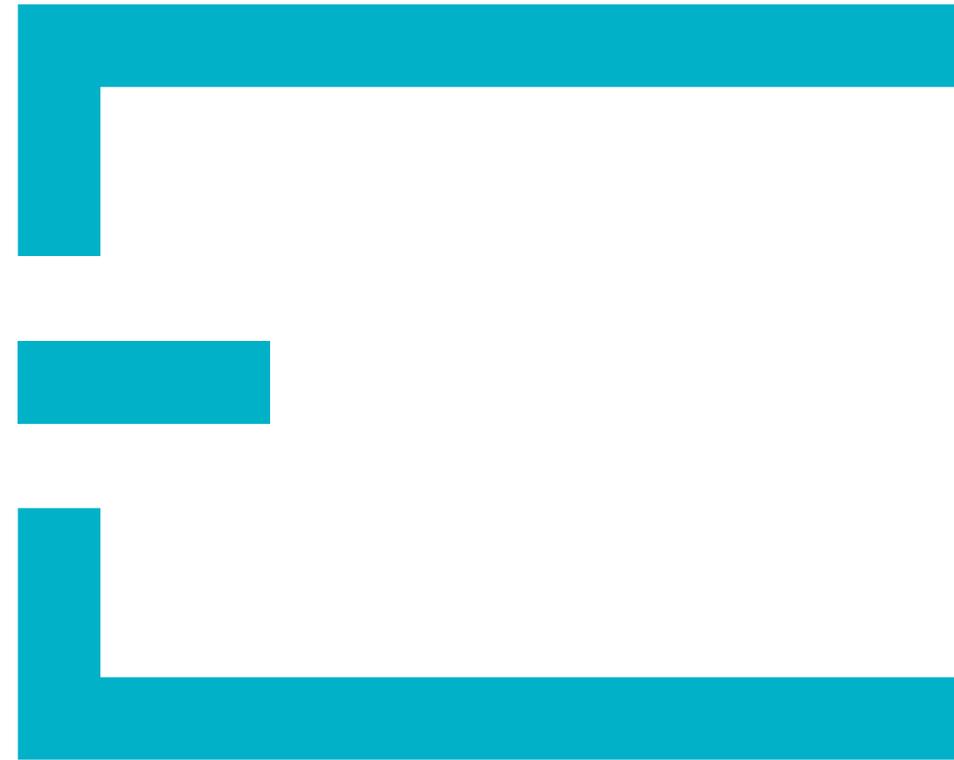
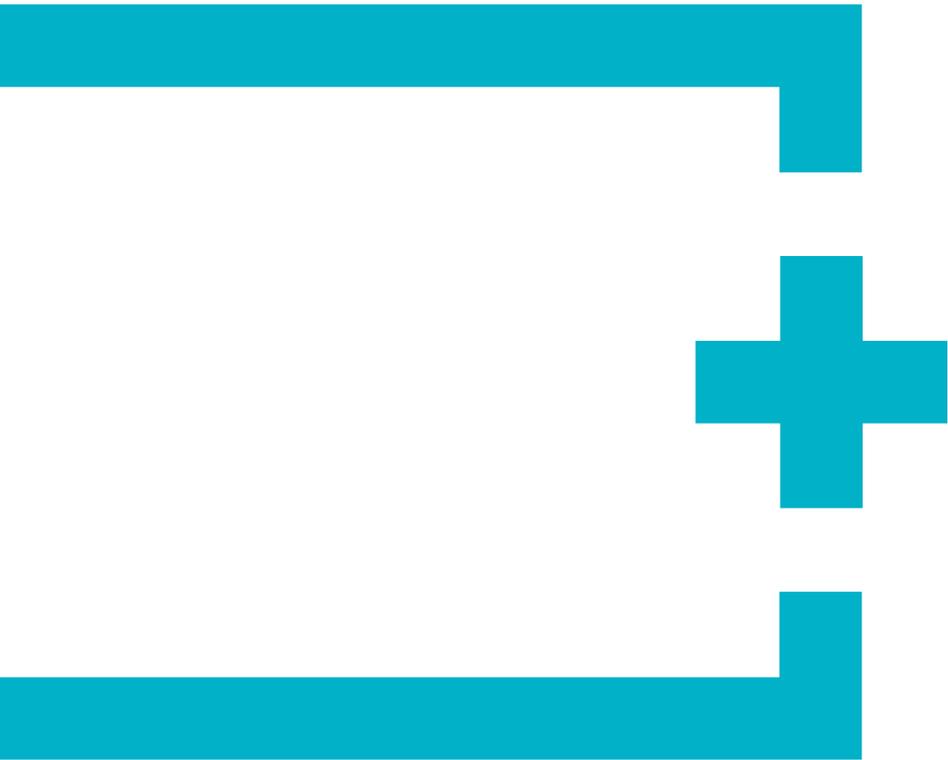


LG Energy Solution ESG REPORT

2022

Plus for Minus, Minus for Plus





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LG Energy Solution ESG REPORT



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Publisher
LG Energy Solution

Headquarter
108 Yeoui-daero, Yeongdeungpo-gu,
Seoul, Republic of Korea

Publication Date
July 2023

Department in Charge
LG Energy Solution ESG Impact Team
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Website
www.lgensol.com/en/esg-sustainability

Reporting Period
January 1, 2022 - December 31, 2022
* Some information includes progress and activities
until July 2023.

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 Standards and Principles

This report is written in accordance with the Global Reporting Initiative (GRI) Standards 2021. The financial information aligns with the consolidated financial statement standards of K-IFRS. The non-financial information that follows different standards have been written separately by including the respective standards and scope. Also, we incorporated the globally recognized standards such as the International Sustainability Standards Board (ISSB) and Sustainability Accounting Standards Board (SASB) as our reporting guidelines. For our climate-related data, we adopted the recommendations of the Task Force on Climate-related Financial Disclosures (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 between January 1, 2022, and December 31, 2022. Some information contains activities from January to July 2023, of which separate remarks were made in footnotes specifying the period of occurrence. We included quantitative data from two years-2021 and 2022, following the recommendation of the third-party assurer, Korea Management Registrar (KMR), to present more accurate information since our spin-off.

Reporting Scope

The report covers the local and global locations of LG Energy Solution, including the headquarter in Seoul, R&D Campuses in Daejeon, Gwacheon, and Magok, along with the Ochang Energy Plant and Ochang Energy Plant 2. Additionally, it includes global production and sales sites in the US, China, Poland, Australia, Germany, and Taipei.

Independent Assurance

This report has been conducted in accordance with the international verification standard AA1000AS v3, and third-party verification has been performed by the Korea Management Registrar (KMR). The third-party assurance verification statement can be found on page 106 of the report.

For Inquiries

If you have any questions about the report, please contact us.
ESG Impact Team, esgteam@lgensol.com



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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ESG Vision and Strategy

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.



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Dear stakeholders of LG Energy Solution,

Last year, LG Energy Solution made another significant stride despite numerous challenges. With your unwavering support and a solid market response, we achieved steady growth recording the highest annual performance with sales of KRW 25 trillion and operating profit of KRW 1 trillion.

This year, we continue to improve our competitiveness with our dedication to quality, cost, and delivery (QCD). We will lead the global battery industry by expanding production network and JVs, stabilizing operations through smart factory technology and increasing global sales.

The battery industry's high potential for growth is being recognized with increasing importance of ESG worldwide. The battery industry is closely related to the concept of eco-friendliness, and it will become the core technology to transform every lives of humanity. We expect LG Energy Solution's technology to lead in transportation and energy sectors as the world transitions to a green economy. LG Energy Solution aims to go beyond carbon neutrality and achieve carbon negative across all aspects of management, demonstrating leadership in climate action.

Since ESG management is geared toward advancing the future of the world and humanity, collective efforts and collaboration are more important than ever. As carbon neutrality policies spread throughout the world, LG Energy Solution is making breakthroughs in many aspects to expand the battery business ecosystem.

Strengthening Our Business Value around ESG

In late 2022, LG Energy Solution launched two in-house ventures KooRoo and AVEL. KooRoo is a battery swapping station (BSS) business for electric two-wheelers. It provides services that increase user convenience through exchanging battery pack instead of charging them. We expect it will contribute significantly to expanding the infrastructure for electric two-wheelers along with carbon reduction.

AVEL manages renewable energy power grids through energy storage systems (ESS), enabling precise prediction and efficient management of renewable energy. AVEL's business will become the bellwether for

stabilized domestic power supply network to expand the virtual power plant market. LG Energy Solution supports independent operation and stable management of in-house ventures through various institutional measures to become "a company fostering mutual growth of individuals and organization" and to expand the ESG business ecosystem.

Enhancing Our Disclosure Practice around ESG

The year 2023 is meaningful in a sense that ESG disclosure obligations are being significantly reinforced throughout the world. In January, the Corporate Sustainability Reporting Directive (CSRD) became effective in the EU. In June, the International Sustainability Standards Board (ISSB) announced its first two finalized ESG disclosure standards. Furthermore, the number of institutions in the Task Force on Climate-related Financial Disclosures (TCFD), in which LG Energy Solution became the first Korean battery company to declare support for, continues to grow. In response to the regulatory authorities and the capital market, we have reinforced our ESG disclosure system in this report. We will continue to make efforts to improve transparency of information disclosure.

Integrating Our Organizational Culture with ESG

With the mindset of "employees as the most valuable customers", we are constantly striving to innovate organizational culture and HR systems. We are committed to securing diverse talents regardless of race, nationality, gender, or disability and promoting a horizontal culture to create "a company where people love to work." We will continue to foster an environment where our employees can demonstrate enthusiasm and proactive mindset to embrace challenges and opportunities, and embed ESG in every aspect of the business to create sustainable values rather than focusing on short-term goals.

LG Energy Solution will continuously innovate to contribute toward global carbon neutrality and the future of humanity while realizing our goal of being the "world's No.1 company earning customers' trust and respect."

July 2023
CEO of LG Energy Solution
Kwon, Young Soo



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.

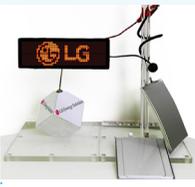
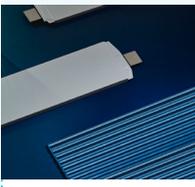
Corporate Overview

Company Name	LG Energy Solution
Established	December 2020
CEO	Kwon, Young Soo
Headquarter Address	Park One Tower 1, 108 Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea
Business Areas	Advanced Automotive, Mobility & IT, ESS Batteries
Website	www.lgensol.com

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Corporate History

<p>1947</p>  <p>Lucky Corp. established (currently LG Chem)</p>	<p>1992</p>  <p>Lithium-ion battery research began</p>	<p>1996</p>  <p>Lithium-ion battery production began</p>	<p>1999</p>  <p>Mass production of cylindrical lithium-ion batteries started</p>	<p>2000</p>  <p>The R&D campus in the US established</p>	<p>2004</p>  <p>Ochang Energy Plant completed, Nanjing plant in China completed</p>	<p>2009</p>  <p>World's first mass production to supply batteries for Electric Vehicles (GM Volt) began</p>	<p>2012</p>  <p>Electric vehicle battery plant in the US completed</p>
<p>2013</p>  <p>World's first next-generation batteries (stepped, curved, wire battery) developed</p>	<p>2015</p>  <p>Mass production of ESS cells began</p>	<p>2017</p>  <p>Poland electric vehicle battery plant construction completed</p>	<p>2018</p>  <p>World's first freeform battery developed</p>	<p>2020</p>  <p>December 2020 LG Energy Solution's Establishment Ultium Cells (JV) established with GM for electric vehicle batteries</p>	<p>2021</p>  <p>April 2021 RE100 and EV100 joined (first in the industry) September 2021 JV with Hyundai Motor Group for Indonesia Battery Cell construction began</p>	<p>2022</p>  <p>March 2022 Nextstar Energy (a JV with Stellantis for Electric Vehicle Batteries) established August 2022 JV Agreement with Honda to establish in the US signed</p>	<p>2023</p>  <p>May 2023 JV MOU with Hyundai Motor Group in the US signed</p>



Global Business

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 70% of our total workforce of approximately 34,000 (as of December 2022).

Advanced Automotive
 Mobility & IT
 ESS

Headquarter
 Production
 R&D
 Sales

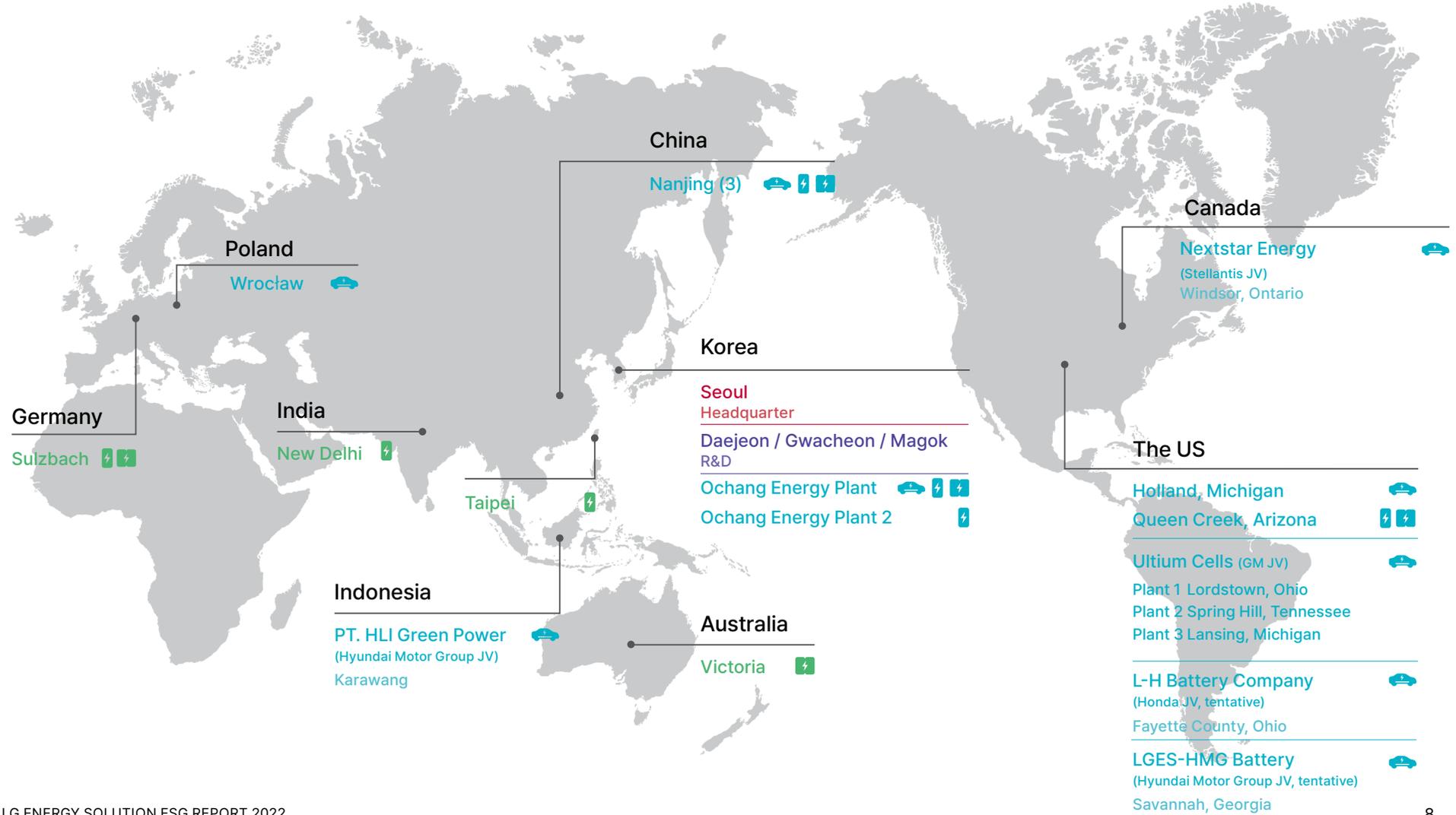
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Financial Performance

Financial Information

(Unit: Billion KRW)

Category	2022	2021
Assets	38,299	23,764
Liabilities	17,706	15,022
Equity	20,594	8,742

* As of the 2022 Annual Report published in March 2023

Sales Performance

(Unit: Billion KRW)

Sales Type	Items	2022	2021	
Product Category	EV Batteries, ESS Batteries, Mobility & IT Batteries and others.	Export Sales	16,861	12,639
		Domestic Sales	8,738	5,213
		Total Sales	25,599	17,852

* As of the 2022 Annual Report published in March 2023

Consolidated Income Statement

(Unit: Million KRW)

Category	2022	2021
Sales	25,598,609	17,851,906
Cost of Goods Sold	21,308,077	13,953,123
Gross Profit	4,290,532	3,898,783
Selling and Administrative Expenses	3,076,813	3,130,313
Operating Profit (Loss)	1,213,719	768,470
Financial Income	385,537	339,996
Financial Expenses	519,021	295,258
Equity Method Income	(36,641)	(11,556)
Other Non-operating Income	1,349,485	465,006
Other Non-operating Expenses	1,397,765	489,474
Profit (Loss) before Corporate Tax	995,314	777,184
Corporate Tax Expense (Income)	215,488	76,523
Net Income (Loss) from Continuing Operations	779,826	700,661
Net Income (Loss) from Discontinued Operations		229,207
Net Income (Loss)	779,826	929,868
Attribution of Net Income (Loss)		
Ownership Interest of the Controlling Company	767,236	792,519
Net Income (Loss) from Continuing Operations	767,236	607,343
Net Income from Discontinued Operations		185,176
Non-controlling Interests	12,590	137,349
Net Income from Continuing Operations	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: 1 KRW)	3,306	3,963
Continued Operating Income (Loss) of Base and Diluted Common Shares (Unit: 1 KRW)	3,306	3,036

* As of the 2022 Annual Report published in March 2023



Business Highlight

LG Energy Solution in Numbers

1

×2
Growth

Sales doubled since the spin-off in 2020

2

6
Countries*

Global production network

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

3

30+
Years

Battery research and expertise since 1992

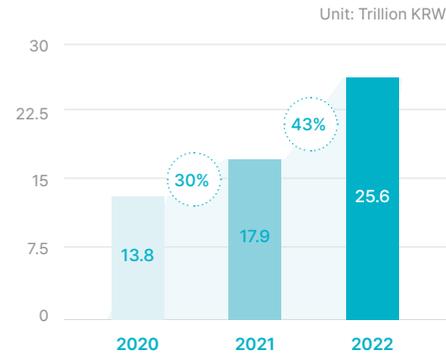
4

26k+
Patents

Number of battery-related patents issued

Sales

LG Energy Solution achieved KRW 13.8 trillion in sales in the year of our spin-off from LG Chem in 2020* and maintained an annual growth rate of 37%, reaching KRW 25.6 trillion in sales in 2022.



* 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.

Order Backlog

Since 2020, we have observed consistent growth in our order backlog*. Our company possessed a backlog of KRW 150 trillion in 2020. In 2022, the number reached KRW 385 trillion, more than twice the volume compared to 2020. This unprecedented growth rate has contributed significantly to our exceptional sales and improved profitability. Furthermore, we are securing differentiated production capabilities with smart factories, strengthening our position as a global leader in the industry. LG Energy Solution is solidifying our growth momentum through strategic partnerships with global automakers.



* Order backlog: The cumulative value of orders received from customers



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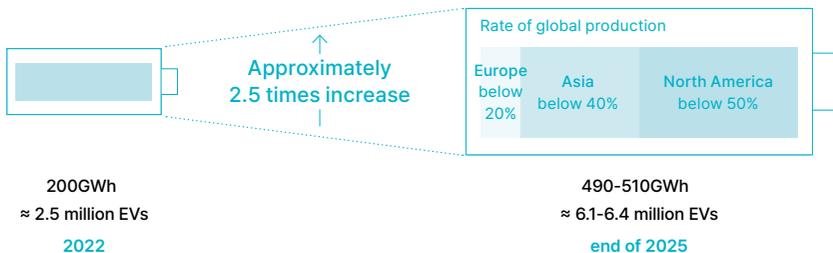
Business Highlight

Production Capacity

200GWh/EV approximately 2.5 million units (2022)
 → 490-510GWh/EV approximately 6.1-6.4 million units (by end of 2025)

LG Energy Solution is establishing and implementing a proactive global strategy to effectively respond to the increasing demand for rechargeable batteries. We are steadily expanding our manufacturing capacity by establishing production facilities in the US and Poland. By the end of 2025, we plan to expand the annual battery production capacity to 490-510GWh, which is about 2.5 times larger than the 200GWh capacity in 2022. Considering that the battery capacity for producing one high-performance electric vehicle is 80kWh, this is the capacity which can produce energy for approximately 6.1-6.4 million EVs.

Production Capacity



Battery capacity needed to manufacture a high-performance pure electric vehicle (EV)

To produce a high-performance pure EV, approximately 80kWh of battery capacity is required, and this allows a travel distance of more than 500km on a single charge. The kWh is the unit that appears on the electricity bill. W (watt) is the unit of power and the rate of work performed when a current of 1A (ampere) flows through a voltage of 1V (volt). Wh (watt hour) is the unit of energy equivalent to the power consumed for an hour. It is calculated by multiplying watts with hour(s). A kWh is a unit for measuring more electricity, with 1 kWh equaling 1,000Wh. Considering that a family of four has an average monthly power usage of 350kWh, 80kWh is approximately the amount one person uses for a month.

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 engaged in JVs with General Motors (GM), starting with our first plant of Ultium Cells in Ohio, United States.

LG Energy Solution JV Status and Plan

2019	2021	2022	2023
Ultium Cells (GM JV) Plant 1 Lordstown, OH, USA	Ultium Cells (GM JV) Plant 2 Spring Hill, TN, USA	NextStar Energy (Stellantis JV) Ontario, Canada	LGES-HMG Battery (Hyundai Motor Group JV, tentative) Savannah, GA, USA
	PT. HLJ Green Power (Hyundai Motor Group JV) Karawang, Indonesia	Ultium Cells (GM JV) Plant 3 Lansing, MI, USA	
		LH Battery Company (Honda JV, tentative) Fayette County, OH, USA	

Business Highlight

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 to meet the increasing demand for rechargeable 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 is the single largest lithium purchase agreement and provides the capacity to manufacture batteries for over 2 million high-performance pure electric vehicles. 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, mainly used for “low-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 LG Energy Solution’s supply chain ESG competitiveness.

Status of Long-Term Partnerships for Stable Raw Material Procurement

Year	Month	Entity	Details
2020	OCT	QPM	10-year supply agreement for 7,000 tons of nickel and 0.7 tons of cobalt
	DEC	Indonesia 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
	JUN	Compass Minerals	40% supply of carbonate and lithium hydroxide produced by Compass Minerals for 7 years from 2025
	OCT	Syrah	Start of supply of 2,000 tons of natural graphite from 2025, with continuous cooperation for expanding mass production
2023	MAY	Green Technology Metals	25% supply of lithium ore produced for 5 years from 2026
	JUL	SQM	100,000 tons of carbonate and lithium hydroxide secured annually for 7 years from 2023

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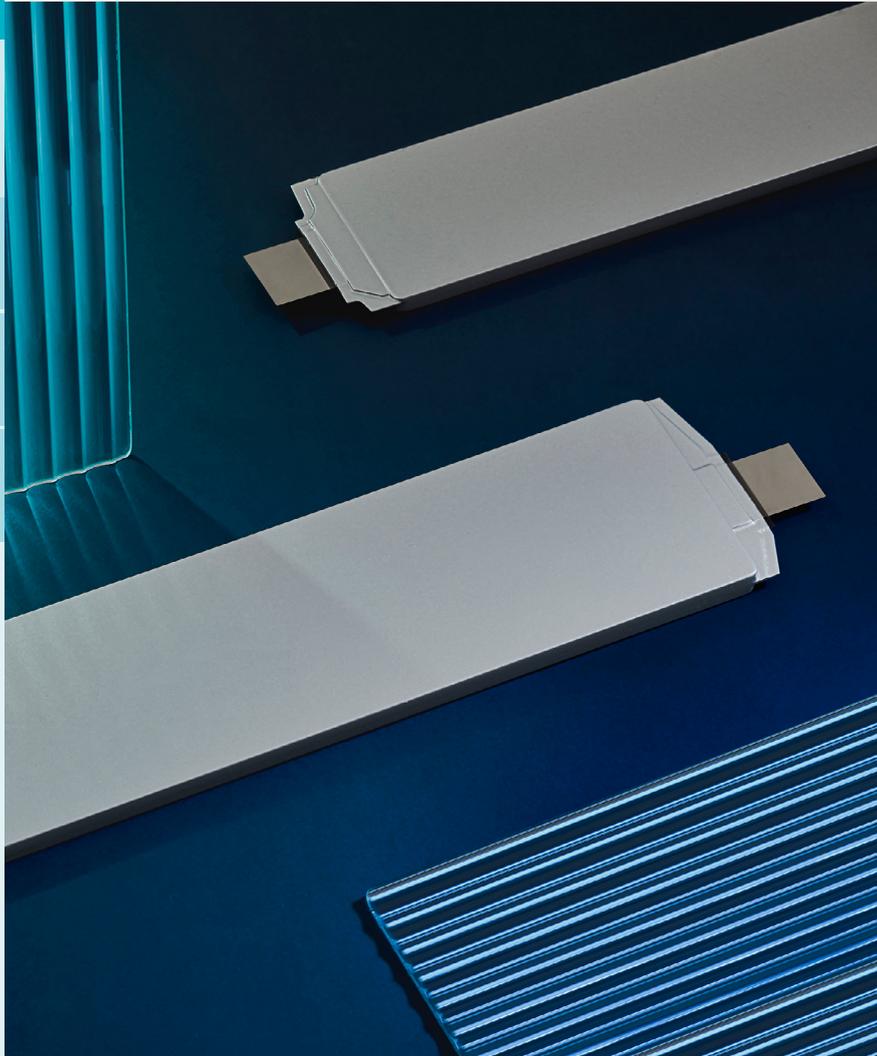
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Advanced Automotive Battery

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

LG Energy Solution produces 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, including electric buses, trucks, ships, and Urban Air Mobility (UAM), thereby 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

Products



Cell



Module



Pack

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Mobility & IT Battery

With exceptional battery performance and creative design for material technology, we have opened the era of Battery of Things (BoT), 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 this by incorporating batteries into everyday products with future 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

Products



Cylindrical



Pouch



freeform

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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 the Smart Grid era by securing technologies to repurpose end-of-life batteries into ESS and improving energy efficiency.

Competitiveness

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

Products



Cell



Pack



Rack

Innovating through R&D

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 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.

3 Core R&D Innovation Strategies



Development of battery technology for customer value innovation



Development of unparalleled battery materials and process technology

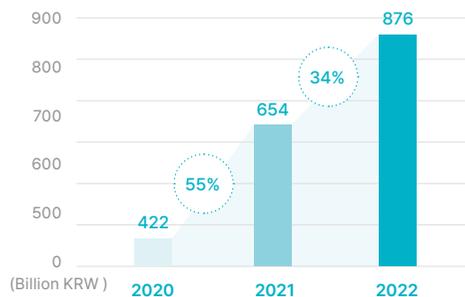


Development of next-generation battery technology

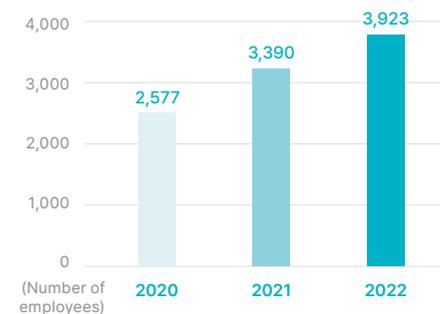
Expanding R&D Investment and Workforce

The R&D investment in 2022 reached KRW 876 billion, which is 34% higher than in 2021, representing 3.4% of total sales. To drive R&D efforts, we have established research organizations worldwide in the advanced automotive, mobility & IT, and ESS batteries fields. Additionally, we operate research institutes dedicated to cell and pack / BMS advanced research and technology strategy. As of 2022, there were 3,923 researchers and continue to focus on retaining a good talent pool. We will strive harder to fast bring green energy era through active and aggressive R&D investment.

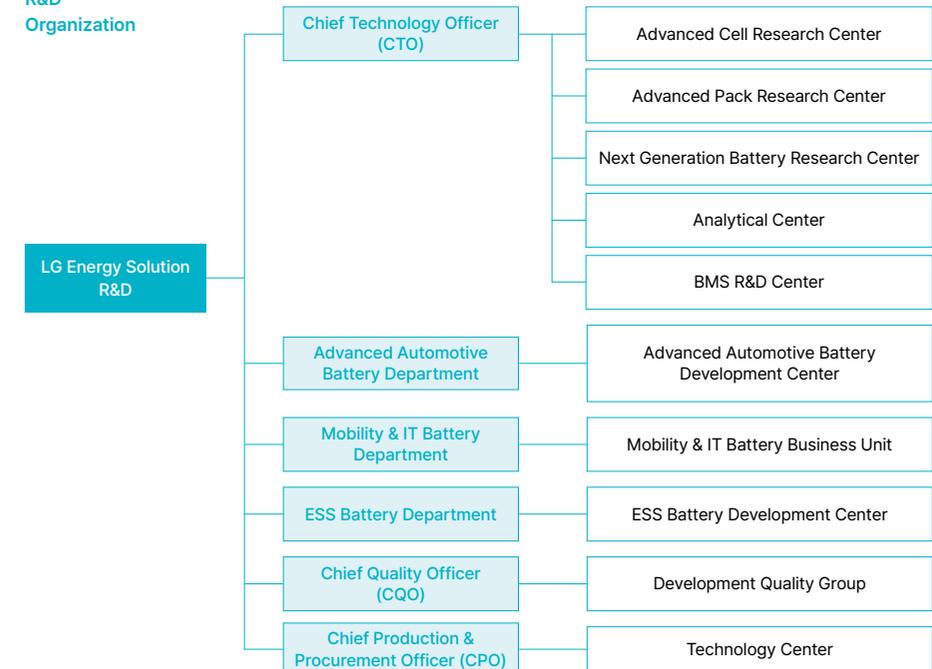
R&D Expenses



R&D Workforce



R&D Organization



Innovating through R&D

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

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



Advanced Automotive Battery

BEV / PHEV Battery



Mobility & IT Battery

Cylindrical Battery, Pouch Battery



ESS Battery

Power Grid, Residential

Battery Materials and Process Technologies

LG Energy Solution possesses and develops three distinctive material technologies. The first is a high-capacity cathode material technology, which is used to develop high-energy batteries by employing high-nickel content cathode material with added aluminum to the NCM (Nickel-Cobalt-Manganese). The second is an innovative technology that uses patented proprietary technology to enhance the charge / discharge efficiency by maximizing the silicon oxide content in the anode material. The third is the SRS (Safety Reinforced Separator) technology, which enhances durability by coating the ceramic on the separator between the anode and cathode materials.

In addition to these distinctive material technology, LG Energy Solution maximizes energy density and maintains battery durability during long-term charge / discharge process through our unique L&S (Lamination & Stacking) method, which reduces space waste inside the battery cells. This technology, which provides high design flexibility, is optimized for various electric vehicles, from multi-platforms to premium vehicles, and can be deemed as the driving force leading the mass adoption of electric vehicles.

Advanced Automotive Battery

LG Energy Solution supplies both cylindrical and pouch-type batteries in order to meet the demands of the global customers. Furthermore, with stable technology, we have developed Long Cell products that can be mounted on the world's first dedicated electric vehicle platform, and we are also expanding their applications.

Mobility & IT Battery

Mobility & IT batteries utilize the “Stepped Battery” technology, which allows for maximum capacity in a small space, enabling the creation of small and lightweight IT devices. Cylindrical batteries are utilized in a wide range of applications, from power tools to fans, energy storage systems (ESS), and satellites. Particularly, high-power cylindrical batteries used in power tools apply LG Energy Solution's low-resistance technology and high-capacity materials, which provide improved power density. Additionally, high-capacity cylindrical batteries based on LG Energy Solution's high-energy NCM battery technology achieve the highest capacity in the industry among 18650 and 21700 cylindrical batteries. These cylindrical batteries are compact and slim, allowing them to be installed inside e-bike frames and can travel up to 150km on a single charge (based on a 500Wh pack).

ESS Battery

For residential use, LG Energy Solution has developed EnBlock 16H Prime which boasts the world's largest capacity (16kWh) for a single pack and can be expanded up to 32kWh by parallelly connecting the two units. Recently, we have also introduced EnBlock Flex, which provides flexible installation options with various capacities and installation forms. For power grid applications, we have secured high-voltage solutions (1,500V class) to meet the trends in the power market and are increasing the customer convenience through the development of standardized system-level products (factory-assembled).

Innovating through R&D

Next-Generation Battery Technologies

LG Energy Solution is currently developing solid-state batteries for enhanced safety and lightweight lithium-sulfur batteries with high energy density. Solid-state batteries replace the previously liquid electrolyte with a solid one, significantly enhancing safety. We are commercializing (semi) solid-state batteries that utilize polymer, improving the safety by utilizing existing lithium-ion battery processes, prepare for the market of solid-state batteries that satisfy both high energy density and safety by using sulfur-based materials. Lithium-sulfur batteries use sulfur, a low-cost lightweight material, as the cathode material, making them the next-generation battery with high energy density that are cost competitive. We are developing lithium-sulfur batteries with the goal of applying them to High Altitude Pseudo Satellite (HAPS) and Urban Air Mobility (UAM), unmanned aircraft for the stratosphere and other applications.

