

LG Net Zero Special Reporting 2023~2024

Net Zero Snapshot | Roadmap | Strategy & Performance | Next Step | Appendix











About This Report

Overview

LG Group has established a Net Zero integrated roadmap targeting Net Zero in Scope 1 and 2 emissions by 2050. This report, the second of its kind, follows the release of the Group's first Net Zero Report in February 2023 and outlines its updated roadmap, plans, as well as its key implementation achievements toward Net Zero in 2023. Through these Net Zero reports, LG Group aims to demonstrate its genuine commitment to the journey toward Net Zero.

Scope of the Report

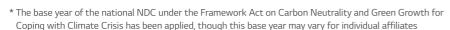
- · Net Zero Integrated Roadmap
- Timeline: 2023-2050
- Base year: 2018* / Interim target: 2030 / Final target: 2050
- · Participating affiliates: LG Electronics, LG Display, LG Innotek, LG Chem, LG Energy Solution, LG Household & Health Care, and LG Uplus (as of 2023)
- · Target facilities: Over 182 facilities** which include all domestic facilities, overseas production sites, and R&D centers of seven affiliates, for Scope 1,2 emissions

Application and Reference Criteria

This report is based on the reporting requirements proposed in the CDSB (Climate Disclosure Standards Board)'s CCRF (Climate Change Reporting Framework).

Verification

To ensure the objectivity and impartiality of the content in this report, third-party verification was conducted by the Korea Management Registrar (KMR), an independent verification agency.



^{**} All domestic facilities under the Emissions Trading Scheme and Target Management System are included, while overseas sales offices and branches are excluded



Cover Story & Our Journey

The record-breaking heatwaves, extreme cold spells, heavy rainfall, droughts, and intensifying storms occurring across the globe have become a part of our everyday reality. The carbon-driven civilization that once supported humanity's survival and prosperity has now become a paradox, threatening the sustainability of our future.

We must face the severity and urgency of the climate crisis and take our responsibility to pass on a future we've borrowed from the next generation.

With a profound sense of responsibility toward future generations, LG Group is steadily moving forward along its Net Zero Intergrated Roadmap. This is why the Group publishes its Net Zero Report, embodying the commitment of Taking a Solid Step Forward.

Through continuous and genuine efforts to reach its Net Zero target, LG Group aims to create sustainable value for all stakeholders - including customers and shareholders, and future generations.

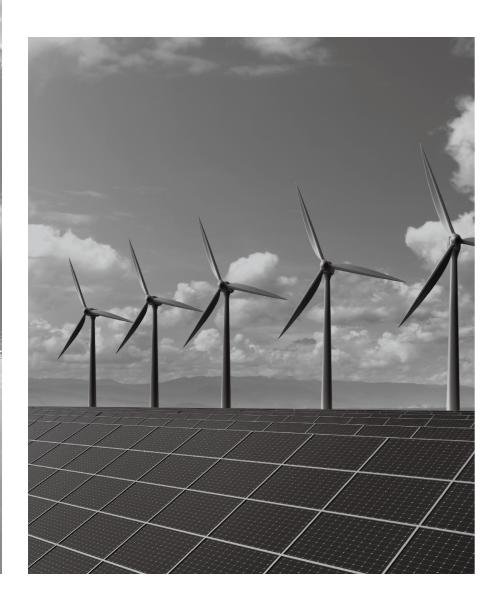




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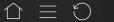
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Achieving Net Zero

2050

2040

Reducing emissions by 52% compared to 2018

✓ LG Energy Solution and LG Innotek achieving Net Zero

Net Zero Snapshot

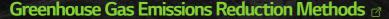
You can quickly view LG Group's Net Zero Integrated Roadmap and key implementation achievements. For more detailed information, readers can refer to the relevant sections of the report, where clickable links provide easy access to the desired content.

