LG Energy Solution ESG REPORT 2023

Plus for Minus, Minus for Plus

LG Energy Solution

LG Energy Solution ESG REPORT

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About this Report

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LG Energy Solution

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Reporting Period
from January 1, 2023 - December 31, 2023
* Some information includes progress and activities between January 2024 and July

Reference Materials
Company Profile: Korean English

Interactive PDF

This report has been published as an interactive PDF that includes navigation to the relevant page within this report and/or shortcuts to related corporate website.

Report Overview
LG Energy Solution has been publishing ESG reports annually since 2021 to communicate our ESG management system to our stakeholders. This report includes the annual financial and non-financial performance with a focus on ESG management strategy. We will continue to effectively manage ESG values and progress, transparently disclose them to the stakeholders, thereby fulfilling our ESG responsibilities.

Reporting Principles
This report is written in accordance with the Global Reporting Initiative (GRI) Standards 2021 for sustainable management reporting. The financial information aligns with the consolidated financial statement standards of K-IFRS. The non-financial information that follows different standards have been written by including the respective standards and scope. Also, we incorporated the globally recognized ESG Disclosure standards such as the International Sustainability Standards Board (ISSB), the European Sustainability Reporting Standards (ESRS), and the Sustainability Accounting Standards Board (SASB), as well as the disclosure standards recommended by the Task Force on Climate-related Financial Disclosure (TCFD). In addition, as a member of the United Nations Global Compact (UNGC), the report includes the principles and indicators of the Sustainable Development Goals (SDGs), adhering to the Ten Principles of the UNGC.

Reporting Period
This report covers quantitative and qualitative performances from January 1, 2023 to December 31, 2023. Some information contains activities conducted in the first half of 2024, of which separate remarks were made in footnotes specifying the period of occurrence. For quantitative performance, data from the three years following our corporate spin-off- from 2021 to 2023, is disclosed.

Reporting Scope
The scope of this report encompasses all domestic(Korea) and overseas business locations. Domestic locations include the Seoul headquarters, the R&D Campuses in Daejeon, Gwacheon and Magok, the Ochang Energy Plant 1 and Ochang Energy Plant 2. Overseas locations include production and sales sites in the US, China, Poland, Australia, Germany, Indonesia, and Vietnam. A detailed breakdown of the scope can be found on page 14.

Independent Assurance
This report has been conducted in accordance with the internationally recognized AA1000AS v3 standard and received third-party verification from the Korea Management Registrar (KMR). The third-party assurance verification statement can be found on page 138 of this report.

For Inquiries
If you have any inquiries regarding the report, please contact us.
ESG Impact Team, Email: esgteam@lgensol.com

PLUS FOR MINUS

ADD NATURE,
ADD RESPONSIBILITY,
ADD COMMUNICATION

REDUCE CARBON FOOTPRINT,
REDUCE DISCRIMINATION,
REDUCE CUSTOMARY PRACTICE

MINUS FOR PLUS

LG Energy Solution aims to lead ESG management with the belief that our business growth in the battery industry is the essence to green energy, contributing to a sustainable future for humanity.

In each area of ESG, we strive to reduce unnecessary elements and enhance essential ones through establishing a circular system of "Plus for Minus and Minus for Plus," to build a better future.

E Value nature and reduce carbon,
S Embrace responsibility and ban discrimination,
G Minimize customary practice and foster communication,
working toward creating a sustainable society

Unlocking our infinite potential for the future generation, we will contribute to the pursuit of ESG in the global battery ecosystem by boldly facing today's challenges.

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9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

17 PARTNERSHIPS FOR THE GOALS

LG Energy Solution is a global battery company that is leading the way with cutting-edge technology by enhancing Advanced Automotive, Mobility & IT, and Energy Storage System (ESS) battery with a vision to lead the future green energy era.

CEO Message

Dear stakeholders of LG Energy Solution,

Greetings.

In 2023, despite a highly uncertain business environment such as the electric vehicle market's global slowdown and geopolitical protectionism, LG Energy Solution achieved sales of KRW 34 trillion and operating profit of KRW 2 trillion by proactively strengthening its preemptive execution and pursuing qualitative growth.

This year, LG Energy Solution plans to overcome more external challenges and to continue offering differentiated customer value by securing ▲ unrivaled product/quality technology, ▲ structural cost competitiveness, ▲ unmatched customer loyalty, and ▲ innovation in future technologies and business models.

To secure differentiated customer value, while it is important to create innovative and sustainable products through constant research and development (R&D), practicing ESG management activities throughout the business for a sustainable future is equally crucial.

This year, LG Energy Solution will keep ESG management as a crucial business practice and an opportunity that must be considered in every corporate decision-making process and business performance, as we continue in our journey towards a safe and harmonious future for humanity.

We will communicate with stakeholders with transparent, timely information

With the EU Battery Regulation officially enacted in August 2023, which mandates the disclosure of information such as each product's carbon footprint, resource circularity performance, and supply chain ESG risks, ESG disclosure is being made mandatory by governments and financial institutions worldwide. In line with this global movement, LG Energy Solution will strengthen its governance to ensure all information stakeholders want to know is disclosed transparently in a timely manner.

We will strive to reduce carbon emissions across our entire value chain

Going beyond carbon neutrality, LG Energy Solution is pursuing 'carbon negative' across the business. We are switching to renewable energy at all global business sites while engaging in carbon emission reduction activities and developing low-carbon processing technologies. We will also source more low-carbon raw materials and increase our recycling rate of raw materials.

We will establish an organizational culture where employees can feel fully immersed

LG Energy Solution encourages employees to foster 'results-driven professionalism,' so that they can feel motivated to perform tasks with a mindset that welcomes challenges, while also providing equal growth opportunities. We value experiences derived from our diversity and embrace coexistence with all our stakeholders including local communities and the planet, through social contribution activities and biodiversity conservation. Through these efforts, we hope to further demonstrate our dedication to creating social value wherever we can. As the saying goes, "After the rain, the ground hardens." This means that there may be many difficulties ahead, but the market and our customers all agree on one thing – the battery sector holds tremendous growth potential. LG Energy Solution seeks to turn the challenges of today into opportunities for tomorrow by building fundamental competitiveness now.

Based on continuous innovation and robust ESG management, LG Energy Solution is now laying the groundwork for sustainable growth, and will pave the way for a better future for all mankind.

We humbly ask that you continue to show your encouragement and support in all our upcoming endeavors.

Thank you.

June 2024
CEO of LG Energy Solution
Kim, Dong Myung

About Us

LG Energy Solution embarked on our first battery development research since 1992 and has been dedicated to creating unparalleled material technologies and next-generation batteries. With outstanding technological capabilities in the fields of Advanced Automotive, Mobility & IT, and Energy Storage System (ESS) batteries, we are actively pursuing new product development and securing a world-class battery production capacity, expanding the next-generation energy market.

Company Overview

Company Name	LG Energy Solution
Established	December 2020
CEO	Kim, Dong Myung
Headquarters	Parc.1 Tower 1, 108 Yeoui-daero, Yeongdeungpo-gu, Seoul
Business Areas	Advanced Automotive battery, Mobility & IT battery, Energy Storage System battery
Website	www.lgensol.com

LG Energy Solution is engaged in the research, development, manufacturing, and sales of battery-related products applied to electric vehicles (EVs), energy storage systems (ESS), IT devices, power tools, and light electric vehicles (LEVs), where the business activities are organized under as a single unit of the energy solutions business division.
EVs represent a high growth potential business due to the increasing demand driven by the expansion of environmental regulations and eco-friendly policies in various countries. The demand for ESS is also growing as the importance of efficient utilization of renewable energy generation and stored power becomes more critical. Additionally, there is an increasing demand for new applications such as electric bicycles and electric scooters, as well as for IT devices like smartphones and wearables.
Beyond manufacturing and selling Li-ion batteries, LG Energy Solution is pursuing new business initiatives to secure sustainable growth drivers for the future. By leveraging long-accumulated data on batteries and vehicles, we aim to create new value through Battery-as-a-Service (BaaS), which involves managing the entire lifecycle of batteries, Energy-as-a-Service (EaaS), aimed at improving energy efficiency and addressing power shortages, and battery recycling/reuse projects.
Furthermore, on February 28, 2022, LG Energy Solution acquired 100% of the shares of LG Energy Solution Vertech Inc., a provider of energy storage battery installation services in the US. This acquisition marks the company's entry into the ESS system integration field. By directly establishing large-scale ESS systems and providing System Integration (SI) services, LG Energy Solution aims to strengthen capabilities as an integrated solution provider and accelerate leadership in the global ESS market.

Credit Rating

	Evaluation Agency	Credit Rating
Korea	KIS(Korea Investors Service)	AA
	NICE(National Information & Credit Evaluation. Inc)	AA
Overseas	S&P	BBB+
	Moody's	Baa1

*As of December 2023

Financial Performance

Financial Performance

Unit: billion KRW

Category	Amount
Sales	33,745
Operating Profit (Loss)	2,163
Net Income	1,638

Category	Amount
Liabilities	21,064
Equities	24,374
Assets	45,437

Sales Performance

Unit: billion KRW

Sales Type	Item		2023	2022	2021
Product	Advanced Automotive Batteries, ESS Batteries, Mobility & IT Batteries	Exports	20,091	16,861	12,639
		Domestic	13,655	8,738	5,213
		Total	33,746	25,599	17,852

Consolidated Income Statement

Unit : million KRW

Category	2023	2022	2021
Sales	33,745,470	25,598,609	17,851,906
Cost of Goods Sold	28,802,437	21,308,077	13,953,123
Gross Profit	4,943,033	4,290,532	3,898,783
Other Operating Income	676,874	-	-
Selling and Administrative Expenses	3,456,673	3,076,813	3,130,313
Operating Profit (Loss)	2,163,234	1,213,719	768,470
Financial Income	984,984	385,537	339,996
Financial Expenses	857,201	519,021	295,258
Equity Method Income	(32,450)	(36,641)	(11,556)
Other Non-operating Income	1,125,846	1,349,485	465,006
Other Non-operating Expenses	1,340,953	1,397,765	489,474
Profit (Loss) before Corporate Tax	2,043,460	995,314	777,184
Corporate Tax Expense (Income)	405,475	215,488	76,523
Income (Loss) from Continuing Operations	1,637,985	779,826	700,661
Income (Loss) from Discontinued Operations	-	-	229,207
Net Income (Loss)	1,637,985	779,826	929,868
Attribution of Net Income (Loss)			
Ownership Interest of the Controlling Company	1,237,180	767,236	792,519
Net Income (Loss) from Continuing Operations	1,237,180	767,236	607,343
Net Income from Discontinued Operations	-	-	185,176
Non-controlling interests	400,805	12,590	137,349
Net Income from Continuing Operations	400,805	12,590	93,318
Net Income from Discontinued Operations	-	-	44,031
Income (Loss) per Share for the Ownership Interest of the Controlling Company			
Income (Loss) of Base and Diluted Common Shares (Unit: KRW)	5,287	3,306	3,963
Continued Operating Income (Loss) of Base and Diluted Common Shares (Unit: KRW)	5,287	3,306	3,036

* As of the 2023 Annual Report published in March 2024.

Status of Consolidated Subsidiaries

Subsidiaries

Company Name	Ownership Stake	Location	Industry
LG Energy Solution (Nanjing) Co., Ltd.	100%	China	Manufacture and sale of mobility & IT battery, etc.
LG Energy Solution Michigan Inc.	100%	USA	Research and manufacture of Advanced Automotive batteries
LG Energy Solution Battery (Nanjing) Co., Ltd.	100%	China	Manufacture and sale of Advanced Automotive batteries
LG Energy Solution Wroclaw sp. z o.o.	100%	Poland	Manufacture and sale of Advanced Automotive batteries
LG Energy Solution Australia Pty Ltd.	100%	Austrailia	Sale of Energy Storage Systems (ESS)
LG Energy Solution Technology (Nanjing) Co., Ltd.	100%	China	Manufacture and sale of Advanced Automotive batteries, etc.
Ultium Cells Holdings LLC	50%	USA	Manufacture and sale of Advanced Automotive batteries
Ultium Cells LLC	50%	USA	Manufacture and sale of Advanced Automotive batteries
LG Energy Solution Europe GmbH	100%	Germany	Sale of Energy Storage Systems (ESS), etc.
LG Energy Solution (Taiwan) Ltd.	100%	Taipei	Sale of mobility & IT battery, etc.
Areumnuri Co., Ltd.	100%	Korea	Facility management and general cleaning services
LG Energy Solution Fund I LLC	100%	USA	Venture capital investment
LG Energy Solution Vertech Inc.	100%	USA	Installation contract for Energy Storage Systems (ESS)
LG Energy Solution Arizona, Inc.	100%	USA	Manufacture and sale of mobility & IT battery, etc.
Baterias De Castilla, S.L.	100%	Spain	Other
L-H Battery Company, Inc.	51%	USA	Manufacture and sale of Advanced Automotive batteries
LG Energy Solution India Private Limited	100%	India	Sale of mobility & IT battery, etc.
LG Energy Solution Arizona ESS, Inc.	100%	USA	Manufacture and sale of Energy Storage Systems (ESS)
Nextstar Energy Inc.	51%	Canada	Manufacture and sale of Advanced Automotive batteries
LG Energy Solution Fund II LLC	100%	USA	Venture capital investment
HL-GA Battery Company LLC	50%	USA	Manufacture and sale of Advanced Automotive batteries

Joint Venture

Company Name	Ownership Stake	Location	Industry
PT. HLI Green power	50%	Indonesia	Manufacture and sale of Advanced Automotive batteries

* In 2023, the entire ownership stake in VINFAST LITHIUM BATTERY PACK LLC., which was a joint venture, was disposed of.

Company History

1947

Lucky Chemical Founded
(start of LG Group)

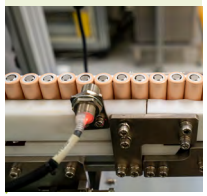
1992

Began Lithium-ion Battery Research

1996

Began Lithium-ion Battery Development

1999



Mass-production Cylindrical Lithium-ion batteries

2000

Established the US R&D Office

2004

Completed Construction of Nanjing Plant in China

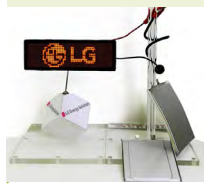
2009

Supplied the World's First Mass-Produced EV Batteries (GM Volt)

2012

Completed Construction of EV Battery Plant in the US

2013



Developed the World's First Future Batteries (Stepped, Curved, Wire Battery)

2017

Completed Construction of EV Battery Plant in Poland

2018

Developed the World's First Free-Form Battery

2020

December 2020
LG Energy Solution Established
Established 'Ultium Cells' with GM

2021

RE100
EV100

April 2021
Joined both RE100 and EV100 initiatives, as the first global battery manufacturer
September 2021
Signed MoU with Hyundai Motor Group and Indonesian Government to Establish EV Battery Cell Plant

2022

March 2022
Established NextStar Energy, an EV battery JV with Stellantis
August 2022
Signed MoU with Honda to establish in the US

2023

March 2023
Held groundbreaking ceremony for LG Energy Solution–Honda JV plant
May 2023
Signed MoU with Hyundai Motor Group to establish in the US

2024

2024
Groundbreaking of Arizona plant

Advanced Automotive Battery

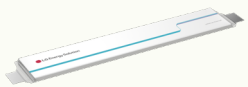
With our world-class battery technology and stable global production capacity, we will lead future mobility innovation and drive the widespread adoption of EVs.

We produce battery products worldwide which feature the latest technology such as long-cell batteries with maximized energy density and increased mileage. Our unparalleled technological competitiveness has enabled us to form strategic partnerships with the world's leading automakers, positioning us as the leaders in the global EV market. In addition, we produce cell, module, and pack that feature highly advanced technologies, and total battery solution where technology support and Battery Management System (BMS) are optimized. Through our total battery solutions and unmatched battery performance, we are at the forefront of pioneering new markets such as electric buses, trucks, ships, and Urban Air Mobility (UAM), driving innovation in future mobility.

Competitiveness

1	The best partner of global automakers
2	Optimized solution with cutting-edge technology
3	Global production sites located near customers and markets

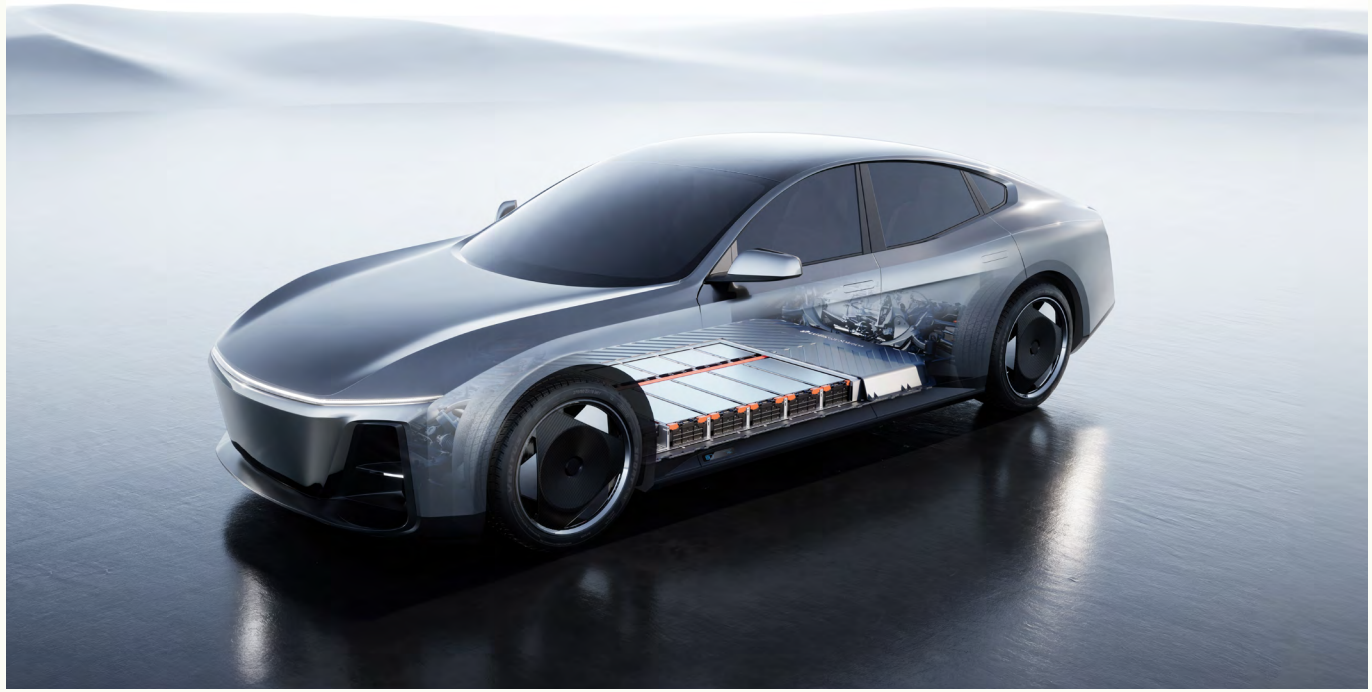
Product



Cell

Module

Pack



Mobility & IT Battery

With exceptional battery performance and creative design for material technology, we have opened the era of Battery of Things (BoT) technologies, including IT devices and Light Electric Vehicles (LEVs).

Since successfully developing the first lithium-ion battery in Korea in 1999, we have continuously led the innovation of wireless devices, including laptops, power tools, and cordless vacuum cleaners. Our world's first freeform battery is a high-performance and standardized battery that can be integrated seamlessly into various products, such as IT devices, home appliances, and LEVs, with minimized constraints to size and shape. In addition, leveraging our product technology, which fulfills the demand for high capacity, high power, and ultra-slim design, we are at the forefront of creating the BoT era. We achieve the growth of BoT by incorporating batteries into everyday products with new technologies such as drones, robots, and electric vehicles.

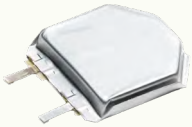
Competitiveness

1	Enhanced compatibility with various applications beyond size and shape
2	Battery design that improves space utilization
3	High-capacity, High-power, Ultra-slim battery with differentiated material technology

Product

Cylindrical

Pouch



Freeform

ESS Battery

Based on our ESS product lineup, we will expand the supply of renewable energy and the Smart Grid era.

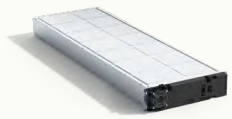
With our high-performance and high-quality battery production capabilities, LG Energy Solution has established close partnerships with customers who require ESS solutions for various applications such as power grids, commercial buildings, residential homes, and Uninterruptible Power Supply (UPS) systems. We are striving to achieve smart grid by securing technologies to repurpose end-of-life batteries into ESS and improving energy efficiency.

Competitiveness

1	Battery cells developed with cutting-edge technologies
2	Product lineup and total solution for customer convenience
3	Enhanced efficiency with compact size and high capacity

Product

Cell



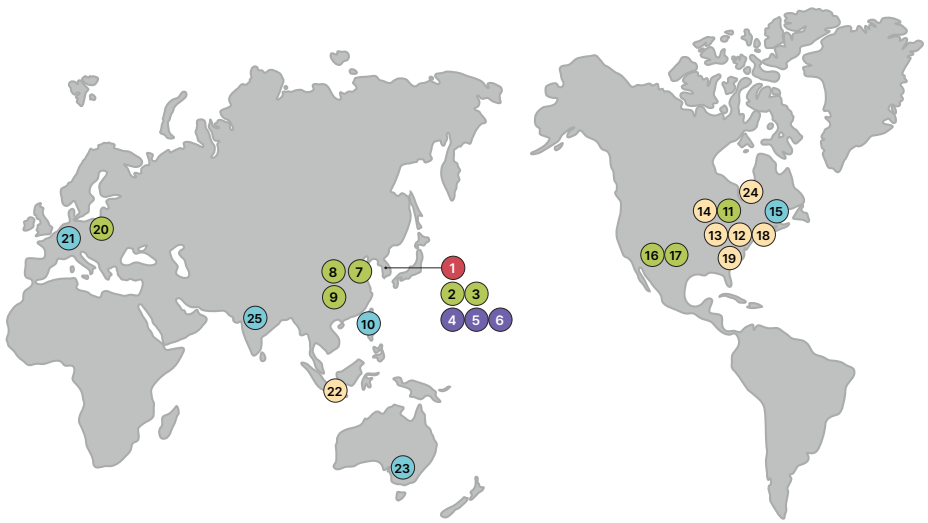
Pack

Rack

Global Business Network

LG Energy Solution is expanding our R&D, production, and sales bases in major regions worldwide - in the US, the EU, China, and Korea. There are approximately 24,000 employees in the overseas sites. This number accounts for about 68% of our total workforce of approximately 35,000 employees (as of December 2023).

- Headquarters
- R&D
- Production
- Sales
- Joint ventures



Total Employees	Overseas Employees	Countries
35,418	23,977	10

Total	Production	Joint Ventures	Sales	R&D	Headquarters
25	9	7	5	3	1

Separation	Name	Region	Separation	Availability
1	Headquarters	Seoul, South Korea	Headquarters	Operating
2	Ochang Energy Plant 1	Ochang, South Korea	Production	Operating
3	Ochang Energy Plant 2		Production	Operating
4	R&D Campus Daejeon	Daejeon, South Korea	R&D	Operating
5	R&D Campus Gwacheon	Gwacheon, South Korea	R&D	Operating
6	R&D Campus Magok	Magok, South Korea	R&D	Operating
7	LG Energy Solution (Nanjing) Co., Ltd.	Nanjing, China	Production	Operating
8	LG Energy Solution Battery (Nanjing) Co., Ltd.		Production	Operating
9	LG Energy Solution Technology (Nanjing) Co., Ltd.		Production	Operating
10	LG Energy Solution (Taiwan) Ltd.	Taipei	Sales	Operating
11	LG Energy Solution Michigan Inc.	Michigan, USA	Production	Operating
12	Ultium Cells LLC	Ohio, USA	Joint ventures	Operating
13		Tennessee, USA	Joint ventures	Under Construction
14		Michigan, USA	Joint ventures	Under Construction
15	LG Energy Solution Vertech Inc.	Massachusetts, USA	Sales, SI	Operating
16	LG Energy Solution Arizona, Inc.	Arizona, USA	Production	Under Construction
17	LG Energy Solution Arizona ESS, Inc.	Arizona, USA	Production	Under Construction
18	L-H Battery Company, Inc.	Ohio, USA	Joint ventures	Under Construction
19	HL-GA Battery Company LLC	Georgia, USA	Joint ventures	Under Construction
20	LG Energy Solution Wroclaw sp. z o.o.	Wroclaw, Poland	Production	Operating
21	LG Energy Solution Europe GmbH	Zulzbach, Germany	Sales	Operating
22	PT. HLI Green power	Karawang, Indonesia	Joint ventures	Operating
23	LG Energy Solution Australia Pty Ltd.	Victoria, Australia	Sales	Operating
24	Nextstar Energy Inc.	Ontario, Canada	Joint ventures	Under Construction
25	LG Energy Solution India Private Limited	New Delhi, India	Sales	Operating

* AS of December 31, 2023

Business Highlight

LG Energy Solution in Numbers

2.7 x

1 Sales grew by 2.7 times since spin-off in 2020

6 COUNTRIES

2 Global production network established

* Korea, China, Poland, the US, Canada, and Indonesia

30 YEARS

3 Battery research and expertise since 1992

30K+ PATENTS

4 Number of battery-related patents issued

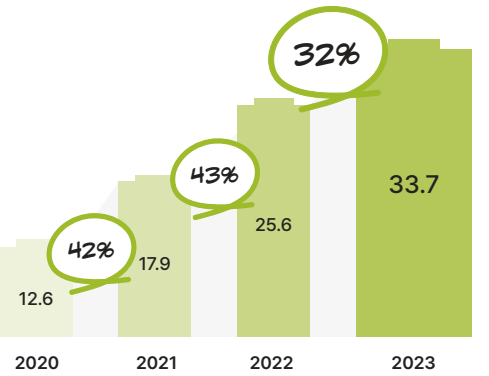
Continuous Business Growth (revenue)

12.6 trillion KRW (2020) → 17.9 trillion KRW (2021) → 25.6 trillion KRW (2022) → 33.7 trillion KRW (2023)

LG Energy Solution achieved 12.6 trillion KRW in sales in the year of our spin-off from LG Chem in 2020, and maintained an annual growth rate up to 30%, reaching 33.7 trillion KRW in sales in 2023.

Sales by year

Unit: trillion KRW



* The 2020 revenue represents the sum of the consolidated financial statements of LG Chem's sales division as of 2020, before the establishment of LG Energy Solution, and the consolidated financial statements following the K-IFRS as of December 2020, following the spin-off of LG Energy Solution.
* 2020 sales are based on the annual report.

Production Capacity

280GWh / Equivalent to approximately 3.5 million electric vehicles (2023) → 550 ~ 570GWh (Long-term plan)

LG Energy Solution is establishing and implementing a proactive global strategy to effectively respond to the increasing demand for Litium-ion batteries. We are steadily expanding our manufacturing capacity by establishing production facilities in the US and Poland with long-term plans to increase our capacity to the range of 550-570GWh.

Joint Venture (JV)

LG Energy Solution is strengthening core partnerships by establishing joint ventures (JVs) with suppliers to expand our global business presence. In 2019, we entered JV with General Motors (GM), starting with our first plant of Ultium Cells in Ohio, US. In March 2022, we built a production plant in Ontario, Canada, through a joint venture with Stellantis, and in 2023, we decided to establish a JV with Hyundai Motor Group in Savannah, Georgia, the US, we currently reached a total of seven JVs. We plan to expand strategic investments and further strengthen partnerships to secure our leadership in the global EV market.

LG Energy Solution JV Establishment Status and Plans

Year	Content
2019	• Ultium Cells (GM) Plant 1 - Lordstown, Ohio, US
2021	• Ultium Cells (GM) Plant 2 - Spring Hill, Tennessee, US • HLI Green Power (Hyundai Motor Group) - Karawang, Indonesia
2022	• NextStar Energy (Stellantis) - Ontario, Canada • Ultium Cells (GM) Plant 3 - Lansing, Michigan, US • L-H Battery Company (Honda) - Fayette County, Ohio, US
2023	• HL-GA Battery Company (Hyundai Motor Group) - Savannah, Georgia, US

Securing Stable Global Supply Chain

LG Energy Solution is securing a stable global supply chain for raw material supply and recycling in order to produce batteries that meet the increasing demand for Li-ion batteries. In July 2023, we entered into a long-term lithium purchase agreement with SQM, a world-renowned lithium producer in Chile, for a scale of 100,000 tons over seven years. This partnership is the single largest lithium purchase agreement that enables the capacity to supply batteries for over 2 million high-performance pure EVs. Through this agreement, we plan to receive a large-scale supply of not only lithium hydroxide, which is used as a raw material for "high-nickel and high-capacity electric vehicle batteries," but also lithium carbonate, which is mainly used for "llow-nickel and lithium iron phosphate (LFP) batteries." SQM, headquartered in Santiago, Chile, has lithium mines in countries such as Chile and Australia, which are signatories of the US Free Trade Agreement (FTA), and can meet the requirements of the US Inflation Reduction Act (IRA). Furthermore, SQM has secured advanced eco-friendly technologies, such as using solar power for 95% of the energy used in the lithium extraction process, contributing to the enhancement of our supply chain ESG competitiveness.

Status of Long-Term Partnerships for Stable Raw Material Procurement

Year	Month	Name	Content
2020	Oct	QPM	10-year supply agreement for 7,000 tons of nickel and 0.7 tons of cobalt
	Dec	Indonesian government	MOU to secure local nickel deposits for the Indonesia's local JV
2021	Jan	SQM	8-year supply agreement for 55,000 tons of lithium
		Solus Advanced Materials	$380 million contract for Hungary copper foil factory
		Shenzhen Capchem Technology	15% acquisition of shares in Polish electrolyte JV with Capchem
	Apr	QPM	20,000 tons of nickel secured for 6 years from 2023
	Jun	EcoPro	Partnership agreement for high steel recycling in battery manufacturing plants
		QPM	7,000 tons of nickel and 700 tons of cobalt secured annually for 10 years from 2025
2022	Jan	Liontown	700,000 tons of lithium ore (Spodumene) secured annually for 5 years from 2024
		Vulcan energy	45,000 tons of lithium hydroxide secured annually for 5 years from 2026
	Oct	Syrah Resource Limited	2,000 tons of natural graphite from 2025 started with continuous cooperation for expanding mass production
2023	May	Green Technology Metals	Start of supply of 2,000 tons of natural graphite from 2025, with continuous cooperation for expanding mass production
	Jul	SQM	25% supply of lithium ore produced for 5 years from 2026
2024	Feb	WesCEF	85,000 tons of spodumene supply for 1 year from 2024 50,000 metric tons of lithium hydroxide over 5 years from 2026
		Changzhou Liyuan New Energy Technology Co., Ltd.	160,000 tons of LFP battery cathode material over 5 years from 2024

AVEL (Add Value to Energy Label)

AVEL, established on October 2022, as an in-house startup of LG Energy Solution, is a business that integrates and manages renewable energy power grids and aims to discover future growth opportunities and expand the battery business ecosystem.
As a VPP (Virtual Power Plant) operator, AVEL participates in renewable energy bidding systems, contributing to the expansion and stabilization of renewable energy and actively engaging in government-led renewable energy policies. Starting in August 2023, AVEL has launched a pilot project in the Jeju area to predict renewable energy generation and manage it in conjunction with ESS. The company focuses on projects that improve wind power prediction levels to enable stable power supply and increase the utilization of renewable energy.

*Virtual Power Plant (VPP): A system that integrates distributed renewable energy power plants into a virtual space and operates them as a single power plant.

Major activities

End of 2022 - Early 2023	August 2023	October 2023	November 2023	March 2024	June 2024
Memorandum of Understanding (MOU) with Power Resource Owners and O&M Companies	Participation in Renewable Energy Generation Forecasting System	Explanation Session for Solar Recruitment to Participate in the Power Market	Winning the Long-duration BESS* Project in Jeju	Obtaining Electricity Business License for Standalone ESS	Participating in Jeju Renewable Energy Bidding Pilot Project
By signing MOUs with major power generation resource holders such as Jeju Energy Corporation, Namdong Power, Tamra Offshore Wind Power, and solar O&M companies in Jeju Island, we prepared for the inclusion of wind farms as AVEL's VPP resources even before the start of the Jeju pilot project in June 2024, and participated in the renewable energy generation forecasting system based on MOUs with inland wind and solar power plants and O&M companies outside Jeju Island.	AVEL passed the registration test for participation in the renewable energy generation forecasting system organized by the Korea Power Exchange in August 2023. The power generation forecasting system predicts the amount of renewable energy generation such as solar and wind power and receives payment according to the accuracy, and the registration test can be passed if the error rate of renewable energy generation forecast is 10% or less.	Before the Jeju pilot project started, a briefing session was held for the Korea Solar Energy Association and major solar O&M companies to recruit solar power plants to participate in the project.	Through the formation and activities of a Special Purpose Company (SPC), AVEL secured the BESS* project in Jeju.	AVEL has obtained the first-ever electricity business license for standalone ESS in Korea and plans to install our standalone ESS in the Jeju region. Starting in the second half of 2024, AVEL aims to operate the standalone ESS as part of the Jeju VPP, which is expected to be utilized to correct the prediction errors of power generated by renewable energy plants. This initiative seeks to address the issue of intermittency in renewable energy, facilitating its expanded adoption in the power grid.	As the largest VPP operator in Korea as of June 2024, we participated in the renewable energy bidding system of the Jeju pilot project to improve the electricity market system by organizing a mixed wind/solar aggregation resource.

* BESS (Battery Energy Storage System): A rechargeable battery system capable of storing and discharging energy, facilitating the securing of distribution capacity and enabling electricity cost savings through peak load shifting.

KooRoo

KooRoo is an independent internal company (CIC, Company-in-Company) established in October 2022 for the battery swapping station (BSS) business for electric two-wheelers. The main focus of the BSS business is to provide a service that allows riders to swap their depleted electric two-wheeler batteries with charged ones in just 30 seconds. This enables delivery riders to quickly exchange batteries without any waiting time. KooRoo is expanding collaborations with various two-wheeler manufacturers to increase the compatibility of KooRoo battery packs across different electric two-wheeler models. By the second half of 2024, three new electric two-wheeler models compatible with KooRoo battery stations are expected to be launched. Furthermore, KooRoo aims to enhance the safety of riders and citizens by providing optimized battery solutions that can monitor battery conditions using data collected from the battery packs.

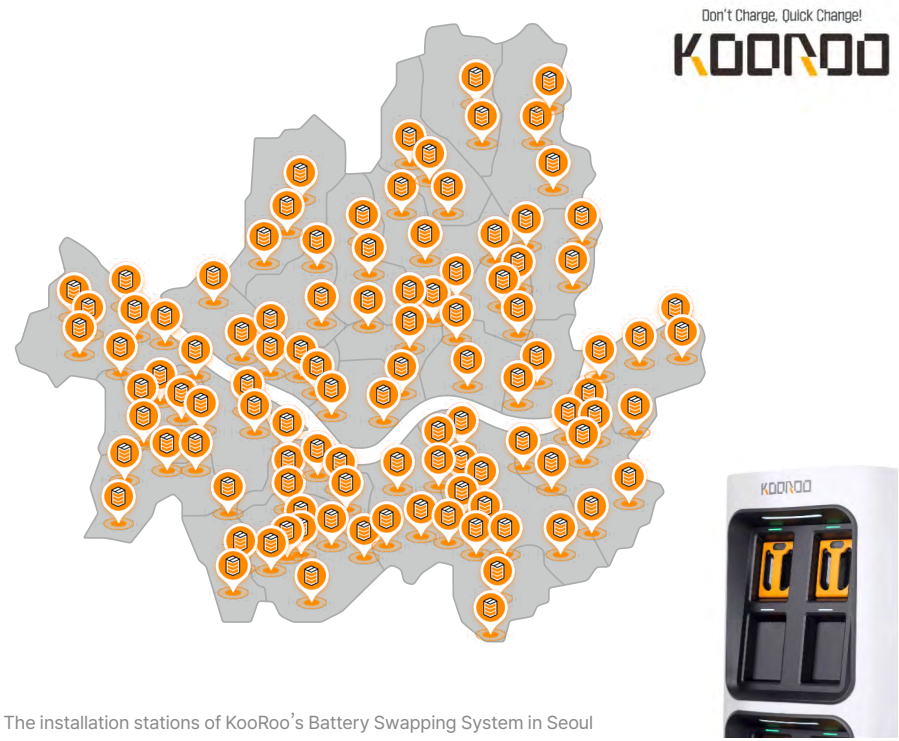
KooRoo Activity Goals

Throughout 2023, 200 battery swapping stations were installed across Seoul, enabling the swapping of depleted electric two-wheeler batteries with charged ones. By the end of 2024, additional 210 stations will be installed to secure leadership in the battery swapping business(BSS) in Korea.
KooRoo is expanding its business with two primary objectives:

1. Reducing Carbon Emissions from Internal Combustion Engine Two-wheelers in Seoul
Our primary goal is to reduce carbon emissions from the 120,000 delivery riders in Seoul who use internal combustion engine (ICE) two-wheelers. According to KooRoo's own calculations, single 125cc ICE two-wheeler emits approximately 4.1 tCO_2eq annually. Therefore, the total annual carbon emissions from the 120,000 delivery riders in Seoul using ICE two-wheelers is estimated to be around 490,000 tCO_2eq. By starting with the electrification of two-wheelers used by delivery riders in Seoul and eventually expanding it nationwide, we aim to contribute to reducing carbon emissions in Korea.

2. Expanding the BSS Ecosystem with Various Applications
We aim to expand the BSS ecosystem by identifying various applications beyond electric two-wheelers, thereby promoting electrification in everyday life. KooRoo's battery packs are continuously monitored to track their lifespan, and once they reach a certain level of usage, they are collected and repurposed for other uses. This approach aims to enhance resource recycling.

KooRoo is dedicated to ensuring business viability by expanding the BSS ecosystem and leading the way in reducing carbon emissions through the electrification of internal combustion engine two-wheelers.



The installation stations of KooRoo's Battery Swapping System in Seoul

Technological Innovation

R&D Status

Based on our three R&D innovation strategies, LG Energy Solution is enhancing our business competitiveness by focusing on core technologies such as next-generation high capacity and high safety material technology development and advancements in battery manufacturing processes. Furthermore, we are expanding our investment in R&D to explore new technologies and products that drive future growth, particularly in recycling, reuse, and next-generation batteries. We aim to contribute to a sustainable future by providing green and competitive solutions. We plan to achieve this vision by minimizing the environmental impact throughout the battery manufacturing process and promoting resource circulation in our battery ecosystem through end-of-life battery reuse and recycling technologies.

3 Core R&D Innovation Strategies

DEVELOPMENT OF BATTERY TECHNOLOGY FOR CUSTOMER VALUE INNOVATION

DEVELOPMENT OF UNPARALLELED BATTERY MATERIALS AND PROCESS TECHNOLOGY

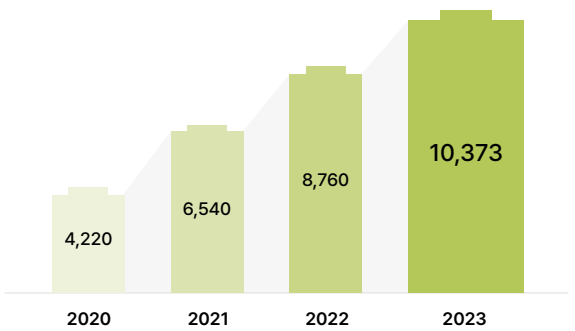
DEVELOPMENT OF NEXT-GENERATION BATTERY TECHNOLOGY

Expanding R&D Investment and Workforce

The R&D investment in 2023 reached KRW 1,037.3 billion, which is 18% larger than 2022, representing 3.0% of total sales. To drive R&D efforts, LG Energy Solution is established research organizations worldwide in the Advanced Automotive, Mobility & IT, and ESS batteries fields, including the CTO R&D organization in charge of cell advanced research center, Pack/BMS advanced research center, analysis, and technology strategy. As of 2023, there were 4,067 researchers, and we continue to focus on acquiring and retaining an outstanding talent pool. We will strive harder to fast bring the green energy era through active and continuous R&D investments.

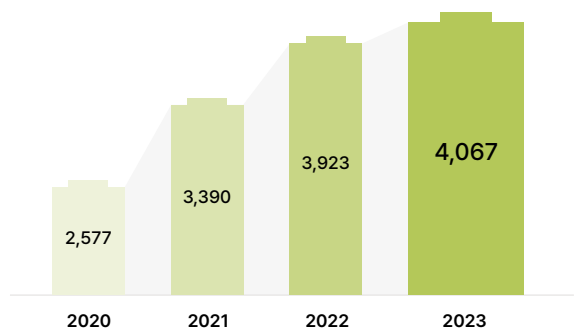
R&D expenses

Unit: 100 million KRW

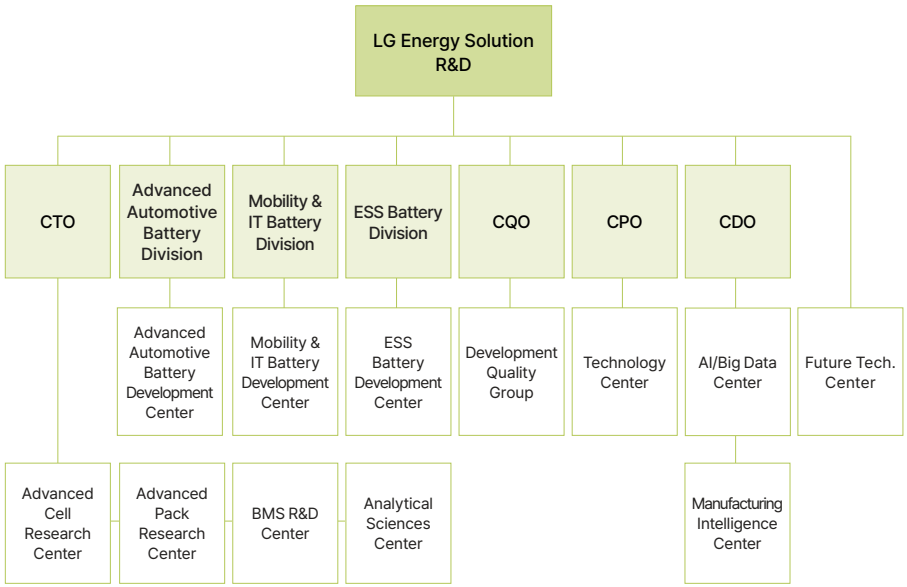


R&D Workforce

Unit: Person



R&D Organizations



R&D Areas and Application Status

LG Energy Solution is enhancing business competitiveness by strengthening our research in the fields of Advanced Automotive Batteries, such as Battery Electric Vehicles (BEV) and Plug-in Hybrid Electric Vehicles (PHEV), along with mobility & IT batteries for smartphones, e-mobility, power grids, and residential energy storage systems (ESS).

Battery Materials	Advanced Automotive Battery
Materials, Process, and Next Generation Battery, Pack / BMS, Advanced Research	BEV / PHEV Battery

Mobility & IT Battery	ESS Battery
Cylindrical Battery, Pouch Battery	Power Grid, Residential

Advanced Battery Technology Development

High-capacity high-nickel cathode material technology

LG Energy Solution is leading technology in NCMA (Nickel-Cobalt-Manganese-Aluminum), a high-capacity nickel-containing cathode material that increases energy density and adds aluminum to improve safety. We will continue to strengthen the technology to produce high-energy batteries with secured safety to further solidify our position in the premium market.

Silicon anode material technology

The Silicon anode material technology requires an innovative technology utilizing a patented method to maximize charge/discharge efficiency by significantly increasing the silicon oxide content in the anode material. We were the first to apply silicon-containing anode material to pure electric vehicle batteries in 2019, and we continue to develop technologies to increase the amount of silicon included.

New assembly technology

L&S (Lamination & Stacking) method minimizes unused space within the battery cell, maximizing energy density while maintaining battery durability during extended charging and discharging cycles. This method allows for high flexibility in design, making it ideal for various electric vehicles, from multi-model platforms to premium vehicles, and driving the popularization of electric vehicles.

Pouch Cell to Pack technology

The pouch Cell to Pack (CTP) technology is an advanced pack design technology that has recently gained great attention from the electric vehicle battery market. It is an advanced process technology that increases energy density and reduces battery weight and cost by removing the module stage from traditional battery configurations and assembling the battery cells directly into the pack. This CTP technology enables greater safety, best-in-class energy density, light weight, excellent structural stability, and reduced manufacturing costs, resulting in a highly competitive price point.

Battery Management Total Solution(BMTS) Technology

Due to the inherent characteristics of batteries, it is extremely difficult to perfectly anticipate and control the various potential issues that can arise during the production and usage stages. By expanding and advancing battery care technology, it is possible to reduce the probability of various potential issues for occurring during the battery usage stage to a virtually 100% risk-free level. Beyond the currently prevalent Battery Management System (BMS), we plan to provide a comprehensive Battery Management Total Solution(BMTS), which includes: 1) BMS services, 2) specialized safety diagnostics and state estimation software for each battery, 3) cloud services, and 4) solutions suitable for future mobility, such as Software Defined Vehicles (SDVs). These solutions will cater to the diverse needs of battery management.

Next-generation battery technology development

LG Energy Solution is leading the development of next-generation battery technologies to lead the future energy era. Firstly, solid-state batteries, which replace liquid electrolytes with solid ones, reduce the risk of fire and enable the use of new materials with higher capacity, potentially offering more energy than conventional lithium-ion batteries. Recently, we have developed second-generation solid-state technology using polymer bridging, which simplifies processes. This technology is expected to significantly contribute to the mass production and widespread adoption of solid-state battery technology.
Another next-generation technology is lithium-sulfur batteries, which use sulfur as the cathode and lithium as the anode in Li-ion batteries. These batteries have higher energy density per unit weight compared to conventional lithium-ion batteries, enabling lightweight designs and affordable prices, suitable for high-performance applications in future aerospace fields such as drones and UAM (Urban Air Mobility).

Through the above technologies and processes, we will continue to expand our influence in the future battery market by continuing our R&D investments that allows us to lead technological competitiveness.

CTP(Cell to Pack)

Open Innovation

LG Energy Solution is strengthening technology development collaboration with academia, industry, and startups. We host various open innovation programs to build networks with experts from various fields and support innovative ideas that can be commercialized.

The Battery Challenge

The Battery Challenge is a public competition program that engage our external networks designed to accelerate open innovation activities through the discovery and nurturing of startup seed technologies and technological collaborations with promising startups. Startups supported through the Battery Challenge are matched with our internal experts to evaluate their technologies. Subsequently, they engage in continuous collaboration such as joint R&D and equity investments for mutual growth. The program strengthens technological collaboration and investment activities within the battery industry, and it allows us to enhance overall brand value as well.

Battery Innovation Contest (BIC)

LG Energy Solution is working with universities and research organizations around the world to develop battery-related technologies through the Battery Innovation Contest (BIC). Through 2023, the BIC program has selected 26 innovative battery research projects to support project researchers to pursue more challenging research.

Enhancing Research Accessibility through Detailed Segmentation of Research Topics

LG Energy Solution is striving to drive innovation in battery technology by segmenting battery technology categories to enhance research accessibility. This approach aims to facilitate smoother collaboration with global battery researchers.

Frontier Research Lab (FRL), Industry-Academic Centers, Contract Departments

LG Energy Solution has established and operated the Frontier Research Lab (FRL), a long-term R&D program in various regions (US, Korea, Europe) since 2021 to collaborate with excellent battery-related researchers across domestic and overseas universities and institutions. We are researching all-solid-state batteries, lithium-metal batteries, and next-generation batteries at University of California San Diego, University of California, Santa Barbara, Korea Advanced Institute of Science and Technology (KAIST), and Münster Electrochemical Energy Technology and Helmholtz-Institute Münster in Germany. In addition, since 2022, we have established industry-academia centers with Seoul National University and POSTECH to develop lithium-ion battery and next-generation battery technologies while building R&D networks and fostering talented human resources, and established contract departments with Yonsei University and Korea University to operate long-term project cooperation programs.

Industry-Academia Cooperation Conference

In 2023, LG Energy Solution held the first industry-academia cooperation conference, inviting professors and students from 17 major universities in Korea to our company. Through the conference, we delivered the industry opinions to academia and created an opportunity for domestic leading battery researchers and employees to communicate and exchange ideas about the latest R&D trends and needs.

The first industry-academia cooperation conference

WE CHARGE TOWARD A BETTER FUTURE

As a global battery company, LG Energy Solution has established the ESG vision "We CHARGE toward a better future" to express our commitment to creating a sustainable and better future. We have identified eight key focus areas in environmental and social aspects and four enablers in the governance aspects to drive this vision.

8 CORE AREAS

4 ENABLER AREAS

C — CLIMATE ACTION & CIRCULAR ECONOMY

CLIMATE ACTION
2050 –
Achieve Carbon Neutrality

CIRCULAR ECONOMY
Closed loop across global sites

- Carbon negative strategy
- Achieve closed loop

H — HUMAN VALUE MANAGEMENT

HUMAN RIGHTS MANAGEMENT
Build human rights risk-free business sites

HUMAN CAPITAL MANAGEMENT
Promote diversity, equity and inclusion

- Corporate culture that embraces DEI

A — ADVANCED EH&S

PRODUCT STEWARDSHIP
Continuing to expand the product sutainability

ENVIRONMENT, HEALTH, AND SAFETY
Zero serious EH&S accidents

- Reinforcing product eco-friendliness
- Health and safety management of business sites
- Environment impact management
- Biodiversity conservation

R — RESPONSIBLE & IMPACTFUL BUSINESS

RESPONSIBLE SUPPLY CHAIN MANAGEMENT
Secure over 90% ESG low-risk group by 2030

SHARED GROWTH AND LOCAL COMMUNITY IMPACT
Reinforce shared growth and cooperation

- Sustainable value chain
- Shared growth
- Global social impact programs

G — GOOD GOVERNANCE

ENHANCEMENT OF COMPLIANCE MANAGEMENT & ETHICAL MANAGEMENT

STRENGTHENING THE GOVERNANCE SYSTEM

E — ESG DISCLOSURE & COMMUNICATION

TRANSPARENT ESG DISCLOSURE

STAKEHOLDER COMMUNICATION & PARTNERSHIP REINFORCEMENT

ESG Vision and Strategy

LG Energy Solution is committed to driving ESG management with the belief that our business growth contributes to a sustainable future for current and future generations.

ESG Governance

To systematically address the growing demand related to ESG, LG Energy Solution established an internal ESG Committee in June 2021. We also organized dedicated ESG departments and ESG Working Council to enhance the execution of strategies and initiatives.

ESG Committee

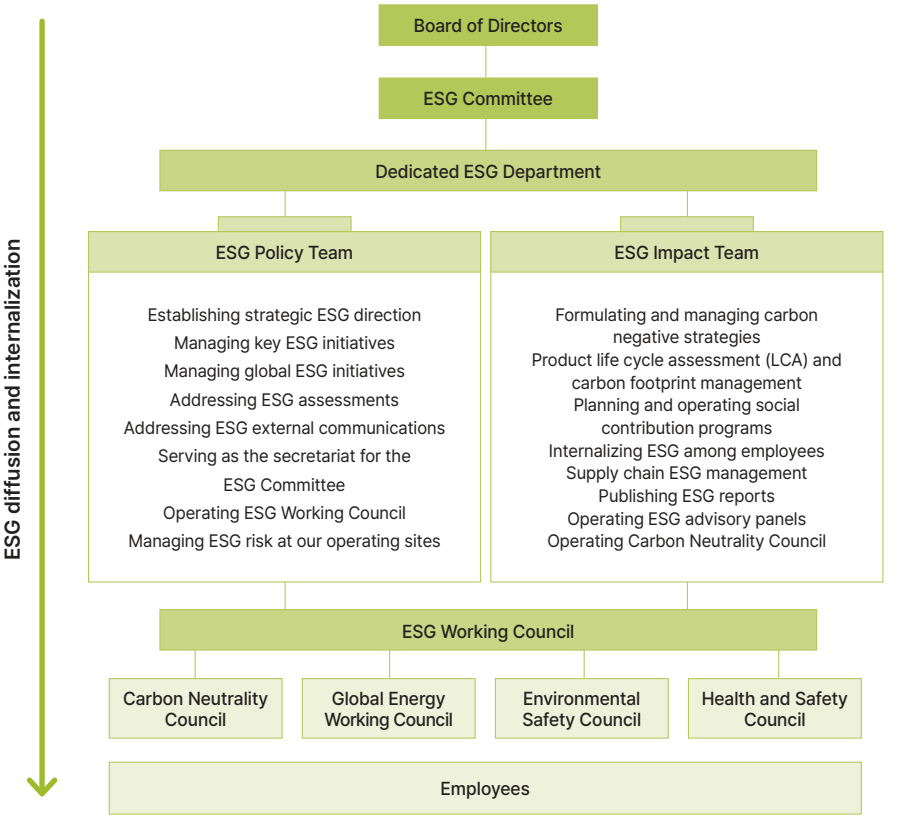
The ESG Committee formulates policies, strategies, and medium- to long-term goals in ESG areas such as environmental impact, human rights, safety and health, social responsibility, customer value, shareholder value, and governance. The Committee oversees and makes decisions on ESG agenda and programs. The ESG Committee consists of five members, where four of them are external directors. The ESG Committee meets bi-annually.