Patents

Overseas	+	Domestic
18,067		8,574
Total number of patents		
26,641		

* As of December 2022

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.

Battery Innovation Contest (BIC)

Innovative discoveries and ideas mainly originate from university and research institute's laboratories. Through the Battery Innovation Contest (BIC), LG Energy Solution supports researchers at universities and research institutes to conduct more challenging research by providing research and development funds. The researchers' autonomy is guaranteed, and LG Energy Solution's dedicated research team is matched with them to jointly establish the direction of technological development, ensuring that their creative ideas can be linked to commercialization.

The Battery Challenge

The Battery Challenge is a battery-related startup contest program hosted by LG Energy Solution. Startups selected through The Battery Challenge present their technologies during the Pitch Day attended by technologies to key executives and employees. They receive feedback of their technologies through expert matching in LG Energy Solution's relevant fields and have the opportunity to collaborate. Furthermore, we foster mutual growth through ongoing collaboration, such as joint R&D efforts and equity investment.

Innovation Forum

The Battery Forum is an open forum where renowned battery experts worldwide sit together and openly converse about the future of batteries. The forum serves as a platform for sharing knowledge, learning about the latest research trends, and engaging in discussions regarding the future direction and potential advancements in battery technology.

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Mutual Growth of Individuals and Companies

Expanding the Battery Ecosystem with In-House Ventures

In 2022 Fall, KooRoo and AVEL were established as internal independent companies of LG Energy Solution to expand LG Energy Solution’s circular battery ecosystem, thereby increasing the ESG impact.

KooRoo

KooRoo is an in-house startup focused on the battery swapping station (BSS) business for electric two-wheelers. Since its establishment, KooRoo has experienced growth and diversified business opportunities. KooRoo’s service allows the replacement of discharged electric motorcycle batteries with fully charged ones within 20 seconds through a quick battery exchange system. These battery exchange stations are strategically located at convenience stores and grocery shops, including the GS Convenience Store and GS the Fresh. It caters to quick commerce delivery riders that need to swiftly swap their batteries without waiting.

KooRoo works closely with domestic electric two-wheelers manufacturers to enhance compatibility with the local battery pack exchangers. By late 2023, seven electric two-wheelers models are expected to be compatible with KooRoo’s battery pack exchange system. Furthermore, KooRoo leverages the battery field data collected through its battery pack service to advance its battery solutions. KooRoo envisions expanding into the rechargeable battery pack market and taking on the responsibility of safety management for delivery riders and citizens in the future.



KooRoo Ahn, Hong Deok, Leader



KooRoo has prioritized ESG management from the very early stages of business.

First and foremost, KooRoo’s BSS business helps reduce environmental pollution. Studies have shown that small 50cc motorcycles emit 12 times more carbon monoxide and 124 times more hydrocarbons than light cars. It may be shocking to many people that motorcycles pollute the air significantly more than cars. By converting 120,000 internal combustion engine motorcycles to electric motorcycles in Seoul, it is estimated that the city could save environmental costs of 66 billion won in just one year. Electric motorcycles can solve noise pollution issues. The number of complaints raised due to noise generated by delivery motorcycles has significantly increased in various locations in Seoul. Switching to electric two-wheelers can greatly improve citizens suffering from noise pollution.

Secondly, our business model fosters stronger cooperation and synergy with small and medium-sized enterprises (SMEs). The domestic internal combustion engine motorcycle market is dominated mostly by companies from Japan and Taipei. Backed by highly compatible battery packs, we are collaborating with domestic SMEs to build more charging infrastructure and manufacturers to increase the market share of domestically-produced electric two-wheelers. We aim to transform this market, which is currently dominated by foreign companies, into a green technology-driven market while simultaneously promoting the growth of the domestic electric two-wheelers market with our SMEs.

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Mutual Growth of Individuals and Companies

AVEL (Add Value to Energy Label)

AVEL is an in-house startup of LG Energy Solution that was founded to facilitate the integrated management of the renewable energy power grid using an energy storage system (ESS). As a pilot project, AVEL initiated a large-scale ESS project to alleviate the problems of renewable sources in Jeju Island. The company's primary focus is developing a system capable of accurately predicting the amount of renewable energy generation in the region and efficiently managing its utilization.

* Output control: Government restrictions on solar and wind power generation during periods of high generation when the power grid cannot accommodate it.



AVEL Kim, Hyun Tae, Leader



AVEL's slogan is "Go Green." We embarked on this business with a mission to efficiently utilize and supply renewable energy at the forefront of solving various problems arising from the increased penetration of renewable energy. As an engineer in the battery field for over 10 years, I wanted to develop a new business in Energy as a Service (EaaS) through AVEL, providing energy services instead of solely focusing on development.

There are two problems that AVEL aims to address in renewable energy generation. First, there are instances when the distribution lines cannot demand all the generated renewable energy, resulting in the inability to transmit it to consumers. Second, solar and wind power generation are highly influenced by weather conditions, making it difficult to accurately predict their generation volume and errors.

I questioned whether the high variability of renewable energy could be solved through ESS and released to the power grid at the appropriate time. Facing the infrastructural situation in Korea, I found a solution for efficient utilization of renewable energy in ESS, which became the core of this business model.

A pilot project will be conducted in Jeju Island starting from the end of 2023 for a period of two years. Jeju Island has a renewable energy utilization rate of approximately 20%, which is significantly higher than the national average of 7-8%. However, considering the infrastructure capacity, Jeju Island has the potential to achieve a utilization rate of 40%. This means that even in Jeju Island, which has the highest renewable energy utilization rate in the country, only half of the facility level is currently being utilized. AVEL plans to accumulate technological expertise and experience through the Jeju pilot project and expand the business nationwide starting from the end of 2025, ensuring that renewable energy resources in Korea can be fully supplied to the power grid. In particular, as 40% of Jeju Island's total power generation comes from wind power, AVEL aims to enhance prediction accuracy through ensemble prediction algorithms that integrate multiple prediction models and compensate for prediction errors using ESS as a supplemental resource. AVEL will do our best to ensure stable supply of renewable energy to consumers nationwide, which is essential for achieving the 40% carbon reduction target (NDC) by 2030.



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ESG Focus

Environmental



Transition to renewable electricity at the entire company
56%
(61% for Manufacturing Facilities)



Recycling rate of spent cathode materials solvent (NMP)
97%



TCFD* Pledged
The first to join as Korea's battery company



100% resource circulation rate recognized by UL**
Platinum Grade in China facilities
(LGESNJ / LGESNA)

Social



The first to join as global battery company
A member of the Steering Committee in FCA



Established the DEI policy and revised the responsible procurement policy for all business sites.
All business sites



Proportion of overseas employees
Approximately 70%



Certification from U.S. Great Place to Work Institute
Obtained Great Place to Work Certification

Governance



Proportion of Female external Directors
Maintained at 50%



ESG Data Management System
ESG IT Intelligence developed



ESG Training
All-employee



GBA Battery Passport pilot project
The first in the world to present prototype
The first to join as Korea's battery company

* TCFD: Task Force on Climate-related Financial Disclosures ** UL: Underwriters Laboratories



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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 humanity.

Governance

To systematically address the growing demand of ESG, LG Energy Solution established internal ESG Committee in June 2021. We also formed dedicated ESG departments and working groups to enhance the execution of strategies and initiatives.

ESG Committee

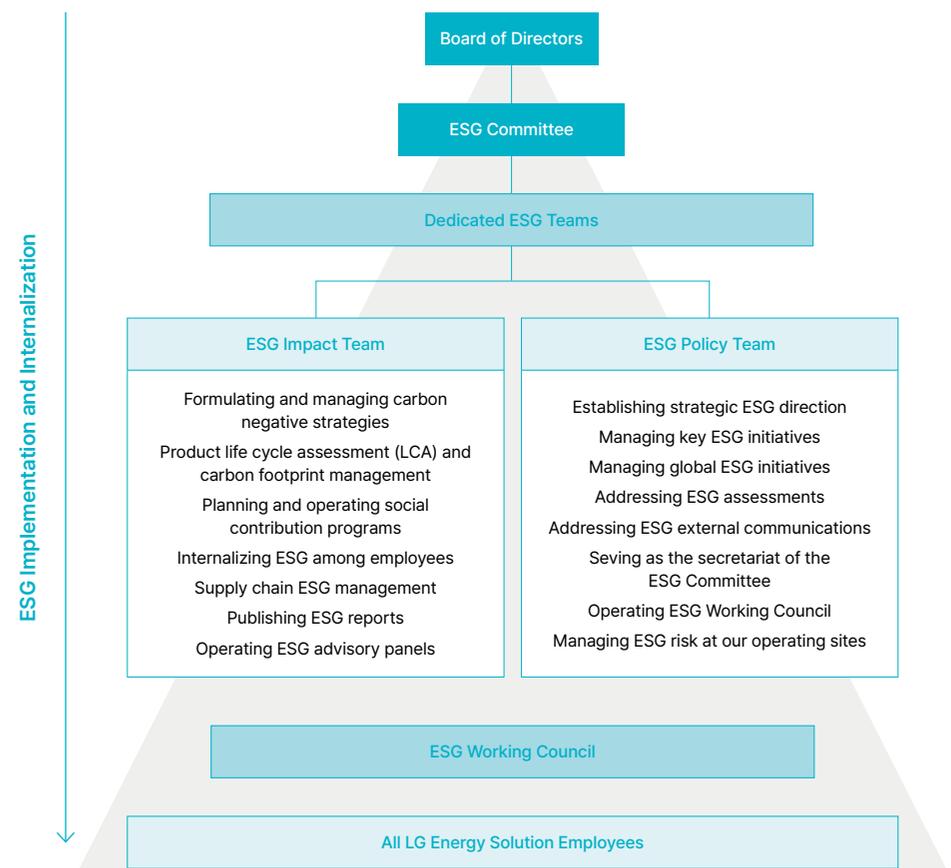
The ESG Committee formulates fundamental policies, strategies, and medium- to long-term goals in ESG areas such as environment, human rights, safety and health, social responsibility, customer value, shareholder value, and governance. The Committee reviews and makes decisions on ESG agenda and programs. The ESG Committee consists of five members, with four of them being external directors, and it meets semi-annually.

Dedicated ESG Teams and Council

LG Energy Solution’s dedicated ESG Teams are responsible for establishing an ESG-focused strategy system and coordinating with relevant functional groups and teams to carry out progress related to ESG activities across the company. The ESG Working Council is composed of teams and groups 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.

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 proactively participate in and practice ESG management.



ESG Vision and Strategy



Lee, Bang Soo

President /
Chief Risk Officer (CRO)



Park, Jin Won

Executive Vice President /
Leader of External Relations Group

In the past few years, I've been observing a noticeable change in social perspectives regarding ESG. Not long ago, ESG presented a dilemma over financial performance and being a good company. Now, ESG is seen as an instrument that brings competitive advantage and attracts investment and business opportunities, and ESG indicators are considered relevant financial performance indicators.

There is a clear reason for such a shift. The Business Roundtable (BRT) in 2019 redefined the purpose of companies from conventional capitalism approach of maximizing profits to maximizing stakeholder values. In 2020, this changing importance of ESG was recognized by the capital market. Regulatory instruments driven by the US and the EU such as the US Inflation Reduction Act, Critical Raw Materials Act, and Carbon Border Adjustment Mechanism, send a strong signal for companies to pursue ESG. I believe there is now a general consensus that ESG is no longer a non-financial, secondary business element; it drives competitiveness and corporate financial performance.

To LG Energy Solution, global ESG trend presents both an opportunity and threat. As the battery industry gains attention with the acceleration of the green energy transition, the market is expanding rapidly, making LG Energy Solution an attractive company. To sustain our business, it is fundamental to identify and manage risks in various areas including climate, energy, water, waste, health and safety, and human rights. Since managing all these areas with equal efforts can be challenging, LG Energy Solution will focus on building an ESG management system that aligns with stakeholders' demands by prioritizing and tackling the key issues one by one.

We will make sure that ESG goals are supported by effective governance, sufficient deliberation and due diligence process, and that our procedures and progress are communicated to stakeholders in a transparent and timely manner. As a global leader in future energy industry, we will put our utmost efforts for building a sustainable future.

LG Energy Solution established the strategic framework for ESG management under the vision called "We CHARGE toward a better future." The framework consists of 14 key tasks that uphold the vision, including four priority tasks in the areas of climate action, circular economy, value chain ESG risks management, and inclusion (DEI). We have set objectives and implementation plans for each task, and we monitor the progress on a regular basis. Further, initiatives to help promote awareness of employees are being rolled out such as through ESG training and periodic publication of ESG Trend Focus.

The 2022 ESG report intends to transparently disclose our ESG performance according to global ESG reporting standards such as the Global Reporting Initiative (GRI), International Sustainability Standards Board (ISSB), Task Force on Climate-related Financial Disclosures (TCFD), and Sustainability Accounting Standards Board (SASB). In February 2023, we became the first Korean battery manufacturer to declare support for TCFD. We intend to build on the momentum and strengthen our climate risks assessment and disclosure.

In April 2023, we strengthened our governance system by approving the Guidelines on Independent Directors' Independence and Expertise & Diversity of the Board of Directors as well as the Corporate Governance Charter. To proactively respond to global ESG regulations, we assigned compliance issues to be reviewed and approved by the ESG Committee.

Moving forward, LG Energy Solution will continue to make meaningful and ethical decisions through a healthy governance system that considers stakeholder perspectives to ensure sustainable ESG progress. We will establish and manage goals, and we will provide transparent and accurate disclosures to our stakeholders. We will strive to be a leading company in the battery industry, creating a sustainable future and spreading positive influence around the world. We will continuously practice ESG management matching the name of "First Mover" in the battery industry and meet the ESG needs of our stakeholders.



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ESG Vision and Strategy

ESG Strategy

LG Energy Solution has established an ESG vision, “We CHARGE toward a better future,” with the determination to be a sustainable global leader in the battery industry and contribute to creating a better future. We have identified 8 core areas related to environmental and social aspects, along with 4 Enabler areas in the governance aspect, to drive our ESG initiatives.



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8 Core areas				4 Enabler areas	
C	H	A	R	G	E
Climate Action & Circular Economy	Human Value Management	Advanced EH&S	Responsible & Impactful Business	Good Governance	ESG Disclosure & Communication
Climate Action Achieve carbon neutrality by 2050 Circular Economy Build a closed loop by 2025	Human Rights Build human rights risk-free business sites Human Capital Management Promote diversity, equity and inclusion	Product Stewardship Secure 100% green products by 2022 Environment, Health, and Safety Zero serious EH&S accidents	Responsible Supply Chain Management Secure over 90% ESG low-risk group by 2030 Shared growth and Local Community Impact Reinforce mutual growth and cooperation	Compliance Management / Ethical Management Enhancing Governance System	Enhanced ESG Disclosure Increased Stakeholder Communication and Partnership
<ul style="list-style-type: none"> · Carbon negative strategy · Perfect Closed Loop 	<ul style="list-style-type: none"> · Corporate culture that embraces DEI 	<ul style="list-style-type: none"> · Reinforcing product eco-friendliness · Health and safety management of business sites · Environment impact management · Biodiversity conservation 	<ul style="list-style-type: none"> · Sustainable value chain · Shared growth · Global social impact programs 	<ul style="list-style-type: none"> · Strengthening compliance program and ethical corporate behavior · Strengthening governance system 	<ul style="list-style-type: none"> · Strengthening ESG disclosure · Increasing stakeholder communication and partnership



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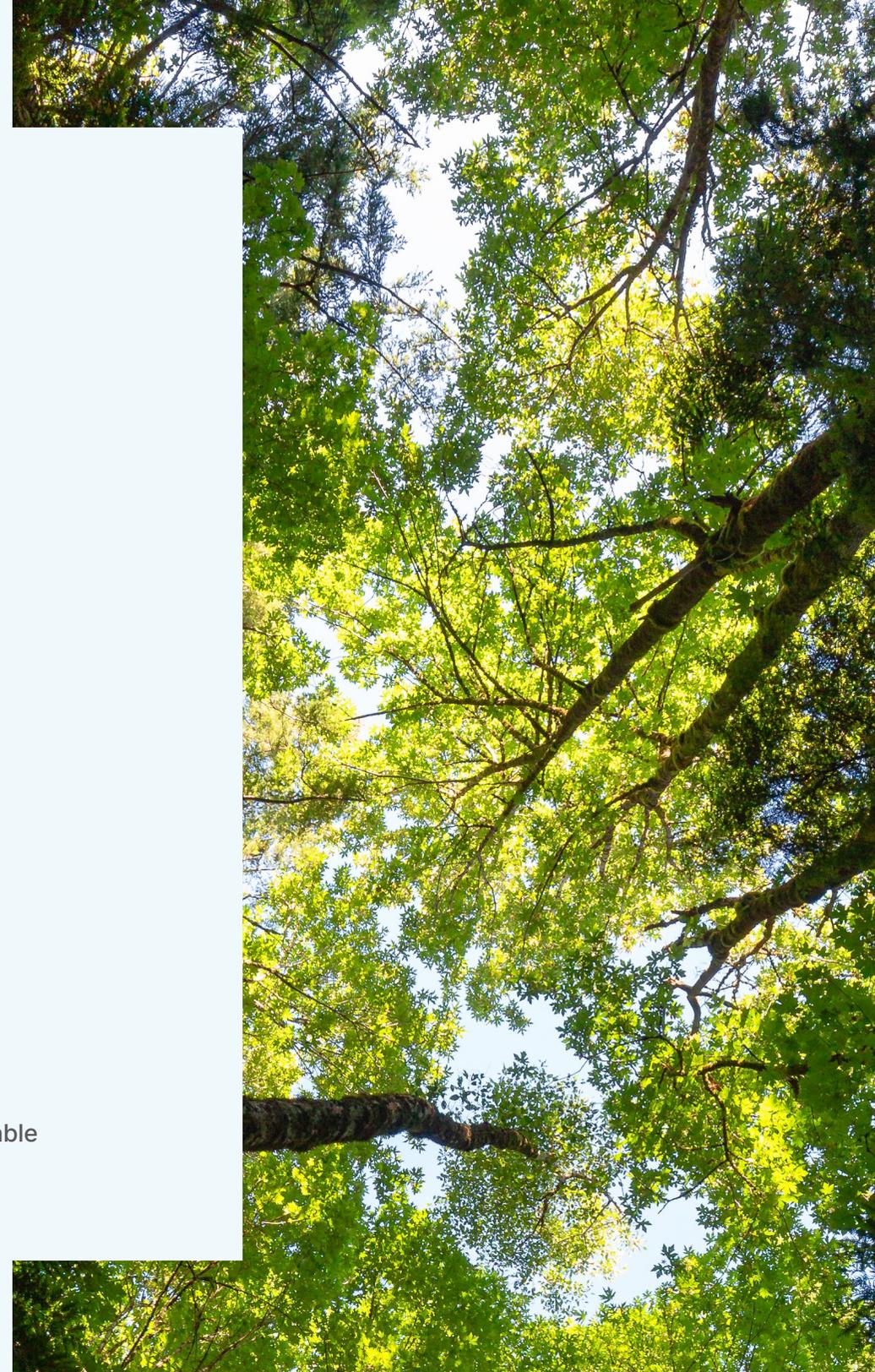
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ESG Impact

Double Materiality Assessment

- E** Carbon Negative Strategy
Perfect Closed Loop
- S** Product Safety
Sustainable Value Chain
Sustainable Workplace
- G** Corporate Governance

Based on the results of the double materiality assessment, LG Energy Solution aims to achieve critical issues of Carbon negative strategy, Perfect Closed Loop, Product safety, Sustainable Value Chain, Sustainable Workplace, and Corporate Governance.



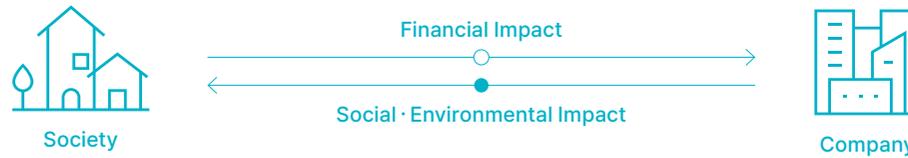
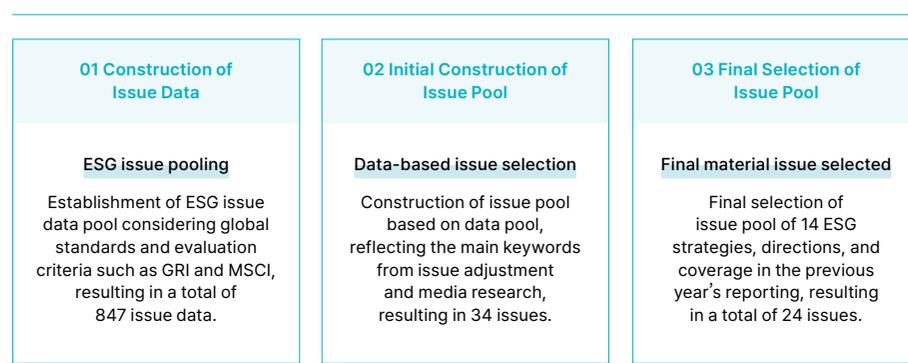


- Double Materiality Assessment
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Double Materiality Assessment

LG Energy Solution conducts an annual materiality assessment to identify and manage the issues that stakeholders consider important at a regular basis. This year, we introduce a double materiality assessment that reflects both social-environmental impact and financial impact. We incorporated globally-recognized ESG standard indicators such as GRI, SASB, MSCI, and KCGS, as well as publicly available information from the media. As a result, a total of 24 issues were derived, and priorities were set based on their material importance. After a managerial review by the executives, six were ultimately selected as impact issues.

Process of Issue Pool Development



Assessment of Social · Environmental and Financial Impact for Issue Pool	
Social · Environmental Impact	Financial Impact
<ul style="list-style-type: none"> · A review of global ESG standards · Media research · Employee and external stakeholder survey 	<ul style="list-style-type: none"> · A review of global ESG standards · Internal data review · Employee and external stakeholder survey

Analysis of Double Materiality Assessment

	Social · Environmental Impact	Financial Impact
Global ESG Standards	<p>An analysis of indicators on social responsibility established by international entities such as the United Nations (UN)</p> <ul style="list-style-type: none"> - GRI, UN SDGs, UNGC ISO26000, WEF 	<p>Financial / accounting-based information disclosure indicators and ESG evaluation indicators analysis</p> <ul style="list-style-type: none"> - TCFD, SASB, MSCI, DJSI, KCGS
Media and Corporate Documents	<p>A keyword search composed of issues and "LG Energy Solution" (14,164 cases) between January 1 and December 31, 2022</p> <ul style="list-style-type: none"> - Among the total keyword search, content related to positive and negative impacts on society, environment amounted to 10,934 cases, accounting for 77%. 	<p>CEO messages and open business reports that mention ESG</p> <ul style="list-style-type: none"> - 2022 Annual reports, Sales reports, 2021 ESG report
Employee and Stakeholder Surveys	<p>Target: 665 employees, 556 stakeholders</p> <p>Social · Environmental impact and financial impact inquiries and priority selection by area</p> <p>Period: April 13 to 18, 2023</p> <p>Respondents and response rate: Employees - 115 (17.3%), Stakeholders - 133 (23.9%)</p>	

Double Materiality Assessment

Based on the results of the 2023 double materiality assessment, we aim to focus on the following six core issues as our ESG impact tasks.

NO	Area	Key Issues	GRI Standards Topic	Page
1	E	Carbon Negative Strategy	GRI-305	28-33
2	E	Perfect Closed Loop	GRI-306	34-35
3	S	Product Safety	GRI-416	36
4	S	Sustainable Value Chain	GRI-308, 414	37-39
5	S	Sustainable Workplace	GRI-401, 405	40-44
6	G	Corporate Governance	-	45-47

● High Impact ● Medium Impact ● Low Impact



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Issue	Impact		Stakeholder						
	Financial	Social-Environmental	Employee	Customer	Industry Association	Shareholder / Investor	Academic / expert	Supplier	
IMPACT	Carbon Negative Strategy	●	●	●	●	●	●	●	●
	Perfect Closed Loop	●	●	●	●	●	●	●	●
	Product Safety	●	●	●	●	●	●	●	●
	Sustainable Value Chain	●	●	●	●	●	●	●	●
	Sustainable Workplace	●	●	●	●	●	●	●	●
	Corporate Governance	●	●	●	●	●	●	●	●
Environment	Enhancing product eco-friendliness	●	●	●	●	●	●	●	●
	Waste management	●	●	●	●	●	●	●	●
	Hazardous substances management	●	●	●	●	●	●	●	●
	Water source management	●	●	●	●	●	●	●	●
	Biodiversity conservation	●	●	●	●	●	●	●	●
Social	Talent management and training	●	●	●	●	●	●	●	●
	Sustainable workplace and employee health and safety	●	●	●	●	●	●	●	●
	Information security and customer data protection	●	●	●	●	●	●	●	●
	Inclusive growth and shared growth	●	●	●	●	●	●	●	●
	Corporate social responsibility	●	●	●	●	●	●	●	●
	Organizational culture for diversity, equity, and inclusivity (DEI)	●	●	●	●	●	●	●	●
	Customer pain points and satisfaction	●	●	●	●	●	●	●	●
	KPI and compensation systems	●	●	●	●	●	●	●	●
Governance	Risk management	●	●	●	●	●	●	●	●
	Compliance and Jeong-Do Management	●	●	●	●	●	●	●	●
	Emerging policies and regulations	●	●	●	●	●	●	●	●
	ESG disclosure	●	●	●	●	●	●	●	●
	Stakeholder communication	●	●	●	●	●	●	●	●

Carbon Negative Strategy

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

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). A global reduction of at least 45% in carbon emissions compared to 2010 must be achieved by 2030, and a path toward carbon neutrality by 2050 must be set. As a response, countries, including Korea, have voluntarily submitted their national reduction goals.

LG Energy Solution has responded in the climate change mitigation efforts by setting long-term carbon neutrality goals and specific interim targets. Beyond our own efforts to address climate change, we plan to support carbon reduction of local communities by reflecting our mission to go beyond carbon neutrality.

Long-term goals for carbon neutrality pursued by LG Energy Solution are as follows:

	2030	2040	2050	Post-2050
LG Energy Solution	<ul style="list-style-type: none"> Achieve RE100* / EV100 at all business sites Achieve 53% emission reduction from BAU emission 	<ul style="list-style-type: none"> Achieve Scope1&2 carbon neutrality (Scope 1&2) 	<ul style="list-style-type: none"> Achieve carbon neutrality throughout the value chain (Scope 1-3) 	<ul style="list-style-type: none"> Achieve carbon negative
Suppliers	<ul style="list-style-type: none"> Achieve RE100 for Tier-1 suppliers * Core battery materials (ex. CAM, AAM, Cu-Foils) 	<ul style="list-style-type: none"> Achieve RE100 of core value chain 		

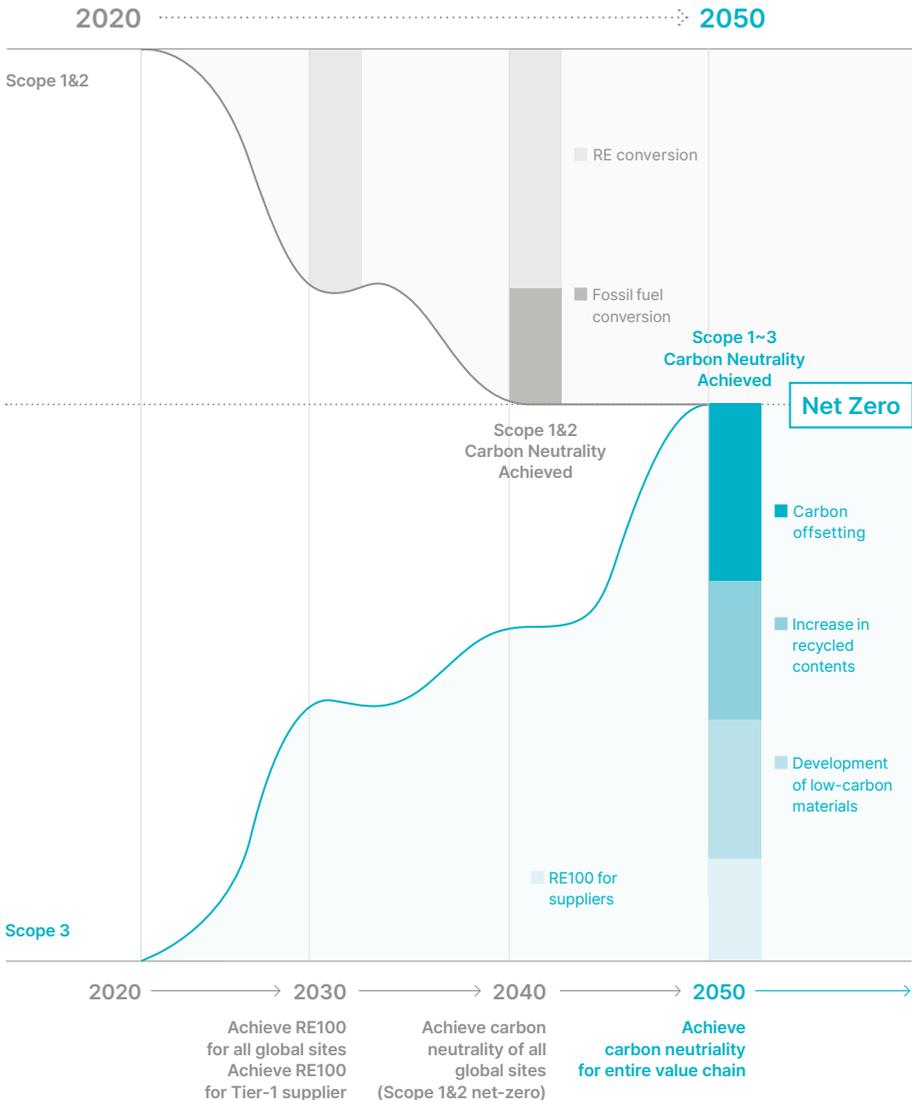
* RE100 (Renewable Electricity 100%), EV100 (Electric Vehicle 100%)

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 Negative Strategy



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Climate Governance

LG Energy Solution’s carbon neutrality goal setting and our related carbon reduction activities are decided and operated through a transparent and efficient governance system. The Board of Directors, the company’s top decision-making body, makes the final decisions and oversees the execution of the implementation of climate change response strategies and investments.

The ESG Committee is established under the Board of Directors to biannually review the direction of climate change response strategies and manage and supervise the approval and execution of major tasks. The Carbon Neutrality Council, composed of relevant personnel and professionals within the company related to climate change, selects to achieve carbon neutrality. The ESG Impact Team runs the Carbon Neutrality Council which makes plans for climate change response strategies, and handles communication with internal and external stakeholders.

Implementing Carbon Neutrality

Most of the greenhouse gas emissions during the battery manufacturing process are generated from energy sources used in the production process, such as heat and electricity. Specifically, about 70-80% of the total greenhouse gas emissions are indirect emissions generated during the power generation process, and the rest are from fuel combustion (i.e., LNG, gasoline). To achieve carbon neutrality, we need to maximize the conversion of electricity into renewable energy sources and minimize energy consumption by replacing fuels with alternative energy sources. To this end, LG Energy Solution has established a strategy and a long-term roadmap for achieving carbon neutrality, and we manage them on a rolling basis for continuous implementation.

Implementing Energy Efficiency

LG Energy Solution has been garnering efforts to enhance operational excellence by implementing various measures to reduce energy and to maintain our facility operation in a highly-efficient state despite the growth of our battery production volume. These measures include energy leakage inspections and diagnostics process, replacement of high-efficiency equipment, waste heat recovery in the manufacturing process, and optimization of utility facility operations. In particular, to manage the energy flow of business sites, IoT modules and sensors on each facility were installed. Equipped with the Energy and Utility Management (EUM), we are able to gather facility management data and monitor them. EUM provides a real-time operation status and energy analysis information. In addition, this allows us to utilize various data analysis tools of EUM, thereby forecasting the energy use more stably and efficiently.

