG evaluation of key partners and applied to more partner companies. We will share the results of evaluation upon a request from a customer so as to contribute to the establishment of a sustainable supply chain.

ESG Management Process for Our Supply Chain



Evaluation Targets and Results

Assessing E/S/G areas with a total of 96 items

Requesting for correction based on the evaluation results with continuous monitoring

ESG Evaluation System for Partner Companies

Category	Subcategory	No. of items	No. of items by sector
Environment (E)	1 Carbon emissions	4	42
	2 Water resources	10	
	3 Green technology	3	
	4 Chemical substances	7	
	5 Waste	6	
	6 Air pollution	7	
	7 Raw material sourcing (environmental)	5	
Society (S)	8 Labor and human rights	14	43
	9 Safety and health	12	
	10 Raw material sourcing (Social)	8	
	11 Data security	9	
Governance (G)	12 Ethical management	11	11
Total		96	

FOCUS

#3

Creation of Social Value Conducive to Local Communities

Companies contribute to the local community development, aiming to grow together with members of society. They need to respect all stakeholders as well as shareholders in the hopes of an economic virtuous cycle building on local resources which increase the incomes of residents while creating jobs to make contributions to the local communities. We will fulfill our social responsibility to become a company that can realize mutual growth with society. As we respect all members of society, we are actively implementing unsegregated employment policies and hiring local talents so that they can demonstrate their abilities and capabilities. Most of our employees consist of local talents while the disabled and high school graduates also play a valuable role as essential members of the company.



Offering Jobs for
the Disabled and
Highschool Graduates



Commitment
a total of 229
employees in 2021

Hiring More
Local Talents



Commitment
a total of 703
employees hired
in 2021

Strengthening
Social Contributions



Commitment
a threefold increase in
donations in 2021
compared to the
previous year*
* Comparing with the level of 2020

Reinvigorating
Local Economy



Commitment
KRW 650 billion
invested in 2022

Commitment 1. Securing Diverse Talents

UN SDGs Targets



8.5

By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.



10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies, and action in this regard.

Declaration and Goals

We are committed to creating a corporate culture that respects human rights and diversity. We have contributed to the employment of local talents, hiring most of the employees from Daegu. Our recruitment strategies value social diversity and inclusiveness, offering equal opportunities to all including the disabled and younger generations. Since 2019, a total of 13 people with severe disabilities were hired for three years, while an equal level of wage has been maintained regardless of gender. In the second half of 2021, the advantages for fulfilling military duty were abolished, allowing more members of our society to work with us in a quality working environment.

Hiring High School Graduates

We are seeking for talents equipped with work capability and fine personalities by providing job opportunities for high school graduates to unleash their potential through various job training. To this end, we participated in a recruitment fair for specialized high school students in Dalseo-gu, Daegu, visiting schools to introduce the company, and provided job counseling through Q&A sessions. We have continuously signed agreements with high schools in Daegu and Gumi, Gyeongsangbuk-do, looking for excellent talents regardless of their academic background.



Signing Agreement on the Employment of High School and College Graduates in 2022

Recruiting Programs

Signing MOUs with local universities, including Gumi University and Yeungnam University College, we operate training programs to nurture tailored talents to the company together with mentoring to guide employment and career. On top of the efforts to cultivate professional human resources and address the discrepancy between recruiting and job-seeking, we have implemented various recruiting programs in 2022, such as a job concert at Daegu Catholic University. We have endeavored to employ local youngsters with the participation in LINC+, a customized talents nurturing project.



2021 Campus Recruiting in Gumi University

Representative Employment-Friendly Company in Daegu

Recognizing our efforts in creating local jobs and a quality working environment, we were selected as a representative employment-friendly company by Daegu in 2017. We have retained the title until now, contributing to the increase in the average number of employed workers in Daegu with high-level payment and various welfare systems. In 2021, we hired approximately 700 new employees, creating decent jobs in the region while actively introducing excellent working systems such as staggered office hours and alternative working systems. As we signed business agreements with national industrial complexes which are expected to induce direct and indirect employment of 8,200 people, we expect more jobs to be created.



Diversity in Employee Composition in 2021

Unit: Persons

Female
81

The disabled
20

High school graduates
209

Improvements after the Selection as Representative Employment-Friendly Company

- Expanding the flexible working system
- Building an in-house library and lounges
- Installing fitness equipment in the in-house fitness center
- Remodeling the dormitory and gym
- Installing air purifiers and improving the cafeterias
- Reflecting employee survey results

Supporting employment-friendly companies with labor costs for youth recruitment

KRW636.4million*

* During 2019-2021



Massage chairs installed in lounges



Sneeze guards installed in response to the COVID-19

Empowering Female Workforce


We are establishing a workplace where female employees work safely without worries. The parental leave system allows employees to take care of their families, putting their minds at ease, while maternity leave and workplace daycare centers are put in place. Also, employees who need to get their child to school can adjust their attendance time to 6:00, 7:00, 9:00, and 10:00 am while female employees can take a rest at a separate lounge for them. We will create a working environment in which women, such as working mothers, can work. And we will redouble our efforts to hire more female employees.

Workplace Bully

We are paying close attention to making a happy workplace. Aside from various welfare policies, we established regulations regarding workplace bully prevention and management to prevent power abuse wielding one's position or relationship in the workplace to cause physical or mental pain, while grievance handling procedures related to gender-equal recruitment were stipulated in the employment rules. We also conduct regular employee training and interview to eradicate bullying, sexual discrimination, and harassment in the workplace with various efforts to foster a sound corporate culture, such as conducting frequent surveys.


Commitment 2. Respecting Human Rights of Stakeholders

UN SDGs Targets



5.c

Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.



10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies, and action in this regard.

International Standards Regarding Human Rights and Labor

We realize our fundamental values guaranteeing and respecting human dignity, the right to freedom and happiness in all workplaces. We endorse international standards related to human rights and labor, such as the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, the Core Conventions of the International Labor Organization, and the Global Human Rights and Labor Policy, complying with the labor laws of all countries and regions where we operate. By sharing the initiatives and policies with all stakeholders directly affected by our business operations, including employees, customers, and partner companies, we are raising awareness against human rights violations.

Human Rights Education

We provide all statutory human rights-related education each year to raise awareness of human rights within the company and prevent employees from taking part in or being exposed to human rights violations. All employees are required to complete training for sexual and workplace harassment prevention and improving awareness of the disabled, which serves as a foundation to raise awareness of our employees against human rights violations.

Key Human Rights Regulations Endorsed by Us



The Universal Declaration of Human Rights



The International Labor Organization



The UN Guiding Principles on Business and Human Rights

Education on Human Rights

Category	Unit	2019	2020	2021
No. of participants	Persons (%)	560(100)	631(100)	1,021(100)
Educational hours	Annually / 60 min			

As a member of the global society, we respect all related stakeholders and shareholders, striving to leap forward to becoming a global materials company. Responsible companies need to push ahead with policies considering the human rights of various stakeholders, including employees, partners, and the local community in addition to customers. In this regard, we have raised awareness of human rights, complying with the detailed L & F Global Human Rights & Labor Policy.

Policies on Global Human Rights & Labor Policy

1. Respect for Human Dignity	<ul style="list-style-type: none">· L & F respects all employees and strives to create a secure working environment by prohibiting workplace violence, including abusive language, psychological or physical coercion, etc.· L & F strives to create a safe and healthy working environment for our employees by providing personal protective equipment and conducting safety training.
2. Avoidance of Forced Labor	<ul style="list-style-type: none">· L & F prohibits all forms of involuntary labor, including forced labor and restriction of psychological and physical freedom of employees.· Original copy of identification, passport, and work permits is not requested upon hiring.
3. Prohibition of Child Labor	<ul style="list-style-type: none">· L & F complies with the local labor laws on minimum age of employment.· L & F prohibits the child labor below the age of 16.· Employees under the age of 18 will not be permitted to tasks that jeopardize their health or safety, including night shifts and overtime.
4. Non-Discrimination Policy	<ul style="list-style-type: none">· L & F provides equal opportunities for hiring, promoting, remunerating, and training.· L & F strictly prohibits all forms of discrimination including gender, age, race, religion, disability, marital status, pregnancy, labor union activities, and social status.· All workers write a contract that clearly state working conditions in their native language.
5. Working Hours	<ul style="list-style-type: none">· L & F complies with local laws on working hours regarding regular/overtime hours and holidays.· L & F shall not force employees to work overtime.· Employees are to be paid based on labor laws when working overtime.
6. Wages and Benefits	<ul style="list-style-type: none">· All employees are to be paid above minimum wage prescribed by local laws.· L & F provides welfare benefits in addition to wages to enable employees to lead a humane life.
7. Freedom of Association	<ul style="list-style-type: none">· L & F respects the employee's freedom of association and collective bargaining in accordance with local labor laws.· Employees can communicate with management regarding their working conditions without any fear of discrimination or retaliation.· L & F guarantees confidentiality and protection for whistleblowers.

Commitment 3. Contribution to Local Communities

UN SDGs Target

11

SUSTAINABLE CITIES AND COMMUNITIES

11.5

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

Declaration and Goals

With an aim of the shared growth with local communities, we have carried out various activities every year, such as delivering briquettes, meal service, and blood donation. Despite the situation in which COVID-19 has suspended some outside events, we are making steady efforts to grow together with local communities by means of donations and in-kind support. Every winter, we delivered briquettes to the socially underprivileged in the region suffering from the cold weather.



Delivering Briquettes in 2019



Meal Service in 2019

Reinvigorating the Local Economy of Daegu and the Gyeongbuk Area

In May 2022, L&F was selected as a company subject to the ‘2022 regional representative mid-sized enterprise fostering project’ by the Ministry of Trade, Industry, and Energy, which clearly demonstrated that it was recognized as a core driver of revitalizing the economies of Daegu and the Gyeongbuk area with its potential and innovative technological prowess. We are the only company located in Daegu among the five selected companies which make us take great pride in the fact that we have developed into a representative company in the region. With the agreement in investments in the Daegu National Industrial Complex in August 2022, we have injected KRW 650 billion in the hopes of playing a locomotive role in reinvigorating the local economy by creating a large number of jobs, joining forces in cultivating a global production base, and returning the profits to the local communities.



Signing an MOU to Build Plant 3 in the Daegu National Industrial Complex

Shared Growth with Local Communities



We are constructing a virtuous cycle of the local economy by building more factories in Daegu and the Gyeongbuk area and creating jobs. In recognition of our efforts supporting younger generations in the region to realize their dreams by joining Hopelink projects, we were awarded the Tin Tower Order of Industrial Service Merit for job creation while being certified as an excellent human resource development institution. We also held events for in-kind support in Daegu and the Gyeongbuk area around our business site to share our growth and development with the local community.



2022 Local Community Chuseok Event in Waegwan



In-Kind Support for Dalseong-Gun Residents

Donations to Local Communities

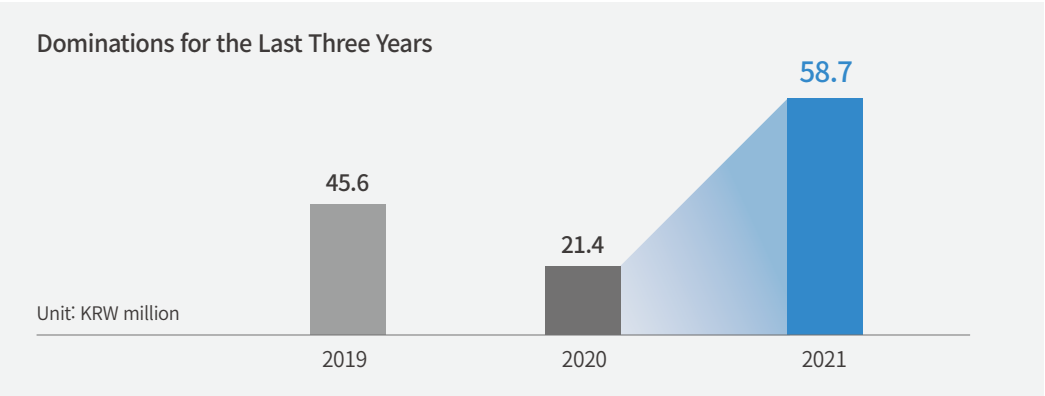
On top of volunteering, we have made constant donations to various local organizations in the Daegu-Gyeongbuk region, including hospitals, scholarship committees, Red Cross, and welfare centers for the past three years. Our employees also participated in donations through a fundraising event. Furthermore, we are unfolding strategic social contribution activities. For instance, our donations went to the Daegu National Science Museum in line with the business philosophy of creating innovation with technology in 2021. We have made strenuous efforts to fulfill social values by donating 10,000 masks to citizens experiencing difficulties owing to the COVID-19 pandemic for two consecutive years since 2020.



Photo of donating 10,000 masks in 2021



Masks donated to the Dalseo-gu Office in 2020



03 ESG Fact Book

Environmental

40 ___ L&F Cares about the Environment

46 ___ Green R&D Activities



ESG FACT BOOK 01

L&F Cares about the Environment



Certification for Zero Waste to Landfill

Context

As abnormal weather situations increase due to global warming, the international society is upholding ‘carbon neutrality’ as the core value. The international society is also coming together to combat climate change and global warming issues posed by environmental pollution. More countries are announcing ‘2050 Net-Zero’, which is achieving zero emissions of carbon dioxide by the year 2050, and tightening their regulations on GHG and other environmental pollutant emissions. Accordingly, it is necessary for companies to strictly manage environmental pollutants.

Our Approach

L&F has revied and carried out various activities to mitigate carbon emissions, and also delivered eco-friendly business through chemical substance and waste management. We plan to map out a roadmap for carbon neutrality and conduct chemical substance management as well as waste recycling in order to fulfill our responsibility for our planet and contribute to global environment through various policies. L&F will discharge its responsibility to the environment for a sustainable society, and transparently disclose such matters by minimizing its environmental footprint from the company-wide perspective.

01 Eco-friendly Management System

Net-Zero

The growing interests in climate action has shined a spotlight on the significance of ‘Net-Zero.’ In line with the change of times, L&F carries out various activities aiming for ‘zero direct emissions,’ ‘RE100 achievement,’ and ‘ESG management system establishment.’ Through these efforts, L&F will realize ESG management and manage business risks.

Zero direct emissions

Most direct emissions are released from the consumption of lithium carbonate, and 0.5956 tons of carbon is emitted per 1 ton of lithium carbonate. Although the required of amount of lithium hydroxide is increasing instead of lithium carbonate due to the expansion of high-nickel model, additional improvement activities are necessary in order to reach zero emissions of lithium carbonate. Consequently, L&F endeavors in various ways to achieve Net-Zero by securing the CCUS technology for carbon capture, utilization, and storage, and improve process efficiency. Under the supervision of the R&D Center, we are promoting a long-term approach that considers the technology development & implementation, and the government roadmap to secure CCUS technology. L&F will also continuously enhance the internal process and equipment efficiency to raise process efficiency. In addition, we plan to reduce the production of models that create direct carbon emissions by focusing on selling carbon-free products that can replace lithium carbonate.

Our 2050 Net-Zero Action Plan



GHG Emissions

Measuring method

Electricity is the main culprit of emissions, and GHG emissions from restaurants and fire pumps, and process emissions using chemical substance are measured. All GHG emissions are classified and calculated separately according to type. We are making every effort to scale down GHG emissions by reviewing significant changes that may affect GHG emissions through comparing the increase and decrease rates of the previous year to the current status.

*CO2, CH4, N2O, HFCs, PFCs, SF6 included

Portion of Emissions

We reviewed the proportion and change in GHG emissions in each business site by dividing the categories into stationary combustion (emissions from LNG, and the use of gas / diesel oil fuels), mobile combustion (emissions from moving cargo and personnel on roads and off-road), and process emissions (emissions from processing electronic and battery materials in the workplace, and processes using chemicals). In 2021, based on the Daegu Plant, which is a core production site, the largest amount of GHGs was emitted at the power consumption stage (Scope 2, indirect emissions) per business unit directly operating the Plant, and the proportion was about 95%. In addition, GHGs from the consumption of carbonate in other processes decreased by about 28.5% compared to the previous year, contributing to carbon mitigation.

2021 GHG Emissions

Unit: tCO ₂ -eq		
Category	Direct Emissions (Scope 1)	Indirect Emissions (Scope 2)
Total	3,291	88,759

* Including Daegu, Waegwan, Guji Plant 1, R&D Center, and Gimcheon Branch

2021 Process Emission Field*

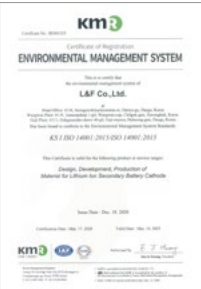
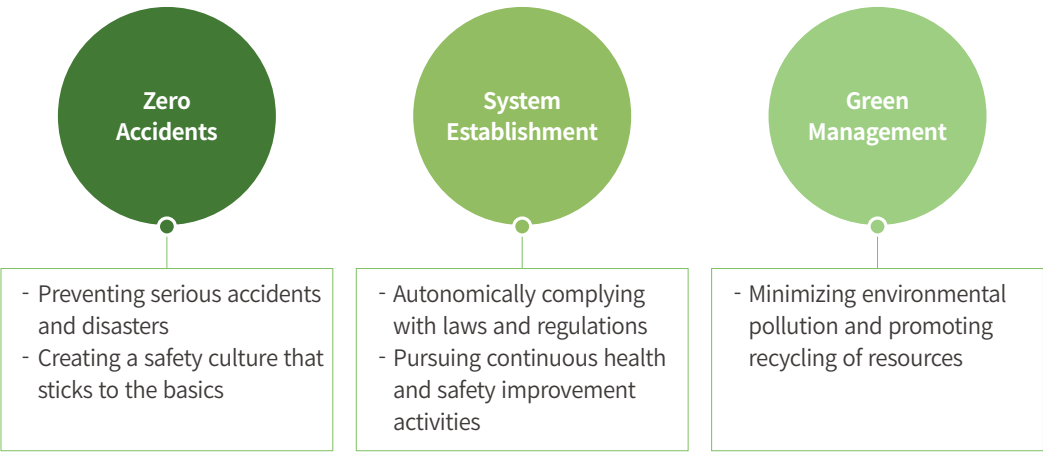
Other carbonates
Consumed mass of carbonate
2,364 Tons
CO ₂ emission factor per carbonate consumption*(Tier 3)
0.5956 tCO ₂ /t
Total
1,408 CO ₂ -eq

* Based on Daegu Plant
* Developed and calculated unique emission factor using a coefficient calculation formula through our own laboratory

01
Eco-friendly
Management
System

Promotion of Eco-friendly Management

Safety Environmental Policy

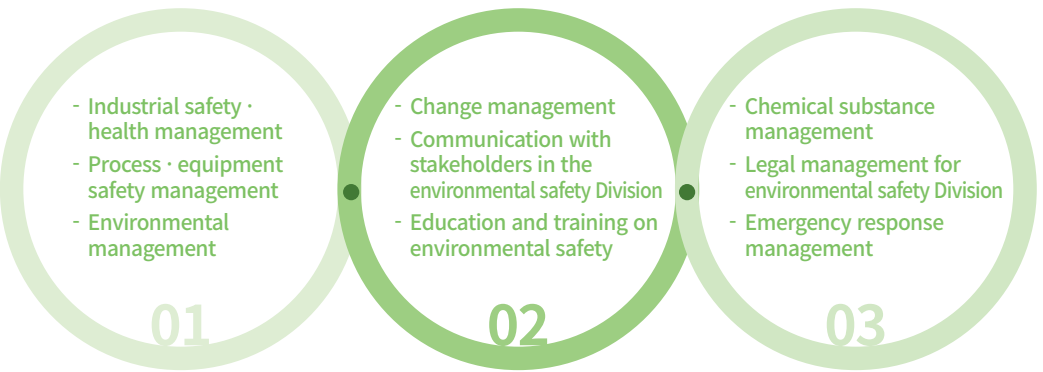


ISO 14001

Safety and Health Environmental Management System

To operate an in-house safety and health environmental management system, we organized an Environment Center and a Safety and Health Team under the Environmental Safety Division, which is in charge of safety / environment / and health affairs. Relevant sectors and teams are responsible for the comprehensive management of ISO 14001 and ISO 45001 evaluation standards, meet both domestic and international standards, and are committed to creating and managing a safe work environment.