Reducing emissions by 34% compared to 2018

- ↓ LG Electronics achieving Net Zero
- LG Energy Solution and LG Innotek achieving RE100

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Scope 1 emissions, which are direct emissions, will be reduced through process optimization/fuel transition, such as replacing with high-efficiency equipment, adopting of electric boilers, and conversion to pollution-free vehicles, and applying innovative future technologies such as hydrogen and CCUS. Scope 2 emissions from electricity use will continue to be reduced by renewable energy transition, and the residual emissions that are difficult to reduce technically will be reduced by utilizing offset credits.

Economic Evaluation

LG Group meticulously tracks both investment costs (Capex) and operating costs (Opex) for Net Zero every month, and calculates the potential benefits such as fuel and electricity cost savings, and revenues from carbon credit sales by implementing reduction methods. The cumulative investment costs are expected to be KRW 3.6 trillion and the cumulative benefits* are expected to be KRW 7.8 trillion from 2022 to 2030 according to the Group's Net Zero integrated roadmap, and the benefits of Net Zero are expected to exceed the investment costs.

*These estimates are based on the average future discount rate applied across affiliates and are subject to change depending on shifts in assumptions, such as carbon credit pricing



LG Group regularly revises and updates its Net Zero integrated roadmap in accordance with changes in market conditions, business plans of each affiliate, and the pace of emission reduction implementation, in line with the principle of progress.

The revised roadmap sets a more ambitious target for 2030 compared to the initial roadmap, aiming to achieve a 34% reduction by 2030 compared to 2018 levels and to reach Net Zero by 2050. In terms of renewable energy, the group targets a transition rate of 76% by 2030, 89% by 2040, and 100% by 2050, considering market conditions, procurement environments, and changes in power consumption plans according to the renewable energy transition target of each affiliate.

Greenhouse Gas Emissions

In 2023, LG Group's GHG emissions (Scope 1 and 2) totaled 17.45 million tons, marking a reduction of approximately 9.9% compared to 2022.

As of 2023, Scope 1 emissions decreased by 8.7% compared to 2022 through process innovation, fuel transition, investments in high-efficiency equipment, and the conversion to pollution-free vehicles, while Scope 2 emissions decreased by 10.7% compared to 2022 through energy efficiency and the transition to renewable energy.











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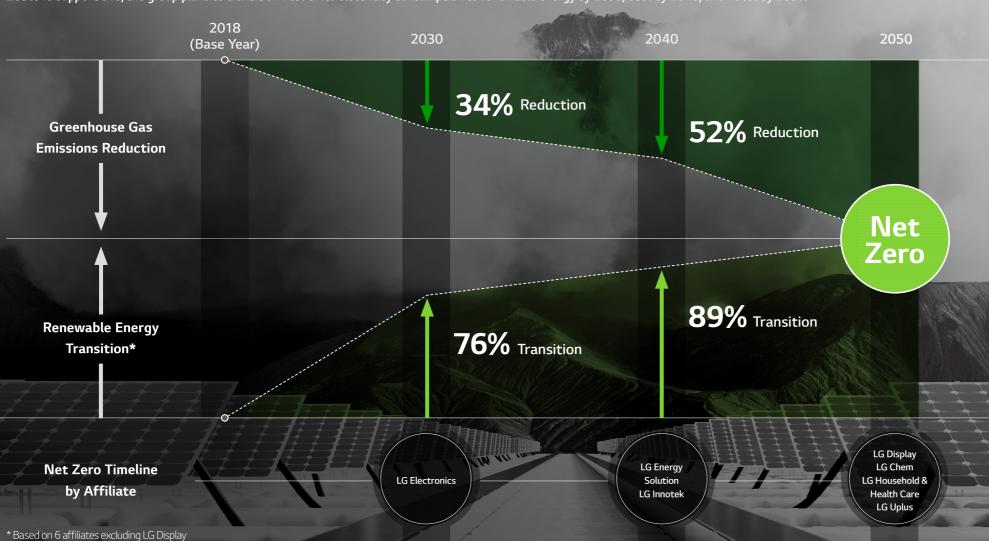
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Net Zero Integrated Roadmap

LG Group aims to reduce the total Scope 1 and 2 emissions of its seven major domestic and overseas affiliates by 34% by 2030 and by 52% by 2040, achieving Net Zero by 2050. To support this, the group plans to transition 76% of its electricity consumption to renewable energy by 2030, 89% by 2040, and 100% by 2050.