Carbon Negative Strategy

~ 2030

RE100/EV100 for all business sites and RE100 for Tier-1 supplier

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<p>Scope 1&2</p> <p>(LG Energy Solution)</p>	<p>In April 2021, LG Energy Solution became the first in the battery industry to simultaneously join RE100 and EV100 (converting 100% of business vehicles to EVs). With this effort, we were able to move up our initial goal of RE100 from 2050 to 2030, a faster transition of 20 years. The global production sites are targeted to convert all electricity to renewable sources 100% by 2025. The remaining non-production sites, such as the R&D centers, will be targeted to achieve RE100 by 2030. Also, we established a principle to operate our new production sites and joint ventures (JVs) in 100% renewable electricity from the production stage and to include the renewable energy procurement strategy from the early phase of the investment planning stage.</p> <p>In 2022, a company-wide transition rate was 56% while global factories achieved 61% of renewable energy conversion rate. The Wrocław plant in Poland (LGESWA) and the Michigan plant in the US (LGESMI) converted 100% of their electricity to renewable energy through the Green Pricing system and Renewable Energy Certificates (REC). Furthermore, LG Energy Solution is progressively increasing the proportion of renewable electricity used in the Ochang Energy Plant in Korea and the Nanjing plant in China.</p>
<p>Scope 3</p> <p>(Supplier)</p>	<p>LG Energy Solution plans to convert the electricity used in our Tier-1 suppliers' core battery material production into renewable energy sources. In addition to core materials such as cathode material, anode material, and copper foil used in battery production, we plan to actively support other remaining Tier-1 suppliers such as separator, electrolyte, and Al-pouch to achieve RE100. In addition, suppliers who pledged to achieve 100% renewable electricity on their production, we have been monitoring their renewable electricity roadmap and their progress by 2025.</p> <p>In 2022, LG Energy Solution verified the renewable energy conversion progress and plans of our core Tier-1 suppliers, and conducted Life cycle Assessment (LCA) and Environmental Product Declarations (EPD) of suppliers. In particular, we have been conducting supplier's emission impact analysis by calculating their energy intensity based on suppliers' annual electricity consumption and purchase volume. In 2023, we created Carbon Neutrality Guideline for suppliers to enhance their understanding of carbon neutrality and RE100 to encourage their participation.</p>

Carbon Negative Strategy

~ 2040

~ 2050

Beyond 2050



Scope1&2 Carbon Neutrality & RE100 for core value chain

Carbon Neutrality for Entire value chain

<p>Scope 1&2 (LG Energy Solution)</p>	<p>To achieve carbon neutrality on scope where LG Energy Solution directly and indirectly makes emissions (battery production, scope 1&2), alternative energy sources must be secured. Transitioning fuels to climate-friendly sources (i.e., biomass, hydrogen) are the notable solutions. Any remaining emission that are unable to convert to renewable sources should be offset through carbon credit. To accomplish this, we first need to increase the operating excellence by maximizing energy efficiency and then sourcing from alternative climate-friendly energy source. Also, any fossil fuel-based equipment currently used should be converted into electricity-based facilities could utilize for renewable electricity supply. Furthermore, we are considering to take part in offset projects by using our batteries and afforestation projects.</p>	<p>LG Energy Solution will achieve carbon neutrality by 2040</p>	<p>LG Energy Solution will continue to proceed with our carbon-free activities in our value chain by 2050 and achieve carbon negative through external carbon reduction efforts. In particular, we plan to contribute to climate change response and welfare for local communities by developing renewable energy and installing energy storage (ESS) systems near our own business sites in Korea and abroad. Furthermore, in collaboration with customers, NGOs, and local communities, we will implement support projects for climate-vulnerable regions globally.</p>
<p>Scope 3 (Supplier)</p>	<p>We have selected Tier-2 and lower-tier suppliers as carbon reduction hot spots in our core metal value chain such as cathode material and anode material. We plan to support our hot spot suppliers to convert to 100% renewable electricity in their raw material production process. To achieve this, we plan to conduct Life Cycle Assessment (LCA) for the battery value chain and identify hot spot suppliers who have high carbon emission impact.</p>	<p>The key to carbon neutrality for LG Energy Solution is that the entire value chain achieves carbon neutrality by 2050. According to the Life Cycle Assessment (LCA) methodology for batteries, a significant amount of carbon is emitted during our raw material productions. Accordingly, we plan to expand the scope of carbon emission monitoring from Tier-1 suppliers to Tier-N suppliers (i.e., mining) and support their RE100 participation and carbon reduction efforts. Additionally, we will gradually increase the use of climate-friendly, recycled materials instead of directly mined raw materials, thereby fulfilling raw material circular system.</p>	

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Carbon Negative Strategy

Battery Carbon Footprint Management

Recently, the demand for product-level sustainability has been increasing. EU and other regulatory institutions are reinforcing the disclosure requirements under battery carbon footprint, battery passport, and recycling regulation. The EU will soon obligate companies to disclose LCA-based carbon footprint of the battery products and rate the level of sustainability to prohibit less eco-friendly battery products from entering the market. It means it is becoming increasingly important to calculate and reduce a product's carbon footprint accurately. LG Energy Solution will respond to these newly emerging regulations by calculating and disclosing our battery carbon footprint.

Overview of Life Cycle Assessment (LCA)

LCA, or life-cycle assessment, is an integrated methodology for assessing environmental impacts associated with the entire life-cycle stage (cradle-to-grave) from raw material acquisition to disposal, analyzing the quantitative impacts to air, water, and soil.

Since 2019, LG Energy Solution has implemented LCAs to evaluate potential impacts arising from our products, and we communicate these results with our key stakeholders, including clients and customers. Internally, we have been uptaking these assessment results to identify hot-spot raw material within value chain and to establish long-term carbon-neutral strategies.

LCA Process (ISO14040)



A Step-by-step Process (in detail)

Target and scope	Inventory Analysis	Impact Assessment	Analysis
<ul style="list-style-type: none"> Defining the target and scope of LCA Defining the evaluation scope for each stage of the product life cycle 	<ul style="list-style-type: none"> Collecting data on energy and material inputs and outputs throughout the product life cycle Calculating and documenting the results of the inventory analysis 	<ul style="list-style-type: none"> Scientifically-derived environmental impacts, such as global warming, caused by the inputs and outputs are analyzed in step 2 	<ul style="list-style-type: none"> Interpreting the results of the inventory analysis and impact assessment according to research purposes

Battery Carbon Footprint

01 Calculation Method and Roadmap

We have established internal rule and guidelines for product carbon footprint calculation by adopting the referenced international standards and various product category rules of global institutions. Each product has been managed through an individual carbon footprint roadmap.

02 Participation in Carbon Footprint Rule Establishment

We engage and work together with the global initiatives such as RECHARGE - The Advanced Rechargeable and Lithium Battery Association in Europe - and the Global Battery Alliance (GBA) to monitor the establishment process of carbon footprint calculation standards targeted for batteries, and contribute through leadership and advisory activities. Additionally, we collaborate with the Korea Environmental Industry and Technology Institute to develop product category rule for life cycle assessment of the lithium-ion batteries.

03 Third-party Certification (EPD, Environmental Product Declaration) for Transparency Enhancement

LG Energy Solution provides a third-party certified calculation result and process for the product's internal carbon footprint to our customers and clients. In 2022, four ESS products received third-party certification, and we plan to expand the number of certified products in 2023.

Global Battery Alliance (GBA)

The Global Battery Alliance (GBA) started as a sub-division of the World Economic Forum (WEF), which became an independent initiative in 2017. With more than 140 participants, including companies, governments, international organizations, and NGOs, the GBA aims to establish a sustainable value chain that embraces the economy, environment, and society by 2030.

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Reducing Battery Carbon Footprint

01 Managing Suppliers' Carbon Emissions

Based on the LCA analysis, it has been confirmed that approximately 20-30% of greenhouse gas emissions are generated during the cell production process of the batteries we manufacture. Approximately 70-80% of greenhouse gases are generated from the battery raw material productions within the supply chain, including anode materials, cathode materials, separators, and electrolytes. We have identified environmental impacts at each stage of the supply chain through LCA hot spot analysis, and have established a supply chain carbon reduction strategy recommending Tier-1 suppliers that are core suppliers of these materials to convert to 100% renewable electricity by 2025. This strategy will gradually extend to our Tier-N suppliers by upgrading the hot spot analysis and prioritizing the renewable electricity transition.

02 Strengthening LCA Management System

To respond to the reinforcing global regulations on greenhouse gas emissions and the mandatory disclosure of carbon metrics, we are currently considering to implement a dedicated internal LCA management system that instantly integrates various internal activity data such as energy usage, production volume, and wastewater / waste treatment information to quantify gate-to-gate data. We are also deriving solution to link our calculated result through LCA management system with certification programs.

03 Product Development Process

To reduce greenhouse gas emissions, it is important to adopt low-carbon raw materials and processes from the initial product development stage. To achieve this, LG Energy Solution is developing measures to run simulations to calculate carbon footprint from the early development stage.

Battery Passport Pilot Member

At the WEF's Davos Forum in January 2023, the Global Battery Alliance (GBA) unveiled the world's first prototype of the Battery Passport, which provides information on the battery life cycle. LG Energy Solution joined the GBA in May 2022 and became the first global battery company to participate in the development project. In particular, we participated in a pilot project conducted for pre-validating the Battery Passport prototype. By collecting and providing essential information required for the composition of the Battery Passport, such as basic battery raw material logistics information, greenhouse gas emissions during the manufacturing process, and information on human rights and child labor risks at manufacturing facilities, we contributed to its successful launch.

In the future, we will continue to make efforts to build a sustainable battery ecosystem through various collaborative activities, including the GBA Battery Passport development project.

The battery in this car tells a story – scan the code to find out more. gbabattery.org

BATTERY	MATERIALS	ESG	DATA
BATTERY STATUS Original	MANUFACTURE DATE 8/30/2022	BATTERY CELL TYPE cylindrical	FORMER NCM-M50
MANUFACTURER Tesla	COUNTRY OF CELL ASSEMBLY China	NUMBER OF CELL PER BATTERY 4,416	WEIGHT 481 kg
BATTERY PRODUCER Tesla	COUNTRY OF BATTERY PRODUCTION China	TOTAL ENERGY 78.05 kWh	ENERGY DENSITY 0.1622 kWh/kg
BATTERY CELL PRODUCER LG Energy Solution	COUNTRY OF CELL PRODUCTION China	PERFORMANCE 219 Ah	CYCLE LIFE EXPECTED 1,200 cycles
		NOMINAL VOLTAGE (NOMINAL PHASE) 357 V DC	OPERATING TEMPERATURE RANGE (NOMINAL) -30°C to +60°C

GBA Battery Passport Prototype

Battery Passport

The Battery Passport is an open digital system proposed by the GBA at the 2020 Davos Forum. It enables real-time access through QR codes attached to batteries to provide information on the entire life cycle of batteries, from raw material extraction to production, use, disposal, reuse, and recycling. The EU plans to implement the Battery Passport system from 2026, targeting all rechargeable industrial and electric vehicle batteries with a capacity of 2kWh or more. Through this system, the EU will establish a battery circular economy and promote the trading of batteries that comply with EU environmental regulations.

Perfect Closed Loop

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. LG Energy Solution is pursuing various business and technological developments to establish a perfect closed loop system for battery resources by reusing or recycling them.

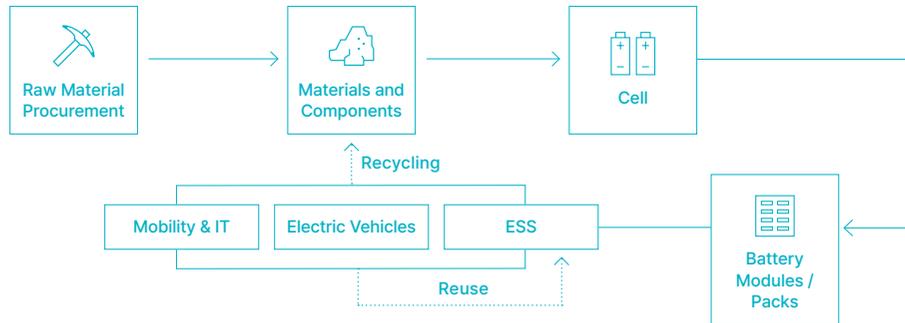
End-of-Life Batteries as Resources

Policies and regulations regarding end-of-life batteries are rapidly being introduced, particularly in the US, the EU, and China. For example, for batteries entering the EU market, the EU Battery Regulation requires proof of environmental and safety performances throughout the entire life cycle period, from battery production to recycling. In response, minimum requirements have been established for recycled materials used at the manufacturing stage of batteries sold in Europe.

To comply with such regulations, we are establishing a closed-loop system that covers the entire value chain, from the production of battery raw materials to consumption, disposal, and recycling. We are also collaborating with local suppliers to ensure the reuse, recycling, and environmentally responsible disposal of end-of-life batteries that meet global environmental requirements.

Battery Circular Ecosystem

We are promoting a sustainable industrial ecosystem through a comprehensive management across the entire process, from the production of raw materials to their use, disposal, and recycling.

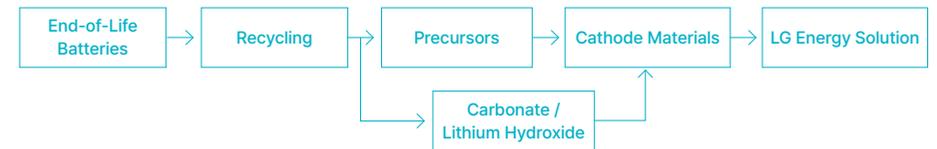


Battery Recycling Processes

Battery recycling is crucial for achieving circular economy as it contributes to greenhouse gas emissions reduction generated during the raw material extraction process, in preventing resource depletion, and minimizing environmental damage.

We aim to establish a resource circulation system that covers the entire value chain of products, from the production of battery raw materials to their consumption and disposal. It is part our response to investor demands and government regulations that emphasize circular economy to minimize environmental impacts during battery production. To prepare for the expansion of the battery recycling market, we are currently establishing a process that provides production scraps to the recycler which diverts back to recycled cathode materials using extracted metals such as nickel, cobalt, and lithium. In 2022, we have completed the construction of a recycling system at our China plant and signed a contract with Li-Cycle, the battery recycling company in North America for supplying 20,000 tons of nickel over a period of ten years in exchange with our production scrap. This amount is equivalent to producing batteries for 300,000 high-performance EV with a battery capacity of 80kWh. We plan to further expand the establishment of resource circulation systems to other global sites located at the US, the EU, and Korea.

End-of-life Battery Circular Ecosystem for recycling



Perfect Closed Loop



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Battery Reuse Strategy

LG Energy Solution is continuously developing technologies to establish various business models to build a second-life ecosystem for batteries, such as end-of-life battery for Energy Storage Systems (ESS), and Battery as a Service (BaaS). We have advanced data-based safety and lifespan evaluation algorithms and secure validated system solutions. Furthermore, we have been accumulating expertise through various attempts and improvement processes utilizing end-of-life batteries, such as installing electric vehicle charging stations (Ochang, Chungcheongbuk-do) and establishing renewable energy-linked Energy Storage Systems (Jeju Island).

Additionally, we are actively collaborating with key customers and related companies while participating in the development of regional regulations and systems. In preparation for the mainstream adoption of end-of-life battery collection from electric vehicles, we are developing diversified business models, proposing validated solutions and providing verified solutions. Moreover, for the case where batteries are no longer usable, a “manufacturing closed-loop system” is established for battery disassembly, refining, and extraction of metals necessary for battery production.

Electric Vehicle Charging Stations



Korea Ochang Energy Plant



Korea Jeju World Cup Stadium

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 completed its lifespan, it could be reused depending on its residual capacity and state of health (SOH). LG Energy Solution is establishing and implementing processes to utilize end-of-life batteries as valuable energy resource.

01 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.

02 Diagnosis and Commercialization

1) Diagnosis and Classification (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.

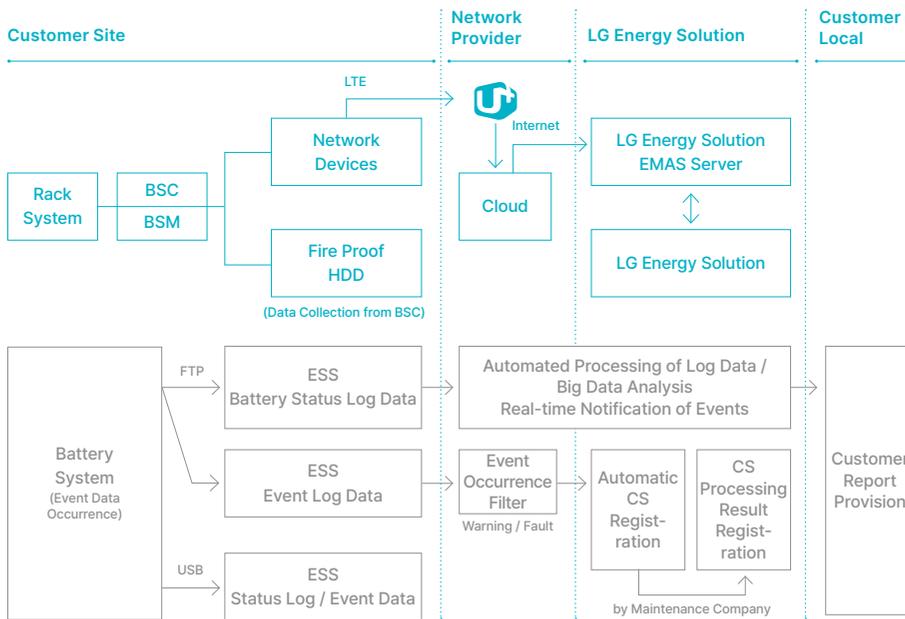
03 Sale and Marketing of Reused Products

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 reused batteries and formulate business strategies to sell reused 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 have been dedicated to a thorough the process of evaluation, execution, and early validation in each stage.

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)

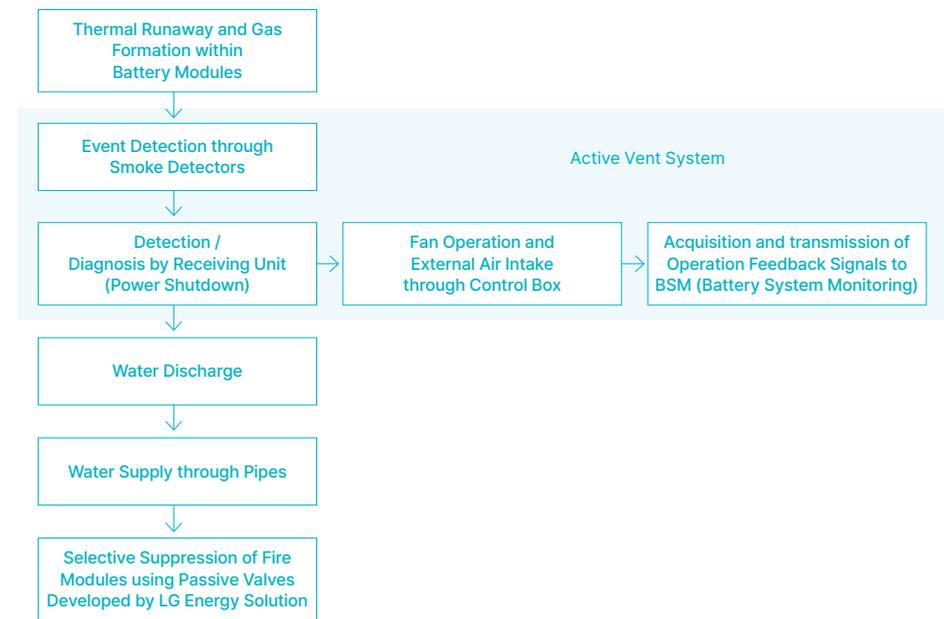
The BSC is a software that manages the entire battery, monitors and diagnoses the battery system's status, the modules, and records related information as data.

ESS Battery Fire Extinguishing 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.

LG Energy Solution reduces 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.

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 European Union’s Corporate Sustainable Due Diligence Directive (EU CSDDD) and due diligence requirements under the EU Battery Regulation as well as Germany’s Human Rights Due Diligence law.

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Managing ESG Risks in Our Supply Chain

Supply Chain ESG Risk Management Framework

LG Energy Solution has established and implemented a “Responsible Sourcing Policy” in accordance with global standards, such as the OECD, UN, and ILO to minimize ESG risks in the supply chain, including human rights and labor, ethical management, workplace safety and health, environmental sustainability, and responsible mineral procurement. Additionally, LG Energy Solution operates a grievance mechanism which enables stakeholders to report any issues or concerns relevant to potential ESG risks along our supply chain anonymously; we handle such issues in a timely manner.

Furthermore, LG Energy Solution has developed and implemented a Code of Conduct for Suppliers that outlines the regulations and principles where all suppliers must comply with to maintain a sustainable supply chain in the areas of human rights and labor, ethics, occupational safety and health, environmental sustainability, responsible sourcing, and the grievance mechanism. All suppliers that carry out transactions with LG Energy Solution must agree to fully acquaint and comply with the Code, and the information on suppliers’ informed consent is managed through the Singlex Purchasing System.

Building a Sustainable Battery Ecosystem

To build a sustainable battery ecosystem, it is important to expand to the entire supply chain that participate in ESG activities beyond our Tier-1 suppliers. LG Energy Solution seeks to drive greater transparency and traceability with the chain of custody through the operation of the Supplier Code of Conduct and the regular process of supplier ESG evaluation.

Supply Chain Management Process

Supplier ESG Risk Assessment Process

LG Energy Solution conducts ESG evaluations annually to assess their compliance with the Code of Conduct for Suppliers. We also monitor improvement tasks and results linking the on-site evaluations. The ESG Risk Assessment for suppliers is conducted in two main types: ❶ New Supplier Evaluation and ❷ Regular Evaluation. LG Energy Solution evaluates new supplier candidates against ten ESG risk indicators as part of the selection process. The New Supplier Evaluation is a diagnostic evaluation consisting of ten ESG risk indicators for new supplier candidates. For the suppliers that are already in our supply chain, supplier ESG evaluations proceed in conjunction with regular evaluations, where over 60 ESG risk indicators are incorporated. ESG evaluation factors account for 20% of the total supplier regular evaluation, which is strictly managed in conjunction with the supplier purchasing evaluation.

LG Energy Solution has developed Self-Assessment Questionnaires (SAQs) consisting of 65 ESG risk indicators in the areas of labor, human rights, ethics, CSR, energy and greenhouse gases, and environment, health, and safety for Tier-1 suppliers. We require our suppliers to monitor their compliance to Code of Conduct through the SAQ. We conduct an on-site third-party audit on suppliers of high-risk group, identify and plan corrective actions, monitor their implementation, and disclose the information on procedures and outcomes of the evaluation in our ESG report.

In the first quarter of 2023, LG Energy Solution conducted ESG Assessments for 145 suppliers. The scores on energy and greenhouse gases and supplier CSR fields increased slightly compared to 2022, resulting in a 2.6% increase in the total score, equivalent to 2.4 points. This improvement reflects impact of the strengthening of global regulations and increased ESG awareness in society, which has led to suppliers improving their awareness and response capabilities.

In addition, for some suppliers identified as high-risk groups through the ESG Assessment, we conduct on-site audits to identify significant non-compliances and monitor improvement tasks and results. In 2022, on-site audits were conducted for ten key suppliers with a high trading volume in Poland or identified with significant non-compliances.

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ESG Evaluation Process for Tier-1 Suppliers

Regular Evaluation



New Supplier Evaluation



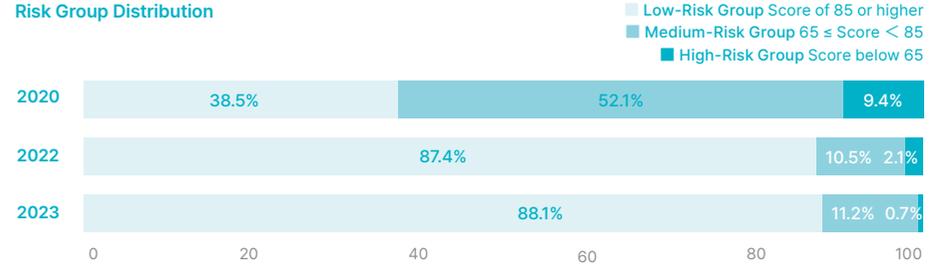
Regular ESG Assessment Results

2020	2022	2023
117 Companies	143 Companies	145 Companies

Assessment Results by Categories



Risk Group Distribution



* In 2021, ESG Assessments were not conducted due to the maintenance of the purchasing management system.

ESG Risk Management for Core Raw Materials Suppliers

In 2022, the risk audit management system within the supply chain was significantly strengthened to reflect changing international norms, such as the OECD Due Diligence Guidance for Responsible Supply Chain of Minerals from Conflict-Affected and High-Risk Areas (3rd Edition) and stakeholder requirements. In particular, we monitor Korea's and global regulations related to the battery industry to thoroughly review the standards and norms that global battery companies must comply with. Specifically, we operate a supply chain assessment process that can systematically manage various risk factors that may arise within the raw material supply chain by checking the human rights, environmental, and governance risk management status of key material suppliers in accordance with the OECD Due Diligence Guidance, and managing identified risks to be improved within the specified timeframe.

OECD Enterprise Audit Procedure



Sustainable Value Chain

Furthermore, in 2023, LG Energy Solution will strictly reinforce the assessments for our raw material supply chain, including cobalt, lithium, nickel, manganese, and natural graphite. We conduct on-site assessments in collaboration with external agencies based on the OECD Due Diligence Guidance for responsible supply chain. During the on-site audits, compliance with human rights and environmental safety regulations, as well as the suppliers' supply chain audit management processes, risk identification / assessment / mitigation processes and performance, and supply chain audit reports are examined to assess the management status of human rights, environmental, and governance risks within the supply chain based on the OECD Due Diligence Guidance. Based on the findings from the audits, improvement plans for suppliers are reviewed, and support for enhancing supply chain management capabilities through suppliers training is planned. We plan to expand the scope of management by establishing strategies and promoting audits for major and high-risk suppliers and major Tier-2 suppliers.

Additionally, in May 2022, LG Energy Solution became the first Korean company to join the Fair Cobalt Alliance (FCA) and participate as a member of the Steering Committee. Through this participation, LG Energy Solution aims to contribute to eradication of forced and child labor in the production environment of cobalt, a key material in batteries, and to address fundamental environmental and social issues in local communities.

ESG Risk Auditing of Core Raw Material Suppliers



Conflict Minerals Management

In addition to ESG Assessments throughout the supply chain, we have an internal IT system to monitor the information of materials to manage the risks related to conflict minerals, which are sectors where the international community is actively carrying out supervision and eradication activities. Based on the monitoring results, we identify suppliers that source any of the conflict minerals (tin, tantalum, tungsten, and gold) and requires them to report through RMI Conflict Minerals Reporting Template (CMRT) on the use of conflict minerals, mineral country of origin, and the smelters and refiners being utilized.

Managing ESG Risks at Our Operating Sites

LG Energy solution is managing ESG risks not only at the supply chain, but also at our operating sites. Starting from 2023, we have designated one ESG Risk Management Officer* for each production facility to manage ESG risks on an ongoing basis, and to establish a system for integrated training, audit, and improvement tasks through coherent collaboration between ESG department at the headquarter and overseas subsidiaries. In the second half of 2023, we plan to conduct third-party on-site audits through RBA VAP (Validated Assessment Program) for five production facilities (Korea, 3 locations in China, and Poland). We aim to identify and implement improvement tasks in a consolidated manner in the areas of labor and human rights, occupational safety and health, environment, ethics, management systems, and supply chain management, and to enhance communication with stakeholders by transparently disclosing the progress and monitoring of these tasks on our official website or ESG report.

* ESG Risk Management Officers: Korea (Ochang), China (NJ, NA, NB), one in Poland, and the US (MI)

Managing ESG Risks at Our Operating Sites

 <p>01 Key areas of ESG risk assessment</p> <ul style="list-style-type: none"> · Environmental · HR / labor · Occupation safety and health · Responsible Sourcing · Human rights · Ethics 	 <p>02 Conducting ESG risk assessment at facility level</p> <ul style="list-style-type: none"> · Self-Assessment Questionnaire (SAQ) · Third-party on-site audits
 <p>03 Identification and Planning of Corrective Actions</p>	 <p>04 Transparent disclosure corrective actions</p>

Sustainable Workplace

Employee well-being is an important value that leads to stakeholder trust. To realize these values, we conduct various activities to maximize positive experiences and emotional engagement for our employees. We are creating a cultural atmosphere that allows our employees to engage in their work in a healthy and wholesome manner by providing support programs that reflect our value in individual lifecycle and family care, thereby fostering a sustainable work environment where employees feel happy to ‘get up and go to work.’

Employee Wellness Care Program

LG Energy Solution has a variety of programs to help our employees manage their physical and mental health.

A Refreshing Area ‘Entral Park’

LG Energy Solution has cafe lounges, food trucks, group yoga zones (GX zone), nap room (querencia), sky lounges, screen golf zones, game zones, and mini libraries for our employees to enjoy as refreshing, healing areas. We also created ‘Entral Park’ at major business sites, such as Daejeon R&D Center and Ochang Energy Plant to provide resting spaces for our employees.

Group Exercise and Healing Program

The yoga zone at Entral Park includes various healing programs, such as meditation and yoga, during office hours. We also provide online stress detox programs for employees to enjoy at home. The programs offered at the yoga zone are designed to help members heal their bodies and minds at locations they feel most comfortable. These programs include aromatherapy, sound meditation, and coffee meditation.

Healing Trips and Online Healing Program

We provide Healing Trips for employees who are worn out from short / long (overseas) business trips and heavy work load so that they can recover using the Healing Center located in Gangwon-do. Surrounded by nature, employees can enjoy meditation and healthy natural meals, which help restore the energy of the body and mind; employees will also be able to find the best way to manage stress. Employees who have difficulty traveling can use the online healing program that is operated monthly. Through a digital interface, there are various programs where employees can relax and enjoy at the best place they feel comfortable: aromatherapy, stretching yoga, coffee meditation, and relaxation meditation are some options.

Healing Day

Every Wednesday is Healing Day at LG Energy Solution. We provide programs in Entral Park where employees can enjoy various contents and recover. Through seasonal music performances, one-day classes, meditation programs, and other activities, we provide employees with time to focus on themselves and take a break from work.

Customized Employee Care Program

LG Energy Solution offers care programs tailored to the various needs of employees. For example, we delivered a Quarantine Self-care Kit to employees who were quarantined due to COVID-19. The kit included stretching equipment, healthy tea, personal hygiene products, books / hobby items, and meal kits. We also provide welcome gift, including various gift items for newborns to employees who have recently given birth.



Employee Lounge Space ‘Entral Park’



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Family and Employee Lifecycle Care Program

LG Energy Solution offers many programs to support employees' families and friends through seasonal activities.

Family and Friends Invitation Events

Every Saturday, we open 'Entral Park' to employees' families. We also offer an employee office tour where families can directly observe and experience the workplace. These family invitation programs encourage and motivate employees, increasing their passion for the organization. On the last Friday evening of each month, in addition to families, we hold a 'Friend's Night' event where employees can invite their friends. The event includes a night tour, performances, and food to enjoy.

On Children's Day (May 5th), we provide various programs, playrooms, performances, and gifts for employees' children, giving them a special day. On Parents' Day (May 8th), we hold an event where we invite parents of overseas employees who are working hard to stabilize overseas subsidiaries. They receive video messages and letters from their children, experience Entral Park, and enjoy major tourist attractions and hotel meals in Yeouido, providing parents with an opportunity to experience firsthand their children's workplace.

Customized programs for family / child life stages

LG Energy Solution offers various programs tailored to each family's life stages and circumstances. During the March admission season, we conduct special lectures for elementary school children to commemorate the new school year, career exploration programs during vacation periods, and family counseling programs. We also support family-friendly events suitable for different situations, such as delivering support gifts to students taking the college entrance exam and hosting family invitation events for children who have taken the exam.

Activities to boost employees' passion and energy

To motivate employees' energy and morale and create an energetic organization, and to also make the workplace enjoyable, we hold parties and contests every seasons (ex. New Year, year-end, each season, Lunar New Year, holidays). One notable activity is the sale of 'Ensol-i' mascot merchandise at LG Energy Solution. In the future, we will continue to support various care and cultural activities for employees.



Family and friends invitation event 'Friend's Night'



External Certifications

LG Energy Solution respects employees' creativity and freedom, values their abilities, and ensures appropriate rewards for their performance. We provide programs to foster employees who can take a leading role in securing corporate transparency and fairness. We actively support employees' career transitions in preparation for an aging society. To create a company where employees want to come to work in the morning, we conduct various activities to maximize their positive experiences. Based on the results of an employee survey in 2022, with a positive response rate of 71% for all items and a satisfaction rate of 79% for excellent satisfaction items, we received certification as a "Great Place to Work" from a US certification organization. We also obtained the "Family-Friendly Company" external certification for 2022 through document screening, on-site inspections, and employee satisfaction surveys, granting us the qualification for three years.

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A Corporate Culture of Diversity, Equity, and Inclusion

LG Energy Solution pursues an organizational culture based on ‘diversity’ that respects 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 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.



Detailed Link to DEI
Policy on the website

Organizational Culture that Respects Diversity

01 Recruiting global talents based on diversity

LG Energy Solution respects diversity of individuals, identified by the characteristics, preferences, and choices of gender, disabilities, nationality, and gender identity. We hire talents from various countries. As of 2022, 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.

02 Attracting and strengthening female talents and leadership

As of 2022, the number of female employees at LG Energy Solution’s business sites in Korea has increased by approximately 106% compared to 2019 (903 employees), reaching 1,850 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.

03 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 2022, the number of employees with disabilities increased from 143 to 185 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

01 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.

02 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.

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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,' LG Energy Solution listens 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.

Six Cultures that Make a "happy workplace"

Let's stop and improve things that hinder performance.
Let's work with a safe and healthy mind and focus on the core tasks!