Dedicated ESG Department and ESG Working Council

ESG Department is responsible for establishing an ESG-focused strategy system and cooperating with relevant functional teams to faciliate progress related to ESG activities across the company. The ESG Working Council is composed of teams responsible for implementing ESG vision and strategies. They engage in quarterly meetings to assess the progress of ESG strategic initiatives, and share key issues and insights. In addition, a separate council is organized and managed to respond to key issues systematically.

All Employees

ESG management at LG Energy Solution is not achieved solely through the efforts of specific departments. To internalize an ESG-driven work style, a total of 51 ESG education sessions have been conducted, compliance training has been expanded to include ESG-related training, and the monthly publication of ESG Trend Focus has been on-going. These initiatives aim to create an environment where all employees can participate in and practice ESG.



CRO Message

Executive Vice President
Park, Jin Won

The enactment of ESG-related regulations such as the US' Inflation Reduction Act (IRA), the EU's Net-Zero Industry Act (NZIA), and the EU Battery Regulation is leading to new trade barriers and the restructuring of global supply chains. These regulatory changes are creating a management environment that can significantly impact the sustainability of businesses.

LG Energy Solution is closely analyzing various ESG regulations and market needs to establish and operate company-wide governance. We are identifying and managing core issues such as climate change and supply chain ESG as strategic ESG tasks.
To this end, we transparently and timely disclose related performance and plans to stakeholders according to global ESG disclosure standards, including the Global Reporting Initiative (GRI), the EU Sustainability Reporting Standards (ESRS), the Task Force on Climate-Related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board (SASB).
In the battery industry, ESG management is becoming increasingly important as a prerequisite to win contracts and a measure of corporate competitiveness. Therefore, LG Energy Solution is implementing programs to embed ESG within its employees and enhance the ESG competitiveness of its partners. For areas that elevate global ESG values, we are actively participating in various initiatives such as the UN Global Compact, the Global Battery Alliance (GBA), the Responsible Business Alliance (RBA), and Renewable Electricity 100% (RE100) to address societal issues and explore solutions collaboratively.

LG Energy Solution is committed to increasing the ESG value of the battery industry in collaboration with all stakeholders. We will continue to strive towards this goal with unwavering dedication.

Global External Relations/ ESG Department Leader Message

Vice President
Chun, Dong Wook

LG Energy Solution is striving to become a First mover in the ESG domain based on the ESG vision, "We CHARGE toward a better future."

In 2023, we identified and implemented 14 key ESG tasks of high importance, regularly reviewing progress. We introduced On-the-GO ESG Education and published a monthly ESG Trend Focus to foster an environment where all employees consistently recognize and participate in ESG activities.
We created carbon neutrality guidelines to enhance our suppliers' ability to respond to climate change, and in 2024, we will establish our own anti-greenwashing guidelines to manage ESG disclosures based on strict and systematic standards.
As ESG decision-making through the board is emphasized, we are upgrading the roles and responsibilities of the ESG Committee every year. The ESG Committee regularly receives reports on the direction and performance of ESG management, such as carbon negative strategy and compliance risk status, and approves the amendment of the RE100 roadmap and the enactment of the biodiversity policy in 2024, strengthening the Board's oversight function.

In particular, this year, we have fortified our governance to effectively address the quality, carbon footprint, and resource circulation requirements imposed by various ESG regulations. We are also closely communicating with our customers and partners.

LG Energy Solution remains committed to becoming the best practice in the battery industry. Together with all employees and partners, we will diligently practice ESG management to contribute to a sustainable future.

ESG Summary

ENVIRONMENTAL

Achieved CDP Climate Change
A- rating

Earned
16 cumulative EPD certifications
(As of 2023)

UL Platinum certified as a landfill-free sites
3 locations in Nanjing, China

SOCIAL

Established
Global Health and Safety Policy

Certified our own production sites
ISO 9001, 45001 100%

Created & Distributed
Collusion Prevention Guidebook

GOVERNANCE

Established
Anti-Bribery Policies and Guidelines

Received
Business Continuity Management Certification

Built and upgraded
ESG IT Intelligence System
(for ESG data)

Stakeholder Communication

LG Energy Solution defines all individuals and groups impacted by our business and management practices as important stakeholders and communicates with them. We engage with our to our stakeholders through various channels to reflect their expectations for LG Energy Solution's ESG practices.

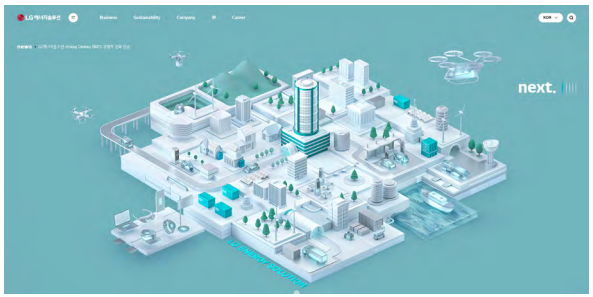
STAKEHOLDER	
Purpose / Expectation	Promotion of ESG Management Leading the Battery Industry Ecosystem
Communication Method	Official Company Website, ESG Report, SNS, Annual / Business Report

	SHAREHOLDERS/ INVESTORS	CUSTOMERS	EMPLOYEES	BUSINESS PARTNERS
Purpose / Expectation	Long-term Growth Transparent Disclosure	Communication Facilitation Addressing Climate Change Business Innovation and R&D	Human Capital Management Labor Management Relations Enhancement of Welfare Benefits Strengthening Safety, Health and Respecting Human Rights	Building Strategic / Collaborative Partnerships Management Support and Training Activities
Communication Method	Shareholder Meeting Conference Calls Financial / Non-financial data disclosure Annual / Business Reports	Receiving Customer Feedback CDP Reporting Annual / Business Report Industry Conference / Exhibitions	EnTalk (CEO Hotline) Labor-Management Council Junior Board Employee Satisfaction Surveys Industrial Safety and Health Committee	Business Partner Seminars Business / Technical Support Programs

	LOCAL COMMUNITIES/NGOS	ACADEMIA/EXPERTS	INDUSTRY ASSOCIATIONS	GOVERNMENT INSTITUTIONS	GLOBAL INITIATIVES
Purpose / Expectation	Establishing Social Contribution Strategies Community Engagement	Industry-Academia Cooperation	Adapting to New Regulations	Fair Trade and Regulatory Compliance Shared Growth	Collaboration for Global ESG Standard Compliance
Communication Method	Conducting Surveys and Gathering Opinions Collaborative Social Contribution Projects	Joint Research and Development	Industry and Sector Associations	Industry Policy Advisory Participation in Government Pilot Projects	Improving Opinions through Working Groups and BOD Participation Disclosure and Reporting Progress

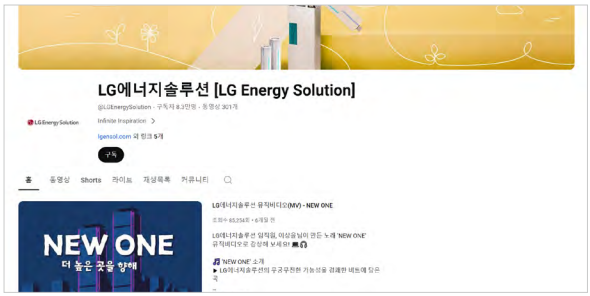
Communication

LG Energy Solution operates channels such as the website, Battery Inside (blog), and SNS (e.g., Facebook, YouTube, LinkedIn) to communicate with stakeholders, including our customers. In addtion, we participate in Korea and international industry exhibitions, conferences, forums, and more, aiming to meet and communicate with a wider range of stakeholders through diverse channels.



Website
www.lgensol.com/en/index
https://news.lgensol.com

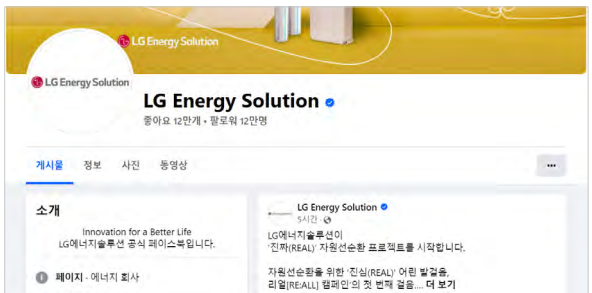
Quick Links



Youtube
www.youtube.com/lgenergysolution

Quick Links

InterBattery



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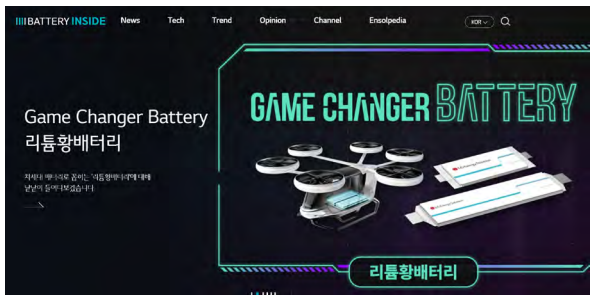

Battery Inside
inside.lgensol.com/en/

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Digital Virtual Exhibition Hall
virtual.lgensol.com

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Linkedin
https://www.linkedin.com/company/lgenergysolution/mycompany/

Quick Links

Naver Post
post.naver.com/lgensolpr

Quick Links

Instagram
instagram.com/lgenergysolution

Quick Links

Global Initiatives

ESG	**UN Global Compact** LG Energy Solution joined the United Nations Global Compact (UNGC) in April 2022, pledging to adhere to the ten principles of the UNGC in the areas of human rights, labor, environment and anti-corruption in all business activities. In addition, we support the achievement of United Nations Sustainable Development Goals (SDGs) and intend to disclose the related activities and achievements.
	GBA (Global Battery Alliance) LG Energy Solution participates as a member on the Board of Directors in the Global Battery Alliance (GBA), a multi-stakeholder collaboration platform of industry actors, governments, international organizations, non-governmental organizations, and other stakeholders aimed at building a sustainable battery value chain, and provides oversight to the Secretariat and all GBA activities representing the battery manufacturing industry. Through GBA activities, we monitor and respond preemptively to global policy and regulatory landscape of battery value chain contribute to establishing ESG standards, including on battery carbon footprint, human rights and child labor, and participate in the development of the GBA Battery Passport system.
Environ -mental	**RE100 (Renewable Electricity 100%) / EV100 (Electric Vehicle 100%)** LG Energy Solution was the first in the battery industry to join the RE100 and EV100 initiatives in April 2021 and is committed to source 100% of electricity renewably in all operating sites by 2030.
	TCFD (Task Force Climate-related Financial Disclosures) LG Energy Solution has disclosed information about our climate change management system in the ESG reports in accordance with TCFD recommendations, and, as of February 2023, was the first Korean battery manufacturer to officially declare support for the TCFD. We will continue to analyze business opportunities and risks caused by climate change and take the lead in climate action through various measures to achieve RE100 by 2030 and carbon neutrality by 2050.

Social	**RBA (Responsible Business Alliance)** LG Energy Solution is the first Korean battery manufacturer to join Responsible Business Alliance (RBA). RBA is the world's largest industry coalition dedicated to corporate social responsibility in global supply chains and comprised with over 190 global firms. We fully support the vision and goals of the RBA and are committed to driving sustainable value for workers, the environment and business throughout the global battery supply chain. We seek to progressively align our operations with the provisions of the RBA Code of Conduct and collaborate with suppliers and stakeholders to improve working and environmental conditions and business performance through leading ESG standards and practices.
	RMI (Responsible Minerals Initiative) LG Energy Solution has also joined RMI to procure minerals in ethical and transparent manner. RMI, an initiative under RBA, was established in 2008 to respond to human rights and environmental issues in the procurement process of minerals such as cobalt. Currently, over 400 companies worldwide have participated in this initiative.
	RLI (Responsible Labor Initiative) LG Energy Solution was the first Korean battery company to participate in RLI to improve the labor conditions and protect human rights in the global supply chain. RLI, an initiative under the RBA, was established in 2017 to respond to issues regarding forced labor, child labor, and working conditions. More than 180 global companies are participating members.
	FCA (Fair Cobalt Alliance) LG Energy Solution is the first Korean company to join FCA in May 2022 with a view to contributing to the eradication of forced labor and child labor in artisanal and small cobalt mines in the Democratic Republic of the Congo and to bringing sustainable changes to the local socioeconomic systems through community support activities.

Environmental

Climate Action 33

Circular Economy 46

Environmental Management 50

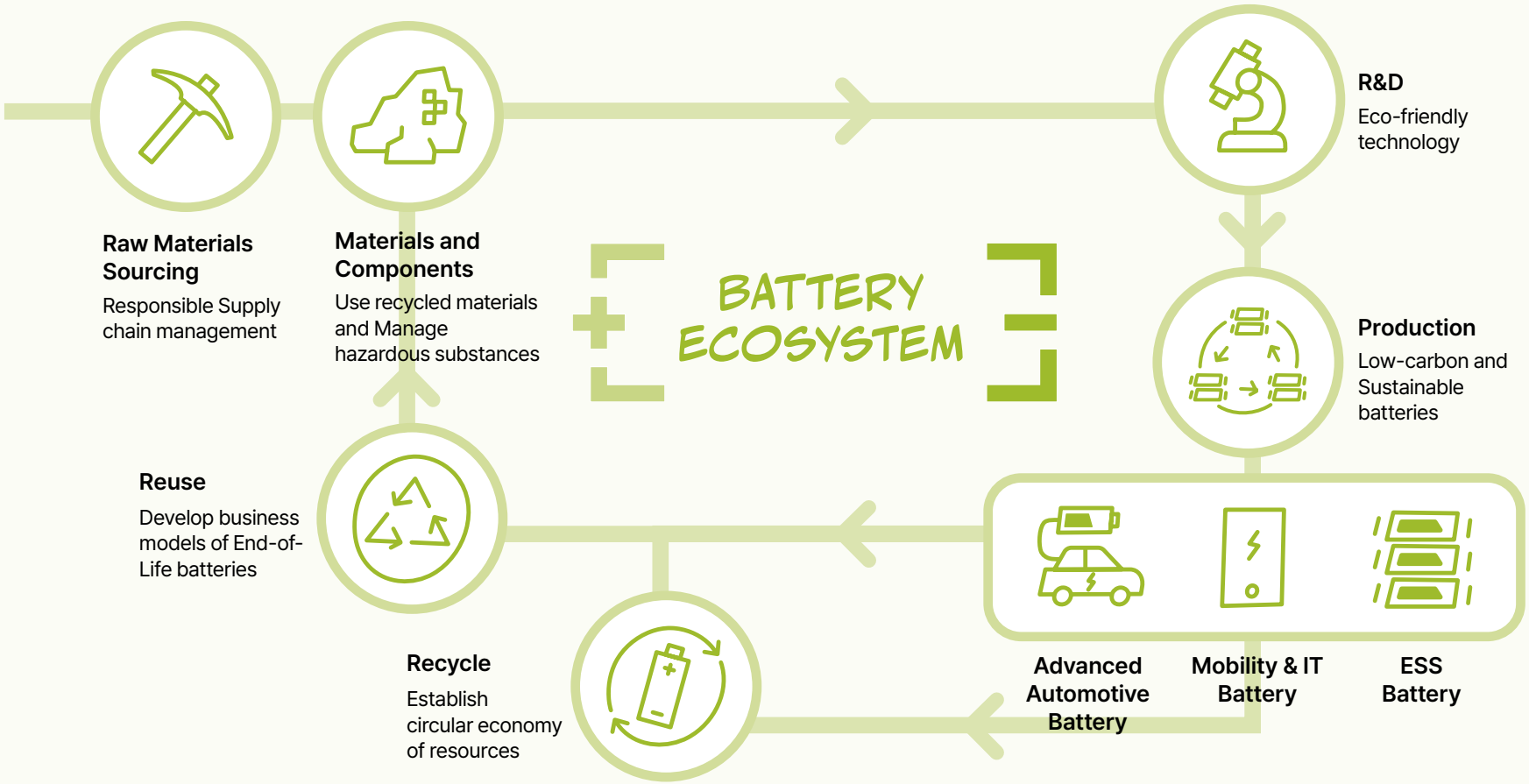
Safeguarding Natural System 54

Biodiversity Conservation 59

Various environmental risk, such as global warming, have become immediate realties, LG Energy Solution is committed to addressing global environmental issues like climate change, resource depletion, and ecosystem destruction through our environmental management philosophy of 'Reduce Carbon Footprint and Add Nature.'

Battery Ecosystem

LG ENERGY SOLUTION IS DEDICATED TO ESTABLISHING A CIRCULAR BATTERY ECOSYSTEM THROUGH THE REUSE, DIAGNOSTICS, SORTING, REFURBISHING, AND RECYCLING OF END-OF-LIFE BATTERIES. WE ARE COMMITTED TO DEVELOPING BUSINESS MODELS THE OPTIMIZE THESE PROCESSES.



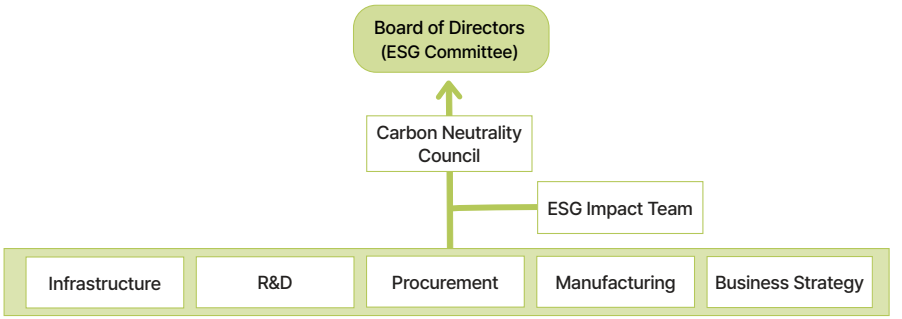
Climate Action

LG Energy Solution aims to achieve carbon neutrality throughout our entire value chain by 2050. Ultimately, we strive to go beyond carbon neutral and contribute to carbon reduction of various stakeholders by targeting carbon negative.

Climate Management Governance

The establishment of LG Energy Solution's carbon neutrality goals and carbon reduction activities are determined and operated based on a transparent and efficient governance system.

Climate Management Organization Chart



Role of the Board of Directors

The Board of Directors, the highest decision-making body, makes the final decisions on climate change response strategies, investments, and major activities. Additionally, the Board has an ESG Committee that reviews the direction of climate change response strategies semi-annually and manages the approval and implementation of major tasks.

The Carbon Neutrality Council

The Carbon Neutrality Council, composed of internal departments related to climate change, drafts policies necessary to achieve carbon negative, implement these tasks, and discussing ESG agendas. The ESG Impact Team, acting as the secretariat for the Carbon neutrality council, internally collaborates with related departments across the global sites and subsidiaries to establish and manage a monitoring system for the company's GHG emissions details and RE100 conversion rate. In addition to establishing a climate change response strategy, the ESG Impact Team also analyzes risks and opportunities caused by climate change as recommended by the TCFD (Task Force on Climate-related Financial Disclosures) guidelines. We communicate with internal and external stakeholders with these climate disclosures.

Excutive Board and Functional Departments

The Executive Board and the Functional Departments within the Carbon Neutrality Councill are responsible for developing and implementing the Carbon Negative Strategy and executing the Energy and GHG management system. Also, they set climate change-related targets and monitor their progress.

ESG Committee Reporting and Approval

LG Energy Solution has been reporting to the ESG Committee on the management and supervision of climate change response strategies and key tasks. The management reported launching plan of ESG report based on TCFD in the first half of 2023(March) and carbon negative strategy implementation result in the 2nd half 2023, and roadmap of RE100 revisions for approval in the 1st half 2024.

Year	Category	Description
March 2022	Report	Reporting on climate management tasks such as greenhouse gas reduction, energy efficiency management/improvement, and carbon emission reduction.
October 2022	Report	Reporting on the implementation of the 2022 carbon negative strategy.
March 2023	Report	Reporting on the plan to publish the ESG report based on TCFD index.
October 2023	Report	Reporting on the implementation of the 2023 carbon negative strategy.
April 2024	Approval	Approval of the RE100 roadmap amendment.

Climate Risk Management

LG Energy Solution categorized climate change-related risks and opportunities, in particular, 'Physical Risk' arising from the failure to respond to climate change and 'Transition Risk' arising from social and economic changes in the process of implementing climate change responses, by referring to the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and the EU Taxonomy climate-related risk table. To understand the impact of these categorized risks and opportunities and to establish countermeasures, we analyzed climate change risks through a five-step process as follows.

Climate risk identification process

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Identifying Climate Change Issues	**Defining Key Climate-related Risks**	**Climate Materiality Assessment**	**Scenario Selection**	**Impact Assessment and Response Measures**
Identifying climate change issues by conducting interviews with internal employees and stakeholders, and utilizing a pool of climate-related issues.	Relevant issues were selected by referring to the TCFD guidelines and utilizing the reference pool of transition risks, physical risks, and opportunities.	Conducting climate-related materiality assessment by internal and external stakeholders by scaling the likelihood and impact of each issue.	Comparing and Selecting scenarios that reflect our materiality assessment issues.	Identifying short- / medium- / long-term impacts based on the selected scenario analyses and establishing corporate response plans.

Identification and Materiality Assessment of Climate Risks

Based on the TCFD guidelines and the EU Taxonomy's Appendix A: Classification of Climate-Related Hazards, LG Energy Solution identified 31 risk and opportunity factors by conducting peer analysis on same industry, stakeholder surveys, and literature reviews. These factors were assessed for materiality (likelihood and impact) from short-term (~2027), mid-term (~2040), and long-term (~2050) perspectives, targeting stakeholders (employees and external experts).

Pool of Climate Risks and Opportunities

Categories		No.	Business Impact
Transition	Policies and Laws	T1	Increased total costs due to rising carbon prices
		T2	Introduction and expansion of direct and indirect regulations to reduce carbon emissions
		T3	Expansion of corporate activities' disclosure obligations regarding carbon emission reductions
		T4	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction.
	Market	T5	Increased total costs due to higher raw material costs driven by increased demand for low-carbon materials
		T6	Increased procurement costs due to higher demand for renewable energy and hedging costs for volatility
		T7	Decreased demand for existing products due to increased consumption of low-carbon/ eco-friendly products
		T8	Increased CapEx and OpEx due to development, installation, and operation of new low-carbon facilities
	Technology	T9	Increased total costs for developing and applying carbon-related technologies
	Reputation	T10	Investment and business risk due to unfulfilled carbon neutrality or unmet carbon emissions targets
		T11	Increased conflicts and misalignment due to discrepancies among corporate, investor carbon-related policies, and strategies
		T12	Increased reputation risks due to failure to meet the carbon roadmap, such as declining renewable energy procurement rates
Physical	Acute	P1	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall
		P2	Increased likelihood of floods and snow damage caused by heavy rainfall
	Chronic	P3	Prolonged periods of high temperatures
		P4	Increased likelihood of loss from persistent hot and dry climate conditions (ex. Wildfires)
		P5	Increased difficulties in water supply due to abnormal temperatures
		P6	Increased occurrences of extreme climate events (ex. heat, cold, floods, droughts, humid, moisture)
		P7	Increased likelihood of direct and indirect loss from rising sea levels (ex: flooding)
		P8	Increased prevalence of heat-related and cold-related illnesses
		P9	Increased fluctuations in precipitation, temperature zones, and relative humidity due to climate zone shifts (temperate to subtropical)

Categories		No.	Business Impact
Opportunity	Resource Efficiency	O1	Reduced production costs through energy optimization and fuel-to-electricity conversion
		O2	Strengthened mandatory use of recycled raw materials and exploration of water reuse methods
		O3	Improved transportation methods and reduction of carbon emissions
	Energy Sources	O4	Enhanced renewable electricity source and better-equipped procurement system and infrastructure
		O5	Increased conversion to low carbon raw materials and eco-friendly fuel
		O6	Reduction in carbon emissions and costs through the use of low-carbon energy sources and securing additional revenue streams from proactive investments
	Products and Services	O7	Increased demand for EV and ESS technologies
		O8	Increased number of newly-invented applications using batteries such as the smart mobility
	Market	O9	Increased incentives to companies that use renewable energy (ex: tax redemption)
		O10	Increased opportunity to sell carbon credits created from internal or external business sites

Climate Materiality Assessment Results

Based on the results of the materiality assessment, risks were analyzed from short-term, medium-term, and long-term perspectives according to the probability and impact, and the top 10 items were derived based on the sum-product of the 'Likelihood' and 'Impact'.

No.	Categories	Short-term	Medium-term	Long-term	Total
T3	Transition Risk	14.43	18.57	20.75	53.75
T4		13.68	18.49	20.85	53.02
T2		13.44	17.82	19.45	50.71
T5		12.32	16.72	18.30	47.34
T6		11.94	16.44	18.20	46.58
T1		12.41	16.17	17.00	45.58
T10		11.04	14.52	16.99	42.55
O7	Opportunity	10.00	13.76	18.31	42.07
P8	Physical Risk	10.74	14.01	15.55	40.31
P3		10.79	12.98	14.03	37.81

Business Impact and Managerial Approach based on Scenario Analysis

LG Energy Solution analyzed various climate scenarios for 10 selected material issues to figure out the business impacts. Through this assessment, we planned to establish managerial approaches responses to the uncertain future of climate change and strengthen our management system to risks and opportunity factors. To analyze transition risks, we utilized estimated carbon prices from 2030 to 2050 based on the International Energy Agency's (IEA) Net-Zero Emissions (NZE) scenario, Announced Pledged Scenario (APS), and Stated Policies Scenario (STEPS), which assumes the goal of achieving carbon neutrality in 2050. To analyze physical risks, we used the Representative Concentration Pathways (RCP) scenarios (RCP 2.6, RCP 4.5, RCP 8.5) from the Fifth Assessment Report (2014) of the Intergovernmental Panel on Climate Change (IPCC).

Climate Change Scenarios

Scenario	1.5°C	2.0°C	4.0°C
Overview	A global transition to a net-zero carbon economy begins immediately, and the rise in earth's temperature is controlled to below 1.5°C in line with the Paris Agreement.	Policy measures are implemented to achieve the currently declared national targets for emission reductions, but more advanced policies are not enacted, resulting temperature rise of over 2°C.	Due to limited influence and effects of currently implemented policies and measures, temperature rise of over 4°C expected.
Key Assumptions	The entire world cooperates for carbon neutrality, and various efforts to reduce emissions are underway.	Relatively gradual and continuous policy implementations are carried out, but the frequency and impact of climate physical risks become evident.	Since policy measures that could cause transition risks are not implemented, transition risks are relatively low, but physical risks due to climate change occur more frequently in more extreme phenomena
Temperature Increase by 2100 Compared to Pre-Industrial Levels	**1.5°C temperature rise**	**2°C or higher temperature rise**	**4°C or higher temperature rise**
Risk Trends	more transition risks	moderate level	more physical risks
Transition	NZE	APS	STEPS
Physical	RCP 2.6	RCP 4.5	RCP 8.5

Short, Medium, Long-term Impacts of Climate Risk and Opportunities and Managerial Approach

LG Energy Solution has analyzed the business impacts and managements' response strategies (approaches) by analyzing the 10 material issues based on climate change scenarios.

Transition risk analysis

LG Energy Solution conducted a scenario analysis on the risks of transitioning to a carbon-neutral era based on the IEA scenario. As the transition to a low-carbon society accelerates, the carbon related regulations are expected to be newly enacted and expanded, thereby increasing the demand of renewable energy and low-carbon raw materials as well as its cost. As a response, we have established a carbon negative strategy that includes the RE100 roadmap, which aims to use 100% renewable electricity at all business sites by 2030, and will promote carbon neutrality at our business sites, including energy use efficiency in key manufacturing processes and conversion to hydrogen and eco-friendly fuels. In addition, with the implementation of new carbon-related regulations, such as the EU Battery Regulation, and the mandatory disclosure of carbon footprint and Scope 1, 2, and 3 GHG emissions due to the EU Corporate Sustainability Reporting Directive (CSRD), the public disclosure of corporate activities to reduce GHG emissions is expected to expand, and we will respond by establishing a climate information disclosure system to transparently disclose corporate carbon reduction activities.

Risk / Opportunity factors		Short term	Mid term	Long term	Business impact	Response status	Financial impact
Transition	Expansion of corporate activities' disclosure obligations regarding carbon emission reductions	◑	◑	●	Increasing internal information management costs, and certification costs to respond to carbon disclosure requirements	Promotion of internal carbon management system to respond to domestic and international regulatory policies and information disclosure requirements	expense ↑
	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction	○	◑	●	Deteriorating competitiveness and revenue loss from decreased orders and contracts due to failure to meet customer demands	Active response to external demands by enhancing communication on carbon reduction status and plans with customers and stakeholders	expense ↑
	Introduction and expansion of direct and indirect regulations to reduce carbon emissions	○	◑	◑	Increasing CapEx and OpEx due to investment in new facilities or alternative raw materials procurement to comply with the emerging regulations	Continuous monitoring of newly established carbon regulations and development of carbon reduction technologies domestically and internationally	expense ↑
	Increased total costs due to higher raw material costs driven by increased demand for low-carbon materials	○	◑	◑	Decreasing profitability due to procurement of low-cost, low-carbon raw materials that meet carbon emissions targets	Encouragement and support of suppliers' transition to RE100 and joint efforts with suppliers in the development of lowcarbon materials through continuous R&D	expense ↑
	Increased procurement costs due to higher demand for renewable energy and hedging costs for volatility	○	◑	◑	Declining profitability due to increased procurement costs for renewable energy needed to achieve RE100 and carbon reduction targets	Prioritization of energy efficiency to optimize usage, efforts to secure renewable energy under conditions of mid-to-long term stable procurement such as power purchase agreements (PPA)	expense ↑
	Increased total costs due to rising carbon credit prices	○	◑	◑	Increasing costs for exceeding emission permit trading quotas	Promotion of emission reduction through energy efficiency, introduction of renewable energy, and external reduction performance certification to minimize emissions	expense ↑
	Investment and business risk due to unfulfilled carbon neutrality or unmet carbon emissions targets	○	◑	◑	Increasing concerns and actions taken by stakeholders such as through shareholder letters, proxy voting, and potential capital dis-allocation or divestment	Establishment and maintenance of a leading position in the low-carbon	capital ↓

○ : low impact, ◑ : medium impact, ● : high impact

Physical risk analysis

To assess the physical risks posed by climate change, LG Energy Solution evaluated the impact of acute hazards such as typhoons, hurricanes, heavy rains, and forest fires, as well as gradual hazards such as changes in rainfall, temperature changes, and sea level rise. The assessment found that prolonged high temperatures would increase Heating, Ventilating, and Air Conditioning (HVAC) costs for cooling and humidity control and increase the frequency of heat-related illnesses among workers. These impacts were assessed as both more likely to occur and more severe in terms of their potential impact on operations, supply chain, and business continuity under the more extreme 4.0°C scenario than the 1.5°C scenario. With these anticipation, we will optimize the efficiency of production and utility facility operations to minimize cost increases, maintain appropriate indoor temperatures and create appropriate working environment requirements to prevent climate change-related productivity declines and increase in the frequency and severity of tropical cyclones such as typhoons and hurricanes and torrential rains, which are expected to cause not only damage to assets in the workplace but also production disruptions. Also, we also operate Emergency Response Committee that makes decisions on risk response measures as company-wide crisis management regulations not only to prepare in advance, but also respond quickly when they occur.

Risk / Opportunity factors		Short term	Mid term	Long term	Business impact	Response status	Financial impact
physical	Increased prevalence of heat-related and cold-related illnesses	○	◑	◑	Decreasing productivity and production interruption due to worker heat-related illness	Promote employees to work in a safer and more comfortable environment by preventing the spread of workplace illness and adjusting working environment (working from home/base office or adjusting attendance rate) according to the appropriate working environment requirements (temperature, humidity, and weather, etc.) for each workplace.	sales ↓
	Prolonged periods of high temperatures	○	◑	◑	Increasing costs for air conditioning and humidity control	Optimization of operation efficiency for production and utility facilities along with the maintenance of appropriate indoor temperatures	expense ↑

○ : low impact, ◑ : medium impact, ● : high impact

Opportunity factor analysis

Given our industry characteristics, the industry's transition due to climate change is expected to lead to an increased demand for products that contribute to carbon reduction, such as Electric Vehicles (EVs) and Energy Storage Systems (ESS). Additionally, we anticipate an expansion of new applications for batteries in smart mobility solutions, including EVs and Urban Air Mobility (UAM).

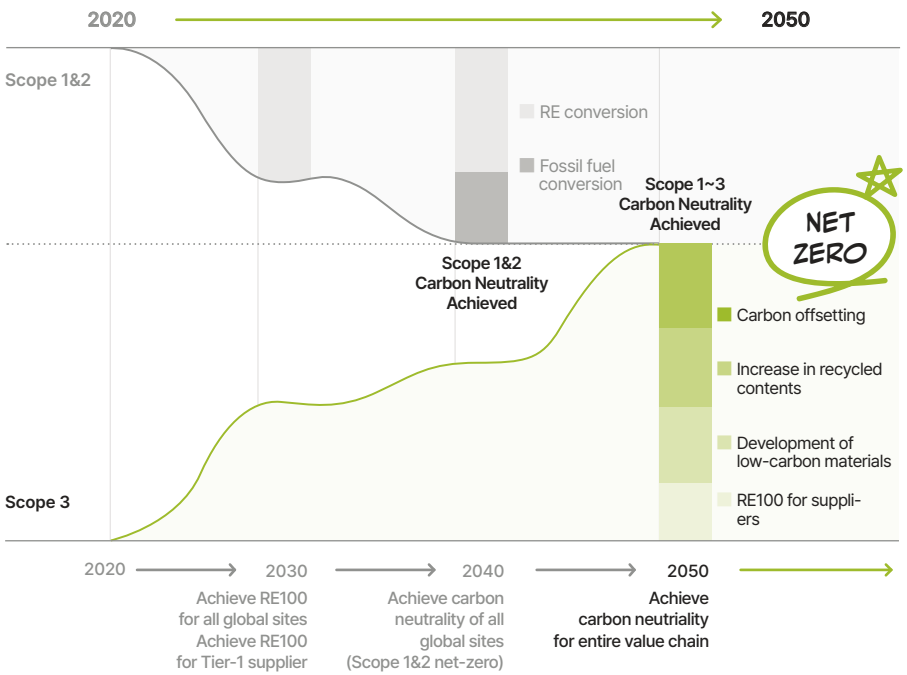
Risk / Opportunity factors		Short term	Mid term	Long term	Business impact	Response status	Financial impact
Opportunity	Increased demand for EV and ESS technologies	○	◑	●	Increasing revenue and sales growth due to increased demand for ESS from intermittent supply for EV batteries and renewable energy	Timely ramp-up of own production capacity to meet surging demand and establishment of joint ventures with overseas customers.	sales ↑

○ : low impact, ◑ : medium impact, ● : high impact

Carbon Negative Strategy

In 2015, 196 countries entered into the Paris Agreement, committing to limit the rise of global temperature to no more than 1.5°C above the pre-industrial levels (1850-1900), and laying out a pathway to globally reduce carbon emissions by at least 45% below 2010 levels by 2030 and achieve net-zero emissions by 2050. In response, South Korea, the EU, Japan, and others agreed to declare their intentions to achieve net-zero emissions by 2050 and to submit voluntary Nationally Determined Contributions (NDCs) reflecting the national ambitions.
At the UNFCCC COP28 in 2023 held in Dubai, United Arab Emirates, 198 Parties adopted the 'UAE Consensus,' which called for accelerating the transition away from fossil fuels in energy systems by 2030 to achieve the 1.5°C global temperature increase goal. At COP28, leaders also agreed to triple the renewable energy capacity globally by 2030, double the energy efficiency, and accelerate low-carbon technologies such as nuclear power and Carbon Capture Utilization and Storage (CCUS).
To join global climate change response efforts, LG Energy Solution has set a corporate's baseline of 2021, after our spin-off from LG Chem (December 2020), based on the analysis of the mid- to long-term battery market forecast and business plan through 2050. We have established a carbon negative strategy to reduce GHG emissions by 53% from the baseline by 2030, including achieving RE100 at all global sites, achieve carbon neutrality within the scope of LG Energy Solution by 2040, and go beyond carbon neutrality by supporting carbon reduction activities in local communities by 2050.

* Scope of business sites applying carbon negative strategy: Domestic and Overseas production, Sales, R&D, JV



	2030	2040	2050	Post-2050
LG Energy Solution	· Achieve RE100* / EV100 at all business sites · Achieve 53% emission reduction from BAU emission	· Achieve Scope1&2 carbon neutrality (Scope 1&2)	· Achieve carbon neutrality throughout the value chain (Scope 1-3)	· Achieve carbon negative
Suppliers	· Achieve RE100 for Tier-1 suppliers * Core battery materials (ex. CAM, AAM, Cu-Foils)	· Achieve RE100 of core value chain		

* RE100(Renewable Electricity 100%), EV100(Electric Vehicle 100%)

Carbon Negative

The term refers to the most active state of carbon emissions reduction goal where the company removes more carbon than the amount of carbon emitted solely from our operations. It reflects our ongoing effort to from our operations.

Scope 1, 2, 3

Scope 1: Greenhouse gases emitted directly from a company's own business sites
Scope 2: Greenhouse gases emitted indirectly from a company's energy source such as electricity and steam
Scope 3: Greenhouse gases emitted indirectly from a company's value chain activities

Carbon Neutrality Strategy by Phase

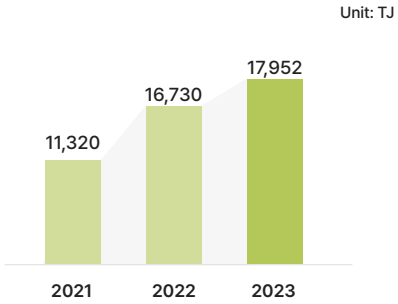
Most of the greenhous gas (GHG) emissions during battery manufacturing derived from the use of heat and electricity in the production process. Approximately 70 to 80% of total GHG emissions are indirect emissions (Scope 2) due to electricity use, while the remaining 20 to 30% are direct emissions (Scope 1) due to fuel combustion such as LNG and gasoline. Therefore, in order to achieve carbon neutrality, LG Energy Solution plans to shortlisting energy reduction measures that could minimize energy uses in processes and replace conventional energy sources such as regular electricity and fossil based fuels to renewable energy sources. In addition, we will annually update our carbon neutrality strategy and targets and report them to the ESG Committee collaborate with relevant departments through the Carbon Neutrality Council to achieve company-wide carbon neutrality.

2030 Goals

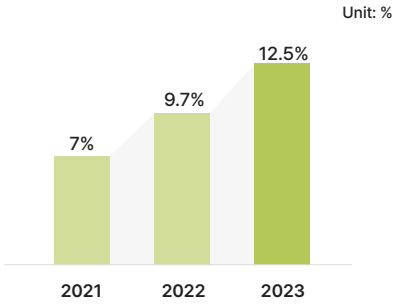
LG Energy Solution (Scope 1, Scope 2)

In April 2021, LG Energy Solution becames the first in the global battery industry to join the RE100 and EV100 initiatives. We committed to transitioning 100% renewable electricity used in all operations, including new business sites, and to convert 100% of the owned and leased vehicles under 3.5 tons and 50% of vehicles between 3.5 and 7.5 tons to eco-friendly vehicles. In order to achieve RE100 by 2030, we installed on-site solar generation system within production sites and procured renewable energy certificates (RECs) and green tariffs to achieve a company-wide RE100 conversion rate of 56% in 2023. Furthermore, we will continue to explore and expand power purchase agreements (PPAs) to securely sourcing renewable electricity in-long-term and to contribute carbon emissions reductions.

3-year trend of renewable energy power usage



3-year trend in electric vehicle conversion rate



To contribute GHG emission in the transportation sector, we plan to gradually replacing vehicles used in business sites for work-related and executive to electric vehicles, expanding the proportion of electric vehicles to the total number of vehicles operated at our business sites from 7% in 2021 to 12.5% in 2023, and improving related infrastructure by installing electric vehicle charging stations expanding to all global sites.

Suppliers (Scope 3)

LG Energy Solution plans to transition all electricity used in raw material production and components supplied by all Tier-1 suppliers to 100% renewable electricity by 2030. This includes not only core materials such as cathode active materials, anode active materials, copper foil, and separators used in battery manufacturing but also remaining materials and components such as electrolytes and aluminum foil. We will support these suppliers to achieve RE100. Additionally, we have been following up whether supplier's mid- to long-term renewable energy transition plans were well established, including the annual renewable energy transition rates and its transitioning measures to renewable energy from 2025 onwards.

Year	Activity
2022	The renewable energy transition performance and plans of the tier-1 suppliers were reviewed, along with voluntary carbon reduction activities such as Life Cycle Assessment (LCA) analysis status and Environmental Product Declaration (EPD) certification plans. Specifically, the annual power consumption and purchase quantities of suppliers were used to calculate the average electricity consumption per unit weight of materials and components. This allowed for an analysis of the carbon emission impact for each material and process.
2023	To raise awareness of carbon neutrality and RE100 among our suppliers, we have established and distributed a carbon neutrality guide for them.
2024	We plan to monitor carbon emissions information throughout our supply chain by collecting the results of Life Cycle Assessments (LCA) for key materials supplied by our suppliers, including cathode materials, anode materials, and electrolytes. According to the EU Battery Regulation (Article 7. Carbon Footprint), measuring the carbon emissions of the production processes for cathode materials, anode materials, and electrolytes is mandatory. Therefore, we will prioritize mandatory LCA for these materials over others to ensure the reliability of collected LCA results. By 2025, we will gradually consider expanding the scope of our monitoring targets.

2040 Goals

LG Energy Solution (Scope 1, Scope 2)

To achieve company-wide carbon neutrality by 2040, we need to reduce the use of fuel (LNG, etc.), which is the main source of energy. To this end, LG Energy Solution is optimizing energy usage by increasing its system energy efficiency and considering converting to electricity, biogas, and hydrogen as energy sources for existing major heat source systems such as steam boilers. For other additional emissions, we will offset them through external carbon reduction performance.

Suppliers (Scope 3)

In the production of batteries, LG Energy Solution identified Tier-2+ upstream suppliers within the value chain were key materials derived high contribution of carbon emissions as "carbon reduction hot spots." So that we aim to support these suppliers in transitioning to 100% renewable energy for the electricity used in their processes. To achieve this, we will conduct ongoing Life Cycle Assessment (LCA) of the battery value chain to identify materials with high carbon emissions.

*Hot Spots: Cathode, Precursors, Metal refining, Separator, and others.

2050 Goals

After LG Energy Solution completed our own company-wide carbon neutrality by 2040, carbon reduction in the value chain is the next crucial step to achieve the 2050 goal. Therefore, we plan to expand the monitoring boundary of carbon emission from Tier-1 suppliers to Tier-N suppliers (mining, etc.), and support their participation in RE100 and carbon reduction activities. In addition, we will contribute to carbon reduction in batteries by gradually increasing the proportion of recycled raw materials with lower environmental impact than virgin materials, and strive to build a closed loop of battery raw materials. In addition, we aim to achieve carbon neutrality by 2050 through external carbon reduction activities. In particular, we will contribute to the climate change response and welfare of local communities by developing renewable energy and installing ESS near our domestic and overseas business sites. In addition, we will implement support projects for vulnerable regions in the global climate change with various stakeholders such as customers, NGOs, and local communities.

2040 Carbon Neutral Roadmap

Energy efficiency	Process efficiency and energy optimization
Energy conversion	Low-carbon/zero-carbon fuel conversion and electrification
Renewable electricity	On-site generation, PPA, REC, Green premium, etc.
Carbon offset	External carbon reduction development

*May change depending on policies and market conditions

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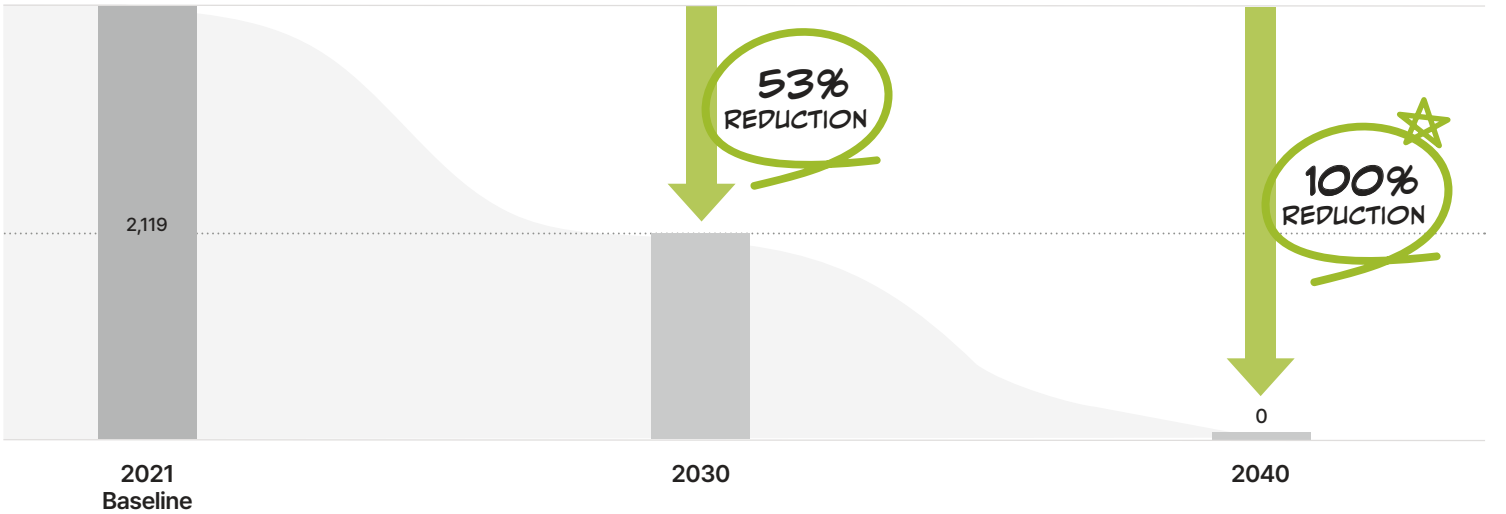


Battery Carbon Footprint Management

Recently, the European Union (EU) and leading countries are increasingly demanding sustainability of products, such as the obligation to disclose the carbon footprint of batteries, the introduction of battery passports, and strengthening recycling regulations. In particular, the EU has announced plans to implement the EU Battery Regulation (Regulation (EU) 2023/1542), which requires the disclosure of the carbon footprint of battery products calculated based on LCA for all batteries released in the EU jurisdiction starting in 2025, and then gradually assigns a rating that restrict the market launch of batteries that has a huge environmental impact. In response, we have established a product carbon footprint system that interfacing various internal production related data such as energy usage, product production, and wastewater/waste information to response mandatory regulation and to strengthened governance of internal data quality management.

Life Cycle Assessment (LCA) Overview

Life Cycle Assessment (LCA) is a technique used to comprehensively assess the environmental impacts of energy and mineral resource use throughout a product's entire lifecycle, from raw material extraction to disposal (Cradle-to-Grave). LG Energy Solution has adopted LCA since 2019, before spin-off, to evaluate the potential impacts associated with our products. Based on these assessments, we engage with key stakeholders, including customers, to communicate the results. Internally, the results of LCA assessment serve as crucial criteria and tools for calculating the carbon footprint of products, identifying hot spots in raw materials and value chains, and developing medium to long-term strategies for achieving carbon neutrality.

LCA Process(ISO 14040)

A step-by-step Process(in detail)

Target and Scope	Inventory Analysis	Impact Assessment	Analysis
· Defining the target and scope of LCA · Defining the evaluation Scope for each stage of the product life cycle	· Collecting data on energy and material inputs and outputs throughout the product life cycle · Calculating and documenting the results of the inventory analysis	· Scientifically-derived environmental impacts, such as global warming, caused by the inputs and outputs are analyzed in step 2	· Interpreting the results of the inventory analysis and impact assessment according to research purposes

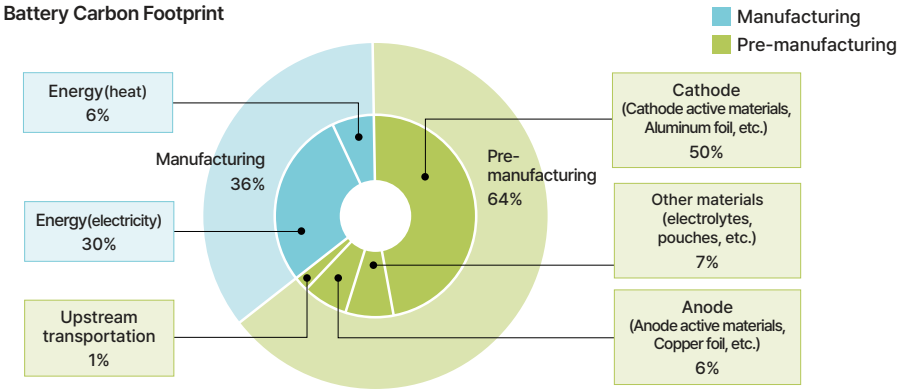
Battery Carbon Footprint

Based on the LCA results calculated since 2019, LG Energy Solution has been obtaining Environmental Product Declaration (EPD) certification since 2022 - 4 in 2022 and 12 in 2023; and as a result of calculating the carbon footprint based on the EPD certification guidelines, it was confirmed that about 36% of GHGs are generated during the cell production process (i.e., electrode process, assembly process, formation process, module/pack process) and about 64% of GHGs are generated in the raw material production and transportation process. Therefore, we found that our target should be not only to reduce GHG emissions through energy efficiency and renewable energy conversion in the battery manufacturing process, but also to manage and reduce GHG emissions of our suppliers.

EPD(Environmental Product Declaration)

The certification system that labels product environmental impact information quantified through Life Cycle Assessment (LCA) results is known as Environmental Product Declaration (EPD). It involves third-party certification that inspects the product's quantified environmental impacts throughout the product's life cycle, including global warming potential, resource use, water and air pollution, among others. To ensure alignment with global product environmental standards and policies, EPD is developed by applying the internationally recognized standards such as ISO 14020, ISO 14025, ISO 14040 series, ISO/TS 14027, ISO 14046, ISO 14064 series, and ISO 14067. These standards provide requirements and guidelines for conducting LCA, reporting environmental information, and communicating environmental performance of products in a standardized and transparent manner.

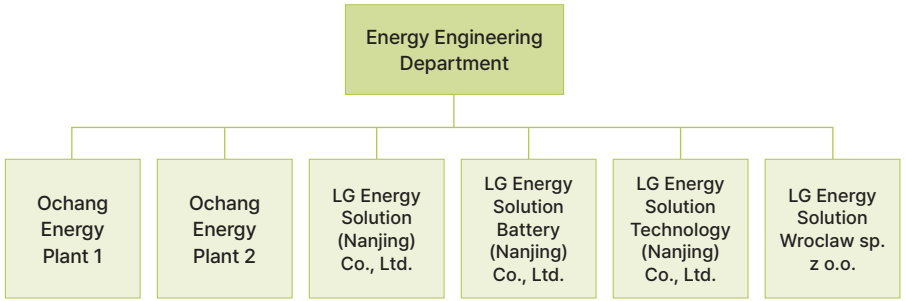
Battery Carbon Footprint



Energy and Greenhouse Gas (GHG) Management System

Global Energy Working Council

LG Energy Solution has established the Global Energy Working Council participating energy and greenhouse gas (GHG) related leaders from each of global sites and relevant department. The Council is dedicated to developing and sustaining an energy and GHG management system and has been operating on a monthly basis meeting to ensure continuous improvement and facilitates sharing of best practices among entities within the corporation.



Energy Management System

LG Energy Solution has obtained ISO 50001 certification, the energy management system standard, for Korea (Ochang Energy Plant 1) and three plants in Nanjing, China and plan to expand to other sites such as Poland by sharing energy management know-how through the Global Energy Working Council.

Acquisition and Validity of Energy Management System(ISO 50001) Certification

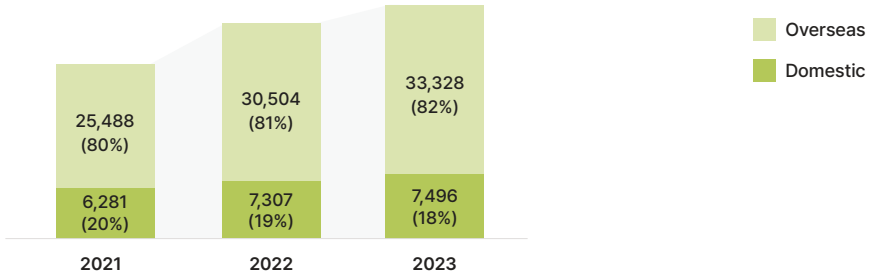
Country	Sites	Certification Validity
Korea	Ochang Energy Plant 1	2025-03-16
China	LG Energy Solution (Nanjing) Co., Ltd.	2026-12-31
	LG Energy Solution Battery (Nanjing) Co., Ltd.	2026-03-22
	LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-03-25

Energy Consumption Management

Despite the annual increase in energy consumption due to expansions, LG Energy Solution has implemented the Energy and Utility Management System (EUM) across all our global sites for more efficient energy management. This EUM system enables real-time, detailed monitoring of energy usage by each piece of equipment, allowing for comparative analysis over different time periods to optimize energy efficiency.