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3.11 million tons

Scope 2 Overseas

(18%)

Greenhouse Gas Emissions

6.19 million tons (36%)Scope 1 Domestic

(3%)

Scope 1 Overseas

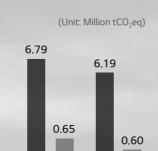
Scope 2 Domestic

Total GHG Emissions* in 2023

17.45 million tons

7.55 million tons (43%)

Scope 1



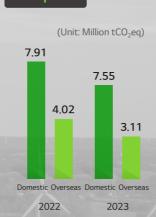
Domestic Overseas Domestic Overseas

2023

As of 2023, Scope 1 emissions amounted to 6.19 million tons** domestically and 0.60 million tons overseas. Compared to 2022, domestic emissions decreased by 0.60 million tons (8.8%) and overseas emissions by 0.05 million tons (7.7%). These reductions were achieved by replacing outdated facilities and switching to eco-friendly fuels such as hydrogen and bio-fuel, reducing reliance on fossil fuels, and eliminating process gas with high GWP*** and we are also continuing to reduce mobile combustion emissions by converting to pollution-free vehicles such as hybrid and electric vehicles.

Scope 2

2022



As of 2023, Scope 2 emissions amounted to 7.55 million tons domestically and 3.11 million tons overseas. Compared to 2022, domestic emissions decreased by 0.36 million tons (4.6%), while overseas emissions dropped by 0.91 million tons (22.6%).

We continue to reduce our Scope 2 emissions by transition to renewable energy to power our domestic and overseas operations, and we are minimizing our electricity consumption through various energy efficiency efforts, such as installing heating and cooling systems and replacing lighting with low-power alternatives.

- * Calculated based on the market-based emissions of the seven affiliates
- ** Metric tons of CO₂ equivalent (tCO₂eq)
- *** Global Warming Potential



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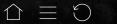
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Greenhouse Gas Emissions Reduction Methods

2018 (Base Year)

2023

Process Optimization/Fuel Transition

- Process optimization, Replacement with high-efficiency equipment
- · Conversion to bio-fuel
- Elimination of process gas

Innovative Future Technologies

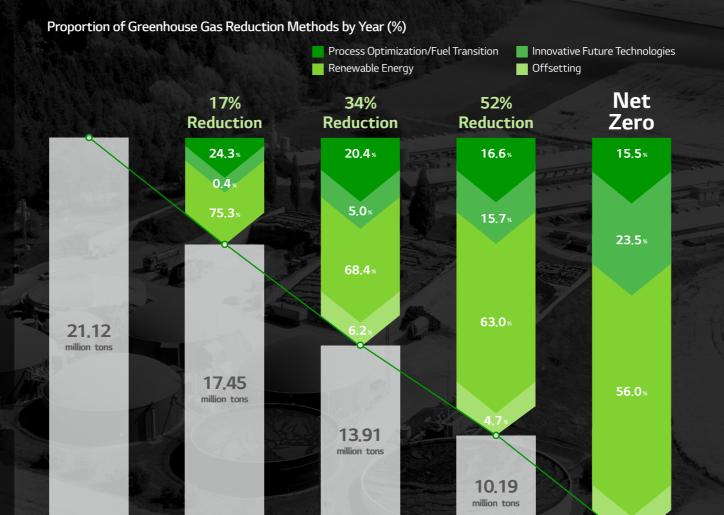
- Converting methane-based fuels to hydrogen
- · CCUS*
- Developing hydrogen fuel cell power generation facilities