Safety and health environmental management system



Environmental Pollutant Monitoring System

Category	Frequency	Method
Air pollutant	2 times / month	Air pollutant measurement is conducted through an external company by consignment
Water pollutant	1 time / week	All wastewater is disposed by a consignment agency, and the wastewater tank is checked periodically
Chemical substance	1 time / week	Managers regularly check facilities that handle hazardous chemicals

02
Hazardous
Substance
Management
and Minimizing
Pollutant
Emissions

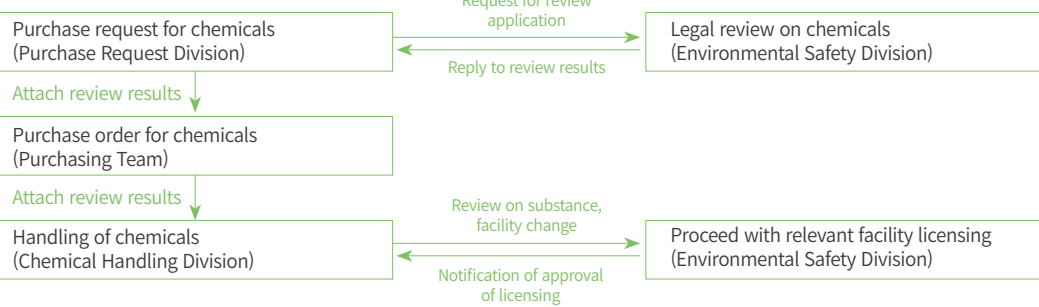
Regulations and Guidelines on Chemical Substance Management

L&F thoroughly manages to ensure that there are no violations regarding chemical substance regulations, in response to more stringent regulations related to chemical substance. We comply with the chemical substance management regulations to identify and manage chemicals in the production process and other processes to minimize direct or indirect effects on the environment and human body and to abide the law. In addition, we follow the RoHS management guidelines to develop products that align with environmental regulations and do not contain hazardous chemicals in the raw materials used and products sold.

L&F Chemical Substance Management Department



Chemical Sourcing Process



ZWTL certification conferment ceremony

Wastewater Discharge and Analysis Status

Wastewater Discharge Factor*	Usage (ton)	Pollutant discharge item
NCM precursor	28,269	BOD, SS, TOC, dichloromethane, total nitrogen, ecotoxic substance, formaldehyde, arsenic and its compounds, cyanide compounds, chromium compounds, cadmium and its compounds, etc.
LiOH	13,149	
H3B03	490	

* Partial information is stated based on the data of Guju 1 Plant in 2022

Zero Waste to Landfill Certification

L&F has been making efforts to minimize the impact on the environment by reducing waste emissions and implementing recycling improvement activities. We carried out various improvement activities such as identifying the cause and amount of waste generated by each type of waste and achieving 100% recycling. And as a result, all three of our business sites in Guji, Daegu, and Waegwan obtained the highest level of Zero Waste To Landfill (ZWTL), the platinum grade certification by verified by UL Solutions, the global leader in the applied safety science sector.. Also, being recognized for various resource circulation efforts, such as reducing and recycling waste containers and reusing waste powder, we were selected as a leading resource circulation company at the Resource Circulation Day event, hosted by the Ministry of Environment last September, and received the Prime Minister Award.

Wastewater Discharge and Water Pollution Management

To prevent water pollution in the region, L&F manages the total amount of wastewater discharge and the daily discharge in detail by classifying the wastewater discharged by raw material and discharge facility. In addition, we operate a stable wastewater treatment system by analyzing the pollutants contained in the wastewater and selling some of it as raw material so that they can be reused or consigned. As our wastewater contains high concentrations of lithium and various pollutants, we aimed to contribute to reducing the public environmental treatment costs by controlling wastewater inflow to public wastewater treatment facilities by selling and reusing the wastewater through a selected company according to internal guidelines and standards.

02
Hazardous
Substance
Management
and Minimizing
Pollutant
Emissions

RoHS Management Guideline

L&F has established and follows the RoHS management guideline in effort to develop products that comply with environmental regulations and do not contain harmful chemicals that have negative effects on the human body and environment. RoHS refers to the EU guidelines on restricting the use of hazardous chemicals in electrical and electronic equipment, and we assign responsibilities and authorities to each organization in accordance with the RoHS management guideline. The above organizations thoroughly manage hazardous chemicals through managing, analyzing, and recording the hazardous chemicals.

RoHS Management Guideline – Responsibility and Authority

Technology Development Headquarters	In principle, the use of hazardous chemicals is excluded from the product development stage
Customer Satisfaction Team	Submit RoHS report for our product upon customer request
Quality Assurance Team 1, 2	Management of RoHS report history for L&F produced products, such as delivered raw materials, and packaging materials
Environment Team	Review compliance with RoHS-related laws and manage revisions of the guideline

RoHS Analysis Item and Period

Category		Lead	Mercury	Cadmium	Hexavalent chromium	Flame-retardant	Halogen	Phthalate	SVHC
L&F	Product	Once a year							-
Partner Company	Precursor	Once a year							
	Lithium								
	Additives								
	Packaging material	Once every two years							
	Saggar								

* Flame-retardant: PBS, PBDEs / Halogen: Bromine, chlorine * SVHC: Proceed analysis on all items upon customer request
* For items other than the above, proceed upon customer request

Response to Hazardous Substance Regulation in Products

To respond to the ‘registration, evaluation, authorization, and restriction system of chemicals (REACH),’ L&F strictly manages whether or not hazardous substances are contained and its content. For this, we exclude the use of high-risk substance from the development stage, conduct periodic SVHC and RoHS inspections to monitor the presence of hazardous substances, review the Material Safety Data (MSDS) at the domestic business site and partner company level, and establish and manage internal standards that are stricter than required by customers. In case of an abnormality, we preemptively respond to domestic and international environmental regulations by establishing a process to identify the cause and implement improvement measures. Also, pollutant reduction devices such as dust collectors are installed in all L&F production facilities to protect the local environment and the health of workers.

02
Hazardous
Substance
Management
and Minimizing
Pollutant
Emissions

Hazardous Chemicals Management

L&F endeavors to safely manage hazardous chemical substances and reduce environmental pollution and various damages. Accordingly, we established hazardous chemical handling facilities and carried out regular inspections and self-inspections, and prepared the hazardous chemicals management register. In addition, we included matters regarding hazardous chemical handling facilities to the chemical management regulation and established regulations on hazardous chemicals such as delivery and contract reporting, to manage hazardous chemicals more reliably and safely.

Hazardous Chemicals Education

L&F provides education on hazardous chemicals so that our members can acquire knowledge about the hazardous chemicals and manage them systematically and safely. We also designate a hazardous chemical manager, and carry out safety training for managers and staff who handle hazardous chemicals as well as workers of the handling business sites, and report the results to the National Institute of Chemical Safety. In 2021, we carried out approximately 90 education sessions for managers and staff who handle chemicals with an aim that they can correctly and skillfully handle such chemicals.

Safety Education on Hazardous Chemicals

Category	Hours	Education method
Professional training for hazardous chemical substance manager / technical personnel	16 hours / 2 years	External education
General training for direct handlers of hazardous chemicals (handling personnel)	16 hours / 2 years	External and internet-based education
Training for workers of hazardous chemical handling business sites	2 hours / year	Internet-based education

Hazardous Chemical Emergency Response

L&F strives to minimize the spread of damage and prevent recurrence in case of a hazardous chemical accident. For this, we have established matters regarding emergency measures and accident reporting that could occur when handling hazardous chemicals, and we are also preparing to carry out immediate control activities in case of a spill accident. Moreover, after completion of the control work, we file an accident report including the cause of the accident and measure to prevent recurrence, and report it to the CEO within 24 hours of the accident to be able to take a preemptive response.

Hazardous Chemicals Emergency Measures and Accident Report Regulations

- Each department should immediately carry out control activities to prevent leakage of the spilled chemicals to the outside of the business site in the event of an accident caused by negligence of workers or aging of handling facilities when handling hazardous chemicals.
- When a hazardous chemical leakage site is found, it must be immediately reported to the emergency contact network and reported to 119 and institutions such as the Environment Division within 15 minutes from the time of confirmation.
- The head of the department where the accident occurred shall prepare an accident report including the cause of the accident and measures to prevent recurrence after completion of the control work, and report it to the CEO within 24 hours from the time of the accident.

ESG FACT BOOK 02

Green R&D Activities



World's First
Mass Production
of High-Nickel NCMA

Development of
Recycling Technology
Minimizing
Hazard
Substances
in December 2021

Context

R&D, a core corporate task, is an integral part of sustainable growth. In recent years, as the next-generation battery business has come to the fore, more intensive R&D activities are required. And the interest has shifted to environmentally friendly secondary battery from electric battery that was in the spotlight for its eco-friendliness since there was a concern of environmental destruction in the course of producing, disposing of, and recycling electric batteries. Companies should strain every nerve to study and develop technologies that save the plant through their entire process to protect the environment.

Our Approach

Founded in 2000, L&F commenced its production of NCM at its initial stage of cathode active material business. We succeeded in laying the foundation for R&D in the beginning, which was followed by the mass production of high-nickel NCMA for the first time in the world in 2020. However, not being complacent about the achievement, we never relented in our efforts, which culminated in us obtaining 95 patents as of June 2022. In addition, we developed high-density, high-capacity cathode materials while completing the development of a recycling technology enabling the minimization of hazardous substances emitted from manufacturing process in December 2021, which clearly demonstrated that L&F strives for improving the environment in the entire processes in addition to finished products.

01 R&D, a Core Driver of Future Growth Engines

Research on Future Technologies

L&F is equipped with advanced technologies regarding the designing and manufacturing of various materials, such as cathode materials for rechargeable batteries, or precursors. Taking advantage of our own technological prowess, we have strived to design eco-friendly materials developed upon new technologies. And our technologies concerning synthesis and powder processes have enabled us to produce high-purity, high-precision compounds in a stabilized manner. On the strength of our outstanding technologies, we have served as a trailblazer on the journey towards a global No.1 company with the provision of products optimized for customers.

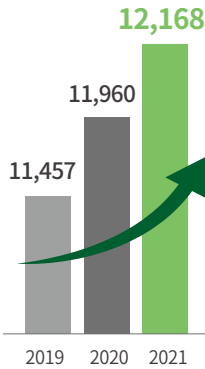
With a special focus on future technologies, we have operated the Innovation Center to invest in these technologies. The center is in charge of polishing up the competitiveness of our key businesses, and at the same time, constantly identifying future business opportunities and developing green technologies keeping pace with the rapidly changing industries, such as the electronics or materials industry. Being comprised of experts in chemistry or materials, the Innovation Center is making all-out efforts to develop new products conducive to the environment, satisfy customers, and deliver the best value one step ahead of competitors.



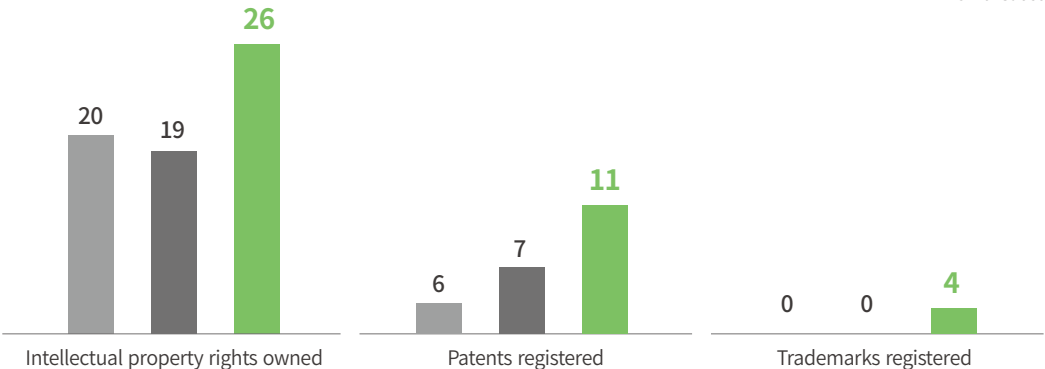
Innovation Center

Investments in R&D			
Unit: KRW million			
Category	2019	2020	2021
Total R&D investments	11,457	11,960	12,168
(Subsidies)	(3,463)	(1,678)	(1,764)
R&D investments- to-sales ratio [Total R&D investments ÷ sales x100]	3.66%	3.36%	1.25%

Total R&D Investments
Unit: KRW million



R&D Status
Unit: Cases

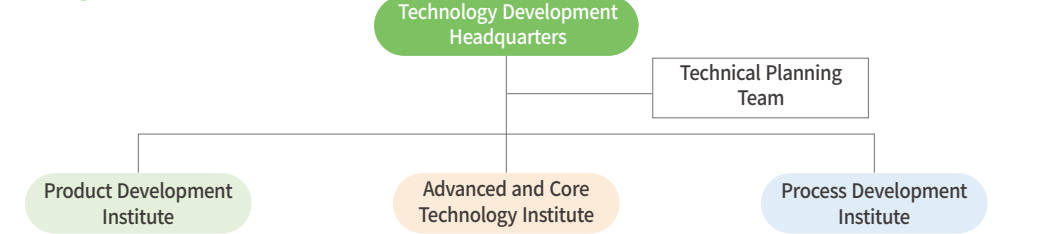


01
R&D, a Core
Driver of Future
Growth Engines

R&D Organization

L&F has organized a separate organization dedicated to eco-friendly technology development so that it can have a systematic system to develop expertise and conduct research in an efficient manner. Three research institutes are operated with various teams under the Technology Development Headquarters. They research highly efficient cathode and next-generation cathode materials. We annually increase the R&D expenses. Aiming to leap forward as a leading global company in green energy materials and further develop technologies for shared growth with the environment, we will continuously make efforts in the R&D area.

R&D Organizational Chart



Green Technology Development Project

L&F has actively developed eco-friendly technology to safeguard the earth. We have participated in government-funded joint research and development projects that aim to reduce environmental pollution caused by sulfuric acid used when reprocessing and recycling waste batteries. These are some of our efforts to pay great attention to developing new eco-friendly and recycling technologies.



Virtual image of recycling testbed for eco-friendly lithium rechargeable battery

Goal	Technology	Status
New product development	Development of xEV cathode materials based on High BET	Development completed in Sep. 2021
	Development of high-performance cathode electrode manufacturing technology of 6mAh/cm2 or higher for all-solid-state batteries	In progress
	Development of high-energy-density lithium-ion battery technology for electric vehicles that is capable of realizing high-rate charging	In progress
Recycling technology development	Development of recovery and high-purity technology for lithium compound from the waste liquid of lithium secondary battery manufacturing process	Development completed in Sep. 2021
	Development of simplified precursor manufacturing process technology without the metal extraction process from black powder	In progress
New product development	Development of high-safety single-crystal materials	In progress
	Development of cobalt-reduced NCM	In progress
	Development of cobalt-free materials	In progress

Research on Cobalt-free Materials

We are in the process of researching and developing cobalt-reduced NCM materials with significantly reduced cobalt content, as well as cobalt-free materials with zero cobalt content. If we are successful in the mass production of the material, it will not only contribute to the production of high-performance and high-efficiency secondary batteries but also have a positive social effect on cobalt usage, which is currently faced with various human rights abuse issues. We will continue to develop eco-friendly and ESG-conscious products, never sparing our efforts and investments in the research and development of the materials.

02
Eco-friendly
Technology
and Product
Production

Commercialization of High-nickel Cathode Materials

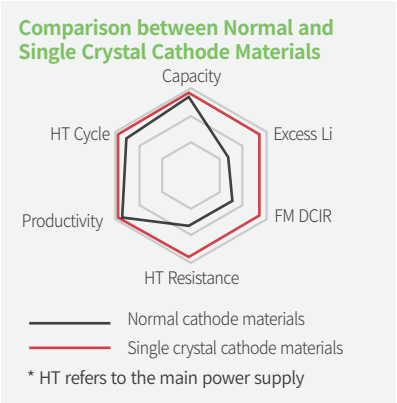
Through efficient product development, we are continuously conducting research that can be long-lasting and lessen environmental impact. In March 2020, we successfully mass-produced high-nickel NCMA with a nickel content of 90% for the first time in the world. It is an eco-friendly material with higher energy density and better price competitiveness compared with existing products. Currently, we are developing cathode active materials that can be used for various secondary batteries, such as cylindrical and pouch types. In addition, our development of cathode active materials with a nickel content of over 90% is being seamlessly conducted.

Products by Nickel Content

Products with Nickel 50%	Products with Nickel 70%	Products below Nickel 70%	Mass production and commercialization in progress	
• Size : 5~12μm • Capacity : 168~171mAh/g • Application : IT / ESS	• Size : 5~12μm • Capacity : 180~189mAh/g • Application : IT / ESS / xEV	• Size : 4~10μm • Capacity : ≥193mAh/g • Application : Powertool / ESS	Products below Nickel 80%	Products below Nickel 90%
			• Size : 4~15μm • Capacity : ≥ 210mAh/g • Application : Powertool / xEV	• Size : 5~12μm • Capacity : ≥220mAh/g • Application : Powertool / xEV

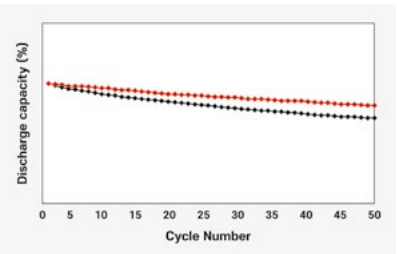
Development of Single Crystal Cathode Material

We have been conducting research and development with a high interest in the single-crystal cathode material. The single crystal cathode material does not break owing to its high particle strength and generates less gas even under high voltage, compared to conventional products. Therefore, as an eco-friendly material, its outstanding safety and long-life functions are expected to improve the drawbacks of existing batteries, which have a short lifespan. We will continue to develop cathode active materials that can be used semi-permanently. Besides, we will keep researching carbon-free energy storage materials, such as home appliances, IT devices, and ESS, as part of an endeavor to contribute to carbon reduction.



Single Crystal Cathode Material Product by Nickel Content

Products below Nickel 70%	Products below Nickel 80%	Products below Nickel 90%
• Capacity : 168~171mAh/g • Application : Powertool / ESS	• Capacity : 207~210mAh/g • Application : Powertool / xEV	• Capacity : 216~220mAh/g • Application : Powertool / xEV



Environmental Impact Assessment Process

L&F has made strenuous efforts to minimize the environmental impact in the production process. Each plant produces products in compliance with regulations after obtaining permission from relevant government departments in advance, including a business license for hazardous chemicals, a wastewater discharge facility installation license, and waste-related report certificates. In addition, we conduct environmental impact assessments in order to appropriately treat waste generated in the course of production, and keep the environmental evaluation standard table and an environmental impact factor analysis table. The environmental impact assessment is regularly conducted once every three years. During product development, we conduct it frequently and report the environmental performance report to manage the environmental impact, such as air and soil pollution, thereby minimizing the generation of pollutants.

04 ESG Fact Book

Social

52 ___ L&F Cares for Its Members

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68 ___ Partners Growing Together

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Customer Satisfaction



ESG FACT BOOK 01

L&F Cares for Its Members



100%
full-time employees
in employee
composition*

* As of 2019, 2020, and 2021

Context

Finding diverse and passionate talents and supporting them to achieve steady growth is critical in forming a sustainable organization, as each member composes an organization that continues to grow. Leaping into a company that develops together with employees will unlock the way for unlimited growth. L&F seeks various ways to create an organizational culture in which employees work together in a pleasant and happy manner, pursuing a balanced harmony between work and life.