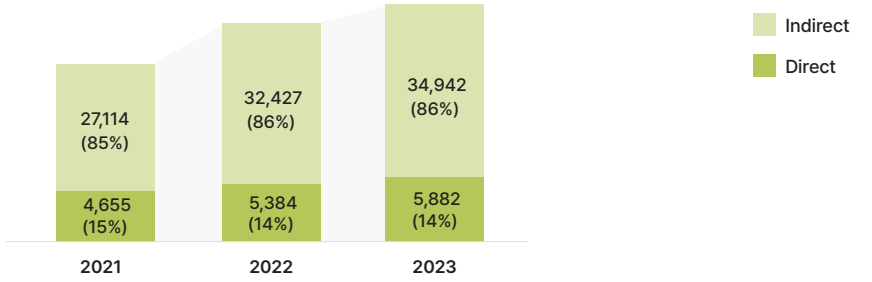
3-year trend in total energy use at domestic and overseas sites

Unit : TJ



3-year trend in total energy use at direct and indirect energy

Unit : TJ



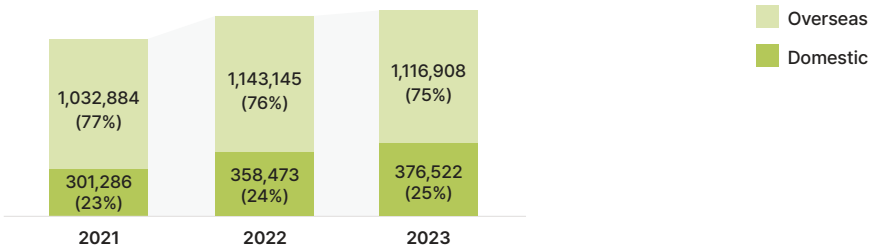
* Energy consumption measurement range
- Domestic : Headquarters, Ochang Energy Plant 1, Ochang Energy Plant 2, R&D Campus in Daejeon, Gwacheon, Magok
- Overseas : LG Energy Solution (Nanjing) Co., Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd., LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc., LG Energy Solution Wroclaw sp. z o.o., Ultium Cells 1, LG Energy Solution (Taiwan) Ltd., LG Energy Solution Australia Pty Ltd., LG Energy Solution Europe GmbH, LG Energy Solution Vertech Inc.

Greenhouse Gas (GHG) Emissions Management

LG Energy Solution systematically manage GHG emissions by collecting monthly energy usage data from our domestic and overseas sites through the internal Emissions Trading System which calculating emissions based on GHG emission factor of each its energy sources and consumption. Especially in 2023, total GHG emissions have decreased through implementation of renewable energy and enhanced energy efficiency while corporate's energy consumption increased.

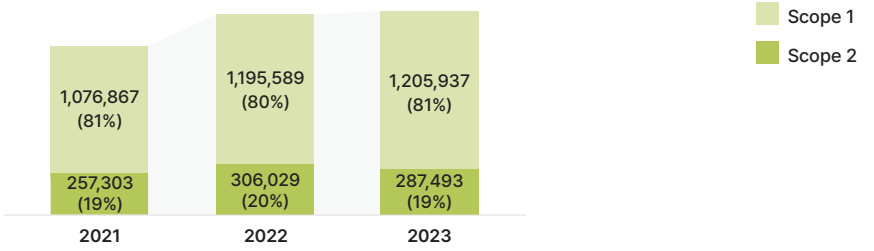
3-year trend in total GHG(Scope 1 & 2) emissions by domestic & overseas sites

Unit : tCO_2eq



3-year trend in total GHG(Scope 1 & 2) emissions by scope

Unit : tCO_2eq



* Range of greenhouse gas emission calculation
- Domestic : Headquarters, Ochang Energy Plant 1, Ochang Energy Plant 2, R&D Campus in Daejeon, Gwacheon, Magok
- Overseas : LG Energy Solution (Nanjing) Co., Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd., LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc., LG Energy Solution Wroclaw sp. z o.o., Ultium Cells 1, LG Energy Solution (Taiwan) Ltd., LG Energy Solution Australia Pty Ltd., LG Energy Solution Europe GmbH, LG Energy Solution Vertech Inc.
- Domestic : Based on greenhouse gas statement (K-ETS / IPCC AR2)
- Overseas : IEA Emission Factors 2023 Edition

Implementation of the Korea Emission Trading System (K-ETS)

In 2021, a total of six plants (Headquarters / R&D Campus in Daejeon, Gwacheon, Magok / Ochang Energy Plant 1 / Ochang Energy Plant 2) were designated under GHG emissions trading system (ETS) and are reporting 3rd party verified annual GHG emissions to the Ministry of Environment every year. In addition, LG Energy Solution monitoring shortages and surpluses of carbon emission credit in the market based on price impact analysis due to changes in government policies and market demand.

Energy Efficiency

LG Energy Solution sets annual company-wide energy reduction targets to enhance awareness among employees regarding energy and GHG reduction, thereby activating substantive reduction activities. The energy reduction targets have been increasing annually, from 1,430 TJ in 2021 to 1,741 TJ in 2023. Starting from 2022, we have consistently exceeded these planned targets.

Unit : TJ

	2021	2022	2023
Plan	1,430	1,679	1,741
Performance	1,219	1,744	2,309

Case 1: Steam savings through DEH heat recovery from dehumidifier

In order to reuse and reduce the energy wasted when the high-temperature (about 60°C) react air after passing through the dehumidifier rotor is directly discharged outside, a heat exchanger was installed to recover the waste heat of the discharged React Air, thereby reducing the use of steam.

Case 2: Power reduction through natural cooling system implementation in winter

The dry room requires to operate chiller which consumes lots of electricity to make cold water at the winter time to maintain low humidity condition. This chiller operation was minimized by utilizing low temperature outdoor air through natural cooling system in Air Handling unit to reduce power.

Case 3: Electricity heater reduction through utilization of high-temperature compressed heat for air dryer

In order to desorb moisture from the air dryer's regeneration unit, the electric heater needed to be operate in approximately 200°C condition to provide 10~20°C of room temperature which resulted huge amount of electricity. To solve this problem, the By-pass piping parts were extended to regeneration unit to utilize high-temp compressed heat, which reduced the electric heater load by 35%.

Ensol E-Bank

LG Energy Solution operates Ensol E(Energy)-Bank, a platform where all employees can freely propose and participate in energy-saving ideas. This platform encourages and incentivizes energy saving activities by evaluating the improvement effects of proposed ideas. Monthly rewards are given based on the effectiveness of the ideas submitted.

Employee Energy Training

LG Energy Solution conducts company-wide employee training to cultivate expertise in managing energy facilities and enhance awareness of energy conservation. The training curriculum covers topics such as Utility equipment knowledge, Utility operation, Power facility knowledge, Energy saving, and Energy systems. Through these training, we aim to secure our global technical and business competitiveness edge.

Vision
By enhancing our energy technology capabilities, we aim to boost its global technical edge and reinforce its overall business competitiveness.

Utility equipment experts	Electrical equipment experts	Energy experts	System experts

Integrated Supply Chain Information System

In the first half of 2026, LG Energy Solution plans to establish an integrated supply chain information system to systematically collect and incorporate carbon footprint data from our Tier-1 to Tier-N suppliers. Through this system, we aim to effectively monitor the carbon footprint of our Tier-N suppliers and gradually enhance its accuracy of raw material's carbon footprint figures by reflecting supplier's measured activity data based on upstream Life-Cycle Assessment(LCA) results in the future.

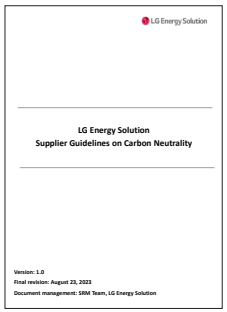
Carbon Reduction Support Program for Suppliers

Training for suppliers

LG Energy Solution conducted online trainings for our suppliers, explaining the background and importance of carbon reduction in the supply chain and encouraging them to switch to renewable energy and reduce carbon. In August 2023, we explained the background of the supply chain carbon reduction program and emphasized the importance of carbon reduction in the battery supply chain. In November 2023, we also provided training on renewable energy conversion measures and renewable energy policies in various countries to support suppliers in the transition to renewable energy.

Distribution of carbon neutrality guidelines for suppliers

In August 2023, LG Energy Solution also established and distributed the "Supplier Guidelines on Carbon Neutrality Guidelines" to help suppliers understand LG Energy Solution's carbon policies. These guidelines specify compliance requirements such as establishing carbon neutrality governance and setting goals, as well as outlining responsibilities and roles for compliance with EU Battery Regulation. We plan to use these guidelines to foster greater alignment and understanding between the company and our suppliers moving forward.



LG Energy Solution Supplier Guidelines on Carbon Neutrality

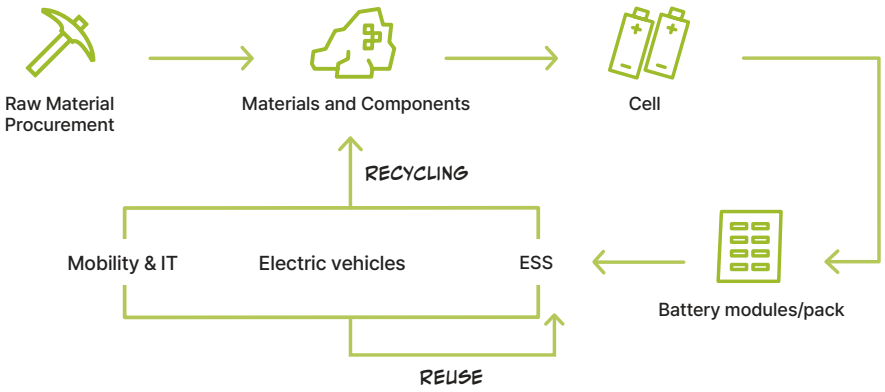
Circular Economy

Amidst the global efforts to address climate change, the electric vehicle (EV) market is growing rapidly, bringing the proper handling of end-of-life batteries to the forefront as a major challenge. We are pursuing various business and technological developments to establish a closed loop system for battery resources by reusing or recycling them.

End-of-Life Batteries as Resources

Battery Circular Ecosystem

As policies and regulations regarding batteries are being introduced in Europe, the US, China, and other countries, the EU requires that batteries placed on the EU market demonstrate environmental friendliness and safety throughout their entire lifecycle, from production to recycling, through the EU Battery Regulation. Accordingly, batteries sold in Europe have different minimum standards for recycled materials and mandatory collection rates for each type of battery, including portable, LMT (Light Means of Transport), industrial, and electric vehicles. To comply with these emerging regulations, we are building the closed-loop resource circulation system that covers the entire value chain, from the production of raw materials for batteries to consumption, disposal, and recycling. In addition, we are collaborating with local partners to reuse and recycle End-of-Life batteries and recycle process scrap that meets global environmental standards.



Battery Recycling

Battery recycling is crucial for achieving circular economy as it contributes to reduce environmental pollution caused by the mining of minerals used in batteries, such as nickel, cobalt, and lithium, and ensures a stable supply of these key minerals which may be limited. Accordingly, market and global regulatory demands are gradually strengthening, and the EU has mandated a certain percentage of recycled material content in EU Battery Regulation starting in 2031 to achieve carbon neutrality and a circular economy, while the US is encouraging battery recycling through its Inflation Reduction Act (IRA) – the provision act for subsidies to procure from recycled minerals in the country.
In order to meet these regulations and secure large volume of end-of-life batteries and scraps generated during production, given the finite nature of mineral resources, we are pursuing to establish a closed loop system that collects and recycles end-of-life battery by region, such as North America and Europe. In addition, we plan to maximize the amount of end-of-life batteries collected through partnerships with companies that have the end-of-life battery collection network and excellent capabilities in each of our major bases, and secure competitive recycled metal resources through cooperation with post-processing recyclers with validated mass-production technologies.

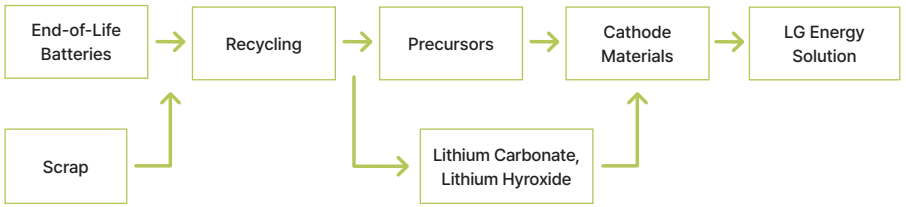
EU Battery Regulation Requirements for minimum content of recycled materials recovered from end-of-life batteries

Type	Compliance deadlines	
	2031. 8. 18. From	2036. 8. 18. From
Industrial batteries (2 kWh or more)	Cobalt 16%, Lithium 6%, Nickel 6%	Cobalt 26%, Lithium 12%, Nickel 15%
EV Battery		
SLI Battery		
LMT Battery	Not applicable	

* EV : Electric Vehicle / SLI: Start, Light and Ignite / LMT : Light Means of Transport

LG Energy Solution aims to achieve an economy of scale in recycling by establishing a collection system for End-of-Life batteries, along with our own scraps generated during production, to ensure an ample feed. This initiative aims to foster a circular economy, thereby enhancing recycling capabilities and ensuring that more resources are effectively reused. Furthermore, we intend to implement the closed-loop system by incorporating recycled metals into precursors and cathode active materials. By applying recycled metals into cell production, we aim to proactively comply with recycled metal content regulations as mandated by the EU and other regions. We plan to progressively expand the use of recycled metals through the establishment of a comprehensive battery recycling system. By 2030, we aim to use up to 20% recycled metals, thereby aligning with global regulations and advancing our commitment to sustainable management.

End-of-life Battery Circular Ecosystem for recycling



Battery Reuse Strategy

LG Energy Solution is looking forward to maximizing the circularity and creating new business opportunities through the development of end-of-life battery diagnosis, refurbishing reuse technology and business within the closed-loop.

Electric Vehicle Charging Stations

Korea Ochang Energy Plant 1

Korea Jeju World Cup Stadium

LG Energy Solution is pursuing a number of strategic tasks to provide verified reuse solutions and proactively propose diversified business models. In addition to the project to build a Reuse ESS connected to an electric vehicle fast charging station at Ochang Energy Plant 1 (Ochang, Chungcheongbuk-do), we have been accumulating reuse know-how through various trials and improvements, such as the North American Reuse ESS project utilizing end-of-life batteries, the construction of a Reuse ESS connected to renewable power generation in Jeju Island, and the development of a Reuse ESS system for UPS (uninterruptible power supply) and backup power. We are also participating in the establishment of regulations and systems for the utilization of reusable batteries in different region, and collaborating with major customers and related organizations.

Implementing Battery Reuse Process

End-of-life EV batteries still have a remaining residual capacity of about 70-80% compared to the new, unused ones. Even though the EV battery completes its lifespan, it could be reused depending on its residual capacity and state of health (SoH). We are establishing and implementing processes to utilize end-of-life batteries as valuable energy resource.

Collection of end-of-life batteries

This stage involves collecting batteries that can no longer be used in EVs due to reasons such as end of vehicle life or accidents. After the end-of-life batteries are collected through regional collection systems, an initial diagnosis is conducted to sort out batteries that are suitable for reuse and those that require recycling. Batteries deemed suitable for reuse are separately transported and stored.

Diagnosis and commercialization

1) Reconditioning

In this stage, the external condition of batteries suitable for reuse in the collection stage is inspected, and technical diagnostics, such as electrical tests and lifespan assessments, are performed to examine their internal condition. Batteries suitable for reuse are categorized into grades based on their condition and intended use. Batteries that do not meet the reuse criteria are classified as recycling products.

2) Refurbishing

This stage involves refurbishing batteries according to their intended reuse purpose, ensuring cost competitiveness. This stage includes not only solution development to meet system performance, quality standards, certification regulations required to be cost competitive, but also emphasis on safety through optimal design and streamlining of manufacturing processes.

Demonstration Business of End-of-Life Batteries Utilization

In 2023, LG Energy Solution collaborated with a North American partner and developed a 20 ft Reuse ESS (Energy Storage System) container system. Subsequently, in 2024, we are verifying the performance and reliability by deploying a 50MWh-scale system in Texas, US. Following this program, we plan to expand our Reuse ESS business in the North American region. Additionally, we are considering installing Reuse ESS container systems in Jeju Island, where the proportion of renewable energy generation is high, to explore business opportunities utilizing output constraints and the Plus Demand Response (DR) program.
Moreover, to utilize end-of-life batteries for applications with relatively fewer charge-discharge cycles compared to EV batteries and ESS, such as UPS (Uninterruptible Power Supply) and backup power, we have developed and prototyped a 48V backup battery pack using end-of-life battery modules. They have completed tests to verify the remaining lifespan through actual charge-discharge cycles and implemented fire spread prevention solutions. Building on this, we plan on establishing a demonstration site in 2024, integrating UPS to apply it to actual power loads.

50 MWh of Reuse ESS in Texas being installed in collaboration with a North American partner

Reuse pack for 48V backup power using automotive recovery module

Plus Demand Response (DR)

A program in which electricity users receive a discount or incentive for voluntarily using electricity when there is a surplus.

Redistributing for Sale and Marketing for reusable products

In order to provide safe and high quality products with price competitiveness, it is important to secure markets that can maximize the value of our reusable batteries and formulate business strategies to sell reusable products according to their specific purposes, promote recycling, and at the same time establish a superior collection system to increase the quantity and quality of end-of-life batteries that are collected. We are committed to a thorough process of evaluation, execution, and early validation in each stage.

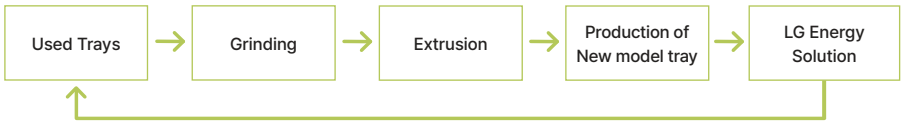
Packaging Strategies for Recycling

Among the various packaging materials used by LG Energy Solution, plastic trays are imprinted with a separation symbol enabling them to be recycled after use. We are reviewing new technologies and market trends to gradually increase the proportion of eco-friendly packaging materials.

Plastic Tray Grinding & Recycling

For reusable cell trays used between product logistics, we use trays made from recycled and regrind materials instead of trays made from original materials to increase the usage ratio of recycled materials used and reduce the amount of original plastic used.

Plastic Tray Recycling Process



Development and Utilization of Recoverable Packaging Materials

LG Energy Solution is developing and utilizing returnable packaging materials to minimize the amount of packaging materials used between product or goods transfers. We have developed and are using returnable packaging boxes and steel racks for cell and electrode transportation, and returnable packaging for products that can be applied to some pack products.

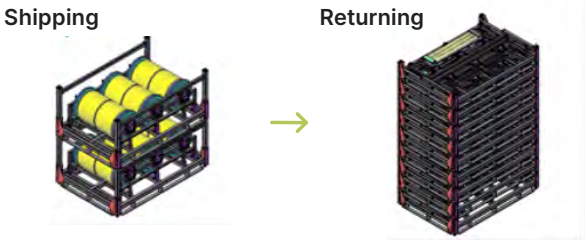


Figure: Specification of returnable packaging for electrode

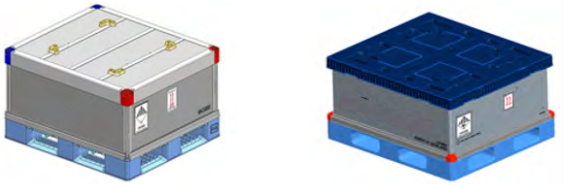


Figure : Specification of returnable packaging for cell

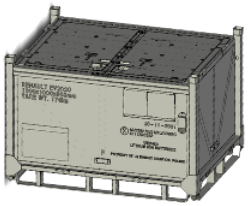


Figure : Specification of returnable packaging for pack

Environmental Management

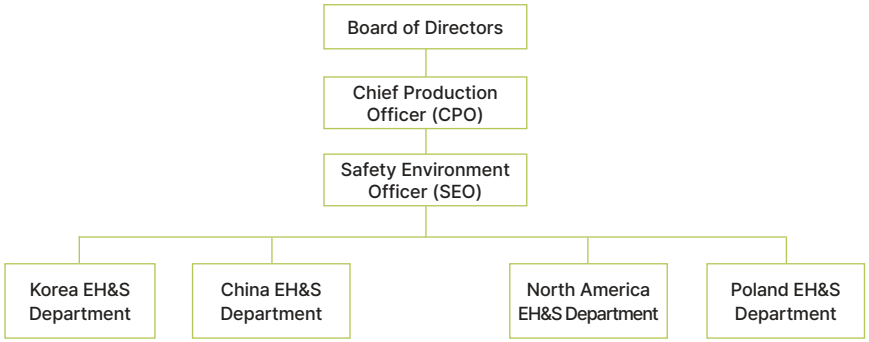
LG Energy Solution has an environmental management system for sustainable business operations, including establishing environmental management governance involving the highest decision-making body. This system manages and monitors the implementation of company-wide environmental management in accordance with environmental policies, making every effort to protect the local environment and create eco-friendly business sites.

Environmental Management System

Environmental Management Governance

LG Energy Solution has organized and operated environmental management governance to managing environmental impacts arising from the operations and production activities in compliance with regulations, continuously improving environmental performance. The Board of Directors is the body responsible for managing and supervising environment-related risks and the environmental management system, and annually discusses major issues, achievements, and future plans to provide leading environmental safety policy directions and strengthen responsible management.

Environmental Management Organizational Chart

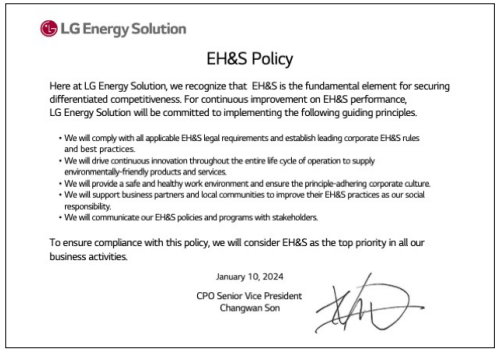


The Role of the Board of Directors

Board of Directors is responsible for managing and overseeing environmental risks and the overall environmental management system. BOD deliberates and makes decisions on key issues such as the environmental management system, processes and procedures, and investments.

Management and Functional departments

The environmental management staffs and relevant departments are responsible for implementing the relevant policies and the environmental management system. They establish environmental indices as well as targets, and monitor progresses. Additionally, they manage environmental goals and performance by linking them to the Key Performance Indicators (KPIs) of key executives and departments. The staff's ongoing dedication to enhancing environmental performance is evidenced by the environmental health and safety policy.



LG Energy Solution

EH&S Policy

Here at LG Energy Solution, we recognize that EH&S is the fundamental element for securing differentiated competitiveness. For continuous improvement on EH&S performance, LG Energy Solution will be committed to implementing the following guiding principles.

- We will comply with all applicable EH&S legal requirements and establish leading corporate EH&S rules and best practices.
- We will drive continuous innovation throughout the entire life cycle of operation to supply environmentally-friendly products and services.
- We will provide a safe and healthy work environment and ensure the principle-adhering corporate culture.
- We will support business partners and local communities to improve their EH&S practices as our social responsibility.
- We will communicate our EH&S policies and programs with stakeholders.

To ensure compliance with this policy, we will consider EH&S as the top priority in all our business activities.

January 10, 2024

CPO Senior Vice President
Changwan Son

Global Environmental Policy

LG Energy Solution is committed to minimizing the negative environmental impacts of our business activities, thereby efforts to fulfill our social responsibilities to create a sustainable future. This policy applies to our headquarters, domestic and overseas production sites, R&D centers, and sales subsidiaries. We also encourage our stakeholders, including suppliers, service providers, and contractors, to comply with the policy and engage in related activities.

Global Environmental Policy

Our Principles

1. We strictly comply with environmental regulations and related laws applicable to our global operations, and we establish standards that exceed the requirements of global standards to manage environmental impacts.
2. We proactively establish strategies and goals to address global environmental issues such as climate change, ecosystem restoration, and biodiversity conservation, demonstrating our leadership in protecting the natural environment.
3. We strive to reduce pollutant emissions from our facilities by applying eco-friendly production processes and optimal prevention technologies, ultimately aiming to minimize environmental impacts.
4. We contribute to a resource-circulating society by recycling waste from used batteries and manufacturing processes, and we work to build a sustainable battery ecosystem.
5. We prioritize collaboration and consultation with stakeholders, including partners, other companies in the battery value chain, civil societies, and local communities, to achieve our environmental goals. Additionally, we endeavor to actively communicate with stakeholders through transparent disclosure of our environmental management performance.

Establishment of Environmental Management System

LG Energy Solution has obtained ISO 14001 certification from third-party organizations to establish a reliable environmental management system for domestic and overseas sites. Alongside ISO certification audits, we conduct internal diagnostic evaluations to systematically and effectively measure environmental impacts and implement measures to mitigate negative effects. Additionally, to ensure the efficient operation of our environmental management system, we have established and operate procedures for the management of air, water, soil, waste, and chemicals.

Items	Details
Air, Water, Soil	LG Energy Solution evaluates the risk(consequence) and likelihood of environmental aspects through environmental impact assessments. The measures taken to mitigate identified environmental impacts and the status of related improvements are documented and managed for each site.
Waste	We utilize a waste management system at the site level to track and manage the generation and recycling of all waste produced at our facilities. Additionally, we have established and operate a separate management system for waste batteries with high resource value, systematically managing the entire process from generation to collection, storage, and final disposal.
Chemicals	For the management of hazardous chemicals, we have established and operate chemical management regulations. By implementing an integrated chemical management system, we manage the material information of raw and auxiliary materials used at our facilities.

Acquisition and Validity of Environmental Management System (ISO 14001) Certification

Country	Sites	Certification Validity
Korea	Headquarters	Single sign-on (2024-12-01)
	Ochang Energy Plant 1	
	Ochang Energy Plant 2	
	R&D Campus in Daejeon	
	R&D Campus in Gwacheon	
	R&D Campus in Magok	
China	LG Energy Solution (Nanjing) Co., Ltd.	2024-11-03
	LG Energy Solution Battery (Nanjing) Co., Ltd.	2025-05-13
	LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-06-06
Poland	LG Energy Solution Wroclaw sp. z o.o.	2026-11-16
US	LG Energy Solution Michigan Inc.	2025-01-30

Environmental Management Performance and Investment Implementation

LG Energy Solution sets mid- to long-term performance goals for significant environmental factors, such as external economic conditions, government policy directions, and internal business strategies. To reduce pollutants generated from our facilities, we establish and manage self-imposed emission targets that are stricter than environmental requirement levels for various pollutants (Air: dust, NOx, SOx, THC; Water: TOC, TP, BOD, SS). To improve environmental performance at our facilities, we incorporate internal pollutant reduction targets into the KPIs of each site and monitor monthly emissions. For facilities exceeding targets, we analyze the causes and implement corrective actions. Additionally, we continuously invest in all environmental areas, including water, air, and waste, to minimize environmental impact. In 2022, we invested approximately 3.5 billion KRW in environmental initiatives, and in 2023, we increased this investment to about 14.4 billion KRW for environmental equipment improvements and management system development. Before executing investments, we conducted preliminary environmental impact assessments to identify and managed key environmental and safety issues. Investment departments prepared an environmental safety checklist prior to investment execution. Based on this information, the EH&S Department reviews potential issues and provides detailed environmental safety measures. The executing departments develop implementation plans for these measures and continuously share progress with the EH&S Department throughout the project's duration, incorporating the results accordingly.

Environmental Impact Reduction Activities

LG Energy Solution implements pollution reduction activities to minimize the environmental impact of our business operations. We are reducing air and water pollutants by installing the best available technology in pollution prevention facilities. Industrial wastes and hazardous chemicals are managed by integrating raw material recovery and waste recycling facilities into the manufacturing process, thereby reducing the use of hazardous chemicals and the generation of waste. Efficient management is achieved through systems such as Waste Disposal Systems (WDS) and Hazardous Substance Management systems (HSM). Additionally, for facilities that require specific soil contamination management, soil protection facilities are installed to prevent pollutants from leaking into the soil.

Environmental Awareness Education

In addition to environmental impact reduction activities, it is significant to educate employees about the risks associated with environmental issues. During new employee onboarding, training on the 'Material Safety Data Sheet (MSDS)' system is provided to ensure they recognize the dangers of chemicals used in processes. Moreover, training on 'Confined Space Work Environment' is also conducted to emphasize the importance of understanding and maintaining safe working conditions.

Smart Environmental Management Technology

LG Energy Solution aims to create a safe and healthy workplace by adopting smart environmental management technologies. Various potential hazards (e.g., abnormal temperature/pressure conditions, hazardous chemical leaks) are monitored remotely and in real-time, enabling early detection and immediate response. Furthermore, automatic control systems are implemented to prevent deviations from normal ranges and to contain potential damage.

Environmental Information Disclosure System Data Publication

The Environmental Information Disclosure System is implemented under the Environmental Technology and Industry Support Act. This system enhances our voluntary commitment to environmental management, establishes a foundation for overall societal environmental management, and supports green loans and green investments by providing verified environmental information to financial institutions. As we are subject to environmental information disclosure, LG Energy Solution publishes key information, including environmental management systems, resource and energy savings, and targets and achievements in pollutant reduction.

Environmental Impact Assessment

To evaluate and systematically manage the actual and potential environmental impacts of our business activities, LG Energy Solution has established 'Environmental Impact Assessment Policy'. This policy mandates regular six-step environmental impact assessments across all activities, products, and services at domestic and overseas sites. Specifically, the 'Pre-Environmental Safety Review Operating Policy' requires technical reviews of environmental and safety aspects for new installations, purchased hazardous equipment, fire safety, hazardous materials, gas, and related equipment before any new installations, modifications, or closures. This ensures compliance with legal regulations.

1

Target Areas and Frequency of Assessment

Environmental impact assessments are conducted separately for production and non-production sectors. The production sector is assessed annually, while the non-production sector is assessed every three years. However, if there is an initial assessment due to the construction of a new factory or changes in production processes, equipment, or procedures, we conduct evaluations as necessary.

2

Scoping of Relevant Environmental Impacts

We distinguish between production and non-production activities and conduct a thorough analysis to identify all environmental impact factors directly or indirectly related to our business activities.

3

Identification of Environmental Impact Factors

We prepare material balance sheets throughout the entire process, from raw material intake to product shipment. These material balance sheets help us identify and quantify potential environmental impacts at each stage of the process.

4

Environmental Impact Assessment

We review the adequacy of the assessment results and improvement measures and conduct re-evaluations if needed.

5

Review of the Assessment Results

The results from the previous steps are incorporated into our achievements, and we develop improvement plans and conduct follow-up management. Additionally, we share these results with employees to enhance their awareness of environmental impacts.

6

Target Setting an Implementation Monitoring

The results from the previous steps are incorporated into our achievements, and we develop improvement plans and conduct follow-up management. Additionally, we share these results with employees to enhance their awareness of environmental impacts.

Environmental Regulation Compliance

LG Energy Solution identifies and regularly conducts preventive measures to mitigate environmental compliance risks. The preventive measures are categorized into five main areas: ❶ policies/standards, ❷ education, ❸ audits/survey, ❹ regulatory trend monitoring, and ❺ system development. In this process, a total of 50 environmental regulatory risks were identified in 2024, including 20 high-impact and risk items identified through the impact assessment process. We continuously monitor areas with significant financial and external impacts, such as air and water quality, industrial waste, pollution/chemical substances, and soil. Additionally, we are strengthening our governance framework to address ESG regulations, including the EU Battery Regulation, EU Corporate Sustainability Reporting Directive(EU CSRD), EU Corporate Sustainability Due Diligence Directive(EU CSDDD), Inflation Reduction Act(IRA), and Critical Raw Materials Act(CRMA), with a focus on Europe and the US.

Risk Areas	Risk and Definitions	Related Regulations
Air, Water Quality	**[Installation of facilities that Discharge Air / Water Pollution Without Permission / Report]** The act of installing air / water pollution facilities without obtaining the required permission or making the necessary report.	· Clean Air Conservation Act · Special Act On the improvement of Air Quality in Air Control Zones · Water Environment Conservation Act
	[Exceeding Emission Standards] The act of emitting pollutants exceeding the legally permissible limits.	
	[Operation of Emission and Prevention Facilities] The act of violating the prohibited actions specified in the law during the operation of emission facilities and prevention facilities.	
	[Self-Monitoring] The act of not conducting self-monitoring of emitted pollutants from the facilities or not accurately recording and preserving the data.	
	[Failure to Report or Obtain Permission for a Change] The act of not reporting to the administrative authority or obtaining permission when a change requires reporting or approval.	
Waste	**[Violation of Waste Treatment Standards]** The act of collecting, transporting, storing, or treating industrial wastes in violation of legally prescribed standards without commissioning a waste treatment operator.	· Wastes Control Act
	[Non-Declaration of Waste] The act of not declaring the type and amount of waste generated or making false declarations.	
	[Obligations of Industrial Waste Dischargers] The act of not verifying whether the company falls under the category of a industrial waste discharger or failing to comply with all required obligations as specified by the law.	
	[Obligations to Prepare and Provide Hazards Information Data] The act of not preparing certain hazards information data, such as information regarding designated wastes.	
	[Waste Not Managed and Treated in Accordance with Appropriate Criteria and Methods] The act of not managing and treating waste according to the appropriate treatment criteria and methods.	
Soil	**[Non-Declaration or False Declaration of Specific Soil] Contamination Specified Facilities Subject to Control of Soil Contamination]** The act of not reporting or falsely reporting the installation of specified facilities subject to control of soil contamination to the supervisory authority.	· Soil Environment Conservation Act - Article 4 (2) (Worrisome Levels of Soil Contamination) - Article 12 (Reporting on Specified Facilities Subject to Control of Soil Contamination)
	[Export or Disposal of Contaminated Soil] The act of exporting contaminated soil from the contaminated site for purification or leaking or discharging contaminated soil.	
	[Violation of Operating and Management Standards for Specified Facilities Subject to Control of Soil Contamination] The act of discharging soil contaminants exceeding the legal standard through unlawful methods or manipulating the discharge data.	
Chemical Substances	**[Use of Prohibited or Unauthorized Hazardous Chemical Substances]** The act of using prohibited hazardous chemical substances or using hazardous substances requiring approval without obtaining permission from the supervisory authority.	· Chemical Substances Control Act · Act on Registration and Evaluation of Chemical Substances · Persistent Pollutants Control Act
	[Installation and Operation of Facilities Handling Hazardous Chemical Substances] The act of not conducting safety inspections when installing and operating facilities handling hazardous chemical substances.	
	[Violation of Registration and Evaluation Criteria for Chemical Substances] The act of violating legal obligations concerning the registration, hazardousness, and toxicity assessment of chemical substances.	
	[Failure to Report Chemical Accidents] The act of not reporting chemical accidents according to the legal reporting standards.	
	[Chemical Substance Emission Survey] The act of not truthfully submitting chemical substance emission data every year.	
	[Violation of Obligations to Report and Obtain Permission] The act of not fulfilling the obligations to report and obtain permission from relevant administrative agencies concerning the installation, use, and management of environmental-related facilities and workplaces.	
	[Violation of Permits for the Manufacture, Import, and Use of Restricted / Substances] The act of not following the procedures for reporting, or obtaining permission or approval for the manufacture, import, or use of specific substances specified in the law.	
	[Violation of Handling Standards for Hazardous Chemical Substances] The act of violating handling standards for hazardous chemical substances specified by the law, including failure to wear protective equipment, non-compliance with storage and display limits, and non-compliance with labeling requirements for hazardous chemical substances.	

* The above regulations are selected among LG Energy Solution's environmental risk pool for illustrative purposes.

Safeguarding Natural System

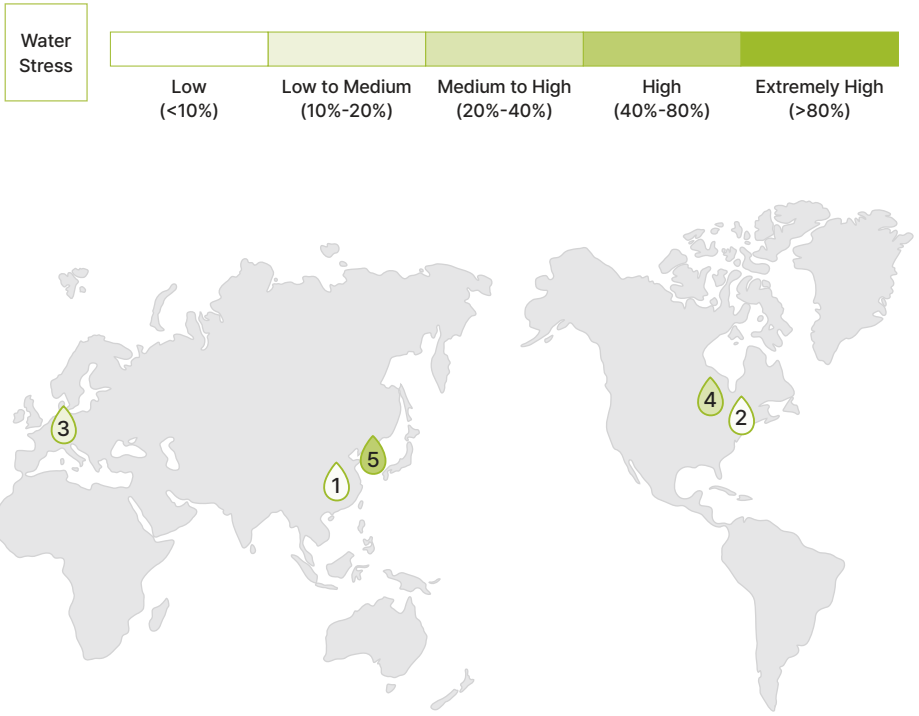
As climate change, environmental pollution, and various other environmental issues emerge, the limited environmental resources of the earth are being polluted and the available resources are becoming scarce. Consequently, environmental issues are gaining prominence both domestically and internationally, with environmental regulations being strengthened in many countries, impacting the business environment. As such, LG Energy Solution is implementing environmental management by managing various pollutants generated during production activities and reducing industrial waste, based on internal standards that are more stringent than compliance requirements.

Water Resource Management

With the growing importance of water resource management globally due to climate change, LG Energy Solution has improved water usage and wastewater management by a water resource risk management system.

Water Stress Analysis

Due to climate change, LG Energy Solution has utilized the World Resources Institute's (WRI) Aqueduct program to analyze 'water stress'—an indicator of future regional water scarcity impacts. This analysis was conducted for regions where our global production facilities are located, using the Shared Socioeconomic Pathways 3 (SSP3) and Representative Concentration Pathways 7.0 (RCP 7.0) scenarios based on the Business as Usual (BAU) standard for the year 2030.



Water Stress Risk on 2030

Categories	Manufacturing Sites
1 Low	LG Energy Solution (Nanjing) Co., Ltd. (China) LG Energy Solution Battery (Nanjing) Co., Ltd. (China) LG Energy Solution Technology (Nanjing) Co., Ltd. (China)
2 Low	Ultium Cells 1 (US)
3 Low to Medium	LG Energy Solution Wroclaw sp. z o.o. (Poland)
4 Medium to High	LG Energy Solution Michigan Inc. (US)
5 High	Ochang Energy Plant 1, Ochang Energy Plant 2 (Korea)

* As of the end of December 2023, based on the operational production plants.

Water Management System

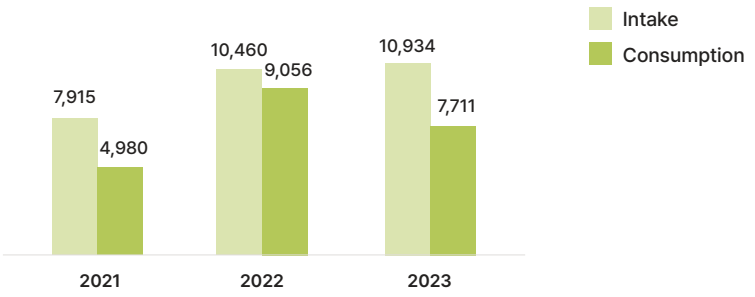
To ensure a reliable water supply for our operations, LG Energy Solution has implemented the 'Environmental Impact Assessment Regulations' to evaluate water supply feasibility and identify various risks, including compliance with water-related laws and regulations, prior to establishing any facility. Moreover, all LG Energy Solution locations obtain processed water (industrial and tap water) from approved suppliers, avoiding the use of groundwater. This water usage is closely monitored, and an Energy & Utility Management System (EUM) is used to oversee real-time water consumption, defined as the amount of water taken in excluding the wastewater discharged.

Water Consumption and Reduction Activities

LG Energy Solution is engaged in water reduction activities to address water risks identified in the water stress analysis and ensure a sustainable water supply. By cleaning the Chiller System, which requires large amounts of water, we enhance heat exchange efficiency and optimize the cooling system. We also recycle steam condensate for reuse in washing processes and as boiler feedwater.

3-years trend of total water intake consumption

Unit: kton



Case 1: Reuse of Water for Washing Process through Steam Condensate Recovery

High-temperature steam used for maintaining low humidity in production processes is fully recycled as water required in washing processes after heat exchange.

Case 2: Reuse of Boiler Makeup Water from discharged water

60°C water discharged after production processes use is recycled as boiler feedwater through heat exchange with high-temperature air conditioning condensate, resulting in reducing water consumption.

Water Pollutant Management System

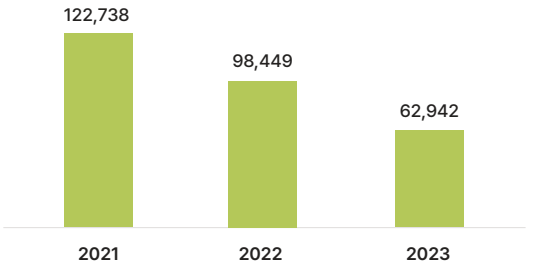
In accordance with the 'Water Quality Management Regulations,' LG Energy Solution separates and manages sewage and industrial wastewater. To prevent environmental incidents related to water quality and minimize impacts on employee safety and health, we have set and implemented stringent water quality management standards that are strictly less than half of the threshold standard limits.

Internal Water Pollutant Management Standards

Pollutants	Unit	Legal Standard	Internal Management Standard
BOD	mg/L	100 or less	50 or less
SS	mg/L	100 or less	50 or less
TOC	mg/L	60 or less	30 or less

3-year trend of total discharge of water pollutants

Unit : kg



Wastewater treatment process within our sites

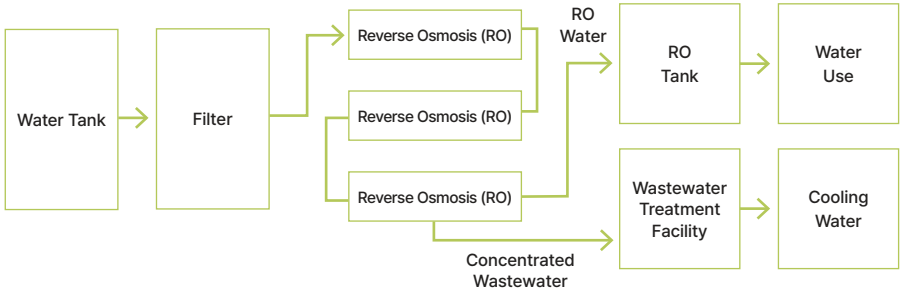
During the battery manufacturing process, high-concentration wastewater is not directly discharged into local streams. Instead, it undergoes primary treatment at our on-site wastewater treatment facility before being sent to Public Owned Treatment. Wastewater generated during the battery production processes is collected in a reservoir and subjected to pressurized flotation to remove suspended solids. Afterward, organic matter is oxidized through microbial degradation. The remaining organic matter is then oxidized using ozone before being sent to Public Owned Treatment Works.

Our Site

Wastewater Reduction and Management Activities

To minimize the environmental impact of wastewater, LG Energy Solution operates our own wastewater treatment facilities and shared treatment facilities that comply with stricter standards than legal requirements. The total amount of wastewater discharged across the entire manufacturing facilities is managed daily. For the water pollutants listed under industrial wastewater permit criteria and restricted substances, a water quality monitoring system is implemented. This system ensures that managers regularly measure water pollution based on approved protocols or commissions outsourced measurement agencies to conduct evaluations at least once a year according to environmental assessment standards. Additionally, to reduce the discharge of pollutants, improvements such as washing and condensing wastewater treatment systems for waste gases and dust from manufacturing and industrial facilities, and reusing cooling tower water from reverse osmosis (RO) wastewater, are made to minimize the environmental impact of wastewater.

Process of Reusing RO Wastewater



Air Pollutant Management System

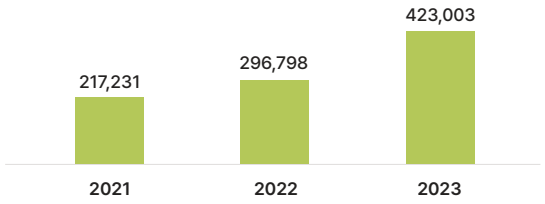
LG Energy Solution has established internal management standards for air pollutant emissions that are stricter than threshold requirements. The best available technology in air pollution prevention facilities are installed and operated at each emission units, with regular self-audit conducted to ensure compliance with internal standards. Furthermore, boilers used in existing facilities have been replaced with low-NOx burners to reduce nitrogen oxide emissions.

Internal Air Pollution Control Standards

Pollutants	Unit	Legal Standard	Internal Management Standard
Dust	mg/m^3	30 or less	10 or less
Sulfur oxides	ppm	70 or less	3 or less
Nitrogen oxides	ppm	150 or less	5 or less

3-year trend of total air pollutant emissions

Unit : kg



Air pollutant emission reduction activities

Due to the increase in air pollutant emissions resulting from the continuous growth in production, LG Energy Solution manages these emissions at levels that are stricter than threshold standards. We reduce air pollutant concentrations through regular site inspections and optimal operation of our facilities.

On-site Inspections

- Voluntary inspections (as needed)
- Regular inspections (annual)
- Compliance risk inspections (annual)

Facility Operation

- Timely replacement of consumables
  : Activated carbon(semi-annual), filter media(annual)
- Activities for ensuring air quality control equipment flow rate and dust inspections

Waste Management

The depletion of resources and the issue of waste are emerging globally. Consequently, transitioning to a resource circulation system that minimizes the consumption of natural resources by increasing the reuse and recycling rates of resources is now recognized as an essential content of ESG management. LG Energy Solution is working to minimize industrial waste that is incinerated or landfilled and is promoting a shift towards a resource circulation system through the recycling of waste generated at its facilities. Additionally, to thoroughly manage battery waste, we are focusing on setting up a waste information and tracking system, operating recovery facilities, and developing innovative technologies. By prioritizing environmental protection and resource recycling, we are setting a best practice in battery waste management.

Definition of Waste

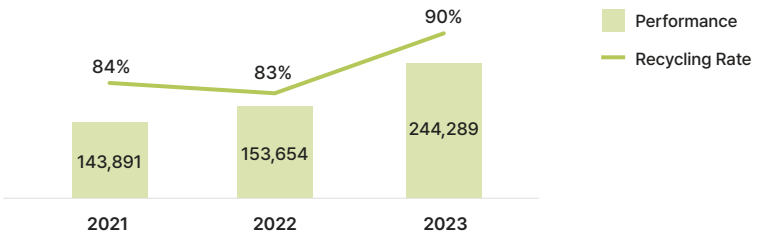
In the battery production processes, LG Energy Solution generates battery waste at various stages, mainly in the form of cathode/anode electrodes, waste liquids, defective cells, and defective modules. In particular, if waste batteries (charged cell/module) are improperly released to public, there is a grave concern about compliance risks and potential reputational damage. Thus, we are reorganizing and enhancing the management of waste battery.

Waste Management

LG Energy Solution does not handle waste generated at our facilities on our own but processes it through third-party recycler. In accordance with our internal policies, it is necessary to choose suitable recyclers through an assessment of environmental impact, compliance, and the appropriateness of handling batteries related waste. For the selected waste recyclers that meet the criteria, we conduct regular environmental audits (once a year) for post-management. For waste batteries generated at our facilities, we have implemented a tracking system called the Waste Disposal System (WDS) to manage the disposed cells and modules which could be released to public improperly. We are also trying to minimize compliance risks associated with batteries releasing to public by reviewing measures to deactivate waste batteries, such as salt treatment and electric discharge treatment.

3-year trend of total waste discharge and recycling rate

Unit : ton

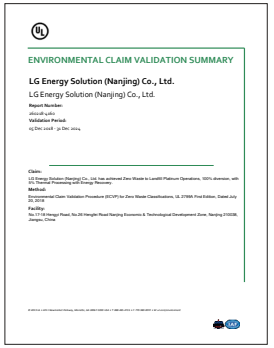


Promoting Zero Landfill Waste

LG Energy Solution is actively promoting the recycling of industrial waste generated at its facilities to achieve 'Zero Waste to Landfill.' Our three facilities in Nanjing, China, have achieved the highest grade, Platinum, by being recognized for 100% resource circulation by the international certification organization Underwriters Laboratories (UL). The Ochang Energy Plant 1 located in Korea has achieved the Gold grade, being recognized for over 90% resource circulation. Our manufacturing plant located in the US (LG Energy Solution Michigan Inc) has received the Landfill Zero certification from the National Sanitation Foundation (NSF) for having less than 1% of total waste sent to landfills.

Korea (Ochang Energy Plant 1) : 2022: 96.1% 2023: 97.3% (Gold) 2024: 98% or more planned
China (3 production sites in Nanjing) : 2022: 100% , 2023: 100% (Platinum) 2024: 100% planned
The US (LG Energy Solution Michigan Inc.) : NSF certification (2022, 2023)

NSF Certification



UL Certification (Platinum)

Reducing Incineration Waste

Three sites in Nanjing, China, were improved a treatment technology for the waste liquid generated when producing anodes during the battery production process and improved the operating conditions of their own wastewater treatment plants (such as adjusting the flocculant formulation). This effectively removed foreign substances such as graphite from the anode slurry, reducing the amount of incineration waste.

Reducing Hazardous Waste

The three facilities in Nanjing, China, have developed a new technology to recycle the waste organic solvent (NMP), which accounts for approximately 85% of hazardous waste. Through lab scale tests and other evaluations, the effectiveness of thin-film evaporation technology was verified, achieving a recycling rate of NMP from 80% to 97%. This technology has been implemented at sites located overseas, including those in Korea and Poland, to improve hazardous waste management.

Waste Recycling

At the Energy Plant 1 efforts have been made to shift the disposal of raw material packaging, anode materials, and other waste from landfill/incineration to recycling by sourcing the better recyclers. By applying a closed loop recycling system for trays that have reached the end of their life within the process, approximately 500 tons are recycled annually, contributing to resource circulation. Future plans include further increasing the recycling rate of waste.

Management of Hazardous Chemicals

As environmental regulations and customer demands for environmental management are tightening across Europe, the importance of environmental management is growing. LG Energy Solution monitors changing environmental regulations to comply and provide eco-friendly products to customers. To achieve this, we apply eco-friendly supply chain management guidelines to our internal operations and suppliers, improving the management of hazardous substances within the supply chain and selecting materials that comply with regulations from the raw material stage.

Operation of Hazardous Chemical Management System

LG Energy Solution manages chemicals brought into all facilities and respond to global chemical regulations, we have implemented a management process for handling hazardous chemicals. Hazardous chemicals undergo an 'environmental safety impact assessment and compliance review' before being brought into facilities. To ensure chemical safety, Material Safety Data Sheets (MSDS) are maintained for chemical handling processes, and safety training is conducted for employees. Compliance audit of handling equipment are conducted annually per equipment, with monthly inspections of outdoor storage equipment and accident emergency drills for chemical spill and leak accidents to ensure employee safety.

Processes for handling hazardous chemicals

Category	Description	System
Warehousing	Request for warehousing inspection	HSM*
	Regulatory Compliance Check and Response	HSM
	Approval and warehousing	HSM
Usage	Usage Quantity Check	HSM, EHS
	Facility Inspection during use	On-site
	Leak Prevention Training	On-site
Discharge	Calculation of Usage Amount	On-site
	Reporting of Discharge Amount	On-site
	Analysis of Increase/Decrease Causes	On-site

*HSM : Hazardous Substance Management system

Operation of Internal Regulatory Approval System and Usage Trends

LG Energy Solution has regulated certain substances such as NMP, electrolyte, cathode material, and marking ink. According to internal policies, the procurement department must request a preliminary review from the EH&S department in order to use these chemicals or any other chemicals at the site. Upon receiving a request, the chemical supplier provides chemical information, which the environmental department reviews for compliance with regulations. If the review is approved, the chemicals can be used within the site. For marking ink used in battery production, finding an alternative non-hazardous ink is recommended. Marking ink used in battery production is recommended to change an alternative non-hazardous. For non-material consumables, purchase records are tracked monthly, and if they are found to be hazardous chemicals, we requested for alternatives to bring them into the site.