Renewable Energy

- Green Premium
- · RECs**. PPAs***
- Introduction of self-generation systems

Offsetting

- Purchasing offset credits
- Afforestation for securing carbon credits
- Supporting emission reduction technologies in developing countries
- * Carbon Capture, Utilization and Storage
- ** Renewable Energy Certificates
- *** Power Purchase Agreements



2030

2040

2050



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Economic Evaluation

Data Validation

- Monthly monitoring of Net Zero implementation performance, collection of greenhouse gas reduction performance, and investment costs (Capex, Opex)
- Comparison of emissions before and after carbon reduction implementation and review investment costs month-over-month and year-over-year for omissions/errors

Target Affiliates for Analysis (7 Companies)

LG Electronics

LG Chem

LG Uplus

LG Display

LG Energy Solution

LG Innotek

LG Household & Health Care

Collected Data



Capex

Initial investment costs when executing reduction methods such as equipment purchase costs, installation costs, and the dismantling costs of outdated facilities



Operating costs of facilities before and after the implementation of reduction methods (bio-fuel purchases, renewable energy purchases, etc.)

Cost-Benefit Analysis

- Review of the consistency of collected costs (Capex, Opex) data
- · Calculation of benefits, such as fuel and electricity cost savings and revenues from the sales of carbon credits, compared to investment costs for each reduction method (direct reduction, renewable energy, offsetting)

Direct Reduction

- Process optimization
- · Elimination of process gas
- Replacement with electric boilers
- Conversion to bio-fuel and materials
- · Conversion to pollution-free vehicles
- Innovative future technologies (Hydrogen)

Renewable Energy

- Green Premium
- RECs
- PPAs
- Self-generation

Offsetting

- Purchase of offset credits
- Direct implementation of offset projects

Costs

Process optimization/Fuel transition

Innovative future technologies

Renewable energy

Offsetting

Considering the economic impact of the commercialization of innovative technologies, the adoption of CCUS, and the implementation of renewable energy

Considering carbon credit price forecasts

due to greenhouse gas emission

regulations, changes in electricity rates

and the possibility of stable procurement

of renewable energy based on IEA* and

NGFS** scenarios

Benefits

Fuel cost savings

Electricity cost savings

Avoidance of carbon credit purchases

Sales of carbon credits



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^{*} International Energy Agency

^{**} Network for Greening the Financial System



LG Group is establishing specific strategies for achieving Net Zero based on the 'Principle of Progress_ and is actively advancing its carbon reduction efforts.











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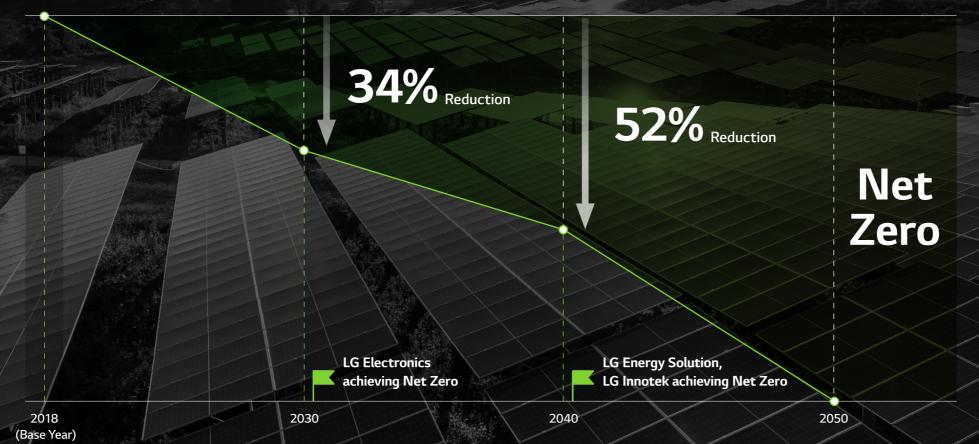