<p>1 A meeting and reporting culture that focuses on main issues</p> <p>Stop making fancy reports Meetings/Reports are for discussion and decision-making only. ※ Share meeting materials in advance and show up prepared</p>	<p>4 A positive culture full of gratitude and praise</p> <p>Tell how you feel thru LGCynergy Use a sandwich speech (Praise - Honest Feedback - Encouragement) Encourage meaningful failure</p>
<p>2 A flexible culture that focuses on performance</p> <p>Work at the most efficient place and time (Feat. Flextime, Remote work system)</p>	<p>5 A happy work culture that caters to the health and mind</p> <p>Focus when working, then take complete rest</p>
<p>3 A horizontal culture that calls by 'Nim'</p> <p>Everyone, regardless of rank and age, must be addressed with "Nim" at the end of the name</p>	<p>6 A culture of sharing love with our neighbors</p> <p>Active support for volunteer activities</p>

01 EnTalk - a hotline between employees and the CEO

We operate 'EnTalk,' a hotline channel that allows employees to directly voice their concerns to the CEO. Since its establishment in November 2021 and as of May 2023, a total of 1,161 improvement ideas have been posted, and various systems have been adopted and implemented through EnTalk to enhance employee work satisfaction, such as infertility leave and treatment cost support and on-site company daycare centers.

02 Junior Boar

One representative is selected for each responsible organization (a total of 180 representatives) as a 'Change Agent,' and we hold monthly meetings with section representatives and the CEO to incorporate improvement ideas into the field. Major decisions related to organizational culture, including the Six Major Challenges, leadership development, clear roles and responsibilities (R&R), employee growth support, and IT system improvements, are largely made based on the opinions of the Junior Board.

03 CEO Townhall Meeting

We conduct CEO Town Hall Meetings, a time for real-time communication and interaction between the CEO and employees. Town Hall Meetings, held for all employees, take place at the headquarter, in Ochang and the Daejeon business sites in Korea, and at the China, Poland, and US subsidiaries overseas.



'EnTalk,' the Hotline Channel

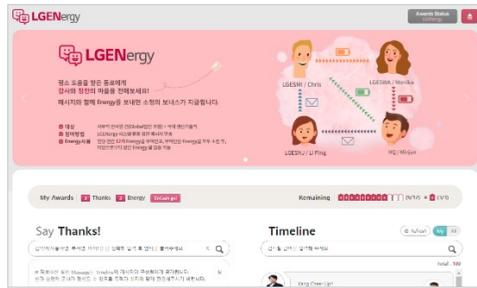


CEO Town Hall Meetings

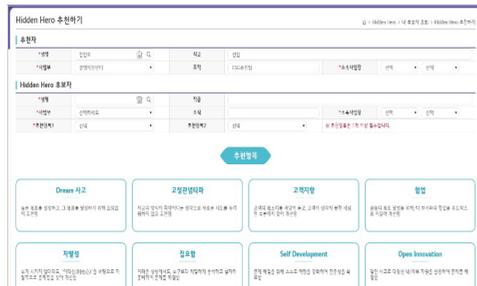
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04 LGEnergy & Hidden Hero

As part of the six major challenges of organizational culture, LG Energy Solution operates the compliment and encouragement platform called 'LGEnergy,' aiming to foster a positive culture overflowing with appreciation and compliments. It serves as a communication channel where LG Energy Solution members can praise and express gratitude to each other and give and receive small bonuses. Through LGEnergy, employees can thank the colleague who suggested ideas even outside their own work, willingly shared knowledge and provided assistance, and elevated the values of the team and the company. In 2022 alone, approximately 15,000 Korea and Global employees exchanged over 167,000 EEnergy (compliments and gratitude), creating an organizational atmosphere filled with appreciation and compliments. Also, through our monthly Hidden Hero program, twelve incidents in 2022, and a total of 256 employees by July 2023 have been mentioned for their Dream Thinking / volunteering attitude / breaking stereotypes / customer-friendliness / tenacity / innovativeness / cooperation / self-help. We are creating a positive work culture through this monthly Hidden Hero program.



Praise and Encouragement Platform 'LGEnergy'



Hidden Hero

05 Culture Diagnosis and Development

We conduct semi-annual surveys on the six major challenges of organizational culture targeting both domestic and international office staff. The results are shared with all employees, and individual reports are sent to department leaders. In 2022, we produced and distributed the 'Meeting and Reporting Guide' and the 'Remote Work Guide' based on the survey results of all leaders within the company. The Meeting and Reporting Guide were displayed in all meeting rooms. In the second half of the year, we included questions about the level of improvement in the survey and incorporated the results into the personal evaluations of department leaders. We also operate 17 customized programs to address organizational issues.

06 Free and Flexible Environment

To allow employees to work freely at their desired locations and times, we have secured and provided over 80 shared offices nationwide. In this vein, we operate flexible work systems in 82 locations (72 in the metropolitan area, 2 in Ochang / Cheongju, 5 in Daejeon / Sejong, 1 in Gumi, and 2 in Jeju).

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Corporate Governance

Under the principle of transparent governance structure, LG Energy Solution has established the “Corporate Governance Charter” and “Composition and Activities of the Board of Directors and its Committees.” The establishment and operation of corporate governance follow the principles and procedures specified in these principles. Furthermore, relevant information and the Corporate Governance Charter are disclosed through our website and other channels.

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Composition and Operation of the Board of Directors

To implement a stable and sound governance structure, LG Energy Solution operates the Board of Directors with a ratio of more than 50% being external directors (currently 4 out of 7 directors, accounting for 57%). External directors with diverse expertise and backgrounds participate as Board member to enhance efficiency. Independent, external directors exercise oversight roles and supervise on business matters.

Members of the Board



Name	Kwon, Young Soo	Gender	Male
Roles within the Board	Chairperson of the BOD / Inside Director		
Term	November 2021 - March 2024		
Key Experiences	Vice Chairman, CEO of LG Energy Solution Former Vice Chairman, COO of LG Corp		



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



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	External Director / Chairperson of the ESG Committee		
Term	June 2021 - March 2024		
Key Experiences	Former CEO of K Auction Former President, Doosan Fuel Cell Business Unit		



Name	Yeo, Mee Sook	Gender	Female
Roles within the Board	External Director / Chairperson of the Internal Transaction Committee		
Term	June 2021 - March 2024		
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	External Director / Chairperson of the Audit Committee		
Term	June 2021 - March 2024		
Key Experiences	Professor, Korea University Business School Vice Chairman, Korean Association for Accounting and Policy		



Name	Park, Jin Kyu	Gender	Male
Roles within the Board	External Director / Chairperson of the Nominating Committee for External Director Candidates		
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		

Corporate Governance

Until October 2021, LG Energy Solution has separated the role of CEO and chairperson of the Board. However, considering the increased uncertainty in the domestic and international business environment, such as global trade disputes, supply chain instability, and raw material price hikes, and recognizing the high level of expertise required for our business, CEO Kwon Young Soo concurrently holds the position as Chairperson of the Board since November 1, 2021. Currently, we have established and operate the Audit Committee, Internal Transaction Committee, ESG Committee, Nominating Committee for External Director Candidates, and Management Committee within the Board of Directors to ensure specialized and objective deliberations on individual agenda items. All committees, except for the Management Committee, are chaired by external directors.

Composition of External Directors

According to Article 27 of the Articles of Incorporation, the Board of Directors should consist of at least three but no more than seven directors, with a majority of external directors representing four out of seven directors (approximately 57%). The Board of Directors is composed and operated to ensure a majority of external directors. Moreover, under the principle of “diversity,” which prevents external directors from having a specific common background or representing specific interests, the external directors are selected from various fields related to finance and accounting, law, international trade, and industry professionals. They bring diverse backgrounds and expertise to the Board of Directors for substantive deliberations on agenda items and practical supervision and oversight of the management’s execution of duties.

Organization Chart of the Board of Directors, Committees, and Supporting Departments As of June 2023



Principles for Operating the Board of Directors

Committee-Centric Operation

LG Energy Solution has established and operates five Committees within the Board of Directors: the Audit Committee, Internal Transaction Committee, ESG Committee, Nominating Committee for External Director Candidates, and Management Committee. In addition to the roles and authorities specified by laws and regulations, the specific roles and authorities of each committee are stated in their respective regulations, thereby enhancing the effectiveness, expertise, and independence of the Committees within the Board. The Board is held quarterly in principle, however, special Board meetings are held when necessary. In 2022, total ten Board meetings were held; 30 agenda had been approved, 13 agenda have been reported, the attendance rate reaching 100%.

Appointing External Directors with Business-related Expertise

Candidates for external directors are selected through a rigorous process, including interviews and preliminary screenings, to ensure that the most suitable talents are chosen. Furthermore, to enhance the expertise of the Board, there is active provision of information on management decision-making related to external directors, and pre-explanation sessions are conducted before each board meeting to support the best decision-making. In addition, to increase the understanding of LG Energy Solution, regular reports on major business updates are provided to the external directors, and periodic education is conducted for the Audit Committee members, particularly on the internal accounting control system.

Enhancing the Expertise and Diversity

LG Energy Solution adheres to the “diversity principle” to avoid having external directors of a common specific background or representing specific interests. On April 24, 2023, the ESG Committee approved the Guidelines for Expertise and Diversity of the Board of Directors, which ensures compliance with regulations for securing expertise and diversity within the Board. Additionally, from July 3 to July 9, 2022, a North America site tour was conducted for the Board and committee members to visit local production subsidiaries, factories, and customer facilities, aiming to enhance their industry-specific knowledge.

Corporate Governance

Evaluation of External Directors

To ensure fairness, the evaluation of external directors is conducted by considering quantitative and qualitative results. The BOD secretariat and HR department review the attendance rate, the thoroughness of opinions put forth during the meetings, and effectiveness of their advisory. For the Audit Committee members, the evaluation includes an assessment of their contribution to internal control and internal monitoring system for financial risks. These evaluations are conducted regularly according to internal standards. As stated by the commercial Act, (re) appoint of external directors must undergo annual evaluation. Based on the results, the Nominating Committee recommends candidates to the General Meeting of Shareholders.

Board Skill Matrix

Criteria	Kwon Young-soo	Kwon Bong-seok	Lee Chang-sil	Shinn Mee-nam	Yeo Mi-suk	Han Seung-soo	Park Jin-kyu
Competencies	Leadership	●	●	●	●	●	●
	CEO Experience	●	●		●		
	Global	●	●	●	●		●
	Finance / Accounting			●		●	
	Industry	●	●	●	●		●
	Policy / Administration					●	●
	R&D				●		
Diversity	Legal				●		
	Year	2021	2022	2020	2021	2021	2021
	Autonomy				●	●	●
	Age	66	60	59	62	57	53
	Nationality	Korea	Korea	Korea	Korea	Korea	Korea
Gender	Male	Male	Male	Female	Female	Male	Male

Committees within the Board

Audit Committee

The Audit Committee consists entirely of external directors to ensure independence. According to the Audit Committee regulations, it performs audits on accounting and operational matters, performance of directors' duties, demands reports on business operations, investigates the company's business and financial status, and receives reports on the status of external audits. Additionally, the Audit Committee fulfills its role in internal control. To enhance the expertise of the Committee members, special training was conducted in collaboration with external accounting firms.

Nominating Committee for External Director Candidates

To ensure fairness in candidate selection, the Nominating Committee for External Director Candidates consists of three members, two of whom are external directors. The Chairman of the Committee is selected among the external directors, and the remaining Committee members are appointed as non-executive directors. The Committee recommends external director candidates who align with the interests of shareholders and other stakeholder who possesses expertise and capabilities. Particularly, the Committee ensures there is no discrimination based on factors such as gender, nationality, or race.

Internal Transaction Committee

The Internal Transaction Committee deliberates on transactions with major shareholders and related parties as stipulated by the Commercial Act, transactions subject to regulations on preventing personal gain under the Fair Trade Act, and other internal transactions requiring approval by the Board of Directors according to relevant laws and regulations. The Committee consists of four members, with three of them being external directors, and the Chairperson of the Committee is appointed among the external directors unless there are special circumstances.

Management Committee

The Management Committee deliberates on management matters related to our financing and daily operations within the approved borrowing limit, including bond issuance, establishment or closure of branches, and appointments or terminations of executives.

ESG Committee

The ESG Committee establishes basic policies and strategies for ESG areas such as environment, safety, social responsibility, customer value, shareholder value, and governance. It deliberates on medium to long-term objectives. As of June 2023, the ESG Committee consists of five members, with four members being external directors (excluding the Chairman of the Committee unless there are special circumstances) to ensure operational independence.

Year	Round	Date	Attendance / Quorum	Agenda		Type
				Type	Content	
2022	1	March 17	5/5	Reporting	ESG management direction and plan	Reported
	2	October 24	3/4	Reporting	2022 ESG progress check	Reported
2023	1	April 24	5/5	Approval	ESG Guideline and Corporate Governance Charter	Approved
				Reporting	2023 ESG management direction and plan	Reported

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Shinn, Mee Nam
Chairperson / External Director

Just a few years ago, ESG management was seen as a quality that is ‘good to have,’ but now it has become clear that it is a ‘must-have.’ As Chairperson of the ESG Committee, it makes me grow a sense of responsibility. To summarize, ESG should be implemented by grasping the 4Cs: Contribution, Continuity, Co-relation / Coordination, and Capitalization.

LG Energy Solution should recognize that the company benefits from climate change. First, it means that we must consider the responsibilities that follow in a sincere manner by having CONTRIBUTION plans. Second, ESG management requires long-term plans and strategies. We must develop detailed plans and implement them diligently based on CONTINUITY; this is also important in demonstrating the sincerity of our company. Third, CO-relation or COORDINATION among various stakeholders and differing issues must be prioritized and optimized. Nowadays, every business decision is intertwined with ESG. As a global company, we must focus on becoming green while extending our outreach to other social dimensions such as DEI, procurement, and suppliers. It may not be easy, but we need to raise our business standards across all business sites and the entire supply chain by adopting the strictest regulations among the countries by setting priorities followed by clear implementation plans. Last but not least, CAPITALIZATION will always be of the essence for a business. LG Energy Solution should explore areas that can be newly developed and commercialized such as by utilizing the voluntary carbon market, ESS, and end-of-life batteries.

We must embrace our leadership role and take responsibility for ESG management. As ESG Committee Chairperson, I will help enhance the governance of our company and ensure that Board members continue to raise our expertise to stand on par with the excellent global companies in battery business and ESG management.



Han, Seung Soo
External Director

Under the previous system of shareholder capitalism, corporate social responsibility (CSR) activities often conflicted with the company’s financial value generation. However, the rise of stakeholder capitalism, which emphasizes the interests of various stakeholders alongside the shareholders, has brought about a significant paradigm shift. ESG management is now recognized as a driver of social value directly linked to profit generation. ESG influences a company’s capital procurement costs through increased corporate sustainability and social trust, customer loyalty, and talent attraction and retention.

While it may take time for ESG management to derive financial value since measuring ESG and relevant KPIs remains a complex task, many efforts are being made to develop and standardize performance indicators. These efforts will likely overcome the current measurement challenge, and we will be required to provide reliable and standardized ESG-related information to investors and other stakeholders; this information will be asked to demonstrate the relevance of ESG activities to corporate value. The once-popular perception that the direct link between ESG and financial value is inconclusive will naturally fade. The establishment of ESG disclosure standards led by organizations like the ISSB is set to accelerate this trend further, helping draw a more direct link between sustainability and future value.

Currently, LG Energy Solution is rapidly growing in overseas markets, particularly in the US, Europe, and China. Once we establish and demonstrate the visible connection between ESG and financial performance, we will be able to be an even more attractive company in the capital market. The battery industry, in particular, will be an exemplary industry of green profit if we consider the potential of the circular economy.

As a leading battery business, LG Energy Solution should lead in setting industry standards for performing, measuring, evaluating, and disclosing ESG progress.

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Yeo, Mee Sook
External Director

As a global leader from its inception, LG Energy Solution is responsible for setting the trend in ESG management. The currently increasing regulations should not be considered risks but instruments that can help the company grow. LG Energy Solution can begin by closely monitoring the policies and then responding proactively by establishing and meeting the requirements of different countries. What is important is that ESG should not be seen as mere decoration but as a foundational structure or frame as in architecture. ESG management is a foundation of business that deserves our highest attention from the early build-up stage. Just as a good solid building requires a strong foundation, I suggest LG Energy Solution adopt ESG as the core basis of growth.

In April, the ESG Committee agreed to pass a corporate policy on compliance programs where the ESG Committee can oversee and conduct regular monitoring. It was a clear defining moment for the Committee to oversee compliance issues by adopting a stricter standard to enhance the legality of the company's business operations and functions. It is customary to treat legal matters in a passive, reactionary manner. By strengthening the compliance mechanism, LG Energy Solution has advanced its system to the next level, preventing regulatory risk with more stringent standards and supervision.

The ESG Committee is expected to play a vital role in improving corporate transparency, a key compliance aspect. We will make every effort to ensure that the matters discussed at the ESG Committee are reported to the Board and subsequently disclosed transparently. Although it has been less than two years since our public listing, I earnestly hope LG Energy Solution's diligent efforts in promoting and leading ESG management.



Park, Jin Kyu
External Director

The global market is undergoing significant changes, driven by increased demands for sustainability that is around green, social responsibility, and good governance. The US and the EU are quickly institutionalizing these requirements into laws and international regulations. These national-level mandatory requirements may be a part of strategies to maximize national interests, however, it is nonetheless true that ESG is as both a challenge and an opportunity.

For LG Energy Solution, these changes in the global business environment affect nearly all sectors of our business. A clear example is the US Inflation Reduction Act (IRA), which awaits the decision on the subsidy level imposing as a threat that could jeopardize LG Energy Solution in the US market if we fail to meet their requirements. As most of our battery materials are sourced from China, meeting the IRA requirements becomes crucial for securing access to subsidies and a stable supply chain.

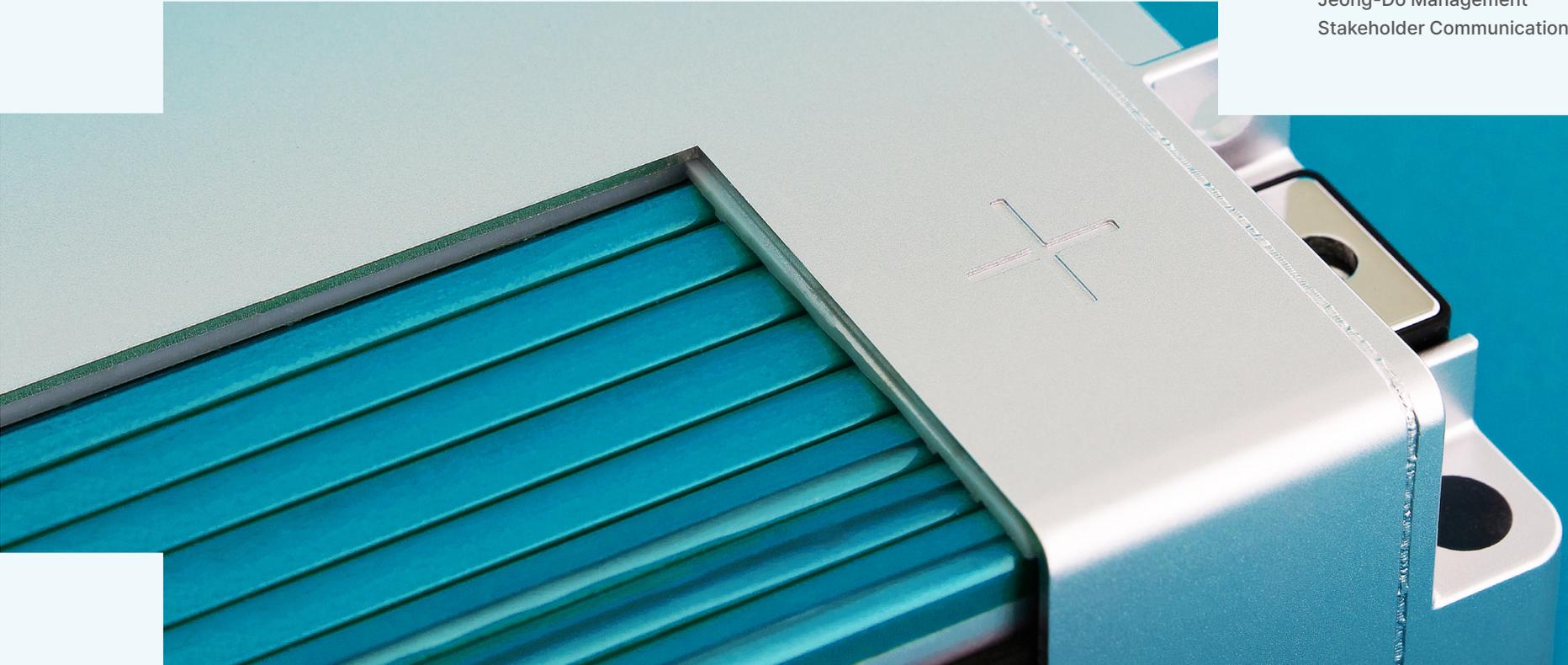
On the other hand, ESG management can be an opportunity that can be utilized to manage risks and retain competitiveness. However, doing so requires strategies. The IRA sets strict criteria for supply chain, granting subsidies only to those that comply. It means ensuring our compliance becomes an important task. We need to transition by moving away from our traditional business value that focus on production and sales and develop a working environment and an organization fit to practice ESG. Supplier engagement is also becoming increasingly important, and we must prepare our suppliers to participate in the ESG initiatives. Only companies that respond proactively and timely to the evolving business standard will survive and remain competitive.



ESG MANAGEMENT

As our philosophy of “Plus for Minus, Minus for Plus” reflects, we will create a better future by reducing unnecessary elements and adding necessary ones in each area of environment, society, and governance. Flowing naturally like the Plus for Minus, Minus for Plus concept, we will fearlessly embrace new attempts and possibilities to build a green battery ecosystem where everyone shares positive energy.

- E** Environmental, Health and Safety (EH&S)
 - Safety and Health Management
 - Employee Health Management
 - Environmental Compliance Management
 - Air Pollution Management
 - Water Resource Management
 - Waste Management
 - Hazardous Substance Management
 - Biodiversity Conservation
- S** Talent Management and Training
 - Labor Relations
 - Fair Trade
 - Shared Growth
 - Information Security
 - Corporate Social Responsibility
- G** Risk Management
 - Compensation Policy
 - Shareholder Policy
 - Jeong-Do Management
 - Stakeholder Communication



Environmental Health and Safety (EH&S)

LG Energy Solution strives to balance our business competitiveness and environmental health and safety (EH&S) capability by focusing on the following key tasks.

Environmental Health and Safety (EH&S) Governance

The company-wide Environmental Health and Safety Committee consists of EH&S executives responsible for environmental health and safety (EH&S) decision-making. The Committee meets monthly and discusses key issues, progress on priority initiatives, and future plans, providing leadership in setting EH&S policies and strengthening responsible management. Additionally, we have site-level “Joint Labor-Management Occupational Safety and Health Committee” composed of equal representation of employee and employer representatives that discuss and decide on major occupational safety and health issues. Furthermore, we take responsibility for preventing risks that may occur at workplaces and manage employee health. Regular consultations and joint inspections are conducted with suppliers and subcontractors to listen to improvement suggestions from workers and identify and address risks in the workplace. Moreover, LG Energy Solution shares best practices in EH&S through employee workshops and discusses improvement measures.

Ensuring Absolute Safety 

- Enhancing Employee Safety Awareness
- Improving Facility and Process Safety
- Preventing Fire and Explosions
- Developing the Systems and Frameworks

Proactive Health Management 

- Improving Working Environment
- Treatment for Employees with Medical Symptoms
- Improvement Programs for Employee Health

Continuous Environmental Improvement 

- Timely Response to Local / Global Regulations and Issues
- Reducing Pollutants
- Increasing Resource Efficiency
- Biodiversity Conservation

Environmental Health and Safety Management

LG Energy Solution takes systematic approach to EH&S management by following the standards of ISO 14001 (Environmental Management System) and ISO 45001 (Occupational Health and Safety Management System). To demonstrate our commitment, the “Environmental Health and Safety Policy” has been established. Based on this policy, standards, environmental health and safety regulations, and operational guidelines are developed for flexible site-specific operating procedures. Furthermore, proactive management activities at the field level and organization-specific initiatives are carried out to prevent accidents. Our employee evaluation reflects environmental health and safety incidents, thereby improving awareness and execution.

* All 9 locations at Ochang, Daejeon, Gwacheon, Magok, LGESNJ, LGESNA, LGESNB, LGESWA, LGESMI have been certified by ISO14001 and ISO 45001.

EH&S Policy 1

LG Energy Solution publicly announces our commitment to environmental health and safety management, which provides consistent direction for EH&S rules to establish a foundation for optimized management.

EH&S Standards 2

The Standards define the basic rules for EH&S management throughout the company

EH&S Guidelines 3

Requirements, detailed methods, and unified procedures of each EH&S Standard are outlined.

EH&S Procedures 4

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.

EH&S Policy

At LG Energy Solution, we recognize that safety, health, and environment (EH&S) are fundamental to securing differentiated competitiveness. For continuous improvement on EH&S performance, LG Energy Solution will be committed to implementing the following 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 operation life cycle to supply environmentally-friendly products and services.
- We will provide a safe, healthy work environment and ensure the principle-adhering corporate culture.
- As our social responsibility, we will support suppliers and local communities to improve their EH&S practices.
- We will communicate our EH&S policies and programs with stakeholders.

Safety and Health Management

Environmental Safety System

Regulation and System Improvement

We have revised the regulations related to safety and health to a systematic safety programs to guide the practices of relevant departments and suppliers. We have also enhanced the safety operation permit process and the management criteria for in-house and suppliers. We have established and updated technical guidelines for safety and health-related facilities. These guidelines are reviewed in advance to ensure that essential requirements are reflected in the design and operations process.

Safety and Health Management System Diagnosis

LG Energy Solution periodically evaluates whether each workplace systematically complies with safety and health objectives and management regulations. In case of any issues, special diagnostics are conducted to confirm compliance with global regulations and country-specific laws and to support improvements in identified risk factors.

Regular Diagnosis

Management System, Process Safety, Facility and Operation Safety, Industrial Health, Fire Safety and Hazardous Materials, and Environmental Field

Planning Diagnosis

Supplier's Safety Assessment, Facility Safety Management, Emergency Response System, Pre-Operation Environmental Safety Inspection, Compliance Inspection.

Special Diagnosis

Special diagnoses are conducted at business sites where serious accidents have occurred or where there is a high possibility of such accidents.

A Company-wide Environmentally-safe Smart Factory

LG Energy Solution aims to construct an integrated, environmentally-safe smart factories across all business locations to create a safer and healthier workplace. This smart factory will enable real-time remote monitoring of various potential hazards, such as abnormal temperature / pressure conditions and hazardous chemical leaks, allowing for early identification of unusual situations and immediate response capabilities. Furthermore, the smart factory has an automatic control system equipped to prevent deviations from normal ranges and mitigate damages effectively.

Instilling an Environmental Safety Mindset

The most important aspect of safety and health management is employees' safety awareness. LG Energy Solution will improve this by identifying 'near-miss incidents,' improving risk factors, and sharing reports and videos of exemplary cases at our internal social media platform every month. Additionally, these reports and videos are utilized for risk prediction training.

Safety Education and Progress Sharing Events

LG Energy Solution operates beyond the required safety education at each business site to enhance employees' safety awareness using experience-based learning centers. Additionally, we conduct compliance education to strengthen competency in safety and health. In 2022, we provided various education sessions for all employees, including an introduction and response to Serious Accidents Punishment Act, environmental safety accident classification and reporting systems, chemical substance regulations, and compliance guidelines for employees handling chemical substances. Every year, through our progress sharing events, employees gather to share environmental safety improvement, learning the best practices to apply at their own sites. We also reward exemplary cases and encourage their applications in other locations. Employees from overseas subsidiaries' environmental safety departments also participate, facilitating exchanges within LG Energy Solution and capacity building.

Employee Environmental Safety Training

Tailored Programs for Employees by Job Functions and Positions	Programs for All 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

Compliance Training on Safety and Health in 2022

Courses Offered	1	Introduction to Serious Accidents Punishment Act
	2	Amendments and Reporting Procedures for Environmental Safety
	3	Compliance Guidelines for Employees Handling Chemical Substances



Environmental Safety Training Program

Employee Health Management

Environmental Safety System

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 the extent of exposure to noise, dust, and other workplace factors that affect employee health. The centers also quantitatively evaluate the musculoskeletal burden of work and continuously improving the work environment. Additionally, LG Energy Solution operates a “Green Mind Counseling Room” to create an environment where employees can manage their physical and mental health. LG Energy Solution will continuously enhance our capacity for safety and health management by promoting the health of our employees.



Health clinics at each business site



Annual health checkups are offered to employees aged 35 and above with 5 or more years of employment.



Counseling rooms at each business site are provided where employees can receive professional counseling and referral to a specialized hospital.

Environmental Compliance Management

LG Energy Solution identifies compliance risks related to environmental laws and conducts regular preventive activities.

Environmental Compliance

LG Energy Solution selects and manages preventive measures for a total of 58 environmental risks. These activities are categorized into five processes: ① Regulations / Policies, ② Education, ③ Inspections / Surveys, ④ Regulatory Trend Analysis, and ⑤ System Establishment. In particular, LG Energy Solution continuously monitors areas such as air / water quality, waste, soil, and chemicals, which have a high impact on the environment due to the nature of LG Energy Solution’s industry and product characteristics.

Risk Areas	Risks 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
	[Exceeding Emission Standards] The act of emitting pollutants exceeding the legally permissible limits.	· Water Environment Conservation Act
	[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.	

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

Environmental Compliance Management

Management Area	Related Risks and Definitions	Related Regulations
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.	<ul style="list-style-type: none"> · 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.	<ul style="list-style-type: none"> · 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.

In addition, we are pursuing the establishment of policy trend sensing and system to respond to ESG regulations centered on Europe and the US such as EU Battery Regulation, CSRD, CSDDD, IRA, and CRMA.

Environmental Impact Assessment

LG Energy Solution regularly conducts a six-step environmental impact assessment to evaluate and systematically manage actual and potential impacts of our business activities.

Management Area	Environmental Impact Assessment Activity
Step 1	Selection of Environmental Impact Assessment Targets 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, occasional assessments are conducted during initial assessments due to new establishments or changes in production processes, facilities, or processes.
Step 2	Identification of Environmental Impacts A thorough analysis is conducted to identify all environmental impact factors directly and indirectly related to business activities, categorized into production and non-production activities.
Step 3	Identification of Environmental Issues Material balance sheets are prepared for each step from raw material intake to product shipment. We identify and quantify the environmental impacts that may occur at each process stage using the material balance sheet.
Step 4	Environmental Impact Assessment Environmental impact assessments are conducted for identified environmental impact factors. Severity and likelihood are quantified, and improvement measures are derived to minimize environmental impacts based on these assessments.
Step 5	Review of Assessment Results The adequacy of assessment results and improvement measures is reviewed, and reassessments are conducted if necessary.
Step 6	Incorporation of Objectives and Post Management Results derived from previous steps are incorporated into objectives, and improvement plans are established and followed up with post management. Furthermore, by sharing such results among members, awareness of environmental impact is enhanced.

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 Safety and Health Management
 Employee Health Management
 Environmental Compliance Management
 Air Pollution Management
 Water Resource Management
 Waste Management
 Hazardous Substance Management
 Biodiversity Conservation

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Air Pollution Management

LG Energy Solution focuses on minimizing the generation of pollutants by managing and disclosing the amount of air pollutants.

Air Pollutant Management System

For air pollutants, LG Energy Solution establishes and manages internal management standards that are more stringent than legal emission limits. Regular voluntary inspections are conducted. We have also replaced facility boilers with low nitrogen oxide (NOx) burners to reduce its emissions. Efforts to minimize air pollutant emissions include establishing VOCs monitoring system, improving A/C Tower facilities and supply / exhaust systems, and various management efforts.

01 Minimizing Air Pollutions by Complying with Internal Management Standards

Type	Unit	Legal Standard	Internal Management Standard	Emission Level	
				Emission Concentration*	Compared to Legal standard(%)
Dust	mg/m ³	30 or less	10 or less	0.3	1.1
Sulfur Compounds	ppm	70 or less	3 or less	1.6	2.2
Nitrogen Oxides	ppm	150 or less	5 or less	1.0	0.6

* Emission concentrations based on the standards of the Ochang Energy Plant in Korea.

02 Reducing Air Pollution

LG Energy Solution conducts the following activities to reduce air pollutant emissions through (1) on-site inspections and (2) facility operation.

Activities to Reduce Air Pollutant Emissions

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)
- Regular inspections of wet scrubbers
 - pH of treated water, spray nozzle, packing, internal contamination and others.

Water Resource Management

LG Energy Solution has a risk management system for water resources to improve our usage and management level.

Managing Water Usage

Water Management System

To secure water resources for business, LG Energy Solution has established “Environmental Impact Assessment Regulations” to analyze the possibility of supplying dedicated water before installing facilities at the site and responding to various water-related laws and regulations risks. In addition, we utilize the Aqueduct Program made by WRI (World Resource Institute) throughout the global production facilities to analyze the water stress, indicating the prospect of water scarcity in each region.