What are chemicals?

A chemical substance refers to any material with a definite chemical composition. These substances can be elements or compounds that result from natural processes or are manufactured through chemical reactions. Each country ensures safety information on chemicals entering their domestic market is secured and shared in advance to prevent public health and environmental damage from toxic incidents involving household chemical products. Regulatory authorities in the US, Europe, and China have various laws and regulations that require businesses to register, evaluate, authorize, and regulate hazardous substances.

Biodiversity Conservation

In order to preserve biodiversity, products must be produced in a sustainable manner and not affect the balance of ecosystems. To this end, LG Energy Solution has established and managed a biodiversity policy based on the Kunming-Montreal Global Biodiversity Framework (GBF) and the Science Based Target Network (SBTN) to reduce the consumption of natural capital and return used resources back to nature, and is engaged in biodiversity protection activities in partnership with local communities.

Biodiversity Protection and Deforestation Prevention Policy

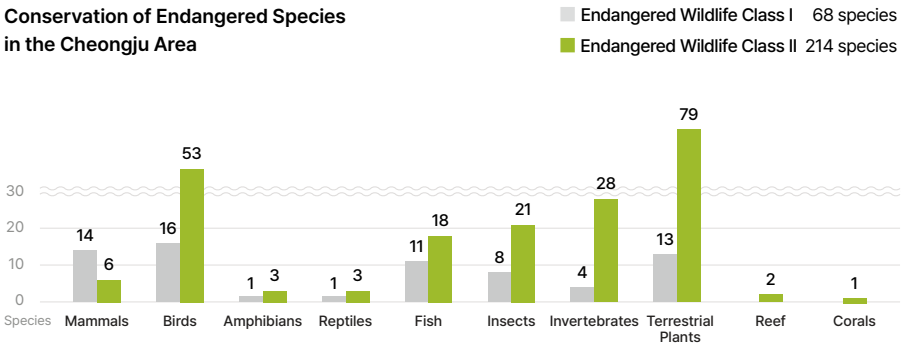
LG Energy Solution has recognized the urgent need to address, in a comprehensive and synergetic manner, the interlinked global environmental crises such as climate change, water shortage and biodiversity loss in the broader context of achieving the Sustainable Development Goals (SDGs). With a commitment to practice biodiversity protection as a key ESG strategy, we adopted a Biodiversity Protection and Deforestation Prevention Policy based on frameworks like the Kunming-Montreal Global Biodiversity Framework (GBF) and the Science Based Target Network (SBTN) in April 2024.
We are committed to going beyond merely protecting biodiversity and preventing deforestation by striving to achieve a No Net Loss (NNL) and Net Positive Impact (NPI), and No Gross Deforestation (NGD) and No Net Deforestation (NND). We are dedicated to making best efforts to realize such goals, aiming to minimize any adverse effect that the company may cause through business activities.

Biodiversity Protection and Deforestation Prevention Policy

Biodiversity Conservation Activities

To protect biodiversity, LG Energy Solution has identified factors influencing biodiversity in the vicinity of our operations and local communities, and we operate site-specific conservation programs in collaboration with local environmental agencies, local governments, habitat conservation organizations, and local residents. As part of this, we are participating in the project to save endangered species in Cheongju. We will continue to collaborate with local communities and stakeholders to ensure that our activities have a positive impact on the ecosystem.

Conservation of Endangered Species in the Cheongju Area



LG Energy Solution's Ochang Energy Plant 1 is working with the Geumgang River Basin Environmental Office and Cheongju City by entering into a Memorandum of Understanding (MOU) to support the conservation and habitat improvement activities of endangered species (Endangered Wildlife Class I, known as "Muljanguns") in the Cheongju area. Muljangun is one of the 21 Class II endangered insect species, and their population has been rapidly declining due to habitat destruction caused by urbanization, water pollution, and agricultural land improvement projects. Through habitat conservation organizations, LG Energy Solution supports the propagation of Muljanguns and considers the level of human interference, light pollution, and water supply when selecting new habitats for them. Additionally, Mulgwanguns is monitored to be hibernation, and based on that, we reflect the results for future habitat selection. LG Energy Solution will continue to pursue practices that enable the coexistence of ecosystems and local communities.

Social

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LG Energy Solution will "Reduce Discrimination and Add Responsibility" by respecting the human rights of employees and all stakeholders, fostering a corporate culture that embodies the values of diversity, equity, and inclusion. We are dedicated to creating a safe and healthy working environment and protecting local communities through concrete action plans and practice. In particular, to manage the various environmental and social issues intertwined in the battery value chain, we will expand our support and engagement with suppliers.

Sustainable Value Chain

The implementation of ESG management is expanding globally, not only within individual companies but also throughout the supply chain. This is evidenced by the increasing obligations on the global battery supply chain as seen in the EU's Corporate Sustainable Due Diligence Directive (CSDDD) and due diligence requirements under the EU Battery Regulation as well as Germany's Human Rights Due Diligence Act (i.e., the Lieferkettensorgfaltspflichtengesetz: LkSG).

Supply Chain ESG Risk Management Framework

Supply Chain ESG Risk Management Policy

To minimize ESG risks in battery value chain, LG Energy Solution has established and implemented a "Responsible Sourcing Policy" in accordance with global standards, such as the OECD, UN, and ILO including human rights and labor, ethical management, workplace safety and health, environmental sustainability, and responsible mineral procurement. Additionally, we operate a grievance mechanism which enables stakeholders to report any issues or concerns relevant to potential ESG risks along our supply chain anonymously. Since 2016, we have established and operated a Code of Conduct for Suppliers that outlines principles and standards for responsible supply chain management. It encompasses all principles embedded in responsible supply chain policies, including human rights and labor, ethical business practices, workplace health and safety, environmental sustainability, responsible mineral sourcing, grievance systems, and more. All suppliers in our value chain are required to annually pledge adherence to the Code of Conduct as a precondition for transactions. They must diligently adhere to the provisions, and their compliance history is managed through our procurement system.

Responsible Sourcing Policy

Supplier Code of Conduct

Supplier Code of Conduct

HUMAN AND LABOR RIGHTS

Prohibition of child and forced labor,
Non-discrimination based on DEI* principles,
Recognition of freedom of association,
Protection of minority community rights, etc.

BUSINESS ETHICS

Ethics management and Anti-corruption
Compliance management, etc.

HEALTH AND SAFETY

Compliance with legally-mandated precautionary measures,
Regular education and emergency training

ENVIRONMENTAL SUSTAINABILITY

Minimizing adverse impacts of environment,
Establishing data on energy/ greenhouse gas (GHG) emissions, etc.

RESPONSIBLE MINERAL SOURCING

Compliance with the OECD Due Diligence Guidance and the UN Guiding Principles on Business and Human Rights

*DEI(Diversity, Equity, and Inclusion)

Supply Chain ESG Risk Management Strategy

Managing Battery Supply Chain Risks

To establish a sustainable battery ecosystem, it is important to expand the scope of supply chain ESG risk management to encompass not only direct relationships with Tier-1 suppliers but also extended supply chains involving Tier-N. LG Energy Solution ensures chain of custody through operation of the Supplier Code of Conduct and regular ESG evaluations of our Tier-1 suppliers. Furthermore, we are progressively expanding the scope of supply chain risk assessments, focusing on core raw material supply chains with high regulatory and customer response importance. Starting from 2024, we plan to develop a management system that connects Tier-N of the supply chain to enhance traceability.

Monitoring and Managing Conflict Minerals (3TG) Processes

In addition to the supply chain risk management activities for core raw materials, LG Energy Solution implements internal processes to manage conflict minerals that could potentially be sourced from conflict or high-risk areas. All suppliers are required to disclose whether their products contain conflict minerals. Furthermore, they must submit the related smelter data following by the Conflict Minerals Reporting Template (CMRT) of the Responsible Minerals Initiative (RMI). Moreover, all information provided by suppliers is reviewed and managed through an IT system that checks hazardous substance management.

What are Conflict Minerals?

Conflict minerals refer to the four major minerals (tin, tantalum, tungsten, and gold) mined in the Democratic Republic of Congo (DRC) and its surrounding countries, including Sudan, Rwanda, Burundi, Uganda, Congo, Zambia, Angola, Tanzania, and Central African Republic. These regions are often controlled by armed groups, government forces, and militias that exploit mineral mining and trading to fund their illicit activities and perpetuate conflicts. This situation leads to severe human rights abuses, including forced child labor and exploitation of local communities during mineral extraction, as well as environmental degradation and other social issues. In response to these challenges, the Dodd-Frank Wall Street Reform and Consumer Protection Act, passed by the US Congress in July 2010, included provisions on conflict minerals regulation. This regulation affects not only US-listed companies, but also non-US, Korea's companies that are part of the US-listed companies' supply chains which ultimately serve these markets. In short, the conflict mineral reporting ensures compliance and transparency regarding the company's conflict mineral usage in the upstream supply chain.

Monitoring ESG Risks in Our Supply Chain

LG Energy Solution annually conducts ESG evaluation to assess our suppliers' compliance with the Code of Conduct. We also monitor improvement tasks and results linking the on-site audits. The ESG Risk Assessment for suppliers is conducted in two main types: ❶ New Supplier Evaluation and ❷ Regular Evaluation. We evaluate new supplier candidates against ten ESG risk indicators as part of the selection process. The New Supplier Evaluation is a diagnostic evaluation consisting of 10 ESG risk indicators for new supplier candidates. For the suppliers that are already in our supply chain, supplier ESG evaluation proceed in conjunction with regular evaluation, where over 60 ESG risk indicators are incorporated. ESG evaluation factors account for 15% of the total supplier regular evaluation, which is strictly managed in conjunction with the supplier purchasing evaluation.

ESG Evaluation for suppliers

LG Energy Solution has developed a Self-Assessment Questionnaire (SAQ) consisting of 65 items based on OECD guidelines, Responsible Business Alliance (RBA) standards, and the EU Corporate Sustainability Due Diligence Directive (CSDDD). This SAQ is used for regular assessment covering labor, human rights, ethical, CSR, energy and greenhouse gases, and environmental, health, and safety. As the results of SAQ, we identify high-risk groups and continuously monitor their implementation, and provide support for implementation.

Regular Evaluation

Step 1	SAQ Assessment	Suppliers conduct ESG Self-assessment (SAQ) through LG Energy Solution's procurement system.
Step 2	Risk Group Analysis	After conducting self-assessments, the results are analyzed to categorize risk levels into high-risk, medium-risk, and low-risk groups.
Step 3	Selection of Sites for On-site Audits	Based on our internal criteria, suppliers identified as high-risk or with potential ESG risks are selected for the on-site audit.
Step 4	On-site Audits	Visits with third-party assurance providers are made to identify critical non-conformities and areas for improvement.
Step 5	Improvement Requests	Remediation plans are constructed and manage/support are provided to implement improvement-related findings.

Supplier ESG SAQ Items

Labor and Human Rights	Ethical Management	Supplier CSR	Energy/Greenhouse Gases	Health, Safety, and Environment
• Prohibition of Child Labor • Protection of Vulnerable Workers • Prohibition of Forced Labor • Human Treatment • Grievance mechanism • Non-discrimination • Working hour compliance • Wages and Benefits • Freedom of Association	• Anti-Corruption • Whistleblower Protection • Information Security	• Supplier CSR Management • Conflict Minerals Management	• Energy Management • GHG Management	• Licensing • Appointing of Manager and Operating Commitee • Education & Training • Risk Management • Accident Management • On-site Management • Health care Management • Hazardous chemical Management • EH&S Management

Risk Group Distribution

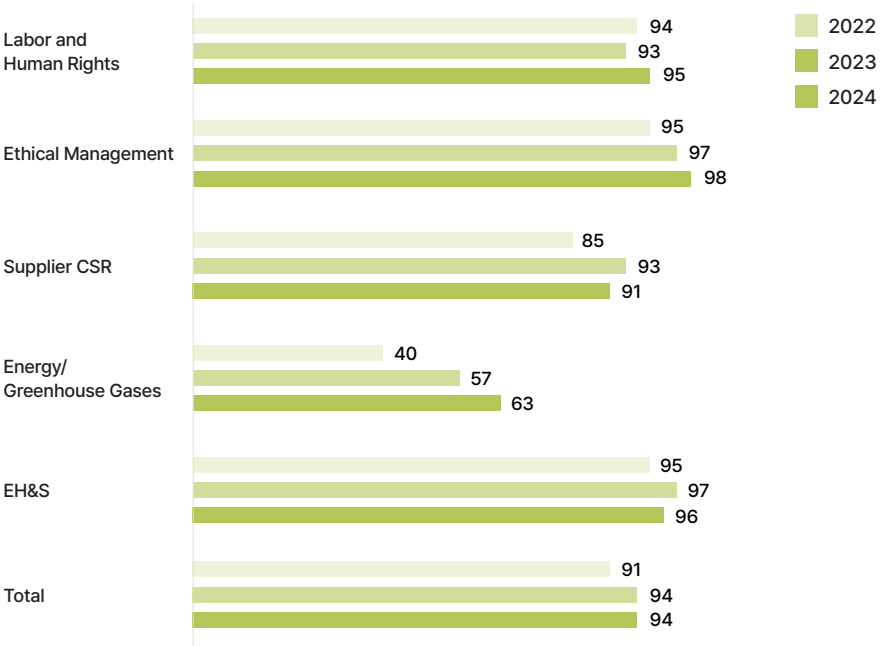
Category	2022 (FY2021)	2023 (FY2022)	2024 (FY2023)
High-Risk Group (less than 65 points)	2.1%	0.7%	0.0%
Medium-Risk Group (65~85 points)	10.5%	11.2%	9.7%
Low-Risk Group (85 points or more)	87.4%	88.1%	90.3%

High-Risk Group: Suppliers that violate local laws and have ESG risks that could have a significant impact
Medium-Risk Group: Suppliers with potential ESG risks
Low-Risk Group: Suppliers with established ESG risk management systems

In 2024, LG Energy Solution conducted ESG self-assessment (SAQ) on 145 Tier-1 suppliers. As the results, the average score was 94.2, marking a 0.4 point increase from 2023. Since 2022, we have prioritized conducting on-site audits annually for approximately 10-20 companies, focusing particularly on those with significant non-compliance issues or high trading volume with Poland site. Based on evaluation results, suppliers found to have significant issues voluntarily establish improvement plans starting from root cause analysis, through to proposing improvement measures and implementation plans. These actions are agreed upon and monitored in collaboration with us to ensure effective remediation of identified issues.

Assessment Results by Categories in Tier-1

Unit : Score



Third-party Audits for Core Raw Material Supply Chains

LG Energy Solution conducts supply chain audits using independent third-party organizations to verify and manage human rights and environmental risks within the supply chains of core raw materials such as cobalt, lithium, nickel, manganese, and graphite. In 2023, we conducted third-party audits for 9 Tier-1 suppliers and 8 Tier-2 suppliers at major production sites that handle of cathode and anode materials. The results did not reveal any entities that need immediate corrective actions due to human rights or environmental risks within the supplier facilities and supply chain. However, some areas requiring improvement were identified based on our Responsible Sourcing Policy, risk identification and management systems, compliance with supply chain audit implementation, and external disclosure perspectives. Improvement plans have been requested, and the implementation progress is monitored based on objective evidence. Looking ahead, we plan to expand our audit programs, including certifications by third-party organizations based on global standards, for further upstream supply chain suppliers such as refineries and mines of key raw materials.

ESG Risk Auditing of Core Raw Material Suppliers

2017
Third-party due diligence conducted on Huayou Cobalt, a cobalt refiner and precursor supplier in China

2018
On-site audit of artisanal mines (small cobalt mines) in the Democratic Republic of the Congo to investigate for child labor practices

2020
Comprehensive investigation conducted on major cobalt supply chain, identification of improvement tasks for each company, and verification of their implementation status

2021
Joined the Responsible Minerals Initiative (RMI) under the Responsible Business Alliance (RBA), participating in international collaborative efforts to address ESG risks within the supply chain and expressing our commitment

2022
Joined the Fair Cobalt Alliance (FCA), participating in various local community support activities to eradicate forced labor and child labor in artisanal mines in the Democratic Republic of the Congo

2023
Verification of third-party audits for key cathode and anode material supply chains, identification of improvement areas per supplier, and verification of implementation progress

Supplier Education Program

LG Energy Solution provides educational programs for supplier representatives to enhance understanding and capabilities in ESG activities. This program is structured around key contents including global major regulations, latest ESG trends and insights in the battery industry, supply chain ESG management strategies, and key initiatives. The core content of this supplier education program is also integrated into internal training programs for purchasing managers.

Supplier training content

Date	Content
2023	1) Introduction to Global ESG Trends and LG Energy Solution's ESG Policies 2) Trends and Implications of Global Regulations on Responsible Supply Chains and Carbon Reduction 3) Status of Key Supply Chain ESG Tasks and Recommendations for Implementation

On-Site ESG Risk Management

LG Energy Solution utilizes the RBA VAP (Validated Assessment Program) to conduct regular assessments at our sites. This program involves self-assessment through the SAQ (Self-Assessment Questionnaire) and on-site audits (initial and improvement verification) by external auditors across five key areas: Environment, Human Rights/Labor, Health/Safety, Ethics, and Supply Chain Management. The RBA VAP aims to measure the company's performance in each area internally and supports capacity building through continuous improvement efforts.

RBA VAP Process

Step 1: Preparation of RBA SAQ → Step 2: First on-site audit (initial assessment) → Step 3: Issue of result report →
Step 4: Improvement of nonconformities → Step 5: Improvement verification on-site audit (final assessment) → Step 6: Final inspection and announcement of results

2023 On-Site ESG Risk Evaluation Results and Actions

In 2023, we conducted self-inspections and on-site inspections at five production plants located in Ochang, Korea; Nanjing, China; and Wroclaw, Poland. While we received excellent evaluations in four areas: environment, safety and health, ethics, and supply chain, we found that we needed to improve in terms of labor system compliance. From 2024, we plan to expand self-assessment and on-site audits across all facilities, including those not previously assessed as part of ESG risks. Additionally, company-wide workshops (both online and offline) will be conducted to establish regional networks and regularly monitor the latest audit regulatory trends. These initiatives aim to enhance ESG risk management capabilities at each site. We are committed to rigorously managing ESG risks at our facilities to realize sustainable values and strives to lead by example in promoting sustainability.

Product Stewardship

LG Energy Solution is committed to delivering products and solutions that exceed customers' expectations. To that end, we have put in place a rigorous quality management system and programs to ensure product quality and safety throughout all manufacturing processes and continuous improvement in collaboration with all staffs and suppliers.

Product Quality Management System

LG Energy Solution operates a quality management system based on IATF 16949:2016 (Automotive Quality Management System) and ISO 9001:2015 (Quality Management System) to enhance trust in quality as customer and stakeholder demands increase. Annually, we assess the achievement of quality management objectives and refine quality management processes and standards based on evaluation results to effectively manage our quality management system.

Status of Certifications Acquired

At the headquarters, manufacturing plants in operation and R&D centers are certified with IATF 16949:2016 Automotive Quality Management System and ISO 9001:2015 Quality Management System standards. As part of certification process, LG Energy Solution conducts third-party audits of quality management system, including surveillance or maintenance audits and re-certification audits. Further, we conduct internal audits annually to ensure facility-level compliance with company regulations and standards and continuous improvement, thereby exceeding stakeholder expectations.
We have obtained the international certificate of quality system for 100% of our wholly-owned manufacturing plants in operation (as of April 2024).

Korea				
Headquarters	R&D Campus Daejeon	R&D Campus Gwacheon	Ochang Energy Plant 1	Ochang Energy Plant 2
IATF 16949 ISO 9001	IATF 16949 ISO 9001	IATF 16949 ISO 9001	IATF 16949 ISO 9001	IATF 16949 ISO 9001
China			Poland	US
LG Energy Solution (Nanjing) Co., Ltd.	LG Energy Solution Battery (Nanjing) Co., Ltd.	LG Energy Solution Technology (Nanjing) Co., Ltd.	LG Energy Solution Wroclaw sp. z o.o.	LG Energy Solution Michigan Inc.
IATF 16949 ISO 9001	IATF 16949	IATF 16949	IATF 16949 ISO 9001	IATF 16949

Quality Management Process

Quality management is integrated in different stages of product lifecycle and based on a quality control and assurance process against internally developed standards that go above and beyond international standards. Such process covers all our production facilities in operation. At the product development stage, LG Energy Solution follows a rigorous 'Product Quality Planning Process' to ensure the design of products meets customers' quality requirements and international standards. With in-house capacity to test product performance, safety, reliability from the design to materials & parts approval phases, we identify and mitigate potential or emerging quality and safety concerns in a preemptive manner. Each of newly developed products, before the mass production stage, undergoes relevant international certification process. Also, we maintain strict quality control measures throughout the production process, conducting thorough inspections of all parts and products at each step. We operate various risk mitigation process such as dual sourcing, to mitigate potential risks caused by unexpected changes in the project volume and/or in supply chains.

Capacity Building in Quality Management

Through LG Energy Solution's Battery Academy (LBA), we offer a comprehensive training and capacity development program designed to enhance employee skills and capabilities in assuming respective role. The program is offered to all employees regardless of their position or employment contract type. In particular, the quality managers across all our facilities worldwide are regularly provided with specialized training in various areas, including quality management, product safety, reliability & statistics, and relevant global regulations. The training courses are complemented with on-site, hands-on learning/training and education to further enhance their knowledge and capability in quality management. Further, to promote awareness and foster a culture of quality assurance in each member's daily work, all employees are offered with compliance training programs, including a 'Quality Assurance for Customer Satisfaction and Quality Mindset' course which is mandatory for all employees and provided twice a year.

Quality Risk Management

Quality related issues can arise at any stage of business activities, including product development, components or parts sourcing, inventory storage, and product delivery. Therefore, it is crucial to establish a company-wide system and process that enables to promptly identify, respond to and efficiently mitigate any quality risk.
We operate a company-wide risk management system to proactively identify, prevent, mitigate and effectively respond to potential and/or actual risks in various aspects of business. Product safety and quality are key risk areas that LG Energy Solution defines as part of this comprehensive risk management system. While we apply different processes and protocols depending on the nature of risk area, product safety and quality risk are addressed by different processes and protocols, including crisis management, business continuity management, and risk management, depending on the root cause of the situation.
In particular, our Business Continuity Management System (BCMS) is established based on and certified with ISO 22301 to validate and enhance the continuity, consistency, and effectiveness of our risk management system. Further, all of our operating sites undergo internal evaluation based on our own risk management criteria, which aligns with ISO 22301 standards.
Securing a stable supply of parts and materials is another key element of product safety and quality management. To mitigate risk associated with disruption in parts and materials sourcing, emergency cases are clustered into few categories, including natural disaster, workplace accident, suppliers' management issue such as bankruptcy, layoff or strikes, and geopolitical issue including price fluctuation. For each category of emergency case, a formalized process and manual are put in place, and the contents encompasses case identification, reporting protocol, operation of emergency taskforce, and mitigation and remediation planning. Mitigation measures are planned in a stage approach where – in the short-term, mitigation measures include temporary sourcing of alternative, production plan adjustment; in the mid- to long-term, mitigation measures vary ranging from dual sourcing, alternative/new supplier identification, to the change of manufacturing site. The category-specific processes and manuals are reviewed and updated on a regular basis to ensure effectiveness of product safety and quality management process. Also it is to minimize any adverse impacts and prevent recurrence of such event.

Supplier Quality Management

LG Energy Solution's quality management integrates a systematic supplier quality management, which aims to ensure consistency and stability in quality and continuous improvement of suppliers' capability in quality assurance and control. Through a 'Through a Supplier Quality Management System', we monitor real-time data on various indicators of suppliers' quality and carry out product reliability risk management.

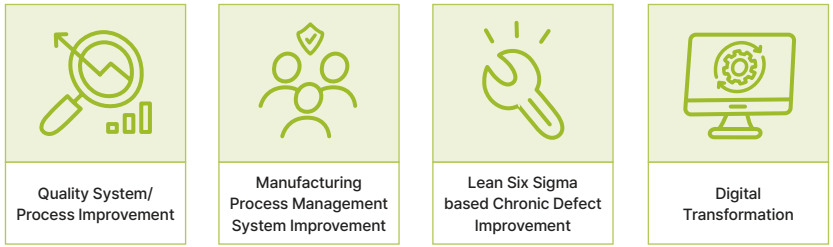
Supplier Quality Assurance System

LG Energy Solution operates a comprehensive 'Supplier Quality Assurance System' that regularly assesses the quality management level of all our suppliers. Key assessment criteria include customer requirements and global standards, and the scope of assessment is suppliers' quality management systems and processes. The assessment framework is regularly reviewed and updated to ensure that our products meet the expectations from our global customers. In addition to the regular assessments, we conduct ad-hoc evaluations of our suppliers' quality assurance capacity and quality improvement programs. This approach enables us to continuously strengthen our 'Supplier Quality Assurance System' and ensure that our products consistently meet the highest standards of quality and reliability.

Supplier Quality Certification Process and Capacity Building Program

In order to achieve the high level of product quality and safety, it is crucial to assess and manage suppliers' product quality and enhance their quality management capacity. We run a supplier quality assessment program on a quarterly basis, the results of which are tied with certification, incentive/penalty programs, and capacity building initiatives. The assessment program is designed to evaluate each supplier's quality management system, quality performance and preventive quality control, and rank them in five levels – S, A, B, C and D – based on the score (Q-Score). We issue certificates and the record of certification is archived and tracked through our Supplier Quality Management System (QMS).
Those suppliers marked as two lowest ranks are required to participate in the Supplier Quality Rank & Rank Up Program, designed to address their weaknesses and areas for improvement. We also utilize this ranking system for the Supplier New Biz. Hold (SNBH) program. Under this program, suppliers who receive the lowest grade of D for two consecutive years are excluded from our vendor pool and restricted from entering into new business contracts with LG Energy Solution. This measure ensures that we maintain a high standard of quality and performance from our suppliers, and encourages suppliers' continuous improvement and adherence to our quality management requirements.

Rank up program



SQM academy

LG Energy Solution provides a quality management training program, called SQM Academy, annually for all of our suppliers. Our program offers a range of courses designed to equip our partners with the necessary skills and knowledge to secure global competitiveness in quality.

Key Curriculum

SPC(Statistical Process Control), PFMEA(Process Failure Mode & Effects Analysis), Firewall, Initial Stabilization, 4M Process, Run@Rate Audit, Audit(SSQ), PPAP(Production Parts Approval Process), 8D Report, SQ Rank

Supplier quality conference

LG Energy Solution strengthens our collaborative relationship with suppliers by hosting a 'Supplier Quality Conference.' Through this conference, we exchange information on the current state of materials & parts quality, quality management policies, and introduce exemplary improvement programs. The information and discussions held in the conference provide a solid basis for the design and improvement of our supplier capacity building initiatives.

2023 Supplier Quality Conference

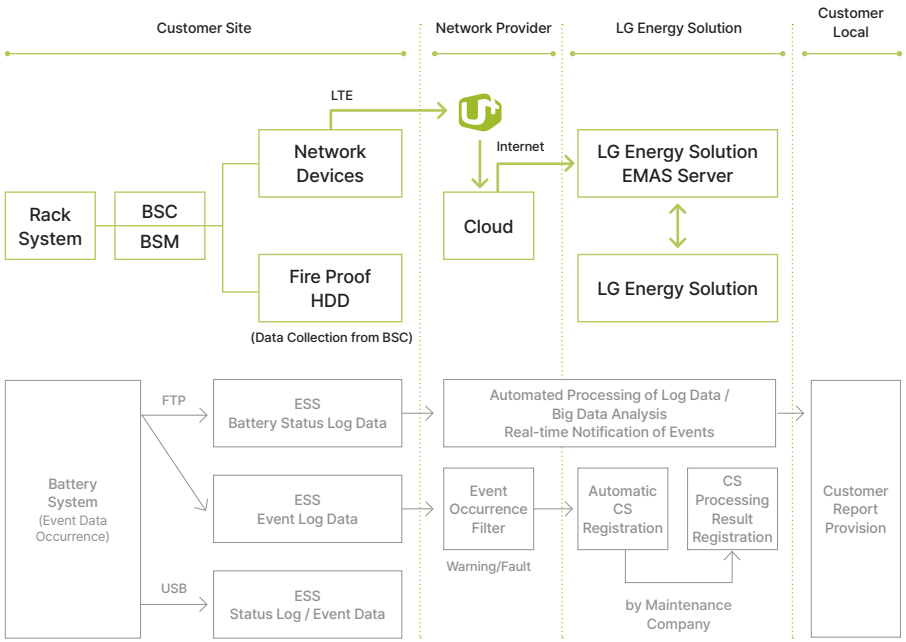
Sub-supplier qualification program

LG Energy Solution operates a Sub-supplier Qualification (SSQ) Program aimed at supporting quality improvement of upstream suppliers by enhancing supplier quality management capacity of Tier-1 suppliers. The SSQ program fosters quality auditors from Tier-1 suppliers and grants them qualifications to evaluate and improve the quality management systems of their suppliers, who are sub-suppliers of LG Energy Solution. Through this system, we strive to secure quality from upstream suppliers in collaboration with our Tier-1 suppliers.

Strengthening Product Safety

ESS Battery Management System 'EMAS'

LG Energy Solution supports the stable operation of ESS (Energy Storage System) systems and provides quality management services by implementing the EMAS (ESS Management and Analysis System), an advanced system for ESS operation and management. Portable LTE communication devices are installed at customer sites to collect and analyze data generated by the battery system on cloud servers. This enables real-time email and SMS notifications in case of incidents and various after-sales customer quality management services such as automatic after-sales customer service (CS) reception.



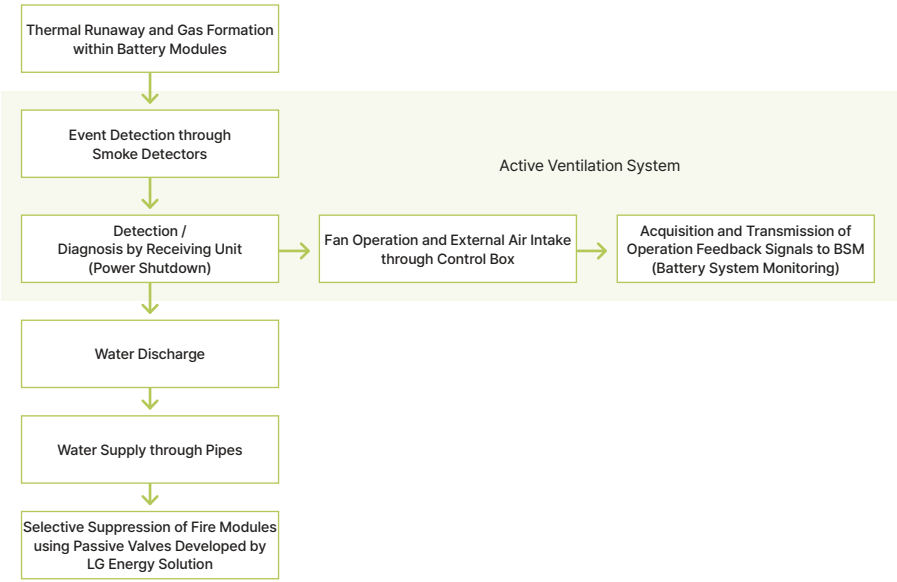
Battery Section Controller (BSC)

The BSC is a software that manages the entire battery, monitors and diagnoses the battery system's status, the modules, and records related information as data.

ESS Battery Module Fire Suppression Process

The National Fire Protection Association (NFPA) in the US, FM Global's safety management standards (FMDS), and the International Code Council's fire-related code IFC1206 all require the installation of sprinkler systems for ESS installation and maintenance. We reduce the risk of fire spread by selectively extinguishing the modules affected by thermal runaway inside the ESS battery. We also have an Active Vent System to rapidly exhaust combustible gases that may be produced during fire suppression.

Fire Extinguishing Process in Case of Fire



BSM (Battery System Monitoring)

Software that monitors and records data related to battery systems without a user interface.

Product Sustainability

With increasingly stringent product and environmental regulations at national level, it has become all the more important to identify and manage chemicals in products and ensure the required level of environmental friendliness. LG Energy Solution is a global company that leads the future of the energy industry through our battery business, which will be integral to the upcoming era of green energy. We have grave responsibility for the health, safety, environmental, and social impacts of our products and are thus fully committed to minimizing adverse impacts.
LG Energy Solution limits harmful substances to below regulatory level in the respective country to minimize their adverse impacts on the environment and public health and to provide our customers with green and competitive solutions. Also, for this end, we are operating a product stewardship process to continuously monitor and manage in compliance with evolving product and environmental regulations, and providing a guideline for suppliers to manage supply chains in an environmentally friendly manner. As such, we ensure eco-friendliness of all chemicals from the purchase of raw materials to production and sales. We also strictly manage the environmental hazards of materials and products. Further, we strive to quantify environmental performances of products through Life Cycle Assessment (LCA) and transparently disclose reliable information through third-party verification.

Hazardous Substance Management System (HSM)

With a view to ensuring compliance with product and environmental regulations for strengthening product safety, LG Energy Solution operates Hazardous Substance Management system (HSM) to strictly manage environmental hazards throughout the entire process – from raw materials purchase and warehousing to use and disposal. Through HSM, we aim to manage any compliance risk in a preemptive manner by thoroughly reviewing chemical compositions and compliance assurance of each and every raw material as well as information on any environmental hazard and related legal response before making orders from suppliers.

Environmental Regulation Monitoring

LG Energy Solution constantly examines and monitors environmental laws, regulations, and relevant accident cases in the countries and regions we operate. Relevant regulations include the Act on Registration and Evaluation of Chemical Substances, the Chemical Substances Control Act, and the Occupational Safety and Health Act in Korea, The Regulation on the registration, evaluation, authorisation and restriction of chemicals (REACH), Restriction of Hazardous Substances Directive (RoHS), and Security Cooperation Information Portal (SCIP) in EU and Toxic Substances Control Act (TSCA) in the US. We preemptively respond to chemical regulations in the conduct of our global business to minimize any associated risks.

Life-Cycle Assessment (LCA)

Life-Cycle Assessement is an integrated methodology for assessing environmental impacts by analyzing an inventory of the energy and materials required in all stages of the product life cycle (cradle-to-grave) from raw material extraction processing, manufacturing, assembly, transportation, use, to recycling or disposal, and calculating the corresponding emissions to air, water, land, among other. We have been conducting LCA since 2019. While we communicate with external stakeholders, including customers, the information and the results of on the products' environmental impacts serve as an important criterion and tool to measure the product carbon intensity, identify hotspots (i.e. the most relevant drivers of the assessed impacts), and establish mid- to long-term strategies to achieve carbon neutrality.

Environmental Product Declaration (EPD)

Environmental Product Declaration (EPD) is a certification program through which the information on the environmental performance of the product – GHG emissions, resource uses, water pollutant discharge, air pollutant emissions, and other releases – is reported, verified by a third party, registered and displayed on the product based on the results of the LCA assessment. Through EPD certification, we are committed to measuring and reducing the environmental impacts of our products and keen to communicate with customers the information in a transparent manner.

Empowering Our People

LG Energy Solution respects the rights of our employees and all relevant stakeholders, and we effort to uphold its responsibility to protect and ensure them in all business activities.

Human Rights

Human Rights Policy

LG Energy Solution supports all internationally recognized standards on human rights and labor, including the UN Universal Declaration of Human Rights, the UN Global Compact's Principles on human rights and labor, the UN Guiding Principles on Business and Human Rights, and the fundamental conventions of the International Labor Organization. Reflecting the fundamental human rights and ethical behaviors within the LG Code of Ethics, we establish the foster human rights values for all employees with a belief in honesty and fairness. Based on this, we comply with the labor laws of all countries and regions where we operate by implementing the 'Global Human Rights and Labor Policy' across all our sites. Additionally, we require all our stakeholders, including suppliers, service providers, and contractors, to comply with this Policy and actively participate in relevant activities. Furthermore, we have established a 'Diversity, Equity and Inclusion Policy' to uphold the principle of fairness without discrimination based on gender, race, nationality, or other differences. Continuous monitoring is conducted to identify and improve human rights and labor-related risk factors.

Global Human Rights and Labor Policy

Categories	Contents
Prohibition of Forced Labor	We prohibit unfair confinement of mental or physical freedom or forced labor against the will of the employees either by intimidation or threat, or by physical confinement, human trafficking, modern slavery or any other means.
Prohibition of Child Labor	We strictly follow local and national laws restricting the employment of underage workers. Regardless of local laws, no workers at a facility may be under the age of 16. Any worker under the age of 18 (young workers) shall be removed from hazardous work (including night shift and overtime).
Prohibition of Discrimination and Harassment	We provide all employees equal opportunities for employment, promotion, wages, compensation, and training, and prohibit all types of discrimination on the basis of gender, age, race, religion, labor union activities, disabilities, pregnancy, marital status, social status, etc. In addition, any type of workplace harassment – sexual or non-sexual – is prohibited and a zero-tolerance policy is enforced. In the event of any violation, appropriate remedial action shall be taken, and a grievance channel for raising concerns be maintained.
Compliance with Labor Standards	We comply with the regulations regarding working hours, holidays, and leave as stipulated by applicable national and local laws. Employees are not forced to work beyond standard working hours, and when overtime is necessary, overtime pay is provided within legal limits and in accordance with relevant laws. In addition, all employees are paid wages that exceed the minimum wage set by the laws of each country and region.
Recognition of Freedom of Association and Collective Bargaining Rights	We recognize the freedom of association and the right to collective bargaining as guaranteed by applicable national and local laws. We foster an environment where employees can communicate freely with the employer without fear of intimidation or retaliation. Employees will not be subjected to unfair treatment for forming, joining, or participating in labor unions and their activities.
Guarantee of Safety and Health	We create a safe and hygienic working environment for all workers, including employees and suppliers. Proactive health management is employed to prevent safety and health risks in advance. Furthermore, we perform proactive maintenance of facilities, equipment, raw materials, and products to prevent disasters within the local community and among citizens.
Personal Information Protection	We strive to protect stakeholders from human rights risks associated with the misuse and leakage of personal information by checking for any privacy breaches, compliance issues, and other related concerns.
Management of Human Rights Impact within the Supply Chains	We ensure responsible sourcing of raw materials by establishing the 'Responsible Sourcing Policy' and 'Supplier Code of Conduct', which outline the fundamental principles of supply chain management for LG Energy Solution and its suppliers. Based on these principles, we systematically manage the human rights impact within our supply chains.
Protection of Community and Indigenous Peoples' Rights	We respect the rights of local communities and indigenous peoples and ensure the right to grant or withhold free, prior, and informed consent (FPIC) in the levant decision-making processes associated with our operations and supply chains.

Human Rights Impact Assessment

LG Energy Solution has established human rights due diligence process to identify, prevent, and mitigate adverse human rights impacts and to account for how it addresses them. We strive to identify all actual and potential adverse human rights' impacts that we may cause or contribute to through our own activities, or that may be directly linked to our operations, products or services by our business relationships. All stakeholders in our value chain, including subcontractors, suppliers, and communities affected by our operations are covered in this process.

Defining Human Rights Impact Scope and Identifying Risks	Setting Risk Priorities	Risk Prevention, Mitigation, and Remediation	Implementation Monitoring and Results Integration
We identify stakeholder groups that may be affected by our business activities and utilize appropriate risk identification tools (RBA, VAP, grievance handling systems, surveys, interviews, and human rights impact research reports) catered to characteristics of groups.	We prioritize the identified human rights risks based on criteria such as severity and likelihood of occurrence.	Based on the identified human rights risks and their prioritization, we develop plans and targets to prevent, mitigate, and remediate risks. We will designate responsible individuals with the authority to address these risks and develop actionable tasks to ensure their implementation.	We continuously monitor the post-risk actions to ensure they are effectively implemented to achieve our goals. We will track feedback from affected stakeholders to evaluate the adequacy of remedial actions. Key findings will be integrated into our due diligence process and prevention/mitigation action plans to progressively enhance the human rights due diligence process.

Handling Human Rights Grievance

To ensure that employees' rights and welfare are respected, and to foster an inclusive work environment, we have significantly enhanced our grievance handling program. We offer various grievance channels to ensure stakeholders can have access to report their concerns - these include the Jeong-Do Management Report Center, LGEthics Hotline, and EnTalk - direct communication channel between the CEO and employees. Additionally, we provide offline channels through the Junior Board in each organization.
Furthermore, we operate grievance handling channels that allow not only employees but also all stakeholders in the supply chains, including suppliers, service providers, and contractors, to report their concernsabout human rights, safety and health, the environment, and corporate ethics. When a grievance is received, the responsible department is assigned to verify and investigate the facts, and feedback is provided to the whistleblower upon completion of the investigation. Throughout the grievance handling process, the confidentiality of the whistleblower's identity and the reported case is strictly maintained, and we are committed to ensuring that there is no retaliation or disadvantage against the whistleblower.

Human rights education

LG Energy Solution continuously provides human rights education to ensure compliance with global human rights and labor policies and to raise awareness about human rights among employees. In addition to legally mandated training, such as workplace sexual harassment prevention education, we regularly offer programs that disseminate information on violations related to workplace harassment and sexual harassment.

Labor Relations Management

LG Energy Solution recognizes employees and labor unions as important partners and practices a collaborative organizational culture and community-oriented labor-management relationship based on mutual trust. Employees are free to join and participate in labor unions, and we conduct business-oriented and productive collective bargaining.

Formation and Operation of Labor Unions/Labor-Management Council

LG Energy Solution has established labor unions in Korea based on relevant laws. In our overseas sites, such as in China, we have established workers' associations like the Trade Union. Additionally, at our sites in Korea, we have formed Labor-Management Councils according to the Act concerning the promotion of worker participation and cooperation, which include employer representatives (department leaders to team leaders) and employee representatives (labor union executives). These Councils meet quarterly to discuss employee grievances and workplace improvements. Decisions made in collective bargaining or labor-management council meetings are promptly communicated to all employees.

Securing Workers' Rights and Identifying Risks

To ensure the protection of workers' rights and to mitigate compliance risks, LG Energy Solution's Employee Relations Department regularly monitors relevant regulatory trends and engages in compliance activities. As part of company-wide compliance efforts, we identify and monitor risks related to human resources and labor-management issues, ensuring ongoing adherence to legal requirements.

Safety and Health Management

LG Energy Solution places safety and health of all employees, staffs, and suppliers, as top priority in our business. We are dedicated to creating a safe and healthy workplace, and we are committed to making every effort to protect the local community.

Establishing Safety and Health Management Systems

Safety and Health Governance

The Environmental Safety Council is a body that consults on major decisions on environmental safety and is composed of the Safety Environmental Officer (SEO) and key executives. The Environmental Safety Council is held annually to discuss major issues, key achievements, and future plans to provide leading global safety and health policy directions and strengthen responsible management. In addition, the Labor-Management Cooperative Occupational Safety and Health Committee, which is composed of equal numbers of representatives from worker and employer representatives, deliberates and makes decisions on major issues related to safety and health. Furthermore, we have implemented a safety and health organization at each site, appointing a supervisor whom have been dedicated with the responsible for ensuring safety and health to identify and mitigate any potential risks that may arise, as well as oversee employee health management issues. We organize a Safety and Health Council including suppliers and contractors to conduct joint inspections on a regular basis, listen to the improvement opinions of suppliers' workers, help them create a safe working environment by identifying and improving risk factors on site. We also share best practices in environmental safety to improve them through company-wide workshops.

Global Safety and Health Policies and Strategies

LG Energy Solution has developed a global safety and health policy centered on two key visions: "Integrating Business Activities with Health & Safety" and "Enhancing Health & Safety Competitiveness and Implementation." To achieve these goals, we operate a specialized team dedicated to ensuring compliance with all relevant safety and health regulations and laws across our global operations. This team works proactively to identify and mitigate risks, aiming to prevent accidents and illnesses among all employees by maintaining the highest standards of safety and health infrastructure. Beyond safeguarding our employees, we extend safety and health initiatives to the broader community. We manage the safety of our facilities, raw materials, and products to prevent accidents and protect the well-being of local residents and the general public. As commitment to transparency, we openly share our health and safety performance, demonstrating our dedication to creating a safe and healthy environment for everyone.

Global Safety and Health Policy

Safety and Health Strategy

Vision and Target	
Harmony between Business and Health and Safety.	Enhancement of Safety and Health Competitiveness and Execution

Safety and Health Management

LG Energy Solution annually allocates budget for safety and health, which includes safety inspections of equipment and facilities, safety and health training for workers, safety-related supplies and protective gear, safety diagnostics, improvements to the working environment, regular health check-ups for employees, and rewards and campaigns for outstanding safety and health practices. Additionally, we are implementing safety and health management systems at each of site and have been progressively obtaining ISO 45001 (Occupational Health and Safety Management System) certification. In 2023, we achieved integrated ISO certification for all domestic sites by obtaining new certifications for the headquarters, R&D Campus in Daejeon, and Ochang Energy Plant 2. To demonstrate our commitment to environmental, health, and safety (EHS) management both internally and externally, we have revised the 'Environmental Health and Safety Policy.' This policy provides a consistent direction for related initiatives and serves as the foundation for establishing operational guidelines based on EHS regulations and internal protocols. By implementing these guidelines at each site, we have created a flexible system that ensures effective execution of EHS responsibilities. In addition, we engage in preventive measures through leadership's on-site management activities and individual organizational efforts. To further enhance EHS awareness and effectiveness, we incorporate the severity of any EHS incidents into employee evaluations. This approach not only underscores the importance of EHS but also reinforces our commitment to preventing accidents and promoting a safe working environment.

1 EH&S Policy LG Energy Solution publicly announces our commitment to environmental health and safety management, which provides consistent direction for EH&S policy to establish a foundation for optimized management.	**2 EH&S Standards** The Standards define the basic rules for EH&S management throughout the company.
3 EH&S Guidelines Requirements, detailed methods, and unified procedures of each EH&S Standard are outlined.	**4 EH&S Procedures** Individual business sites (i.e., HQ, departments, factories, R&D centers) have procedures for performing independent tasks. These procedures include non-permanent and variable work procedures and standards.

Acquisition and Validity of Health and Safety Management System (ISO 45001) Certification

Country	Sites	Certification Validity
Korea	Headquarters	Single sign-on (2024-12-01)
	Ochang Energy Plant 1	
	Ochang Energy Plant 2	
	R&D Campus in Daejeon	
	R&D Campus in Gwacheon	
	R&D Campus in Magok	
China	LG Energy Solution (Nanjing) Co., Ltd.	2024-11-03
	LG Energy Solution Battery (Nanjing) Co., Ltd.	2025-05-13
	LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-06-06
Poland	LG Energy Solution Wroclaw sp. z o.o.	2026-11-16
US	LG Energy Solution Michigan Inc.	2025-07-14

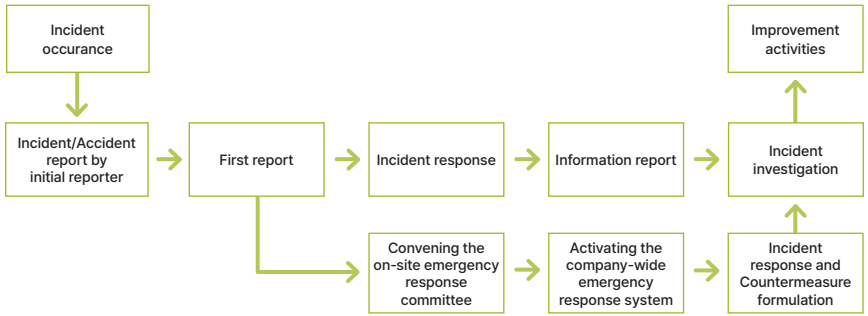
Establishment of Long-term Quantitative Goals for Health and Safety Management

To achieve zero major incidents (injury/fire/explosion/leakage) and establish a global standard for health and safety, LG Energy Solution has set goals for developing and implementing safety and health technologies, and operational systems, and disseminating them across the organization. Firstly, to build a safe working environment, we are focusing on enhancing equipment safety specifications and pre-approval systems based on risk factors, as well as conducting environmental safety diagnostics and preemptive inspections. We aim to stabilize global new sites by supporting safety and regulatory compliance, and construction safety management of new and expanded overseas facilities, to ensure a safe operational environment. Additionally, we have allocated a safety and health budget to support the implementation of smart factories, the improvement of environmental safety infrastructure and compliance, and the enhancement of employee health management. To reinforce the effectiveness of these initiatives, we conduct regular monitoring to ensure compliance and continuous improvement in our safety and health practices.

Safety and Health Incident Reporting Process

Given the operation of numerous manufacturing facilities in the battery production process, incidents such as injuries related to entanglement and cuts, as well as the one involving chemical leaks (electrolytes) which can lead to fires, explosions, and toxic incidents causing illness, may occur. Hence, under corporate crisis management regulations, an emergency communication system has been established, and annual emergency response drills are conducted at all domestic and overseas sites. Particularly, a grading system for accident reports related to environmental, health and safety (such as injuries, fires/explosions, leaks, infectious diseases, occupational diseases, and regulatory violations) has been established and operationalized. Depending on the severity of incidents, corporate/site emergency response committees are convened, and scenarios of actual environmental safety incidents are simulated to enhance overall response capabilities. In the event of an accident, utilizing IT systems, actions taken, causes, and improvement measures are reported promptly, and rapid dissemination is ensured through mobile SNS automatic notification features. In 2023, the headquarters organized a scenario-based training exercise for domestic sites, simulating an environmental safety incident involving a fire, casualties, and production stoppage. This exercise, based on real-life scenarios, involved the activation of the Emergency Response Committee and practice situation management by departments, thereby improving the company-wide response capability.

Safety Accident Reporting Process



Establishing a Company-wide Environmental Safety Smart Factory

LG Energy Solution is constructing smart environmental safety factories across the sites to create safer and healthier workplaces. By implementing real-time remote monitoring of various risk signals, such as abnormal temperature/pressure conditions and hazardous chemical leaks, we can quickly identify and respond to potential issues. Additionally, we have established automatic control systems for the equipment to prevent deviations from normal operating ranges and to contain any potential damage, ensuring a secure and controlled work environment.

Embedding a Safety Mindset

The most crucial aspect of safety and health management is fostering a safety-conscious mindset among employees. We provide personal protective equipment (PPE) to all employees and works to enhance safety awareness by identifying and mitigating near-miss incidents and other risk factors. Incident reports and videos are utilized in pre-work hazard prediction training sessions. Also, regular safety inspections are conducted annually, along with special safety inspections and accident-specific assessments as needed. Additionally, biannual inspections are carried out to comply with the Serious Accidents Punishment Act in Korea. On-site self-inspections are performed at each facility to identify non-conformance risks, which are then logged and tracked in our Environmental Health and Safety Management System. In particular, at the R&D Center in Daejeon, a Safety Festival is held to build a shared understanding of safety among employees and partner company staffs. The festival includes activities such as safety quizzes, near-miss incident contests, and hands-on experiences with protective equipment, encouraging participants to embrace the safety and health culture. Safety-related information is also disseminated through the company blog to improve safety awareness.

Safety Festival in R&D Campus in Daejeon

Safety Education and Progress Sharing Events

To enhance employee safety awareness, we have established and distributed safety management procedures for chemicals and machinery at each workplace. In addition to mandatory safety training, experiential training centers have been set up and are in operation. These Safety Experience Education Centers at each site offer immersive training to heighten safety awareness and engagement. The Centers include various training themes, such as protective gear safety for hazard prediction training, equipment safety experiences to prevent entrapment accidents, virtual reality (VR) safety experiences, and emergency response and first aid training. Furthermore, we offer compliance training to strengthen safety and health competencies. In 2023, all employees were trained on the Serious Accidents Punishment Act, incident grading and reporting systems, chemical regulations, and compliance with chemical handling protocols. We also conducted 17 sessions of the environmental safety school, a group training program for team leaders and managers, to improve their safety capabilities and awareness. Annual performance sharing meetings are held to disseminate environmental safety improvement cases across the company, rewarding outstanding examples and implementing them at other workplaces. Environmental safety personnel from overseas operations also participate in fostering exchange and enhancing their skills.