Roadmap

LG Group, in accordance with Article 4.3 of the Paris Agreement, conducts monthly assessments of market conditions, changes in business plans for each affiliate, and reduction performance. Based on these assessments, the Net Zero integrated roadmap is regularly revised and updated. In this updated roadmap, the annual reduction pathway has been adjusted, targeting a 34% reduction in Scope 1 and 2 emissions by 2030 and a 52% reduction by 2040 compared to the baseline year of 2018, ultimately achieving Net Zero by 2050. For each affiliate, LG Electronics targets Net Zero by 2030; LG Innotek and LG Energy Solution by 2040; and LG Display, LG Chem, LG Household & Health Care, and LG Uplus by 2050.

LG Group Net Zero Integrated Roadmap





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LG Group has established advanced Net Zero strategies, including self-reduction, renewable energy transition, and limited use of offsets, and is achieving performance through rigorous implementation management.

01

Emissions Reduction

02

Renewable Energy

)3

Offsetting

)4

Climate Governance











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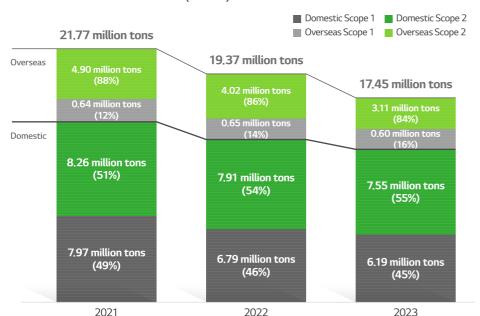


Emission Characteristics by Group and Affiliates

Each affiliate of LG Group has established reduction strategies adapted to their major emission sources and characteristics, systematically executing reduction methods. In 2023, total emissions amounted to 17.45 million tons, representing a decrease of 1.92 million tons (9.9%) compared to 19.37 million tons in 2022, with reductions across all categories: domestic and overseas, and Scope 1 and 2. For domestic Scope 1 emissions, efforts such as process efficiency improvements and the elimination of fluorinated gas (F-Gas) used in LG Display's manufacturing processes led to a reduction from 6.79 million tons in 2022 to 6.19 million tons in 2023, a decrease of 0.60 million tons (8.8%). Domestic Scope 2 emissions decreased from 7.91 million tons in 2022 to 7.55 million tons in 2023, reflecting a reduction of 0.36 million tons (4.6%) due to replacement with high-efficiency equipment and the expansion of renewable energy transition. Overseas, many operations involve electricity-intensive processing and assembly, resulting in a significant reduction from 4.02 million tons in 2022 to 3.11 million tons in 2023—a decrease of 0.91 million tons (22.6%) primarily through renewable energy transition.

LG Group is enhancing the integration and management of data related to emissions and renewable energy transition performance through LG ESG Intelligence, a comprehensive ESG data management platform for all affiliates. Additionally, the group is developing price forecasting models for offset credits and RECs, and will support economic feasibility assessments using these models, contributing to the achievements of Net Zero.





Scope 1 and 2 Emissions Proportion by Affiliates in 2023

(Unit: Million tCO₂eq)

Affiliate	Emissions	Scope 1	Scope 2
Total	17.45(100%)	6.79(39%)	10.66(61%)
LG Chem	9.04(52%)	5.18(57%)	3.86(43%)
LG Display	4.31(25%)	1.06(25%)	3.25(75%)
LG Energy Solution	1.49(8%)	0.29(19%)	1.20(81%)
LG Uplus	1.38(8%)	0.01(1%)	1.37(99%)
LG Electronics	0.86(5%)	0.21(24%)	0.65(76%)
LG Innotek	0.24(1%)	0.02(8%)	0.22(92%)
LG Household & Health Care	0.13(1%)	0.04(31%)	0.09(69%)











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Emissions Reduction

Proportion of Direct Greenhouse Gas Reduction Methods

LG Group achieved a reduction of 1.05 million tons of greenhouse gas in 2023, representing approximately 25% of the total reductions, through various direct reduction methods such as process gas elimination at LG Display, hydrogen utilization and bio-naphtha adoption at LG Chem. By reduction methods, elimination of process gas (69.7%) and process optimization (25.7%) accounted for the largest portions. The group is also expanding new reduction methods, including conversion to hydrogen and bio-fuel/materials, as well as electrification.