The analysis of water stress risks for global sites in 2030 and 2040 identified that the US sites (LGESMI, Ultium Cells) are at a high level, while domestic sites (Ochang Energy Plant and Ochang Energy Plant 2) and the Poland site (LGESWA) are at medium to high level. In response, we have established the “Environmental Operation Management Regulations,” which state that the head of the water usage management department should identify water usage of each source and monitor the major water usage areas and water consumption through the EUM.

Results of Water Stress Analysis

Low	Low to Medium	Medium to High	High	Extremely High
LGESNJ		Ochang Energy Plant	LGESMI	
LGESNA		Ochang Energy Plant 2	Ultium Cells	
LGESNB		LGESWA		



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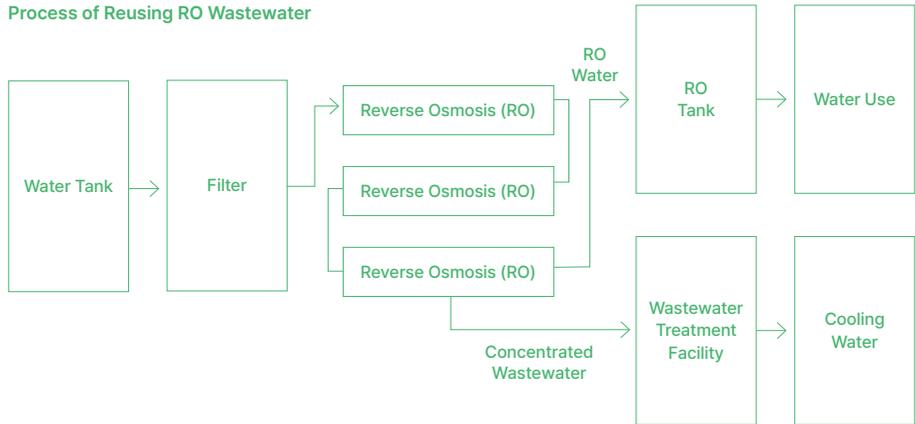
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Water Resource Management

Reducing Water Usage

Reducing the use of water at the facilities is critical to respond to water risks and secure sustainable water supply. LG Energy Solution is engaged in water conservation efforts, such as optimizing the management of the chilled water system by increasing the heat exchange efficiency through the pipes of the chiller and cooling tower, and reusing the concentrated wastewater generated from the reverse osmosis (RO) system as a coolant at the cooling tower.

Process of Reusing RO Wastewater



Managing Wastewater

Setting Goals to Reduce Water Pollution

LG Energy Solution establishes internal water quality management standards that are stricter than legal limits, aiming for a drastic reduction in water pollution. A thorough monitoring is conducted to achieve a reduction in water pollution and wastewater discharge. Various efforts, including the improvement of the current wastewater treatment systems and managing water pollutants, are made to minimize the environmental impact caused by wastewater generation.

Type	Unit	Legal Standard	Internal Management Standard	Emission Level	
				Emission Concentration*	Compared to Legal Standard(%)
BOD	mg/L	100 or less	50 or less	9.3	9.3
SS	mg/L	100 or less	50 or less	8.8	8.8
TOC	mg/L	60 or less	30 or less	13.3	22.2

* Emission concentrations based on the standards of the Ochang Energy Plant in Korea

Reducing and Managing Wastewaters

LG Energy Solution operates our wastewater treatment facilities and shares treatment facilities. We also conduct daily inspections of the entire plant's total wastewater generation to minimize the wastewater's environmental impact. We run a water quality monitoring system where we conduct regular tests of our water pollution items registered in the wastewater discharge based on the standardized test, or commission an external monitoring agency to evaluate based on the environmental assessment criteria at least once a year. Through these efforts, LG Energy Solution identifies areas for improvement and takes proactive measures to reduce pollutants and discharge volume. By improving wastewater treatment systems for rechargeable battery manufacturing and industrial facilities, cleaning and condensing waste gases and dust, and reusing cooling water for RO wastewater, we aim to minimize water usage and our environmental impact.

Waste Management

Resource scarcity and waste issues are becoming severe worldwide. As a result, the transition to a resource circulation system that increases resource reuse and recycling rates to minimize the consumption of natural resources is recognized as an essential element of ESG management. LG Energy Solution is promoting the conversion to resource circulation system by minimizing waste incineration and landfilling, promoting the recycling of waste generated at our facilities. Furthermore, LG Energy Solution is committed to thoroughly managing battery waste by establishing waste information and management systems, operating recovery facilities, and developing innovative technologies. We prioritize environmental protection and resource recycling and aim to provide exemplary battery waste management practices and sustainable energy solutions for future generations.

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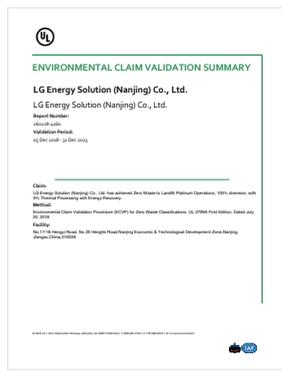
Reducing Waste through Enhanced Process Efficiency

The total amount of waste increased by approximately 6% in 2021 to 153,654 tons due to increased production in terms of waste per ton, approximately 7% as reduced to 340kg/ton through process efficiency enhancements. Efforts are being made to transition waste incineration into recycling. LG Energy Solution will continue to promote ongoing transitions to a resource circulation system through waste reduction and recycling.

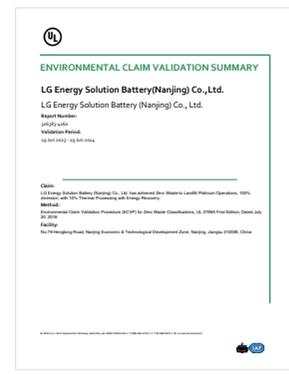


Landfill Waste Reduction Certifications

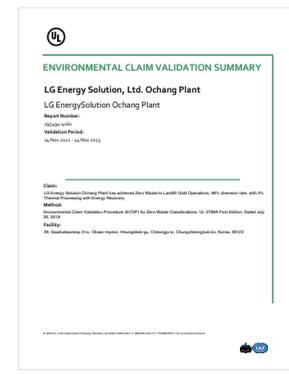
Underwriters Laboratories (UL) certification: Nanjing facility in China (Platinum), Ochang Energy Plant facility in Korea (Gold)



Certification for LGESNJ in China (Platinum)



Certification for LGESNA in China (Platinum)



Certification for Ochang Energy Plant facility in Korea (Gold)

Diversified Waste Reduction Programs

Landfill Waste Reduction

LG Energy Solution promotes the recycling of waste generated at our facilities to achieve “Zero Waste To Landfill.” The facilities in Nanjing, China, have obtained platinum-grade certification from Underwriters Laboratories (UL), a global certification organization, for achieving a 100% resource circulation rate. The Ochang Energy Plant in Korea has obtained gold-grade certification for achieving a resource circulation rate of over 90%. The US facility has been certified as “Landfill Zero” since 2018 by the National Sanitation Foundation (NSF) for landfill waste being less than 1% of the total waste.

Increasing Waste Incineration

The facilities in Nanjing, China, have developed technologies to handle anode wastewater generated during the production process of batteries, improving the operation conditions of the in-house wastewater treatment plant (e.g., adjusting coagulant mixing). Furthermore, the effective removal of substances such as graphite from the anode wastewater significantly reduced the amount of waste from incineration.

Reducing Hazardous Waste

The facilities in Nanjing, China, have developed innovative technologies to recycle the solvent (NMP) in electrode materials, which accounts for approximately 85% of hazardous waste. Through Lab-Scale Tests and other methods, the effectiveness of the film evaporation technology has been verified, increasing the NMP recycling rate from the previous 80% to 97%. Improvements in waste management are being pursued at global facilities, including those in Korea, Poland, and the US.

Landfill Waste Certification by Underwriters Laboratories (UL)

Established in the US in 1894, the UL is an international safety certification testing organization that provides services in developing standards and certifying product safety. Landfill Zero Certification is granted based on the ratio of waste generated at a facility that is reused as resources, with certifications starting from 80% or more.

- Grade by Ratio: Silver (90-94%), Gold (95-99%), Platinum (100%)

Appendix

Hazardous Substance Management

Starting from Europe, product environmental regulations and customers' environmental management requirements are being strengthened in countries, thus increasing the importance of environmental management. LG Energy Solution continuously monitors changing environmental regulations and strives to meet them, to provide our customers with green products. To achieve this, LG Energy Solution applies sustainable supply chain management guidelines internally and for suppliers, enhancing the management of hazardous substances in the supply chain and selecting materials that comply with regulations from the raw material stage.

Managing Hazardous Substances for Products

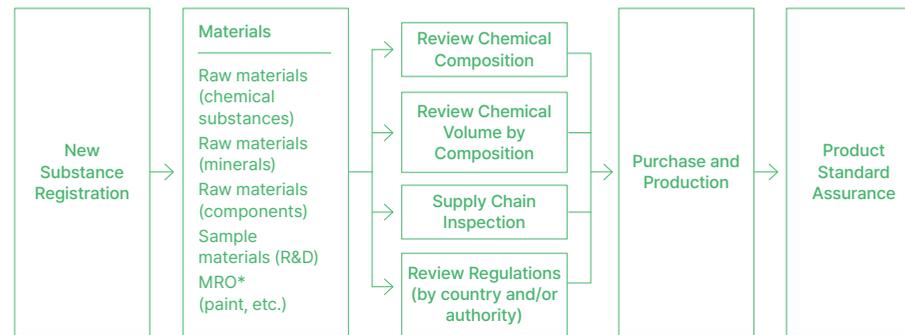
LG Energy Solution obtains and verifies material information of raw and auxiliary materials used through the Chemical Assurance and Regulation Management System (CHARMs) 2.0, an integrated chemical management system. In addition, to achieve more effective product environmental management, LG Energy Solution plans to introduce new Hazardous Substance Management System (HSMS) by 2024 to integrate and manage material information from all production sites.

What are Chemical Substances?*

Chemical substances are obtained by artificially reacting elements, compounds, or those that exist naturally, chemically modified, extracted, or refined. Each country ensures the safe use of chemical products by confirming the chemical substances entering the domestic market and obtaining and sharing information necessary for safety, such as their hazardousness, to prevent toxicity accidents and protect public health and the environment. Regulatory authorities in the US, Europe, China, and other countries operate various laws and regulations for registering, evaluating, permitting, and regulating hazardous substances. LG Energy Solution manages them through CHARMs 2.0.

* Source: Chemicals Control Act

Key Functions of CHARMs 2.0



* MRO: Maintenance Repair and Operation procurement

Application Areas of CHARMs 2.0 according to Product Life Cycle

Product Life Cycle	Management Items	Business Activities
Research & Development	Development of eco-friendly products, pre-regulatory reviews (Exporting countries, REACH, RoHS, etc.)	<ul style="list-style-type: none"> Confirmation of chemical composition information Verification of regulated chemical substances Promotion of chemical substance registration
Purchase & Sourcing	Purchase of materials that comply with customer requirements and regulations	<ul style="list-style-type: none"> Review of eco-friendly materials Confirmation of material composition, receipt of eco-friendly supply guarantee certificate Managing suppliers' eco-friendliness
Manufacture	Risk prevention of production discontinuation and worker safety	<ul style="list-style-type: none"> Product component management Information on hazardous substances / chemical composition Inventory traceability
Sales and Distribution	Sale of products that comply with customer requirements and regulations	<ul style="list-style-type: none"> Verification of product compliance with regulations Lead time reduction for product assurance Provision of green products
Services	Communication with customers regarding hazardousness and safety	<ul style="list-style-type: none"> Provision of Product Safety Data Sheets (PSDS) and regulatory assurance certificates Improvement of customer satisfaction

Biodiversity Conservation

Products must be manufactured sustainably to conserve biodiversity, and we should not negatively impact the balance of ecosystems. To this end, LG Energy Solution is working to reduce the consumption of natural capital, returning the resources back to nature.

Biodiversity and Natural Capital



Species Diversity
Refers to the diversity of plant, animal, and microbial species and generally refers to the diversity level of species and taxonomic diversity within a particular region.

Ecosystem Diversity
Refers to the diversity of ecosystems such as deserts, forests, wetlands, mountains, lakes, agricultural land, and the diversity of interactions between all living and non-living components within the ecosystem.

Genetic Diversity
Refers to the variation in genetic characteristics within a species, which refers to different populations within the same species or the genetic variation among individuals within a population.

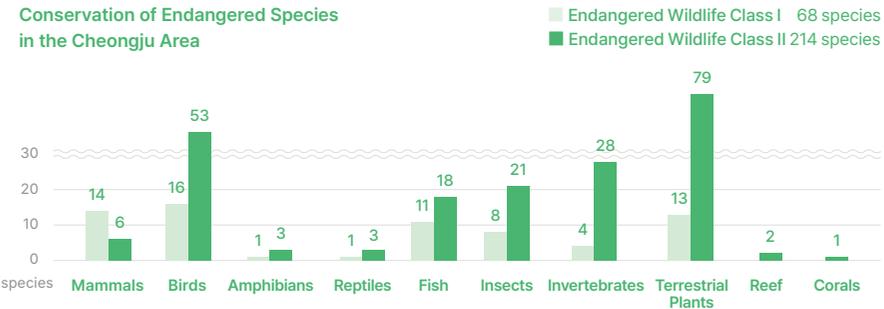
In 1992, Article 2 of the Convention on Biological Diversity was signed by 150 governments at the Earth Summit in Rio de Janeiro. Biodiversity refers to the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part and includes diversity within species, between species, and of ecosystems. In other words, it is a term that collectively refers to the diversity of species on Earth, the diversity of ecosystems in which organisms inhabit, and the diversity of genes possessed by organisms.

Natural Capital refers to the stock of living and non-living goods and services that sustain human life; from an economic perspective of view, it refers to how society and businesses rely on the world's natural assets, such as forests, rivers, and soil for their functioning (National Park Management Division, 2015). The loss of natural capital, such as fisheries resources, water resources, mineral resources, tidal flat sediments, marine energy, and marine landscapes, due to climate change can pose risks that can undermine business operations.

Our Efforts to Conserve Biodiversity

As one of the core ESG strategy tasks, we promote “biodiversity management” as our company-wide efforts. As part of this initiative, we are conserving endangered species in the Cheongju area. In the future, LG Energy Solution plans to collaborate with local environmental agencies, local communities, habitat conservation organizations, and residents to understand the biodiversity in the vicinity of our facilities and the local community and work toward biodiversity conservation.

Conservation of Endangered Species in the Cheongju Area



LG Energy Solution’s Ochang Energy Plant 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 “Muljangungs”) in the Cheongju area. Muljangung 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 Muljangungs and considers the level of human interference, light pollution, and water supply when selecting new habitats for them. Additionally, the successful hibernation of Mulgwanguns is monitored, and 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.

Talent Management and Training

To continuously develop the skills and competitiveness of employees, we provide training programs for all ranks and job positions.

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 to our business goals / strategies based on the HR philosophy of “Creating Value for Customers, Realizing Management Based on Human Dignity” and the talent profile of being “a person equipped with beliefs and execution power in the LG Way.” Starting from the onboarding programs that support the smooth adaptation for new employees, we provide step-by-step support according to leadership / job-specific training system, enabling members to grow into highly competitive talents. We also create systematic and strategic development programs and a self-directed learning environment that reflect members’ life cycles and growth needs.



BTC in North America



BTC in Korea

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.

To recruit essential master’s and doctoral talents for LG Energy Solution’s R&D positions, we select target labs through rigorous verification by the top leaders of R&D organizations and provide company presentations and job-related information. Through these activities, we secure talent pools and operate a special recruitment process that involves inviting applicants to the BTC event, conducting interviews, and completing the recruitment process within approximately one month from the application. This program provides a positive applicant experience and has shown high satisfaction and employment rates, contributing to successful onboarding.

Following the successful recruitment of 80 top-level master’s and doctoral candidates through BTC in 2022, the Battery Tech Conference in San Francisco was held in April 2023, where 40 local Korean-American master’s and doctoral candidates were invited for the event and interview process. In addition, the BTC event held in Seoul in June 2023 included visits to target labs where we met 35 masters and doctoral candidates. We will continue to secure outstanding talents in the battery field.

Assisting New Employees (Onboarding Program)

LG Energy Solution runs a “Day 1 program” that cultivates job performance capabilities and provides the education necessary for company life. Through this process, we instill a sense of belonging and pride in the company, followed by mentoring programs to support a natural adaptation to the organization and job positions. Specifically, for new employees, LG Energy Solution operates talent-oriented programs and experiential programs to enhance their understanding of the organizational culture and business, effectively supporting the new employees’ stable integration within the organization.

Talent Management and Training



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Enhancing Leadership Competencies at Each Stage (Leadership Development Program)

As the company continues to grow, we recognize the importance of cultivating leaders who are committed to fulfilling social responsibilities and roles. To support successful leadership, we have implemented a comprehensive leadership development system at every stage. Our system includes ongoing support for leadership development programs through a variety of methods, including online and offline education, leadership diagnostics, and coaching. We emphasize the importance of a leadership mindset before assuming the position, and then shift our focus to successful role transitions and continuous improvement of leadership competencies. By investing in our leaders, we are confident that we can continue to grow our business while also making a positive impact on society.

Additionally, we identify and systematically develop future business entrepreneurs who possess business execution capabilities and leadership competencies. We support programs such as Global MBA, LG MBA, and degree programs to foster leaders with integrated and strategic thinking skills.

Cultivating Top Experts in Each Field (Job Competency Development Program)

LG Energy Solution is committed to enhancing the job competencies of all employees through our Battery Academy (LBA, LG Battery Academy). LBA is a comprehensive job-specific training program that covers various fields, including production, technology, quality, R&D, procurement, supply chain management, sales, project management, and digital transformation. With over 130 courses available, our employees have access to the latest knowledge and skills to excel in their roles. In addition to LBA, we are dedicated to empowering new talents who join our company and fostering battery experts through the Institute of Battery Technology (IBT). IBT is actively operating, and we plan to expand it to overseas locations to reach even more employees.

Enhancing Global Business Capabilities (Global Competency Development Program)

LG Energy Solution recognizes the importance of cultivating executives and representatives who can lead our global business and contribute directly to achieving results. We have established and operated competency modeling and development systems. These systems are designed to strategically develop our employees' skills and competencies, ensuring that they are equipped to succeed in their roles. In addition, we are committed to embracing members with diverse backgrounds in the global business environment and creating organizational synergy. To achieve this, we conduct foreign language education programs for all employees and programs to enhance understanding of global diversity.

Employee Performance and Compensation

LG Energy Solution operates a performance management system and job competency diagnosis to support organizational goal achievement and member growth. We establish specific goals that are aligned with organizational goals and job competency development, providing regular feedback on performance results. We also conduct year-end evaluations with peer feedback to improve objectivity and fairness of evaluations. Through job competency diagnosis, we promote member-driven enhancement of job expertise, strengthen effective talent management and utilization, and enhance organizational capabilities.

Our compensation system operates based on the principle of performance-oriented HR. We consider external competitiveness and individual performance when determining basic salary, and we support appropriate rewards for members' performance through various variable pay systems.

Institute of Battery Technology (IBT)

An education program of six months was instituted in 2021 to empower new employees globally early on. Education Objective: To provide basic job knowledge and skills and understand standard job contents in the production / technology / quality departments, enabling employees to perform process-based tasks.

Labor Relations

At LG Energy Solution, we recognize the importance of workers and labor unions as important partners in our success. We practice a mutual organizational culture and collective labor-management relations based on trust. Our employees are free to join and engage in labor unions, and every year, we conduct business-oriented and productive collective bargainings that benefit both labor and management. To ensure that our employees' voices are heard, we have established Labor-Management Consultative Committee that meets quarterly to discuss employees' grievances and improvements in working conditions, as required by relevant regulations. Decisions made through collective bargaining or the consultative committee are promptly announced to employees, and changes are implemented with a 100% application rate. Additionally, we regularly monitor relevant regulatory trends to secure workers' rights and mitigate compliance risks.

Human Rights

LG Energy Solution respects the human rights of employees and all stakeholders, and works to fulfill the responsibility of respecting human rights throughout our business activities. To achieve this, we support international human rights and labor standards, such as the Universal Declaration of Human Rights, UN Global Compact Principles, UN Guiding Principles on Business and Human Rights, and core conventions of the International Labor Organization (ILO). We comply with labor laws in all countries and regions we operate. We have established global human rights and labor policy which applies to all business sites worldwide and continually monitor and improve human rights and labor-related risks.

Multi-faceted Grievance Program

To respect the rights and welfare of employees and create an inclusive working environment, we are strengthening the grievance program. All grievances are handled promptly and transparently, and the results of the grievance process are communicated to the respective employees under strict rule / protection.

ESG Risk Management Process

We operate a regular ESG risk management process at our business sites to practice human rights management. For global business sites, we diagnose risks in ESG, including human rights and labor. Through regular ESG risk assessments and on-site inspections, we incorporate improvement measures into our business operations. Additionally, we monitor and manage the human rights aspects of suppliers by identifying and evaluating human rights and labor risks through supplier ESG checks.

Global Human Rights and Labor Policy

Category	Content
Humanitarian Treatment	We shall strive to create a safe working environment for all employees by respecting their dignity and preventing them from inhumane treatment or threats, such as mental or physical force or abusive language.
Prohibition of Forced Labor	We shall 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, slavery or any other means. We shall not demand the transfer of personal identification, passport or the original copy of labor permit as an employment condition, and shall not require employees to pay any recruitment fees or other related fees for their employment.
Prohibition of Child Labor	We shall comply with the minimum employment age stipulated by the laws of each country and region and prohibit child labor of age 16 or under. When employing an adolescent whose age is 18 or under, we shall not offer a hazardous task in terms of occupational safety (including night shifts and overtime).
Non-discrimination	We shall give all employees equal opportunities for employment, promotion, wages, compensation, and training, and shall prohibit all types of discrimination according to gender, age, race, religion, labor union activities, disabilities, pregnancy, marital status, social status, etc.
Working Hours	We shall comply with the regulations regarding regular working hours, overtime and holidays stipulated by the laws in each country and region and shall not force anyone to work overtime outside their regular working hours. If anyone works overtime (within the limits set by the laws), we shall pay out the overtime compensation, as mandated by the relevant laws. In accordance with Responsible Business Alliance's Code of Conduct, we shall ensure that our employees work a maximum of 60 hours per week, and that they have at least one day off every seven days.
Wage and Employee Benefit	We shall pay out wages exceeding the minimum wage stipulated by the laws in each country and region to all employees.
Freedom of Association	We acknowledge the freedom of association and right to collective bargaining, which are guaranteed by the laws in each country and region. We shall create an environment where all our employees can communicate easily without the fear of threats or retaliation. We shall not unfairly treat anyone for forming, joining or participating in a labor union.



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Fair Trade

LG Energy Solution strives to establish a fair and transparent trading system, secure trust from our suppliers, and achieve mutual growth through collaboration.

Instilling and Implementing Fair Trade

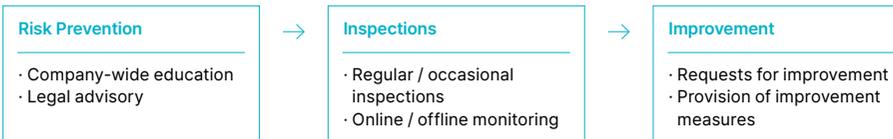
LG Energy Solution engages in fair trade compliance activities, including education, inspection, and advisory services, and responds to investigations and disputes through our Fair Trade Committee. We minimize fair trade risks in all business areas and dedicate our organizational capabilities to establish a culture of voluntary compliance on fair trade. We display the four major practices of the Fair Trade Committee on our website.

Four Major Practices of the Fair Trade Committee

1 Recommended practices for fair contract negotiations for cooperative collaboration between large, medium, and small enterprises	2 Recommended practices for the fair selection (registration) of suppliers.
3 Recommended practices for establishing and operating internal review committees for subcontracting transactions.	4 Recommended practices for issuing and preserving appropriate written documents in subcontracting

Initiating Fair Trade Processes

We conduct fair trade education, inspections, and improvement activities throughout the year (regular and occasional) to ensure that employees are aware of and comply with fair trade regulations and guidelines during their work. When there is a possibility of violating fair trade regulations and guidelines, employees must report it based on internal rules. Specifically, we promptly incorporate the revised fair trade-related laws, subcontracting laws, and other regulatory changes into internal processes and rules to establish a fair trade culture within our company. To prevent collusion risks, we have implemented “Competition Contact Management Regulations” and “Competition Contact Reporting Process” that obligate employees to report any contact with competitors. We also provide legal advisory for unfair support practices, unfair trade, and other matters during contract signing and transactions.



In the procurement process, we provide equal opportunities for all qualified entities to participate in the registration and selection of suppliers. The registration and selection of suppliers are conducted based on objective and fair evaluation criteria.

Enhancing Our Fair Trade Competency

We have established new regulations (internal rules) that reflect the revised subcontracting law, providing specific and clear guidelines for employee compliance in subcontracting transactions. Additionally, we have distributed fair trade guidelines for affiliate company transactions (established in 2021) and subcontracting transactions (established in 2022) to enhance fair trade competence. Furthermore, we published three editions of the “Compliance Newsletter” in 2022 to inform employees about introducing confidentiality agreements, appropriate precautions in affiliate company transactions, and preventing information exchange collusion. After conducting a mandatory, company-wide training on understanding the revised fair trade law, we provided occasional training (e.g., prevention of technology theft, technology protection system, subcontracting law) for relevant departments and mandatory training (e.g., unfair trade, safe working environment, prohibition of discrimination) for overseas corporate employees.

Fair Trade Education and Training

Course	Schedule	Target	Attendees
Training on the subcontract law related to the technology protection system of suppliers	March 2022	ESS Development Center	126 employees
Understanding the Revised Fair Trade Law (H1 Compliance Training)	May 2022	Company-wide employees (mandatory)	6,450 employees
Training on technology use under the subcontracting	November 2022	Procurement Center	30 employees
Subcontracting law education at LBA (LG Battery Acadmey)	Throughout the year	Company-wide (optional)	58 employees
Education on unfair trade, safe working environment, prohibition of discrimination	October 2022	Overseas corporate employees (mandatory)	-



Compliance Newsletter

Shared Growth

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

Fulfilling Shared Growth Strategies with Our Suppliers

LG Energy Solution fosters a fair trading culture and implements 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

NO	Strategy	Activities
1	Fostering a Fair Trade Culture	<ul style="list-style-type: none"> Employee training on compliance with laws and regulations Introduction on the use of standardized subcontracts Practice of Jeong-Do management and compliance programs (CP)
2	Improving Suppliers Finance	<ul style="list-style-type: none"> Fundraising of KRW 150 billion Shared Growth Investment Support Fund Early payment before the holidays
3	Fostering a Safe and Eco-friendly Partnership	<ul style="list-style-type: none"> 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
4	Enhancing Capability of Suppliers	<ul style="list-style-type: none"> Localization of parts and equipment Assist product analysis and testing Support domestic and international sales channel Technical support and protection of suppliers
5	Information Sharing and Communication Activities	<ul style="list-style-type: none"> Operation of Singlex purchasing portal Operation of communication channel for suppliers (ECOTalk) Operation of shared growth request channel

Improving Our Shared Growth Programs

LG Energy Solution is implementing various activities for shared growth. To efficiently support the equipment investment and operation funds necessary for our suppliers, we have renewed and expanded our existing "Shared Growth Investment Support Fund" by lowering the interest rates. Additionally, we have expanded the scope of the productivity improvement and quality enhancement support system, which is currently in operation, from Korean suppliers to overseas suppliers to enhance their technical capabilities. In 2022, after implementing the system for 10 suppliers in Korea, we achieved significant results, including the defect rate improvement (13,400 ppm → 0 ppm) of 18% in productivity, and a 13% reduction in loss rate. Furthermore, to maintain continuous cooperation with suppliers, we held the "Partners Day" event in 2022, providing opportunities discuss major management plans and purchasing policies with 104 suppliers.

In the future, LG Energy Solution plans to introduce new and diverse shared growth programs. Starting in 2023, we plan to establish autonomous Dispute Resolution Committee to provide a platform for suppliers to freely discuss and resolve issues they encounter during the trading process. We also plan to operate a subcontracting review committee to monitor unfair trade practices during contract signing, operation, and termination.



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Information Security

LG Energy Solution has established and implemented operational rules for each entity responsible for information security practices, including employees, suppliers, information security authorities, and related organizations, following information security regulations. To strictly adhere to information security, we enforce policies that follow the principles of need-to-know and minimum privilege, implementing restricted access to information.



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Information Security Governance

Organization and Responsibilities

To systematically carry out various information security management activities, LG Energy Solution has designated Chief Information Security Officer (CISO) 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 headquarter and each business site.

We have formed an information security consultation group 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 Management System

We treat 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.

Information Security Compliance

Information Security Policies

LG Energy Solution complies with domestic and international 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 subsidiaries, 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.

Improvement of Information Security Awareness

We conduct information security education and promotional activities to raise security awareness among employees. We provide regular information security education for all employees annually. We implement tailored education programs for specific groups such as new hires, retiring employees, suppliers, visitors, national core technology, personnel, and personal information handlers. Additionally, we promote security rules, case studies of information security violations, and other relevant materials to encourage all members to be interested in security issues.

Preventive and Responsive Activities

LG Energy Solution operates a continuous security monitoring system throughout the office areas and manufacturing facilities. To respond in real time to various cyber attacks from internal and external sources, we conduct regular security vulnerability assessments and perform simulated hacking and training sessions for employees to continuously enhance security levels and response capabilities. Regarding personal information protection, we conduct prior security reviews to check for potential misprotection of personal information and compliance issues. Furthermore, we designate Data Protection Officer responsible for overall personal information handling tasks for inquiries, complaints, and remedies related to personal information.

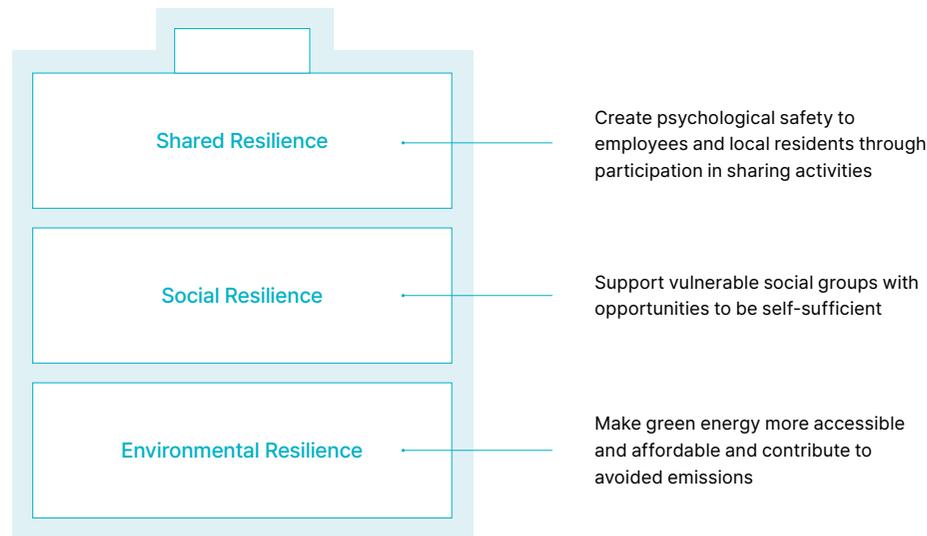
Corporate Social Responsibility

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.

CSR Programs that Build Community Resilience

LG Energy Solution has defined three major areas of CSR activities to support community resilience and is engaged in various CSR initiatives.

Three Strategic Directions of CSR



CSR Programs

LG Energy Solution is committed to growing with the local communities where our global business sites are located. In addition to supporting socially underprivileged groups in the community, we strive to promote the spread of green energy and improve living conditions in the region by installing renewable energy facilities tailored to the local context.

Cheongju Hope Green Power Plant

Through partnerships with local governments and NGOs, LG Energy Solution 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.



Cheongju Hope Green Power Plant



Hope Green Scholarship Award Ceremony

Corporate Social Responsibility

Fostering Talent for Science and Technology

LG Energy Solution operates various programs to enhance scientific and technological capabilities, which are the foundation of national strength and industrial development. In Korea, we foster specialized technical professionals by donating a customized education program called CEP (Customized Education Polymer Program) at KAIST (Korea Advanced Institute of Science and Technology) in Daejeon. At our overseas business sites, we hold the China University Student Battery Innovation Contest (China), donate to the Electric Mobility Research Institute at Wrocław University of Technology & Science (Poland), and co-host vocational training courses for battery production with the Girl Scouts of the USA.

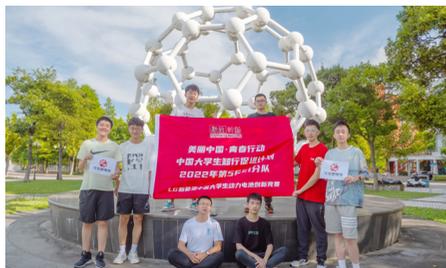
Donating Book and basic Necessities

In Korea, we carry out support projects for the self-reliance of socially vulnerable groups in local communities, such as the Book2U activity, where we donate books to social welfare organizations' libraries (Ochang), donation of firefighting supplies to vulnerable groups (Ochang), support replacing old household appliances (Daejeon), regular sponsorship for children in underprivileged families (Daejeon), and housing safety support (Daejeon). At our overseas business sites, we participate in activities through donating various supplies (China) and toys (the US). Additionally, we continue to engage in activities such as the Nobile Gift, where we match volunteers and donors to deliver specific items needed by families in need, support educational supplies for local childcare centers, and sponsor vulnerable families (Poland).