Employee Environmental Safety Training

Tailored programs for employees by job functions and positions	Programs for employees at all business sites	Programs for new hires and related employees	Training programs for special task workers	Programs for Employees of Suppliers
Introductory / Basic / Professional Courses	Fostering an environmental safety mindset	Before-work safety and health precaution training for field employees	Training programs for employees in hazardous conditions	Supplier safety management enforcement training

VR safety experiential facility

Employee Health and Safety

Employee Health Promotion Activities and Workplace Environment Improvement

LG Energy Solution has established in-house medical centers to provide medical services to employees at a professional level. At the center, employees regularly check their exposure level to noise, dust, and other workplace factors that may affect employee health. The centers also quantitatively evaluate the musculoskeletal burden of work and continuously improve the work environment. Additionally, we operate a Green Mind Counseling Room to create an environment where employees can manage their physical and mental health. We will continuously enhance our capacity for safety and health management by promoting the health of our employees.

List of Laws and Internal Guidelines for Workplace Health and Safety Management Systems

LG Energy Solution operates a standardized safety and health management system in accordance with the Industrial Safety and Health Act. This system includes two primary safety and health management guidelines and 20 internal regulations related to safety and industrial hygiene. By adhering to these guidelines and regulations, we establish a safe and comfortable working environment, preventing industrial accidents within our facilities. Through these measures, we mitigate human and material losses caused by accidents and minimize their impact. Additionally, we focus on the early detection and prevention of common and occupational diseases among our employees, thereby maintaining and protecting their health.

Employee Health Prevention and Promotion Activities

Implementation of smart automated external defibrillators (AEDs)

LG Energy Solution has implemented and operates smart Automated External Defibrillators (AEDs) across all domestic sites to ensure the provision of these life-saving devices. The smart AEDs allow for real-time monitoring of the device's operational status, location, battery condition, door open status, and attachment state. With these smart AEDs, automatic device checks are done for history management are possible, and emergency SOS alerts are linked to the Disaster Prevention Center. This integration strengthens our response system during critical golden time periods. We are continually expanding this infrastructure to safeguard the lives of our employees.

Automated External Defibrillators

In-house medical clinic operation and Health Management program

In 2022, LG Energy Solution established in-house medical clinics at headquarters, Ochang Energy Plant 1, and R&D Campus in Daejeon to manage employee health. These clinics offer a variety of services, including medical consultations, prescriptions, health check-ups, health counseling, and wellness programs. For sites handling hazardous chemicals, we provide extensive health screenings to prevent occupational diseases. These include comprehensive employee health checks, regular and special health screenings, cancer screenings, pre- and post-deployment health assessments for new hires and department transfers, and health evaluations for overseas assignees. Health consultations are also available for employees with noted health concerns. Additionally, to ensure high-quality medical services for employees visiting these clinics, we conduct various wellness programs at each site annually.

In-house medical clinic

01 Health Diagnosis and Post-Care Management

- Comprehensive health check-ups and General examinations for employees
- Specialized examinations, Cancer screenings, Pre and Post-placement examinations for new hires and Department Transfers (workplaces handling hazardous chemicals)
- 1:1 Consultations with specialists for employees with high-risk conditions (hypertension, diabetes, dyslipidemia, liver Disease)

02 Concentrated Management for High-Risk Groups

- Identification of Individuals Requiring Intensive Management Based on Health Diagnosis Results (Cancer, Cardiovascular Disease Patients, etc.)
- 1:1 Consultations with Specialists for High-Risk Individuals
- Emergency Care and Transport Support for Emergency Patients

03 Health Promotion Facility Operations

- Internal clinics (Headquarters, Ochang Energy Plants, R&D Campus in Daejeon)
- Internal health management offices (Ochang Energy Plant 1, R&D Campuses in Daejeon/Gwacheon/Magok)
- Internal psychological counseling rooms (green mind psychological counseling room)

04 Support for Overseas Staff Health Management

- Remote medical services for overseas staff (coordinated with domestic comprehensive hospitals)
- Health assessments conducted before dispatching candidates for overseas assignments
- Quarterly health status monitoring for expatriates with noted health conditions
- Safety management services provided for overseas staff, business travelers, and accompanying family members

05 Health Promotion Program Operations

- Walking: 10,000 steps walking challenge activity using a mobile app
- Obesity: body fat reduction / muscle gain program using in-house body fat measurement devices
- Lectures: Health lectures by specialist doctors at in-house clinics on the 4 major diseases Self-taping class by physiotherapists to prevent musculoskeletal disorders CPR training classes for nurses at in-house clinics
- Smoking cessation: Medical consultation and Prescription program by clinic medical staff

10,000 Steps Walking Challenge

CPR Training Class

Supplier Safety and Health

Enhancement of Safety and Health System for suppliers

LG Energy Solution is committed to enhancing the safety and health of not only our own employees but also our suppliers. To achieve this, we operate a regular Safety and Health Council with our suppliers once a month. During these meetings, we share safety incident cases and risk assessment results. Additionally, we conduct joint inspections every two months and patrol inspections every two days with our suppliers. We also utilize a smartphone app (SANDI) to gather feedback from supplier workers, addressing the issues raised and implementing improvements. A notable improvement is the installation of air conditioners and heaters in electric forklifts to prevent heat-related illnesses and cold-related ailments for supplier workers who operate these vehicles outdoors during extreme heat and cold conditions.

Safety Education and Evaluation for suppliers

LG Energy Solution has conducted construction safety training, including risk assessment, for approximately 8,500 supplier workers at domestic project sites. Continuous refresher training is provided to instill a strong safety culture. Special safety training is also given to suppliers with a high number of non-compliance issues and frequent recurring problems. Additionally, we conduct biannual evaluations (in the first and second halves of the year) of 417 contracting, service, and subcontracting companies (144 general contractors and 273 construction contractors). These evaluations cover safety and health management, job performance suitability, field feedback, and site safety management. We monitor and ensure the implementation of actions based on the evaluation results.

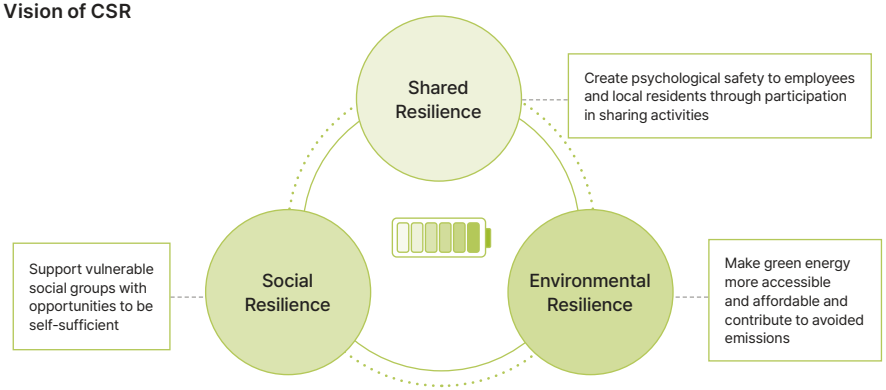
Improvement measures for supplier safety actions (Installation of air conditioners and heaters in electric forklifts)

Construction safety education for suppliers

Corporate Social Responsibility

LG Energy Solution considers resilience a key theme for our corporate social responsibility (CSR). Focusing on three main directions: Shared Resilience, Social Resilience, and Environmental Resilience, we aim to lead social change for the environment, society, and future generations.

Vision of CSR



Current Status of Community Engagement Activities

LG Energy Solution engage with local communities to understand their needs and impact within the regions where global facilities are located. We undertake multifaceted activities not only to support vulnerable groups but also to enhance local living conditions through initiatives like installing renewable energy facilities tailored to the region's specific characteristics.

Science and technology talent cultivation activities

LG Energy Solution operates various programs aimed at enhancing scientific and technological capabilities, which are crucial for national and industrial development. In Korea, we support the Customized Education Polymer Program (CEPP) at KAIST (Korea Advanced Institute of Science and Technology) in Daejeon to cultivate specialized technical talent. In China, we have made donations to Qinghai Hainan Vocational and Technical College and Nanjing PuKou Station Elementary School. Additionally, we have hosted an innovation contest for Chinese university students focused on automotive battery technology.

Cheongju hope green power plant

Through partnerships with local governments and NGOs, we completed the Cheongju hope green power plant, a 410kW solar power facility, at the Cheongju Northern Transfer Center in December 2020. If operated for 20 years, this facility is expected to reduce greenhouse gas emissions by 244 tons annually, totaling 4,900 tons, and generate an estimated revenue of approximately KRW 800-1,000 million. The revenue generated from this power plant is donated to the "Hope Green Energy Center" to support underprivileged youth in the Chungbuk region and cultivate young environmental leaders among them. The Hope Green Energy Center is a forum for collaboration among LG Energy Solution, Cheongju City Hall, NGOs, and city council members. Through ongoing initiatives, we plan to continue welfare and energy improvement projects for vulnerable groups in the Chungbuk region.

2023 Hope Green Scholarship Award Ceremony

Hope Green Power Plant

Global disaster relief

LG Energy Solution fulfills social responsibility by supporting disaster recovery efforts when emergencies and disasters occur. In February 2023, in response to the earthquake in Turkey, 727 employees donated approximately KRW 10 million to contribute to the recovery efforts. In May 2023, we conducted a company-wide donation drive to assist in the recovery from the Gangneung wildfire. Additionally, in July 2023, approximately 552 employees participated in fundraising efforts to support flood recovery in Cheongju, contributing approximately KRW 51.3 million.

Support activities for vulnerable groups in local communities

LG Energy Solution is engaged in various support activities for vulnerable populations in both domestic and international communities. In Korea, we have undertaken initiatives to enhance fire safety environments for vulnerable groups such as basic livelihood recipients, people with disabilities, and elderly living alone in Cheongju. This effort includes supplying residential fire safety equipment like fire extinguishers and standalone alarm-type detectors. Additionally, in Daejeon, we have provided support to energy-vulnerable populations.

Providing opportunities for self-reliance [Sharing Dreams Onstage]

'Sharing Dreams Onstage' is a program that supports children and youth with developmental disabilities who have artistic talents but lack educational opportunities. Through open applications, we recruit children and provide tailored art education (2:1 ratio with special education teachers) and psychological therapy. Upon completing the program in 2023, the participants were given the opportunity to exhibit their works at the year-end exhibition 'Merry Hearts'. We also support continuous artistic activities by registering program graduates as artists on the art exhibition platform operated by the social venture 'Disabled' (discovering and exhibiting artworks by developmental disability artists).

Participation in Employee Volunteer Programs

LG Energy Solution provides opportunities for our employees to directly engage in volunteer activities to share love with their neighbors and experience gratitude and happiness. Additionally, we implement a "Volunteer Leave System" where employees can take paid leave to participate in activities beyond company-sponsored initiatives.

Employee volunteer group 'Hamsori (Together, Ensol)'

"Hamsori" in Korean means "Together, Ensol" is an initiative aimed at providing opportunities for employees at Seoul headquarters, Daejeon, and Ochang to participate in community service and sharing activities. In 2023, a total of 520 employees participated across 38 sessions. Activities included volunteering at local childcare centers, welfare facilities, environmental clean-ups, and more. In some locations, a pro bono volunteering format was introduced within Hamsori, where members received training in activities such as photography and flower arrangement in the first half of the year, followed by volunteer activities in the second half.

Mystery sharing bus

The Mystery Sharing Bus is a program where employees board a bus without knowing which volunteer activity they soon join until reaching the destination. Through this program, a total of 1,006 employees participated in 31 different activities, including furniture making and donation volunteering, vegan baking volunteering, and providing free meals to elderly people living alone.

Relay sharing day

The Relay Sharing Day is a program designed to support vulnerable populations in the local community while providing activities that participants can enjoy both in-person and remotely. Through this initiative, a total of 1,431 individuals participated in 38 activities, including creating hygiene soap for children in developing countries and building cleaning robots with children at childcare centers.

Indonesia vulnerable group support (Climate-responsive housing construction)

Fifty employees volunteered with Habitat for humanity international to build houses for vulnerable people in Karawang, Indonesia. They renovated a kindergarten, installed solar panels at a public drinking water facility, and helped build six climate-resilient houses.

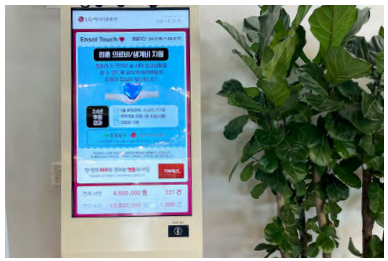
Ensol touch

LG Energy Solution has implemented the EnSol Touch kiosk system, which allows employees to donate to vulnerable children with a simple screen touch. Installed at various locations such as entrances, lounges, and cafeterias across domestic facilities, a total of 8 kiosks were set up in headquarter, Ochang, Daejeon, and Gwacheon sites. Employees can view stories of vulnerable children on the screen and voluntarily donate. From January to December 2023, 1,408 employees donated a total of KRW 64,272,360, supporting sponsorship for 11 children.

Share Dreams Onstage

Relay Sharing Day

Indonesia Vulnerable Group Support


Ensol Touch

Information Security

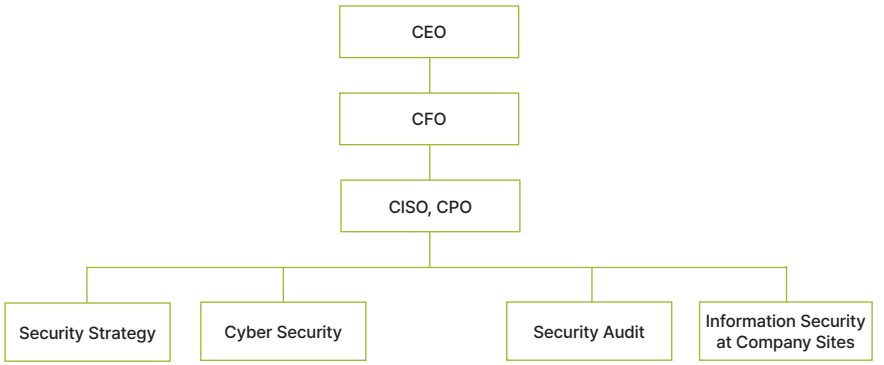
Establishment of Information Security System

In compliance with information security regulations, we established and implemented operational rules for each entity responsible for information security practices, including employees, suppliers, information security authorities, and related organizations. In addition, to strictly manage information security, we enforce policies that follow the principles of need-to-know and minimum privilege, implementing restricted access to information.

Information Security Governance

To systematically carry out various information security management activities, LG Energy Solution has designated Chief Information Security Officer (CISO) and Chief Privacy Officer (CPO) following the Information and Communications Network Act to manage our security management system and protect key information assets. Additionally, we have established and operated information security organizations at the headquarters and each business site. We have formed the Information Security Council targeting security officers of all business sites in Korea and overseas subsidiaries, sharing and discussing security issues and concerns. We also hold Information Security Committee with the participation of executives from management and related departments to facilitate decision-making at the management level. Depending on the significance of the agenda, we share and report to the CFO and relevant departments to enhance monitoring. Furthermore, to enhance the level of information security, we allocate an annual investment budget for information security in the business plan.

Information security organization chart



Information Security Management System

LG Energy Solution treats our business information, trade secrets, intellectual property, and all information related to employees, customers, and suppliers as important information assets to be protected. We have established an information security management system based on international certifications such as ISO / IEC 27001 and TISAX to minimize security risks and ensure efficient security management.

Acquisition and Validity of Information Security System(ISO 27001, TISAX) Certification

Certificates	Country	Sites	Certification validity
ISO 27001	Korea	R&D Campus in Daejeon	Single sign-on (2025-11-11)
		R&D Campus in Gwacheon	
		Ochang Energy Plant 1	Single sign-on (2025-12-04)
		Ochang Energy Plant 2	
TISAX	Korea	Headquarters	2026-09-06
	Germany	LG Energy Solution Europe GmbH	2026-10-16
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2025-06-28

* ISO 27001 (Information Security Management Systems),
TISAX (Trusted Information Security Assessment Exchange), Automotive Information Security Assessment

Information Security Compliance

Information Security Policy

LG Energy Solution complies with domestic and overseas information security-related laws and regulations to securely handle and manage the personal information of employees, customers, national core technology, and core talent pool. In Korea, we implement protective measures that comply with the security requirements specified in the Personal Information Protection Act and the Industrial Technology Protection Act. We continuously implement necessary measures following regulatory revisions. For overseas sites, we execute protective measures following the respective countries' and regions' laws, regulations, and policies, such as the European General Data Protection Regulation (GDPR) and the Chinese Network Security Law.

Privacy Policy

LG Energy Solution has established a "Privacy Policy" to protect the personal information and rights of the data subjects such as employees, customers, and visitors. This policy is posted on our website and internal systems, detailing various aspects including the purposes of personal information processing, types of information collected, retention and use periods, provision to third parties, measures for ensuring the security of personal information, and rights of the data subjects.

Privacy Policy

Privacy Policy

LG Energy Solution Ltd. (hereinafter referred to as "The Company") has established and published the following Privacy Policy in order to protect the personal information of data subjects and to promptly and smoothly resolve any related difficulties in accordance with the Act on Promotion of Information and Communications Network Utilization and Information Protection, etc. ("Network Act" and the Personal Information Protection Act ("PIPA")

Clause 1. Purpose of Processing (Collection and Use) of Personal Information

Clause 2. Items of Personal Information Processed and Method of Collection

Enhancing Information Security Awareness

LG Energy Solution conducts regular security awareness training for all employees annually to enhance their security consciousness. In addition to this general training, specific education sessions are conducted for new hires, employees nearing retirement, and visitors to raise awareness about information security. We also implement tailored training programs such as security education for handlers of national core technologies in the first half of the year and for personal information handlers in the second half. Furthermore, we promote security guidelines and share case studies of information security incidents to encourage all members to take an interest in security issues.

Preventive and Responsive Activities

LG Energy Solution operates a continuous security monitoring system from office areas to production facilities. Particularly, new IT systems undergo security vulnerability assessments to eliminate all vulnerabilities before being put into service. As part of our business continuity plan, we conduct regular (annual) security vulnerability assessments to respond in real-time to various internal and external cyber threats. Additionally, we conduct penetration testing and simulated training for our members to continuously enhance security levels and response capabilities. In terms of personal information protection, pre-security reviews that check for potential breaches of personal information and compliance issues are conducted. Also, we have designated a Privacy Officer who oversees tasks related to personal information, including handling inquiries, complaints, and remedies for damages. Furthermore, we integrate intrusion prevention and detection solutions for 24/7 real-time security monitoring. In the event of abnormal behavior detection or security incidents, the Computer Emergency Response Team (CERT) promptly responds by coordinating with relevant departments, collecting evidence, conducting root cause analysis, and removing vulnerabilities.

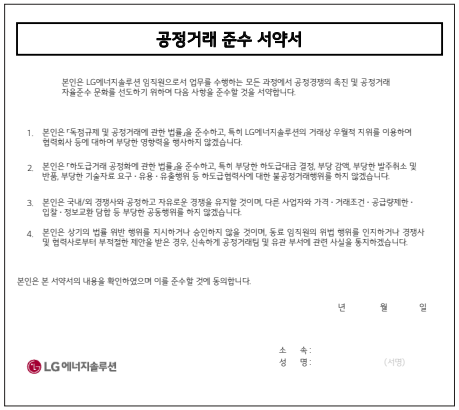
Shared Growth

LG Energy Solution is establishing various shared growth strategies to fulfill sustainable growth with our suppliers.

Fair Trade

Installing and Implementing a Fair Trade

LG Energy Solution is building a fair trade system by incorporating compliance activities such as education, inspections, and consultations. In doing so, we are dedicating efforts to minimize fair trade risks in all business areas and establish a correct fair trade compliance culture. Reporting the status of fair trade risk management to the ESG Committee aims to secure the trust of stakeholders. We strive to establish a culture of fair trade compliance among employees through annual fair trade compliance pledges. Additionally, to establish fair and transparent business practices with small and medium-sized suppliers in subcontracting transactions, we publicly disclose the Fair Trade Commission's four practices on our procurement portal (https://procurement-les.singlex.com).



공정거래 준수 서약서

본인은 LG에너지솔루션 임직원으로서 업무를 수행하는 모든 과정에서 공정경쟁의 촉진 및 공정거래 자율준수 문화를 선도하기 위하여 다음 사항을 준수할 것을 서약합니다.

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4. 본인은 상기의 법률 위반 행위를 지시하거나 승인하지 않을 것이며, 동료 임직원의 위법 행위를 인지하거나 경쟁사 및 협력사로부터 부적절한 제안을 받은 경우, 신속하게 공정거래팀 및 유관 부서에 관련 사실을 통지하겠습니다.

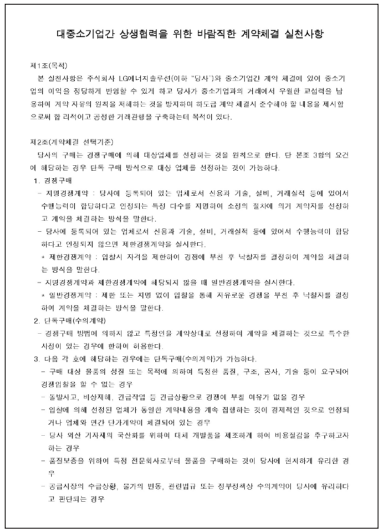
본인은 본 서약서의 내용을 확인하였으며 이를 준수할 것에 동의합니다.

년 월 일

소 속:
성 명: (서명)

LG에너지솔루션

Fair Trade Compliance Pledge



대중소기업간 상생협력을 위한 바람직한 계약체결 실천사항

제1조(목적)
본 실천사항은 주식회사 LG에너지솔루션(이하 "당사")와 중소기업간 계약 체결에 있어 중소기업의 이익을 정당하게 반영할 수 있게 하고 당사가 중소기업과의 거래에서 우월한 교섭력을 남용하여 계약 사실상의 강제를 지체하는 것을 방지하며 하도급 계약 체결시 준수해야 할 내용을 제시함으로써 합리적이고 공정한 거래관행을 구축하는데 목적이 있다.

제2조(계약체결 선택기준)
당사의 구매는 경쟁구매에 의해 대창업체를 선정하는 것을 원칙으로 한다. 단 본조 3항의 요건에 해당하는 경우 임의 구매 방식으로 대창 업체를 선정하는 것이 가능하다.
1. 경쟁구매
- 지명경쟁계약 : 당사에 등록되어 있는 업체로서 신용과 기술, 설비, 거래실적 등에 있어서 수행능력이 검증되다고 인정되는 특정 다수를 지명하여 소정의 절차에 의거 계약자를 선정하고 계약을 체결하는 방식을 말한다.
- 당사에 등록되어 있는 업체로서 신용과 기술, 설비, 거래실적 등에 있어서 수행능력이 검증되다고 인정되지 않으면 제한경쟁계약을 실시한다.
* 제한경쟁계약 : 입찰시 자격을 제한하여 경쟁에 부친 후 낙찰자를 결정하여 계약을 체결하는 방식을 말한다.
- 시담경쟁계약과 제한경쟁계약에 해당되지 않을 때 일반경쟁계약을 실시한다.
* 일반경쟁계약 : 제한 또는 지명 없이 입찰을 통해 자유로운 경쟁을 부친 후 낙찰자를 결정하여 계약을 체결하는 방식을 말한다.
2. 단독구매(수의계약)
- 경쟁구매 방법에 의하지 않고 특정인을 계약상대로 선정하여 계약을 체결하는 것으로 특수한 사정이 있는 경우에 한하여 이용한다.
3. 다음 각 호에 해당하는 경우에는 단독구매(수의계약)가 가능하다.
- 구매 대상 물품의 성질 또는 목적에 의하여 특정한 품질, 구조, 공사, 기술 등이 요구되어 경쟁입찰을 할 수 없는 경우
- 동발사고, 비상재해, 긴급작업 등 긴급상황으로 경쟁에 부칠 여유가 없을 경우
- 법령에 의해 선정된 업체가 동일한 계약내용을 계속 집행하는 것이 경제적인 것으로 인정되거나 업체와 연간 단가계약이 체결되어 있는 경우
- 당사 혁신 기자재의 국산화를 위하여 다시 개발품을 제조하게 하여 비용절감을 추구하고자 하는 경우
- 품질보증을 위하여 특정 전문회사로부터 물품을 구매하는 것이 당사에 현저하게 유리한 경우
- 공급시장의 수급상황, 물가의 변동, 환율변동 또는 정부정책상 수의계약이 당사에 유리하다고 판단되는 경우

Practical Guidelines for Contract Formation to Foster Cooperation between Large, Medium, and Small Enterprises

Initiating Fair Trade Processes

To foster a culture of Shared Growth, LG Energy Solution monitors amendments to regulations such as the Fair Trade Act and Subcontracting Act. These are integrated into our internal processes and regulations. Our employees undergo regular (regular and ad hoc) training on fair trade regulations and internal guidelines to ensure compliance during operations. When selecting new suppliers, all qualified entities are given opportunities to participate. We have established processes aligned with objective and fair assessment criteria, which is communicated in advance. Furthermore, to prevent violations of fair trade laws such illegal loaning and unfair trading, legal advice is provided when our employees enter contracts and conduct business with suppliers. We aim to transparently resolve disputes with suppliers based on trust and cooperation, having established the "Self-Dispute Resolution Committee" in March 2023. As of June 2024, no disputes have been filed with the Self-Dispute Resolution Committee.

To further encourage compliance with fair trade regulations, we conduct annual regular inspections on fair trade (subcontracting) audit to improve internal processes based on inspection results. In April 2023, we enhanced and encouraged the use of the Supplier Technical Protection System to elevate employees' compliance mindset. Additionally, to prevent collusion, we operate a 'Competitor Contact Reporting' program, allowing employees who might potentially contact competitors to submit reporting in advance.

Fair Trade Process

Risk Prevention	Inspections	Improvement
· Company-wide education · Prevention activities · Legal advisory	· Regular / occasional inspections · Online / offline monitoring	· Requests for improvement · Provision of improvement measures

Fair Trade Program for Enhanced Capabilities

In 2023, LG Energy Solution developed and distributed Collusion Prevention Guidebook to overseas subsidiaries, including headquarters (Poland, Germany, US*), to ensure compliance with fair trade laws in respective countries. We also created a Payment-linked Contract Business Guide to support employees to better their understanding on new policies. Throughout 2023, we enhanced awareness on fair trade issues among employees and strengthened capabilities by publishing fair trade issues in the Compliance Newsletters three times (① Cases of overseas compliance violations, ② Subcontractor requests for technical information, and ③ Major internal transaction law revisions).

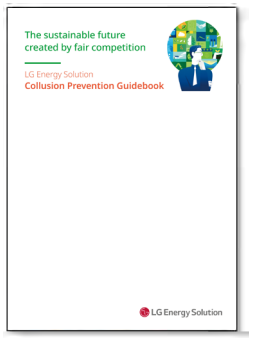
* LG Energy Solution Michigan Inc.

2023 Fair Trade Education and Training

Date	Name	Number of Participants	Total Training Hours
April	Subcontracting law education for Staff in Procurement Center	33	66
	Collusion prevention training (Germany, Poland)	212	212
July	LBA Academy (Understanding Subcontracting Law)	12	12
	Delivery price linked contract training	29	29
September	Collusion prevention training (US*)	262	262
November	LG Energy Solution Compliance education (Collusion)	9,114	1,367
	LG Energy Solution Compliance education (Subcontracting)	9,060	1,812

* LG Energy Solution Michigan Inc.

Fair trade eduction



Collusion prevention guidebook

Supporting Shared Growth with Suppliers

LG Energy Solution fosters a fair trade culture and implement shared growth policies to support our suppliers' long-term and substantial growth. To enhance the competitiveness of suppliers through various support programs, we are pursuing five major strategies.

Five Major Shared Growth Strategies

Strategy	Activities
Fostering a Fair Trade Culture	· Employee training on compliance laws and regulations · Introduction on the use of standardized subcontracts · Practice of Jeong-Do management and compliance programs (CP)
Improving Suppliers Finance	· Fundraising of KRW 150 billion Shared Growth Investment Support Fund · Early payment before the holidays
Fostering a Safe and Eco-friendly Partnership	· Diagnosis on facility and workplace safety · Eco-friendly Partnership Forum · Raw material component investigation system · Assist Occupational Health and Safety Management System (KOSHA18001) certification · Safety and health cooperation agreement
Enhancing Capability of Suppliers	· Localization of parts and equipment · Assist product analysis and testing · Support domestic and overseas sales channel · Technical support and protection of suppliers
Sharing Information and Communication Activities	· Operation of Singlex procurment portal · Operation of communication channel for suppliers (ECO Talk) · Operation of shared growth request channel

Efforts to improve Shared Growth Programs

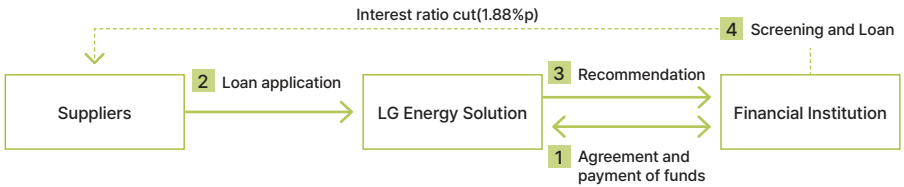
LG Energy Solution is committed to enhancing our Shared Growth Program by efficiently supporting suppliers with the necessary funds for equipment investment and operations through the "Shared Growth Investment Support Fund." We also expanded the benefits of interest rate reductions for these suppliers. In addition, we operate various technical support activities for suppliers, including "Productivity Improvement and Quality Enhancement Initiatives" and the "SQM Academy." These programs are designed to help suppliers improve their capabilities and competitiveness. To address and resolve any issues suppliers may face during transactions, we have established a grievance handling channel. This platform facilitates open communication, allowing to freely discuss their concerns and find solutions collaboratively.

Financial support for suppliers

Shared Growth Investment Support Fund

Since 2020, LG Energy Solution has established a loan fund worth KRW 150 billion to provide interest benefits to suppliers based on funds deposited with financial institutions, enabling them to borrow at low interest rates.

Fund Support Process



1. Desired supplier submits application to LG Energy Solution's procurement department.
2. LG Energy Solution's procurement department forwards the application to the Fair Trade Team (including company basic information and loan size).
3. LG Energy Solution's Fair Trade Team reviews and recommends banks → Bank assesses and supplier submits documents.
4. Bank assessment confirmed and loan executed.

Improvement of Payment Conditions

LG Energy Solution pays suppliers in cash to facilitate their financial management and pays about 89% of them within 10 days (information on payment method, amount of payment by period, and adjustment mechanism is disclosed twice a year through the electronic disclosure system). We make early payments before the holidays to help our suppliers secure their liquidity during periods of temporary demand for funds.

Introduction of the Supply Price Linkage System

Starting from October 2023, we implemented the Supply Price Linkage System to share burdens with suppliers from unexpected increases in raw material prices, from a cooperative perspective.

Technical/Educational support for suppliers

Support for Productivity Improvement and Quality Enhancement

Our dedicated team supports domestic and overseas suppliers directly at their sites to enhance productivity and improve quality competitiveness.

Operation of SQM (Supplier Quality Management) Academy

LG Energy Solution conducts educations on early stabilization of component production and management of hazardous substances to enhance the quality capabilities of domestic and overseas suppliers. In 2023, a total of 72 companies (46 domestic and 26 overseas) participated in the SQM Academy.

Enhanced communication (Supplier grievance handling mechanism)

LG Energy Solution operates the 'Supplier Collaboration Portal' as a grievance handling platform on procurement portal (https://procurement-les.singlex.com). In April 2023, the 'Self-Dispute Resolution Committee' was established to provide an additional avenue for resolving suppliers' grievances that may arise during transactions.

Category	Details
Department and Contact Information Department	Fair Trade Team / Contact: 02-3773-4677 / E-MAIL: esfairtrade@lgensol.com
Dispute Resolution Application Procedure and Method	Submit an application detailing the purpose and reasons for dispute resolution via postal mail or email to the committee.
Expected Duration of Dispute Resolution	Within 30 days from the date of receiving the adjustment request. However, an extension is possible with the consent of the parties involved.

Sustainable Workplace

Employee' happiness is an important value that leads to corporate trust. To realize this value, LG Energy Solution has a number of programs to help employees have positive experiences and emotional stability. By creating an infrastructure that enables employees to fully and healthily immerse themselves in their work, we introduce programs that support not only their individual work lives, but also their personal life cycles and family members, we are striving to create a company they want to commute and a company they want to work for.

Enjoyable Employee Activities and Welfare

Based on LG's management philosophy of 'Respect for Humanity', the concept of 'Joyful Workplace' is a unique organizational culture that goes beyond the pursuit of enjoyment to help employees maintain optimal physical and mental health and happiness, ultimately helping them lead a happy life with work-life balance. We strive to realize a joyful workplace culture by providing health and psychological care based on the major life cycle stages of individuals and families, thereby creating a cultural infrastructure so that employees can fully and healthily engage in their work with a sense of stability.

Family friendly: Family activities

LG Energy Solution supports the well-being of not only the employees, but also our employees' families through various family-friendly programs that ask to invite families to various concepts and support them in key life stages.

Family and Friends Invitation Events

LG Energy Solutions operates a family invitation event called "Saturday! Saturday with Family!" twice a month at the headquarters where "Entral Park" is located, as well as at the Ochang Energy Plant 1 and the R&D Campus in Daejeon. During these events, families are invited to enjoy various attractions such as magic shows, recreational activities, delicious food, personal color analysis, and caricatures at the Entral Park where they create precious memories. On Children's Day and Parents' Day in May, we organize special family invitation events to celebrate them. On Children's Day, we provide extra entertainment and gifts, making the event even more enriching for the children. On Parents' Day, we offer programs like massage, hand care, trot (a Korean pop music genre) performances, and a special menu at the in-house restaurant to allow parents relax and enjoy a day. Furthermore, we host various themed events such as inviting parents of overseas expatriates and newly hired employees to boost employee pride and satisfaction.

Saturday! Saturday with Family!

Customized programs for family / child life stages

LG Energy Solution provides various programs tailored to each family's life cycle and situation. During March, the period for children's school admissions, we show on their new school term through the Ensol Kids Drawing Contest. Additionally, we operate diverse support programs such as career exploration programs during vacation periods, and family counseling programs. Furthermore, we offer tailored programs for each phase of family and children's life cycles, including delivering support gifts for students preparing for college entrance exams.

The Ensol Kids Drawing Contest

Wellness Care: Supporting Employee Mental and Physical Health

LG Energy Solution provides various programs to help employees maintain and manage their physical and mental well-being. These include yoga, Pilates, and other fitness activities aimed at supporting physical health. Simultaneously, programs such as meditation, healing trips, and healing days are offered to alleviate stress and promote a healthy mind. These wellness initiatives are designed to support employees in achieving happiness and maintaining good health, thereby enabling them to be fully engaged in their work.

Group exercise and healing program

At employee relaxation space, Entral Park, a dedicated yoga zone offers meditation, yoga, and Pilates classes in the morning, afternoon, and evening. When non-scheduled times, various healing programs like coffee meditation and singing bowl meditation are also available. These programs aim to support employees in nurturing their bodies and minds during intense work hours. Furthermore, we provide an online stress detox program consisting of aromatherapy, sound meditation, and coffee meditation, allowing employees to care for and cleanse their bodies and minds in a comfortable setting of their choice.

Healing trip

LG Energy Solution operates a "Healing Trip" program at a wellness center located in Gangwon Province, where employees who are exhausted from overseas business trips and duties can recover both physically and mentally. This program offers meditation and various relaxation activities amidst the soothing embrace of nature. Additionally, healthy meals are provided to further aid in rejuvenating the mind and body. Through the Healing Trip, employees strengthen their resilience to stress and learn effective stress management techniques they need.

Healing Trip

Healing Day

Healing day

Every other Wednesday, LG Energy Solution hosts "Healing Day" at Entral Park, where employees can enjoy various activities and find rejuvenation in their daily lives. This program includes seasonal music performances, one-day classes, meditation programs, and other experiential activities. These events provide employees with time to step away from work and focus on themselves, fostering a supportive environment for relaxation and personal growth.

Joyful Energy: Boosting Employee Morale Activities

LG Energy Solution organizes various events throughout the year aligned with key seasons and holidays (such as New Year, year-end, each season, traditional holidays, and festivals) to enhance team spirit among employees and boost morale. These events range from small to large-scale activities designed to foster a sense of teamwork and celebration among colleagues.

Major morale-boosting activities

Activity Name	Activity Details
Singing contest (Super Star Ensol)	A singing contest participated by global site's employees
Friend invitation event	Every last Friday evening of the month, we host an event where friends can enjoy the beautiful Han River night scenery.
Seasonal events	Events celebrating major seasons, including activities like Valentine's Day chocolate fountain, traditional holiday games, guessing the brand of the chicken on Bok-nal, and supporting visits to the Yeouido Fireworks Festival.
Ensol goods mall	An online shopping mall selling various goods featuring LG Energy Solution's popular character, 'Ensol-i'
Electric vehicle test drive	An event where participants can experience test drives of premium electric vehicles equipped with batteries produced by LG Energy Solution.
EN-Q Time	A monthly global online quiz event during lunchtime where employees from around the world participate.

Singing Contest(Super Star Ensol)

Electric Vehicle Test Drive

Workplace Fun Activities

LG Energy Solution not only conducts enjoyable workplace activities at the corporate level but also maintains a consistent direction while operating site-specific programs tailored to the characteristics of each sites. The R&D Campus where R&D personnel work, organize specialized R&D-focused programs like "Ensolympics", and offer diverse programs such as the Spring Blossom Festival (SpringEN) to enjoy the beautiful natural environment and infrastructure of the institute, and late-night family movie events (Ensol Cinema). At the Ochang Energy Plant 1, 24-hour operational production facility, it provided not only part of the overnight shift support and lunch box events (Let's have a lunch together) and family outings to Ochang Lake Park and cultural performances at Ensol Square utilizing nearby infrastructure are also supported. For many young employees in the company, so we conduct newcomer vitality events (Our Team's New Hires Lead) and promote various group-wide hobbies. These programs are designed to enhance pride and loyalty among employees, boosting morale by catering to the unique features of each business location.

The Spring Blossom Festival

Let's have a lunch together

External Certification

Acquired the Family-Friendly Company Certification

The "Family-Friendly Corporation Certification System" is a Korean government-led initiative to create family-friendly social environment for the compatibility in work and family, in accordance with Article 15 of the Act on the Promotion of Creation of Family-Friendly Social Environment. The certification system recognizes companies and public institutions that have exemplary family-friendly programs, such as support for childbirth and childcare, flexible work hours, and family-friendly workplace culture. The certification process involves documentation screening, on-site screening, and employees' satisfaction surveys. LG Energy Solution acquired the "Family-Friendly Company Certification" in 2022, valid for next three years.

Awarded as '2023 Korea's Top 100 Companies for Job Creation'

Each year, the Korean Ministry of Employment and Labor selects 100 companies that make significant efforts to create jobs and improve employment conditions, promoting work-life balance. In 2023, LG Energy Solution was awarded with this recognition, standing out as the sole battery manufacturer to receive the award. LG Energy Solution was acknowledged for our high ratio of regular employees, a fair wage system, workplace flexibility, and advanced employee welfare programs and non-compensation benefits. Moving forward, LG Energy Solution will continue to do our best to create an advanced organizational culture where individuals and the company can grow together.

A Corporate Culture of Diversity, Equity, and Inclusion

LG Energy Solution pursues an organizational culture based on 'diversity' that respects individual uniqueness without discrimination, 'fairness' that provides equal opportunities and does not discriminate based on social status, and 'embracement' based on mutual understanding, respect, and trust among the members. Following these policies of 'diversity, equity, and inclusion (DEI),we conduct internal education and strive to spread this organizational culture throughout all global business sites.

Organizational Culture that Respects Diversity

Recruiting global talents based on diversity

LG Energy Solution respects diversity of individuals, as identified in the characteristics, preferences, and choices of gender, disabilities, nationality, and gender identity. We hire talents from various countries. As of 2023, the ratio of foreign employees in global business sites is approximately 70%, and considering additional investments and expansions in the North American region, this ratio is expected to increase further. We will continue to promote diversity at all levels in domestic and overseas business sites.

Attracting and strengthening female talents and leadership

As of 2023, the number of female employees at our business sites in Korea has increased by approximately 14% compared to 2022 (1,850 employees), reaching 2,103 employees. We also hold women's leadership meetings and introduce HR systems, such as support for leave and funding for infertility treatment and maternity protection systems for adoption to create an environment where women can work securely.

Expanding employment opportunities for people with disabilities

LG Energy Solution strives to increase the employment rate of people with disabilities and create a culture where everyone is respected and works together without discrimination. As of 2023, the number of employees with disabilities increased from 185 to 200 in Korea. In addition, we operate a subsidiary called 'Areumnuri' that focuses on employing people with disabilities. Disabled workers perform various tasks at the headquarter, Ochang, and Daejeon business sites, such as store management, cafes, parking management, cleaning, steam car wash, and supplies management.

Culture that Values Equality and Fairness

Providing fair opportunities for young talents

LG Energy Solution engages in various internships, content, and mentoring programs with the local universities near our major business sites. In addition, as part of our policy for a fair and inclusive opportunity toward balanced regional growth and youth job creation, we offer training to talents from non-metropolitan areas, which get reflected in our recruitment process.

Equal opportunity based on performance

LG Energy Solution is responsible for fair and equal promotion, compensation, and training that does not discriminate against gender, age, race, religion, labor union participation, disability, pregnancy, marital status, and social status. Accordingly, we hire based on our discrimination-free principle and offer opportunities for promotion and compensation based on employee merits and capabilities, putting into practice a fair human resource management, training, and welfare system that our employees can trust.

Culture that Embraces Inclusivity

LG Energy Solution builds an organizational culture based on mutual understanding and respect, fostering a stable environment for employees to grow as experts in their respective fields. Regardless of positions or job functions, we aim for a horizontal culture where opinions can be freely shared with mutual respect. All employees at LG Energy Solution use a unified way to call each other by '○○○ Nim.' (* Note: We removed the honorifics in names and titles to embed an equal and inclusive culture.) Guided by our philosophy that 'employees are our most valuable customers,' we listen to employees' voices through various channels such as EnTalk (a CEO hotline), organizational culture surveys, and the Junior Board (a representative body of employees) for our corporate culture programs. In January 2022, we announced the 'Six Major Challenges of Corporate Culture' (reporting and meeting culture, flexible working culture, horizontal culture, positive culture, enjoyable workplace culture, and sharing culture), aiming to have employees internalize them 100%. We are committed to driving organizational culture for innovation. Furthermore, we continue to conduct employee satisfaction surveys to incorporate their feedback into our programs.

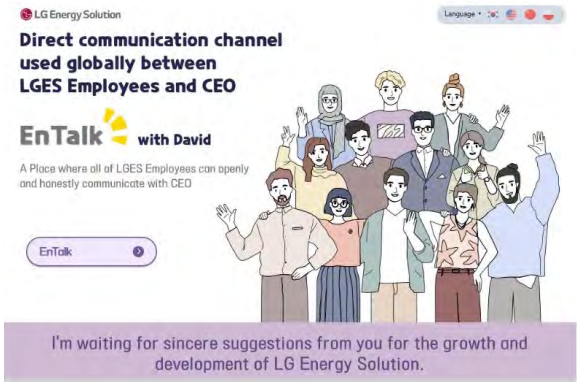
DEI Policy

Corporate Culture Activities

Since spin-off from LG Chem, LG Energy Solution has promoted horizontal communication among our members over the past three years, making 'employee happiness' and 'a workplace where employees want to come and work for' as the core values of our management philosophy. Recognizing the importance of creating an intrinsically motivating work environment in a rapidly changing internal and external landscape, we have built an organizational culture based on these principles. Over the three years since the spin-off in December 2020, we built an autonomous and horizontal organizational culture. Now, we aim to establish a 'goal-oriented professional organizational culture' under the new vision of 'Ensol 2.0'. This culture strives for qualitative excellence and aims to achieve exceptional performance goals. Employees are encouraged to achieve results proactively and dynamically, while the company will cultivate a culture of transparent and fair performance evaluation and rewards.

EnTalk - a hotline between employees and the CEO

In November 2021, LG Energy Solution launched 'EnTalk', a hotline channel enabling direct communication between domestic and overseas employees and the CEO. From January 2023 to April 2024, a total of 822 improvement ideas have been posted, demonstrating active engagement. In 2023, various new and improved policies were introduced to support work-life balance, including the addition of non-reimbursed medical expenses for infertility treatment, a spouse accompaniment leave policy for expatriate assignments, the introduction of anniversary leave, and the establishment of on-site daycare centers at various facilities. Additionally, the summer vacation period for office and technical staff was extended to allow for flexible use throughout the year. Starting in 2024, employees can take 'Refresh Leave' (5 days) at any time during the year. These initiatives are continuously enhancing employee satisfaction and working conditions.



EnTalk

Junior Board

The Junior Board is comprised of one representative from each center and business unit organization, along with one Junior Board member from each respective department. With the mission of being the "Change Agents for improving organizational culture and work", a total of 182 members were active in 2023, and 204 members are participating in the domestic Junior Board in the first half of 2024. The Junior Board representatives hold monthly meetings with the CEO to directly convey the diverse voices of various team members. In addition to organizational culture, they also offer constructive suggestions on work processes, systems, and other aspects.

CEO Town Hall Meeting

CEO Town Hall Meetings are an opportunity for employees to interact in live with the CEO on a variety of topics, including technology, hiring, culture, and more. CEO Town Hall Meetings will be available at our headquarters and Ochang Energy Plant 1 in 2023, as well as at our overseas offices in China, the US, and Poland.

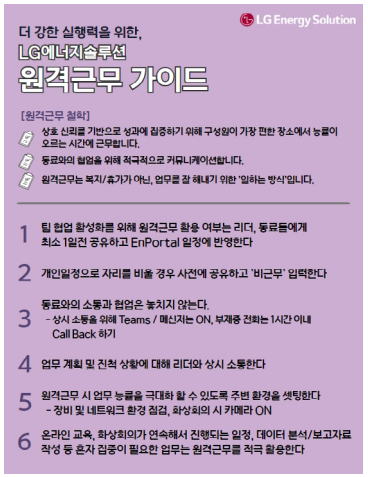
2023 CEO Town Hall Meeting in the US

Thank you, ENSOL

In order to facilitate praise and encouragement among employees, in October 2023, we launched the 'Thank you, ENSOL' platform, the 'LGENergy' system previously used for this purpose within the company has been expanded and revamped. Through this platform, every employee receives 12 ENergy units annually, which they can use to send messages expressing gratitude to other employees. Employees can send messages not only to individuals, but also to organizations that have helped. ENergy units, once received, are converted and paid out at 10,000 KRW per each. Additionally, we have introduced a ranking feature displaying the most popular gratitude messages based on "likes" and the organizations receiving the most ENergy. These enhancements aim to encourage more employees to participate in a culture of praise and encouragement.
Since its launch, as of April 2024, employees across all subsidiaries have exchanged a total of 172,299 messages, out of which 137,217 included ENergy units. This adoption underscores the cultural shift towards expressing gratitude company-wide, which is expected to strengthen collaboration between teams and contribute to overall business performance.

Flexible Work Environment

To create the optimal environment for employee engagement, we have distributed a company-wide remote work guide and secured 114 branch office locations nationwide in Korea, fostering a culture of flexible work environment.


LG Energy Solution

더 강한 실행력을 위한,
LG에너지솔루션
원격근무 가이드

[원격근무 철학]
- 상호 신뢰를 기반으로 성과에 집중하기 위해 구성원이 가장 편한 장소에서 능률이 오르는 시간에 근무합니다.
- 동료와의 협업을 위해 적극적으로 커뮤니케이션합니다.
- 원격근무는 복지/휴가가 아닌, 업무를 잘 해내기 위한 '일하는 방식'입니다.

1 팀 협업 활성화를 위해 원격근무 활용 여부는 리더, 동료들에게 최소 1일전 공유하고 EnPortal 일정에 반영한다
2 개인일정으로 자리를 비울 경우 사전에 공유하고 '비근무' 입력한다
3 동료와의 소통과 협업은 놓치지 않는다.
- 상시 소통을 위해 Teams / 메신저는 ON, 부재중 전화는 1시간 이내 Call Back 하기
4 업무 계획 및 진척 상황에 대해 리더와 상시 소통한다
5 원격근무 시 업무 능률을 극대화 할 수 있도록 주변 환경을 셋팅한다
- 장비 및 네트워크 환경 점검, 화상회의 시 카메라 ON
6 온라인 교육, 화상회의가 연속해서 진행되는 일정, 데이터 분석/보고자료 작성 등 혼자 집중이 필요한 업무는 원격근무를 적극 활용한다

Remote work guide

Employee Welfare Support

Supporting Employees' Work-Family Balance

LG Energy Solution supports the stability of employees who are pregnant or approaching childbirth by offering maternity leave and childcare leave systems. Additionally, we ensure time for employees to be with their children through shortened working hours during childcare. These show the efforts we made to address the challenges faced by employees balancing work and childcare. Furthermore, we operate 'ESG Ensol Kids'(headquarters) and 'Kids&SOL daycare' (Ochang Energy Plant) to support employees managing both work and childcare responsibilities.

Work family balance of workers

Category	System	Main Contents
Pregnancy	Infertility Leave	Leave granted to employees undergoing infertility treatment (3 days)
	Infertility Leave of Absence	Leave of absence granted to employees diagnosed with infertility (6 months)
	Maternity Leave	Leave granted to pregnant employees for stable childbirth (10 months)
	Maternity Protection Leave	Leave granted to pregnant employees for prenatal check-ups (varies by week)
	Miscarriage Leave	Leave granted to employees who experience miscarriage or stillbirth during pregnancy (varies by week)
	Pregnancy Work Hour Reduction	Work hour reduction provided to pregnant employees (2 hours reduction)
Childbirth	Pre and Postnatal Leave	Leave granted to pregnant employees before and after childbirth (90 days, multiple births 120 days)
	Spouse's Childbirth Leave	Leave granted to employees whose spouse gives birth (10 days)
Childcare	Childcare Leave	Leave granted to employees with children under 8 years old or in elementary school grade 2 or below (2 years)
	Childcare Work Hour Reduction	Work hour reduction provided to employees with children under 8 years old or in elementary school grade 2 or below (1-5 hours reduction)
	Breastfeeding Time	Paid breastfeeding time provided to female employees with children under 1 year old (twice a day, 30 minutes each)
Others	Family Care Leave	Leave granted to employees needing leave for family illness, accident, old age, or child care purposes (10 days)
	Family Care Leave of Absence	Leave of absence granted to employees needing leave for family illness, accident, old age, or child care purposes (90 days)

*Table is as of the end of 2023

Employee Benefits and Services

Additionally, LG Energy Solution operates a variety of welfare programs to support the healthy lives of our employees, including optional welfare benefits, housing and life safety support, and medical and health promotion assistance.

Employee benefits and services

Category	Items
Flexible benefits	Health care, Self-development, Leisure & life, e-Shop
Financial aid for residential and livelihood stability	Financial aid for housing expenses - Financial aid for home purchases and rental deposits - Employees at Manufacturing Plants : provision of company housing and dormitories
	Housing support for business sites out of the Seoul Metropolitan area - Financial aid for monthly rental expenses to new recruits in Ochang and Daejeon, Korea
	Congratulations and condolences allowance - Allowances and paid leaves for family occasions such as own and family marriages, 60th birthdays
	Small wedding - Allowance for domestic honeymoon expenses
	Tuition support - Tuition support for children in middle schools, high schools, and colleges
	Childbirth / School admission gifts - Congratulatory gifts for childbirth - Congratulatory gifts for children entering elementary schools, middle schools, high schools, and colleges
Medical and healthcare	Medical expenses - Medical expenses covered for employees or families, spouse, children, and parents
	Comprehensive health check-up - Medical examinations for employees (once a year) over 35 years old or over 5 years of employment and the spouse (every two years)
	On-site health clinics/ medical centers - Operation of health clinics and affiliated medical centers in domestic and overseas business sites - Promotion of employee health and primary care support
Leisure Support	Flexible working - Flextime - Paid leaves in summer (5 days) - Paid leaves on corporate holidays (founding anniversary and labor union anniversary)
	Corporate Resort - Resorts for members and family use: LG Living and Training Institute / Gonjiam / Gangchon / Hanwha / Sono Resort
	In-house Clubs - LGES provides full support to encourage members' leisure activities such as hiking, music appreciation, bowling, and scuba diving clubs.

*Table is as of the end of 2023

Organizational Culture Diagnosis and Development Program Operations

To assess and improve the organizational culture across the company, LG Energy Solution conducts a semi-annual organizational culture survey targeting all office employees. Based on the survey results, leader-centric improvement activities are carried out to build stronger execution capabilities. The results of the organizational culture survey are sent to each organizational leader in the form of individual reports. Reflecting the 2023 survey results, we have improved the internal portal's meeting system to establish a proper reporting and meeting culture. Additionally, tailored organizational development programs are operated to continuously address and improve issues specific to each organization.

Positive response rate as a result of organizational culture diagnosis
(Awareness level of implementation of six major organizational culture tasks for 2022-2023)

Unit : %

* Organizational Culture 6 Key Challenges: Reporting and meeting with a focus on key issues, Flexible working, Horizontal relationship, Positive attitude, Happy workplace, and Sharing.