Total Reductions Direct Greenhouse Gas Reduction Performances in 2023 4.25 million tons **Emissions** Reduction Q\$0 (25%) Elimination of Process Gas Ma **Direct Reductions** Process 0.73 million tons 1.05 million tons Optimization (69.7%) Innovative Future Renewable 0.27 million tons Technologies Conversion to Energy (25.7%)(Hydrogen) Bio-Fuel and (75%) Materials 0.019 million tons (1.7%)0,008 million tons Others* (0.8%)0.023 million tons (2.1%)











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^{*} Replacement with electric boilers, conversion to pollution-free vehicles, etc.

Emissions Reduction

Cases of Direct Reduction Methods by Affiliates

Process Optimization



Efforts to improve process efficiency through the replacement with high-efficiency equipment and enhancements in energy consumption can effectively reduce greenhouse gas emissions.

LG Electronics has introduced a system that recovers and recycles the refrigerant lost during the injection HFC-based refrigerants, reducing greenhouse gas emissions during the product manufacturing stage.

Outdated communication equipment at LG Uplus is being replaced to improve energy efficiency. Moreover, its existing network structure is transitioning from HFC (Hybrid Fiber Coax) to FTTH (Fiber-to-the-Home), resulting in reduced electricity consumption.

Elimination of Process Gas



Fluorinated gas emitted during the display production process can be minimized through high-efficiency scrubbers or by replacing them with process gas with a lower GWP. LG Display, in collaboration with academic institutions, research organizations, and gas suppliers, is working to develop eco-friendly process gas.

Additionally, efforts are being made to expand the installation of scrubbers with a 90% reduction efficiency, targeting a 95% reduction in greenhouse gas emissions from production processes by 2030.

Conversion to Hydrogen-Fuel



Hydrogen fuel is gaining recognition as an effective low-carbon option for industrial sectors where converting to electric-based equipment is challenging.

By utilizing byproduct hydrogen generated at the Yeosu plant, LG Chem has reduced fossil fuel use in the NCC (Naphtha Cracking Center), achieving approximately 20,000 tons of carbon emission reductions. In addition, a hydrogen production plant is under construction, scheduled for operation by 2025, which will use byproduct methane from the NCC process as a raw material for hydrogen production. This hydrogen will be reused as fuel, further increasing the proportion of clean fuel in the NCC process.

4 Conversion to Bio-Fuel



Conversion to sustainable biomass feedstocks, such as waste wood, can significantly reduce greenhouse gas emissions associated with fossil fuels.

LG Chem plans to establish a biomass power plant at its Hwachi plant in the Yeosu complex, targeting operation by the first half of 2027. This facility will produce industrial steam and electricity from waste wood. The biomass power plant will convert waste wood into wood chips, which will serve as fuel for generating thermal energy and electricity. When this biomass energy is supplied to the petrochemical plant and complex, it is expected to reduce carbon emissions by approximately 400,000 tons annually.

6 Electrification



By transitioning from fossil fuel-based facilities and production processes to electric-based systems, dependence on fossil fuels can be reduced, thereby lowering greenhouse gas emissions.

To achieve company-wide Net Zero by 2040, LG Energy Solution plans to reduce its consumption of key fuels such as LNG. As part of this strategy, the energy source of existing major thermal systems, such as steam boilers, is being considered for conversion to electricity.