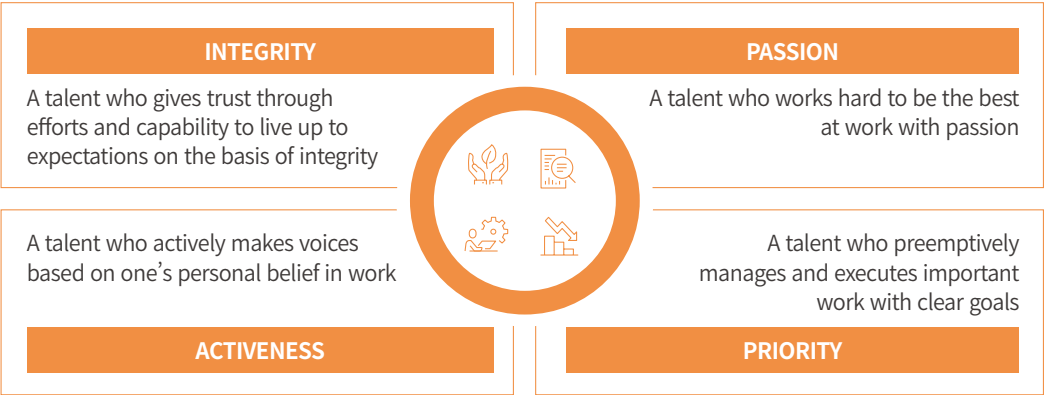
Our Approach

We strive to create a people-oriented corporate culture so that all our members can contribute to the organization while working happily and passionately. On the foundation of the management philosophy to create a company where employees can work happily, we have hired all employees as full-time status for three consecutive years as of 2021 while preparing a variety of welfare policies. In addition, we hold regular Labor-Management Council meetings to create a communication culture between labor and management. The Labor-Management Council discusses diverse topics, including employee grievances, work environment improvement, and welfare benefits. The discussion results are shared company-wide to encourage the active participation of employees.

01
Human Resources
Management
and Performance
Management
System

Discovery of Outstanding Talents

We have constantly sought to discover excellent talents who correspond to our core values. We introduced a differentiated recruitment procedure for each job position to hire the right person for the job. Besides, we have actively operated the recruitment portal, thereby recruiting 703 new employees as of 2021. The recruiting channel on the official website provides related information, such as job fairs and job concerts. Going forward, we will actively utilize university recruit tours and job mentoring programs to identify talented people.



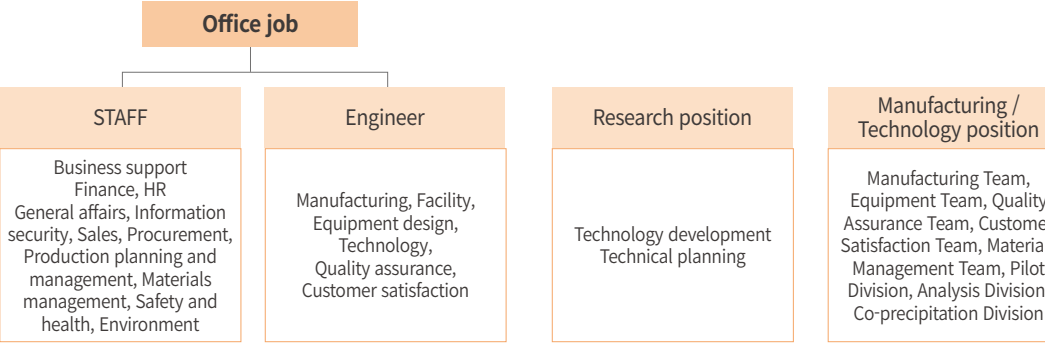
Recruitment Procedures for Office and Research Positions



Recruitment Procedures for Manufacturing and Technology Positions



Position Chart

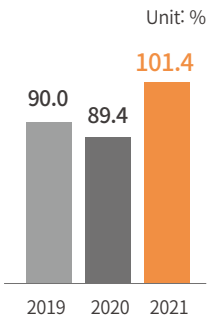


Recruitment Status

		Unit: Persons		
Category		2019	2020	2021
Recruitment	No. of newly recruited employees	172	164	702
	Gender			
	Male	167	156	665
	Female	5	8	37

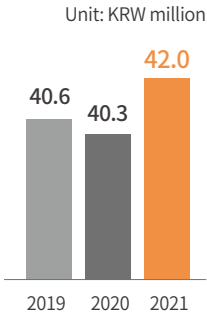
01
Human Resources
Management
and Performance
Management
System

Gender-Equal Pay*



* Ratio of women's wages to men's (female employee salary / male employee salary*100)

Status of Salary
Per Capita



* Based on average annual salary per person

Respect for Diversity

The number of members in L&F was 1,021 as of 2021, which significantly increased from 500 three years ago. We are actively recruiting diverse talents while striving to provide equal opportunities based on performance without discrimination in job roles, employment, and positions. We also have regulations on the prohibition of harassment and discrimination against female employees to realization of gender equality. Based on a recruitment policy that respects diversity, most of our employees are from the Daegu local region. We plan to hire a large number of local talents, as many as around 2,500 to 3,000 in 2025.

Domestic Employees Status

Unit: Persons (%)

Category		2019	2020	2021
Total number		560	631	1,021
Gender	Male (ratio)	504(90.0)	575(91.1)	940(92.1)
	Female (ratio)	56(10.0)	56(8.9)	81(7.9)

Detailed Employees Status

Unit: Persons (%)

Category		2019	2020	2021
Total number		560	631	1,021
Gender	Male (ratio)	504(90.0)	575(91.1)	940(92.1)
	Female (ratio)	56(10.0)	56(8.9)	81(7.9)
Employment type	Full-time (ratio)	560(100)	631(100)	1,021(100)
	Contract or temporary (ratio)	0(0)	0(0)	0(0)
Age	Age under 30 (ratio)	223(39.8)	270(42.8)	541(53.0)
	Age of 30-49 (ratio)	315(56.3)	337(53.4)	450(44.1)
	Age of 50 or above (ratio)	22(3.9)	24(3.8)	30(2.9)
Diversity	Disabled (ratio)	13(2.3)	13(2.1)	20(2.0)
	Youth intern (ratio)	0(0)	0(0)	0(0)
	High school graduate (ratio)	120(21.4)	122(19.3)	209(20.5)
	Foreigner (ratio)	0(0)	0(0)	0(0)

Fair Performance Evaluation

L&F evaluates individual capabilities without discriminating against members. We conduct both absolute and relative evaluations to keep fairness in evaluation for employees. We pay quarterly incentives or raise wages by reflecting the evaluation results so that we can motivate each member. As of 2021, we completed the performance evaluation of all 261 office workers and provided wages depending on their performance. In this way, we make efforts to operate fair personnel evaluations that reflect individual performance with the aim of motivating our employees.

Action Guidelines on Performance Evaluation

We have established a system for performance management with action guidelines to support fair performance evaluation. For personnel performance evaluation, we evaluate a team's performance, team members' performance, and individual contribution for the period of one year, followed by receiving approval from both team members and team leaders to ensure fairness. We set up criteria to evaluate not only performance but also individual self-development and capabilities and conduct interviews. We also introduced various evaluation methods, such as multi-faceted evaluations conducted at the team leader level so that we can appraise individuals more objectively.

02
Capacity-Building
and Welfare
Benefits for
Employees

Employee Training Program

We plan and operate a training program on an annual basis for the continuous growth of our employees. Starting with the education to help new hires adjust and learn job skills, employees can earn credits and learn through ESG education or in-house technology seminars for optional training on top of required training, a job position training. We also encourage our employees to sharpen their capabilities by giving credits when they obtain work-related certifications. In 2021, a total of 810.5 credits were applied based on the education plan. 387.5 credits were obtained, and the total training time for the year was 5,537 hours.

2021 Annual Education Plan

Category	Host	Target	Period
Planning skill improvement program (basic)	Human Resources Team	Those who have not completed the program	Jul-Aug
Nurturing leadership program		Team Leaders and Part Leaders	Aug-Sep
Compliance training (basic)		Those who have not completed the program	Aug
Introductory program for new hires		Those who have not completed the program who joined after July 2021	Aug-Sep
Compliance training (advanced)		New position holders in 2021	Oct-Nov

Employee Training Status

Category	Unit	2019	2020	2021
Total training participants	Persons	174	171	180
Training hours per capita	Hours	12	8	3
Training cost per capita	KRW	22,000	7,200	3,120

Support for School Expenses of Employees' Children

Aiming to reduce the financial burden of our employees and become a family-friendly company, we support our employees with their children's school expenses. All our full-time executives and regular employees, including office workers and manufacturing technicians, are subject to receive school expenses for their children under this principle. We support the tuition for college students up to 50% and up to a maximum of KRW 2 million as a scholarship.

Comprehensive Health Check-up Support for Employees

Full-time executives and regular employees are also provided with medical services so that they can have comprehensive health checkups on a regular basis. This enables our members to maintain a healthy work life full of vitality. We support expenses up to KRW 0.5 million per executive and up to KRW 0.3 million per employee as part of our efforts to care for the health of our employees. We also support these for the spouses of the employees aged 45 or above so that not only our employees but also their family members can lead their healthy and happy lives.

Our Welfare System for Employees

Efficient Way of Working

Employees can choose their working hours flexibly to balance their work and life. We allow them to adjust work hours according to their workload and, if necessary, to come to work only on specific days so that they can work in an efficient manner.

Flexible Work System

It allows employees to choose their own commuting time, excluding the intensive working hours so that we can work in a stable way.

Work-from-home System

It enables employees to go to work when necessary or to adjust it conveniently depending on the circumstances of them.



Flexible Work System



Work-from-home System

Various Cultural Life

We provide various policies to support employees' leisure life. In partnership with external resort facilities, we provide facilities that employees can enjoy at a discount or free of charge. We also offer tickets for various cultural activities, such as sports events. Through the refresh leave system, we additionally provide holidays, allowing employees enough time to recharge.



[External recreation facility](#)



[Tickets for local team matches](#)



[Refresh leave system](#)

Support for Stable Living Environment

In order to create a comfortable working environment and ensure a stable life for our members, we spare no financial support in the living sector. We provide various rewards in accordance with internal regulations with the mindset of prioritizing our employees. Also, we give financial support for the family event of congratulations and condolences as part of making unstinting efforts to improve the quality of life of our employees.



[Various awards and plaques of appreciation](#)



[Gifts for anniversaries, etc.](#)



[Family event support policy](#)



R&D Center fitness room



R&D Center rest area

Provision of Medical Service

For the health of our employees, we offer annual health checkups as well as 20% discount benefits in medical services through partnerships with excellent local hospitals.



[Comprehensive and regular checkup](#)



[Medical service discount benefits](#)



[In-house gym](#)



[Convenience facilities in each plant](#)

Operation of Various Convenience Facilities

We operate an in-house gym so that our employees can take care of their health even in their busy daily lives. We strive to create an environment in which they can exercise consistently without losing vitality. Each plant has massage chairs and rest areas for employees to use comfortably. Based on our philosophy to win-win together with employees, we make efforts to create a better corporate culture.



[Free in-house cafeteria](#)



[In-house club activity support](#)

Operation of Commuting Buses

We help employees commute smoothly. For the commuting of employees at Guji Plant and Waegwan plant, we operate commuter buses free of charge.



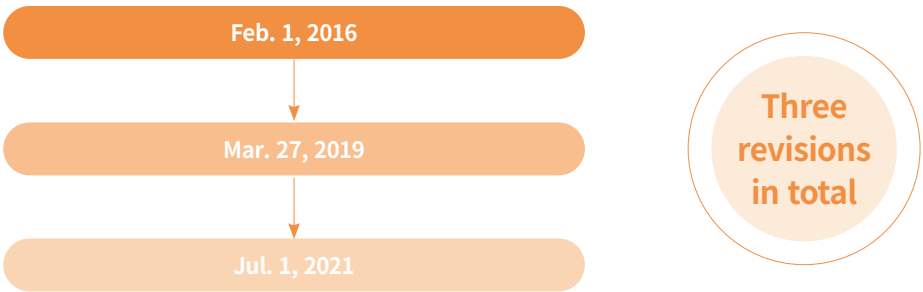
[Free commuter bus operation](#)

03
Healthy Labor-
Management
Relations and
Communication
Culture

Win-Win Labor-Management Relations

L&F established the Hanmaum Conference regulations in 2002 to create a communicative and win-win labor-management relationship. It consists of at least three members each, respectively representing the company and employees so as to pursue the common interests of labor and management. In this way, we enable the voices of each member to be sufficiently reflected. We strive to create a healthy corporate culture through peaceful negotiations. With an objective of not lagging behind the trend of the times, we have amended the regulations of the conference three times to date. Going forward, we will continue to make endeavors to create win-win labor-management relations.

Revision History of the Hanmaum Conference Regulations



Hanmaum Conference Meetings

Unit: Number			
Category	2019	2020	2021
No. of Hanmaum Conference meetings held	4	5	5

Hanmaum Conference

We hold meetings of the Hanmaum Conference, a labor-management council, on a regular basis, with an aim to deal with labor-management grievances and reorganize employee welfare through active communication. The regular Hanmaum Conference meeting is held once every quarter, and temporary meetings can also be held if necessary. The agenda items of the council encompass a wide range of issues, including productivity improvement, competency training, welfare benefits, and grievances. Meeting minutes are made after each regular meeting. The discussion items and the results of measures taken as well as management status, are reported. These procedures are prepared for us to check whether the Hanmaum Conference agenda items are appropriately handled, making it more effective.

03
Healthy Labor-
Management
Relations and
Communication
Culture

Labor-Management Council Status

Date of meeting	Agenda item	Attendance rate
1Q 2021	· Measurement of air quality in offices at all business sites · Regular cafeteria satisfaction survey · Request on business vehicle dispatch at Guji Plant · Funeral support for maternal grandparents · Revision of defined contribution retirement pension regulations, etc.	100% (20 out of 20)
2Q 2021	· Subdivision of other allowance item in payslip · Provision criteria for work clothes for all plant equipment teams · Revision of Hanmaum Conference regulations · Personnel system changes, etc.	90% (18 out of 20)
3Q 2021	· Expansion of attendance check devices at Guji Plant · Installation of access terminal at a side door next to the main entrance · Abolition of night duty system during holidays, etc.	95% (19 out of 20)
4Q 2021	· Availability of stock option loan support · Carryover of supervisor activity expenses · Expansion of company diary provision · Request for electric vehicle chargers at in-house parking lot · Installation of massage chairs and change in allowance payment method, etc.	85% (17 out of 20)
1Q 2022	· Deposit bank loan support · Revision of family affair leave application in regulations · Appointment of grievance-handling members, etc.	70% (14 out of 20)
2Q 2022	· Post of the comprehensive guidelines for corporate welfare system · Pest control in changing rooms · Request for the participation in environmental campaign activities, etc.	75% (15 out of 20)

Employee Grievance Handling Process

For carefully listening to the inconveniences of our employees and prioritizing them, we designated members to handle them so that they can be resolved as earliest as possible. The grievance-handling members appointed by the Labor-Management Council take appropriate measures within 10 days of receiving grievances, and we stipulated in our regulations to notify the person reported of the results. In case the issues are difficult for the grievance handling members to resolve, we make them refer to the council so that they can be discussed together. We make sure we address all grievances, large or small. Even minor complaints from employees can harm the corporate culture and morale. Therefore, we strive to deal with them promptly and transparently.

Employee Grievance Handling Status

Unit: Cases			
Category	2019	2020	2021
Receipt of grievances from employees	10	13	17
Handling of grievances from employees	10	13	17

ESG FACT BOOK 02

L&F, Safe Place to Work



Accident rate in 2021
1.27%
ZERO serious accidents
100% Acquisition of ISO 45001 certification in all business sites

Context

Securing safety and health in the workplace is gaining significance with the revision of the Occupational Safety and Health Act in 2020 and the enforcement of the Serious Accident Punishment Act in 2022. Companies need to establish a safety and health management system, ensuring a safe environment in which employees work in a healthy condition while incorporating safety first spirit in the corporate culture. Furthermore, Companies are called for responsible responses to the mutual safety management that cares safety and health not only for our employees but also those in the partner companies.

Our Approach

We are running industrial safety and health management regulations to ensure that employees can work in a safe and pleasant environment. For the ceaseless advancement of the safety and health system, the Safety Health Team and the Safety Management Division are making various efforts in the field of occupational safety and health management, safety management of process facilities, and emergency response management. As a result, we have acquired ISO 45001 certification for the safety and health management system with zero serious accidents recorded, establishing ourselves as an exemplary company for safety and health.

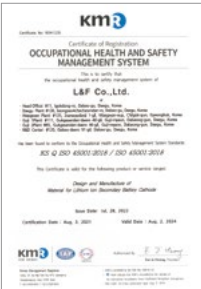
01 Creating a Safe Working Environment

Acquisition of ISO 45001 Certification for the Safety and Health Management System

ISO 45001 certification refers to an international standard for predicting possible risks in the workplace and preventing them in advance, thereby eventually contributing to generating corporate profits and enabling systematic management of safety and health. We prepared internal regulations and manuals of safety and health management, establishing safety and health standards as an attempt to solidify the culture of safety and health within the company. Since 2018, we have renewed ISO 45001 safety and health management system certification for the design and manufacturing of cathode materials for lithium-ion secondary batteries.

Campaigns for Safety and Health

Multiple campaigns have been implemented to promote safety-first culture, including a contest for slogans and posters regarding safety and health and an event to prevent heat stroke during scorching summer which keeps employees aware of safety issues. There will be more interesting events every year to draw the attention of our employees to safety and health in the workplace.



ISO 45001



Safety Pledge



Award ceremony of a contest for safety and health posters



Event to prevent heat stroke during scorching Summer



Safety Day Event

01
Creating a
Safe Working
Environment

Safety and Health Management System

With the aim of creating a safe and pleasant working environment, we have established a safety and health management system which identifies and eliminates harmful risks. We are taking preemptive measures to safeguard the substantive safety and health of our employees beyond the standards of the Industrial Safety and Health Act and related laws. We are thoroughly adhering to the seven key elements in the prevention of industrial accidents: voluntary participation of employees along with a firm commitment of the management leadership, continuous identification and reduction of harmful risks, the establishment of emergency action plans, securing safety and health in contracting of work, and improvement based on the evaluation.

Listening to the Employees

We are running the safety and health suggestion box to establish a culture in which employees can freely present their opinions on safety and health.

Safety and Health Suggestion Box:

① Making suggestions! ② Eliminating risks on site! ③ Creating safe work environment!



Occupational Accident Status

We have made ceaseless efforts to prevent our employees from being exposed to risks and work in a safe environment. As a result, we achieved a 1.18% of accident rate, a decrease from the *previous year. Since we identified the violations related to the sustainable management of the prevention system at the Daegu Plant in 2019, a prevention system was established for proactive improvement, leading to zero violations. Looking ahead, we will strive to prevent the loss of life and property caused by safety accidents, complying with the relevant laws.