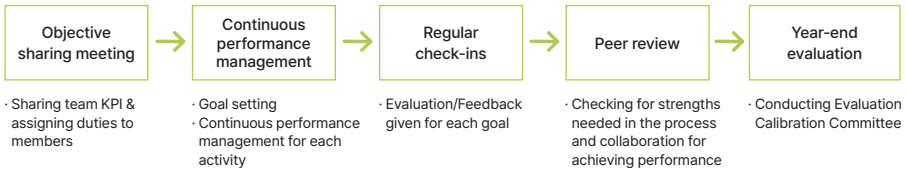
Fair and Transparent Performance Management & Supporting Employee Growth

LG Energy Solution implements fair and transparent performance management through the process of continuous performance management, regular check-ins, peer review, and evaluation calibration committees. Additionally, we operate a performance-based incentive system (personal and on-spot) that is based on individual performance. Furthermore, we support competency development and growth through job competency assessment, growth support programs, leadership surveys, and consultation program for leaders.

Performance Evaluation

Based on the objective sharing meeting held at the beginning of the year, LG Energy Solution establishes individual goals aligned with organizational objectives. We conduct continuous performance management and regular check-ins to support performance management and coaching/feedback centered around actual job responsibilities/tasks. We also implement a fair and transparent performance management process through year-end evaluations with reference to evaluation calibration committees. Additionally, we regularly offer performance management training and guidance for leaders to help them effectively manage and support their team members' performance.

Performance Evaluation Process



Peer Review

To enhance the objectivity and fairness of evaluation and promote competency development focused on the strengths of our members, we have implemented an annual peer review policy.

Job Competency Evaluation

LG Energy Solution conducts annual job competency assessment for employees to manage human resources based on job competencies and to strengthen their competencies. The results are available in the HR system to applied to promotion and training.

Leadership Survey

Leadership surveys are conducted to assist leaders in identifying their strengths and areas for improvement, as well as to provide practical support for their leadership development and performance management. We collect feedback from leaders, seniors, colleagues, and other members and provide coaching to those who need it to help them develop their leadership skills.

Growth Coaching

LG Energy Solution operates a growth coaching program to facilitate genuine career development discussions between direct supervisors and employees once a year. This program aims to foster meaningful conversations that promote growth through work and provide opportunities for long-term career development mentoring within the organization. By understanding each individual, we help employees immerse themselves in their work, develop detailed Career Development Plans (CDP), and grow into achievement-oriented professionals.

Performance-based Compensation Programs

LG Energy Solution operates performance-based compensation program. In addition to competitive base pay that accounts for individual performance, the employees are offered with various incentives including business performance-based incentive, personal incentives, and on-spot incentives. This allows us to properly compensate our members for their contributions. We comply with all compensation-related laws, including the minimum wage, and operates for all workforce without discrimination based on gender, nationality/ethnicity, religion, and social status.

Business performance-based incentives

Rewarded based on the business performance (financial results and management indicators)

Personal Incentive (PI)

Rewarded differentially based on individual performance grade

On-Spot Incentive (OSI)

Rewarded immediately to individuals at the time of their contribution

Talent Management and Training

To continuously develop skills and competitiveness in line with the current time, LG Energy Solution operates a multi-level, systematic training program tailored to specific job roles and ranks for all employees.

Recruiting and Growing Talents based on HR Philosophy and Value

LG Energy Solution establishes and operates a talent recruitment and development system that is organically linked with business goals/strategies based on our personnel philosophy of "Creating Value for Customers, Management with Respect for Human Dignity" and the ideal of individuals equipped with belief and execution capabilities in LG Way. From onboarding programs that support new employees in settling into a stable work environment to supporting members' growth as top-tier talents aligned with the company's growth, we provide step-by-step support considering job ranks and responsibilities. Additionally, we foster a systematic and strategic development program and create a self-directed learning environment tailored to career development and job transition support reflecting members' life cycles and growth needs.

Recruitment Process

By taking account of the changing business environment, LG Energy Solution conducts ongoing new employee recruitment program to strategically place diverse talents in suitable positions. HR, business leaders, and practitioners collaborate to secure excellent talents aligned with job responsibilities. Particularly in the R&D field, specialized recruitment processes are implemented to attract top talents. To enhance candidates' understanding of job opportunities, we organize job-specific online live recruitment sessions that reflect detailed job postings. They follow a fair recruitment process based on various checklists and have enhanced their internal recruitment management system for efficient talent acquisition. Each department validates competencies tailored to specific job roles through tailored application essays, job-fit interviews, coding tests for certain roles, and English oral tests. The HR Business Partner (HRBP) teams across business units ensure that the voices of operational departments are considered in the recruitment process. They also support onboarding and training for new employees at business sites post-recruitment. We provide equal opportunities to all applicant who meets the requirements, operating a job competency-focused rolling recruitment process that excludes factors such as gender and age. They strive for healthy and sustainable growth based on diversity and make efforts to expand recruitment opportunities for various talents, including those covered by regulations for persons with disabilities and veterans, as part of their social responsibility efforts.

Excellent Talent Recruitment Process

LG Energy Solution has introduced and implemented the "Battery Tech Conference (BTC)" as an event to secure excellent Korean and international R&D talents. In 2022, two BTCs were held in Korea, and in 2023, one BTC event was held in North America (April) and one in Korea (June). In the latter half of 2023, another event is scheduled for October. At BTC, outstanding master's and doctoral candidates are invited and LG Energy Solution's vision for battery technology and business are introduced, providing networking opportunities between employee and invitees. We have implemented a special recruitment process that differs significantly from the typical hiring timeline of several months, aiming for efficiency and high satisfaction in securing talents. Following BTC (Battery Technology Conference) events, they have successfully completed recruitments within approximately one month from application to hiring.
In 2023, we organized BTC events in San Francisco in April, inviting around 40 top-level Korean candidates, currently studying mathematics to participate in final executive interviews. Additionally, BTC events were held in Seoul in June and October. These events were complemented by targeted lab visits focusing on operational needs, aimed at building a long-term network for talent acquisition. Consistent branding activities across domestic and overseas events have garnered high interest among participants, facilitating recruitment. Looking ahead, we plan to continue establishing successful channels like BTC to consistently secure excellent R&D talents, including Ph.Ds and Masters. They also collaborate closely with leading domestic universities to establish departments and operate industry-academia cooperation programs in the field of secondary battery expertise. This collaboration aims to foster specialized talents and explore avenues where academia and industry can develop together to secure outstanding talents continuously.

BTC in Korea

BTC in North America

Employee Education

Based on the belief that "diverse talent is the source of our competitive edge", we have established a systematic training and development program that is organically linked to business goals and strategies. LG Energy Solution offers multi-level and systematic training and development programs for each job and position, including onboarding programs for newly hired employees and for seamless transition of members appointed to managerial positions. In addition, we provide special skills trainings to develop the highest level of competence and competitiveness, capacity development trainings for global competence and leadership. Moreover, under the supervision of LG Corp, we foster and nurture potential entrepreneurs with business competency and leadership skills to maintain our position as market leader. By operating global MBA and LG MBA programs, we aim to enhance the strategic implementation of our global business.

LG Energy Solution Battery Academy (LBA)

From the supplier of the world's first mass-produced electric vehicle batteries to the highest number of patents owner in the industry, and with the rapid expansion of manufacturing bases around the globe, LG Energy Solution is rewriting the history of the global battery industry. To solidify our leading position with competitive technologies, the expertise and competence of our members is of utmost importance, and the training and development programs at LG Energy Solution Battery Academy (LBA) plays a major role in this journey. LBA offers over 120 courses in the forms of e-learning courses, in-person trainings, and online trainings for workforce at all levels, in the areas of production, technology, quality assurance, R&D, digital transformation, purchasing, supply chain management, sales and marketing, project management, product planning, and other cross-cutting competences and expertise. Our members can register in any training courses of their interests regardless of their current position and certain training programs are also available in multiple languages for our overseas' employees. In addition, we award excellent internal trainers and learners each year to improve the quality of our trainings and promote our members' participation.

Ensol Campus

LG Energy Solution has launched our learning platform, 'Ensol Campus', to enhance members' expertise and leadership capabilities, and to establish a self-directed learning culture. It provides various learning contents categorized into Battery College for enhancing expertise in job fields, Leader's Academy for supporting leadership, onboarding, strategy, management, and career development, and Language School for providing learning opportunities for foreign languages to enhance global competencies. By offering internal and external content through these categories, LG Energy Solution supports the growth and development of its members.

Number of educational contents provided by Ensol Campus in 2023

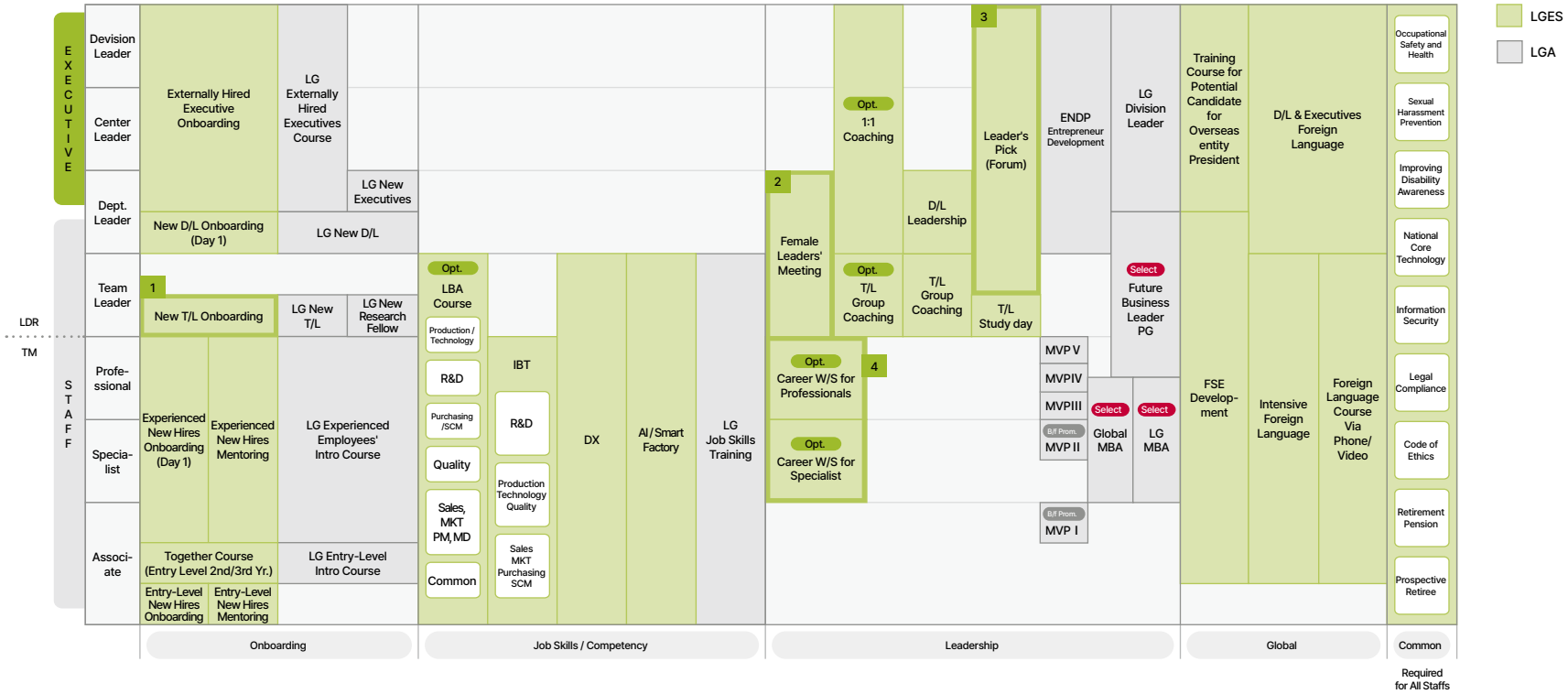
Category	Number of contents provided
Job Areas	1,548 courses
Leadership Area	305 courses
Language Courses	689 courses
Total	2,542 courses

IBT(Institute of Battery Technology)

IBT is composed of Battery Basic courses to accelerate new hires' onboarding and help them to acquire common and basic knowledge and skills for all jobs as well as other advanced courses for the existing members in the main functional areas such as production, technology, quality, and sales and marketing to enable all members to successfully perform their tasks.

Ensol Campus

Education system diagram



New team leader onboarding program

This program targets new team leaders to understand their new role and improve their leadership skills. The curriculum addresses key topics including role transition, strategic decision-making, performance management, self-awareness, coaching and feedback skills, and runs for three months to support employees' successful role transition in an order.

Women's leadership conferences

The program aims to offer networking opportunities for female leaders with other internal and external female leaders. It includes lectures and CEO meetings with the focus on women's leadership intending to nurture role models and female leaders promoting diversity in the workforce. It is held quarterly. 90% of all female leaders participated in the program in 2023.

Leader's pick (Forum)

As an avenue to continuously strengthen leadership and business capabilities, this program is held once a month in the form of webinar where outside experts lecture on leadership, organizational culture, and business for our leader groups to participate via webinar or in-house channels.

Career workshop

This program targets employees with at least 5 years of working experiences to help them navigate through their career paths. There are three topics including career development, leadership, and financial planning. Such program provides an opportunity to reach out to various role models, including in-house and/or outside experts, based on the results of individuals' self-assessment on their strengths, interests, and motivation. This program was initiated in 2022 and we plan to continuously expand its content and subject.

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LG Energy Solution is strengthening governance to reduce practices and increase communication. We have established a sustainable corporate governance structure to ensure board-centered governance. At the same time, we will identify and respond to various risks that may occur during corporate operations in advance through the compliance system and expand communication with shareholders to grow into a sustainable company.

Corporate Governance

Composition and Operation of the Board of Directors

With goals to fulfill transparent governance practices, LG Energy Solution established the "Corporate Governance Charter" to formulate our governance structure, composition, and activities at the Board of Directors (hereinafter the Board) and its committees. Our corporate governance follows the principles and procedures specified in the Charter and policies. Furthermore, relevant information and the Corporate Governance Charter are disclosed through our website and other channels. For stable and sound governance, more than 50% of the Board members are composed of independent directors (currently 4 out of 7 directors, accounting for 57%). Independent directors with diverse expertise and backgrounds participate as Board members to enhance expertise and efficiency. Independent directors exercise oversight roles and supervise on business matters.

On March 25, 2024, the Board approved to separate the CEO (Kim, Dong Myung) and the Chairperson of the Board (Kwon, Bong Seok, Non-standing Director). Currently, we do not appoint a lead independent director. We established the Audit Committee, Internal Trade Committee, ESG Committee, Nomination Committee for Independent Directors, and Management Committee within the Board for professional and objective deliberation of individual issues, and all committees except the Management Committee are chaired by independent directors.

To fulfill the Board's fiduciary duty and oversight role to the company, LG Energy Solution's directors receive reports and review the company's major business status. Financial risks are regularly reported and reviewed by the Audit Committee, and important financial matters are approved by the Board. For non-financial risks related to ESG, key legal compliance matters, status review, and improvement plans are also reported to and reviewed by the ESG Committee and the Board for oversight.

Board of Directors

Name	Kwon, Bong Seok	Gender	Male
Roles within the Board	Chairperson of the BOD / Non-standing Director		
Term	March 2022 - March 2025		
Key Experiences	Vice Chairperson, COO of LG Former President, CEO of LG Electronics		

Name	Kim, Dong Myung	Gender	Male
Roles within the Board	Inside Director / Chairperson of the Management Committee		
Term	March 2024 – March 2027		
Key Experiences	Executive President, CEO of LG Energy Solution Former Advanced Automotive Battery Division Leader of LG Energy Solution		

Name	Lee, Chang Sil	Gender	Male
Roles within the Board	Inside Director		
Term	December 2020 - March 2025		
Key Experiences	Executive Vice President, CFO & CSO of LG Energy Solution Former Senior Vice President, Business Management Department of LG Chem		

Name	Shinn, Mee Nam	Gender	Female
Roles within the Board	Independent Director / Chairperson of the ESG Committee		
Term	June 2021 - March 2026		
Key Experiences	Former CEO, inside director of K Auction Former President, Business Unit of Doosan Fuel Cell		

Name	Yeo, Mee Sook	Gender	Female
Roles within the Board	Independent Director / Chairperson of the Internal Trade Committee		
Term	June 2021 - March 2027		
Key Experiences	Professor, Hanyang University School of Law Former Presiding Judge, Seoul High Court/Seoul Central District Court		

Name	Han, Seung Soo	Gender	Male
Roles within the Board	Independent Director / Chairperson of the Audit Committee		
Term	June 2021 - March 2027		
Key Experiences	A member of the Financial Supervisory Service's Accounting Review Committee Vice Chairperson, Korean Association for Accounting and Policy Professor, Korea University Business School		

Name	Park, Jin Kyu	Gender	Male
Roles within the Board	Independent Director / Chairperson of the Nomination Committee for Independent Directors		
Term	March 2023 - March 2026		
Key Experiences	Specially appointed professor, University Research Institute Industry Collaboration Center, Korea University Former 1st Vice Minister, Ministry of Trade, Industry & Energy		

Operation of the Board of Directors

According to the Article 27 of the Articles of Incorporation, the Board of LG Energy Solution must consist of at least 3 and up to 7 directors. Following the 'Independent Director's Independence Guidelines,' the Board is composed of 4 independent directors, out of a total of 7 directors (approximately 57%), ensuring that independent directors constitute a majority. Under the 'Diversity Principle,' we ensure that independent directors do not represent specific and common backgrounds or specific interests. They are composed of experts in fields closely related to company management, including finance, accounting, law, international trade, risk management and industry professionals. This composition ensures diverse backgrounds and expertise, enabling substantive deliberation on Board matters and effective oversight and supervision of management's execution of duties.

Securing the expertise and diversity of the board

On April 24, 2023, the ESG Committee approved the 'Guidelines on the Expertise and Diversity of the Board of Directors' to formalize the guiding principle for the Board's expertise and diversity, and has appointed two female directors to enhance board diversity. Additionally, to improve the industry-related expertise of the Board and its committees, Board Workshop was held in Europe from July 10 to July 15, 2023, in which visits to local production sites, factories, and customer companies' production facilities were held.

Committee-centric operation

LG Energy Solution operates five committees within the Board: Audit Committee, Internal Trade Committee, ESG Committee, Nomination Committee for Independent Directors, and Management Committee. These committees are established and operated in accordance with their roles and authorities stipulated by statutory regulations and each committee's regulations, thereby enhancing the effectiveness, expertise, and independence of the committees within the Board. The Directors meet at least every quarter and holds ad-hoc meetings as needed. In 2023, a total of 9 board meetings were held, resolving 24 approval items (with a 100% approval rate) and deliberating 17 reported items, with attendance rate of 97%. The Audit Committee assembled for a total of 5 meetings, approving 4 items (with a 100% approval rate) and deliberating on 12 reported items, with a committee attendance rate of 93%. The Internal Trade Committee held 1 meeting, approving 4 items (with a 100% approval rate and committee attendance rate of 100%). The ESG Committee held 2 meetings, approving 1 item (with a 100% approval rate) and deliberating 3 reported items, with a committee attendance rate of 90%. The Nomination Committee for Independent Directors held 2 meetings, approving 2 items (with a 100% approval rate and committee attendance rate of 100%), and the Management Committee held 2 meetings, approving 2 items (with a 100% approval rate and committee attendance rate of 100%).

Committee Composition

Committee	Composition	Regulation
Audit Committee	Han, Seung Soo(Chairperson) Shinn, Mee Nam Yeo, Mee Sook Park, Jin Kyu	• Consists of three or more directors (more than two-thirds being independent directors) • At least one member shall be accounting/finance expert(Audit Committee Regulations Article 4)
ESG Committees	Shinn, Mee Nam(Chairperson) Yeo, Mee Sook Han, Seung Soo Park, Jin Kyu Kim, Dong Myung	• Consists of three or more directors (more than two-thirds being independent directors) (ESG Committee Regulations Article 4)
Internal Trade Commission	Yeo, Mee Sook(Chairperson) Han, Seung Soo Shinn, Mee Nam Lee, Chang Sil	• Consists of three or more directors (more than two-thirds being independent directors) (Internal Trade Committee Regulations Article 4)
Nomination Committee for Independent Directors	Park, Jin Kyu(Chairperson) Shinn, Mee Nam Kwon, Bong Seok	• Consists of three or more directors • One of the members is an inside director or other non-standing director; with the remaining two being independent directors (Nomination Committee for Independent Directors Regulations Article 4)
Management Committee	Kim, Dong Myung(Chairperson) Lee, Chang Sil	• Consists of two inside directors - the CEO and CFO (Management Committee Regulations Article 4)

Committee operation status in 2023

Committee Name	Number of Meetings	Number of Approvals and Reports	Approval Rate	Attendance Rate
Audit Committee	5 meetings	Approved 4 items, Deliberated 12 reported items	100%	93%
ESG Committee	2 meetings	Approved 1 items, Deliberated 3 reported items	100%	90%
Internal Trade Committee	1 meetings	Approved 4 items	100%	100%
Nomination Committee for Independent Directors	2 meetings	Approved 2 items	100%	100%
Management Committee	2 meetings	Approved 2 items	100%	100%

Appointment of Independent Directors with Expertise in Business-Related Fields

To secure the most suitable candidates for the Board, we run a pool of director candidate with strict standards, drawing from interviews and a preliminary verification process. In addition, to enhance the expertise of the Board, we provide independent directors with information related to business decision-making. While the Board regulations generally require the notice of board meetings to be given at least 12 hours in advance, in practice, we notify at least one day in advance and also hold briefings before meeting to support the best possible decision-making. Furthermore, to improve the level of understanding on LG Energy Solution, we report the status of major business activities to independent directors on a quarterly basis. Specifically, for Audit Committee members, we conduct periodic training on internal accounting management systems.

Audit Committee Training Status

Education Date	Conducting Entity	Attending Audit Committee Members	Reason for Absence	Main Education Content
July 28, 2021	Ernst & Young Han Young	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook, Ahn, Deok Geun	-	Explanation of Q2 2021 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
October 20, 2021	Ernst & Young Han Young	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook, Ahn, Deok Geun	-	Explanation of Q3 2021 financial statements and internal accounting management system audit
February 7, 2022	Ernst & Young Han Young	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook, Ahn, Deok Geun	-	Explanation of year-end 2021 financial statements and internal accounting management system audit
April 25, 2022	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook, Ahn, Deok Geun	-	Explanation of Q1 2022 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
July 25, 2022	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of Q2 2022 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
October 24, 2022	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of Q3 2022 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
January 26, 2023	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of year-end 2022 financial statements and internal accounting management system audit
April 24, 2023	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of Q1 2023 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
July 24, 2023	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of Q2 2023 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
October 20, 2023	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam	No-shows due to personal matters -	Explanation of Q3 2023 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards
October 27, 2023	LG Energy Solution Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	AI Trend and Chat GPT, Understanding Internal Control over Financial Reporting
January 25, 2024	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Yeo, Mee Sook	-	Explanation of year-end 2023 Ffinancial sStatement Notes and iInternal accounting management system auditControl Over Financial Reporting Audit
April 23, 2024	Deloitte Anjin LLC	Han, Seung Soo, Shinn, Mee Nam, Park, Jin Kyu, Yeo, Mee Sook	-	Explanation of Q1 2024 financial statements and mandatory communication with governance bodies; Reporting requirements of relevant auditing standards

Evaluation of independent directors

The evaluation of independent directors is conducted comprehensively, considering both quantitative and qualitative criteria encompassing various activities to ensure fairness. The Board Secretariat and HR department evaluate independent directors based on the evaluation metrics considering attendance rates at Board meetings, thorough review and constructive feedback on Board agenda items, effectiveness of proposals made, appropriateness of professional advice on key management decisions. In particular, for Audit Committee members, contributions to internal controls regarding the company's key financial risks and internal monitoring systems are considered in evaluation. The evaluation is carried out regularly according to internal standards. In compliance with Article 542-8 of the Commercial Act, the results are used by the Nomination Committee for Independent Directors to recommend candidates for new appointments or reappointments at the shareholders' meeting, thereby enhancing the fairness of the evaluation process.

Board Skills Matrix

Category		Kim, Dong Myung	Lee, Chang Sil	Kwon, Bong Seok	Shinn, Mee Nam	Yeo, Mee Sook	Han, Seung Soo	Park, Jin Kyu
Competency	Leadership	●	●	●	●	●	●	●
	CEO Experience	●		●	●			
	Global	●	●	●	●			●
	Management & Accounting		●				●	
	Policy & Administration					●		●
	R&D	●			●			
	Legal					●		
	Risk Management	●	●	●	●	●	●	●
Diversity	Appointed Year	2024	2020	2022	2021	2021	2021	2023
	Independence				●	●	●	●
	Age	54	59	60	62	58	54	58
	Nationality	Korean	Korean	Korean	Korean	Korean	Korean	Korean
	Gender	Male	Male	Male	Female	Female	Male	Male

Board Committees

Audit Committee

To ensure independence, the Audit Committee is entirely composed of independent directors. According to the Committee's regulations, it performs audits on accounting and business operations, monitors the execution of directors' duties, and plays an active role in internal controls, including requesting business reports, inspecting the company's operations and financial status, and reviewing reports from independent auditors. The Committee reviews matters that may affect the independence of independent directors and provides approval for independent auditors to offer non-audit services. Additionally, the Audit Committee has the authority to consent to the appointment and dismissal of heads of internal audit departments and exercises voting rights on relevant matters during executive meetings. Furthermore, the Committee enhances the expertise of its members by arranging special training sessions conducted by independent accounting firms.

Nomination Committee for Independent Directors

The Committee ensures the fairness of candidate selection by having two independent directors out of three members in total, with the Chairperson appointed among the two independent directors, and the other member appointed as a non-standing director. The Committee annually organizes, manages, and reviews a pool of candidates for independent directors, nominating those who align with the interests of shareholders and other stakeholders, and possess the expertise and competencies deemed necessary. The Committee also rigorously checks for any discrimination based on gender, nationality, race, and others.

Internal Trade Committee

The Internal Trade Committee reviews inter-affiliate transactions that require Board approval under relevant laws, including transactions with major shareholders and related parties as defined by corporate law, trade subject to unfair competition regulations by Fair Trade Act, and other internal trades that require Board approval. The Committee consists of four members, including three independent directors, usually chaired by an independent director.

Management Committee

The Management Committee handles decisions related to the company's financing, such as issuing bonds within approved borrowing limits, establishing or closing branches, and appointing or dismissing general managers. The Committee facilitates swift decision-making on management matters, with the CEO serving as the Chairperson and the CFO as a member.

ESG Committee

The ESG Committee establishes fundamental policies and strategies in the areas of environment, safety, social responsibility, customer value, shareholder value, and corporate governance, and reviews long-term goals. Starting in 2023, the ESG Committee's regulations were amended to include the roles of oversight, and report on the management status and improvement plans of key compliance risks, annual compliance activity plans, and implementation reports. Through this amendment, directors are ensured to effectively fulfill their oversight duties regarding the company's legal risks. The ESG Committee is composed of five members, four of whom are independent directors, and the Chairperson is appointed among the independent directors to ensure operational independence.

Reports and Approval items for the ESG Committee

year	Round	Date	Number of Attendees /Total members	Agenda		Approval Result
				Type	Details	
2022	1	17 March	5/5	Reporting	Report on ESG management direction and plans	Reported
	2	24 October	3/4	Reporting	Report on 2022 ESG management performance	Reported
2023	1	24 April	5/5	Approval	Approval of ESG guidelines and corporate governance charter	Approved
				Reporting	Report on 2023 ESG management direction and plans	Reported
	2	20 October	4/5	Reporting	Report on 2023 ESG management performance	Reported
				Reporting	Report on second half of 2023 overall compliance management status	Reported
2024	1	25 March	5/5	Approval	Appointment of ESG Committee Chairperson	Approved
	2	23 April	5/5	Approval	Approval of mid- to long-term goals and policies for ESG management (1-1) Amendments of RE100 roadmap (1-2) Establishment of biodiversity policy	Approved
				Reporting	Report on 2024 ESG management direction and plans	Reported
				Reporting	Report on compliance key risk management status	Reported

Compensation Policy

Board Compensation Policy

LG Energy Solution determines our Board compensations through a fair and transparent process. The compensation for Board members is measured in relation to the company's goals and shareholders' interests, and the policy is implemented based on clear guidelines and evaluation processes.
The compensation of directors is determined within the total limit approved at the shareholders' meeting, in accordance with Article 388 of the Commercial Act, and in accordance with internal regulations. The annual compensation of each inside and independent directors is disclosed in the annual report. The remuneration of registered directors consists of an annual salary with factors such as inflation rates, independent competitiveness, and financial performance, role-based remuneration, and performance incentives based on business and individual performance. To determine performance compensation, both quantitative indicators such as sales and qualitative indicators such as core task evaluations and the implementation progress of long-term expectations are comprehensively evaluated. For performance evaluations, not only financial and quantitative indicators, but non-financial and non-quantitative indicators such as strategic efforts for discovering future growth engines, strengthening business competitiveness, and enhancing the business structure are considered. The annual salary of independent directors is determined by considering the responsibilities and risks of their duties, as well as the average salary level in the industry. The evaluation results of independent directors are used as reference materials for decisions on their reappointment. However, to maintain the independence of independent directors, compensation differentiation based on evaluation results is not applied.

Board Compensation Status

In 2023, LG Energy Solution achieved sales of 33.7 trillion won and operating profit of 2.2 trillion won. The Board compensation limit approved at the 2023 shareholders' meeting is 8 billion won.

Compliance Management

Compliance Management System

LG Energy Solution has established a company-wide compliance management system and emphasizes the importance of compliance activities through CEO compliance messages. To enhance compliance management, we are fostering compliance experts, enacting and revising policies and guidelines, operating compliance systems, and implementing continuous monitoring and inspection processes. These efforts are integrated into a comprehensive compliance management system. In 2021, we became the first in the battery industry to obtain ISO 37301 certification, a global standard for compliance management. In 2023, we completed a follow-up audit through third-party verification and plans to renew the certification in 2024.

Acquisition and Validity of Compliance Management System (ISO 37301) Certification

Country	Sites	Certification validity
Korea	Headquarters	Single sign-on (2024-12-01)
	Ochang Energy Plan 1	
	Ochang Energy Plant 2	
	R&D Campus in Daejeon	
	R&D Campus in Gwacheon	
	R&D Campus in Magok	
China	LG Energy Solution (Nanjing) Co., Ltd	2025-11-09
	LG Energy Solution Battery (Nanjing) Co., Ltd	2026-08-20
	LG Energy Solution Technology (Nanjing) Co., Ltd	2026-08-20

All employees must adhere to the compliance guidelines as the highest standard, thereby fulfilling our compliance obligations. The guidelines cover areas such as "Honesty and Integrity with Customers," "Desirable Work Environment," "Fair Competition," "Responsibility to the Community," and "Enhancing Shareholder Value." In 2023, we undertook a comprehensive revision of the compliance guidelines to include the latest compliance issues; our aim is to distribute them by the end of 2024. This effort is part of our ongoing commitment to enhancing the awareness and understanding of compliance management among all employees. Additionally, by appointing Compliance Officers as per the Commercial Act and establishing the compliance control standards and implementation rules, we operate a systematic compliance program. Also, the Compliance Officer annually checks the company's compliance status based on the Compliance Guidelines and report the results to the Board. The areas of review and evaluation include the criteria mentioned in the Compliance Guidelines, the legal risk assessment and management system, compliance program and reporting system, independent work system of the Compliance Officer, and violation sanction system. These evaluations are conducted according to detailed items reflecting the indicators of the Ministry of Justice for assessing the effectiveness of the compliance control system.

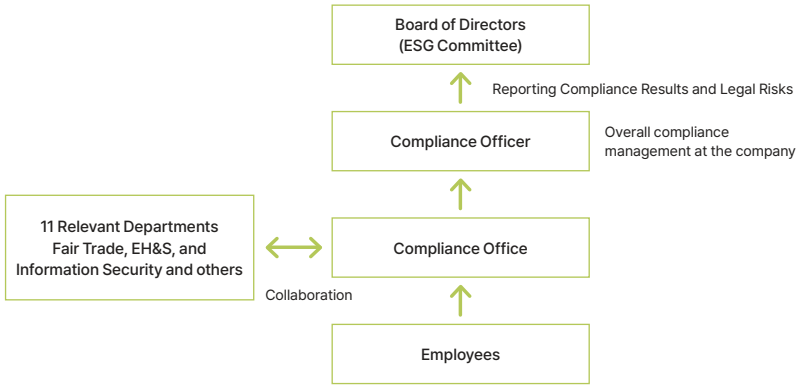
Report to the Board of Directors on the Status of Adherence to with Compliance Control Standards

Date	Details
22 February 2023	Reviewed the operation status of the compliance control system for 2022 and reported to the board of directors. ① Results of adherence to the compliance control standards: Confirmed legal compliance. ② Evaluation of the effectiveness of the compliance control system: Operating effectively and appropriately.
25 March 2024	Reviewed the operation status of the compliance control system for 2023 and reported to the board of directors. ① Results of adherence to the compliance control standards: Confirmed legal compliance. ② Evaluation of the effectiveness of the compliance control system: Operating effectively and appropriately.

To ensure the effectiveness of compliance management activities, the Compliance Office collaborates with 25 Compliance Managers across 11 functional departments, including Fair Trade, Environment, Safety and Health, and Information Security, to systematically manage and operate compliance. A total of 1,250 checklists have been prepared for risk assessment across 11 areas, which are utilized to inspect compliance management of domestic and overseas sites at least once a year. In addition, through annual company-wide compliance monitoring activities, we regularly identify any gaps or areas for policy improvement and encourages relevant departments to undertake voluntary improvements. Notably, in 2023, the Compliance Office supported the Safety and Health Team, a functional department, by conducting field inspections and restructuring organizational system to address compliance risks under the Serious Accident Punishment Act.
In April 2023, the ESG Committee's regulations were revised to ensure that decisions and

reports on key compliance matters, such as the establishment of basic compliance policies and management of core compliance risks, are made within the ESG Committee and reported to the Board. As a result, the findings from compliance inspections and the identified gaps and areas for improvement are regularly reported to the ESG Committee and the Board. Specifically, core compliance risks (6 Key Risks: collusion, partner technology theft, management information leakage, violations of the Serious Accident Punishment Act, quality issues, and sexual harassment) are reviewed and reported in details to the ESG Committee and the Board, ensuring that compliance risk inspections and preventive activities are pursued at the executive level. To prevent the recurrence of similar compliance issues, all possible measures, such as education programs, system improvements, and disciplinary actions, are implemented. Employees who intend to perform tasks that may pose legal risks can receive legal reviews and compliance guidelines through the legal support system and compliance consultation.

Compliance governance



Operational Process of CMS

Internalizing Compliance Capabilities

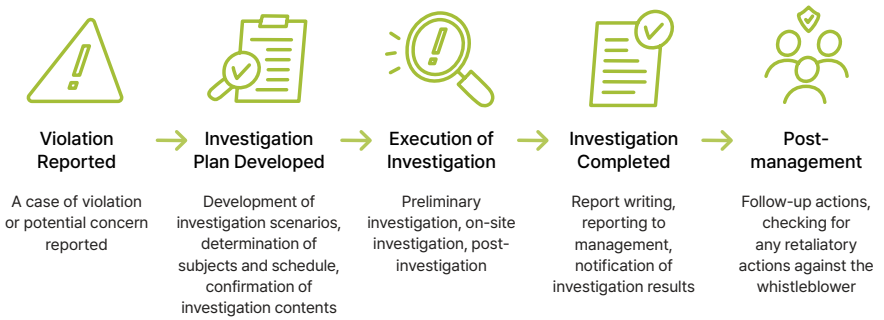
In order to strengthen employees' compliance awareness, compliance training is conducted for all domestic and overseas employees biannually. The training is operated as a company-wide mandatory training course in consultation with relevant departments such as HR, Fair Trade, Jeong-Do Management, and ESG. The program is updated every year to include all major compliance areas in addition to legally mandated training. In the first half of 2023, employees at the sites in Poland and Germany and the site in the US (LG Energy Solution Michigan Inc.) were provided with online training on collusion prevention and the importance of compliance, and completed a post-training quiz to evaluate the effectiveness of the training.

Compliance training for 2023

First half	Domestic	Understanding and Raising Awareness of Disability in the Workplace, Understanding Sexual Harassment Prevention in the Workplace, Understanding National Core Technology, Understanding Sexual Harassment and Bullying in the Workplace, Serious Accident Punishment Act, Understanding Compliance by Case Study, Understanding the Importance of Data Privacy
	Overseas	Anti-corruption and Anti-Fair Trade, Understanding Sexual Harassment and Bullying in the Workplace
Second half	Domestic	Information Security/Privacy Training, Major Cases of Compliance Violations for LG Energy Solution Members Mindset and Quality Assurance Activities for Customer Satisfaction, Subcontracting Law Technology Theft Prevention Training, Collusion (information exchange) Prevention Training, Understanding ESG
	Overseas	Information Security and Personal Data Protection, Safe Working Environment Anti-Discrimination

Compliance Violation Handling Process

LG Energy Solution offers various channels to identify compliance-related concerns or violations, including the CEO's direct communication channel (EnTalk) and the internal reporting system (LG Ethics Hotline, Q Speek-Up). Reports related to compliance issues such as the leakage of company management information, infringement of other companies' intellectual property rights, misuse of undisclosed important information, unfair trade practices with partners, and legal violations by employees are handled in collaboration with relevant departments. The Compliance Office and the Jeong-Do Management department collaborate to handle initial reports, investigation, review, and inspection activities. When compliance inspections and reports confirm the company's legal risks or employees' legal violations, a legal review of the associated risks and sentencing is conducted. Based on this review, appropriate disciplinary actions are determined and executed, which may include civil lawsuits or criminal charges if necessary. In 2023, the Compliance Office identified and addressed violations related to the misuse of undisclosed important information and the leakage of management information through abnormality detection activities by internal IT monitoring systems, such as emails and messengers. In accordance with the principle of protecting whistleblowers, we do not disclose or imply the identity of whistleblowers without their consent. Any disadvantage resulting from failure to comply with this principle is rectified, and appropriate remedial actions are taken. To further enhance the transparency and accountability of business operations and eradicate corruption that undermine customer value, LG Energy Solution has implemented a whistleblower reward system. In 2024, we established anti-corruption policies and guidelines, and we are preparing to acquire the global standard certification ISO 37001 on anti-bribery management system.



Managing Corruption Risk

LG Energy Solution does not tolerate any corruption or bribery. Our principles in this regard are unwavering, and we conduct enhanced corruption risk management based on our compliance management system to secure the trust of our customers and stakeholders in our integrity and honesty. To this end, we identify domestic and international laws and regulations related to anti-corruption that must be complied within the course of conducting business, and monitor new obligations due to amendments to laws and regulations and changes in regulatory authorities' policies. The identified obligations are reviewed and evaluated from a legal risk perspective, customized control measures are implemented, and improvement measures are continuously taken for any gap in the control measures to enhance their effectiveness.

In addition, we have established and implemented Anti-bribery management policies, operating regulations, guidelines, and checklists to establish and check policies to prevent corruption, and all employees are required to take an annual pledge to comply with anti-corruption laws and regulations and complete training to raise anti-corruption awareness.

In addition, we manage corruption risks through business partners by collecting pledges from all suppliers and operating a supply chain due diligence process. LG Energy Solution's corruption risk management activities are based on the relevant international certification, ISO 37001, and based on these activities, we are aiming to expand the certification to all overseas business sites, starting with the domestic and sites in Poland in 2024.

Anti-Bribery Policy

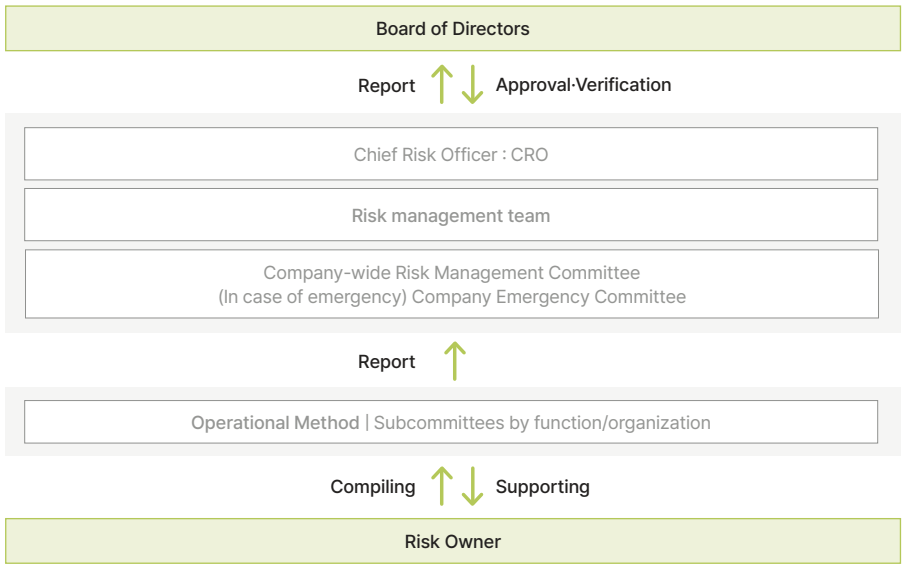
Global Anti-Bribery Guideline

Risk Management

Risk Management System

A Company-wide Risk Management Governance

To effectively manage risks at a company-wide level, LG Energy Solution has appointed Chief Risk management Officer (CRO), the highest-ranking executive responsible for risk management. Additionally, for product quality area, we have appointed Chief Quality Officer (CQO) as a separate management responsible for managing risks through technical expertise and independent quality leadership. The CRO is appointed by the Board of Directors and demonstrates leadership in recognizing the importance and intention of company-wide crisis management in various areas such as environmental safety, supply chain management, and employee accidents. The CRO pre-evaluates potential crises, conducts impact analysis, and instructs relevant departments for mitigation. In times of an actual company-wide crisis, as the Chairperson of our company's Emergency Committee, which is the highest decision-making body for emergencies, the CRO is responsible for convening and terminating the Company Emergency Committee assembly, approving crisis response measures, overseeing company-wide communication and external activities, and leading crisis management efforts.



Risk Response Procedures

LG Energy Solution activates the company-wide crisis response system according to the response manual in the event of a risk occurrence. If a situation is deemed a"company-wide crisis" based on predefined grades for various incidents or crisis types,) Emergency Committee chaired by the CRO is convened following the simultaneous reporting and communication procedures. The CQO and CPO assume the role of Committee Chairpersons for quality and environmental safety risks, respectively. The Emergency Committee operates a comprehensive situation room to communicate with the field and support accident response and recovery. Once the crisis is resolved, the Committee monitors the implementation of measures to prevent recurrence and verifies the results. The dedicated organization under the CRO's authority lists changes in crises and their impacts, develops scenarios, including the decision-making process of the Emergency Committee, and conducts mock drills to enhance crisis response capabilities. Additionally, we improve crisis response manuals and systems and horizontally shares these measures to prevent similar crises from recurring.

Strengthening a Company-wide Risk Management

LG Energy Solution continuously enhances our capabilities to maintain business continuity during crisis situations. We achieve this by obtaining international and domestic standard certifications to ensure objectivity. In 2021, we obtained ISO 22301 certification for our domestic operations (Headquarter, Energy Plant 1). In 2023, we were certified as an excellent company in managing disaster risks under the supervision of the Ministry of Public Administration and Security, acknowledging our excellence in disaster management and ensuring business continuity.

Acquisition and Validity of Business Continuity Management System (ISO 22301)

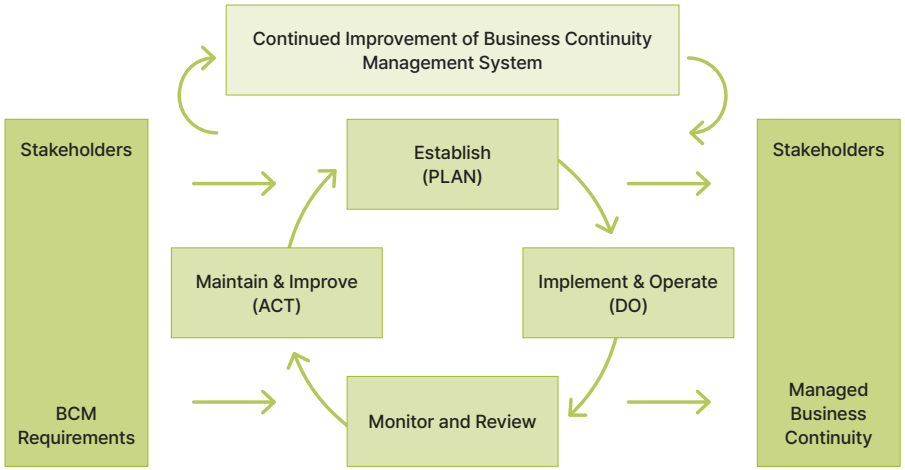
Country	Sites	Certification validity
Korea	Headquarters	Single sign-on (2024-12-22)
	Ochang Energy Plant 1	

Company-wide mock drill involving management participation to share crisis awareness

Ceremony for recognizing the Outstanding Enterprise in Disaster Mitigation

ISO 22301 is an international certification that assesses whether an organization has the ability to restore core functions in the shortest possible time to normalize business activities in the event of a business interruption due to various disasters, accidents, among others. We have applied the certification methodology to identify threats that could disrupt our business and ensure that our response strategies and procedures are well-defined and functioning smoothly. Moving forward, we will continue to strengthen our internal processes and capabilities related to business continuity and gradually expand the scope of certification to our overseas business sites.

Business Continuity Management



*BCM: Business Continuity Management

Plan : Establish plans that meet the requirements of the organization and stakeholders.
Do : Implement and operate BCM (Business Continuity Management) in accordance with the plans.
Check : Monitor and review the implementation and operation.
Act : Maintain and improve based on the reviewed findings.

Furthermore, we incorporate risk management performance into the evaluation of executives, separate from their management performance. In particular, we consider the safety and lives of employees and local community residents as the top priority value and include achieving a safe working environment as a differentiated reward in the evaluation criteria for key executives. In the future, we plan to gradually expand the areas of risk management included in the evaluation criteria.

A Company-wide Risk Management System

LG Energy Solution identifies and mitigates key risks by raising sensitivity to potential risks and systematically conducts risk identification and mitigation activities. Through double materiality assessments, interviews with relevant departments, and detailed analysis across various domains (investment, business plans, ESG, external factors, etc.), we identify key risks. For each key risk, we develop mitigation plans and implement functional process management to proactively address risk management. Our core focus areas for risk management include product quality, environmental safety, and regulatory policy risks.

Identification and management process of key risks

* Obtaining approval from the CRO and the Risk Management Committee, with the establishment of subcommittees for managing key risks.

Corporate Key Risk Map

LG Energy Solution conducted risk-related interviews with major departments to identify the company's key risks and establish a risk response system that supports the needs of crisis management, and derived a risk map with 28 types of risks categorized into eight areas for external environment and internal management.
Among the eight risk groups derived from the company-wide key risk map, we analyzed the key risks and described the status of our responses.

Examples of Major Risk Groups and Contents from Corporate Risk Pooling Interviews

Category	Risk Group	Related Content
External Environment	Geopolitics	Dilemma between geopolitical tensions and business opportunities for LG Energy Solution
	Policy/ Regulation	Risks due to protectionist policies such as IRA and EU Battery Regulations for establishing self-sufficiency in key raw materials
	Market/ Customer	Derivative issues stemming from decreased demand for electric vehicles (e.g., postponement of investments)
	Product/ Technology	Decline in price/product competitiveness compared to competitors
Internal Management	Security/ Compliance	Increasing importance of technology security due to potential leakage of national key technologies
	HR/ Organization	Operational risks in workforce/organizational management due to overseas operations
	Management Processes	Need for advanced management processes tailored to regional characteristics to mitigate complex risks arising from business expansion
	Accident/ Business Continuity	Increased potential for major disasters near facilities due to climate change and potential for chemical spills, with heightened impact of major safety incidents

Policy and Regulatory Risks

Given the global situation and the characteristics of the energy industry, the importance of risk management related to regulations and policies is increasingly emphasized. Policies related to the electric vehicle and battery industries can present opportunities, but they can also pose threats to our business operations or strategy formulation. Therefore, we define these factors as key risks and aim to enhance our response capabilities. To address these global policy and regulatory risks, we conduct compliance risk monitoring to identify regulatory risks, assess their impact, check response capabilities, and improve processes and capabilities. As part of this effort, we ensure compliance with various domestic environmental regulations, such as the Air Environment Conservation Act, Water Environment Conservation Act, Waste Management Act, and Chemical Substances Control Act.

Quality Risk Management

LG Energy Solution recognizes fire accidents in electric vehicles and energy storage systems as significant risks. These accidents pose risks to consumer safety and property and spread negative perceptions to the future green energy industry among the public. To reduce the likelihood of such accidents, we collaborate closely with major customers and safety management agencies in each country. We also conduct comprehensive analyses of the causes of electric vehicle fires in collaboration with external research institutions. We continuously work to mitigate product quality-related risks, by applying diagnostic technologies and the voluntary recall of problematic products.

Environmental and Safety Risks

As LG Energy Solution continues to expand our business rapidly worldwide, we are making various efforts to ensure the safety of employees and the surrounding communities near our facilities. Considering the increased potential for environmental and safety risks due to the construction of numerous new facilities and the increased use of new equipment, we are implementing proactive risk identification and prevention measures. Furthermore, for facilities approaching 20 years of operation, we identify risks associated with aging and implement rigorous diagnostics and improvement measures. To achieve this, we continuously study and improve compliance with safety and environmental regulations in various countries.

Risk Identification and Management

Risks	Risk Factors	Potential Impacts	Mitigation Activities
Quality	Quality Management	• Need for quality risk management for Mobility & IT Battery/ Advanced Automotive Battery products used by customers	• Aim to enhance system-based quality management and optimize quality management, establish and operate a company-wide quality management specialized organizational structure • Implement activities for quality issue discussions with customers and government agencies • Establishing policies and supporting activities to internalize the vision of "Quality First Culture" and core values among employees
Safety	Environmental Safety Management	• Chemical-related accidents and violations of regulations can lead to damage to the company's trustworthiness and competitiveness • Financial loss and damage to corporate image in the event of business interruption or fines due to non-compliance with relevant regulations	• Strengthen safety education for handlers of hazardous substances • Enhance pre-filtering of chemicals exceeding domestic and international regulatory standards and explore alternative substances to hazardous substances • Conduct regular environmental and safety diagnostics, planning diagnostics, and special diagnostics for all domestic and overseas facilities Enhancing the risk assessment of major disasters and securing a safety and health system. • Strengthen risk and performance management system through the establishment of company-wide environmental and safety policies and internal regulations and the construction of an environmental and safety portal
Business	Order	• Need for systematic risk management due to increased order projects and larger order scales	• Establish a company-wide order management system · Strengthen company-level order review criteria (i.e., profitability, risk response) • Secure early profitability of orders through management at the estimation stage • Establish a foundation for responding to loss-related risks
	Intensified Competition	• Intensified competition in the battery market and changing market dynamics	• Secure leading technological position through the enhancement of manufacturing and R&D capabilities • Secure competitive advantage in new businesses through open innovation and various channels
	Business Environment Change for Production and Sales	• Possibility of long-term growth decline and inefficient resource operations due to inappropriate business portfolio composition	• Allocate resources mainly to nurturing businesses through company-wide business portfolio review • Concentrate on examining changes in the business environment during the establishment of medium- to long-term strategies and business plans • Develop response measures for key indicators such as material and component supply and exchange rates • Examine short-term business environment and risk factors at headquarter and overseas subsidiaries • Fundamental competitiveness improvement activities for struggling businesses
	IT System Management and Information Security	• LG Energy Solution's business is operated and managed based on IT systems, and leakage of confidential information or data manipulation can adversely affect manufacturing and logistics processes • Legal liabilities or competitiveness degradation can occur due to inadequate internal information management	• Establish a company-wide information security organization and operate an information security council • Establish a digital innovation system • Strengthen DB access control systems • Conduct information security and data management education for employees

Risks	Risk Factors	Potential Impacts	Mitigation Activities
Finance	Investment	• Financial loss and cash flow deterioration concerns due to incorrect investment decisions or changes in the business environment	• Enhance investment efficiency and early response to risks through investment management systems • Conduct corporate-level investment review and corporate investment committee for major investments · Strengthen change management through progress checks for ongoing major investments
	Financial	• Exposure to various risks such as market risk, credit risk, and liquidity risk due to global business expansion and expansion of business scope	• Manage risks by each dedicated department according to policies approved by the management committee • Conduct pre-identification and evaluation of financial risks through collaboration between operational departments
Climate Risk	Response to Carbon Policy Changes	• Increase in production costs due to investment in energy reduction. • Increase in manufacturing costs due to the rise in carbon emission permit prices.	• Decision-making on energy reduction investment based on maximizing effectiveness perspective. • Minimizing emission permit purchase costs through energy efficiency improvements between processes to reduce carbon emissions.
	Carbon Information Disclosure	• Mandatory regulations for carbon neutrality strategy and disclosure of carbon footprint information	• Establishing carbon-negative strategies and complying with mandatory disclosure through the establishment of a carbon-related information management system

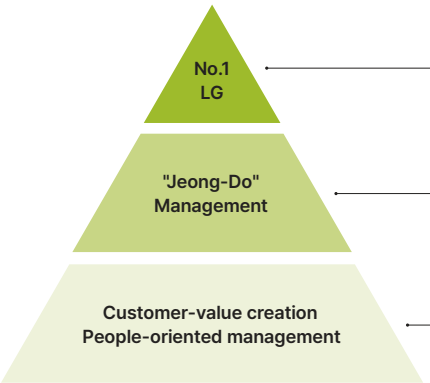
Fostering a Risk Awareness Culture

To raise awareness among employees about the identification and management of risks, and to encourage voluntary participation in risk management, we conduct awareness-sharing activities targeting Crisis Management Committees/Subcommittees and all employees. Annually, mandatory crisis management training is conducted for all group companies, and monthly postings related to risk/crisis management share various cases across the organization. We also continually assess employee awareness of risks to facilitate change management activities.