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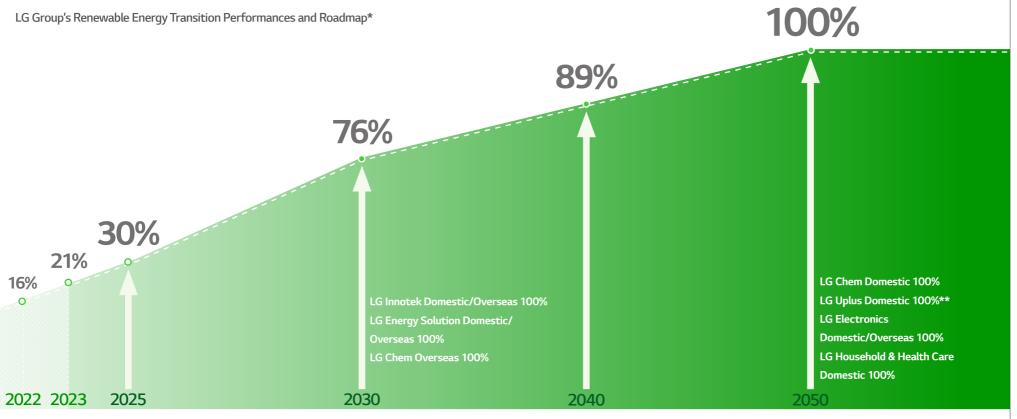
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Renewable Energy

The Scope 2 emissions from LG Group's electricity consumption are expected to steadily increase until 2050, driven by LG Energy Solution and LG Innotek's plans for new and expanded operations in North America, Europe, and Southeast Asia. In response, LG affiliates are actively pursuing a 100% transition to renewable energy across all domestic and overseas sites through various methods, including green premium, RECs, and PPAs. Renewable energy will first be introduced at overseas sites where economic viability has been secured. Domestic sites will then transition sequentially, targeting 76% by 2030, 89% by 2040, and 100% by 2050, while considering market changes such as industrial electricity price increases and the competitiveness of RECs and PPAs prices. Specifically, LG Energy Solution and LG Innotek plan to achieve 100% renewable energy in all their operations by 2030, while LG Chem will prioritize transitioning their overseas operations to 100% renewable energy by 2030. Other affiliates and domestic operations aim for a full transition to renewable energy by 2050.



^{*} Based on six affiliates excluding LG Display (LG Display is reviewing a 100% renewable energy transition by 2050)

^{**} No overseas operations

Renewable Energy

Cases of Renewable Energy Transition Methods by Affiliates

Green Premium



RECs



© PPAs



Self-Generation



Green Premium is a renewable energy procurement program under the K-RE100 initiative that involves paying additional charges based on electricity consumption, with the revenue generated being invested in renewable energy generation.

LG Uplus converted 223 GWh of electricity, approximately 6% of its total electricity consumption in 2023, to renewable energy through its Green Premium program. This amount matches the electricity consumption of seven main office buildings of LG Uplus in 2022.

Similarly, LG Display has been transitioning its domestic sites to renewable energy through the Green Premium System since 2021 and plans to gradually increase its renewable energy consumption.

RECs is issued as certificates reflecting renewable energy generation from facilities registered with the Korea Energy Agency. Power-demanding companies can purchase these certificates to gain recognition for their renewable energy consumption.

LG Display has been converting the energy supply for its China and Vietnam sites to renewable energy by purchasing REC.

LG Innotek signed a long-term REC purchase agreement with Bright Energy Partners, a green energy investment and management company, allowing it to be recognized for using approximately 100 GWh of renewable electricity annually for 20 years, starting from 2024.

PPAs is a system that allows for the procurement of renewable energy at an agreed price, classified as third-party PPA through KEPCO and direct PPA between power generators and consumers.

LG Innotek has secured a stable supply of renewable energy for its domestic sites through a 10MW PPA and an 84MW Virtual PPA* signed in 2023.