Providing Opportunities for Self-Reliance [Sharing Dreams Onstage]

“Sharing Dream Onstage” is a program by LG Energy Solution that supports children and adolescents with developmental disabilities with artistic talents but lack educational opportunities. We provide tailored art education and psychotherapy by specialized art instructors in a 1:1 class to young artists with developmental disabilities recommended by professional organizations.

After completing the program, the participants can exhibit their artwork or perform on the stage at “Entral Park,” at LG Energy Solution’s business sites in Korea. Furthermore, the artistic works from exhibitions and performances are produced as merchandise and sold to employees. The proceeds from these sales are donated to those in need. Program graduates are also supported to register as artists on the art exhibition platform operated by “disability” - an enterprise that discovers and exhibits artworks by artists with developmental disabilities to continue their artistic activities.



Science and Technology Talent Foster Program | University Student Battery Innovation Contest in China



Sharing Dreams Onstage | Dream Exhibition



Sharing Dreams Onstage | Merchandise Sales

Corporate Social Responsibility

Employee Participation in CSR

LG Energy Solution provides opportunities for employees to directly participate in volunteer activities, allowing them to share love with their neighbors and experience gratitude and happiness. Additionally, we have implemented “Volunteer Leave” where employees receive paid leaves for participating in activities other than company-sponsored ones, encouraging them to engage more in volunteering.

Employee Volunteer Group “Hamsori (Together, Ensol)”

“Hamsori” in Korean means “Together, Ensol” and is a program aimed at providing opportunities for employees who wish to participate in neighborly love and sharing activities. We recruit employees who wish to participate in and share their talent at our Seoul headquarter, Daejeon, and Ochang business sites and operate the program. In 2022, 170 employees participated in 21 activities, including volunteering for stray dogs, flogging, and providing free meals for the elderly in various locations. These activities are conducted with enjoyable work activities, supporting the culture of volunteerism and sharing among employees. By structuring monthly plans based on the most desired activities through survey called “Activities You Want to Participate In,” we encourage active employee participation.

Monthly Activities	Application and Implementation of Volunteer Activities
July 2022	Volunteering for stray dogs, Bap-puh Free Meals
August 2022	Volunteering for stray dogs, Job experience program provided for underserved children
September 2022	Volunteering for stray dogs, Baby Box Facility, Apple Farm Experience
October 2022	Seoul Forest flogging, Ochang Sohacheon flogging, Local Festival Science Festival: Making Electric Cars
November 2022	Kimjang (kimchi making), Physical activities at local children's centers, Housing environment improvement activity, Community sharing junior engineering class: Making electric cars (two middle schools), Yeontan (knead coal) delivery

Ensol Touch

“Ensol Touch” is a kiosk system that allows employees to donate to underprivileged children with a simple screen touch. Installed at various locations such as entrances, lounges, and restaurants in our domestic business sites, employees can voluntarily donate after reading the stories of underprivileged children displayed on the screen. Currently, eight kiosks are installed at the headquarter, Ochang, Daejeon, and Gwacheon business site. From July 2022 to June 2023, we have supported 12 children.



Hamsori | LG Energy Solution Employee Volunteer Group



Hamsori | Volunteering for stray dogs



Hamsori | Bap-puh Free Meals



Ensol Touch | Donation Kiosk System

Risk Management

By establishing a comprehensive crisis management system, LG Energy Solution carries out activities to prepare for risks in various areas such as quality, safety, supply chain, business, finance, and social / environmental risks. Through this, we strive to minimize negative impacts such as business interruption and maintain resilience even in the event of actual risk occurrence and crisis situations.

A Company-wide Risk Management Governance

Risk Management System

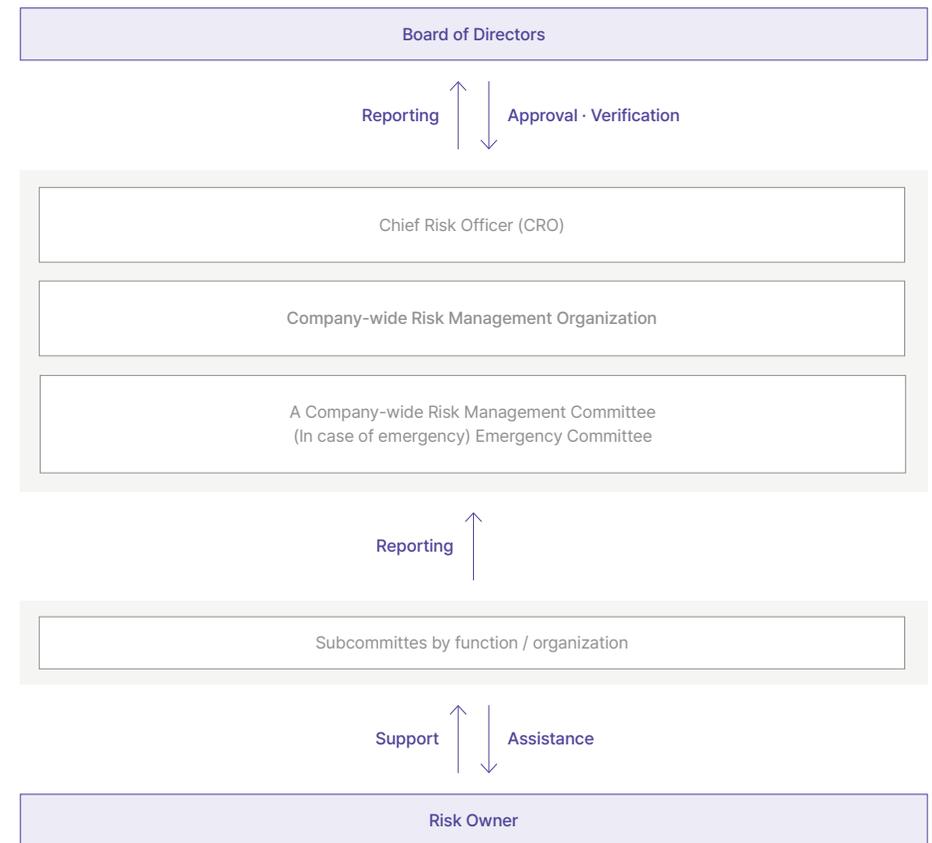
To effectively manage risks at a company-wide level, LG Energy Solution has appointed Chief Risk Officer (CRO), the highest-ranking executive responsible for risk management. Additionally, for product quality area, we have appointed Chief Quality Officer (CQO) as a separate management responsible for 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 dissolving the committee, 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 accidents or crisis type, Emergency Committee chaired by the CRO is convened following the simultaneous reporting and communication procedures. 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, LG Energy Solution improves crisis response manuals and systems and horizontally shares these measures to prevent similar crises from recurring.



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Strengthening a Company-wide Risk Management

Post-crisis Management and Improvement Activities

LG Energy Solution continuously strengthens our ability to maintain business continuity despite crises. As a result, we obtained ISO 22301 certification for our domestic facilities in 2021, which objectively recognizes our business continuity management system. We also plan to obtain this certification for our overseas facilities.

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.

Identification and Management of Key Risks

LG Energy Solution identifies and mitigates key risks by raising sensitivity to potential risks that may develop into crises and systematically conducts risk identification and mitigation activities. Based on these efforts, we establish a company-wide, medium- to long-term strategies and task-specific processes and manage product quality, environmental safety, and supply chain management as key risk areas through various methods such as interviews and risk analysis by field.

01 Quality Risk Management

We recognize 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.

02 Occupational Safety Risk Management

As LG Energy Solution expands 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.

03 Supply Chain Risks

The importance of supply chain management has been emphasized due to increasing geographical and climate-related issues (i.e., geopolitical factors and climate change). Accordingly, we diversify and decentralize specific raw materials or supply regions, enhance the continuity of supply, respond to various regulations and requirements, and improve collaboration structures with suppliers to enhance our response capability to improve supply chain management risks. We also identify and efficiently manage supply chain-related risks by proactively collaborating with external organizations. In collaboration with external experts, we have assessed the possibility of future natural disasters and supply chain risks in new investment areas. We plan to expand these assessments progressively.

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Risk Identification and Management

Category	Risk Factors	Potential Impact	Mitigation Activities
Quality Risks	Quality Management	<ul style="list-style-type: none"> Need for quality risk management for small and large battery products used by customers 	<ul style="list-style-type: none"> 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 Execute recall processes based on recall committee decisions
Safety Risks	Environmental Safety Management	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 international facilities Enhance company-wide environmental and safety management system, including the operation of CEO-led environmental and safety committees 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 Risks	Order Management	<ul style="list-style-type: none"> Need for systematic risk management due to increased order projects and larger order scales 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Intensified competition in the battery market and changing market dynamics 	<ul style="list-style-type: none"> 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

Category	Risk Factors	Potential Impact	Mitigation Activities
Business Risks	Business Environment Change for Production and Sales	<ul style="list-style-type: none"> Possibility of long-term growth decline and inefficient resource operations due to inappropriate business portfolio composition 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Establish a company-wide information security organization and operate an information security council Establish a digital innovation system through Digital Transformation Strengthen DB access control systems Conduct information security and data management education for employees
Financial Risks	Investment	<ul style="list-style-type: none"> Financial loss and cash flow deterioration concerns due to incorrect investment decisions or changes in the business environment 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Exposure to various risks such as market risk, credit risk, and liquidity risk due to global business expansion and expansion of business scope 	<ul style="list-style-type: none"> 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
Social / Environmental Risks	Response to Carbon Policy Changes	<ul style="list-style-type: none"> Increase in production costs due to investments in energy reduction 	<ul style="list-style-type: none"> Decision-making on energy reduction investments based on the maximization of effectiveness perspective

Compensation Policy

Board of Directors: Compensation Policy

LG Energy Solution has a fair and transparent compensation determination process. The compensation of Board members is measured following our goals and the interests of shareholders, and a clear guideline and evaluation process are in place to implement the compensation policy.

Board of Directors: Compensation Determination Process

The compensation of directors is paid within the total compensation amount approved at the shareholders' meeting following internal regulations and other relevant rules based on the provisions of Article 388 of the Commercial Act. The compensation of registered directors consists of salaries based on factors such as the inflation rate, external competitiveness, financial performance, incentive pay based on roles according to positions, and performance incentives based on business and individual achievements.

For the determination of performance-based compensation, both quantitative indicators, such as sales revenue, and qualitative indicators, key task evaluations and the implementation status of medium- to long-term expectations, are comprehensively evaluated. Financial / quantitative indicators are considered in evaluating performance, along with the non-financial / qualitative indicators, such as strategic efforts for discovering future growth drivers and enhancing business competitiveness.

Board of Directors: Compensation Status

Despite the challenging circumstances such as the COVID-19 pandemic and global economic crisis, LG Energy Solution achieved sales of KRW 25,598.6 billion and operating profit of KRW 1,213.7 billion in 2022. The approved Board of Directors' compensation for 2022 is KRW 8 billion.

Shareholder Policy

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

Shares and Capital Structure

The largest shareholder of LG Energy Solution is LG Chem Ltd., which owns 81.84% of stock. As of end of 2022, total number of shares to be issued by LG Energy Solution is 800,000,000 (KRW 500 per share), and the shared issued is 234,000,000. Shareholders of LG Energy Solution have one voting right per share, following Article 23 (Voting Rights) of the Commercial Act and the Articles of Incorporation. Efforts are made to ensure fair voting rights for shareholders following the Commercial Act and relevant laws.

Shareholder Structure

Remuneration and compensation of external directors are determined based on their role, risk, and industry peers. The evaluation results of directors are used as reference material for their reappointment. We make sure that no discrimination is allowed, and the independence of external directors are valued.

Shareholders' Status

Category	Shareholder	Number of Shares	Stake (%)
Shareholders with more than 5% of share	LG Chem	191,500,000	81.84
	National Pension Service	12,709,084	5.43
Our Employee Stock Ownership Association		7,882,723	3.37

* As of December 31, 2022

* The ownership ratio is based on the total number of shares issued; as of December 31, 2022, the total number of shares issued is 234,000,000.

* The ownership of shares and the above mentioned ownership ratio are based on the shareholder registered as of December 31, 2022. The current actual ownership status may differ.

Minority Shareholders' Status

Category	Shareholders			Number of Shares		
	Number of Minority Shareholders	Number of Minority Shareholders	Ratio (%)	Number of Minority Stake	Total Stake	Ratio (%)
Minority Shareholders	792,636	792,639	100.00	27,812,263	234,000,000	11.89

* As of December 31, 2022



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Enhancing Shareholder Value

Establishing a System for Shareholder Rights

LG Energy Solution enforces shareholder policies to uphold the promise of protecting shareholders' interests. We ensure transparency, fairness, and accountability, guaranteeing equal treatment and providing essential information to all shareholders. Through this policy, we aim to build trust, encourage active shareholder participation, and safeguard the rights of all stakeholders.

To prevent the infringement of shareholder rights, LG Energy Solution has established Corporate Governance Charter that mandates significant changes such as amendments to articles of incorporation, mergers, acquisitions, business transfers, corporate divisions, dissolutions, capital reductions, comprehensive stock exchanges, and transfers, which require proper procedures and decisions at shareholder meetings.

We notify shareholder meeting dates, venues, and agendas at least two weeks in advance to ensure voting rights on important matters. Shareholders who own more than 1% of the voting shares receive individual notices, allowing them to review proposals and exercise their voting rights. Additionally, LG Energy Solution facilitates proxy and electronic voting to ensure shareholder participation.

Furthermore, LG Energy Solution maintains open communication channels with shareholders, including minority shareholders. We conduct quarterly performance announcements, offer real-time webcasting services (in Korean / English), and provide access to information through publications on our website (in Korean / English). We also disclose contact information (email / phone) of the Investor Relations department on our website, listening and responding to shareholders' inquiries.

Fair Treatment of Shareholders

Regardless of the volume of share, all shareholders are entitled to one vote per share, receiving equal treatment. We ensure timely and equitable disclosure of information that is not mandatory, guaranteeing transparency. LG Energy Solution has established and operates Internal Trading Committee to protect shareholders and adhere to proper procedures for disclosing transaction records.

Shareholder Dividend and Shareholder Return Policy

LG Energy Solution currently has a deficit according to the separated financial statement, and we are not legally permitted to conduct shareholder returns at the moment according to the Commercial Act. Significant investments are required as we target to increase our share in the global market and achieve sustained growth in the rapidly growing rechargeable battery industry. Nonetheless, we plan to achieve growth centered on profitability, generating stable cash flows, and enhancing shareholder value in the long term. Once legal dividend sources are secured under the Commercial Act, we will develop a shareholder return policy, based on our business performance, cash flows, strategic investments for future sustained growth, and domestic and international business environments. The implementation of shareholder return policies, including dividends, will be decided by the Board of Directors and communicated through the electronic disclosure system following relevant laws. Furthermore, we will communicate our medium-to-long-term shareholder return policy through public announcements, corporate briefings, and shareholder letters, ensuring comprehensive communication with shareholders.

Shareholder Policy

Shareholders and Investors Communication

Communication Channels and Programs

LG Energy Solution holds regular quarterly performance briefings which is organized by the management through webcasting on our website (www.lgensol.com) using a conference call format. The briefings are conducted simultaneously in Korean and English to provide performance information to domestic and foreign shareholders. The performance presentation materials are also available in both languages on the website. Critical agendas are disclosed on a rolling basis in English to deliver timely information on important matters. Furthermore, we engage in Non-Deal Roadshows (NDRs)*, attend conferences organized by securities firms to address investor queries, and conduct numerous IR meetings, including meetings requested by shareholders and conference calls. Inquiries from individual shareholders are handled directly by the IR department via telephone, and a separate IR inquiry channel is available through the website, demonstrating proactive communication efforts.

LG Energy Solution will continue communicating with domestic and foreign shareholders to facilitate smooth communication and enhance investors' understanding of the company's business. Relevant management information can be accessed through our website (www.lgensol.com) and electronic disclosure systems such as DART (dart.fss.or.kr) and KIND (kind.krx.co.kr).

Quarterly Performance Briefing Conference Calls

4 conference calls were conducted in 2022, and 2 conference calls were conducted in 2023, targeting domestic and foreign investors, securities analysts, and the media to share management updates and quarterly performance. For more details, please refer to the 2022 Corporate Governance Report.

Overseas NDRs and Conference Participation

LG Energy Solution participated in 14 overseas conferences and NDRs in 2022 and 7 in 2023, targeting international institutional investors. For more details, please refer to the 2022 Corporate Governance Report.

Domestic NDRs and Conference Participation

LG Energy Solution participated in 15 conferences and NDRs in 2022 and 11 in 2023 to disclose management information to domestic and foreign institutional investors. For more details, please refer to the 2022 Corporate Governance Report.



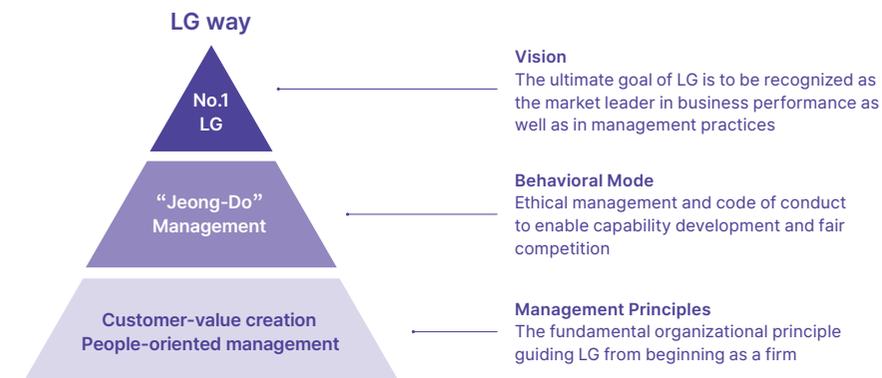
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Jeong-Do Management

'Customer-value Creation' and 'People-oriented Management' are our management principles. In addition, we practice 'Customer-value Creation' and 'People-oriented Management' through our behavioral mode of Jeong-Do Management. To this end, LG Energy Solution established the Compliance Management System focused on identifying and preventing risks, and revised and implemented the compliance control standards on areas of quality, environmental safety, information security, ethical management among others.

Jeong-Do Management

LG Energy Solution pursues Jeong-Do Management following ethical norms. LG's Jeong-Do Management refers to the distinctive approach of LG Group focused on cultivating capabilities steadily based on ethical management principles and integrity. Jeong-Do Management means generating tangible results based on the ability to win in the competition with ethical management. Both domestic and foreign employees, and all business sites of LG Energy Solution perform their duties under the principles of Jeong-Do Management. Regular education is conducted for employees and suppliers following an education and promotion system to practice and internalize Jeong-Do Management. Efforts have been focused on expanding online-based cultural activities to promote Jeong-Do Management and to enhance education for key targets. The compliance management campaign "I AGREE" targets all members, including global business sites, encouraging voluntary participation by employees and raising their interest through promotional activities utilizing the Jeong-Do Management portal. Jeong-Do Management newsletters are regularly sent to team leaders and above, sharing real-life cases, and remote live education is conducted for members who require concentrated training.



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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 customer, fair competition, fair trade, basic ethics for employees, responsibilities toward employees, and responsibilities toward the nation and society.

<p>Responsibilities and Obligations for Customers</p>  <ul style="list-style-type: none"> · Respecting Customers · Creating Value · Providing Value 	<p>Fair Competition</p>  <ul style="list-style-type: none"> · Pursuing Free Competition · Complying with Laws and Regulations 	<p>Fair Transactions</p>  <ul style="list-style-type: none"> · Equal Opportunity · Fair Trade Process · Pursuing Mutual Growth
<p>Basic Ethics of Employees</p>  <ul style="list-style-type: none"> · Basic Ethics · Accomplishing Mission · Self-development · Fair Handling of Job · Avoiding Conflict of Interests with the Company 	<p>Corporate Responsibilities for Employees</p>  <ul style="list-style-type: none"> · Respecting Humanity · Fair Treatment · Promoting Creativity 	<p>Responsibilities to the Nation and Society</p>  <ul style="list-style-type: none"> · Rational Business Operation · Protecting Shareholder Returns · Contributing to Social Development · Conservation of the Environment

Compliance Management System

LG Energy Solution has established a corporate-level legal compliance management system and emphasizes the importance of legal activities through CEO Compliance messages. We operate an integrated compliance management system through compliance expert development, policy, compliance system operation, ongoing monitoring and inspection processes, and dissemination of organizational culture to enhance compliance management. In 2021, LG Energy Solution became the first company in the battery industry to obtain ISO 37301 certification, a global standard for compliance management, and underwent a follow-up review.

All employees must comply with compliance set based on compliance guidelines as the highest standard. These guidelines include "Honesty and Integrity toward Customers," "Desirable Work Environment," "Fair Competition," "Responsibility toward the Local Community," and "Enhancement of Shareholder Value." In addition, we established Compliance Officer following the Commercial Act, formulated compliance control standards, and implemented rules for compliance control to operate a systematic compliance program.

To ensure the effectiveness of compliance management activities, LG Energy Solution collaborates with relevant departments in 13 areas, including fair trade, environmental, health, and safety (EH&S), and information security, to systematically manage and operate compliance. Checklists have been prepared for risk in each area, and compliance adherence at domestic and international business sites are checked at least once a year. Furthermore, through the corporate-level compliance monitoring activity, deficiencies or areas requiring compliance-related policy improvements are periodically identified, and the relevant departments participate in voluntary improvement.

The company reports to the Board of Directors and management for legal risks identified through compliance assessments and implements improvement activities. In particular, for key risks, all possible measures, including education, improvement of systems and policies, and disciplinary actions, are taken to prevent the recurrence of similar incidents. Employees who intend to engage in work with potential legal risks can request legal review and receive compliance guidelines through the legal support system and compliance advisory.

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Compliance System



Compliance Program Procedures

Compliance Risk Checklist	→	Compliance of Headquarter and Domestic / Overseas Business Sites Check	→	Identification of Deficiencies and Improvement Plans / Tasks Established	→	Reporting to the Board of Directors	→	Follow-up Actions (Support for system improvements)
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Investigation Process

Violation Reported	→	Investigation Plan	→	Execution of Investigation	→	Investigation Completed	→	Post-management
Registration of reported violence		Development of investigation scenarios, determination of subjects and schedule, confirmation of investigation contents		Preliminary investigation, on-site investigation, post-investigation		Report writing, reporting to management, notification of investigation results		Follow-up actions, checking for any retaliatory actions against the whistleblower

01 Internalizing Compliance Capabilities

Compliance education is conducted twice a year for all employees worldwide to enhance employees' compliance awareness. The education program is a company-wide mandatory training course in consultation with the HR department. The program is designed to include essential compliance areas and legal obligation education every year. In the first half of 2022, education was conducted on topics such as "Improving Awareness and Understanding People with Disabilities in the Workplace," "National Core Technology Education," "Ethical Norms," "Understanding Customer Experience," "Understanding Revised Fair Trade Act," "Fundamental Legal Knowledge for Employees," "Anti-Corruption," "Responding to Serious Accidents Punishment Law," and "Environmental Safety Incident Classification and Reporting System." In the second half, education was conducted on topics such as "Preventing Workplace Harassment," "Personal Information Protection," "Ethical Norms," "The Importance of Compliance," "Fair Trade, Safe Working Environment, and Non-Discrimination," "Understanding Chemical Substances Regulations," "Understanding ESG and the Current Status of LG Energy Solution," and "Education on Lithium-ion Batteries."

02 Handling Compliance Violations

Compliance-related reports are received through a centralized online reporting system. Issues related to compliance, such as leaks of the company's management information, infringement of other companies' intellectual property rights, unauthorized use of confidential information, unfair trading practices toward suppliers, and legal violations by employees, are reviewed and inspected through collaboration between the Compliance Office and the Jeong-Do Management Department. Compliance check reports, and reports on compliance violations are subjected to legal review, and based on that, appropriate disciplinary actions are decided through the HR department. In compliance with the principle of whistleblower protection, no information is disclosed or implied that reveals the whistleblower's identity without consent. We take responsibility for rectifying any damages incurred due to non-compliance with this principle. Furthermore, a system of rewards for reporting corruption is in place to strengthen the transparency and accountability of our business and eliminate acts of corruption that undermine customer value.

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 reach out to our stakeholders through various channels to reflect these expectations for LG Energy Solution's ESG management.

	Stakeholders 	Shareholders / Investors 	Customers 	Employees 	Business Partners 
Purpose / Expectations	Promotion of ESG Management Leadership the Battery Industry Ecosystem	Long-term Growth Transparent Disclosure	Communication Facilitation Addressing Climate Change Business Innovation and R&D	Human Capital Management Collaborative Labor Management Relations Enhancement of Welfare Benefits Strengthening Safety, Health and Respecting Human Rights	Building Strategic / Collaborative Partnerships Management Support and Training Activities
Communication Methods	Official Company Website ESG Report SNS Annual / Business Report	Shareholder Meeting Conference Calls Financial / Non-financial data disclosure Annual / Business Report	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 Explanation Sessions Business / Technical Support Programs
	Local Communities / NGOs 	Academia / Experts 	Industry Associations 	Government Institutions 	Global Initiatives 
Purpose / Expectations	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 Methods	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 Board of Directors Participation Disclosure and Submission of Implementation Progress

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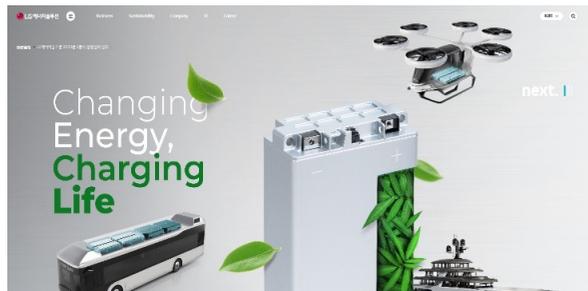
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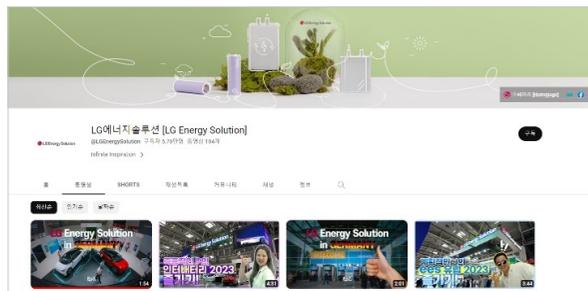
Communication

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 addition, we participate in domestic and international industry exhibitions, conferences, forums, and more, aiming to meet and communicate with a wider range of stakeholders through diverse channels.



Homepage
www.lgensol.com
news.lgensol.com

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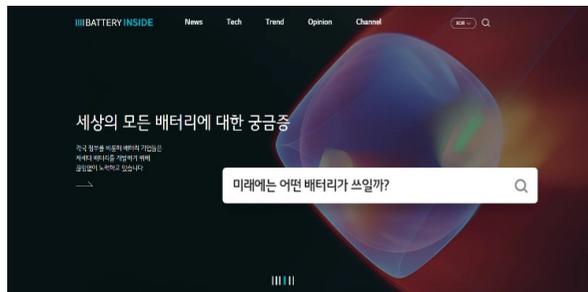
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Battery Inside
inside.lgensol.com

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The Task Force on Climate-related Financial Disclosures (TCFD) is an initiative established by the Financial Stability Board, which includes participation from G20 member countries. TCFD provides recommendations for disclosing information that may impact climate change, aiming to facilitate easy access and understanding of such information for stakeholders, including customers and investors. LG Energy Solution thoroughly manages climate change factors and transparently discloses them to meet the demands of ESG management activities of customers and investors. In February 2023, we became the first battery company in Korea to declare support for TCFD publicly.

We have adopted the framework of climate-related risk and financial information by incorporating the recommendations of the TCFD, which structured around four thematic areas that represent core elements of how organizations operate: ① Governance, ② Strategy, ③ Risk management, and ④ Metrics and targets. As part of our efforts to disclose climate-related information transparently, we will continue to participate in the global initiatives that address climate change.

LG Energy Solution’s Goals and Commitments for Climate Change

LG Energy Solution aims to achieve carbon neutrality across the entire value chain by 2050 and ultimately strives for carbon negative. Alongside our long-term goals, LG Energy Solution also established the intermediate targets that contribute to visualizing progress of these long-term goals. We believe that our ultimate goal of fulfilling carbon negative can be truly reached by achieving these intermediate targets.

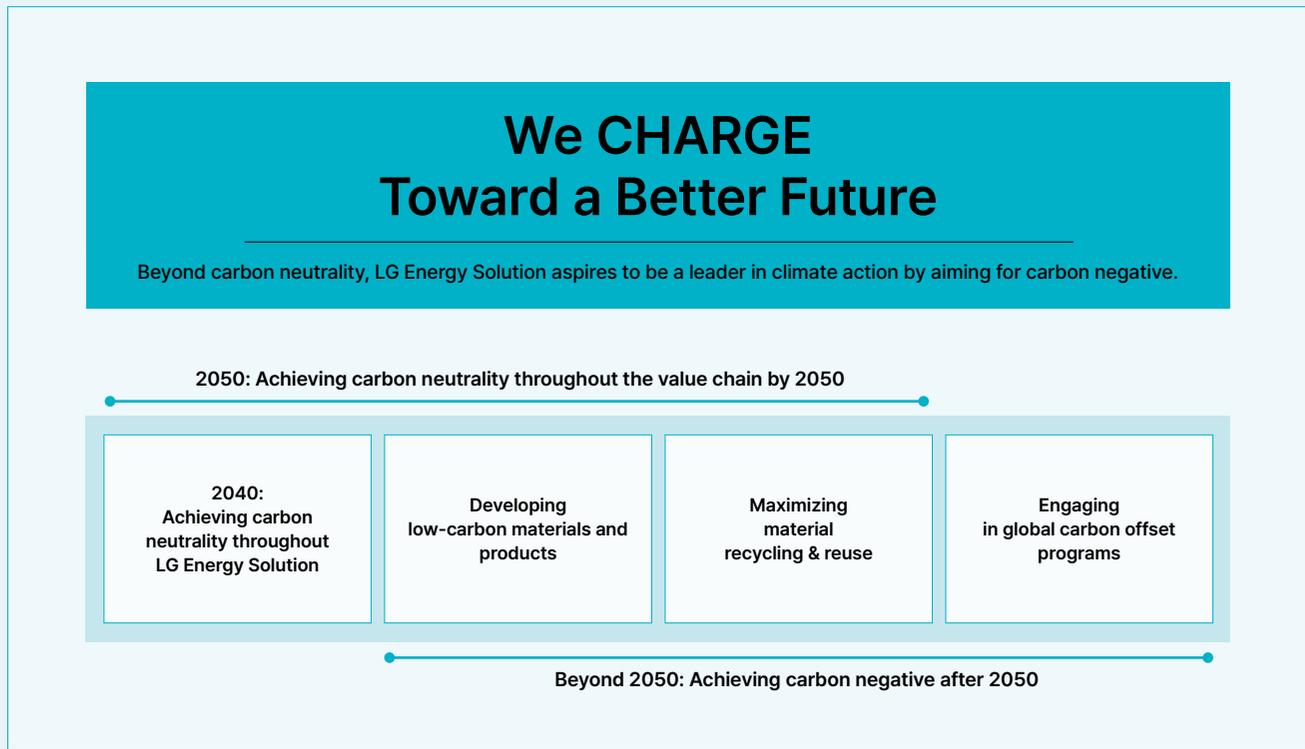
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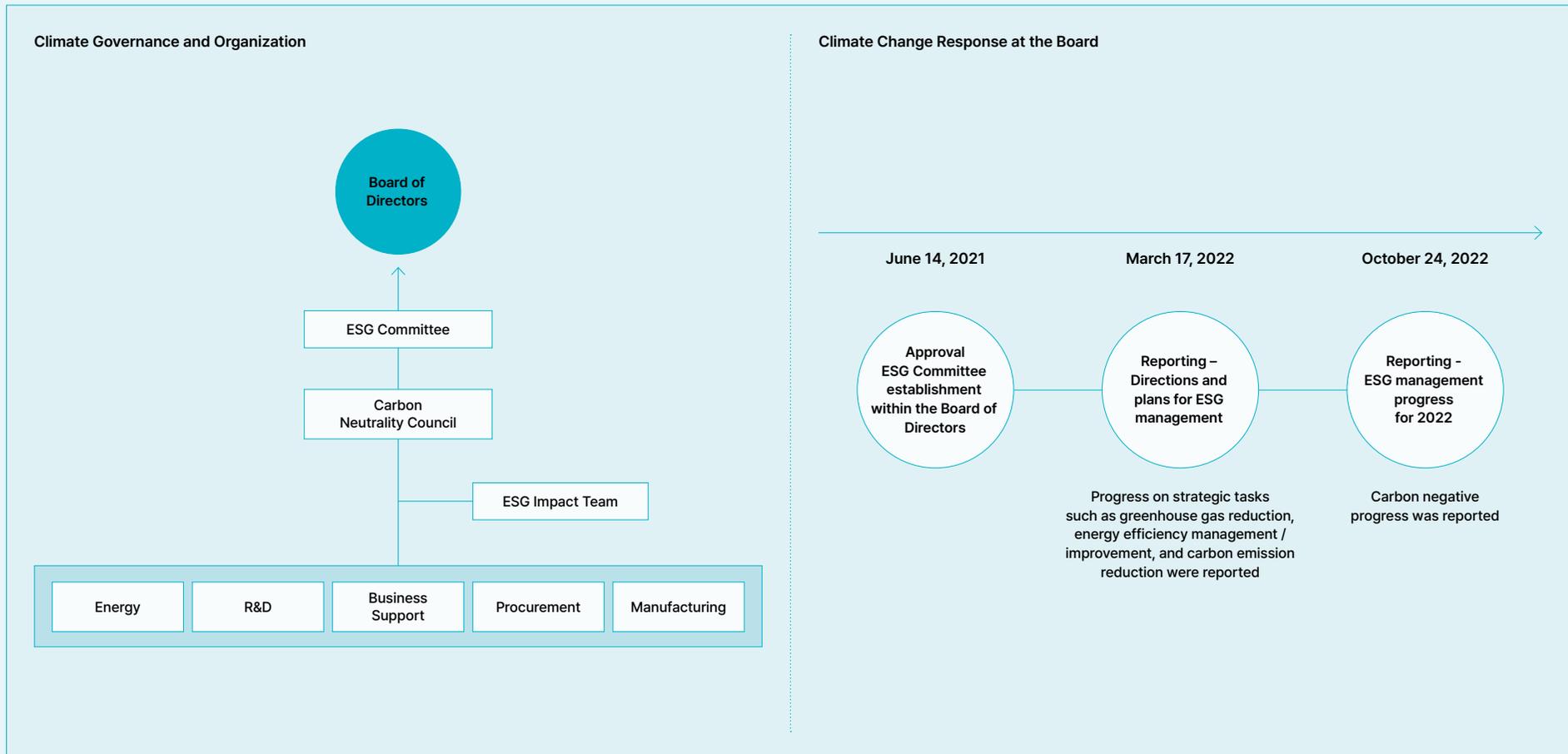
By 2030	<p>Achieving RE100 (Renewable Electricity 100%) and EV100 (Electric Vehicle 100%) at all business sites</p> <hr/> <p>Reduce 53% Scope 1&2 emissions from 2030 BAU emission</p>
By 2040	<p>Achieving carbon neutrality at all business sites</p>
By 2050	<p>Achieving carbon neutrality in the entire battery value chain</p>
Beyond 2050	<p>Achieving carbon negative</p>

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Climate Governance

The ESG Committee establishes the fundamental policies, strategies, and medium to long-term goals in environment, human rights, safety, social responsibility, customer value, shareholder value, and corporate governance. It is responsible for deliberating and making decisions regarding the operation of ESG-related matters. Additionally, we have been regularly reporting our progress and implementation to the Committee. The Carbon Neutrality Council convenes quarterly and is comprised of departments responsible for implementing carbon negative strategies. Within the Council, climate-related risks are identified and shared, response measures are discussed, progress in implementing strategic tasks is checked, and insights are shared. The ESG Impact Team identifies risks and opportunities that may impact the company due to climate change and formulates a carbon negative strategy by 2050. It also operates the Carbon Neutrality Council and communicates with internal and external stakeholders through external disclosures such as CDP (Carbon Disclosure Project) and TCFD.