Accident Rate in the Overall Plant

Unit: Persons				
Category	2019	2020	2021	Total
No. of victims	2	9	13	24
2020 No. of employees	560	631	1,021	2,212
2019 Accident rate	0.36%	1.43%	1.27%	1.08%

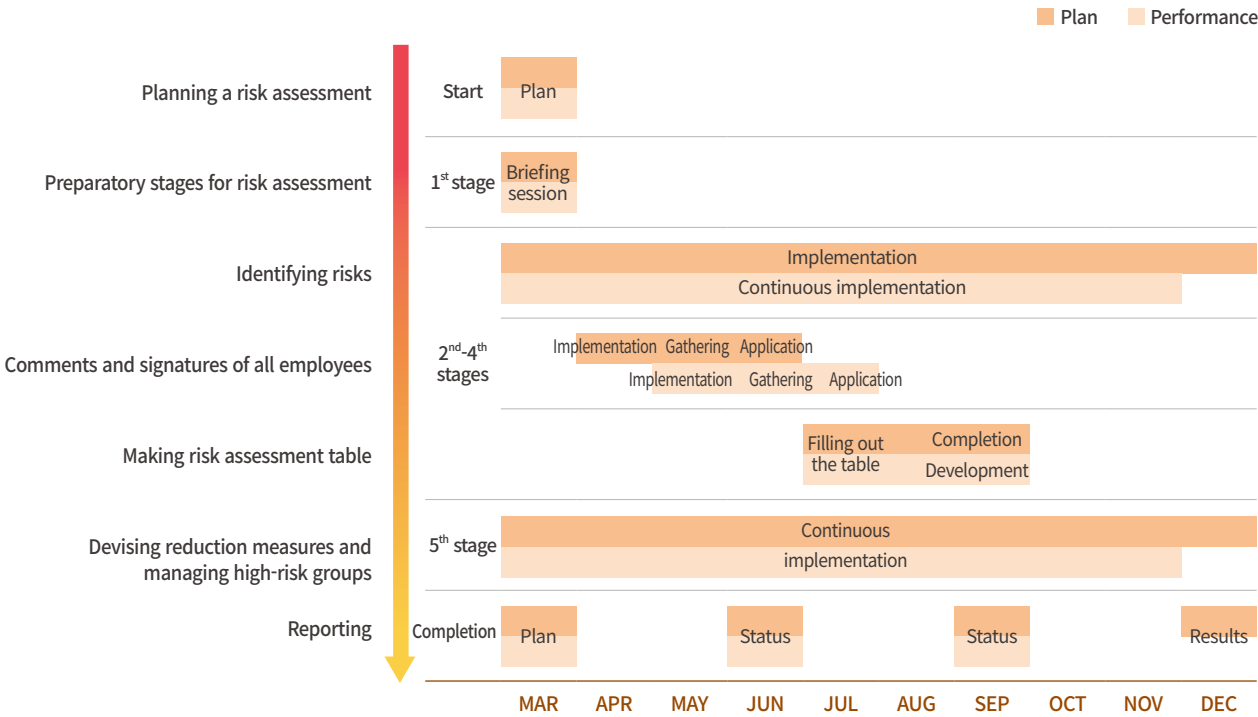
* In 2021, two occupational accidents of partner companies including on-site contractors

01
Creating a
Safe Working
Environment

Risk Assessment

We are making strenuous efforts to prevent industrial accidents by identifying risk factors within the area of activities of workers and taking preemptive measures. We conduct a risk assessment to discover risks accompanied by using facilities and equipment or embedded in the structures, designating personnel in charge of safety and health management. The first, regular, and occasional risk assessments are conducted by employees, supervisors, and safety / health managers in all departments. With rigorous risk evaluation and improvement, we will guarantee safety in the workplace.

Risk Assessment in 2022



01
Creating a
Safe Working
Environment

A 100%
improvement
rate in high-risk
groups for
three years

Improving Harmful Risk Management

Regular Inspections

We conduct regular inspections to eradicate risks posing a threat to the safety and health of the company. Supervisors and personnel in charge of safety and health are working on risk reduction through daily, weekly, and monthly inspections. In 2022, we voluntarily conducted a safety and health assessment to advance the level of safety and health management at the workplace. An expert company assessed the status of our safety management and provided a consulting to raise awareness of employees on safety and health. According to the assessment results, we clearly understood the status, taking a countermeasure for the betterment.

Risk Reduction by Plants*						Unit: Cases
Category	Item	Daegu	Waegwan	Guji 1	Guji 2	Total
Self-assessment on safety	Improvement object	33	36	69	39	177
	Improved	32	33	64	37	166
	To be improved	1	3	5	2	11
	Improvement rate	97%	92%	93%	95%	94%
Self-assessment on health	Improvement object	77	60	74	35	246
	Improved	71	52	72	34	229
	To be improved	6	8	2	1	17
	Improvement rate	92%	87%	97%	97%	93%
Total	Improvement object	110	96	143	74	423
	Improved	103	85	136	71	395
	To be improved	7	11	7	3	28
	Improvement rate	94%	89%	95%	96%	93%

* Improvement rates after autonomous safety assessment in November 2022



Conducting inspections on the construction material storage status and taking actions



Conducting inspections on gas storage facilities



Conducting inspections on fire facilities



Monitoring hazard materials and fire risk factors

01
Creating a
Safe Working
Environment

Special Inspections

We also conduct special inspections to prevent accidents in case of natural disasters, accidents around our business sites and social issues in addition to regular inspections. In 2022, a series of special inspections have conducted in a timely manner depending on various situations: emergency inspections against strong winds and heavy rain, self-examination of cafeterias owing to the explosion nearby, special health and safety check in preparation for holidays, and preventive inspections against fires and explosions.

New Organization Dealing with the Serious Accident Punishment Act

With the enforcement of the Serious Accident Punishment Act and the expansion of ESG management, we realized the significance of securing safety and health. Therefore, we underwent re-organization by establishing the Safety Management Division under the Management Planning Division, an organization fully responsible for the prevention of serious accidents, and setting two divisions in charge of occupational safety and occupational health respectively under the safety and health team. Moreover, we staffed more experts to take preemptive measures as highly skilled professionals can play a critical role in developing safety and health activities such as risk assessment, emergency training, occupational safety and health committee, subcontracted safety management, safety and health events, and regular / special inspections, all of which serve as a foundation to prevent industrial disaster.

Organizational Chart of Safety and Health



02
Internalizing
Safety-First Culture
and Safeguarding
Health of Our
Employees

Emergency Drills

We conduct emergency drills according to the scenarios of possible accidents in each plant and department to minimize the loss of life and property and take appropriate responses. In preparation for various situations, such as chemicals poisoning accidents, explosions, forklift accidents, falling accidents, and trapping in mixing machines, we are carrying out emergency drills in accordance with scenario-specific manuals with ceaseless efforts to effectively protect the lives of our employees and property of the company.

Emergency Drills for
Guji Plant 2 Team

Scenarios of falling
accident to death in
filter replacement



Falling accident in filter replacement



Situation and casualties report by who found out about the accident first



Conducting CPR and first aid



Controlling around to preserve the spot

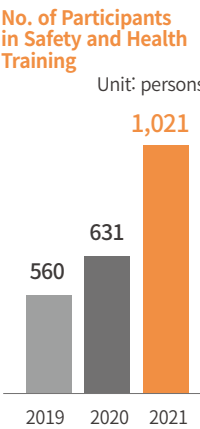


Guiding rescuers to the spot



Reviewing overall training and discussing measures to prevent recurrence

02 Internalizing Safety-First Culture and Safeguarding Health of Our Employees



Safety and Health Training

All employees have completed compulsory education such as training for new hires, regular safety and health training, and material safety training. Moreover, we have set standards that all employees comply with while raising awareness of safety and health through case studies showing possible accidents in and out of the business site.

For capacity building of supervisors, we conduct group training tailored to the working environment of the company. In addition to internal and external training programs, all employees need to submit the pledge of safety. We are paying close attention to the factors having an impact on the health and safety of our employees encompassing occupational safety, accident prevention, and job stress.



Special safety and health training for new hires in 2022



Group training for supervisors in 2022

Safety and Health Training in 2021

Program	Training for new hire	Regular safety and health training	Material safety training	Regular training for supervisors	Job training for safety manager	Job training for occupational health manager	Training for personnel handling harmful substances	Training for technical professionals handling harmful substances and managers	Total
No. participants (persons)	360	1,021	1,021	137	3	2	708	5	3,257
Hours	2,880	24,504	4,084	2,192	72	48	11,328	80	45,188

Health Management of Employees

For the sake of preventive management and better health condition of our employees, we support medical checkups with financial assistance according to the company regulations, thereby ensuring healthy employees in the workplace. Recently, we are taking care of the health of our employees with more detailed and systematic policies and strengthened preventive measures in the aftermath of COVID-19.

Support for Special Diseases in 2021

Support for Musculoskeletal Disorders*

Persons	Amount (KRW million)
4	0.06

* Supporting protective gears to prevent musculoskeletal disorders

Medical Check-up Status in 2021

Comprehensive Medical Examination

	Category	Persons	Expense (KRW million)
Comprehensive medical examination	Comprehensive medical examination	35	131
	Spouse of employees	14	53

General and Special Health Check-ups

	Category	Persons	Expense (KRW million)
General, special check-up	General check-up	863	0
	Check-up for new hires	39	0.3
	Special check-up	608	50.4
	Check-up before placement	993	66.8
	Check-up after placement	326	27.8

02 Internalizing Safety-First Culture and Safeguarding Health of Our Employees

Vaccination Support in 2021



Cost of COVID-19 diagnostic test*

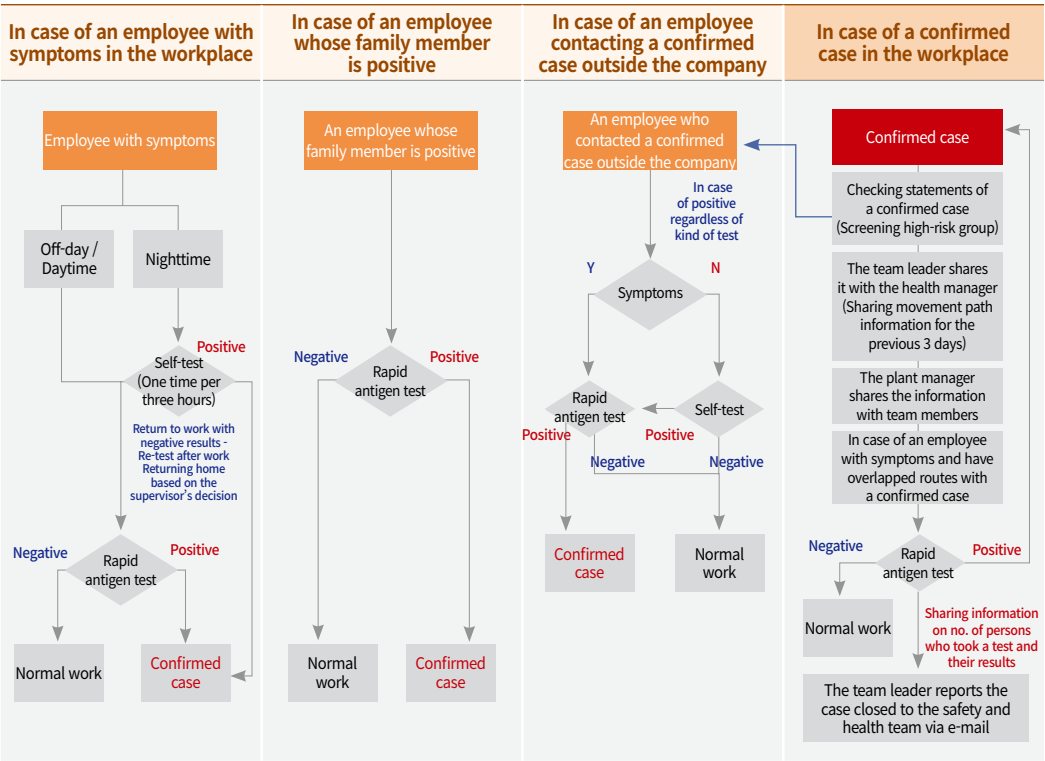
Persons	Amount (KRW million)
268	12.2

* New hires, confirmed cases and close contacts

Response to COVID-19

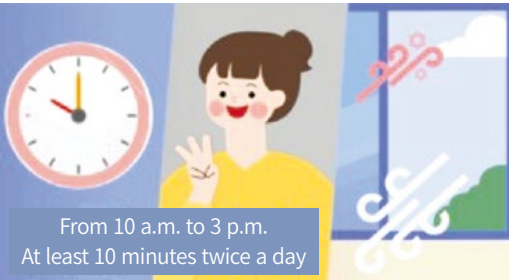
We are endeavoring to protect employees from COVID-19 and prevent infectious diseases. Through the in-house platform, we make prompt announcements regarding changes in government guidelines in line with the quarantine regulations while modifying company regulations as well against the epidemic trends. During the vacation season, we set special rules to prevent the spread of COVID-19 and inform our employees of local screening clinics so that they can take appropriate measures against the COVID-19 pandemic.

Returning Home Process of COVID-19 Vaccinated Person



210 Ventilation Campaign

We designed campaigns to raise awareness of the prevention of infectious diseases and lower the infection rate of COVID-19. The 210 Ventilation Campaign is to open windows and doors for at least 10 minutes twice a day. Periodic ventilation stops the proliferation of respiratory viruses in workplaces and reduces the risk of COVID-19 infection to 1/20.



210 Ventilation Campaign

ESG FACT BOOK 03

Partners Growing Together



Win-Win cooperation expenses: approximately **KRW 36.8 billion***

* As of 2021

Context

As production necessitates diverse efforts from a variety of people, we need to manage and train the sustainability of our partners interconnected in the production process to grow together, pursuing mutual prosperity, thereby minimizing risks to the company. Communication and stable partnerships with partners will serve as a stepping-stone for a company to advance into larger markets as an industry leader.

Our Approach

We acknowledge our partner companies as important business partners who will achieve win-win growth. We select key partners and conduct ESG evaluations and safety and health management to establish a transparent and responsible supply chain while pushing ahead with technical or financial support. We always communicate with our partners, seeking shared growth with them.

01 Reinforcing Safety and Health of Partners



Supplier Code of Conduct

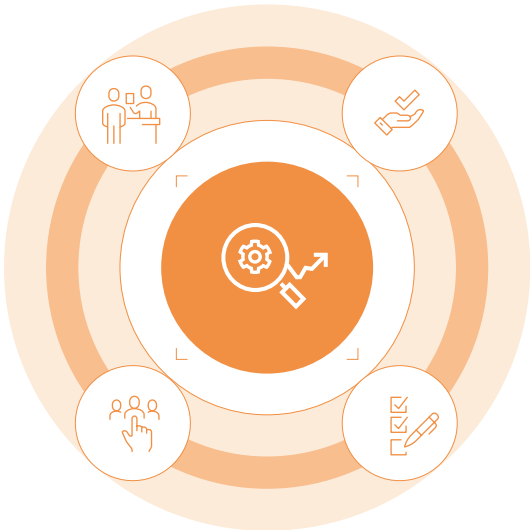
We set the ‘CSR Management Guidelines for Partners,’ a code of conduct regarding basic social responsibilities such as safety, personnel, and ethics of partner companies to ensure that they can achieve win-win growth. The code of conduct was established based on international norms and standards, as well as legal requirements, and consists of matters that suppliers must comply with, such as human rights and labor, health and safety, and responsible sourcing of mineral. For current partners, the audit score will be reflected, while new partners use a checklist in the code of conduct to be scored for sustainable cooperation.

PLAN

Code of conduct for partners

ACT

Monitoring on the improvement



DO

CSR evaluation for partners

CHECK

Analysis of evaluation results

Training Provided for Partners

We have supported our partners to create a safe working environment and keep them aware of safety- first to prevent accidents. In 2022, we managed the safety and health of partner companies by implementing weekly safety training for construction partners of the Guji Plant 2. Supervisors of partner companies were trained to submit a permit for safety work with additional training if necessary. Also, we took swift measures against places with dangerous factors or in poor conditions by changing workplaces.



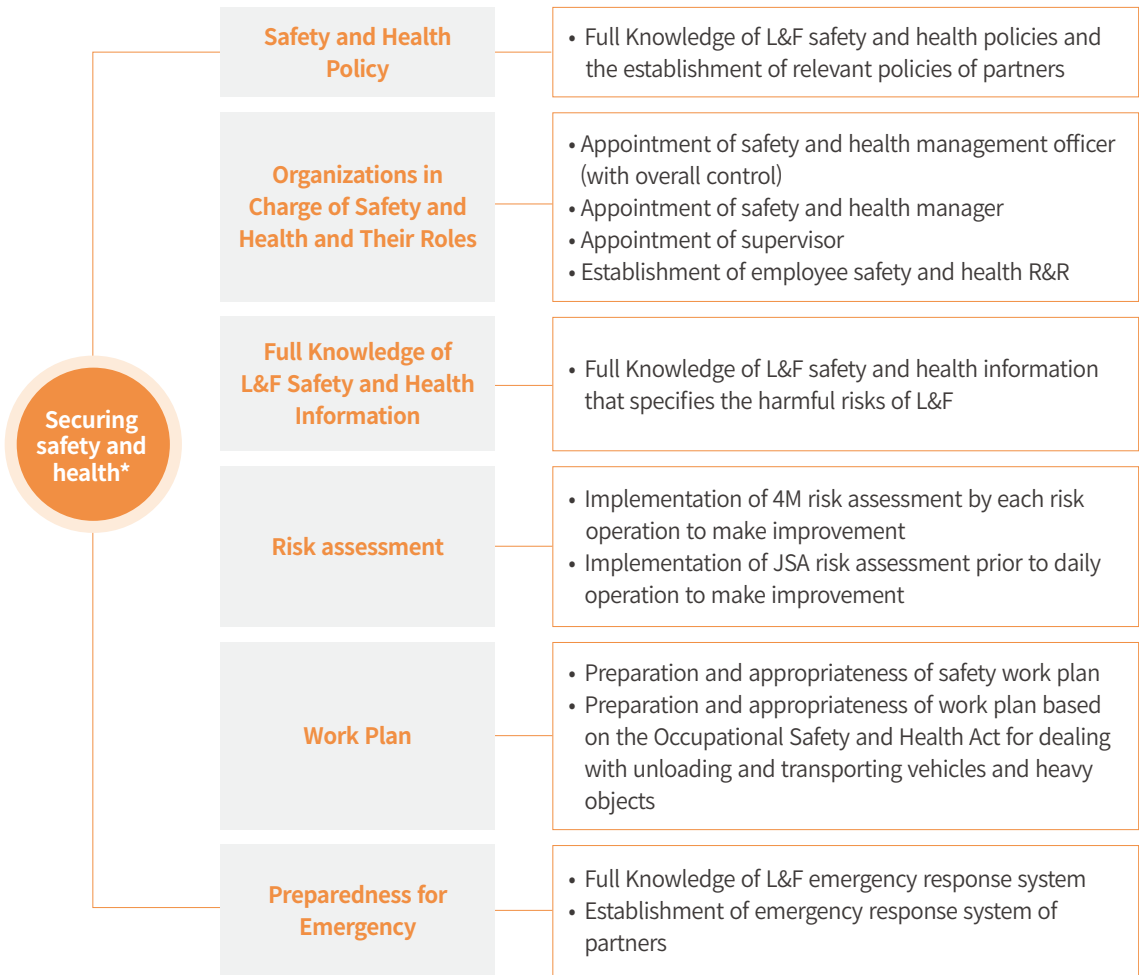
Safety training for construction partners in week 5, September 2022

01
Reinforcing
Safety and
Health of
Partners

Safety and Health Management of Partners

We have established a safety and health work guideline for subcontracting businesses to make sure that partners work in a safe environment. We evaluate the safety and health capabilities of partners, and when it is decided that the capabilities are insufficient, we support them to secure their safety and health first instead of issuing work permits. In addition, we are having constant discussions through regular safety and health consultations with partners about whether they need additional assistance from L&F.

Checklist for Safety and Health Management of Partners



* Selecting qualified suppliers and implementing evaluation

Case 1



Joint Inspection of Safety and Health in Cafeteria

Case 2



Joint Inspection of Customer Office

Case 3



Joint Inspection of Gas facilities

02
Support for
Win-Win
Growth with
Partners

Fair Trade Principle

We strive for fair treatment towards our partners who grow together. In line with the code of ethics stipulating respect for partners, we sign a fair-trade agreement to show our commitment. We aim to construct a trustworthy and cooperative structure on which we made fair trade with our partners for mutual growth. Multiple efforts have been made to communicate with them with a firm determination that we will not engage in unfair behavior wielding our status.

Shared Growth Promotion System

We are forging ahead with various activities to promote mutual growth with our partners. In 2019, we provided technical support to our two partners which help them to devote themselves to R&D leading to results sharing and increased sales. Although COVID-19 hampered our technical support in 2020 and 2021, we assisted with win-win cooperation expenses which enabled a continuous win-win relationship from a financial perspective. ESG TF of win-win cooperation is seeking ways to spread win-win relationships throughout the supply chain by invigorating various activities for mutual growth with technical and financial support and transferring our know-how.

Non-Financial Support for Mutual Growth

We are pushing ahead with non-financial activities to advance mutual growth such as technical support on top of financial assistance. In 2019, we provided support for precursor-related technologies to cooperate with partners and help their technology development. Despite COVID-19 suspending our technical support in 2020 and 2021, we are always contemplating ways to leap forward to a global company with our partners by developing and adopting extraordinary technologies.