Jeong-Do Management

LG Energy Solution pursues Jeong-Do Management following ethical norms. Jeong-Do Management represents LG's unique code of conduct based on ethical management and steady cultivation of skills and winning fairly. Jeong-Do Management means generating tangible results based on the ability to win in the competition with ethical management.

LG Way



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

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

Management Principles
The fundamental organizational principle guiding LG from beginning as a firm

Jeong-Do Management

Intergrity	Fair transaction	Fair competition
Work transparently according to principles and standards	Provide equal opportunities and fair treatment in every transactional relationship	Improve capabilities with which one can fairly win the competition

Code of Ethics

Respecting the free-market principle that pursues free and fair competition, LG sets the group's Code of Ethics as the standards for proper conduct and value judgment where all employees must adhere to, aiming for mutual trust, cooperation, and the pursuit of shared interests with all stakeholders. LG's Code of Ethics consists of responsibilities and obligations toward customers fair competition, fair trade, basic ethics for employees, responsibilities toward employees, and responsibilities toward the nation and society.

LG Code of Ethics

Responsibilities and Obligations for Customers
- Responsibilities and Duties to Customers
- Creating Value
- Providing Value

Fair Competition
- Pursuing Free Competition
- Complying with Laws and Regulations

Fair Transactions
- Equal Opportunity
- Fair Trade Process
- Pursuing Mutual Growth

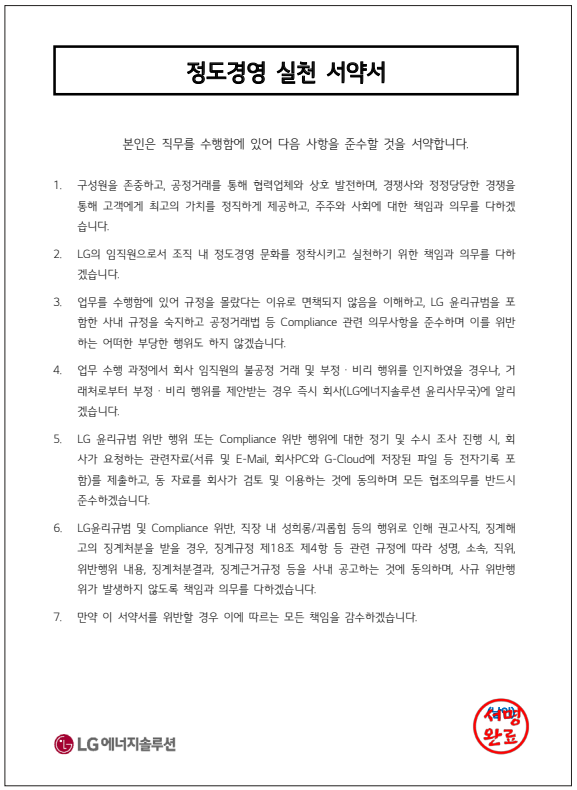
Basic Ethics of Employees
- Basic Ethics
- Accomplishing Mission
- Self-development
- Fair Handling of Job
- Avoiding Conflict of Interests with the Company

Corporate Responsibilities for Employees
- Respecting Humanity
- Fair Treatment
- Promoting Creativity

Responsibilities to the Nation and Society
- Rational Business Operation
- Protecting Shareholder Returns
- Contributing to Social Development
- Conservation of the Environment

Ethical Management Operations

LG Energy Solution engage in business under the principles of ethical management, with an Ethics Office led directly by CEO office to uphold these principles. Annually, all employees participate in signing “Jeong-do Management Pledge of Practice” to reaffirm their commitment to ethical management practices, guided by the principles of integrity and fair competition. This initiative underscores our dedication to maintaining high ethical standards throughout our business operations.



정도경영 실천 서약서

본인은 직무를 수행함에 있어 다음 사항을 준수할 것을 서약합니다.

1. 구성원을 존중하고, 공정거래를 통해 협력업체와 상호 발전하며, 경쟁사와 정정당당한 경쟁을 통해 고객에게 최고의 가치를 정직하게 제공하고, 주주와 사회에 대한 책임과 의무를 다하겠습니다.
2. LG의 임직원으로서 조직 내 정도경영 문화를 정착시키고 실천하기 위한 책임과 의무를 다하겠습니다.
3. 업무를 수행함에 있어 규정을 몰랐다는 이유로 면책되지 않음을 이해하고, LG 윤리규범을 포함한 사내 규정을 숙지하고 공정거래법 등 Compliance 관련 의무사항을 준수하며 이를 위반하는 어떠한 부당한 행위도 하지 않겠습니다.
4. 업무 수행 과정에서 회사 임직원의 불공정 거래 및 부정 · 비리 행위를 인지하였을 경우나, 거래처로부터 부정 · 비리 행위를 제안받는 경우 즉시 회사(LG에너지솔루션 윤리사무국)에 알리겠습니다.
5. LG 윤리규범 위반 행위 또는 Compliance 위반 행위에 대한 정기 및 수시 조사 진행 시, 회사가 요청하는 관련자료(서류 및 E-Mail, 회사PC와 G-Cloud에 저장된 파일 등 전자기록 포함)를 제출하고, 동 자료를 회사가 검토 및 이용하는 것에 동의하며 모든 협조의무를 반드시 준수하겠습니다.
6. LG윤리규범 및 Compliance 위반, 직장 내 성희롱/괴롭힘 등의 행위로 인해 권고사직, 징계해고의 징계처분을 받을 경우, 징계규정 제18조 제4항 등 관련 규정에 따라 성명, 소속, 직위, 위반행위 내용, 징계처분결과, 징계근거규정 등을 사내 공고하는 것에 동의하며, 사규 위반행위가 발생하지 않도록 책임과 의무를 다하겠습니다.
7. 만약 이 서약서를 위반할 경우 이에 따르는 모든 책임을 감수하겠습니다.

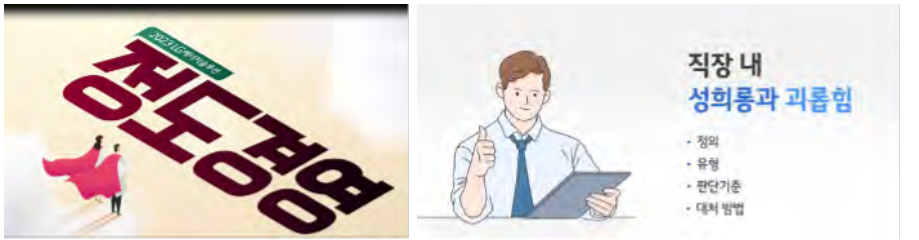
LG에너지솔루션

서명 완료

Pledge of Practice for Jeong-Do management

Jeong-Do Management Education

To practice and internalize Jeong-Do Management, education is conducted regularly for all employees at both domestic and overseas along for our business partners in accordance with education and promotion system. In particular, we have strengthened online-based activities and education to spread the Jeong-Do Management culture and to encourage employees to practice Jeong-Do Management. We encourage employees' voluntary participation through the 'Ensol Business Etiquette' campaign for all employees, including global business sites, and raise employees' interest through promotional activities utilizing the Jeong-Do Management portal. E-learning training on 'Sexual Harassment in the Workplace' was conducted for all employees, including global business sites, and live training is conducted non-face-to-face for organization members who need intensive training.

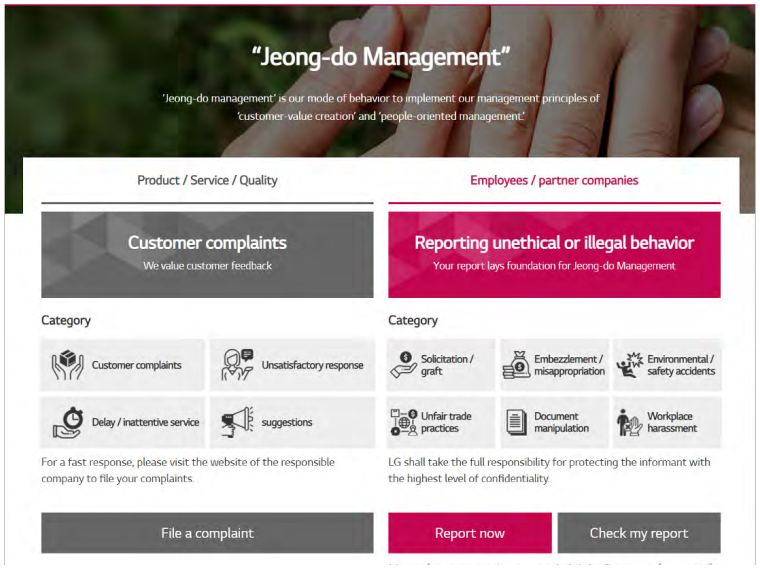


Ethical Management E-learning Education

Operation of Cyber Whistleblowing System

LG Energy Solution operates the 'Jeong-Do Management Cyber Whistleblowing System' where employees can anonymously report on issues and irregularities within the company under the principle of whistleblower protection, which states that the company will not disclose any information that reveals or implies the identity of the whistleblower without the consent of the whistleblower, and will be held liable for restitution and similar responsibilities for any disadvantages arising from failure to comply.

Cyber Whistleblowing System : https://ethics.lg.co.kr/main/en.do



Cyber Whistleblowing System

Whistleblower Protection Policy

LG Energy Solution has established and complies with whistleblower protection standards related to employee ethics and compliance under the Jeong-Do Management, Code of Ethics, and Internal Audit Regulations. Measures to protect whistleblowers include confidentiality of whistleblowers and related information, and strict prohibition of disadvantageous dispositions and retaliatory acts. In the event of a violation of whistleblower protection, such as retaliation against a whistleblower, the case will be handled in legal accordance with Article 7 of the Whistleblower Protection Standards (Procedures for Protecting Whistleblowers and Post-inspection Procedures for Whistleblowers).

Whistleblower Protection Procedures and Post-Reporting Follow-up Inspection Preocedures

1. Whistleblower protection procedure

Report Submission

- Whistleblower and their content are managed confidentially by the Jeong-Do management Division
- Reporting system security applied
- Anonymous reporting available

Report Handling

- Reports are handled by a limited number of personnel who have pledged confidentially
- Minimize exposure risk of the whistleblower during communication (establish communication channels for anonymous reporters)

Actions Completed

- Minimize the communication of action details related to the Whistleblower(limit to essential personnel only)
- Extenuation applied to Whistleblower-related misconducts and irregularities

Follow-up Management

- Monitor any retaliatory actions against the Whistleblower.
  - Conduct follow-up monitoring within 3 to 6 months after the actions completed.
- If any disadvantages or penalties occur to the Whistleblower, implement restoration or equivalent compensation

2. Follow-up Inspection Procedure for Whistleblowers

Establish Inspection Plan

- Identify subjects of inspection
- Set Interview methods and schedule

Conduct Interview with Whistleblowers

- In-person or telephone interview, confirmation via e-mail, etc.

Agree on Action if Disadvantages are found

- Consult with the HR department or the relevant department head
- Transfer to another department, restoration, or equivalent compensation

Verify Implementation of Actions

Shareholder Policy

LG Energy Solution is enhancing value and rights through rational shareholder policy. As stated in the Corporate Governance Charter, we ensure shareholders' rights to dividend entitlement, to attend, and to vote at shareholder meetings.

Shareholder Status

Shares and Capital Structure

According to LG Energy Solution's Articles of Incorporation, the total number of shares authorized to be issued is 800,000,000 (500 KRW per share). As of the end of 2023, the total number of issued shares is 234,000,000 common shares. The largest shareholder is LG Chem, which holds 81.84% of the total shares.

Shareholder's Status

Shareholder	Number of Shares	Ownership (%)	Remarks
LG Chem	191,500,000	81.8	Affiliate company
National Pension Service	12,961,181	5.5	
Employee's Stock Ownership Association	1,599,732	0.7	
Others (Minor Shareholders)	27,939,087	11.9	
Total	234,000,000	100.0	

* As of December 31, 2023.

Enhancing Shareholder Value

Establishing a System for Shareholder Rights

LG Energy Solution prioritizes transparency and fairness to ensure equal treatment of all shareholders and provide essential information for shareholder rights protection in corporate decision-making. The company has established the "Corporate Governance Charter," which specifies shareholder rights and practices responsible shareholder-friendly management activities. Additionally, LG Energy Solution has enacted the "Disclosure Management Regulations" to manage disclosure information and control disclosure related works and procedure systems, thereby protecting the shareholder rights through fair and accurate disclosure.

Shareholder rights

Shareholders of LG Energy Solution have the right to participate in and exercise voting rights at shareholders' meetings in accordance with the Commercial Act and Articles of Incorporation. To ensure these rights, we must send a notice of electronic document stating the date, time, and purpose of general shareholders' meetings at least two weeks prior to the date of meeting to each shareholder. Detailed agenda explanations for each item are also disclosed on the company's website, allowing shareholders to thoroughly review and exercise their voting rights with sufficient information beforehand.
Moreover, in order to enable shareholders to exercise their voting right more conveniently, we adopted the electronic voting system since January 2023. Electronic voting has been available from the 3rd general shareholders' meeting. Information about the number of shares represented at shareholders' meetings and voting results on each agenda item is transparently disclosed through public disclosures and on the company's website.

Shareholders meeting

2024 Annual general meeting results

Date: March 25, 2024 (Monday) at 11:00 AM
Location: LG Twin Tower Connect Hall(Former Auditorium, East Tower B1), 128 Yeoui-daero, Yeongdeungpo-gu, Seoul

Agenda Item		Result	Approval Rate
Item 1	Approval of Financial Statements for the 4th Fiscal Year	Approved	99.2%
Item 2	Approval of Amendments to the Articles of Incorporation	Approved	100.0%
Item 3-1	Appointment of Inside Director Kim, Dong Myung	Approved	99.8%
Item 3-2	Appointment of Independent Director Shinn, Mee Nam	Approved	99.7%
Item 3-3	Appointment of Independent Director Yeo, Mee Sook	Approved	99.8%
Item 4	Appointment of Independent Director Han, Seung Soo for the Audit Committee Member	Approved	96.9%
Item 5-1	Appointment of Audit Committee Member Shinn, Mee Nam	Approved	97.8%
Item 5-2	Appointment of Audit Committee Member Yeo, Mee Sook	Approved	98.1%
Item 5-2	Appointment of Audit Committee Member Park, Jin Kyu	Approved	98.2%
Item 6	Approval of Ceiling Amount of Remuneration for Directors	Approved	99.9%

Total number of issued shares with voting rights : 234,000,000
Total number of shares in attendance : 218,735,494 (Attendance rate : 93.5 %)

2023 Annual general meeting results

Date: March 24, 2023 (Friday) at 9:30 AM
Location: LG Twin Tower Auditorium (East Tower, B1), 128 Yeoui-daero, Yeongdeungpo-gu, Seoul
Total Issued Shares with Voting Rights: 234,000,000 shares

Agenda Item		Result	Approval Rate
Item 1	Approval of Financial Statements for the 3rd Fiscal Year	Approved	98.9%
Item 2	Appointment of Independent Director Park, Jin Kyu	Approved	99.9%
Item 3	Approval of Ceiling Amount of Remuneration for Directors	Approved	99.8%

Total number of issued shares with voting rights : 234,000,000
Total number of shares in attendance : 225,209,018 (Attendance rate : 93.5 %)

Fair treatment of shareholders

LG Energy Solution guarantees equitable voting rights for shareholders in accordance with Article 369 of the Commercial Act and Article 23 of the Articles of Incorporation. All shareholders, regardless of the number, are entitled to one vote for each share held and are treated equally, and have the right to receive sufficient and fair information from the company in a timely manner.

Dividend and shareholder returns plan

LG Energy Solution is committed to leading the global battery market and achieving sustainable growth in the rapidly expanding industry and making large-scale investments to cater to the growing demand of customers is deemed inevitable for the time being. Given this, we plan to observe business performance, investment plans, market environment, availability of dividend sources under the Commercial Act and other relevant factors comprehensively towards implementing a shareholder return policy at an appropriate time in the future where we generate stable surplus cash flow based on profitable growth. If we implement a shareholder return policy such as dividends, we will decide through the resolution of the Board of Directors and the general meeting of shareholders in accordance with the Commercial Act and the Articles of Incorporation, and provide fair and transparent information through various channels such as information disclosure, earnings conference call, shareholder letter and the corporate website.

Active communication with shareholders

IR communication

LG Energy Solution holds quarterly earnings presentations led by management via conference call to quickly and transparently communicate with shareholders on key issue. The earnings conference call are webcasted on our website in both Korean and English so that all shareholders in Korea and abroad can listen in real time. The materials are also disclosed on the website in Korean and English.
In addition, we hold quarterly NDR (Non-Deal Roadshow) meetings and participate in conferences organized by securities firms to communicate with global investors. Furthermore, we sincerely respond to various communication channels to listen to the opinions of minority shareholders, such as the IR dedicated telephone line and the IR inquiry board on the website.

Quarterly earnings conference calls

LG Energy Solution held 4 earnings conference calls in 2022 and 2023 respectively to share business update and financial results quarterly with domestic and foreign investors, analysts, and the media.

NDR and Conference participation

LG Energy Solution participated in 29 NDRs and conferences in 2022 and 48 in 2023 to communicate with shareholders, including domestic and foreign investors.

IR Activities

Transparent disclosure system

Through fair and prompt disclosure, LG Energy Solution provides timely information on major decisions that may affect investment decisions. We also provide in-depth IR materials in a timely manner to facilitate smooth shareholder communication and enhance business understanding. To improve information accessibility for foreign investors, we operate website in English and submit disclosures in English separately for major disclosures. Our management information is available on our website (www.lgensol.com) and through electronic disclosure systems such as DART (dart.fss.or.kr) and KIND (kind.krx.co.kr). We will continue to support investors' decision-making and strengthen fair communication through accurate and transparent disclosure.

ESG Data Management

ESG IT Intelligence

Non-financial indicators such as human rights and customer value are becoming increasingly important due to climate change and changing social values, and the need for a stricter, systematic managing of these quantitative indicators is being more emphasized.
In June 2023, we launched the 'LG ESG IT Intelligence' system, an ESG IT platform, together with other LG Group companies, to respond to increasing domestic and overseas ESG information disclosure regulations and operate an ESG IT infrastructure system that can efficiently manage ESG data required by various stakeholders
LG ESG IT Intelligence aims to provide accurate ESG information to various stakeholders and derive future goals and insights for ESG management direction based on accumulated data. The system continues to evolve as a platform to install and advance ESG management. Future plans include gradually expanding the scope of ESG management targets, enhancing functionalities to meet the needs of subsidiaries in various industries, and ensuring the completeness of the ESG management platform through continuous improvement.

Ultimately, beyond the data collection and management system, we plan on using the data to analyze and predict to secure preemptive managerial responses to meet the enforcing domestic and overseas disclosure regulations and to establish a reliable data-based risk management system. We will utilize the LG ESG IT Intelligence system to respond to relevant regulations and share transparent ESG information with internal and external stakeholders, including customers, in a timely manner.

Factbook

Double Materiality Assessment 115
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ESG Scorecard 128
ESG Certification 129

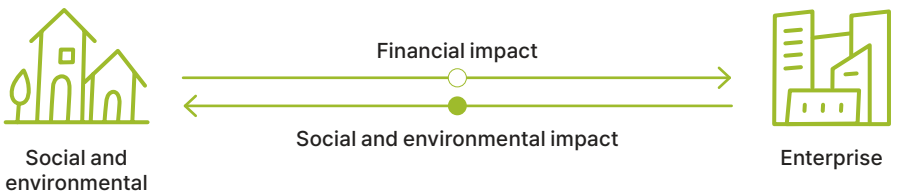
Double Materiality Assessment

The concept of double materiality involves assessing the impact of ESG issues not only on a company's financial status from an internal perspective but also on the company's impact on society and the environment from an external perspective. This dual approach considers both financial significance and sustainability. We have conducted a double materiality assessment to identify key disclosure issues for 2024. Through annual materiality assessments, we will identify the main concerns of stakeholders and issues that significantly affect our business, and we will disclose these transparently.

Conducting Double Materiality Assessment

We have developed own process by referring to the ESRS Double Materiality Implementation Guide 1 published by European Financial Reporting Advisory Group (EFRAG). This process includes key industry issues reflected by major domestic and international disclosure and evaluation agencies such as GRI, SASB, MSCI, and the Korea ESG Standards Institute (KCGS). Additionally, we examined publicly available information, including risks and evaluations related to LG Energy Solution reported in the media. This comprehensive analysis led to the identification of 17 ESG issue pools. Subsequently, by considering the financial and social/environmental impacts and incorporating feedback from various stakeholders, we selected six critical ESG issues.

Defining double materiality



Assess social-environmental/financial impact for issue pools	
Social and environmental materiality (Impact Materiality)	**Financial Materiality**
From an inside-out perspective, the degree of positive or negative impact to society and envionment int the short, medium, and long term. That can be caused by the organizations' business activities across the value chain	From an outside-in perspective, the degree of positive or negative impact to the organizations' financial status (risks or opportunities) in the short, medium, and long term. That can be caused by external factors related to sustainability

Double materiality assessment process

Step 1. Defining the value chain

In accordance with the EFRAG Guide, we defined the value chain of LG energy solution and applied global economic, social, and environmental issues and international standards to identify material issues that are important from a business and financial perspective and have a high impact on stakeholders.

Step 2. Organizing ESG issue pools

We analyzed the sustainability issues deemed important across the value chain and risk items in the Enterprise Risk Management (ERM) together, and finally derived a total of 17 pools by considering financial and environmental/social impacts.

Social and Environmental Impact

- Indicators under the influence of international organizations such as the UN and indicators related to social responsibility
- GRI, UN SDGs, UNGC, ISO26000, WEF
- Analysis of major domestic and overseas ESG-related media in 2023
- Controversy Issues from ESG rating agencies like MSCI

Financial Impact

- Analysis of ESG disclosure (GRI, TCFD, SASB, ESRS, ISSB) and evaluation indicators MSCI, DJSI, KCGS
- CEO messages and Internal report
- Benchmarking of Peer group and Value chain
- Business reports and sales reports

17 ESG issue pools

Rank	Category	Issues	Rank	Category	Issues
1	E	Greenhouse Gas Emissions and Climate Change Risks	9	S	HR and Human Rights Management
2	E	Waste Management and Circular Economy	10	E	Water and Marine Resource Management
3	S	Sustainable Value Chain	11	E	Physical Climate Risks
4	S	Product Quality and Safety	12	S	Information security and customer data protection
5	S	Product Sustainability	13	E	Biodiversity conservation
6	B	R&D Outcomes and Technological Innovation	14	E	Environmental Management
7	S	Environmental, Health, and Safety	15	G	Risk management
8	G	Compliance and Jeong-Do Management	16	G	Corporate Governance
			17	G	ESG disclosure

Step 3. Double Materiality Survey

To understand the negative and positive impacts of the ESG issues identified, we conducted a double materiality survey to internal and external stakeholders on the likelihood, scale, scope, and recoverability of the issues, reflecting the double materiality concept of ESRS Double Materiality IG1 mentioned above.

Stakeholder Survey Overview

Period : March 19, 2024 ~ April 7, 2024
Method: Online survey
Target: 1,146 employees and external stakeholders

Step 4. Identify key material issues

As a result of the materiality assessment, we have selected a total of six material issues and disclosed the management direction, implementation performance, and mid- to long-term performance targets for each issue in the ESG Report.

2024 Materiality Assessment Results

The results of the materiality assessment

Rank	Category	Issues	GRI Topic	ESRS Topic
1	E	Greenhouse Gas Emissions and Climate Change Risks	GRI 305	E1
2	E	Waste Management and Circular Economy	GRI 306	E5
3	S	Sustainable Value Chain	GRI 308, 414	S2, G1
4	S	Product Quality and Safety	GRI 416	S3
5	S	Product Sustainability		E2
6	B	R&D Outcomes and Technological Innovation		SBM-1, SBM-3

Key Issue Analysis

	Issue Category	Impacts		Stakeholders				
		Social/ Environmental	Financial	Employees	Customers	Suppliers	External Relations	Academia/ Experts
1	Greenhouse Gas Emissions and Climate Change Risks	Mid	High	High	Mid	Mid	Low	High
2	Waste Management and Circular Economy	High	Mid	Mid	Mid	Mid	Mid	High
3	Sustainable Value Chain	High	High	Mid	High	High	Mid	High
4	Product Quality and Safety	High	Mid	High	High	High	High	Mid
5	Product Sustainability	Mid	Mid	Low	Mid	High	Mid	Mid
6	R&D Outcomes and Technological Innovation	Low	High	Mid	Low	Low	Mid	Mid

Risk impact and direction by material issue

Rank	1	2	3	4	5	6
Issues	Greenhouse Gas Emissions and Climate Change Risks	Waste Management and Circular Economy	Sustainable Value Chain	Product Quality and Safety	Product Sustainability	R&D Outcomes and Technological Innovation
UN SDGS	13 CLIMATE ACTION	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	8 DECENT WORK AND ECONOMIC GROWTH	3 GOOD HEALTH AND WELL-BEING	13 CLIMATE ACTION	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Social/ Environmental	Mid	High	High	High	Mid	Low
Financial	High	Mid	High	Mid	Mid	High
Strategies	We have established a company-wide carbon negative strategy for Carbon Negative after 2050 and are analyzing the risks and opportunities posed by climate change to establish responses.	We aim for a resource cycle that minimizes the environmental impact of our products by reusing and recycling resources. To this end, we are establishing a closed-loop system for batteries, introducing eco-friendly packaging materials, and making various other efforts.	We strive to ensure a responsible and environmentally friendly supply chain by working with our suppliers to improve their business competitiveness as well as their labor rights, environmental, and health and safety capabilities.	We have established a quality management process including the supply chain to provide product quality that exceeds customer expectations. For issues that may arise due to the nature of batteries, we have introduced EMAS and ESS Battery Module Fire Suppression Process to ensure safety.	With increasingly stringent product and environmental regulations at national level, it has become all the more important to identify and manage chemicals in products and ensure the required level of environmental friendliness. we ensure eco-friendliness of all chemicals from the purchase of raw materials to production and sales and strictly manages the environmental hazards of materials and products. Further, we strive to quantify environmental performances of products through Life Cycle Assessment (LCA) and transparently disclose reliable information through third-party verification	Based on our three R&D innovation strategies, we are enhancing our business competitiveness by focusing on core technologies such as next-generation high capacity and high safety material technology development and advancements in battery manufacturing processes. Furthermore, we are expanding our investment in R&D to explore new technologies and products that will drive future growth, particularly in recycling, reuse, and next-generation batteries. We aim to contribute to a sustainable future by providing green and competitive solutions. We plan on achieving this vision by minimizing the environmental impact throughout the battery manufacturing process and promoting resource circulation in the battery ecosystem by developing waste battery reuse and recycling technology
Key Activities	• Energy savings in Manufacturing • Increasing renewable electricity (RE100) • Implementing electric vehicles (EV100) • Identifying and implementing GHG reduction projects • Monitoring greenhouse gas emissions from suppliers	• Promoting the use of up to 20% recycled metals by 2030 • Utilizing pilot projects of End-of-Life batteries • Developing and utilizing recycled packaging materials	• Responsible mineral mining and sourcing • SAQ and On-site audits • Supplier training programs	• Introduced product quality management process • Managed product quality risk in conjunction with business continuity management system • Supplier Quality Certification • SQM Academy program • Introducing EMAS, ESS Battery Module Fire Suppression	• Implementing hazardous substance management system (HSM) • Monitoring chemical regulatory risks • Life cycle assessment (LCA) • Environmental Product Declaration (EPD)	• High-capacity high-nickel cathode material technology • Silicon anode material technology • New assembly technology • Pouch Cell to Pack technology • Developing next-generation battery technology • Developing low-carbon processes and promoting low-carbon raw material supply
Report Pages	33 - 45	46 - 49	61 - 64	65 - 68	69	19 - 22

ESG Data

Income Statement

	Category	Unit	2021	2022	2023
Income Statement	1. Net sales	Million KRW	17,851,906	25,598,609	33,745,470
	2. Cost of sales	Million KRW	13,953,123	21,308,077	28,802,437
	3. Gross Profit	Million KRW	3,898,783	4,290,532	4,943,033
	4. Selling and marketing expenses	Million KRW	-	-	676,874
	5. Selling and administrative expenses	Million KRW	3,130,313	3,076,813	3,456,673
	6. Operating income	Million KRW	768,470	1,213,719	2,163,234
	7. Financial income	Million KRW	339,996	385,537	984,984
	8. Financial expenses	Million KRW	295,258	519,021	857,201
	9. Equity method profit (loss)	Million KRW	(11,556)	(36,641)	(32,450)
	10. Others non-operating income	Million KRW	465,006	1,349,485	1,125,846
	11. Others non-operating expenses	Million KRW	489,474	1,397,765	1,340,953
	12. Profit (loss) before income tax	Million KRW	777,184	995,314	2,043,460
	13. Income tax expense	Million KRW	76,523	215,488	405,475
	14. Net income (loss) from continuing operations	Million KRW	700,661	779,826	1,637,985
	15. Net income (loss) from discontinued operations	Million KRW	229,207	-	-
	16. Profit (loss) for the year	Million KRW	929,868	779,826	1,637,985

	Category	Unit	2021	2022	2023
Regional Sales	**Total Sales**	Million KRW	17,851,906	25,598,609	33,745,470
	Korea[1]	Million KRW	2,235,338	1,349,928	2,412,430
	China	Million KRW	2,910,541	6,067,389	6,081,926
	Aisa / Oceania	Million KRW	1,110,368	1,451,499	1,397,941
	America	Million KRW	2,827,944	7,075,353	11,854,610
	Europe	Million KRW	8,767,715	9,654,428	11,998,563
	Africa	Million KRW	-	12	-

1) Domestic sales follows the criteria of the Local L/C

	Category	Unit	2021	2022	2023
Summary of Consolidated Statements of Financial position	**Total Assets**	Million KRW	23,764,137	38,299,445	45,437,144
	Currnet Assests	Million KRW	9,535,827	18,804,269	17,208,396
	1. Cash and Cash Equivalents	Million KRW	1,282,880	5,937,967	5,068,783
	2. Accounts Receivable	Million KRW	2,914,458	4,771,846	5,128,474
	3. Other Receivables	Million KRW	814,843	462,188	555,186
	4. Other Current Financial Assets	Million KRW	21,499	9,167	65,439
	5. Prepaid Corporate Income Tax	Million KRW	149,413	46,205	67,072
	6. Other Current Assets	Million KRW	456,931	581,267	927,106
	7. Inventory	Million KRW	3,895,803	6,995,629	5,396,336
	8. Assets Held for Sale	Million KRW	-	-	-
	Non-current Assets	Million KRW	14,228,310	19,495,176	28,228,748
	1. Long-term Accounts Receivable	Million KRW	67,055	120,698	129,995
	2. Other Long-term Receivables	Million KRW	92,271	119,058	122,282
	3. Other Non-current Financial Assets	Million KRW	193,820	408,551	357,038
	4. Investments in Associates and Joint Ventures	Million KRW	225,567	203,696	223,559
	5. Deferred Corporate Income Tax Assets	Million KRW	1,855,198	2,100,492	2,228,924
	6. Property, Plant, and Equipment	Million KRW	11,050,777	15,331,047	23,654,677
	7. Intangible Assets	Million KRW	455,360	642,090	875,993
	8. Investment Properties	Million KRW	224,325	213,042	212,489
	9. Other Non-current Assets	Million KRW	63,937	356,502	423,791
	Total Liabilities	Million KRW	15,021,764	17,705,683	21,063,635
	Current Liabilities	Million KRW	9,474,017	11,444,923	10,937,185
	Non-current Liabilities	Million KRW	5,547,747	6,260,760	10,126,450
	Equity ofthe Parent Company (Owners ofthe Parent Company)	Million KRW	7,966,116	18,732,215	20,200,641
	1. Share Capital	Million KRW	100,000	117,000	117,000
	2. Additional Paid-in Capital	Million KRW	7,122,437	17,164,627	17,164,627
	3. Other Equity Items	Million KRW	-	-	-
	4. Accumulated Other Comprehensive Income	Million KRW	406,092	296,070	554,518
	5. Retained Earnings (Accumulated Deficit)	Million KRW	337,587	1,154,518	2,364,496
	Non-controlling Interests	Million KRW	776,257	1,861,547	4,172,868
	Total Equity	Million KRW	8,742,373	20,593,762	24,373,509
	Revenue (Sales)	Million KRW	17,851,906	25,598,609	33,745,470
	Operating Profit (Loss)	Million KRW	768,470	1,213,719	2,163,234
	Net Profit (Loss) for the Period	Million KRW	929,868	779,826	1,637,985
	Equity Attributable to Owners of the Parent Company	Million KRW	792,519	767,236	1,237,180
	Basic operating profit (loss) per common share (Unit: KRW)	KRW	3,963	3,306	5,287
	Number of the groups	Number	12	16	22

Environmental(E)

	Index	Unit	2021	2022	2023
Energe Use	**Energy Consumption**	TJ	**31,769**	**37,811**	**40,824**
	Electricity	TJ	25,007	29,710	31,895
	LNG	TJ	4,655	5,384	5,882
	Steam	TJ	2,107	2,717	3,047
	Korea	TJ	**6,281**	**7,307**	**7,496**
	Electricity	TJ	5,027	5,952	6,223
	LNG	TJ	903	1,074	931
	Steam	TJ	350	281	342
	Overseas[1)]	TJ	**25,488**	**30,504**	**33,328**
	Electricity	TJ	19,980	23,758	25,672
	LNG	TJ	3,751	4,310	4,951
	Steam	TJ	1,757	2,436	2,705
	Korea	TJ	**6,281**	**7,307**	**7,496**
	Renewable	TJ	598	1,962	3,142
	Non-renewable	TJ	5,683	5,345	4,353
	Overseas	TJ	**25,488**	**30,504**	**33,328**
	Renewable	TJ	10,722	14,768	14,810
	Non-renewable	TJ	14,766	15,736	18,519
	Direct Energy Use	TJ	**4,655**	**5,384**	**5,882**
	Korea	TJ	903	1,074	931
	Overseas	TJ	3,751	4,310	4,951
	Indirect Energy Use	TJ	**27,114**	**32,427**	**34,942**
	Korea	TJ	5,377	6,233	6,564
	Overseas	TJ	21,737	26,194	28,378
	Total Energy Intensity[2)]	TJ/100Million KRW	**0.178**	**0.148**	**0.121**
	Korea	TJ/100Million KRW	0.281	0.541	0.311
	Electricity	TJ/100Million KRW	0.225	0.441	0.258
	LNG	TJ/100Million KRW	0.040	0.080	0.039
	Steam	TJ/100Million KRW	0.016	0.021	0.014
	Overseas	TJ/100Million KRW	**0.163**	**0.126**	**0.106**
	Electricity	TJ/100Million KRW	0.128	0.098	0.082
	LNG	TJ/100Million KRW	0.024	0.018	0.016
	Steam	TJ/100Million KRW	0.011	0.010	0.009
	Direct Energy Intensity (Korea)	TJ/100Million KRW	**0.040**	**0.080**	**0.039**
	Direct Energy Intensity (Overseas)	TJ/100Million KRW	**0.024**	**0.018**	**0.016**
	Indirect Energy Intensity (Korea)	TJ/100Million KRW	**0.241**	**0.462**	**0.272**
	Indirect Energy Intensity (Overseas)	TJ/100Million KRW	**0.139**	**0.108**	**0.091**
	Renewable Energy Conversion (Company-wide)[3)]				
	Consumption	TJ	11,320	16,730	17,952
	Conversion Rate	%	45.3%	56.3%	56.3%
	Energy Conservation				
	Plan	TJ	1,430	1,679	1,741
	Performance	TJ	1,219	1,744	2,309

	Index	Unit	2021	2022	2023
GHG emissions	**Total Scope 1&2 Emissions[4), 5)]**	tCO_2eq	**1,334,169**	**1,501,618**	**1,493,430**
	Korea	tCO_2eq	301,286	358,473	376,522
	Overseas	$ttCO_2eq$	1,032,884	1,143,145	1,116,908
	Total Scope 1 Emissions (Direct emissions)	tCO_2eq	**257,303**	**306,029**	**287,493**
	Korea	tCO_2eq	59,176	72,378	68,020
	CO_2	tCO_2eq	59,105	72,282	67,918
	CH_4	tCO_2eq	25	32	32
	N_2O	tCO_2eq	46	64	70
	Overseas	tCO_2eq	198,127	233,650	219,474
	CO_2	tCO_2eq			218,558
	CH_4	tCO_2eq			686
	N_2O	tCO_2eq			229
	Total Scope 2 Emissions (Indirect emissions)[6)]	tCO_2eq	**1,076,867**	**1,195,589**	**1,205,937**
	Korea	tCO_2eq	242,110	286,095	308,503
	CO_2	tCO_2eq	240,685	284,410	306,686
	CH_4	tCO_2eq	40	47	51
	N_2O	tCO_2eq	1,385	1,638	1,766
	Overseas	tCO_2eq	834,757	909,494	897,434
	CO_2	tCO_2eq			308,503
	CH_4	tCO_2eq			218
	N_2O	tCO_2eq			2,295
	GHG Emissions Intensity (Scope1+Scope2)[7)]	tCO_2eq/ 100Million KRW	**7.474**	**5.866**	**4.426**
	Scope 1 Emissions Intensity	tCO_2eq/ 100Million KRW	1.441	1.195	0.852
	Scope 2 Emissions Intensity	tCO_2eq/ 100Million KRW	6.032	4.671	3.574
	Scope 3 Emissions	tCO_2eq	**146,442**	**164,193**	**6,471,645**
	(1) Purchased goods and services	tCO_2eq			5,762,099
	(2) Fuel- and Energy-related activities	tCO_2eq	105,162	114,864	124,087
	(3) Upstream transportation and distribution	tCO_2eq			128,103
	(4) Waste generated in operations	tCO_2eq	35,202	37,658	37,817
	(5) Business travel	tCO_2eq	6,078	11,671	12,450
	(6) Employee commuting	tCO_2eq			7,714
	(7) End-of-life treatment of sold products	tCO_2eq			399,375

1) In the case of overseas, including sales corporations from 2023
2) Energy intensity: Energy usage (TJ) ÷ Separate sales (KRW 100 million), data change due to change from existing consolidated basis to separate basis
3) Renewable conversion means: Korea: Green Premium, REC / Overseas: Green Pricing, REC
4) Korea: National greenhouse gas management guidelines (IPCC Second Assessment Report (SAR-100yr)), calculated by applying IPCC guidelines (location-based)
Overseas: Calculated by applying IEA Emissions Factors 2023 Edition, AR6 GWP
5) In the case of overseas sales corporations will be included from 2023, and CO_2, CH_4, and N_2O data management will begin in 2023.
6) GHG emissions reflects the (martket-based) offset in renewable energy use
7) Greenhouse gas intensity: Greenhouse gas emissions (tCO_2eq) ÷ Seperate sales (KRW 100 million), data change due to change from existing consolidated standard to separate standard

[Reporting Scope]
Korea : Headquarters, Ochang Energy Plant 1, Ochang Energy Plant 2, R&D Campus in Daejeon, R&D Campus in Gwacheon, R&D Campus in Magok
Overseas : LG Energy Solution (Nanjing) Co., Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd.
LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc.,
LG Energy Solution Wroclaw sp. z o.o., Ultium Cells 1, LG Energy Solution (Taiwan) Ltd.,
LG Energy Solution Australia Pty Ltd., LG Energy Solution Europe GmbH, LG Energy Solution Vertech Inc.

Environmental(E)

	Index	Unit	2021	2022	2023
Air Pollutant Management	**Total air pollutant emissions (Korea)**	kg	**25,230**	**42,495**	**38,779**
	Nitrogen oxides (Nox)	kg	19,801	38,078	33,142
	Sulfur oxides (SOx)	kg	457	2,073	1,529
	Hazardous air pollutants (HAPs)	kg	1,365	2	1
	Particulate matter (PM)	kg	3,532	2,274	4,082
	Volatile organic compounds (VOCs)	kg	76	67	25
	Total air pollutant emissions (Overseas)	kg	**192,001**	**254,303**	**384,224**
	Nitrogen oxides (Nox)	kg	78,568	60,587	141,202
	Sulfur oxides (SOx)	kg	8,126	1,492	27,346
	Hazardous air pollutants (HAP)	kg	28	154	578
	Particulate matter (PM)	kg	7,553	9,213	10,960
	Volatile organic compounds (VOCs)	kg	97,726	182,857	204,138
Water Management 1)	**Total water intake**	ton	**7,914,555**	**10,460,365**	**10,934,429**
	Korea	ton	1,378,969	1,673,759	1,729,098
	Overseas	ton	6,535,586	8,786,606	9,205,332
	Water intake by type 2)	ton	**7,914,555**	**10,460,365**	**10,934,429**
	Industrial water	ton	845,095	3,595,292	5,136,672
	Surface water	ton	-	-	-
	Groundwater	ton	-	-	-
	Tap water	ton	7,069,460	6,865,073	5,797,757
	Rainwater collection or storage	ton	-	-	-
	Other	ton	-	-	-
	Ochang Enery Plant 1	ton	**1,126,252**	**1,339,333**	**1,262,460**
	Industrial water	ton	755,905	952,934	892,448
	Tap water	ton	370,347	386,399	370,012
	Ochang Enery Plant 2	ton	**107,381**	**177,143**	**266,281**
	Industrial water	ton	89,189	136,357	225,136
	Tap water	ton	18,192	40,785	41,145
	R&D Campus in Daejeon	ton	**124,035**	**120,265**	**142,578**
	Industrial water	ton	-	-	-
	Tap water	ton	124,035	120,265	142,578
	R&D Campus in Magok	ton	**21,300**	**24,596**	**18,450**
	Industrial water	ton	-	-	-
	Tap water	ton	21,300	24,596	18,450
	R&D Campus in Gwacheon	ton	**-**	**12,422**	**14,324**
	Industrial water	ton	-	-	-
	Tap water	ton	-	12,422	14,324

1) In the case of overseas, including production corporation (Ultium Cells 1) and sales corporation (LG Energy Solution (Taiwan) Ltd., LG Energy Solution Australia Pty Ltd., LG Energy Solution Vertech Inc.) from 2023.
2) Collection of industrial water/water supply separation (Korea in 2021, China in 2022, Poland in 2023)
3) Water basic unit: water intake volume (ton) ÷ seperate sales (KRW 100 million), data change due to change from existing consolidated standard to separate standard

	Index	Unit	2021	2022	2023
Water Management 1)	**Headquarters**	**ton**			**25,005**
	Industrial water	ton			-
	Tap water	ton			25,005
	LGESNJ	**ton**	**2,683,610**	**3,680,014**	**4,102,130**
	Industrial water	ton	-	-	-
	Tap water	ton	2,683,610	3,680,014	4,102,130
	LGESNA	**ton**	**644,763**	**645,091**	**685,982**
	Industrial water	ton	-	516,684	579,417
	Tap water	ton	644,763	128,407	106,565
	LGESNB	**ton**	**1,301,821**	**2,315,771**	**1,551,258**
	Industrial water	ton	-	1,989,316	1,264,877
	Tap water	ton	1,301,821	326,455	286,381
	LGESWA	**ton**	**1,702,977**	**1,899,999**	**2,244,045**
	Industrial water	ton			1,779,017
	Tap water	ton	1,702,977	1,899,999	465,028
	LGESMI	**ton**	**202,415**	**245,731**	**225,044**
	Industrial water	ton	-	-	-
	Tap water	ton	202,415	245,731	225,044
	Ultirum Cells 1	**ton**			**395,778**
	Industrial water	ton			395,778
	Tap water	ton			-
	LGESTW	**ton**			**487**
	Industrial water	ton			-
	Tap water	ton			487
	LGESAU	**ton**			**64**
	Industrial water	ton			-
	Tap water	ton			64
	LGESVT	**ton**			**544**
	Industrial water	ton			-
	Tap water	ton			544
	Water intake intensity 3)	**ton/100Million KRW**	**44.335**	**40.863**	**32.403**
	Korea	ton/100Million KRW	61.690	123.989	71.675
	Overseas	ton/100Million KRW	41.850	36.235	29.379
	Total water consumption	**ton**	**4,979,730**	**9,055,951**	**7,710,750**
	Korea	ton	1,319,639	1,597,437	1,194,987
	Overseas	ton	3,660,091	7,458,514	6,515,764
	Total water discharge	**ton**	**-**	**-**	**-**
	Korea	ton	-	-	-
	Overseas	ton	-	-	-

Environmental(E)

	Index	Unit	2021	2022	2023
Wastewater Management [1]	**Total sewage discharge**	ton			**390,405**
	Korea	ton			390,405
	Overseas	ton			-
	Total wastewater discharge	ton	**2,934,825**	**1,404,414**	**2,833,274**
	Korea [2]	ton	59,330	76,322	143,706
	Overseas	ton	2,875,495	1,328,092	2,689,568
	Wastewater treatment volume	ton	**2,934,825**	**1,404,414**	**2,833,274**
	Total water pollutant discharge (Korea)	kg	**1,150**	**1,818**	**3,875**
	COD	kg	333	465	1,505
	TOC	kg	162	373	604
	SS	kg	168	258	661
	T-N	kg	233	410	691
	T-P	kg	104	44	115
	BOD	kg	150	267	300
	Total water pollutant discharge (Overseas)	kg	**121,588**	**96,631**	**59,067**
	COD	kg	70,398	58,648	22,783
	TOC	kg	-	-	-
	SS	kg	32,886	13,458	13,095
	T-N	kg	16,434	19,775	19,193
	T-P	kg	190	391	390
	BOD	kg	1,680	4,358	3,606
Waste Management [3]	**Total waste discharge**	ton	**143,891**	**153,654**	**244,289**
	Korea	ton	21,944	21,578	22,884
	Overseas	ton	121,947	132,076	221,405
	Total waste recycling volume	ton	**121,172**	**127,146**	**220,696**
	Korea	ton	18,515	18,510	19,348
	Overseas	ton	102,657	108,636	201,348
	Amount of general waste generated	ton	**93,183**	**105,029**	**218,020**
	Landfill	ton	49	290	281
	Incineration	ton	9,279	12,149	13,027
	Recycling	ton	82,412	89,012	204,550
	Others	ton	1,442	3,578	162
	Amount of designated waste generated	ton	**50,708**	**48,625**	**26,269**
	Landfill	ton	-	-	-
	Incineration	ton	11,614	10,491	10,057
	Recycling	ton	38,760	38,134	16,145
	Others	ton	334	-	66
	Waste recycling rate	%	**84.2%**	**82.7%**	**90.3%**

	Index	Unit	2021	2022	2023
Environmental Safety Management at Business Sites	**Investment Expenditure for Environmental safety [4]**	100Million KRW	**328**	**264**	**616**
	Violated Cases [5]	Case	**-**	**1**	**2**
	Safety and Health Management System (ISO 45001)				
	Overall				
	Certified site	Number	7	9	11
	Total site subject to certification	Number	15	16	16
	Certified rate	%	46.7%	56.3%	68.8%
	Production Sites [6]				
	Certified site	Number	6	6	7
	Total site subject to certification	Number	8	8	8
	Certified rate	%	75.0%	75.0%	87.5%
	Non-production Sites (HQ, Sales, R&D) [7]				
	Certified site	Number	1	3	4
	Total site subject to certification	Number	7	8	8
	Certified rate	%	14.3%	37.5%	50.0%

1) Separate collection of sewage/wastewater by 2023
2) Change in figures due to correction of Korea wastewater discharge performance in 2021
3) [Reporting scope]
Korea : Headquarters, Ochang Energy Plant 1, Ochang Energy Plant 2, R&D Campus in Daejeon, R&D Campus in Gwacheon, R&D Campus in Magok
Overseas : LG Energy Solution (Nanjing) Co., Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd.
LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc.,
LG Energy Solution Wroclaw sp. z o.o.
4) Numbers changed due to correction of environmental safety investment performance in 2021
5) Number of violations of environmental laws in 2023 (total 2 cases)
① On November 9, 2023, the U.S. Environmental Protection Agency (EPA) violated the [U.S. Clean Air Act] due to non-compliance with the air pollution control facility (AC Tower) permit (VOCs removal efficiency) at the Ultium Cells LLC (USA) business site. A fine of $13,500 (approximately 0.18 billion won) was imposed from .
<Measures to prevent recurrence>
(1) Completion of verification of non-attachment of air pollution prevention facilities through Best Available Technology (BAT) analysis results and EPA consultation
(2) Verification of installation of prevention facilities during the permit review stage for all air emissions facilities / Proceed with the permit approval process through EPA discussions
② On November 20, 2023, the Ultium Cells LLC (USA) workplace was subject to the [US Toxic Substances Control Act] due to import/use of new chemicals without prior registration.
For violation, the U.S. Environmental Protection Agency (EPA) imposed a fine of $654,150 (approximately KRW 850 million).
<Measures to prevent recurrence>
(1) Short-term operation of the 「Chemical Registration Improvement TF」 to complete ① registration process, ② inter-organizational R&R including JV corporation, ③ purchase contract and JVA supplementation (June 2023)
(2) Development of HSM (Hazardous Substances Management System) and related systems is in progress to complement the risk of violation of regulations.
(3) Inspection and monitoring of company-wide chemical registration status (strengthening HSM inspection function, operation of monthly chemical management council, etc.)"
6) Production sites: Ochang Energy Plant 1, Ochang Energy Plant 2, LG Energy Solution (Nanjing) Co. Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd., LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc., LG Energy Solution Wroclaw sp. z o.o., Ultium Cells 1
7) Non-production sites: Sales corporations (LG Energy Solution Vertech Inc., LG Energy Solution Australia Pty Ltd. LG Energy Solution Europe GmbH, LG Energy Solution (Taiwan) Ltd.), R&D (Magok, Gwacheon, Daejeon), headquarters

Social(S)

	Index	Unit	2021	2022	2023
Labor Relations	**Labor union membership organization agreement**				
	Total applicable employees (Korea)	Person	3,960	4,335	4,206
	Total employees with membership (Korea)	Person	2,059	2,063	2,048
	Male	Person	1,985	1,989	1,974
	Female	Person	74	74	74
	Membership rate (Korea)	%	52.0%	47.6%	48.7%
	Total applicable employees (China)	Person	14,342	14,237	12,703
	Total employees with membership (China)	Person	14,116	14,206	12,676
	Male	Person	9,702	9,955	8,817
	Female	Person	4,414	4,251	3,859
	Membership rate (China)	%	98.4%	99.8%	99.8%
Talent Management and Education [1]	**Total Education hours for permanent employees**	Hour	**1,127,818**	**837,307**	**739,398**
	Male	Hour	909,963	670,589	574,433
	Female	Hour	217,856	166,718	164,965
	Total Education hours for fixed-term employees [6]	Hour			**2,978**
	Male	Hour			872
	Female	Hour			2,106
	Education hours for permanent employees by ages	Hour	**1,127,818**	**837,307**	**739,398**
	20s	Hour	335,961	367,379	242,917
	30s	Hour	548,881	350,912	353,714
	40s	Hour	199,108	104,131	123,071
	50s	Hour	29,314	10,382	19,544
	60s	Hour	1,363	441	151
	Others (Ages) [2]	Hour	13,191	4,062	-
	Education hours for permanent employees by positions	Hour	**1,127,818**	**837,307**	**739,398**
	Assistant	Hour	475,731	385,505	228,470
	Specialist	Hour	246,989	164,416	200,226
	Professional	Hour	380,762	282,539	291,404
	Seniar Operator	Hour	7,062	1,726	8,752
	Lead Operator	Hour	2,709	649	1,257
	Research Fellow	Hour	2,327	1,030	300
	Senior Research Fellow	Hour	512	1,174	2,179
	Others (Positions) [3]	Hour	11,726	268	6,810
	Mandatory education hours for permanent employees	Hour	**11,906**	**23,220**	**27,875**
	Male	Hour	10,155	19,674	23,287
	Female	Hour	1,751	3,546	4,588
	Total number of permanent employees in charge of education	Person	**7,757**	**8,284**	**9,320**
	Male	Person	6,494	6,745	7,741
	Female	Person	1,263	1,539	1,579

	Index	Unit	2021	2022	2023
Talent Management and Education [1]	**Total number of fixed-term employees in charge of education [6]**	Person			**28**
	Male	Person			19
	Female	Person			9
	Edcuation and development costs	Million KRW	**10,301**	**19,274**	**30,266**
	Average Education hours per persons [4]	hour/Person	**125.09**	**80.08**	**64.89**
	Average Education cost per persons [5]	Million KRW/ Person	**1.14**	**1.84**	**2.65**
Newly Hired	**Number of newly hired employees (Permanent + fixed-term)**	Person	**11,782**	**12,329**	**4,142**
	Number of newly hired employees (Permanent + fixed-term)	Person	**11,782**	**12,329**	**4,142**
	Korea	Person	1,806	1,964	1,379
	China	Person	6,025	6,312	1,319
	North America	Person	852	1,289	261
	Europe	Person	3,099	2,764	1,183
	Number of newly hired employees by age group	Person	**11,782**	**12,329**	**4,142**
	Below 29 years old	Person	8,086	7,887	2,451
	Male	Person	5,813	5,630	1,786
	Female	Person	2,273	2,257	665
	30 - 49 years old	Person	3,427	4,159	1,590
	Male	Person	2,444	2,959	1,283
	Female	Person	983	1,200	307
	50 yeas old and above	Person	269	283	101
	Male	Person	192	207	83
	Female	Person	77	76	18

1) Online + Offline education
2) Others(ages) : No information of Ages
3) Others(positions) : intern and so on
4) Average Education hours per persons : Education hours of permanent employees ÷ number of total permanent employees
5) Average Education cost per persons : Education cost of permanent employees ÷ number of total permanent employees
6) Starting from 2023, counting the total training hours and number of participants for fixed-term workers will begin.