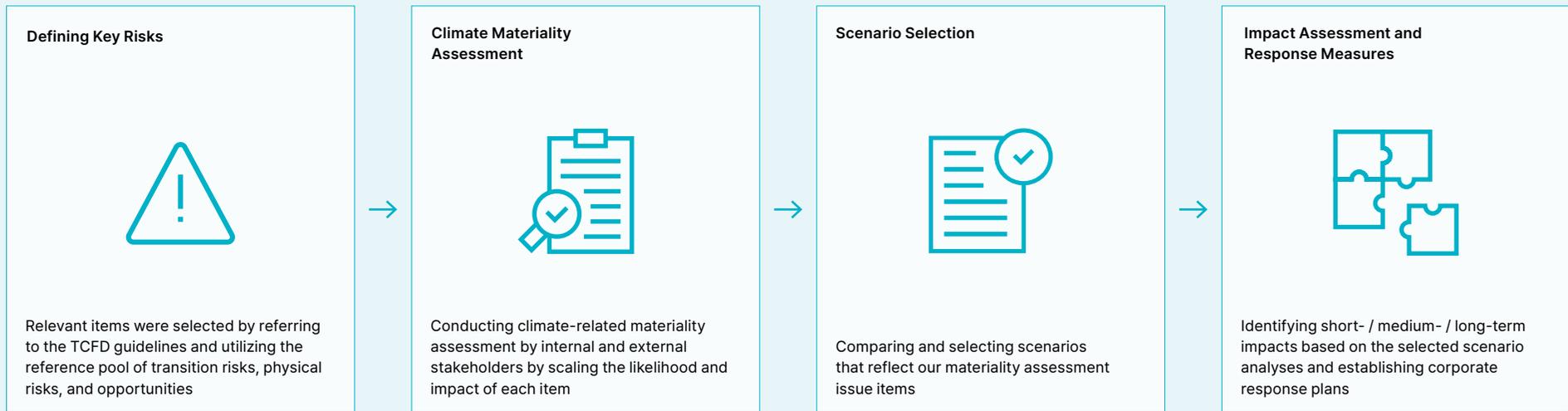
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Climate Change Strategy and Risk Management

LG Energy Solution has categorized the risks and opportunities related to climate change. In particular, by following the recommendations of the TCFD, we focused on the ‘physical risks’ that arise when we fail to respond to climate change and the ‘transition risks’ that may occur due to social and economic changes when implementing climate change response efforts. We use a four-step process to understand the impact of tangible risks and opportunities on our company and formulate our business response.

Climate Risk Identification Process



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Climate-related Risks and Materiality Assessment

We identified 31 risk and opportunity factors by conducting peer analysis, stakeholder surveys, and media research while drawing reference to risk and opportunity pools listed in the TCFD Guidelines. We conducted the climate materiality assessment of the following issues based on short-term (~2025), medium-term (~2040), and long-term (~2050) period.

Categories	No.	Business Impact
Transition Risks	T1	Increased carbon credit prices
	T2	Strengthened new carbon-related regulations / systems
	T3	Strengthened disclosure obligation on greenhouse gas reduction information
	T4	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction
	T5	Increased costs for low-carbon raw material procurement
	T6	Increased costs for renewable energy procurement
	T7	Prolonged periods of abnormal high temperatures above average temperatures
	T8	Increased Capex / Opex for carbon reduction
	T9	Increased Capex / Opex for the development, installation, and operation of low-carbon facilities in production processes to reduce carbon emissions
	T10	Increased threat of roof collapse and facility damage due to floods and heavy snowfall
	T11	Increased conflicts and misalignment due to discrepancies between corporate / investor carbon-related policies / strategies
	T12	Increased reputation risks due to non-compliance with carbon-related commitments
Physical Risks	P1	Prolonged periods of high temperatures
	P2	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall
	P3	Increased likelihood of floods and snow damage caused by heavy rainfall
	P4	Increased likelihood of loss from persistent hot and dry climate conditions
	P5	Increased difficulties in water supply due to abnormal temperatures
	P6	Increased occurrences of extreme climate events (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)
Opportunity	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
	O4	Enhanced renewable electricity source and better-equipped procurement system / infrastructure
	O5	Increased conversion to low carbon raw materials and green fuel
	O6	Increased demand for EV / ESS technologies
	O7	Increased number of newly-invented applications using batteries such as the smart mobility
	O8	Increased investment to secure low carbon energy source (ex: hydrogen, biomass) among other energy sources
	O9	Increased incentives to companies that use renewable energy (ex: tax redemption)
	O10	Increased opportunity to sell carbon credits created from in / external business sites

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Climate Materiality Assessment Results from Short-term, Medium-term, and Long-term Perspectives

After conducting the materiality assessment, the 15 risks were derived based on the likelihood and impact according to short-term (~2025), medium-term (~2040), and long-term (~2050).

▼ Top 15 Material Issues in the Short-term (~2025) Perspective

Category	Business Impact	Score*
T3	Strengthened disclosure obligation on greenhouse gas reduction information	14.43
T4	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction	13.68
T2	Strengthened new carbon-related regulations / systems	13.44
T1	Increased carbon credit prices	12.41
T5	Increased costs for low-carbon raw material procurement	12.32
T6	Increased costs for renewable energy procurement	11.94
P1	Prolonged periods of high temperatures	11.58
O6	Increased demand for EV / ESS technologies	11.21
T8	Increased Capex / Opex for carbon reduction	11.04
P3	Increased likelihood of floods and snow damage caused by heavy rainfall	10.79
P8	Increased prevalence of heat-related and cold-related illnesses	10.74
T12	Increased reputation risks due to non-compliance with carbon-related commitments	10.67
P2	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall	10.49
O9	Increased incentives to companies that use renewable energy (ex: tax redemption)	10.30
T10	Increased threat of roof collapse and facility damage due to floods and heavy snowfall	10.17

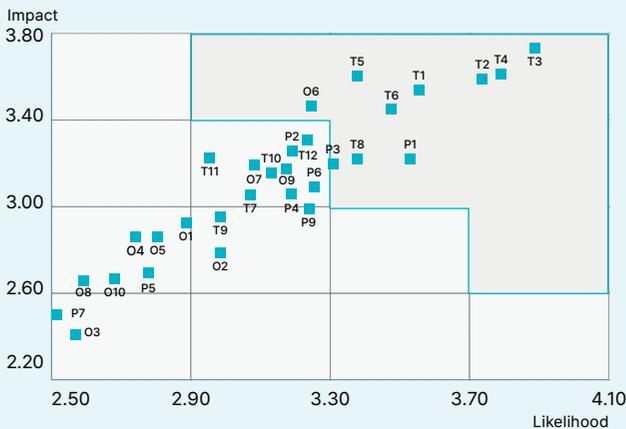
▼ Top 15 Material Issues in the Medium-term (~2040) Perspective

Category	Business Impact	Score*
T3	Strengthened disclosure obligation on greenhouse gas reduction information	18.57
T4	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction	18.49
T2	Strengthened new carbon-related regulations / systems	17.82
T5	Increased costs for low-carbon raw material procurement	16.72
T6	Increased costs for renewable energy procurement	16.44
O6	Increased demand for EV / ESS technologies	16.28
T1	Increased carbon credit prices	16.17
P1	Prolonged periods of high temperatures	15.47
T12	Increased reputation risks due to non-compliance with carbon-related commitments	14.95
T8	Increased Capex / Opex for carbon reduction	14.52
P8	Increased prevalence of heat-related and cold-related illnesses	14.01
T10	Increased threat of roof collapse and facility damage due to floods and heavy snowfall	13.94
P2	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall	13.82
O7	Increased number of newly-invented applications using batteries such as the smart mobility	13.76
T11	Increased conflicts and misalignment due to discrepancies between corporate / investor carbon-related policies / strategies	13.60

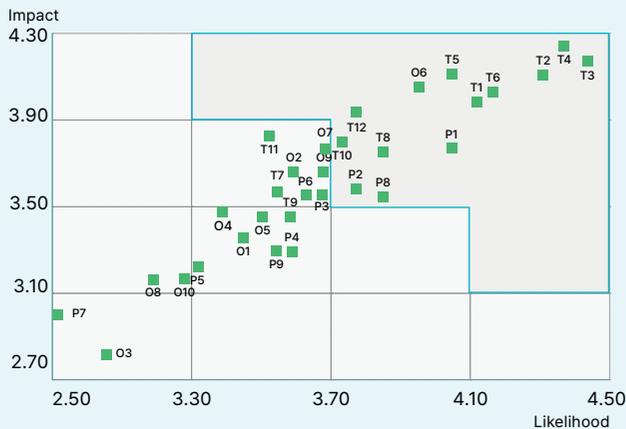
▼ Top 15 Material Issues in the Long-term (~2050) Perspective

Category	Business Impact	Score*
T4	Increased demand for product specification regarding carbon footprint and requirements for carbon reduction	20.85
T3	Strengthened disclosure obligation on greenhouse gas reduction information	20.75
T2	Strengthened new carbon-related regulations / systems	19.45
O6	Increased demand for EV / ESS technologies	18.91
O7	Increased number of newly-invented applications using batteries such as the smart mobility	18.31
T5	Increased costs for low-carbon raw material procurement	18.30
T6	Increased costs for renewable energy procurement	18.20
P1	Prolonged periods of high temperatures	18.17
T1	Increased carbon credit prices	17.00
T8	Increased Capex / Opex for carbon reduction	16.99
T11	Increased conflicts and misalignment due to discrepancies between corporate / investor carbon-related policies / strategies	16.62
T9	Increased Capex / Opex for the development, installation, and operation of low-carbon facilities in production processes to reduce carbon emissions	16.45
O2	Strengthened mandatory use of recycled raw materials and exploration of water reuse methods	16.37
P2	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall	16.35
T12	Increased reputation risks due to non-compliance with carbon-related commitments	16.18

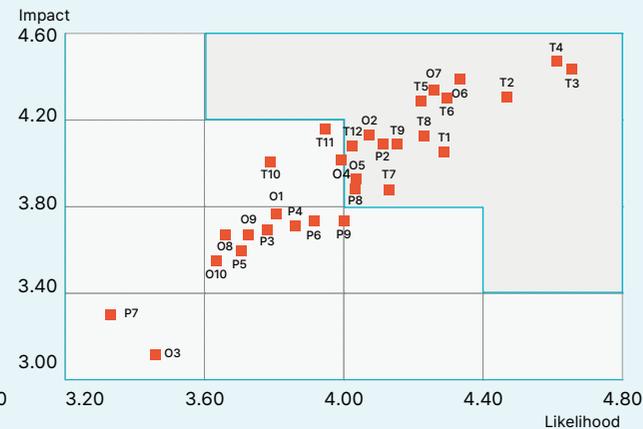
* Score = Likelihood × Impact



* Score = Likelihood × Impact



* Score = Likelihood × Impact





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Business Impact and Response Strategies through Scenario Analysis

LG Energy Solution has incorporated various climate scenario analysis for our 14 material issues. Through this assessment, we plan to establish response strategies for the uncertain future of climate change and strengthen our management system to adapt to risk and opportunity factors.

For transition risks, we have utilized the estimated carbon prices from years 2030 to 2050 based on the NZE (Net-Zero Emissions) scenario, which assumes achieving carbon neutrality by the year 2050, as suggested by the International Energy Agency (IEA). For physical risks, we have utilized the Representative Concentration Pathways (RCP) scenarios, specifically RCP 2.6 and RCP 8.5 from the Fifth Assessment Report (2014) of the Intergovernmental Panel on Climate Change (IPCC).

Climate Change Scenarios

Management Area	Scenario	Overview	Projected Temperature Rise	Source
Transition Risks	NZE (Net-Zero Emissions)	Scenario based on assumption achieving Net-Zero by 2050 through strong climate-related policies to reduce greenhouse gas emissions	1.5°C	IEA
	STEPS (Stated Policies Scenario)	Scenario based on the current climate policies announced by major countries	2.6°C	IEA
Physical Risks	RCP 2.6	Scenario where immediate greenhouse gas reduction is performed, allowing the Earth to recover on its own	0.3 ~ 1.7°C	IPCC
	RCP 8.5	Scenario where greenhouse gas emissions continue without mitigation, following the current trend (BAU: Business As Usual)	2.6 ~ 4.8°C	IPCC

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Short / Medium / Long-term Impacts of Climate Risk and Opportunities and LG Energy Solution's Response Strategies

Based on climate change scenarios, we have analyzed a total of 14 material issues and assessed their impacts on our company, followed by a response measures. With these analyses, we aim to reduce uncertainty caused by climate change and establish appropriate risk mitigation to increase visibility of our climate change response strategy.



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	Risk / Opportunity Factors	Short-term	Medium-term	Long-term	Business Impact	Response Status
Transition Risks	Increased 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
	Strengthened new carbon-related regulations / systems	🕒	🕒	🕒	Increasing Capex / 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
	Strengthened disclosure obligation on greenhouse gas reduction information	🕒	🕒	🕒	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
	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 customer / stakeholder demands while enhancing communication on carbon reduction status and plans with customers / stakeholders
	Increased costs for low-carbon raw material procurement	🕒	🕒	🕒	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 low-carbon materials through continuous R&D
	Increased costs for renewable energy procurement	🕒	🕒	🕒	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)
	Increased Capex / Opex for carbon reduction	🕒	🕒	🕒	Increasing costs due to facility alterations, new investments, and adoption of low-carbon technologies for carbon reductions	Minimization of Capex / Opex through active energy efficiency and carbon reduction activities and advanced management
	Increased conflicts and misalignment due to discrepancies between corporate / investor carbon-related policies / strategies	🕒	🕒	🕒	Increasing concerns of stakeholder actions such as shareholder letters, proxy voting, and potential reduction or divestment	Establishment and maintenance of a leading position in the low-carbon sector and promotion of communication with shareholders and expansion of information disclosure channels
	Increased reputation risks due to non-compliance with carbon-related commitments	🕒	🕒	🕒	Increasing credit / stock price risks due to low evaluation scores from investors and external rating agencies	Active response to external ESG evaluations and related information disclosure, operation of internal consensus-building bodies for the achievement of established plans and declarations

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Risk / Opportunity Factors		Short-term	Medium-term	Long-term	Business Impact	Response Status
Physical Risks	Prolonged periods of high temperatures				Increasing costs for air conditioning and humidity control coupled with decreasing productivity and production disruption due to heat-related worker illnesses	Optimization of operation efficiency for production / utility facilities and maintenance of appropriate indoor temperatures
	Increased likelihood of loss from tropical cyclones and concentrated heavy rainfall				Increasing damage to assets such as production facilities and production disruption	Classification of crisis levels according to the our crisis management policy, and establishment of Emergency Committees that handles decision-making on risk measures
	Increased prevalence of heat-related and cold-related illnesses				Decreasing productivity from increased production disruptions due to diseases and work interruptions, resulting in revenue loss	Implementation of measures to prevent the spread of illnesses within the workplace based on the experience of COVID-19, and implementation of appropriate work environment conditions (temperature, humidity, weather, etc.) through adjustments in work attendance (telecommuting / flexible office work or adjustment of work attendance rates) to provide employees with a safer and more comfortable working environment
Opportunity	Increased demand for EV / ESS technologies				Increasing revenue and sales growth due to increased demand for ESS from intermittent supply for EV batteries and renewable energy	Expansion of production capacity through timely expansion of in-house production capabilities and establishment of joint ventures with overseas customers to meet increasing demand
	Increased number of newly-invented applications using batteries such as the smart mobility				Increasing revenue from battery applications and demand growth	Development of batteries with long lifespan, high safety, high performance, and low carbon materials to meet various customer and market demands, and efforts for eco-friendly production

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Metrics and Target

We have reflected the definitions and requirements of globally-recognized raters such as DJSI, MSCI, and KCGS to enable our management metrics to comply with the requirements of global regulatory authorities and institutions. As for disclosure standards, we analyzed 600 indicators, including climate change disclosure from the Carbon Disclosure Project (CDP), sustainable reporting standards from the European Sustainability Reporting Standards (ESRS), climate-related disclosure from the U.S. Securities and Exchange Commission (SEC), and climate-related disclosure (IFRS S2) from the International Sustainability Standards Board (ISSB) to collect and disclose information on energy, greenhouse gases, water resources, waste, and other climate-related issues at our business sites as recommended by TCFD.

* Korea: headquarter, Ochang Energy Plant and Ochang Energy Plant 2, along with the Magok, Daejeon, and Gwacheon R&D Center.

* Aborad: China (LGESNJ, LGESNA, LGESNB), Poland (LGESWA), and US (LGESMI, GM JV)

To quantify the greenhouse gas emissions, the Global Warming Potential (GWP) has followed the Korea Emission Trading System (K-ETS) and adopted the IPCC Second Assessment Report (SAR-100yr) for domestic sites. For global sites, AR5 has been applied. Please refer to pg. 90-91 for more specific information.

NO	Topic	Disclosures	Page
1	Governance	a) Describe the board's oversight of climate-related risks and opportunities.	81
2	Governance	b) Describe management's role in assessing and managing climate-related risks and opportunities.	81
3	Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	84
4	Strategy	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	86
5	Strategy	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	85
6	Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	82
7	Risk Management	b) Describe the organization's processes for managing climate-related risks.	82
8	Risk Management	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	82
9	Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	90-91
10	Metrics and Targets	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	90-91
11	Metrics and Targets	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	90-91

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Financial

Unit: Million KRW

Category	2022	2021
1. Net sales	25,598,609	17,851,906
2. Cost of sales	21,308,077	13,953,123
3. Gross Profit	4,290,532	3,898,783
4. Selling and marketing expenses	3,076,813	3,130,313
5. Operating income	1,213,719	768,470
6. Financial income	385,537	339,996
7. Financial expenses	519,021	295,258
8. Equity method profit (loss)	(36,641)	(11,556)
9. Others non-operating income	1,349,485	465,006
10. Others non-operating expenses	1,397,765	489,474
11. Profit (loss) before income tax	995,314	777,184
12. Income tax expense	215,488	76,523
13. Net income (loss) from continuing operations	779,826	700,661
14. Net income (loss) from discontinued operations		229,207
15. Profit (loss) for the year	779,826	929,868

* As of the 2022 Business Report published in March 2023

Category	2022	2021
Total Sales	25,598,609	17,851,906
Korea ¹⁾	1,349,928	2,235,338
China	6,067,389	2,910,541
Asia	1,451,499	1,110,368
America	7,075,353	2,827,944
Europe	9,654,428	8,767,715
Africa	12	-

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

* As of the 2022 Business Report published in March 2023

Unit: Million KRW

Category	2022	2021
Total Assets	38,299,445	23,764,137
Current Assets	18,804,269	9,535,827
1. Cash and Cash Equivalents	5,937,967	1,282,880
2. Accounts Receivable	4,771,846	2,914,458
3. Other Receivables	462,188	814,843
4. Other Current Financial Assets	9,167	21,499
5. Prepaid Corporate Income Tax	46,205	149,413
6. Other Current Assets	581,267	456,931
7. Inventory	6,995,629	3,895,803
8. Assets Held for Sale	-	-
Non-current Assets	19,495,176	14,228,310
1. Long-term Accounts Receivable	120,698	67,055
2. Other Long-term Receivables	119,058	92,271
3. Other Non-current Financial Assets	408,551	193,820
4. Investments in Associates and Joint Ventures	203,696	225,567
5. Deferred Corporate Income Tax Assets	2,100,492	1,855,198
6. Property, Plant, and Equipment	15,331,047	11,050,777
7. Intangible Assets	642,090	455,360
8. Investment Properties	213,042	224,325
9. Other Non-current Assets	356,502	63,937
Total Liabilities	17,705,683	15,021,764
Current Liabilities	11,444,923	9,474,017
Non-current Liabilities	6,260,760	5,547,747
Equity of the Parent Company (Owners of the Parent Company)	18,732,215	7,966,116
1. Share Capital	117,000	100,000
2. Additional Paid-in Capital	17,164,627	7,122,437
3. Other Equity Items	-	-
4. Accumulated Other Comprehensive Income	296,070	406,092
5. Retained Earnings (Accumulated Deficit)	1,154,518	337,587
Non-controlling Interests	1,861,547	776,257
Total Equity	20,593,762	8,742,373
Revenue (Sales)	25,598,609	17,851,906
Operating Profit (Loss)	1,213,719	768,470
Net Profit (Loss) for the Period	779,826	929,868
Equity Attributable to Owners of the Parent Company	767,236	792,519
Basic operating profit (loss) per common share (Unit: KRW)	3,306	3,963
Number of the groups	16	12

* As of the 2022 Business Report published in March 2023

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Environmental(E)

Index	2022	2021
Energy Consumption at business sites(TJ)	37,811	31,769
Electricity	29,710	25,007
LNG	5,384	4,655
Stream	2,717	2,107
Korea(TJ)	7,307	6,281
Electricity	5,952	5,027
LNG	1,074	903
Stream	281	350
Global(TJ)	30,504	25,488
Electricity	23,758	19,980
LNG	4,310	3,751
Stream	2,436	1,757
Direct Energy Use(TJ)	5,384	4,655
Korea	1,074	903
Global *	4,310	3,751
Indirect Energy Use(TJ)	32,427	27,114
Korea	6,233	5,377
Global	26,194	21,737
Energy Use ¹⁾ Total Energy Intensity(TJ/100 million KRW) ²⁾	0.148	0.178
Korea(TJ/100 million KRW)	0.084	0.120
Electricity	0.068	0.096
LNG	0.012	0.017
Stream	0.003	0.007
Global(TJ/100 million KRW)	0.181	0.202
Electricity	0.141	0.158
LNG	0.026	0.030
Stream	0.014	0.014
Direct Energy Intensity(Korea)(TJ/100 million KRW)	0.012	0.017
Direct Energy Intensity(Global)(TJ/100 million KRW)	0.026	0.030
Indirect Energy Intensity(Korea)(TJ/100 million KRW)	0.071	0.103
Indirect Energy Intensity(Global)(TJ/100 million KRW)	0.155	0.172
Renewable Energy Conversion(Company-wide) ^{1), 3)}		
Renewable Energy Consumption(TJ)	16,730	11,320
Renewable Energy Conversion Rate(%)	56.3%	45.3%
Energy Conservation(TJ)		
Plan	1,679	1,430
Performance	1,744	1,219

Index	2022	2021
Total Scope 1&2 Emissions(tCO_{2eq}) ⁵⁾	1,501,618	1,334,169
Korea GHG Emissions(tCO _{2eq})	358,473	301,286
Global GHG Emissions(tCO _{2eq})	1,143,145	1,032,884
Total Scope 1 Emissions(Direct emissions)(tCO_{2eq})	306,029	257,303
Scope 1 Emissions(Korea)	72,378	59,176
CO ₂	72,282	59,105
CH ₄	32	25
N ₂ O	64	46
Scope 1 Emissions(Global)	233,650	198,127
Total Scope 2 Emissions(Indirect emissions)(tCO_{2eq}) ⁶⁾	1,195,589	1,076,867
Scope 2 Emissions(Korea)	286,095	242,110
CO ₂	284,410	240,685
CH ₄	47	40
N ₂ O	1,638	1,385
Scope 2 Emissions(Global)	909,494	834,629
GHG Emissions Intensity(Scope1+Scope2)(tCO_{2eq}/100 million KRW) ⁷⁾	5.866	7.474
Scope 1 Emissions Intensity	1.195	1.441
Scope 2 Emissions Intensity	4.671	6.032
Scope 3 Emissions(tCO_{2eq})	164,193	146,442
(1) Fuel-related Activities	114,864	105,162
(2) Employee Business Trips	11,671	6,078
(3) Waste Treatment(Composting, Incineration)	37,658	35,202

- 1) Data for 2021 has changed from the 2021 ESG Report due to changes in calculation method
2) Energy Intensity: Energy consumption (TJ) ÷ Sales on a consolidated basis (100 million KRW)
3) Conversion rate based on manufacturing sites: 61% (for Korea: Green Premium, REC; for Global: Green Pricing, REC)
4) Data for 2021 has changed from the 2021 ESG Report due to changes in calculation method
5) Calculation based on IPCC Second Assessment Report (SAR-100yr), IPCC Guideline (Location-based)
6) GHG emissions reflects the (market-based) offset in renewable energy use
7) GHG Emissions Intensity: Emissions (tCO_{2eq}) ÷ Sales on a consolidated basis (100 million KRW)

* "Global" refers to countries excluding Korea

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Environmental(E)

	Index	2022	2021
Air Pollutant Management	Total air pollutant emissions(kg)	296,798	217,231
	Nitrogen oxides(Nox)	98,665	98,368
	Sulfur oxides(SOx) and other significant atmospheric emissions	3,565	8,582
	Hazardous air pollutants(HAP)	157	1,393
	Particulate matter(PM)	11,487	11,084
	Volatile organic compounds(VOCs)	182,924	97,802
	Air pollutant emissions intensity(kg/100 million KRW) ¹⁾	1.159	1.217
	Nitrogen oxides(Nox)	0.385	0.551
	Sulfur oxides(SOx) and other significant atmospheric emissions	0.014	0.048
	Hazardous air pollutants(HAP)	0.001	0.008
Particulate matter(PM)	0.045	0.062	
Volatile organic compounds(VOCs)	0.715	0.548	
Water Management ²⁾	Total water intake(ton)	10,460,365	7,914,555
	Korea	1,673,759	1,378,969
	Global	8,786,606	6,535,586
	Water intake by type(ton) ³⁾	10,460,365	7,914,555
	Industrial water	3,595,292	845,095
	Surface water	-	-
	Groundwater	-	-
	Tap water	6,865,073	7,069,460
	Rainwater collection or storage	-	-
	Other	-	-
	Wastewater intake intensity(ton/100 million KRW) ⁴⁾	40.863	44.335
	Korea	19.156	26.455
	Global	52.112	51.708
Total water discharge(ton)	-	-	
Korea	-	-	
Global	-	-	

1) Air pollutant emissions intensity: Total air pollutant emissions (kg) ÷ Sales on a consolidated basis (100 million KRW)

2) Data for 2021 has changed from the 2021 ESG Report due to changes in calculation method

3) In 2021, industrial water and domestic water were separated on in Korea. Both Korea and China separated industrial water and domestic water supply in 2022 in which we compiled them in this table.

4) Water intake intensity: Water intake (ton) ÷ Sales on a consolidated basis (100 million KRW)

* "Global" refers to countries excluding Korea

	Index	2022	2021
Wastewater Management ¹⁾	Total wastewater discharge(ton)	1,404,414	3,264,536
	Korea	76,322	389,041
	Global	1,328,092	2,875,495
	Wastewater discharge intensity(tons/100 million KRW) ²⁾	5.486	18.287
	Korea	0.873	7.464
	Global	7.877	22.750
	Wastewater treatment volume(ton)	1,404,414	3,264,536
	Water pollutant discharge(kg)	98,449	147,008
	COD	59,113	78,912
	TOC	373	5,879
SS	13,716	36,843	
T-N	20,186	19,294	
T-P	435	321	
BOD	4,625	5,760	
Waste management ³⁾	Amount of waste generated(ton)	153,654	143,891
	Korea	21,578	21,944
	Global	132,076	121,947
	Total Waste intensity(ton/100 million KRW) ⁴⁾	0.600	0.819
	Korea	0.247	0.421
	Global	0.783	0.983
	Amount of general waste generated(ton)	105,029	95,236
	Landfill	290	212
	Incineration	12,149	12,745
	Recycling	89,012	80,841
Others	3,578	1,437	
Amount of designated waste generated(ton)	48,625	51,007	
Landfill	-	-	
Incineration	10,491	11,725	
Recycling	38,134	38,947	
Others	-	334	
Waste Recycling rate(%)	82.7%	81.9%	

1) Changes in data due to changes in company wastewater management standards

2) Wastewater discharge intensity: Wastewater discharge (in ton) ÷ Sales on a consolidated basis (100 million KRW)

3) Changes in data due to changes in company waste management standards

4) Waste Intensity: Amount of waste generated (in ton) ÷ Sales on a consolidated basis (100 million KRW)

* "Global" refers to countries excluding Korea

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Environmental(E)

Index		2022	2021
Environmental Safety Management at Business Sites	Investment Expenditure for Environmental safety(in million KRW)	264	325
	Violated Cases(in number) ¹⁾	1	-
	Safety and Health Management System(ISO 45001) ¹⁾		
	Overall		
	Certified Site(in number)	9	7
	Total Site Subject to Certification(in number)	16	15
	Certified Rate(in %)	56.3%	46.7%
	Production Sites ²⁾		
	Certified Site(in number)	6	6
	Total Site Subject to Certification(in number)	8	8
	Certified Rate(in %)	75.0%	75.0%
	Non-Production Sites(HQ, Sales, R&D) ³⁾		
Certified Site(in number)	3	1	
Total Site Subject to Certification(in number)	8	7	
Certified Rate(in %)	37.5%	14.3%	

Social(S)

Index		2022	2021
Labor Relations	Labor union membership		
	Number of employee in Korea(in person)	2,063	2,059
	Number of applicable employee in Korea(in person)	4,335	3,960
	Union Members in Korea(in %)	47.6%	52.0%
Talent Management and Training ⁴⁾	By Gender(Permanent Workforce)(in hours)	837,307	1,127,818
	Male	670,589	909,963
	Female	166,718	217,856

1) 2022 Environmental Law violations

In 2022, on October 31st, we violated the [Toxic Substances Control Act] in the US by exceeding the permitted import amount of chemical substances at the facility. As a result, we were fined \$327,334 by the US Environmental Protection Agency. The fine was voluntarily paid, and in order to prevent future occurrences, we reached a Consent Order Agreement concerning the excess import of materials, which required prior reporting approval. Additionally, we participated in the TSCA program, which included education and investigation measures. For the status of sanctions related to environmental violations by other companies, please refer to the 2022 Business (Annual) Report.