Financial Support for Mutual Growth

With expanded win-win cooperation expenses, we are proactively working on mutual growth. In 2021, win-win cooperation expenses increased by about KRW 5.3 billion compared to 2019. Furthermore, we have eased the payment conditions for partners suffering from difficulties in financing owing to COVID-19 to making payments in installments three times a month with a view to promoting win-win cooperation.

Win-Win Cooperation with Partners

Category	Unit	2019	2020	2021
Technical support	Cases	2	0	0
Win-win cooperation expenses	KRW million	29,377	27,457	39,033

Regular Meetings with Partners for Active Communication

With an aim of smooth and hassle-free communication, we hold regular meetings with partners. In terms of key partners, we have a monthly meeting with taking minutes. We plan to create an environment where partners can present their opinions regarding inconveniences or grievances in a free atmosphere as we grow together.

ESG FACT BOOK 04

Top-notch Quality and Pursuit of Customer Satisfaction



97.2 points scored in customer satisfaction in 2021

Context
needs. The modern society deems it an obligation for a company to manufacture and supply healthy and sound products and services, keeping pace with the fast evolving market demand. Accordingly, it is required to pay close attention to the voices of customers, reflect them, and put customer value first. Efforts should be made to contemplate various ways of furnishing safe and satisfactory products.

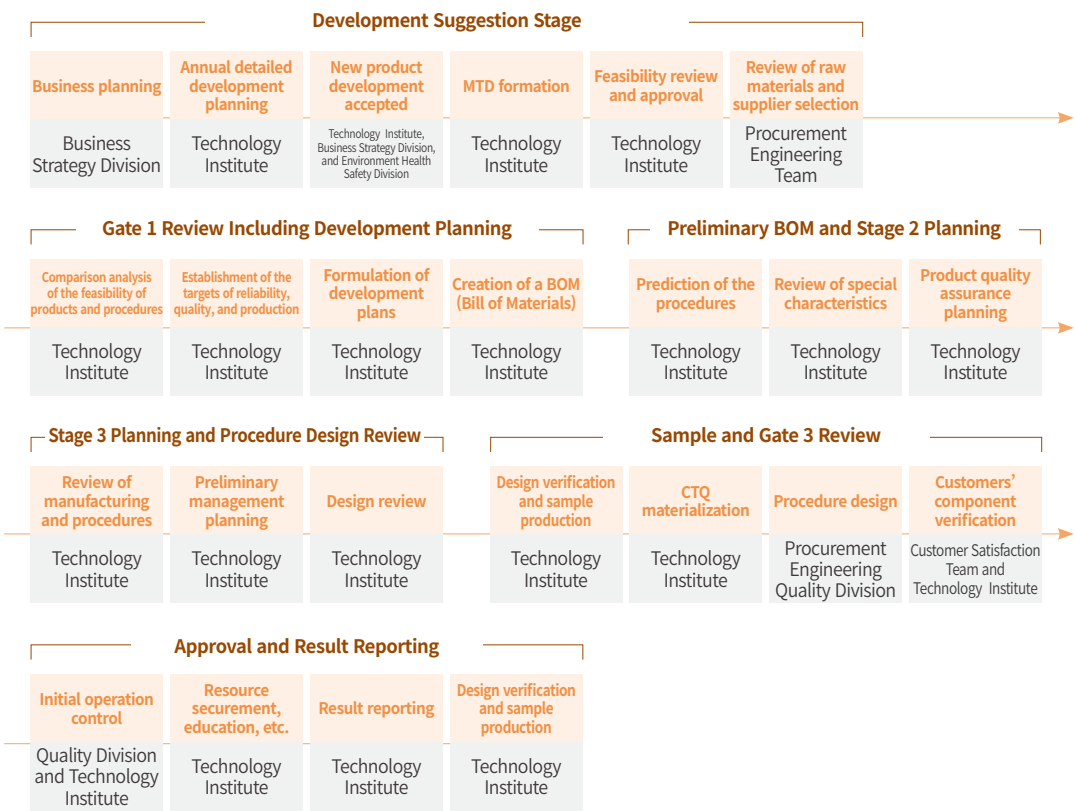
Our Approach
With a view to providing outstanding and safe products, we put in pace a systematic design process, and also go through third-party verification. Moreover, monitoring and paying constant attention to customers’ demands and feedback, we strive to figure out the ways of improvement. L&F has made all-out efforts to tap into new markets, broaden the scope of our customer base, troubleshoot product-related problems, and improve products.

01 Product Quality and Services

Strategies for Product Quality

L&F has established an organized planning process so that its customers put their mind at ease when it comes to product design and development. As part of the effort, we make sure the compliance with the steps stipulated in the task procedures for product design and development, closely look into meeting minutes, communicate with customers, and put spurs to research on product reliability with customer-oriented mindset.

Product Design and Development Process



Third-party Product Quality Test

In order to secure the level of quality that satisfies customers, we make it mandatory to be verified by a third-party agency. And we develop products on our own so that we can ensure safety and earn trust from customers. In 2021, L&F acquired RoHS certificates from SGS, and renew the certificates by product each year. This tests the content of harmful substances contained in products, aiming to encourage companies to abide by the recommendations of the EU. L&F strives to improve reliability of products by being verified by professional external agencies to ensure product quality management.

Quality Management System Certification

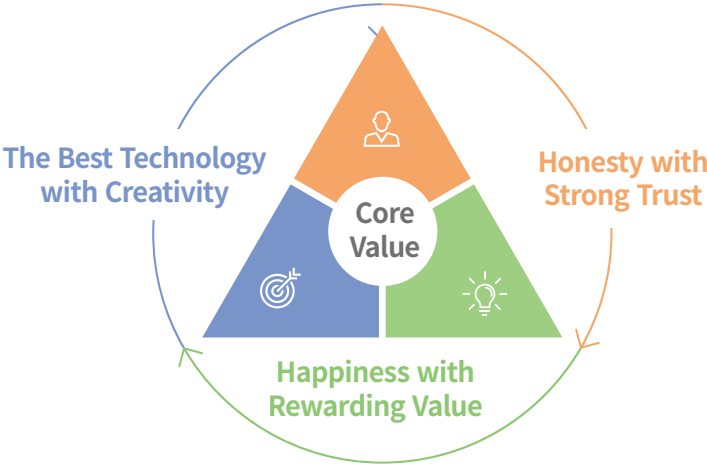
In response to the rapidly changing industry and market, and also customers’ demand, L&F has operated Quality Management System, a global standard, throughout the entire procedures ranging from product design and production to shipment and customer satisfaction. All of our business sites are ISO 9001 certified, which lays the foundation for domestic and overseas production lines to establish a standardized quality management process to ensure stable quality and consumer safety.

01
Product
Quality and
Services

2022 Plan for Quality Improvement

The future we envision is to become a global company that has a good impact on the planet by generating green energy. To this end, we will never relent in our research on product quality. And based on the findings, detailed strategies and targets will be established to turn our vision into reality.

Core Value



2022 Goals and Agreements on Strategies

Our quality-related departments and Customer Satisfaction Team take charges of the formulation and review of the plans on quality improvement. In December 2021, the departments responsible for quality control draw up the ‘2022 Goals & Agreement on Strategies,’ following communication and discussion with each other. The agreement stipulates the direction in which we have to move in order to improve and secure the top-notch quality in addition to the current scores and weighted value in terms of customer quality evaluation results, quality certification, and workplace accidents. It presents not only our achievements but also strategic plans to refine our current systems and policies. Likewise, L&F has put into action the detailed plans for quality improvement based on feasible strategies.

Category	Goals		Detailed Plans
Tasks	Customer quality evaluation	Customer audit	· Reflect customer demands · Identify the weak areas in the related sector and request for reinforced management of the weak · Take proactive measures
	VOC management	VOC response time	· Organize a VOC response system and revise the manuals · Manage timelines and frequency · Reflect what needs improvement through internal preliminary meetings · Manage payment and approval status of regular customers
	Process capability improvement (Cpk achievement rate)		· Analyze and improve the items that fall short of the standards through the regular operation of meetings · Stabilize product quality through the operation of reinforced internal management
	New component verification		· Check and enhance the areas for improvement · Reflect customers' demands and ameliorate the relevant systems
	Quality verification		· Conduct a technical review of new components and make a plan on evaluations by the department in charge · Establish a set of standards for quality verification
	Workplace accident prevention		· Identify risk factors and carry out activities to remove · Provide regular safety training and manage supervisors

01
Product
Quality and
Services

Trailblazing Global New Markets

Keeping pace with the rapidly changing modern society, we have been committed to identifying opportunities to create value with persistence so that we can grow into a global company. Expanding our presence into overseas markets is one of our priority tasks, so we have made multifaceted efforts. Above all, we garner information on new customers’ development plans, and benchmark competitors in the same industry to study the ways of sharpening our competitiveness and taking up a notch our strategies, thereby keeping up with the recent trends of the industry at home and abroad. Likewise, multi-pronged efforts are being made to reach out to the whole world.

Diversifying Our Customer Base

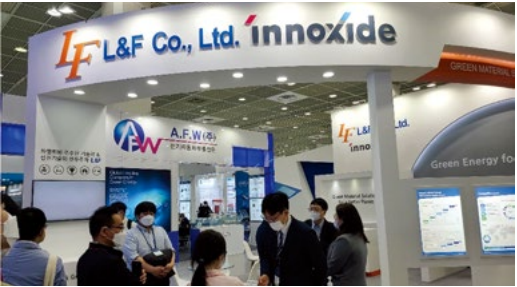
Companies are required to discover not only new markets but also customers to reduce dependence on specific companies in order for risk mitigation. Accordingly, L&F has carried out activities to pitch its attractive and safe products to attract new customers in a sound manner, provided samples in advance to gain their feedback, and actively communicated with them to reflect their thoughts and opinions in product development to ensure product quality. All these diverse efforts have enabled us to diversify our customer base.

Establishing Strategic Plans Built on Information

With the purpose of grasping the trends of the industry, and pioneering new markets and customers, L&F holds information briefings 24 times a year. The findings through the briefings are shared and utilized to make strategic suggestions for various forms of collaboration, such as JV, consortium or supply contract. Likewise, based on the thorough data collection, we strive to map out plans that meet the demands from new customers, such as product quality or stability, one step ahead of others.

Regular Participation in Exhibitions and Fairs

With the aim of improving its brand reputation, and communicating with customers, L&F has taken part in various functions. In detail, we attended InterBattery 2021 and 2022 where we showcased our outstanding quality technologies, disclosed our technology prowess regarding cathode materials tailored to each customer’s cell, and identified new business opportunities. And we are supposed to participate in the InterBattery 2023. In October 27, 2022, we attended the DIFA (Daegu International Future Auto & Mobility Expo) in order to lead the growth of the future mobility industry in Daegu as one of companies representing Daegu. On top of that, we held a job fair as part of the effort to create jobs in the region. In the years to come, we will constantly participate in rechargeable battery-related exhibitions and fairs to boost the exchange with diverse stakeholders, including customers and industry officials, and also to stay on top of the trends of the battery business. By doing so, we will provide excellent quality products that satisfy customers.



Attended the InterBattery



Participated in the DIFA (Daegu International Future Auto & Mobility Expo)



02
Customer
Satisfaction

Customer-friendly System

Under the goal of providing the best-in-class customer satisfaction, L&F has inspected whether it meets customer demands and the global community. IATF 16949 certification, an automotive quality management system, is a set of standards for quality management in the automotive sector. The certification included requirements in regard of quality design, assurance, and management & improvement activities. We passed a stringent evaluation and obtained the IATF 16949 certification, and has regularly renewed the certification to manufacture products that deserve customers’ trust.

IATF 16949 Certification obtained



Customer Satisfaction Evaluation

Satisfying and retaining new and existing customers are one of overarching issues. In accordance with the strict standard stipulated in the IATF 16949 9.1.2, we have conducted customer satisfaction evaluations on a regular basis. Based on customer survey data, we quantitatively evaluate, explore what we need to improve, and complement those areas. In 2021, we scored 97.2 points in customer satisfaction, 1.1 points lower than the level of 2020. In response, the detailed countermeasures are in the pipeline.

Results of Customer Satisfaction Evaluation in 2021

Item	Average Score	Frequency	Department in Charge
Quality performance	17.2 points	Once a year	Customer Satisfaction Team
Customer line discontinuation	20 points		Customer Satisfaction Team
Field return or recall	20 points		Sales Team
Shipment within the due date	20 points		Sales Team & Materials Management Team
Claim	20 points		Customer Satisfaction Team
Total	97.2 points / 100 points		

Results of customer satisfaction survey conducted from January 1, 2021 through December 20, 2021

02
Customer
Satisfaction

Satisfaction Survey by Customer

In addition, we break the satisfaction evaluation into each customer in pursuit of custom satisfaction. And we survey our customer satisfaction by area, and draw up detailed targets and timelines that align the customer demands. In the first half of 2022, we surveyed our three key customers on their satisfaction with our products and services, and the results showed that the final customer satisfaction stood at 3.6 points. And we collected the customer satisfaction levels by area and their requests to figure out the reason for the decrease to counteract.

Results of Customer Satisfaction by Customer in the First Half of 2022)

						Unit: Points
Category	Communication	Task Management	Product Quality	Schedule Management	Quality Reliability	Total
Customer A	3.9	4.3	3.9	3.5	4.0	3.9
Customer B	4.0	4.0	3.2	3.0	3.3	3.5
Customer C	4.3	3.5	3.0	3.0	3.5	3.5

* 5: Extremely Satisfactory, 4: Satisfactory 3: Neutral, 2: Unsatisfactory, 1: Extremely Unsatisfactory

Zero customer
claims in three
consecutive
years

Customer Claim Status

			Unit: cases
2019	2020	2021	
0	0	0	

24/7 Customer Claim Management System

We have put efforts into paying close attention to the voices of customers and being agile to handle their complaints by establishing a prompt response system in addition to the long-term plan. To this end, we put in place Customer Satisfaction Team in charge of checking grievances and complaints. And we thoroughly review the cases reported, and then come up with adequate responses. Internally, all-out efforts are being made to pay heed to inconveniences experienced by customers, and discuss the matters regarding return or compensation to ensure proper response.

05 ESG Fact Book

Governance

80 ___ Trustworthy Governance

86 ___ Ethical Management



ESG FACT BOOK 01

Trustworthy Governance



Context

Sound corporate governance underpins anti-corruption, more robust structure, and integrity of a company. Accordingly, it is required for a company to build its sound governance structure, and disclose and interact with all stakeholders, including shareholders, as a clean company in pursuit of the shared growth with local communities. And all companies should endeavor to establish an advanced management system that brings together companies, shareholders, and social value in a harmonious manner through the establishment of a governance structure that lays the foundation for their business operations.

Our Approach

Living up to our management philosophy, [Trustworthy and Honest Company], we strive to create a business environment where rational decisions are made. To this end, we make our BOD (Board of Directors) more rational and diverse in its composition while establishing the procedures and organizations in charge of financial and non-financial risk management. By doing so, we seek for the shared growth with stakeholders and the entire society.

01 Governance

L&F Management

We put in place the Chief Operating Officer and Chief Finance Officer under the CEO, SuAn Choi, and operate three Headquarters and four Centers. In addition, we have the Finance Center and Environmental Safety Division to make sure the soundness of our finance and environmental safety-oriented growth.

BOD Composition

Our BOD represents diverse stakeholders including shareholders, and supervises and makes decisions on key business agenda items for long-term development. In order to promote strategic decision making, we formed our BOD that consists of a total of six directors; three independent directors and three internal directors, taking into account their expertise in management, accounting and chemistry in June 2022. Their tenure is three year or less, and decided by general shareholders’ meetings. In an effort to step up the supervision of the management, and improve independence, we make it mandatory for CEO not to assume the role of the Chairman of the board.

● Chairman ○ Member As of June 2022

Category	Gender	Name	Main Career	Area of Specialty	Date of Appointment	BOD	Audit Committee
Internal Director	Male	Jaehong Hur	CEO of Seronics (present)	Management, chemistry	March 18, 2011	●	
	Male	JeHyeon Heo	Senior Vice President of L&F (present)	Management	March 22, 2018	○	
	Male	SuAn Choi	CEO of L&F (present)	Management, chemistry	March 17, 2021	○	
Independent Director	Male	GyunBal Lee	CEO of DAEGYEONG ACCOUNTING CORP.	Accounting	March 26, 2019	○	○
	Male	JaeHak Jeong	Chairman of the Informatization Committee of the Korean Institute of Chemical Engineers	Chemistry	March 26, 2019	○	○
	Male	JeomSu Kim	Professor, Department of Chemical Engineering of Dong-A University	Chemistry	March 17, 2021	○	○

* BOD's age diversity: Below 40: 0, 40 ~ 50: 2, 50 ~ 60: 2, 60 or above: 2

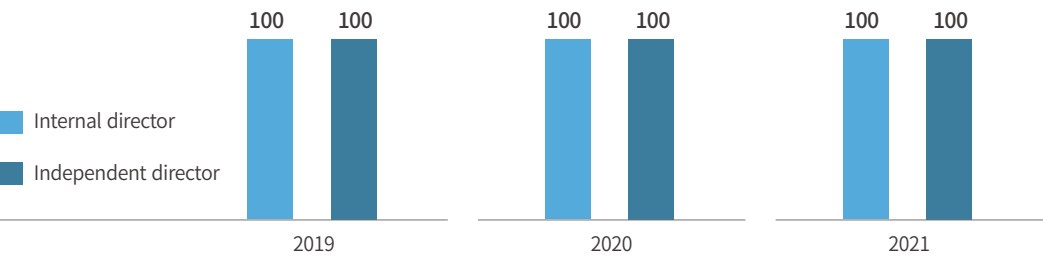
01 Governance

BOD Operation

We have two types of board’s meetings, regular board meetings convened once a quarter, and temporary board meetings held upon request. The BOD meetings are convened by the Chairman, and the acting director convenes in absence of the Chairman, in accordance with the Regulations on BOD Operation. In 2021, a total of 47 board meetings were held, and a board meeting can be held with a notice given three days before the convocation or with the consent of all directors and the auditors. The agenda items covered by board meetings encompass adviser contract, revision on the regulations on internal accounting control, director remuneration, general shareholders’ meeting, and the expansion of bonds and capital increase.

Status of Attendance at BOD Meetings

Unit: %



Category	Unit	2019	2020	2021
No. of boards meetings convened	Times	34	29	47
No. of agenda items reported and resolved	Cases	34	29	47

BOD Expertise and Independence

We make independent directors occupy more than half of the board members to ensure independence from the management and controlling shareholders in terms of decision making. On top of that, we impose restrictions on the appointment of independent directors to make sure that the BOD does not represent a specific interest pursuant to the Article 4 of the Regulations on BOD Operation.

Composition	Key Indicator	Unit	2019	2020	2021
BOD expertise	Director with experiences in the industry	Persons(%)	3(60)	3(60)	4(67)
	Financial expert	Persons(%)	1(20)	1(20)	1(17)
BOD independence	Proportion of independent directors	%	60	60	50

Area	JaeHong Hur	JeHyeon Heo	SuAn Choi	GyunBal Lee	JaeHak Jeong	JeomSu Kim
Senior management	●	●	●	●		
Global company	●		●			●
Management	●	●	●			
Accounting				●		
Chemistry	●		●		●	●

01 Governance

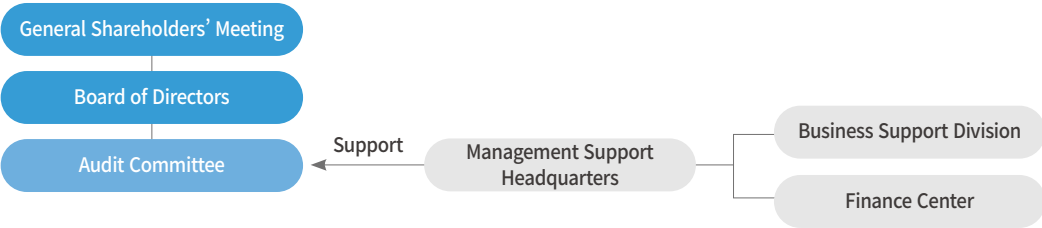
Audit Committee

We have operated the Audit Committee so as to secure independence and expertise of the BOD, and also to strengthen the function of internal audit. The members of the committee are appointed by the resolution of general shareholders’ meetings. The committee consists of all independent directors, and the Management Support Headquarters helps the committee perform their duties in a smooth manner. It assumes the roles of auditing business operations & accounting, and reporting the results to the BOD. And it has authority to ask subsidiaries to report on business if necessary, and investigate their business and financial status when they do not report without a valid reason. Moreover, the Business Support Division and Finance Center under the Management Support Headquarters support audit affairs.