Social(S)

	Index	Unit	2021	2022	2023
Newly Hired	**Number of newly hired permanent employees**	Person	**9,444**	**11,191**	**2,530**
	Number of newly hired permanent employees by country	Person	**9,444**	**11,191**	**2,530**
	Korea	Person	1,739	1,883	1,313
	China	Person	3,930	5,406	41
	North America	Person	852	1,289	260
	Europe	Person	2,923	2,613	916
	Number of newly hired permanent employees by age group	Person	9,444	11,191	2,530
	Below 29 years old	Person	5,781	6,792	1,274
	Male	Person	4,178	4,920	855
	Female	Person	1,603	1,872	419
	30 - 49 years old	Person	3,410	4,135	1,181
	Male	Person	2,439	2,954	926
	Female	Person	971	1,181	255
	50 yeas old and above	Person	253	264	75
	Male	Person	178	189	60
	Female	Person	75	75	15
	Number of newly hired fixed-term employees	Person	**2,338**	**1,138**	**1,612**
	Number of newly hired fixed-term employees by country	Person	**2,338**	**1,138**	**1,612**
	Korea	Person	67	81	66
	China	Person	2,095	906	1,278
	North America	Person	-	-	1
	Europe	Person	176	151	267
	Number of newly hired fixed-term employees by age group	Person	**2,338**	**1,138**	**1,612**
	Below 29 years old	Person	2,305	1,095	1,177
	Male	Person	1,635	710	931
	Female	Person	670	385	246
	30 - 49 years old	Person	17	24	409
	Male	Person	5	5	357
	Female	Person	12	19	52
	50 yeas old and above	Person	16	19	26
	Male	Person	14	18	23
	Female	Person	2	1	3

1) Ratio of permanent: Number of permanent employees / Number of Total Employees
2) Ratio of fixed-term: Number of fixed-term employees / Number of Total Employees

	Index	Unit	2021	2022	2023
Human Resource Manage-ment	**Number of Total Employee(permanent + fixed-term)**	Person	**28,929**	**34,566**	**35,418**
	Korea	Person	**9,016**	**10,456**	**11,441**
	Male	Person	7,562	8,606	9,338
	Female	Person	1,454	1,850	2,103
	Overseas	Person	**19,913**	**24,110**	**23,977**
	Male	Person	13,561	16,474	16,460
	Female	Person	6,352	7,636	7,517
	Ratio of permanent empolyees [1]	%	91.5%	96.5%	90.1%
	Ratio of fixed-term employees [2]	%	8.5%	3.5%	9.9%
	Number of permanent Employees	Person	**26,481**	**33,367**	**31,909**
	Korea	Person	**8,934**	**10,320**	**11,208**
	Male	Person	7,506	8,530	9,153
	Female	Person	1,428	1,790	2,055
	Overseas	Person	**17,547**	**23,047**	**20,701**
	Male	Person	11,711	15,591	14,257
	Female	Person	5,835	7,456	6,444
	Number of fixed-term Employees	Person	**2,448**	**1,199**	**3,509**
	Korea	Person	**82**	**136**	**233**
	Male	Person	56	76	185
	Female	Person	26	60	48
	Overseas	Person	**2,366**	**1,063**	**3,276**
	Male	Person	1,850	883	2,203
	Female	Person	516	180	1,073
	Number of permanent employee by age group	Person	**26,481**	**33,367**	**31,909**
	Korea	Person	**8,934**	**10,320**	**11,208**
	Below 29 years old	Person	2,119	2,389	2,428
	Male	Person	1,484	1,557	1,488
	Female	Person	635	832	940
	30 - 49 years old	Person	6,365	7,407	8,241
	Male	Person	5,578	6,455	7,134
	Female	Person	787	952	1,107
	50 years old and above	Person	450	524	539
	Male	Person	444	518	531
	Female	Person	6	6	8
	Overseas	Person	**17,547**	**23,047**	**20,701**
	Below 29 years old	Person	8,064	10,476	7,683
	Male	Person	5,715	7,561	5,819
	Female	Person	2,349	2,915	1,864
	30 - 49 years old	Person	8,757	11,453	11,622
	Male	Person	5,524	7,317	7,515
	Female	Person	3,233	4,136	4,107
	50 yeas old and above	Person	726	1,118	1,396
	Male	Person	472	713	923
	Female	Person	254	405	473

Social(S)

	Index	Unit	2021	2022	2023
Human Resource Management	**Total permanent employees by continent**	Person	**26,481**	**33,367**	**31,909**
	Asia	Person	19,893	24,281	23,811
	America	Person	1,628	3,228	4,549
	Europe	Person	4,952	5,851	3,541
	Oceania	Person	8	7	8
	permanent employees related to sales/ research and development	Person	**8,807**	**9,782**	**13,953**
	Sales-related departments - Position holders	Person	346	412	1,299
	Male	Person	302	363	1,092
	Female	Person	44	49	207
	Sales-related departments - Non-position holders	Person	5,184	5,490	12,502
	Male	Person	4,451	4,687	8,958
	Female	Person	733	803	3,544
	Research and development departments	Person	3,277	3,880	152
	Male	Person	2,579	3,001	127
	Female	Person	698	879	25
	Voluntary resignation rate of permanent employees [1)]	%	**8.4%**	**7.8%**	**5.2%**
	Korea	%	1.7%	3.6%	1.5%
	Overseas	%	11.8%	9.7%	7.3%
	Voluntary resignation rate by continent	%	**8.4%**	**7.8%**	**5.2%**
	Asia	%	5.7%	5.7%	3.6%
	America	%	18.4%	9.3%	6.3%
	Europe	%	15.9%	15.5%	15.0%
	Oceania	%	-	28.6%	-
	Voluntary resignation rate by gender in Korea				
	Male	%	1.5%	3.4%	1.4%
	Female	%	2.7%	4.5%	2.0%
	Voluntary resignation rate by gender in Overseas				
	Male	%	12.7%	10.4%	7.7%
	Female	%	9.9%	8.2%	6.2%
	Voluntary resignation rate by age in Korea				
	Below 29 years old	%	4.2%	7.0%	2.2%
	30 - 49 years old	%	0.9%	2.6%	1.4%
	50 yeas old and above	%	0.4%	1.3%	1.3%
	Voluntary resignation rate by age in Overseas				
	Below 29 years old	%	14.8%	13.3%	11.2%
	30 - 49 years old	%	10.0%	8.2%	4.6%
	50 yeas old and above	%	9.6%	8.8%	7.2%
	Number of voluntary resignation of Permanent employees	Person	**2,225**	**2,594**	**1,673**
	Korea	Person	152	369	172
	Overseas	Person	2,073	2,225	1,501

	Index	Unit	2021	2022	2023
Human Resource Management	**Number of voluntary resignation employees by continent**	Person	**2,225**	**2,594**	**1,673**
	Asia	Person	1,138	1,385	855
	America	Person	299	300	287
	Europe	Person	788	907	531
	Oceania	Person	-	2	-
	Number of voluntary resignation employees by gender in Korea				
	Male	Person	114	288	131
	Female	Person	38	81	41
	Number of voluntary resignation employees by gender in Overseas				
	Male	Person	1,493	1,616	1,101
	Female	Person	580	609	400
	Number of voluntary resignation employees by age in Korea				
	Below 29 years old	Person	90	167	53
	30 - 49 years old	Person	60	195	112
	50 yeas old and above	Person	2	7	7
	Number of voluntary resignation employees by age in Overseas				
	Below 29 years old	Person	1,192	1,395	863
	30 - 49 years old	Person	873	934	538
	50 yeas old and above	Person	70	98	100
	Number of employees with positions [2)]	Person	**1,367**	**1,905**	**5,029**
	Korea	Person	**469**	**726**	**1,149**
	Male	Person	450	675	1,070
	Female	Person	19	51	79
	Overseas	Person	**898**	**1,179**	**3,880**
	Male	Person	681	897	3,012
	Female	Person	217	282	868
	Breakdown by Position (Permanent Employee)				
	Korea				
	Office – Executives(Managerial level and above)	Person	3,488	4,141	4,864
	Office – Employees(Specialist, Associate)	Person	3,375	4,159	4,426
	Office – Executives	Person	66	80	98
	Field – Supervisors(Lead Operator, Senior Operator)	Person	589	660	790
	Field – Employees(Advanced Operator, Operator)	Person	1,491	1,406	1,263
	Employee satisfaction information				
	1H	%		65.0%	77.0%
	2H	%		72.0%	82.0%

1) Voluntary resignation : refers to the act of an employee choosing to leave their job or position willingly and of their own accord
2) Employees with position: Persons with responsibility and authority over business and functional organizations

Social(S)

	Index	Unit	2021	2022	2023
DEI	**Permanent**				
	Overall				
	Male	%	72.6%	72.3%	73.4%
	Female	%	27.4%	27.7%	26.6%
	Korea				
	Male	%	84.0%	82.7%	81.7%
	Female	%	16.0%	17.3%	18.3%
	Overseas				
	Male	%	66.7%	67.6%	68.9%
	Female	%	33.3%	32.4%	31.1%
	Breakdown of Management Position by Gender				
	Overall				
	Male	%	82.7%	82.5%	81.2%
	Female	%	17.3%	17.5%	18.8%
	Korea				
	Male	%	95.9%	93.0%	93.1%
	Female	%	4.1%	7.0%	6.9%
	Overseas				
	Male	%	75.8%	76.1%	77.6%
	Female	%	24.2%	23.9%	22.4%
	Breakdown of Women in Executive Leadership by Country				
	Korea	%	16.0%	17.3%	18.3%
	China	%	32.7%	31.4%	30.3%
	US	%	30.9%	30.7%	28.7%
	Europe	%	36.1%	36.3%	37.8%
	Others	%	20.1%	20.9%	25.3%
	Breakdown of Women Employee by Department				
	Sales-related	%	12.7%	11.9%	22.8%
	R&D	%	21.3%	22.7%	25.1%
	Parental Leave				
	Total	Person	448	491	563
	Male	Person	244	284	266
	Female	Person	204	207	297
	Total Return	Person	443	487	434
	Male	Person	244	282	287
	Female	Person	199	205	147
	Employment of personss with disabilities [1]	Person			
	Total	Person	405	397	253
	Male	Person	270	252	129
	Female	Person	135	145	124

	Index	Unit	2021	2022	2023
DEI	**Korea**	Person	143	185	200
	Male	Person	88	106	99
	Female	Person	55	79	101
	Overseas	Person	262	212	53
	Male	Person	182	146	30
	Female	Person	80	66	23
	Employment rate [2]	%	1.5%	1.2%	0.8%
	Korea	%	1.6%	1.8%	1.8%
	Overseas	%	1.5%	0.9%	0.3%
	Employees of National Merit Beneficiaries	Person	80	80	75
	Overseas Employees with Position				
	Rate	%	18.1%	19.3%	16.2%
	Total	Person	3,240	4,214	3,880
Sustainable Value Chain	**Tier-1 suppliers subject to regular evaluation**	Number	Not conducted due to the improvement of the purchasing supplier management system	143	145
	Tier-1 Suppliers Completing SAQ	%		71.9%	74.4%
	Tier-1 Core Suppliers Completing SAQ	%		96.6%	98.0%
	Tier-1 Supplier's SAQ Score				
	Working conditions and human rights	Point		94	94
	Ethical management	Point		95	97
	CSR	Point		85	93
	Energy & GHG	Point		40	58
	Environment, health, and safety	Point		95	97
	Total score	Point		89	94
	Tier-1 Supplier Risk Assessment				
	High-risk group	%		2.1%	2.1%
	Mid-risk group	%		10.5%	11.0%
	Low-risk group	%		87.4%	86.9%
	Tier-1 On-site ESG Audit				
	Completion rate of on-site assessment for high-risk suppliers	%		66.7%	44.4%
	Completion rate of on-site assessment for key suppliers	%		6.8%	13.5%
	Completion rate of on-site aseessment for high-risk key suppliers(cases)	%		100%	100%

1) Data is collected only from those who 'self-Identification' whether or not they have a disability.
2) Numbers change due to logic change from 'Total number of Employment with Disabilities / The number of Employee' to 'Total number of Emoloyment / The number of permanent'

Social(S)

	Index	Unit	2021	2022	2023
Safety & Health Management	**Safety and Health Management System (ISO 45001)**				
	Overall				
	Certified sites	Number	6	9	11
	Total site subject to certification	Number	15	16	16
	Certified rate	%	40.0%	56.3%	68.8%
	Production sites [1]				
	Certified sites	Number	5	6	7
	Total site subject to certification	Number	8	8	8
	Certified rate	%	62.5%	75.0%	87.5%
	Non-Production Sites [2]				
	Certified sites	Number	1	3	4
	Total site subject to certification	Number	7	8	8
	Certified rate	%	14.3%	37.5%	50.0%
	Safety Audit				
	CRO-led Safety and Environment-related Meetings	Number	12	6	4
	Improvement Tasks(Korea)	Case	295	2,892	2,762
	Improvement Tasks(Overseas)	Case	19,960	42,074	20,964
	Work-related Illnesses(Employees)				
	Employee Deceased	Person	-	-	-
	Employee illness	Person	-	-	-
	Occupational illness frequency rate(OIFR) (per 1 million hours) [3]		-	-	-
	Work-related Illnesses(Supplier)				
	Employee Deceased	Person	-	-	-
	Employee illness	Person	-	-	-
	Occupational illness frequency rate(OIFR) (per 1 million hours) [3]		-	-	-
	Work-related Injury(Employees, Korea)				
	Lost Time Incident(LTI) [5]	Case	8	5	9
	LTFIR(per 1 million hours) [4), 5)]		0.37	0.20	0.33
	Accident [5]	Case	8	5	9
	Injured Employee [5]	Person	8	5	9
	Deceased Employee	Person	-	-	-
	Work-related Injury(Employees, Overseas)				
	Lost Time Incident(LTI) [5]	Case	19	21	12
	LTFIR(per 1 million hours) [4), 5)]		0.40	0.36	0.21
	Accident [5]	Case	19	21	12
	Injured Employee [5]	Person	19	21	12
	Deceased Employee	Person	-	-	-

	Index	Unit	2021	2022	2023
Safety & Health Management	**Work-related Injury(Supplier)**				
	Lost Time Incident(LTI)	Case	14	13	8
	Accident	Case	14	13	8
	Injured Employees	Person	14	13	8
	Deceased Employees	Person	-	-	-
Coporated Social Responsibility	**Program**	Number	61	85	172
	Expenditures	Million KRW	1,816	1,496	7,948

1) Production site: Ochang Energy Plant 1, Ochang Energy Plant 2, LG Energy Solution (Nanjing) Co. Ltd., LG Energy Solution Battery (Nanjing) Co., Ltd., LG Energy Solution Technology (Nanjing) Co., Ltd., LG Energy Solution Michigan Inc., LG Energy Solution Wroclaw sp. z o.o., Ultium Cells 1
2) Non-production sites: Sales corporations (LG Energy Solution Vertech Inc., LG Energy Solution Australia Pty Ltd. LG Energy Solution Europe GmbH, LG Energy Solution (Taiwan) Ltd.), R&D (Magok, Gwacheon, Daejeon), headquarters
3) OIFR (Occupational illness frequency rate): (Number of illnesses cases ÷ total working hours) × 1,000,000
4) LTFIR (Lost Time Injury Frequency Rate): (Number of Lost Time Incident(LTI) ÷ Total working hours) × 1,000,000
5) We have corrected the data due to a data entry error

Governance(G)

	Index	Unit	2021	2022	2023
Board of Directors and ESG Committee	**Board Meeting [1]**				
	Board Meetings Held	Number	19	10	9
	Average rate of Attendance	%	100.0%	100.0%	96.8%
	Agenda	Number	51	30	24
	Objected or Modified Agenda	Number	-	-	-
	Average Tenure of Board Member	Month	8	17	26
	Board Composition [1]				
	Board Member	Person	7	6	7
	Inside Directors	Person	2	2	2
	Independent Directors	Person	4	3	4
	Ratio of Independent Directors	%	57.1%	50.0%	57.1%
	Female Directors	Person	2	2	2
	Non-standing Directors	Person	1	1	1
	Directors with Industry Expertise	Person	4	4	4
	Board Expertise [2]		57	67	57
	Audit Committee				
	Committee Member	Person	4	3	3
	Committee Meeting	Count	4	5	5
	Agenda Reported	Number	5	13	12
	Agenda Approved	Number	1	5	4
	ESG Committee Status				
	Committee Member	Person	5	5	5
	Committee Meeting	Count	1	2	2
	Agenda Reported	Number	1	2	3
	Agenda Approved	Number	-	-	1
Jeong-Do Management	**Corruption risk at business sites**				
	Ethics Violated	Case	-	-	-
	Confirmed Violated Cases	Case	3	4	8
	Confirmed Disciplinary Cases	Case	3	3	12
	Terminated Contracts due to Violation	Case	1	-	13
	Contracts not Renewed due to Violation	Case	-	-	-
	High-risk Site Evaluated	%	14.3%	14.3%	42.9%
	Total High-risk Site	Number	-	-	-
	Anti-corruption Education for Employees				
	Korea	%	63.0%	100%	97.6%
	US	%	-	83.0%	35.9%
	Poland	%	-	41.0%	15.3%
	Germany	%	-	-	-
	Australia	%	-	-	-
	China	%	16.0%	28.9%	35.9%

	Index	Unit	2021	2022	2023
Jeong-Do Management	**Discrimination and Harassment**				
	Reported	Case	3	16	9
	Solved	Case	3	16	9
	Sexual harassment				
	Reported	Case	1	3	9
	Solved	Case	1	3	9
	Cases of Legal Violations				
	Number of Legal Violations [3]	Case	-	1	2
	Amount of Legal Violations	100MillionKRW	-	4	9
Fair Trade	**Employees Who Received Fair Trade Education**	Person	15,174	6,664	18,722
	Hours of Education Provided	Hour	2,644	1,503	3,760
	Unfair Trade Practices		-	-	-
	Ongoing Legal Cases	Case	-	-	-
	Completed Legal Cases	Case	-	-	-
	Loss Amount	KRW	-	-	-
Information Security	**Provided Training Sessions**	Count	18	20	10
	Investment Expenditure	100MillionKRW	62	39	59
	Employees Who Received Information Security Education	Person	9,165	10,393	11,883

1) Correction due to incorrect entry of the Board operation and composition data for 2021 and 2022
2) Board expertise = (Number of directors with industry expertise / Total number of Board members) x 10
3) Number of violations of environmental laws in 2023 (total 2 cases)
① On November 9, 2023, the U.S. Environmental Protection Agency (EPA) violated the [U.S. Clean Air Act] due to non-compliance with the air pollution control facility (AC Tower) permit (VOCs removal efficiency) at the Ultium Cells LLC (USA) business site. A fine of $13,500 (approximately 0.18 billion won) was imposed from.

<Measures to prevent recurrence>
(1) Completion of verification of non-attachment of air pollution prevention facilities through Best Available Technology (BAT) analysis results and EPA consultation (2) Verification of installation of prevention facilities during the permit review stage for all air emissions facilities / Proceed with the permit approval process through EPA discussions.
② On November 20, 2023, the Ultium Cells LLC (USA) workplace was subject to the [US Toxic Substances Control Act] due to import/use of new chemicals without prior registration.
For violation, the U.S. Environmental Protection Agency (EPA) imposed a fine of $654,150 (approximately KRW 850 million).

<Measures to prevent recurrence>
(1) Short-term operation of the 「Chemical Registration Improvement TF」 to complete ① registration process, ② inter-organizational R&R including JV corporation, ③ purchase contract and JVA supplementation (June 2023)
(2) Development of HSM (Hazardous Substances Management System) and related systems is in progress to complement the risk of violation of regulations.
(3) Inspection and monitoring of company-wide chemical registration status (strengthening HSM inspection function, operation of monthly chemical management council, etc.)

ESG Scorecard

LG Energy Solution is responding to ESG evaluations in global capital markets, including MSCI, S&P Global (DJSI), Sustainalytics, and CDP Climate Change. In particular, considering that these ESG evaluations are conducted based on data disclosed through corporate disclosures, websites, and institutional reports, we are striving to receive an appropriate evaluation of its ESG management level by strengthening information disclosure on the implementation of our ESG strategy and major achievements.

ESG Evaluation Results Trends

Evaluation Agency	Rating System	FY2020	FY2021	FY2022
MSCI	AAA, AA, A, BBB, BB, B, CCC		BB	BB
S&P Global	100~0	26 (83%)	47 (93%)	52 (94%) Inclusion in DJSI Korea
Sustainalytics	0~50			24.1 (Medium risk)
Sustinvest	AA, A, BB, B, C, D, E		A	A
Korea ESG Institute	S, A+, A, B+, B, C, D		A+	A
CDP Climate Change	A, A-, B, B-, C, C-, D, D-, F		B	A-

*Inclusion in Korea ESG Standards Institute (KCGS) Evaluation in 2024 (FY2023)

ESG Certification

Catergory	Country	Sites	Certification validity
ISO 50001 (Energy Management)	Korea	Ochang Energy Plant 1	2025-03-16
	China	LG Energy Solution (Nanjing) Co., Ltd.	2026-12-31
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2026-03-22
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-03-25
ISO 14001 (Environmental Management)	Korea	Headquarters	Single sign-on (2024-12-01)
		Ochang Energy Plant 1	
		Ochang Energy Plant 2	
		R&D Campus in Daejeon	
		R&D Campus in Gwacheon	
		R&D Campus in Magok	
	China	LG Energy Solution (Nanjing) Co., Ltd.	2024-11-03
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2025-05-13
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-06-06
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2026-11-16
	US	LG Energy Solution Michigan Inc.	2025-01-30
ISO 45001 (Occupational Health and Safety Management)	Korea	Headquarters	Single sign-on (2024-12-01)
		Ochang Energy Plant 1	
		Ochang Energy Plant 2	
		R&D Campus in Daejeon	
		R&D Campus in Gwacheon	
		R&D Campus in Magok	
	China	LG Energy Solution (Nanjing) Co., Ltd.	2024-11-03
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2025-05-13
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-06-06
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2026-11-16
	US	LG Energy Solution Michigan Inc.	2025-07-14
ISO 27001 (Information Security Management)	Korea	R&D Campus in Daejeon	Single sign-on (2025-11-11)
		R&D Campus in Gwacheon	
	Korea	Ochang Energy Plant 1	Single sign-on (2025-12-04)
		Ochang Energy Plant 2	
TISAX (Trusted Information Security Assessment Exchange)	Korea	Headquarters	2026-09-06
	Germany	LG Energy Solution Europe GmbH	2026-10-16
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2025-06-28

Catergory	Country	Sites	Certification validity
ISO 37301 (Compliance Management)	Korea	Headquarters	Single sign-on (2024-11-01)
		Ochang Energy Plant 1	
		Ochang Energy Plant 2	
		R&D Campus in Daejeon	
		R&D Campus in Gwacheon	
		R&D Campus in Magok	
	China	LG Energy Solution (Nanjing) Co., Ltd.	2025-11-09
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2026-08-20
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2026-08-20
ISO 22301 (Business Continuity)	Korea	Headquarters	Single sign-on (2024-12-22)
		Ochang Energy Plant 1	
ISO 9001 (Quality Management)	Korea	Headquarters	Single sign-on (2026-07-17)
		Ochang Energy Plant 1	
		Ochang Energy Plant 2	
		R&D Campus in Daejeon	
		R&D Campus in Gwacheon	
	China	LG Energy Solution (Nanjing) Co., Ltd.	2024-11-01
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2027-01-24
IATF 16949 (Automotive Quality Management)	Korea	Headquarters	Single sign-on (2026-07-17)
		Ochang Energy Plant 1	
		Ochang Energy Plant 2	
		R&D Campus in Daejeon	
		R&D Campus in Gwacheon	
	China	LG Energy Solution (Nanjing) Co., Ltd.	2027-04-20
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2027-04-06
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2024-08-20
	Poland	LG Energy Solution Wroclaw sp. z o.o.	2024-02-07
	US	LG Energy Solution Michigan Inc.	2027-01-11
ZWTL (Zero Waste To Landfill)	Korea	Ochang Energy Plant 1	2024-11-24
	China	LG Energy Solution (Nanjing) Co., Ltd.	2024-12-31
		LG Energy Solution Battery (Nanjing) Co., Ltd.	2025-06-29
		LG Energy Solution Technology (Nanjing) Co., Ltd.	2024-12-27
NSF	US	LG Energy Solution Michigan Inc.	2025-03-19

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* We made the decision to keep this information private based on the necessities of our company

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	304-3	Habitats protected or restored	59
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	59
GRI 305 : Emissions	305-1	Direct (Scope 1) GHG emissions	44, 119
	305-2	Energy indirect (Scope 2) GHG emissions	44, 119
	305-3	Other indirect (Scope 3) GHG emissions	119
	305-4	GHG emissions intensity	119
	305-5	Reduction of GHG emissions	N/A
	305-6	Emissions of ozone-depleting substannces (ODS)	N/A
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	120
GRI 306 : Waste	306-1	Waste generation and significant waste-related impacts	57 - 58
	306-2	Management of significant waste-related impacts	57 - 58
	306-3	Waste generated	57, 121
	306-4	Waste diverted from disposal	57, 121
	306-5	Waste directed to disposal	121
GRI 308 : Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	63
	308-2	Negative environmental impacts in the supply chain and actions taken	63

GRI 400 : Social Performance

Topic	Index	Description	Page
GRI 401 : Employment	401-1	New employee hires and employee turnover	93
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	89 - 90
	401-3	Parental leave	89

GRI 400 : Social Performance

Topic	Index	Description	Page
GRI 402 : Labor/Management Relations	402-1	Minimum notice periods regarding operational changes	71
GRI 403 : Ocuupational Health and Safety	403-1	Occupational health and safety management system	72 - 76
	403-2	Hazard identification, risk assessment, and incident investigation	73
	403-3	Occupational health services	75 - 76
	403-4	Worker participation, consultation, and communication on occupational health and safety	75 - 76
	403-5	Worker training on occupational health and safety	74 - 76
	403-6	Promotion of worker health	75 - 76
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	75 - 76
	403-8	Workers covered by an occupational health and safety management system	72
	403-9	Work-related injuries	126
	403-10	Work-related ill health	126
GRI 404 : Training and Education	404-1	Average hours of training per year per employee	122
	404-2	Programs for upgrading employee skills and transition assistance programs	93 – 94
	404-3	Percentage of employees receiving regular performance and career development reviews	93 – 94
GRI 405 : Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	87, 122
	405-2	Ratio of basic salary and remuneration of women to men	There is no gender-based wage disparity
GRI 406 : Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	127
GRI 407 : Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	No such case
GRI 408 : Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	No such case
GRI 409 : Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	No such case
GRI 410 : Security Practices	410-1	Security personnel trained in human rights policies or procedures	N/A
GRI 411 : Rights of Indigenous Poeples	411-1	Incidents of violations involving rights of indigenous peoples	No such case
GRI 413 : Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	77 - 78
	413-2	Operations with significant actual and potential negative impacts on local communities	64
GRI 414 : Supplier Social Assessment	414-1	New Suppliers that were screened using social criteria	63
	414-2	Negative social impacts in the supply chain and actions taken	63
GRI 415 : Public Policy	415-1	Political contributions	N/A
GRI 416 : Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	68
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No such case
GRI 418 : Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No such case

ESRS Index

ESRS is a management tool for the implementation of the Corporate Sustainability Reporting Directive (CSRD), a directive that the EU will implement from March 2023 to make sustainability reporting mandatory, and specifies the scope and standards of information that companies are required to disclose in relation to sustainability. The European Financial Reporting Advisory Group (EFRAG) published the ESRS in Official Journal of the EU in December 2023, including two common standards, 11 thematic standards, 84 disclosure requirements and 1,144 quantitative and qualitative data. LG Energy Solution is in the direct sphere of influence as it has a production site (Poland) and a sales subsidiary (Germany) in the EU, so we are trying to prepare in advance by familiarizing ourselves with the contents of CSRD and ESRS and having a system in place to manage information.

ESRS 2. General Disclosures

No.	Title	Page
BP-1	General basis for preparation of the sustainability statements	8
BP-2	Disclosures in relation to specific circumstances	8
GOV-1	The role of the administrative, management and supervisory bodies	96 - 100
GOV-2	Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	100
GOV-3	Integration of sustainability-related performance in incentive schemes	100
GOV-4	Statement on due diligence	25, 64, 105
GOV-5	Risk management and internal controls over sustainability reporting	106 - 107, 117
SBM-1	Strategy, business model, and value chain	11 - 16
SBM-2	Interests and views of stakeholders	28 - 30
SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model(s)	115 - 117
IRO-1	Description of the processes to identify and assess material impacts, risks and opportunities	115 - 116
IRO-2	Disclosure Requirements in ESRS covered by the undertaking's sustainability statements	133 - 134

* BP(Basis for Preparation) / GOV(Governance) / SBM(Strategy and Business Model) / IRO(Impact, Risk and Opportunity)

ESRS E1. Climate Change

No.	Title	Page
E1-1	Transition plan for climate change mitigation	39
E1-2	Policies related to climate change mitigation and adaptation	39 - 41
E1-3	Actions and resources in relation to climate change policies	40 - 41
E1-4	Targets related to climate change mitigation and adaptation	40 - 41
E1-5	Energy consumption and mix	43, 119
E1-6	Gross Scopes 1, 2, 3 and Total GHG emissions	44, 119
E1-7	GHG removals and GHG mitigation projects financed through carbon credits	-
E1-8	Internal carbon pricing	-
E1-9	Anticipated financial effects from material physical and transition risks and potential climate-related opportunities	35 - 38

ESRS E2. Pollution

No.	Title	Page
E2-1	Policies related to pollution	50 - 51
E2-2	Actions and resources related to pollution	51 - 52
E2-3	Targets related to pollution	52
E2-4	Pollution of air, water and soil	55 - 56 120 - 121
E2-5	Substances of concern and substances of very high concern	58
E2-6	Anticipated financial effects from pollution-related impacts, risks and opportunities	-

ESRS E3. Water and Marine Resources

No.	Title	Page
E3-1	Policies related to water and marine resources	55 - 56
E3-2	Actions and resources related to water and marine resources	55 - 56
E3-3	Targets related to water and marine resources	55 - 56
E3-4	Water consumption	55, 120
E3-5	Anticipated financial effects from water and marine resources-related impacts, risks and opportunities	-

ESRS E4. Biodiversity and Ecosystem

No.	Title	Page
E4-1	Strategy and business model consideration or transition plan of biodiversity and ecosystems	59
E4-2	Policies related to biodiversity and ecosystems	59
E4-3	Actions and resources related to biodiversity and ecosystems	-
E4-4	Targets related to biodiversity and ecosystems	59
E4-5	Impact metrics related to biodiversity and ecosystems change	59
E4-6	Potential financial effects from biodiversity and ecosystem-related risks and opportunities	-

ESRS E5. Resource Use and Circular Economy

No.	Title	Page
E5-1	Policies related to resource use and circular economy	46 - 49
E5-2	Actions and resources related to resource use and circular economy	46 - 49
E5-3	Targets related to resource use and circular economy	46 - 49
E5-4	Resource inflows	46 - 49
E5-5	Resource outflows	46 - 49
E5-6	Anticipated financial effects from resource use and circular economy-related impacts, risks and opportunities	-

ESRS S1. Own Workforce

No.	Title	Page
S1-1	Policies related to own workforce	70
S1-2	Processes for engaging with own workers and workers' representatives about impacts	71
S1-3	Processes to remediate negative impacts and channels for own workers to raise concerns	71
S1-4	Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	70 - 71
S1-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	70 - 71
S1-6	Characteristics of the undertaking's employees	123 - 125
S1-7	Characteristics of non-employee workers in the undertaking's own workforce	123 - 125
S1-8	Percentage of total employees covered by collective bargaining agreements For employees not covered by collective bargaining agreements, a description of reasons and countermeasures	71
	No. of strikes, no. of work loss days due to strikes, measures and discussions to resolve strikes, etc.	No cases
S1-9	Average hourly wage difference between genders, ratio of women's hourly wage against men's hourly wage	N/A
	Persons subject to family care leave (maternity leave, parental leave, etc.), no. of persons who went on a leave, retention rate after returning to work after leave	89 – 90, 125
S1-10	Adequate wages	N/A
S1-11	Social protection	N/A
S1-12	Persons with disabilities	125
S1-13	Percentage of employees that participated in regular performance and career development reviews	91
	Average number of training hours and expenses per person	122
S1-14	Percentage of own workers who are covered by the undertaking's health and safety management system based on legal requirements and/or recognized standards or guidelines	72 - 73
	Number and rate of work-related injuries and ill health, the number of days lost to work-related injuries, accidents, and ill health	126
S1-15	Work-life balance indicators	84 - 86
S1-16	Ratio of the annual total compensation ratio of the highest paid individual to the median annual total compensation for all employees	-
S1-17	Number of work-related incidents and severe human rights impacts and incidents within its own workforce and any related material fines or sanctions for the reporting period	127
	Number of complaints and severe human rights impacts and incidents within its own workforce and any related countermeasures and plans to prevent reoccurrence	127

ESRS S2. Workers in the Value Chain

No.	Title	Page
S2-1	Policies related to value chain workers	70
S2-2	Processes for engaging with value chain workers about impacts	71
S2-3	Processes to remediate negative impacts and channels for value chain workers to raise concerns	71
S2-4	Taking action on material impacts on value chain workers, and approaches to mitigating material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions	71
S2-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	70

ESRS S3. Affected Communities

No.	Title	Page
S3-1	Policies related to affected communities	77
S3-2	Processes for engaging with value chain workers about impacts	28 – 30, 83
S3-3	Processes to remediate negative impacts and channels for affected communities to raise concerns	28 – 30, 83
S3-4	Taking action on material impacts on affected communities, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions	77 - 78
S3-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	77

ESRS S4. Consumers and End Users

No.	Title	Page
S4-1	Policies related to consumers and end-users	28 - 30, 83
S4-2	Processes for engaging with consumers and end-users about impacts	28 – 30, 83
S4-3	Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	28 – 30, 83
S4-4	Taking action on material impacts on consumers and end-users, and approaches to mitigating material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	81 - 83
S4-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	81 - 83

ESRS G1. Business Conduct

No.	Title	Page
G1-1	Top decision-making body's declaration of ethical management and roles and responsibilities in relation to management and supervision	108
	Requirements in the Ethics Charter and Code of Conduct	108 - 109
G1-2	Operating the compliance program, conducting activities to make payment improvements, such as the win-win payment system	82 - 83
	Diagnosing and conducting a due diligence on supplier ESG risks, reflecting diagnosis and due diligence results in supplier selection criteria	61 - 64
G1-3	Activities to prevent corruption or bribery, and a system to investigate and report outcomes to the administrative, management and supervisory bodies	108 - 110
	to prevent unfair trading, and a system to investigate and report outcomes to the administrative, management and supervisory bodies	81 - 82
G1-4	Number of confirmed incidents of corruption or bribery, details of public legal cases, the number of confirmed incidents in which own workers were dismissed or disciplined	127
	Number of confirmed incidents of unfair trading, details of public legal cases, the number of confirmed incidents in which own workers were dismissed or disciplined	127
G1-5	Political influence and lobbying activities	N/A
G1-6	Payment practices	83

TCFD Index

The Task Force on Climate-related Financial Disclosures (TCFD) is a consultative body established by the Financial Stability Board of the Council of Finance Ministers, which includes the countries of the G20. The TCFD's disclosure recommendations are set forth in terms of content and manner to ensure that stakeholders, including customers and investors, can easily access and understand information that may contribute to climate change. Accordingly, LG Energy Solution publicly declared its support for TCFD for the first time in the domestic battery industry in February 2023 in order to respond to customers' and investors' demands for ESG management activities by thoroughly managing climate change factors and transparently disclosing them. We will join the international community's efforts to prevent the increase in global average temperature by transparently disclosing climate-related information on ❶ governance, ❷ strategy, ❸ risk management, ❹ metrics and targets, which are the basic frameworks for climate change financial disclosure recommended by the TCFD.

No.	Title	Page	비고
Governance	Describe the board's oversight of climate-related risks and opportunities	33	
	Describe the management's role in assessing and managing climate-related risks and opportunities.	33	
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	33	
	Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	36 - 38	
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	36 - 38	
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	34	
	Describe the organization's processes for managing climate-related risks.	39 - 45	
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	105 - 107	
Metrics and Targets	Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	40 – 41 43 - 44	
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	119	
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	33	

SASB Index

'SASB Standards' refers to the industry-specific sustainability accounting standards developed by the Sustainability Accounting Standards Board (SASB) in the US, established in 2011. The SASB Standards categorize financially material sustainability information into 11 sectors and 77 industries according to the 'Sustainable Industry Classification System (SICS)' considering the unique characteristics of each industry. LG Energy Solution actively supports the adoption of SASB Standards and discloses sustainability information for the Renewable Resources & Alternative Energy sector, specifically in the Fuel Cells & Industrial Batteries industry, which is expected to have a high financial impact.

Topic	Code	Category	Metric	Page & Answer
Energy Management	RR-FC-130a.1	Quantitative	(1) Total energy consumed	119
			(2) Percentage grid electricity	119
			(3) Percentage renewable	119
Health and Safety of Employees	RR-FC-320a.1	Quantitative	(1) Total recordable incident rate(TRIR)	126
			(2) Fatality rate	126
	RR-FC-320a.2	Discussion and Analysis	Description of efforts to assess, monitor, and reduce exposure of workforce to human health hazards	72 - 76
Product Efficiency	RR-FC-410a.1	Quantitative	Average storage capacity of batteries, by product application and technology type	Based on cylindrical 21700(for electric operation): 270Wh/kg
	RR-FC-410a.2		Average energy efficiency of fuel cells as (1) electrical efficiency and(2) thermal efficiency, by product application and technology type	N/A
	RR-FC-410a.3		Average battery efficiency as coulombic efficiency, by product application and technology type	Based on cylindrical 21700(for electric operation): 99% or mor
	RR-FC-410a.4		Average operating lifetime of fuel cells, by product application and technology type	N/A
	RR-FC-410a.5		Average operating lifetime of batteries, by product application and technology type	Based on cylindrical 21700(for electric operation): With 80% lifespan, 1,000 uses
Product End-of-life Management	RR-FC-410b.1	Quantitative	Percentage of products sold that are recyclable or reusable	100%
	RR-FC-410b.2	Quantitative	Weight of end-of-life material recovered, percentage recycled	Currently not responsible for recovering end-of-life batteries
	RR-FC-410b.3	Discussion and Analysis	Description of approach to manage use, reclamation, and disposal of hazardous materials	58
Materials Sourcing	RR-FC-440a.1	Discussion and Analysis	Description of the management of risks associated with the use of critical materials	61 - 63
Activity Metrics	RR-FC-000.A	Quantitative	Number of units sold	We made the decision to keep this information private based on the necessities of our company
	RR-FC-000.B	Quantitative	Total storage capacity of batteries sold	

UN SDGs

To fulfill social responsibility as a global citizen, LG Energy Solution works hard to contribute to achieving UN SDGs. We are conducting various sustainability management activities regarding 14 sustainability development goals that have high relevance by considering the direct and indirect impact on LG Energy Solution's entire value chain.

UN SDGs	Detailed Activities	Page
No Poverty	· Activities designed to support local communities, such as the welfare fund for the underprivileged, donation of books and daily necessities	77
Good Health and Well-being	· Youth health & education projects and environment protection activities · Improving the environment underserved house	77 - 78
Quality Education	· Training skilled professionals through tailored academic program support · Operating programs designed to nurture science and technology talent	77
Gender Equality	· Organizational culture and female talent management based on gender equality · Appointment of two female directors to the board	87 96 - 97
Clean Water and Sanitation	· Water / Wastewater Management	54 - 56
Affordable and Clean Energy	· Operating Hope Green Power Plant · Conversion of renewable energy to achieve company-wide RE100 by 2030	39 – 41 77
Decent Work and Economic Growth	· Operating "Areum Nuri" to create jobs for persons with disabilities · Supporting mutual growth with suppliers	81 – 83 87
Industry, Innovation and Infrastructure	· Conducting research to develop new technologies / products for future growth such as next-generation batteries	19 - 22
Reduced Inequalities	· Organizational culture based on diversity, equity, and inclusion (DEI)	87

UN SDGs	Detailed Activities	Page
Responsible Consumption and Production	· Utilizing renewable energy during battery production · Creating a battery circular ecosystem through the reuse and recycling of end-of-life batteries · Promoting zero landfill to minimize environmental impact	39 - 41 46 - 49 57 - 58
Climate Action	· Developing goals to reduce GHG emissions · Building a decision-making system for climate change · Building / operating a global energy management system	33 - 45
Life on Land	· Establishment of biodiversity protection policies · Conducting biodiversity protection activities in the Cheongju area	59
Peace, Justice and Strong Institutions	· Establishing a compliance management system · Conducting compliance education for employees · Obtaining the ISO 37301 (compliance management system) certification	101 - 103
Partnerships for the Goals	· Engaging in initiatives such as UNGC, GBA, RBA / RMI / RLI, FCA, and RE100 / EV100	30

10 Principles of the UNGC

LG Energy Solution joined the UN Global Compact(UNGC) in April 2022, pledging to adhere to the ten principles of the UNGC in the areas of human rights, labour, environment, and anti-corruption in all business activities. In addition, we support the achievement of the United Nations Sustainable Development Goals(UN SDGs) in the three areas of social inclusion, economic growth, and sustainable environment. We plan to disclose the related activities and achievements.

UNGC Topic	10 Principles	Page
Human Rights	(1) Businesses should support and respect the protection of internationally proclaimed human rights; and	70
	(2) make sure that they are not complicit in human rights abuses.	70
Labour	(3) Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	71
	(4) the elimination of all forms of forced and compulsory labour;	70
	(5) the effective abolition of child labour; and	70
	(6) the elimination of discrimination in respect of employment and occupation.	70
Environment	(7) Businesses should support a precautionary approach to environmental challenges;	50 - 52
	(8) undertake initiatives to promote greater environmental responsibility; and	54 - 58
	(9) encourage the development and diffusion of environmentally friendly technologies.	19 - 22
Anti-Corruption	(10) Businesses should work against corruption in all its forms, including extortion and bribery	101 - 103

Independent Assurance Statement

To readers of LG Energy Solution ESG REPORT 2023

Introduction

Korea Management Registrar (KMR) was commissioned by LG Energy Solution to conduct an independent assurance of its ESG Report 2023 (the "Report"). The data and its presentation in the Report is the sole responsibility of the management of LG Energy Solution. KMR's responsibility is to perform an assurance engagement as agreed upon in our agreement with LG Energy Solution and issue an assurance statement.

Scope and Standards

LG Energy Solution described its sustainability performance and activities in the Report. Our Assurance Team carried out an assurance engagement in accordance with the AA1000AS v3 and KMR's assurance standard SRV1000. We are providing a Type 2, moderate level assurance. We evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact, and the reliability of the information and data provided using the Global Reporting Initiative (GRI) Index provided below. The opinion expressed in the Assurance Statement has been formed at the materiality of the professional judgment of our Assurance Team. Confirmation that the Report was prepared in accordance with GRI standards 2021 was included in the scope of the assurance. We have reviewed the topic-specific disclosures of standards which were identified in the materiality assessment process. As for the reporting boundary, the engagement excludes the data and information of LG Energy Solution's partners, suppliers and any third parties.

- GRI Sustainability Reporting Standards 2021
- Universal Standards
- Topic Specific Standards

- GRI 301 : Materials
- GRI 302: Energy
- GRI 305: Emissions
- GRI 306: Waste
- GRI 308: Supplier Environmental Assessment
- GRI 414 : Supplier Social Assessment
- GRI 416 : Customer Health and Safety

KMR's Approach

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, our Assurance Team undertook the following activities as part of the engagement:

- reviewed the overall Report;
- reviewed materiality assessment methodology and the assessment report;
- evaluated sustainability strategies, performance data management system, and processes;
- interviewed people in charge of preparing the Report;
- reviewed the reliability of the Report's performance data and conducted data sampling;
- assessed the reliability of information using independent external sources such as Financial Supervisory Service's DART and public databases.

Limitations and Recommendations

KMR's assurance engagement is based on the assumption that the data and information provided by LG Energy Solution to us as part of our review are provided in good faith. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. To address this, we referred to independent external sources such as DART and National Greenhouse Gas Management System (NGMS) and public databases to challenge the quality and reliability of the information provided.

To readers of LG Energy Solution ESG REPORT 2023

Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with LG Energy Solution on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, it is our opinion that the Report applied the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

Inclusivity

LG Energy Solution has developed and maintained different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization makes efforts to properly reflect opinions and expectations into its strategies.

Materiality

LG Energy Solution has a unique materiality assessment process to decide the impact of issues identified on its sustainability performance. We have not found any material topics left out in the process.

Responsiveness

LG Energy Solution prioritized material issues to provide a comprehensive, balanced report of performance, responses, and future plans regarding them. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of LG Energy Solution's actions.

Impact

LG Energy Solution identifies and monitors the direct and indirect impacts of material topics found through the materiality assessment, and quantifies such impacts as much as possible.

Reliability of Specific Sustainability Performance Information

In addition to the adherence to AA1000AP (2018) principles, we have assessed the reliability of economic, environmental, and social performance data related to sustainability performance. We interviewed the in-charge persons and reviewed information on a sampling basis and supporting documents as well as external sources and public databases to confirm that the disclosed data is reliable. Any intentional error or misstatement is not noted from the data and information disclosed in the Report.

Competence and Independence

KMR maintains a comprehensive system of quality control including documented policies and procedures in accordance with ISO/IEC 17021-2015 - Requirements for bodies providing audit and certification of management systems. This engagement was carried out by an independent team of sustainability assurance professionals. KMR has no other contract with LG Energy Solution and did not provide any services to LG Energy Solution that could compromise the independence of our work.

June 2024 Seoul, Korea

CEO E. J Hwang

KMR 한국경영인증원 Korea Management Registrar
SRV1000 Sustainability Committee Assurance
AA1000 Licensed Report 000-129/V3-5K2CC

Glossary of Terms

Acronyms	Full-name
AAM	Anode Active Materials
AED	Automated External Defibrillator
APS	Announced Pledges Scenario
AVEL	Add Value to Energy Label
BaaS	Battery as a Service
BAU	Business as Usual
BCMS	Business Continuity Management Systems
BEV	Battery Electric Vehicle
BIC	Battery Innovation Contest
BMS	Battery Management System
BMTS	Battery Management Total Solution
BOD	Biochemical Oxygen Demand
BOT	Battery of Things
BRT	Business Round Table
BSC	Battery Section Controller
BSM	Battery System Monitoring
BSS	Battery Swapping Station
BTC	Battery Tech Conference
CAM	Cathode Active Materials
CAPEX	Captial Expenditures
CDP	Carbon Disclosure Project
CEPP	Customized Education Polymer Program
CERT	Computer Emergency Response Team
CIC	Company-in-Company
CISO	Chief Information Security Officer
CMRT	Conflict Minerals Reporting Template
CoC	Code of Conduct
COD	Chemical Oxygen Demand
COP	Conference of the Parties
CPO	Chief Production Officer
CQO	Chief Quality Officer
CRMA	Critical Raw Materials Act
CRO	Chief Risk Officer
CSRD	Coporate Sustainability Reporting Directive
CTO	Chief Technology Officer
CTP	Cell to Pack
D/L	Distribution Line
DEI	Diversity, Equity, Inclusion

Acronyms	Full-name
EaaS	Energy as a Service
EH&S	Environmental, Health, and Safety
EMAS	ESS Management and Analysis System
EOL	End-of-Life
EPD	Environmental Product Declarations
ESG	Environmental, Social, Governance
ESRS	European Sustainability Reporting Standards
ESS	Energy Storage System
EU CSDDD	European Union Corporate Sustainability Due Diligence Directive
EU REACH	European Union Registration, Evaluation, Authorization and Restriction of Chemicals
EU-ETS	European Union Emissions Trading System
EUM	Energy & Utility Management system
EV100	Electric Vehicle 100
FCA	Fair Cobalt Alliance
FRL	Frontier Research Lab
FSB	Financial Stability Board
FTA	Free Trade Agreement
GBA	Global Battery Alliance
GBF	Kunming-Montreal Global Biodiversity Framework
GDPR	General Data Protection Regulation
GEMS	Greenhouse gas & Energy Management System
GHG	Green House Gas
GRI	Global Reporting Initiative
GWP	Global Warming Potential
HAPS	High Altitude Pseudo Satellite
HAP	Hazardous Air Pollutants
HSM	Hazardous Substance Management system
IBT	Institute of Battery Technology
IEA	International Energy Agency
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
IRA	US Inflation Reduction Act
ISSB	International Sustainability Standards Board
JV	Joint Venture

Acronyms	Full-name
K-ETS	Korea Emissions Trading System
KSSB	Korea Sustainability Standards Board
L&S	Lamination & Stacking
LBA	LG Battery Acadmey
LCA	Life Cycle Assessment
LEV	Light Electric Vehicle
LFP	Litium Iron Phosphate
LMT	Light Means of Transport
LTI	Lost Time Incident
LTIFR	Lost Time Injury Frequency Rate
MOU	Memorandum of Understanding
MRO	Maintenance Repair and Operation procurement
MSDS	Material Safety Data Sheet
NCM	Nickel Cobalt Manganese
NDC	Nationally Determined Contributions
NDR	Non-Deal Roadshow
NFPA	National Fire Protection Association
NOx	Nitrogen Oxides
NSF	National Sanitation Foundation
NZE	Net Zero Emissions
O&M	Operation & Maintenance
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OIFR	Occupational Illness Frequency Rate
OPEX	Operational Expenditures
PHEV	Plug-in Hybrid Electric Vehicle
PM	Particulate Matter
PPA	Power Purchase Agreement
PSDS	Product Safety Data Sheet
RBA	Responsible Business Alliance
RCP	Representative Concentration Pathway
RE100	Renewable Electricity 100%
REC	Renewable Energy Certificate
RLI	Responsible Labor Initiative
RMI	Responsible Minerals Initiative
RO	Reverse Osmosis
SAQ	Self-Assessment Questionnaire

Acronyms	Full-name
SASB	Sustainability Accounting Standards Board
SBTN	Science Based Targets Network
SMEs	Small and Medium-sized Enterprises
SNBH	Supplier New Biz. Hold
SOH	State of Health
SOx	Sulfur Oxides
SQM	Supplier Quality Management
SRS(R)	Safety Reinforced Separator(R)
SS	Suspended Solids
SSQ	Sub-Supplier Qualification
STEPS	Stated Policies Scenario
TCFD	Task Force on Climate-related Financial Disclosures
TISAX	Trusted Information Security Assessment Exchange
TOC	Total Organic Carbon
UAM	Urban Air Mobility
UL	Underwriters Laboratories
UN SDGs	United Nations Sustainable Development Goals
UNGC	United Nations Global Compact
UPS	Uninterruptible Power Supply
US TSCA	US The Toxic Substances Control Act
VAP	Validated Assessment Program
VOCs	Volatile Organic Compounds
VPP	Virtual Power Plant
WDS	Waste Disposal System
WEF	World Economic Forum
WRI	World Resource Institute