2) Energy Plant, Energy Plant 2, LGESNJ, LGESNA, LGESNB, LGESWA, LGESMI, LGESGM

3) For sales: LGESVT, LGESAU, LGESSE, LGESTW; For R&D: Magok, Gwacheon, Daejeon; and Headquarter

4) Online + Offline education

Social(S)

Index		2022	2021
Talent Management and Training	By Age(Permanent Workforce)(in hours)	837,307	1,127,818
	20s	367,379	335,961
	30s	350,912	548,881
	40s	104,131	199,108
	50s	10,382	29,314
	60s	441	1,363
	Others ¹⁾	4,062	13,191
	By Position(Permanent Workforce)(in hours)	837,307	1,127,818
	Associate	385,505	475,731
	Specialist	164,416	246,989
	Professional	282,539	380,762
	Senior Operator	1,726	7,062
Lead Operator	649	2,709	
Research Fellow	1,030	2,327	
Senior Research Fellow	1,174	512	
Others ²⁾	268	11,726	
Mandatory Education Hours Received by Gender(in hours)	23,220	11,906	
Male	19,674	10,155	
Female	3,546	1,751	
Employees in Charge of Education / Training Programs(in person)	8,284	7,757	
Male	6,745	6,494	
Female	1,539	1,263	
Employee Education and Training Cost(in million KRW)	19,274	10,301	
Average Education hours per persons(hours/persons) ³⁾	25	43	
Average Education cost per persons(million KRW/persons) ⁴⁾	0.58	0.39	
New Hires(Permanent + Fixed-term)(in person)	12,329	11,782	
by Country(in person)	12,329	11,782	
Newly Hired			
Korea	1,964	1,806	
China	6,312	6,025	
North America	1,289	852	
Europe	2,764	3,099	

1) Others (ages): No information on age

2) Others (positions): Intern and so on

3) Average education hours per persons: Education hours of permanent employees ÷ Number of total permanent employees

4) Average education cost per persons: Education cost of permanent employees ÷ Number of total permanent employees

* "Global" refers to countries excluding Korea

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Social(S)

Index	2022	2021
by Age and Gender(in person)	12,329	11,782
< 30 years	7,887	8,086
Male	5,630	5,813
Female	2,257	2,273
30-50 years	4,159	3,427
Male	2,959	2,444
Female	1,200	983
> 50 year	283	269
Male	207	192
Female	76	77
New Permanent Hires(in person)	11,191	9,444
by Country(in person)	11,191	9,444
Korea	1,883	1,739
China	5,406	3,930
North America	1,289	852
Europe	2,613	2,923
by Age and Gender(in person)	11,191	9,444
< 30 years	6,792	5,781
Male	4,920	4,178
Female	1,872	1,603
30-50 years	4,135	3,410
Male	2,954	2,439
Female	1,181	971
> 50 year	264	253
Male	189	178
Female	75	75
Fixed-term Employee Hires(in person)	1,138	2,338
by Country(in person)	1,138	2,338
Korea	81	67
China	906	2,095
North America	-	-
Europe	151	176

Newly
Hired

Index	2022	2021
by Age and Gender(in person)	1,138	2,338
< 30 years	1,095	2,305
Male	710	1,635
Female	385	670
30-50 years	24	17
Male	5	5
Female	19	12
> 50 year	19	16
Male	18	14
Female	1	2
#of Total Workforce(Permanent + Fixed-term)(in person)	34,566	28,929
Korea(in person)	10,456	9,016
Male	8,606	7,562
Female	1,850	1,454
Global(in person)	24,110	19,913
Male	16,474	13,561
Female	7,636	6,352
Permanent(%) ²⁾	96.5%	91.5%
Fixed-term(%) ³⁾	3.5%	8.5%
Permanent(in person)	33,367	26,481
Korea(in person)	10,320	8,934
Male	8,530	7,506
Female	1,790	1,428
Global(in person)	23,047	17,547
Male	15,591	11,711
Female	7,456	5,835
Fixed-Term(in person)	1,199	2,448
Korea(in person)	136	82
Male	76	56
Female	60	26
Global(in person)	1,063	2,366
Male	883	1,850
Female	180	516

Workforce
Composition
(in person)¹⁾

1) 2021 data change due to change in calculation method

2) Ratio of permanent: Number of permanent employees / Number of Total Employees

3) Ratio of fixed-term: Number of fixed-term employees / Number of Total Employees

* "Global" refers to countries excluding Korea

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Social(S)

	Index	2022	2021
Workforce Composition (in person)	Breakdown of Permanent Workforce (in person)	33,367	26,481
	Korea(in person)	10,320	8,934
	< 30 years	2,389	2,119
	Male	1,557	1,484
	Female	832	635
	30-50 years	7,407	6,365
	Male	6,455	5,578
	Female	952	787
	> 50 year	524	450
	Male	518	444
	Female	6	6
	Global(in person)	23,047	17,547
	< 30 years	10,476	8,064
	Male	7,561	5,715
	Female	2,915	2,349
	30-50 years	11,453	8,757
	Male	7,317	5,524
	Female	4,136	3,233
	> 50 year	1,118	726
	Male	713	472
	Female	405	254
	by Region(in person)	33,367	26,481
	Asia	24,281	19,893
	America	3,228	1,628
	Europe	5,851	4,952
	Oceania	7	8
	Breakdown by Job Category(Permanent Employee)(in Person)	9,782	8,807
	Employees in Sales(Managerial Position and Above)(in person)	412	346
	Male	363	302
	Female	49	44
Employees in Sales(Non-managerial Position)(in person)	5,490	5,184	
Male	4,687	4,451	
Female	803	733	
R&D(in person)	3,880	3,277	
Male	3,001	2,579	
Female	879	698	

	Index	2022	2021
Workforce Composition (in person)	Voluntary employee turnover(Permanent Workforce)(in %)	7.8%	8.4%
	Korea	3.6%	1.7%
	Global	9.7%	11.8%
	by Region(in %)	7.8%	8.4%
	Asia	5.7%	5.7%
	America	9.3%	18.4%
	Europe	15.5%	15.9%
	Oceania	28.6%	-
	Breakdown by Gender(Korea)(in %)		
	Male	3.4%	1.5%
	Female	4.5%	2.7%
	Breakdown by Gender(Global)(in %)		
	Male	10.4%	12.7%
	Female	8.2%	9.9%
	Breakdown by Age(Korea)(in %)		
	< 30 years	7.0%	4.2%
	30-50 years	2.6%	0.9%
	> 50 years	1.3%	0.4%
	Breakdown by Age(Global)(in %)		
	< 30 years	13.3%	14.8%
	30-50 years	8.2%	10.0%
	> 50 years	8.8%	9.6%
Voluntary employee turnover(Permanent Workforce)(in person)	2,594	2,225	
Korea	369	152	
Global	2,225	2,073	
by Region(in person)	2,594	2,225	
Asia	1,385	1,138	
America	300	299	
Europe	907	788	
Oceania	2	-	
Breakdown by Gender(Korea)(in person)			
Male	288	114	
Female	81	38	

* "Global" refers to countries excluding Korea



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Social(S)

Index	2022	2021
Breakdown by Gender(Global)(in person)		
Male	1,616	1,493
Female	609	580
Breakdown by Age(Korea)(in person)		
< 30 years	167	90
30-50 years	195	60
> 50 years	7	2
Breakdown by Age(Global)(in person)		
< 30 years	1,395	1,192
30-50 years	934	873
> 50 years	98	70
Employees with Managerial Position(in person) ¹⁾	1,905	1,367
Korea	726	469
Male	675	450
Female	51	19
Global	1,179	898
Male	897	681
Female	282	217
Breakdown by Position(Permanent Employee)(in person)		
Korea(in person)		
Management(Professional and above)	4,141	3,488
Office Associate and Specialist	4,159	3,375
Executives	80	66
Field Senior and Lead Operator	660	589
Associate and Advanced Operator	1,406	1,491
Employee satisfaction(in %)		
1st Half	65.0%	
2nd Half	72.0%	

1) Positioner: Persons with responsibility and authority over business and functional organizations

* "Global" refers to countries excluding Korea

Index	2022	2021
Permanent Workforce(in %)		
Overall(in %)		
Male	72.3%	72.6%
Female	27.7%	27.4%
Korea(in %)		
Male	82.7%	84.0%
Female	17.3%	16.0%
Global(in %)		
Male	67.6%	66.7%
Female	32.4%	33.3%
Breakdown of Management Position by Gender(in %)		
Overall(in %)		
Male	82.5%	82.7%
Female	17.5%	17.3%
Korea(in %)		
Male	93.0%	95.9%
Female	7.0%	4.1%
Global(in %)		
Male	76.1%	75.8%
Female	23.9%	24.2%
Breakdown of female employees by position(in %)		
Office Management(Professional and above)	13.4%	12.9%
Office (Korea) Executives	1.0%	2.5%
Associate and Specialist	27.7%	25.7%
Field Senior and Lead Operator	8.3%	8.6%
Field (Korea) Associate and Junior / Advanced Operator	1.2%	1.5%
Breakdown of Women in Executive Leadership by Country(in %)		
Korea	17.3%	16.0%
China	31.4%	32.7%
US	30.1%	29.2%
Poland	36.3%	36.1%
Germany	25.2%	23.8%
Taipei	22.2%	25.5%
Australia	14.3%	12.5%
Breakdown of Women Employee by Department(in %)		
Sales-related	14.4%	14.1%
R&D	22.7%	21.3%

* "Global" refers to countries excluding Korea



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Social(S)

	Index	2022	2021	
	Parental Leave(in person)			
	Total(in person)	491	448	
	Male	284	244	
	Female	207	204	
	Total Return(in person)	487	443	
	Male	282	244	
	Female	205	199	
	Percentage(%)	99.2%	98.9%	
	Male	99.3%	100.0%	
	Female	99.0%	97.5%	
	DEI	Employee with Disability 1)(in person) ¹⁾		
		Total(in person)	397	405
		Korea	185	143
	Global	212	262	
	Total(in %)	1.1%	1.4%	
	Korea	1.8%	1.6%	
	Global	0.9%	1.3%	
	Employee of National Merit Beneficiaries(in person)	80	80	
	Overseas Employee with Position(non-expatriate)			
	% of Employee(in %)	19.3%	18.1%	
	# of Employee (in person)	4,214	3,240	
	Tier-1 Suppliers subject to Regular Evaluations(# of Company)	143		
	Tier-1 Suppliers Completing SAQ(in %)	71.9%		
	Tier-1 Core Suppliers Completing SAQ(in %)	96.6%		
	Tier-1 Supplier's SAQ Score(in point)			
	Working conditions and human rights	94	Not conducted due to the improvement of the purchasing supplier management system	
	Ethical management	95		
	CSR	85		
	Energy & GHG	40		
	Environment, health, and safety	95		
	Total score	89		
	Tier-1 Supplier Risk Assessment(in %)			
	High-risk group	2.1%		
	Mid-risk group	10.5%		
Low-risk group	87.4%			
	On-site Assessment of ESG for Primary Suppliers			
	Completion rate of on-site assessment for high-risk suppliers	66.7%		Not conducted due to the improvement of the purchasing supplier management system
	Completion rate of on-site assessment for key suppliers	1.4%		
	Number of improvement tasks in overseas issues(cases)	100.0%		
	Safety and Health Management System(ISO 45001) ¹⁾			
	Overall			
	Certified Site(in number)	9	6	
	Total Site Subject to Certification(in number)	16	15	
	Certified Rate(in %)	56.3%	40.0%	
	Production Sites ²⁾			
	Certified Site(in number)	6	5	
	Total Site Subject to Certification(in number)	8	8	
Certified Rate(in %)	75.0%	62.5%		
Non-Production Sites(HQ, Sales, R&D) ³⁾				
Certified Site(in number)	3	1		
Total Site Subject to Certification(in number)	8	7		
Certified Rate(in %)	37.5%	14.3%		
Environmental, Health, and Safety (EH&S) Management	Safety Audit(in number)			
CRO-led Safety and Environment-related Meetings	6	12		
Improvement Tasks(Korea)	2,892	295		
Improvement Tasks(Global)	42,074	19,960		
Work-related Illnesses(Employees)				
Employee Deceased(in person)	0	0		
Employee Illness(in person)	0	0		
Occupational illness frequency rate(OIFR)(per 1 million hours) ⁴⁾	0	0		
Work-related Illnesses(Supplier)				
Employee Deceased(in person)	0	0		
Employee Illness(in person)	0	0		
Occupational illness frequency rate(OIFR)(per 1 million hours) ⁴⁾	0	0		

- 1) 2021 data change due to change in calculation method
 2) Energy Plant, Energy Plant 2, LGESNJ, LGESNA, LGESNB, LGESWA, LGESMI, LGESGM
 3) Sales (LGESVT, LGESAU, LGESSE, LGESTW), R&D (Magok, Gwacheon, Daejeon), HQ
 4) OIFR (Occupational illness frequency rate): (Number of illnesses cases ÷ total working hours) × 1,000,000

* "Global" refers to countries excluding Korea

1) Data is collected only from those who 'self-identification' whether or not they have a disability.

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Environmental, Health, and Safety (EH&S) Management	Work-related Injury(Employees, Korea)	-	
	Lost Time Incident(LTI)(in number)	5	7
	LTFIR(per 1 million hours) ¹⁾	0.21	0.34
	# of Accident(in number)	5	7
	Injured Employee(in person)	5	7
	Deceased Employee(in person)		-
	Work-related Injury(Employees, Global)	-	
	Lost Time Incident(LTI)(in number)	21	19
	LTFIR(per 1 million hours) ¹⁾	0.38	0.43
	# of Accident(in number)	21	19
Corporate Social Responsibility	Injured Employee(in person)	21	19
	Deceased Employee(in person)		-
	Work-related Injury(Supplier)	-	
	Lost Time Incident(LTI)(in number)	13	14
	# of Accident(in number)	13	14
	Injured Employee(in person)	13	14
	Deceased Employee(in person)	-	-
	Program(in number)	85	61
	Expenditures(in 1 million KRW)	1,496	1,816

Governance(G)

	Index	2022	2021
Board of Directors and ESG Committee	Board Meeting		
	Board Meetings Held(in number)	10	19
	Average rate of Attendance(in %)	100.0%	100.0%
	Agenda(in number)	30	51
	Objected or Modified Agenda(in number)	-	-
	Average Tenure of Board Member(in month)	17	7
	Board Composition		
	Board Member(in person)	5	7
	Internal Directors(in person)	2	2
	External Directors(in person)	3	4
	Ratio of External Directors(in %)	60.0%	57.1%
	Female Directors(in person)	2	2
	Non-standing Directors (in person)	1	1

	Index	2022	2021
Board of Directors and ESG Committee	Directors with Industry Expertise(in person)	3	3
	Board Expertise ²⁾	50	42
	Audit Committee		
	Committee Member(in person)	3	4
	Committee Meeting(in number)	5	4
	Agenda Reported(in number)	13	5
	Agenda Approved(in number)	5	1
	ESG Committee		
	Committee Member(in person)	5	5
	Committee Meeting(in number)	2	1
Jeong-Do Management	Agenda Reported(in number)	2	1
	Agenda Approved(in number)	-	-
	Corruption Risks at Business Sites		
	Ethics Violated(in number)	-	-
	Confirmed Violated Cases(in number)	4	3
	Confirmed Disciplinary Cases(in number)	3	3
	Terminated Contracts due to Violation(in number)	-	1
	Contracts not Renewed due to Violation(in number)	-	-
	High-risk Site Evaluated(in %)	14.3%	14.3%
	Total High-risk Site(in number)	-	-
Anti-corruption Education for Employees(in %)			
Korea	100.0%	63.0%	
US	83.0%	0.0%	
Poland	41.0%	0.0%	
Germany	0.0%	0.0%	
Australia	0.0%	0.0%	
China	28.9%	16.0%	

1) LTFIR (Lost Time Injury Frequency Rate): (Number of Lost Time Incident(LTI) ÷ Total working hours) × 1,000,000
However, it is calculated based on Korea / Global production and R&D sites

2) Board Expertise = (Number of Directors with Industry Expertise ÷ Total Number of Board Members) × 100

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Jeong-Do Management	Discrimination and Harassment(in number)		
	Reported Discrimination and Harassment	16	3
	Legal Violations		
	Cases(in number) ¹⁾	1	-
	Amount Fined(in 1 billion KRW)	4	-
Fair Trade	Employees Who Received Fair Trade Education(in person)	6,664	15,174
	Hours of Education Provided(in hours)	1,503	2,644
	Mal-practices(in number)	-	-
	Ongoing Legal Cases	-	-
	Completed Legal Cases	-	-
	Loss Amount(KRW)	-	-
Information Security	Provided Training Sessions(in count)	20	18
	Investment Expenditure(in 1 billion KRW)	39	62
	Employees Who Received Information Security Education(in person)	10,393	9,165

1) Cases of 2022 Environmental Law Violations

In 2022, on October 31st, we violated the [Toxic Substances Control Act] in the US by exceeding the permitted import amount of chemical substances at the facility. As a result, we were fined \$327,334 by the US Environmental Protection Agency. The fine was voluntarily paid, and in order to prevent future occurrences, we reached a Consent Order Agreement concerning the excess import of materials, which required prior reporting approval. Additionally, they participated in the TSCA program, which included education and investigation measures. For the status of sanctions related to environmental violations by other companies, please refer to the Business (Annual) Report.

ESG IT Intelligence

LG Energy Solution has initiated the quantitative and systematic management of various non-financial indicators related to ESG, recognizing that these non-financial indicators may be more important in the substantial valuation of our company. In response to ESG information disclosure regulations and the increasing need to efficiently manage ESG data demanded by various stakeholders, LG Group and its subsidiary companies launched the 'LG ESG IT Intelligence' system for ESG management in June 2023.

The LG ESG IT Intelligence is a group-wide ESG IT platform which integrates an end-to-end process of collecting ESG-related data and disclosing non-financial information influencing management. It is based on the LG ESG IT governance, and it covers all LG Group subsidiaries that collaborate to establish ESG policies, standards, and processes and participating in developing system functionalities.

This intelligence system provides accurate ESG information to various stakeholders and derives insights into the overall ESG management direction based on accumulated data. It is an evolving platform that enables the realization of ESG management. In the future, it will gradually expand the scope of ESG management targets and improve functionalities to meet the demands of subsidiaries in various industries, ensuring the completeness of the ESG management platform through continuous improvement.

Ultimately, beyond the data collection and management system, the goal is to analyze and predict the data collected through this system to secure proactive responsiveness to domestic and international disclosure obligations and establish a reliable data-based risk management system. LG Energy Solution utilizes the LG ESG IT Intelligence system to respond to related regulations and aspires to become a trusted ESG leading company for internal and external stakeholders, including customers.

Global ESG Index

GRI Standards 2021

GRI 2: General Disclosures 2021

Topic	Index	Description	Page
The Organization and its Reporting Practices	2-1	Organizational details	7
	2-2	Entities included in the organization's	2
	2-3	Sustainability reporting	2
	2-4	Reporting period, frequency and contact	No such case
	2-5	External assurance	106-107
Activities and Workers	2-6	Activities, value chain and other business relationships	37-39
	2-7	Employees	93
	2-8	Workers who are not employees	93
Governance	2-9	Governance structure and composition	45
	2-10	Nomination and selection of the highest governance body	46
	2-11	Chair of the highest governance body	46
	2-12	Role of the highest governance body in overseeing the management of impacts	46
	2-13	Delegation of responsibility for managing impacts	22
	2-14	Role of the highest governance body in sustainability reporting	22
	2-15	Conflicts of interest	46
	2-16	Communication of critical concerns	47
	2-17	Collective knowledge of the highest governance body	46-47
	2-18	Evaluation of the performance of the highest governance body	47
Strategy, Policies and Practices	2-19	Remuneration policies	72
	2-20	Process to determine remuneration	72
	2-21	Annual total compensation ratio	-*
	2-22	Statement on sustainable development strategy	6
	2-23	Policy commitments	24
	2-24	Embedding policy commitments	22
	2-25	Processes to remediate negative impacts	77
	2-26	Mechanisms for seeking advice and raising concerns	76-77
	2-27	Compliance with laws and regulations	77
	2-28	Membership associations	105
Stakeholder Engagement	2-29	Approach to stakeholder engagement	77-78
	2-30	Collective bargaining agreements	62

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

GRI 3: Material Topics

Topic	Index	Description	Page
GRI3: Material Topics	3-1	Process to determine material topics	26-27
	3-2	List of material topics	27
	3-3	Management of material topics	27

GRI 200: Economic Performance

Topic	Index	Description	Page
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	9, 73, 89
	201-2	Financial implications and other risks and opportunities due to climate change	80-88
GRI 205: Anti-corruption	205-1	Operations assessed for risks related to corruption	74-76
	205-2	Communication and training about anti-corruption policies and procedures	76
	205-3	Confirmed incidents of corruption and actions taken	96
GRI 206: Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	96

GRI 300: Environmental Performance

Topic	Index	Description	Page
GRI 302: Energy	302-1	Energy consumption within the organization	90
	302-2	Energy consumption outside of the organization	90
	302-3	Energy intensity	90
	302-4	Reduction of energy consumption	90
	302-5	Reductions in energy requirements of products and services	90
GRI 303: Water and Effluents	303-1	Interactions with water as a shared resource	91
	303-2	Management of water discharge-related impacts	91
	303-3	Water withdrawal	91
	303-4	Water discharge	91
	303-5	Water consumption	91

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Topic	Index	Description	Page
GRI 304: Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	59
	304-2	Significant impacts of activities, products and services on biodiversity	59
	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 GHG emissions(Scope 1)	90
	305-2	Energy indirect GHG emissions(Scope 2)	90
	305-3	Other indirect GHG emissions(Scope3)	90
	305-4	GHG emissions intensity	90
	305-5	Reduction of GHG emissions	90
GRI 306: Waste	306-1	Waste generation and significant waste-related impacts	57
	306-2	Management of significant wasterelated impacts	57
	306-3	Waste generated	91
	306-4	Waste diverted from disposal	91
	306-5	Waste directed to disposal	91
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	38-39
	308-2	Negative environmental impacts in the supply chain and actions taken	38-39

GRI 400: Social Performance

Topic	Index	Description	Page
GRI 401: Employment	401-1	New employee hires and employee turnover	92
	401-3	Parental leave	96
GRI 402: Labor / Management Relations	402-1	Minimum notice periods regarding operational changes	62
GRI 403: Occupational Health and Safety	403-1	Occupational health and safety management system	51
	403-2	Hazard identification, risk assessment, and incident investigation	52
	403-3	Occupational health services	53
	403-4	Worker participation, consultation, and communication on occupational health and safety	53
	403-5	Worker training on occupational health and safety	52
	403-6	Promotion of worker health	53
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	52

GRI 400: Social Performance

Topic	Index	Description	Page
GRI 403: Occupational Health and Safety	403-8	Workers covered by an occupational health and safety management system	53
	403-9	Work-related injuries	97
	403-10	Work-related ill health	96
GRI 404: Training and Education	404-1	Average hours of training per year per employee	92
	404-2	Programs for upgrading employee skills and transition assistance programs	60
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	42-43, 45, 97
	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	No such case
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	Not applicable
GRI 411: Rights of Indigenous Peoples	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	66-67
	413-2	Operations with significant actual and potential negative impacts on local communities	37
GRI 414: Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	37, 38
	414-2	Negative social impacts in the supply chain and actions taken	37-39
GRI 415: Public Policy	415-1	Political contributions	Not applicable
GRI 416: Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	36
	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

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Disclosure of Sustainability Information based on ‘SASB Standards’

‘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	90	
			(2) Percentage grid electricity		
			(3) Percentage renewable		
Health and Safety of Employees	RR-FC-320a.1	Quantitative	(1) Total recordable incident rate(TRIR)	96	
			(2) Fatality rate	96	
	RR-FC-320a.2	Discussion and Analysis	Description of efforts to assess, monitor, and reduce exposure of workforce to human health hazards	51-53	
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 more
			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

Topic	Code	Category	Metric	Page & Answer
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
	RR-FC-410b.3	Discussion and Analysis	Description of approach to manage use, reclamation, and disposal of hazardous materials	57-58
Materials Sourcing	RR-FC-440a.1	Discussion and Analysis	Description of the management of risks associated with the use of critical materials	37-39
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



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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
 1 No Poverty	Activities designed to support local communities, such as the welfare fund for the underprivileged, donation of books and daily necessities	66-68
 3 Good Health and Well-being	Youth health & education projects and environment protection activities Improving the environment underserved house	67
 4 Quality Education	Operating programs designed to nurture science and technology talent	67
 5 Gender Equality	Managing an organizational culture and female talent management based on gender equality	42
 6 Clean Water and Sanitation	Water / Wastewater Management	55-56
 7 Affordable and Clean Energy	Operating Hope Green Power Plant	66
 8 Decent Work and Economic Growth	Operating “Areum Nuri” to create jobs for persons with disabilities Supporting mutual growth with suppliers	42
 9 Industry, Innovation and Infrastructure	Conducting research to develop new technologies / products for future growth such as next-generation batteries	16-18
 10 Reduced Inequalities	Organizational culture based on diversity, equity, and inclusion (DEI)	42-44

UN SDGs	Detailed Activities	Page
 12 Responsible Consumption and Production	Promoting zero landfill to minimize environmental impact Utilizing renewable energy during battery production	57
 13 Climate Action	Developing goals to reduce GHG emissions Building a decision-making system for climate change Building / operating a global energy management system	80-88
 15 Life on Land	Efforts to Conserve Biodiversity	59
 16 Peace, Justice and Strong Institutions	Conducting compliance education for employees Obtaining the ISO 37301 (compliance management system) certification	74-76
 17 Partnerships for the Goals	Engaging in initiatives such as UNGC, GBA, RBA / RMI / RLI, FCA, and RE100 / EV100	104-105



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10 Principles of the UNGC

LG Energy Solution joined the UN Global Compact(UNGC) in May 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 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	62
	2	make sure that they are not complicit in human rights abuses.	62
Labour	3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	62
	4	the elimination of all forms of forced and compulsory labour;	62
	5	the effective abolition of child labour; and	62
	6	the elimination of discrimination in respect of employment and occupation.	42
Environment	7	Businesses should support a precautionary approach to environmental challenges;	83
	8	undertake initiatives to promote greater environmental responsibility; and	80-88
	9	encourage the development and diffusion of environmentally friendly technologies.	16-18
Anti-Corruption	10	Businesses should work against corruption in all its forms, including extortion and bribery.	74-76

ISSB Index

IFRS S1: General Requirements for Disclosure of Sustainability-related Financial information

Index	Disclosure	Page
S1-1	Governance	22, 45
S1-2	Strategy	24
S1-3	Risk Management	69-71
S1-4	Metrics and Targets	89-98
S1-5	Scope	2
S1-6	Connected Information	9, 89
S1-7	Fair Presentation	89-105
S1-8	Materiality	26-27
S1-9	Comparative Information	89-98
S1-10	Timing of Reporting	2
S1-11	Location of Disclosures	2
S1-12	Measurement Uncertainty	2
S1-13	Errors	No such case
S1-14	Statement of Compliance	74-76

IFRS S2: Climate-related Disclosures

Index	Disclosure	Page
S2-1	Governance	81
S2-2	Strategy	85-87
S2-3	Risk Management	83-84
S2-4	Metrics and Targets	88, 91-92

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GBA: Establishing ESG Standards in the Battery Industry

LG Energy Solution participates in the Global Battery Alliance (GBA) initiative, a consortium focused on the battery supply chain in Europe. Through this initiative, LG Energy Solution monitors and proactively responds to battery policies and regulations in the EU. GBA is a stakeholder alliance of companies, governments, international organizations, NGOs, and other stakeholders aiming to achieve a sustainable battery value chain. As a BOD member, we provide advisory on GBA's strategies and activities as a global battery manufacturer. LG Energy Solution is dedicated to responsible activities for a sustainable future, such as developing standards for calculating the carbon footprint of battery products, addressing environmental and supply chain human rights issues, and participating in developing a Battery Passport.

RE100, EV100: Implementing Carbon Neutrality Roadmap

In April 2021, LG Energy Solution became the first company in the battery industry to join the RE100 and EV100 initiatives. By doing so, LG Energy Solution declares and pursues the goal of achieving 100% renewable electricity for power consumption and transitioning 100% of our vehicle fleet to electric vehicles by 2030 - 20 years ahead of the target set for 2050 in global campaigns. According to the "2022 RE100 Annual Report" published by The Climate Group and the Carbon Disclosure Project (CDP), LG Energy Solution achieved a renewable energy transition rate of 44% as of 2021, ranking first among the 14 domestic companies that joined RE100. In 2022, we achieved 61%. LG Energy Solution is the first domestic company to be selected as the Advisory Committee of the RE100 Board, providing policy advice on renewable energy participation and other key strategic planning.

FCA: Supporting Local Communities and Eradicating Forced and Child Labor

The Fair Cobalt Alliance (FCA), Established in August 2020, is an initiative to eradicate forced and child labor issues in cobalt mines in the Democratic Republic of Congo (DRC). LG Energy Solution joined the FCA in May 2022, becoming the first domestic company to join the initiative and participate as a member of the steering committee member LG Energy Solution collaborates with the FCA to address forced labor and child labor issues that may arise from cobalt production in the DRC. Furthermore, LG Energy Solution promotes improvements in local communities and economic systems by supporting solar power supply to local schools, enrollment and education support for preschool children, and conducting safety education within the mines.

RBA, RMI, RLI: Strengthening ESG Risk Management in Global Supply Chain

LG Energy Solution is a Responsible Business Alliance (RBA) member, and we were the first company in the domestic battery industry to join. We support RBA's vision of promoting sustainability in global supply chain and takes preventive measures for risks that may arise in labor, health and safety, the environment, and corporate ethics within the supply chain. LG Energy Solution also adheres to the RBA code of conduct for domestic and overseas workplaces and suppliers, conducting regular inspections and improvements. Additionally, LG Energy Solution joined the Responsible Labor Initiative (RLI) and the Responsible Mineral Initiative (RMI), both under the RBA, to enhance supply chain evaluation and management according to global standards. We will continue strengthening ESG management and enhancing cooperation in human rights management, diversity, inclusivity, fairness, and responsible mineral sourcing, solidifying our position as an industry leader.

Global Initiatives



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Domestic Initiative Membership Status

Green Business Council	Cheongju Chamber of Commerce and Industry	Korean Society of Automotive Engineers
Daejeon-Sejong-Chungnam Environmental Technician Association	Management Corporation for Cheonju Industrial Complex	Korea Electric Engineers Association
Daejeon-Chungnam Environmental Conservation Association	Chungcheong Chemical Safety Community	Korea Electrical Manufacturers Association
Daejeon Research and Development Complex Safety Association	Chungnam Environment Association	Korea Electric Vehicle Association
Korean Industrial Safety Association	Chungbuk Enterprises Federation	Korea Battery Industry Association
Korean Nurses Association	Chungbuk-Sejong Environmental Conservation Association	Korea Special Library Association
Korean Nurses Association Chungbuk	Chief Technology Officer (CTO) Club (Korea Industrial Technology Association)	Materials Research Society of Korea
The Korean Society of Mechanical Engineers	Korea Exchange (KRX)	Korea Intellectual Property Association
Korea Environmental Engineers Association	Fair Competition Federation	CONsortium of CERT
The Korea Chamber of Commerce & Industry	The National Academy of Engineering of Korea	Korean Standards Association (KSA)
Seoul Bar Association	Korea Association for Radiation Application (KARA)	Korean Society for Quality Management
Fire Safety Countermeasure Council	Korea Industrial Technology Protection Association	The Korean Statistical Association
Ochang Science-Industrial Complex Management Corporation	Korea Industrial Technology Association	Korea Chemicals Management Association
The Korean Institute of Electrical Engineers	Korea Listed Companies Association	Korea AEO Association
Korea Electric Association	Korea Fire Safety Institute	Korea Investor Relations Service
American Chamber of Commerce in Korea (AMCHAM)	The Korean Society For Technology of Plasticity	Korea-US Association
Korea International Trade Association	Korea Smart Grid Association	
Occupational Health Nursing Association		

Overseas Initiative Membership Status

BCI(Battery Council International)
CESA(California Energy Storage Alliance)
CNESA(China Energy Storage Alliance)
Clean Energy Council Limited
ESA(The U.S. Energy Storage Association)
EV100(Electric Vehicle 100)
FCA(Fair Cobalt Alliance)
GBA(Global Battery Alliance)
INTA(International Trademark Association)
PRBA(US Rechargeable Battery Association)
RBA(Responsible Business Alliance)
RECHARGE(The Advanced Rechargeable & Lithium Battery Association)
RE100(Renewable Electricity 100)
RLI(Responsible Labor Initiative)
RMI(Responsible Mineral Initiative)
UNGC(UN Global Compact)

Third-Party Assurance

Introduction

Korea Management Registrar (KMR) was commissioned by LG Energy Solution to conduct a third-party assurance of its 2022 ESG Report (“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.

- GRI Sustainability Reporting Standards 2021
- Universal standards
- Topic specific standards
 - GRI 305: Emissions
 - GRI 306: Waste
 - GRI 308: Supplier Environmental Assessment
 - GRI 401: Employment
 - GRI 405: Diversity and Equal Opportunity
 - 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.



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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.

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. We have recommended disclosing information built on quantitative and qualitative data of the recent two years, considering the spin-off and corporate establishment in December 2020. 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.

July 2023 Seoul, Korea



CEO *E. J. Hwang*