Category	Unit	2019	2020	2021
No. of Audit Committee meetings held	Times	35	29	47

* Audit Committee Members' attendance rate stood at 100% over the past three years.

BOD’s Organizational Chart



Establishment of ESG Committee and Its Working Organization

As we are well aware of the significance of ESG, we plan to elevate the ESG TF to ESG Committee under the umbrella of the BOD along with the creation of a working organization under the committee aimed to manage ESG-related issues in a systematic manner. The committee takes charge of setting up ESG policies and directions along with the detailed plans by area, such as the environment, society, governance, and data disclose, thereby making ESG value permeate every corner of our value chain and putting ESG management into action.

BOD Remuneration

Taking into account the expertise, level of contribution, and responsibility of directors, we decide and provide remuneration for directors. Director remuneration is determined by the resolution at a general shareholders’ meeting within the ceiling for maximum remuneration stated in our internal regulations. As of 2021, all independent directors serve as auditors, so the remuneration of all board members is as follows with the separate remuneration for independent directors excluded. L&F discloses the average remuneration amount per capita as well as the remuneration of all directors as part of efforts to establish a sound governance structure and disclose our remuneration system in a transparent manner.

Category	No. of Members	Total Remuneration	Average Remuneration per Capita
Registered directors (Independent directors, Audit Committee’s members excluded)	3	1,026,710	342,236
Independent directors (Audit Committee’s members excluded)	-	-	-
Audit Committee’s members	4	74,000	18,500
Audit	-	-	-

Unit: KRW 1,000

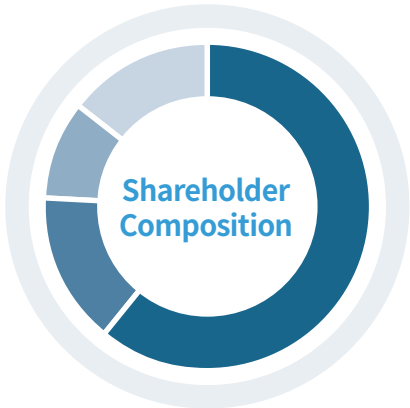
Note 1) It refers to the total remuneration from January 1, 2021 through December 31, 2021. Since the members of the Audit Committee assume the position of independent director, the no. of members, total remuneration, and average remuneration per capita are not separately prepared.
Note 2) One of three registered directors was appointed in March 17, 2021.
Note 3) One of four independent directors (serving as the members of the Audit Committee), JongHyeok Park, finished his tenure in March 17, 2021, and one independent director (JeomSu Kim) was appointed in March 17, 2021.
Note 4) One director became a registered director in March 17, 2021, only salary was included for nine months.

01 Governance

Shareholders’ Rights

As of December 31, 2021, the largest shareholder of L&F is Seronics, and the stake of the shareholders of a special relationship is 9.81% with 60.98% owned by minority shareholders and 14.31% owned by other owners.

Minority shareholders	60.98%
Seronics	14.90%
Shareholders of a special relationship	9.81%
Others	14.31%



Protection of Shareholders’ Rights and Interests

With the aim of providing a high level of convenience for its shareholders in exercising their vote, L&F has introduced an electronic voting system in accordance with the Article 368-4 of Commercial Act (Exercise of Voting Rights by Electronic Means). And we notify shareholders of the fact that they can wield their vote in an electronic way when convening a general shareholders’ meeting. The shareholders who own voting shares on the last day of each fiscal term are allowed to wield their vote through the electronic voting platform provided by the Korea Securities Depository from ten days before through the day before the general shareholders’ meeting.

Communication with Shareholders

General Shareholders’ Meetings Convened and Details

Category	19 th General Shareholders’ Meeting	20 th General Shareholders’ Meeting	21 st General Shareholders’ Meeting	22 nd General Shareholders’ Meeting
Date of convocation	March 26, 2019	March 19, 2020	March 17, 2021	March 23, 2022
Date of announcement	February, 28, 2019 (four weeks before the convocation)	February 26, 2020 (three weeks before the convocation)	March 2, 2021 (two weeks before the convocation)	March 8, 2022 (two weeks before the convocation)
Resolution	Passed as drafted	Passed as drafted	Passed as drafted	Passed as drafted
Means of notification	Notified on our website and the Maeil Business Newspaper Electronic disclosure of the convocation through the Financial Supervisory Service and the Korea Stock Exchange			

IRs Convened and Details

Date	Target	Materials Distributed	Key Contents
February, May, August, and November in 2022	Domestic and overseas institutional investors, securities firms’ analysts, etc.	Published on the listing disclosure system of the Korea Stock Exchange, and distributed at the sites	Introduction of the company, performance briefing, key business developments and outlook, and Q&A session

Our Efforts to Engage More Shareholders

Date	19 th General Shareholders’ Meeting	20 th General Shareholders’ Meeting	21 st General Shareholders’ Meeting
Written ballot	-	-	-
Electronic voting	Implemented	Implemented	Implemented

02 Risk Management

Risk Management System

Aiming to further stabilize the business environment, we have prepared the risk management guidelines to cope with business risks. Risks are selected by classifying them into S to D grades depending on the degree of impact and occurrence. If the impact level is B or higher, we implement a process to prepare for it by establishing a response plan. We eliminate risk factors that deteriorate our management activities and business plans by selecting and monitoring key risks through internal reviews and evaluations, thereby aiming to achieve sustainable growth.

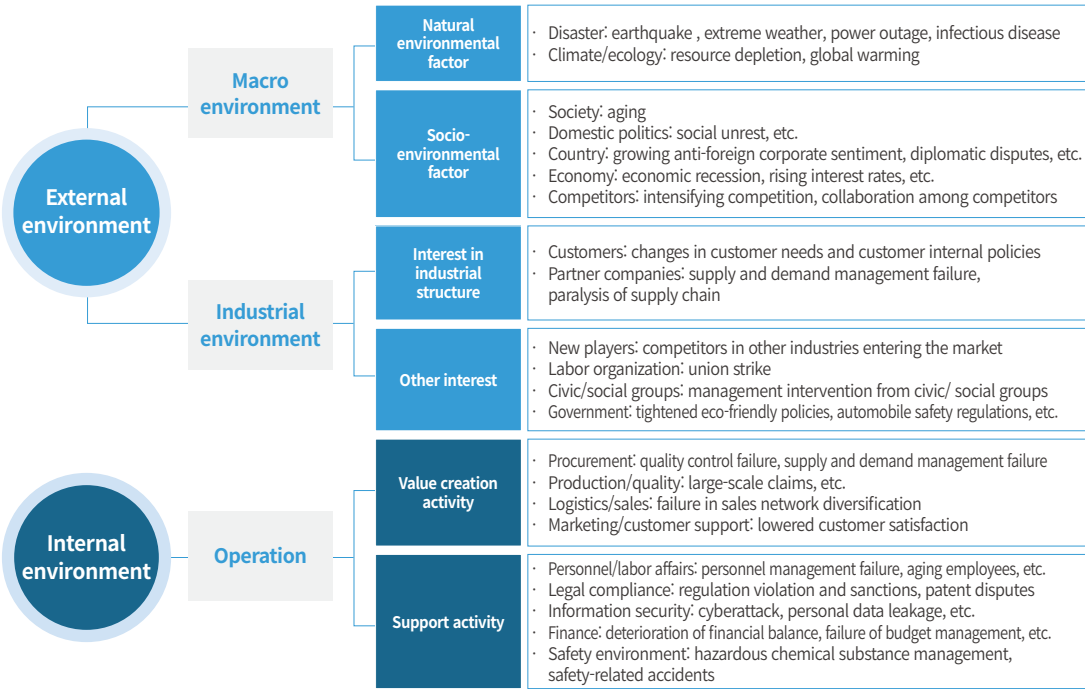
Risk Selection Matrix

Category	Likelihood				
	5. Very likely	4. Likely	3. Possible	2. Unlikely	1. Very unlikely
Impact	5. Fatal impact on company management	S	S	S	S
	4. Considerable damage expected	S	A	A	A
	3. Some damage expected	A	A	B	C
	2. Small damage expected	B	B	B	C
	1. Little damage and recoverable	C	C	C	D

Recognition of Internal and External Environmental Risks

We identify risks and systematically investigate the possible impact on the company by managing internal and external environmental and business risks separately. We conduct an in-depth analysis of detailed categories, including macro-environment and industrial environment. In the case of business risks, we monitor global impacts that may affect business, such as exchange rate fluctuations and rising raw material prices, managing risks corporate-wide so that we can leap forward as a global company.

Environmental Risk Factors



ESG FACT BOOK 02

Ethical Management



Employees’ pledge to comply with the Code of Ethics

100% participation rate*

* As of 2019, 2020, and 2021

Context

Making efforts to fulfill social responsibility is an essential part of the sustainable growth of a company. Businesses must faithfully fulfill their duties and responsibilities so that they can grow and develop together with all stakeholders, including shareholders. Besides, with the advancement of information and communication technology, the risk of cyber-attacks and information leakage is increasing accordingly. Any critical data leakage will have a significant impact on corporate management. Thus, all companies are required to abide by all laws, market order, social values, and customs and recognize the severity of information security and embed a security culture within their corporate.

Our Approach

We have formed a Code of Ethics and actively implemented it so as to promote a sound and fair corporate culture. As the significance of information security has come to the fore, we are building the foundation for information security management systems and security incident response systems. In addition, we strive to ensure information security by carrying out various activities to raise security awareness, such as providing security education and training for employees. We will do our best to upgrade the level of data security by establishing a sound corporate culture and further reinforcing the security management system in compliance with the Code of Ethics.

01

Ethics and Compliance Management

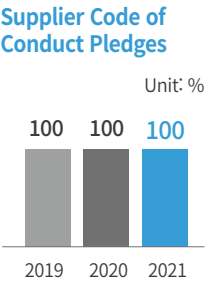
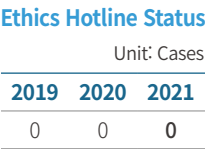
Ethical Management

Ethical management refers to all activities of corporate members to gain the trust and respect from stakeholders. L&F has established an ethical management system so that its employees and stakeholders can make correct actions and value judgments. Built on the Code of Ethics, internal Ethics Hotline management regulations, strengthened partnerships, and a sense of respect for human rights, we promise to fulfill our social responsibilities.



Internalization of Ethical Culture

With an objective to grow together with our various stakeholders and be become a trusted company, we established our own Code of Ethics. For settling the culture of complying with it, we have all employees, including new employees, pledge to follow the Code of Ethics. When new employees join the company, they sign a written pledge. We ensure that every new employee consents and practices the company's ethical principles. On top of that, we expect not only our internal employees but also our partner companies to join the compliance with the Code of Ethics by requesting a written pledge from all our partners doing business with L&F.



01
Ethics and
Compliance
Management

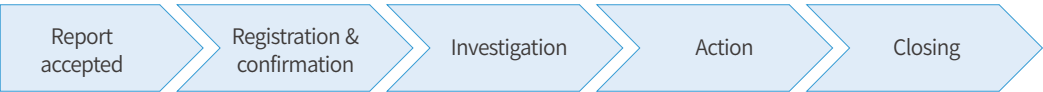
Ethics Hotline

L&F has put in place and implemented internal reporting management regulations to effectively follow the Code of Ethics and promote ethical management activities through correct behavior and value judgment by executives and employees. In addition, we thoroughly safeguard informants so that no information is disclosed without the consent of the informant. Our reporting system is protected by a safe security system. We make every effort to handle the issues as reasonably as possible when we receive corruption reports from the person concerned.

Report Items

- Behavior related to workplace bullying and sexual harassment
- Work-related irregularities/misconduct/damage to dignity, and acts that damage the company's image
- Leakage of internal trade secrets and customer-related information
- Other acts violating the Code of Ethics, etc.

Report Handling Procedure



Company-wide Education to Cultivate Ethical Management Values

With an aim to enhance internal ethical management and establish a healthy culture, we provide ethics education to all employees every year. Our ethics education programs include business ethics, internal reporting, strengthening partnerships, and respecting human rights. We also ensure that all employees complete 100% of the legally mandatory ethics education course. Going forward, we will continue to do our best to help employees raise their ethical awareness and to eradicate corruption and solicitation by themselves.

Ethics Education in 2021

Category	Education program	Key themes	Target	Participation rate
Online	L&F Ethical Management Education	1. Importance of ethical management - Definition of ethical management - Cases of ethical management 2. Our ethical management system - Code of Ethics - Internal Ethics Hotline management regulations - Strengthening partnerships and respecting human rights	All employees	100%

Status of Ethics Education

No. of employees completing the ethics education			Ethics education participation rate		
Unit: persons			Unit: %		
2019	2020	2021	2019	2020	2021
560	563	922	100	89.2	90.3

Status of Social Law Violations

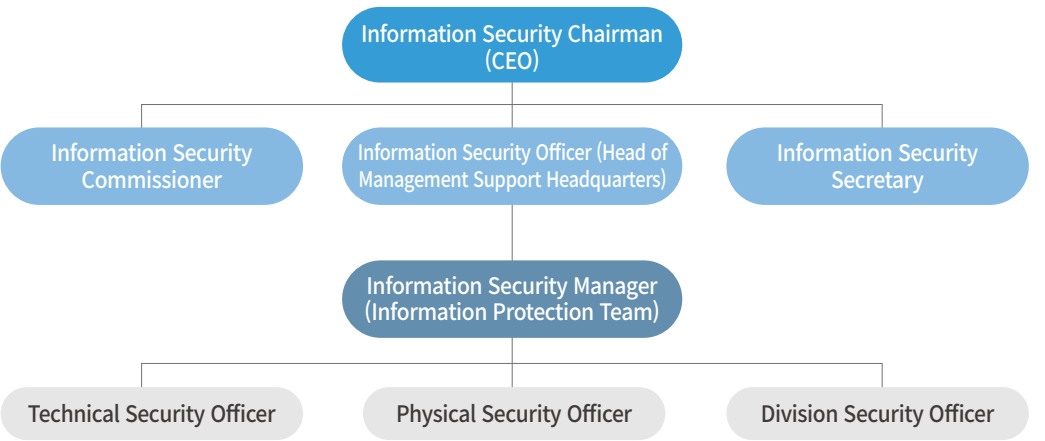
No. of violations against antitrust or anticompetition law			Antitrust or anticompetition fines and settlements		
Unit: cases			Unit: KRW		
2019	2020	2021	2019	2020	2021
0	0	0	0	0	0

02
Tightening Data
Security and
Personal Data
Protection

Data Security Management System

As the severity of information and security is emphasized, we specified the security development process in the system operation management and development guidelines. Besides, we set up the information protection management regulations in an effort to safeguard our information assets in a more reliable and systematic manner. Our current information security workforce and financial resources are disclosed through information protection disclosure while requesting security pledges from the representatives of partner companies in order to strengthen security in line with the growing access of external personnel to the company.

Information Protection Organization Chart



Guidelines on System Operation Management and Development

We safeguard the company's information assets and employees' personal data in a safe and efficient manner. To this end, we have operated and managed security matters necessary for development, maintenance, and operation by stipulating them. All data is encrypted and protected. Unauthorized media export is blocked through a security solution. In the event of a security incident, we secure the audit evidence, such as user access records and records of changes or cancellations, so that responsibility for the incident can be traced and access rights are adjusted. The person in charge of information security analyzes the security and classifies the severity of security while managing the security by priority.

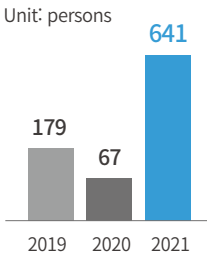
System to Protect Customer Information and Critical Data

We operate security compliance to abide by the internal and external customer information security and information protection laws as well as to completely block the possibility of information leakage. As an effort to prevent information leaks, we manage inflow/outflow manpower management, media control, document encryption, and web control, thereby invaluable customer data cannot be leaked. Additionally, for more reliable customer security, we have stipulated matters related to customer security in the information protection management regulations and complied with them.

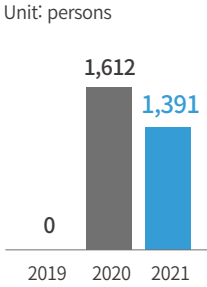
02
Tightening Data Security and Personal Data Protection

Information Security Education Status

No. of people completing the information security education (employees)



No. of people completing the information security education (partner companies)



Security Simulation Training for Employees

We annually provide security education for employees to elevate security awareness and prevent leakage accidents related to internal information. In addition, we conduct cyber simulation training to make our employees recognize the risks of security accidents and prepare a proper prevention system in the event of an accident, striving to internalize the security awareness of each member. Through this practical security mock training, we aim to secure business continuity and raise security awareness among employees.

Security Simulation Training for Employees

Training type	Content	Participation rate
Hacking mail	Sending socio-engineer hacking mails	100%
DDoS attack	Performing DDoS attack against the homepage	Regularly performed every year (jointly with related organizations)
Mock-attack	Homepage infiltration through domestic verified hackers	Regularly performed every year (jointly with related organizations)

Accident Response & Recovery System

L&F is prepared for unavoidable security incidents. When a security incident occurs or when we detect signs of an incident, we take swift action to minimize damage. With an aim to systematically respond to security incidents, we have assigned certain people to assume related responsibility and authority.

Handling Security Incidents

We have set up security incident handling procedures so that we can promptly cope with unexpected incidents. The incident handling procedures for effectively responding to security issues are prepared and published, and the scope of the subject encompasses all employees and assets of the company.

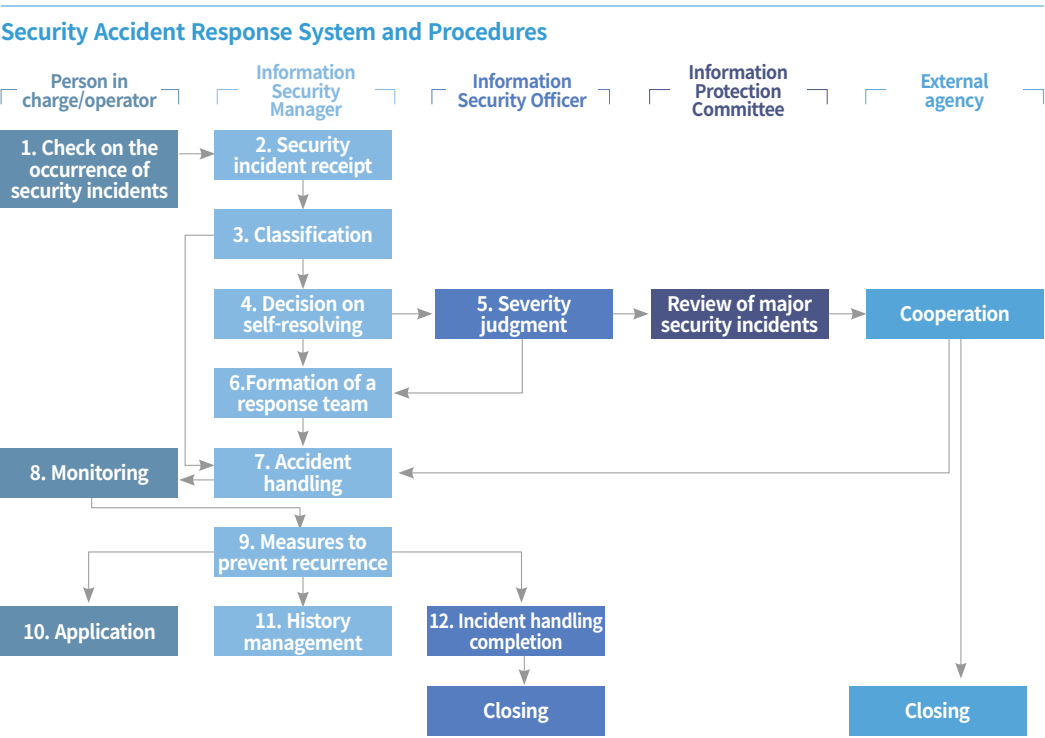
Responsibility and Authority for Security Incidents

The security incident response process stipulates the responsibilities and authorities of the Information Security Officer, the Information Security Manager, and the Security Officers, respectively, in the event of a security incident. The Information Protection Committee decides on the incident-handling direction on severe security accidents and requests cooperation from related external institutions while revisioning and deliberating on information protection policies.

Follow-up Measures on Security Incidents

After a security incident has occurred, we review whether there have been problems in the related process in order to prevent the same incident from occurring. To prevent the recurrence of accidents, the Information Protection Officer conducts training, reviews the incident response system again, and manages incident history while adding educational content concerning security incident response.

02
Tightening Data Security and Personal Data Protection



Personal Information Damage Status

Unit: cases

2019	2020	2021
0	0	0



ISO 27001



ISO 27701

Personal Data Protection Policy

In order to prevent safety accidents through hacking and leakage of employees' personal information, we have prepared the declaration for personal information protection based on the personal information protection policy. In addition, in accordance with the 'Act on Promotion of Information and Communications Network Utilization and Information Protection, etc.' and the 'Personal Information Protection Act,' we established a personal information processing policy to safeguard the privacy data of information subjects and to handle related complaints in a prompt and smooth manner.

Activities for Data Security

After establishing regulations and principles related to information protection, we are implementing a variety of activities to settle a culture of data protection within the company. As an activity to protect the personal information of those who use information and communication services, we check the security status once a month and regularly inspect it. We also offer company-wide personal data and information protection training. In addition to continuously disseminating security notices on the 14th of every month, which is Security Day, we regularly establish or revise the regulations. We post our activities, such as information protection investment, related personnel status, certification, evaluation, and inspection.

Data Security Certificate

While continuing and managing information protection activities, we acquired professional certifications in regard to security. In 2022, we obtained ISO 27001 and ISO 27701 certifications concerning the information security management systems for the IT planning, development, operation, and maintenance of cathode material manufacturing services for lithium-ion secondary batteries.

06 ESG APPENDIX



94	___	Materiality Assessment
96	___	Stakeholder Communication
97	___	UN SDGs
98	___	Economic Performance
101	___	Environmental Performance
102	___	Social Performance
107	___	GRI Standards Content Index
110	___	Third-Party Assurance Statement
112	___	Greenhouse Gas Verification Statement
113	___	Membership & Award Status

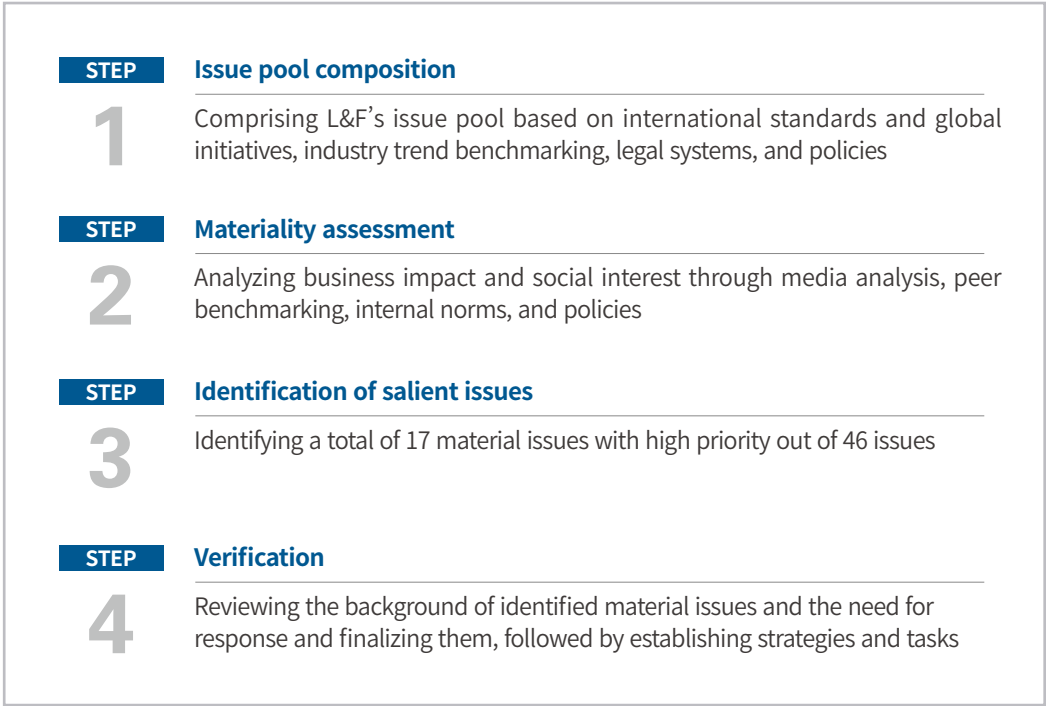
Materiality Assessment

Materiality Assessment Method

L&F conducted the materiality assessment to analyze the business impact and social interest among various sustainability management issues so that it can report and focus on issues with high priority. As a result, a total of 17 material topics were selected in comprehensive consideration of media analysis, industry benchmarking, and stakeholder surveys. We will continuously manage the derived issues as our own priority concerns.

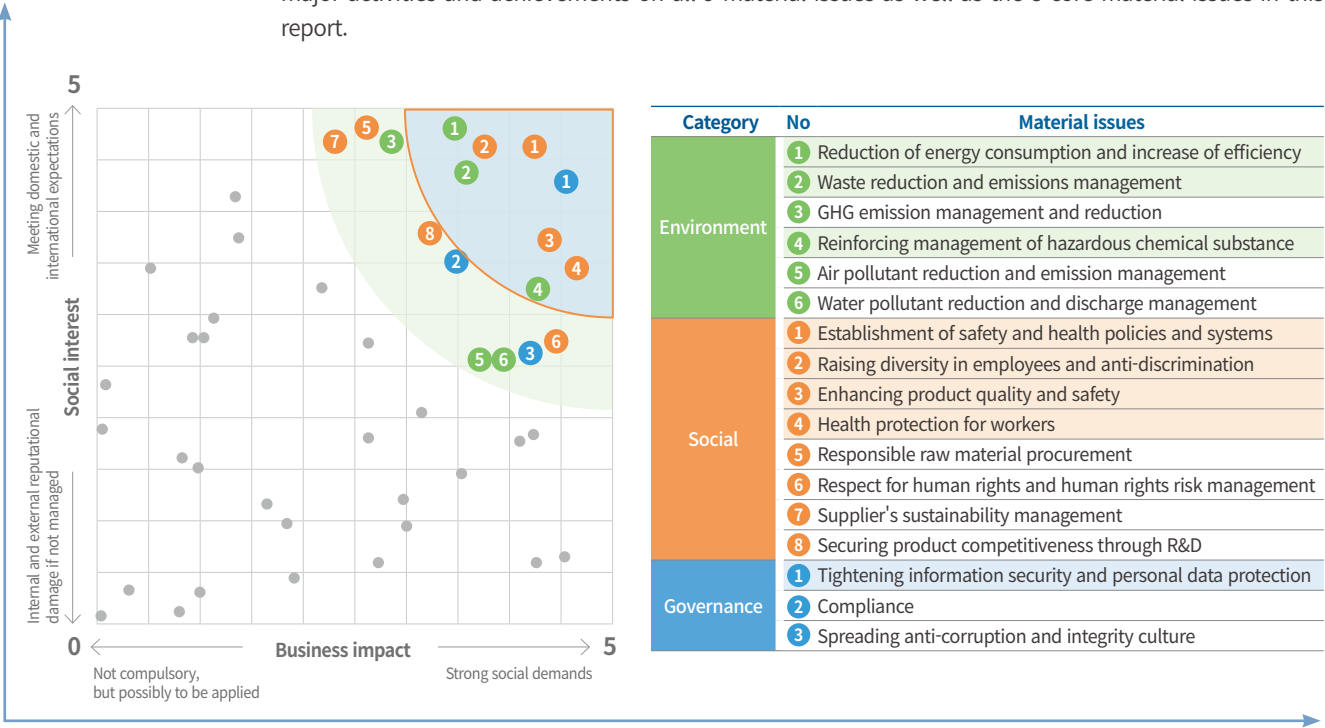


Materiality Assessment Process



Materiality Map

We set the ESG strategic direction based on the 17 material issues derived from the materiality assessment. The top 8 issues with high materiality were selected as our core material issues. We disclose major activities and achievements on all 9 material issues as well as the 8 core material issues in this report.









Material Issues

	Material issues	Reporting page	GRI topic
L&F Cares about the Environment	1 Reduction of energy consumption and increase of efficiency	18~23, 40~49	302-1, 3
	2 Waste reduction and emissions management		305-2,4,7
	3 GHG emission management and reduction		306-1~4
	4 Reinforcing management of hazardous chemical substance		307-1
	5 Air pollutant reduction and emission management		308-1
	6 Water pollutant reduction and discharge management		
Green R&D Activities	8 Securing product competitiveness through R&D	46~49	201-1
L&F Cares for Its Members	2 Raising diversity in employees and anti-discrimination	52~59	401-1~3, 405-1~2
L&F, Safe Place to Work	1 Establishment of safety and health policies and systems	60~67	403-1~7, 9
	4 Health protection for workers		
Partners Growing Together	7 Supplier's sustainability management	68~71	308-1
	5 Responsible raw material procurement		414-1
Top-notch Quality and Pursuit of Customer Satisfaction	3 Enhancing product quality and safety	72~77	416-2
Trustworthy Governance	2 Compliance	80~85	102-5, 11, 18, 22~24, 35~36
Ethical Management	6 Respect for human rights and human rights risk management	86~91	102-16~17 205-3
	1 Tightening information security and personal data protection		
	3 Spreading anti-corruption and integrity culture		

Stakeholder Communication

Our Major Stakeholders

In practicing ESG management, it is necessary to broadly communicate with various stakeholders. L&F strives to garner and reflect opinions through channels for both internal and external stakeholders. We operate diverse communication channels on a regular basis, which serve as platforms to communicate and interact with our stakeholders.

Stakeholders	Main issue	Communication channel
 Customers	Strengthening communication with customers, product safety and quality control, information protection, prompt provision of information, understanding customer needs	<ul style="list-style-type: none">• Customer satisfaction survey (once a year)• Responding to customer grievances through separate operation of the Customer Satisfaction Team (at all times)• Participation in exhibitions (once a year)• Information research briefing (24 times a year)• Information leakage prevention activities (at all times)
 Employees	Work-life balance, fair treatment, safe working environment, cooperative labor-management relations, human resources, promotion of welfare benefits	<ul style="list-style-type: none">• Labor-Management Council (4 times a year)• Ethics Hotline (at all times)• Environment Day (once a month)• Hanmaum Conference (4 times a year)• Grievance-handling system (at all times)• Energy Saving Campaign (at all times)• Work portal bulletin board (at all times)
 Shareholders & investors	Protection of shareholders' rights and interests, equal treatment, active provision of information	<ul style="list-style-type: none">• Board of Directors (4 times a year, if needed)• General shareholders' meeting (once a year)• Business report and disclosure (once a year)• IR briefing
 Partner companies	Shared growth communication, support for win-win cooperation with partner companies, safety of partner companies, fair trade, healthy supply chain	<ul style="list-style-type: none">• Partner company meeting (once a month)• ESG implementation evaluation of partner companies (once a year)• Safety training for partner companies (once a week)• Refinery check through CSR activities and RIM site (at all times)
 Local community	Community contribution activities, creating jobs for the underprivileged, corporate social responsibility, employee volunteer activities	<ul style="list-style-type: none">• Community volunteering (at all times)• Social contribution activities (at all times)• Local high school/college recruitment (5~6 times a year)• Local community job fair (2~3 times a year)
 Academia	Sustainable R&D, response to new regulations, expansion of industry-university collaboration	<ul style="list-style-type: none">• New business identification (at all times)• Eco-friendly technology development (at all times)• New product development (at all times)• Industry-academia cooperation

UN SDGs (UN Sustainable Development Goals)

UN SDGs (UN Sustainable Development Goals) are global targets adopted by the UN that the international community should achieve by resolving social issues and creating a sustainable governance structure by 2030. L&F will align UN SDGs with its strategies and operations, thereby contributing to a future-oriented growth as a member of global community.

UN SDGs	Our Key Activities
 Goal 5. Achieve gender equality and empower all women and girls	<ul style="list-style-type: none">• Hired employees in a fair manner and secured diversity in employee composition• Provided education on the prevention of sexual harassment in the workplace
 Goal 7. Ensure access to affordable, reliable, sustainable and modern energy	<ul style="list-style-type: none">• Transition to 100% new and renewable energy by 2030• Conducted an energy saving campaign
 Goal 8. Promote inclusive and sustainable economic growth, employment and decent work for all	<ul style="list-style-type: none">• Offered a variety of welfare benefits and become a good place to work• Created a great amount of local jobs• Hired all regular employees and boosted the local economy
 Goal 10. Reduce inequality within and among countries	<ul style="list-style-type: none">• Complied with the global guidelines on human rights and labor• Formulated an ethical procurement policy for conflict minerals• Conducted due diligences in compliance with the OECD guidelines• Endorsed the international standards regarding human rights and labor and abided by the labor law
 Goal 11. Make cities inclusive, safe, resilient and sustainable	<ul style="list-style-type: none">• Engaged in various forms of volunteer work and made donations• Promoted the virtuous circle of local economy through plant extension and construction• Obtained Platinum Level on ZWTL (Zero Waste to Landfill) and recycled 100% waste
 Goal 12. Ensure sustainable consumption and production patterns	<ul style="list-style-type: none">• Developed the ESG indicators to evaluate partner companies• Boosted resource circulation through the activities to recycle waste
 Goal 13. Take urgent action to combat climate change and its impacts	<ul style="list-style-type: none">• Set up a roadmap for net-zero and declared the 2050 carbon neutrality• Carried out R&D activities to develop eco-friendly products• Reviewed the way of converting to new and renewable energy
 Goal 16. Promote just, peaceful and inclusive societies	<ul style="list-style-type: none">• Establishing a transparent governance structure through ethical and human rights management• Operated the BOD in a rational manner• Carried out activities to end child labor
 Goal 17. Revitalize the global partnership for sustainable development	<ul style="list-style-type: none">• Built a management process for new and existing partner companies• Developed the criteria of supplier ESG evaluation and globally sourced resources

Economic Performance

Consolidated Statement of Financial Position

Statement of Financial Position			
		Unit: KRW million	
Category	2019	2020	2021
Current assets	206,225	212,043	1,070,617
Cash and cashable assets	828	21,225	271,776
Trade receivables and other current receivables	58,407	63,433	270,868
Other current investment assets	83	5	50
Inventory	138,612	105,276	261,550
Other current financial assets	2,394	17,103	213,799
Designate financial assets measured through 'current income-fair value'	-	-	35,114
Other current assets	5,658	4,536	17,460
Current corporate tax assets	243	465	-
Non-current assets	209,976	254,174	461,582
Other non-current investment assets	2,009	2,361	3,435
Long-term trade receivables and other non-current receivables	820	814	808
Tangible assets	196,501	237,425	427,126
Intangible assets	8,505	8,861	9,517
Other non-current assets	60	575	495
Deferred corporate tax assets	2,081	4,138	20,201
Total assets	416,201	466,217	1,532,199
Current liabilities	187,498	158,120	398,277
Trade payables and other current payables	36,023	42,754	218,908
Short-term borrowings	138,918	13,521	129,615
Current long-term borrowings	7,923	96,767	33,932
Current corporate tax liabilities	0	0	4,442
Other current financial liabilities	3,833	4,001	9,666
Other current liabilities	801	1,077	1,714
Non-current liabilities	96,883	110,491	498,732
Long-term borrowings	86,721	90,533	155,960
Convertible bonds	4,376	4,716	4,190
Bonds with warrants	0	0	12,688
Bonds with RCPS	0	0	16,416
Present value of defined benefit obligation	2,248	2,357	3,306
Other non-current financial liabilities	2,884	978	9,713
Non-current derivatives liabilities	653	11,907	296,459
Total liabilities	284,381	268,611	897,009
Capital attributable to owners of the parent company	129,428	194,441	630,792
Capital	12,379	14,029	17,405
Capital surplus	80,036	160,284	693,920
Other equities	2,182	2,224	18,057
Retained earnings (deficit)	34,831	17,904	(98,590)
Non-controlling interests	2,392	3,165	4,398
Total capital	131,820	197,606	635,190

Economic Performance

Consolidated Statement of Comprehensive Income

Income Statement			
		Unit: KRW million	
Category	2019	2020	2021
Sales	313,264	356,106	970,761
COGS	298,054	332,846	892,627
Gross profit	15,210	23,260	78,134
SG&A expense	22,873	21,790	33,882
Operating profit (loss)	(7,663)	1,470	44,252
Financial profit	237	117	6,347
Financial cost	4,772	17,047	181,474
Other profit	6,266	6,937	16,168
Other loss	4,779	9,358	10,932
Net income before corporate tax (loss)	(10,711)	(17,881)	(125,639)
Corporate tax expense (profit)	1,902	2,863	13,376
Net income (loss)	(8,809)	(15,018)	(112,263)

Economic Performance

Economic & Environmental Performance

Distribution of Economic Value				Unit: KRW million
Category		2019	2020	2021
Employee	Salary, welfare benefits, education and training expenses	28,340	28,826	48,858
Government	Corporate tax	325	394	4,153
Partner companies	Purchase cost of raw materials and subsidiary materials	285,071	277,378	987,687
Community and NGO	Total social contribution investments	45.6	21.4	58.7
Shareholder	Dividend	-11.69%	-8.00%	-

* Minus net income in 2019 and 2020, no dividend in 2021

Tax Information

Corporate Tax Status (as of 2021)				Unit: KRW million
Region	Sales	Operating profit	Corporate tax expense	
Korea	966,422	41,750	(13,118)	
Overseas	22,608	142	0	

Environmental Performance

Key Environmental Indicators

Category		Unit	2019	2020	2021
Product sales	Sales	KRW million	312,072	355,968	966,423
Raw materials	Raw material consumption	Tons	13,678	18,536	46,382
Energy	Total consumption	GJ	520,477	632,311	1,859,971
	Fuel	GJ	3,412	3,537	5,233
	Electricity	GJ	517,065	628,774	1,854,738
	Steam	GJ	0	0	0
	Intensity consumption	GJ / KRW million	1.66	1.78	1.93
GHG*	Total emissions (Scope1 + Scope2)	Ton CO ₂ e	26,641	32,719	92,047
	Direct emissions (Scope 1)	Ton CO ₂ e	1,528	2,181	3,291
	Indirect emissions (Scope 2)	Ton CO ₂ e	25,113	30,538	88,759
	Intensity emissions	Ton CO ₂ e/KRW million	0.10	0.14	0.09
Water	Water consumption	m ³	29,215	60,605	69,715
	Intensity consumption	m ³ /KRW million	0.09	0.17	0.07
Effluent	Total effluent discharge	m ³	706	1,263	4,853
	Daegu	m ³	497	450	493
	Waegwan	m ³	132	142	220
	Guji	m ³	77	671	4,140
	Intensity discharge	m ³ /KRW million	0.00	0.00	0.01
Waste*	Total waste disposal	Ton	797.9	936.3	1949.4
	Daegu	Ton	406.7	524.4	602.3
	Waegwan	Ton	380.6	332.8	311.4
	Guji (Plant 1)*	Ton	10.6	79.4	1035.7
	Intensity disposal	Tons / KRW million	0.05	0.04	0.02
	Waste recycling ratio	%	100	100	100
Designated waste	Total amount	Tons	132.4	184	357.2
	Recycled amount	Tons	132.4	184	357.2
General waste	Total amount	Tons	665.5	752.3	1592.2
	Recycled amount	Tons	665.5	752.3	1592.2
Water pollutants (COD, BOD, SS)	Total discharge	Tons	0	0	0
	Intensity discharge	Tons / KRW million	0	0	0
Air pollutants*	Total emissions	Tons	10	20	18.3
	NOx	Tons	0	0.2	2.9
	Dust	Tons	10	19.8	15.4
	Intensity emissions	Tons / KRW million	0.00	0.00	0.00
Environmental spending	Environmental investment	KRW million	0	0	5,046
	Environmental cost	KRW million	43	240	1,346
Environmental management certification	Environmental management system (ISO 14001) certification scope	%	100	100	100
Violation of environmental laws and fines*	Violation of environmental laws	Case	3	1	6
	Fines for violation	KRW	0	0	4,160,000

* Greenhouse gas (GHG): Guji Plant 1 began to operate in full swing from 2021, and electricity consumption increased rapidly. There is a difference between GHG emissions, total emissions by business site, and the sum of emissions by business site. (truncated emissions by business site are combined when adding emissions of companies.)

* Waste: Guji Plant 2 was completed in March 2022, so it is excluded from the company-wide waste calculation.

* Air pollutants: Only NOx and Dust are generated within the L&F business site, so only the corresponding emissions are reported.

* Violation of environmental laws and fines: Comparing to the increase in production in 2021 (a 2.5-fold increase in raw material consumption year on year), the environmental burden due to insufficient management of emission facilities was rapidly grown. It includes a 10-day suspension of operation.

Social Performance

Key Social Indicators

Status of All Employees

Status of Domestic Employees

Category		Unit	2019	2020	2021
Total no. of employees		Persons	560	631	1,021
Gender	Male	Persons	504	575	940
	Female		56	56	81
Average years of service*		Years	3 yr 8 mth	4 yr 10 mth	3 yr 7 mth

* Based on the current employees

Detailed Status of Employees

Category		Unit	2019	2020	2021
Korea	Total no. of employees	Persons	560	631	1,021
	Gender	Male (ratio)	504(90.0)	575(91.1)	940(92.1)
		Female (ratio)	56(10.0)	56(8.9)	81(7.9)
	Employment status	Full-time (ratio)	560(100)	631(100)	1,021(100)
		Contract or temporary (ratio)	0(0)	0(0)	0(0)
	Age	Age under 30 (ratio)	223(39.8)	270(42.8)	541(53.0)
		Age of 30-49 (ratio)	315(56.3)	337(53.4)	450(44.1)
		Age of 50 or above (ratio)	22(3.9)	24(3.8)	30(2.9)
	Diversity	Disabled (ratio)	13(2.3)	13(2.1)	20(2.0)
		Youth intern (ratio)	0 0(0)	0(0)	0(0)
		High school graduate (ratio)	120(21.4)	122(19.3)	209(20.5)
		Foreigner (ratio)	0	0	0
Overseas	Total no. of employees	Persons	2	2	2
	Details	Dispatch to overseas	2	2	2
		Local recruitment	0	0	0

Social Performance

Recruitment and Retention Status

New Recruitment Status

Category		Unit	2019	2020	2021
No. of newly recruited employees			172	164	702
	Male	Persons	167	156	665
	Female		5	8	37

Voluntary Turnover Status

Category		Unit	2019	2020	2021
No. of voluntary turnover			77	95	312
	Male	Persons	74	87	300
	Female		3	8	12

Social Performance

Parental Leave

Category		Unit	2019	2020	2021
No. of employees using pa- rental leave	Male	Persons	-	1	-
	Female	Persons	2	4	3
	Total	Persons	2	5	3
Rate of employees returning to work after parental leave		%	100	100	100
Rate of employees working for 12 months after the return		%	100	100	100

Welfare Benefits*

Category		Unit	2019	2020	2021
Total annual welfare expenditures		KRW million	81	75	58
Average welfare expenditures per capita		KRW	145,909	120,218	57,385

* Between 2020 to 2021, welfare benefits reduced owing to limited external programs amid the COVID-19 pandemic

Education and Training

Category		Unit	2019	2020	2021
Total no. of employees educated		Persons	174	171	195
Educational hours per capita		Hours	12	8	3
Educational expenditures per capita		KRW	22,000	7,200	3,120

Major Donations

Category		Unit	2019	2020	2021
Political contribu- tions and donations to associations	Political contributions	KRW	0	0	0
	Donations to scholarship associa- tions	KRW	3,400,000	3,400,000	3,400,000
	Donations to associations	KRW	11,200,000	0	0
	Donations to federations	KRW	2,000,000	0	0
	Donations to the Red Cross	KRW	2,000,000	0	0
	Donations to foundations	KRW	1,000,000	1,000,000	0
	Donations to hospitals	KRW	10,000,000	10,000,000	10,000,000
	Donations to fundraisers	KRW	4,000,000	5,000,000	35,280,000
	Donations to community welfare centers	KRW	2,000,000	2,000,000	0
	Donations to the Community Chest of Korea	KRW	10,000,000	0	0
	Donations to science museums	KRW	0	0	10,000,000

Social Performance

Labor Practice

Collective Agreement and Labor-Management Council

Category		Unit	2019	2020	2021
Rate of collective agreements applied		%	-	-	-
No. of Labor-Management Council meetings held		Cases	4	5	5

Employee Communication

Category		Unit	2019	2020	2021
No. of employee grievances reported		Cases	10	13	17
No. of employee grievances handled		Cases	10	13	17

Equal Pay

Category		Unit	2019	2020	2021
Ratio of female to male wage		%	90.0	89.4	101.4

Safety and Health

Occupational Accident Status

Category		Unit	2019	2020	2021
Total no. of mortality accidents	Employees	Cases	-	-	-
	Contractors and partner companies	Cases	-	-	-
No. of occupational accidents	Employees	Cases	2	9	13
	Accident rate	%	0.36	1.43	1.27
	Contractors and partner companies	Cases	0	0	2
Violations of the Occupational Safety and Health Act	Fines	Cases	1	0	0

Activities to Eliminate Risk Factors

Category		Unit	2019	2020	2021
Occupational health and safety management system (ISO 45001, KOSHA 18001) scope of management		%	100	100	100
No. of risk factors identified at business sites*		Cases	17	60	220
Improvement rate of risk factors		%	100	100	100

* High risk factors identified by the [risk evaluation] reflected

Education on Safety and Health

Category		Unit	2019	2020	2021
No. of safety and health educational courses provided*		Cases	4	4	4
No. of participants in safety and health education		Persons	560	631	1,021

* Regular education on safety and health reflected (once a quarter) and all employees trained

Social Performance

Partner Companies

Category		Unit	2019	2020	2021
Partner companies	No. of partner companies	Numbers	579	546	685
	No. of key partner companies		37	39	40
	Technical support for partner companies	Cases	2	0	0
	Amount spent on the shared growth with partner companies	KRW million	31,569	34,247	36,831

Social Contribution

Category		Unit	2019	2020	2021
Spending on social contribution		KRW million	45.6	21.4	58.7
Contribution to sales ratio		%	0.015	0.006	0.006
No. of employees participating in volunteer work		Persons	67	0*	0*
Total volunteer hours		Hours	10	0*	0*

* There are zero cases since the discontinuation of volunteer work due to the COVID-19

Quality Management

Category		Unit	2019	2020	2021
Customer satisfaction	Rate of ISO 9001-certified business sites	%	100	100	100
	Customer satisfaction score	%	97.5	98.3	97.2
	No. of products recalled	Cases	0	1	3

R&D

Category		Unit	2019	2020	2021
Spending on R&D		KRW million	11,457	11,960	12,168
R&D expenditure to sales ratio		%	3.66	3.36	1.25
Intellectual property right		Cases	6	7	16
Patent		Cases	6	7	11
Design		Cases	0	0	0
Trademark		Cases	0	0	4

Data Privacy

Category		Unit	2019	2020	2021
No. of employees receiving data security education (L&F)		Persons	233	67	641
No. of employees receiving data security education (partner companies)*		Persons	0	1,612	1,391
No. of breaches of data security		Cases	0	0	0
No. of breaches of customer personal data-related laws		Cases	0	0	0
Fines and penalties incurred by the violations of data protection laws		KRW	0	0	0

* Based on the signatures on the SMS transmission of the written pledge for plant access

GRI Standards Content Index

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GRI Standards Content Index

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Public Policy	415-1	Political contributions	104	
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	417-2	Incidents of non-compliance concerning product and service information and labeling	-	No violations
Marketing and Labeling	417-3	Incidents of non-compliance concerning marketing communications	-	No violations
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	91, 106	No violations
Socioeconomic Compliance	419-1	Non-compliance with laws and regulations in the social and economic area	105-106	1 violation of the Occupational Safety and Health Act (2019)

Third-Party Assurance Statement

Dear Management and Stakeholders of L&F,

Foreword

The Korean Standards Association (“KSA”) was commissioned L&F to perform a third-party Assurance Engagement of ‘2021 L&F Integrated Report’ (the “Report”). KSA presents independent opinions as follows as a result of feasibility of the data contained in this Report. L&F has sole responsibility for content and performance contained in this Report.

Independence

As an independent assurance agency, KSA does not have any kinds of commercial interest in businesses of L&F apart from undertaking a third-party assurance on the Report. We have no other contract with L&F that may undermine credibility and integrity as an independent assurance agency.

Assurance Standards and Level

This Assurance Engagement followed the AA1000AS v3 assurance standards to provide Moderate Level engagement, which means that the assurance assessed the accuracy and reliability of the company’s statements and performance data provided in the Report.

Type and Scope of Assurance

KSA was engaged by L&F to provide a Type 2 assessment of the accuracy of L&F’s statements and performance information contained in this Report for the year ending December 31, 2021 in accordance with AA1000AS v3. The focus of assurance was on L&F’s sustainability management policies and goals, business, standards, performance, systems, and activities conducted. In addition, we reviewed environmental and social data, as well as financial data on economic performance in a broad sense. Assurance on stakeholder engagement was limited to a review of the materiality assessment process.

Methodology

KSA has collected information, materials, and evidence pertaining to the scope of assurance using the following methods:

- | | |
|---|---|
| - Review and analysis of articles and news published on L&F’s performance in sustainability management | - Examination of internal documents and basic materials |
| - Review of the consistency between the financial performance data and the company’s audit report/publicly announced data | - Review of management system and process used in improving the performance of sustainability management and preparing the Report |

Assurance Results

KSA reviewed the draft version of this Report to present our opinions as an assurance provider. Modifications were made of the Report content if deemed necessary. We were not aware of any significant errors or inappropriate descriptions in this Report as a result of our Assurance Engagement. As such, we present our opinions of the 2021 L&F Integrated Report as follows.

Inclusivity (Has L&F engaged its stakeholders in strategically responding to sustainability?)

We believe L&F is aware of the importance of stakeholder participation and is making an all-out effort to establish a process that will increase their participation. L&F has selected stakeholders including employees, shareholders and investors, customers, partner companies, local communities and related organizations to receive diverse feedbacks and opinions.

Materiality (Has L&F included material information in the Report to help stakeholders make informed decisions?)

We are not aware of any significant omissions or exclusions of data that is material to stakeholders. We verified that L&F conducted materiality test with issues identified from analyses of internal and external environments and reported according to the result.

Responsiveness (Has L&F appropriately responded to stakeholder requirements and interest in this Report?)

We verified that L&F responded stakeholders’ needs and interests through reflecting stakeholders’ opinions in the Report. We are not aware of any evidence that L&F’s response to significant issues of stakeholders was reported inappropriately.

Impact (Has L&F appropriately monitored its impact on the stakeholders?)

We verified that the Company is monitoring and assessing its impact on the stakeholders by conducting an enhanced verification of its standard business activities. Furthermore, it has been verified that the Company appropriately publishes its findings in the Report.

GRI Standards Disclosure

We verified that the Report was written in accordance with the Core Options of the GRI Standards and that the indicators regarding the following Universal Standards and Topic-specific Standards were true, based on materials provided by L&F.

Universal Standards	Topic-specific Standards
We verified that this Report was compliant with the Universal Standards requirements of the Core Options and have reviewed the following indicators. - 102-1 ~ 102-13 (Organizational profile), 102-14 (Strategy), 102-16 ~ 102-17 (Ethics and integrity), 102-18, 102-22, 102-23, 102-24, 102-35, 201-36 (Governance), 102-40 ~ 102-44 (Stakeholder engagement), 102-45 ~ 102-56 (Reporting practice), 103-1~3 (Management Approach)	We verified the detailed disclosure items related to the key material topics derived from the process for selecting reporting items and have reviewed the following indicators. - Economic : 201-1, 203-1, 205-3 - Environmental : 302-1, 302-3, 305-1, 305-2, 305-4, 305-7, 306-1, 306-2, 306-3, 306-4, 307-1, 308-1 - Social : 401-1, 401-2, 401-3, 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-9, 405-1, 405-2, 414-1, 415-1, 416-2, 417-2, 417-3, 418-1, 419-1

Opinions on Each Area and Recommendation [Performance/ Issues]

We present the following recommendations to help L&F establish a company-wide sustainability management strategy and respond to continuous issues of sustainability.

Economic

L&F has published its first Sustainability Report to fulfill its social responsibilities as a core business leading the cathode material industry and to share the activities carried out and performance in the economic area with stakeholders. In addition, despite the high level of uncertainty caused by COVID-19 and the unstable political environment, L&F has continued to record strong performance based on its outstanding business competitiveness. We recommend that L&F maintain fair and transparent management processes and practices in cooperation with internal and external stakeholders to maintain its position as the Global Top Tier of the green energy material sector and achieve its ESG vision, “We INNOVATE materials for green energy.”

Environment


"The company’s recognition of environmental risks and efforts to manage them amid uncertainties and instability at home and abroad, including COVID-19, are viewed as positive contributions. The publication of the ESG report and efforts to respond to climate change are reasonably expected to have a significantly positive impact on relevant industries in terms of corporate sustainability. Especially prominent are active company-wide efforts to manage the use of hazardous substances and minimize emissions through continuous training and management as a leader in the industry. We recommend that the company change some of the quantitative data to be more accurate and appropriate in accordance with the standards for global sustainability reporting and reinforce the system for data collection. It is also recommended that the company strengthen its plan-execution-result implementation process.

Social

"In line with internal and external requirements, L&F established its ESG vision of “We INNOVATE materials for green energy” and laid the foundation for ESG practices by selecting 8 strategic directions and 11 key tasks. The ESG risks of the company were not immaterial, considering the nature of the business. The company became a member of the Responsible Cobalt Initiative in 2016 to actively respond to the aforementioned risks. The company and members of the RCI established “responsible procurement policies” and developed a CSR checklist to reinforce management of conflict minerals, including cobalt, and require upstream and downstream companies in the cobalt supply chain to conduct self-assessment. Furthermore, L&F’s endeavors to spread the spirit of ESG across the supply chain by creating an ESG evaluation model for the management and registration of new partner companies and applying it to its main partners starting in 2023 are viewed as positive contributions. By publishing its first Sustainability Report, L&F disclosed information on past performance in a transparent and well-balanced manner and has specifically described plans for future ESG activities. We look forward to seeing L&F make further progress in terms of promoting ESG management by establishing an ESG Committee within the Board of Directors and carrying out ESG activities.

Greenhouse Gas Verification Statement

Verification statement on
'2021 Greenhouse Gas Emissions & Energy Consumption Report'



Verification Statement on 2021 Greenhouse Gas emissions & Energy consumption Report

■ Introduction
Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by 'L&F Inc.' to independently verify its 2021 Greenhouse Gas Emissions and Energy consumption Report (hereinafter 'GHG Inventory').

■ Verification Scope & Standard
KFQ's verification was conducted domestic business sites under operational control of 'L&F Inc.'. 'Guidelines on the Reporting and Certification of Emissions of Greenhouse Gas Emission Trading Systems (Notification No. 2021-278 of Ministry of Environment & IPCC Guidelines 2006)' were mainly applied in verification process but also the Company Guidelines for GHG Inventory was considered.

■ Verification Procedure
The verification was planned and carried out in accordance with the procedures stipulated in the verification guidelines for the operation of the greenhouse gas emission trading system (Notification No. 2021-112), and the verification guarantee level was carried out to meet the reasonable guarantee level.

■ Limitations of verification
Accuracy and completeness of emission data reported in the 'GHG Inventory' are subject to inherent limitations due to their nature and the methodology used in determining, calculating and estimating such data.

■ Conclusion/Opinion
Through verification procedures such as ISO 14064-1, ISO 14064-3, the following conclusions are presented on greenhouse gas emissions data.

- 1) The Inventory Report has been stated in accordance with 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme'
- 2) The result of Material discrepancy satisfied the criteria for an organization that emits more than 500,000 tCO₂-eq shall not exceed 5% from total emissions as per "Greenhouse Gas and Energy Target Management Scheme"
- 3) Thus, KFQ conclude that the Greenhouse Gas Emissions of the Company in 2021 is correctly calculated and stated in accordance with 'Rules for verification of operating the greenhouse gas emission trading scheme'.

2021 Greenhouse Gas emissions and Enery consumption of 'L&F Inc.'

Year	Division	GHG emissions (tCO ₂ -eq)			Energy consumption (TJ)		
		Scope 1	Scope 2	Subtotal	Scope1	Scope2	Subtotal
2021	Headquarter (Daegu Plant)	1,667.783	32,292.798	33,960	4.175	674.801	678
	Waegwan Plant	726.851	11,776.688	12,503	0.158	246.09	246
	R&D Center	27.964	1,240.514	1,268	0.552	25.922	26
	Guji Plant	868.564	43,342.053	44,210	0.348	905.69	906
	JHC	0	106.914	106	0	2.234	2
Total		3,291.162	88,758.966	92,047	5.233	1,854.738	1,858

* The above GHG emissions and Enery Consumption are cut in units of integer for each business site, and a difference of less than ±1 tCO₂eq (or TJ) from the actual value of the system may occur.

November 25th, 2022

Ji Young Song

CEO Ji-Young Song

Korean Foundation for Quality (KFQ)

Membership & Award Status

Membership Status



Responsible Cobalt Initiative (RCI)



Korea Fire Safety Institute



Korea Electric Engineers Association



Korean Association for Industrial Technology Security



Daegu Enterprises Federation



SSP Association (Samsung SDI Partner's Association)



Korea International Trade Association



Korea Industrial Technology Association



Korea Battery Industry Association



Daegu Chamber of Commerce and Industry

Membership Status

Membership Status

<div><p>코스닥협회</p><p>KOSDAQ Listed Companies Association</p></div>	<div><p>한국거래소</p><p>Korea Exchange ETS (Emission Trading Scheme) Market</p></div>
<div><p>WORLD CLASS</p><p>WORLD CLASS 300</p></div>	<div><p>대한기계설비건설협회</p><p>Korea Mech. Const. Contractors Association</p></div>

Awards

Date	Awards Name	Awarding Body	Level of Prize
March 4, 2019	Citation for Good Taxpayer on the 53rd Day for Taxpayer	Ministry of Economy and Finance / National Tax Service / Korea Customs Service	Presidential citation
July 25, 2019	Best company for job creation in 2019	Ministry of Employment and Lab	
December 12, 2019	Citation in recognition of the promotion of trade in the Daegu-Gyeongbuk region on the 56th day of trade	Daegu-Gyeongbuk Headquarters of Korea International Trade Association	Citation from the Mayor of Daegu
December 23, 2019	Award for job creation in 2019	Ministry of Employment and Lab	Order of Industrial Service Merit, Tin Tower Medal
November 25, 2020	Grand Prize at the 8th Software Industry Protection Awards	Ministry of the Interior and Safety / Ministry of Science and ICT / Ministry of Culture, Sports and Tourism	Prime Minister’s award
December 2, 2021	Grand Prize in the green management category at the 2021 Global Standard Management Awards	Korea Management Registrar / Global Management Committee	Citation from the Minister of Trade, Industry and Energy
July 7, 2022	Project for regional representative medium-sized company development	Ministry of Trade, Industry and Energy	
September 6, 2022	Grand Prize for Leading Company at the 16th Resource Circulation Awards	Ministry of Environment / Korea Environment Corporation	Citation from Prime Minister