LG Chem has expanded its transition to renewable energy at domestic sites by signing a long-term contract in May 2024 for up to 615 GWh of onshore wind power annually.

Self-generation is one of the most effective ways to secure renewable energy for greenhouse gas reduction, as it enables electricity consumers to directly install renewable energy facilities and use the power generated.

LG Electronics is participating in the transition to renewable energy through self-generation by introducing a 1.4 MW solar power facility in Pyeongtaek Digital Park

LG Uplus built its own solar facilities at Yongsan and Magok offices and used about 3.82 TJ of electricity in 2023, and in June 2024, it completed a solar facility at its Daejeon R&D Center.





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 $^{{}^{\}star}\text{A power purchase agreement for virtually acquiring renewable energy credits, enabling certification for renewable energy use}\\$

Cost-Benefit Analysis

LG Group regularly manages capital expenditure (Capex) and operating expense (Opex) data for greenhouse gas reduction methods across the seven major affiliates, in line with the Group's Net Zero implementation standards. Capex includes initial costs such as equipment purchases, installation, and decommissioning for each greenhouse gas reduction method. Opex reflects the difference in operating costs before and after implementing these methods. As of 2023, based on a cash basis*, Capex for the seven major affiliates is estimated at KRW 94.4 billion, with total benefits calculated at KRW 50.7 billion. These benefits are categorized as follows: 1 fuel and electricity cost savings of KRW 15.5 billion, 2 avoidance of carbon credit purchases of KRW 4.1 billion, and 3 sales of carbon credits of KRW 31.1 billion from emitting below allocated permits.

Cost-Benefit Analysis Results in 2023

(Unit: KRW Billion)



(Unit: KRW Billion)



	43.7	
31.1	※ Costs - Benefits	
Sales of Carbon Credits** oon **		

Category	Costs	Key Activity
Total	94.4	-
Process Optimization/ Fuel Transition	44.9	Replacement with high-efficiency equipment, Elimination of process gas, Conversion to pollution- free vehicles, Adopting of electric boilers, etc.
Innovative Future Technologies (Hydrogen)	30.1	Investment in the construction of hydrogen production facilities for fuel transition to hydrogen
Renewable Energy	19.4	Construction of self-generation facilities, Green Premium, Purchase of RECs and PPAs
Offsetting	-	Purchase of offset credits, Promotion of offset project

※ Costs - Benefits

As of 2023, the total investment costs for greenhouse gas reduction methods, including renewable energy purchase costs for LG Group's seven major affiliates, amount to KRW 94.4 billion, while the total benefits are estimated at KRW 50.7 billion. The fact that the total benefits are less than the total investment costs is primarily due to the low formation of carbon credit prices in the domestic market, which may change if carbon credit prices rise in the future.











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^{*} An accounting method that recognizes expenses or income at the time cash is actually paid or received.

^{**} South Korea, China, Europe







Offsetting

LG Group is actively pursuing offset projects that contribute to achieving its Net Zero target and global greenhouse gas reductions. Particularly, the LG Group focuses on external offset projects that undergo rigorous verification processes based on internationally recognized methodologies, ensuring the credibility of its carbon credits.

LG Electronics has been implementing a Clean Development Mechanism (CDM) project in India since 2013, converting the reduced electricity consumption from high-efficiency refrigerator sales into carbon credits. Approved by the UN Framework Convention on Climate Change (UNFCCC) in 2013, LG Electronics has secured a cumulative total of 560,000 tons of carbon credits by 2023, equivalent to a reduction of 125 GWh in electricity consumption. The company expects to accumulate a total of 2 million tons of carbon credits by 2025.

LG Chem has secured 120,000 tons of carbon credits through the distribution of cookstoves in Zambia and Uganda, starting in 2022 and reaching this amount by 2023. Additionally, in 2023, LG Chem is exploring new reduction opportunities in collaboration with the Korea Environmental Corporation, including a project to replace fossil fuel-based industrial steam boilers in Vietnam with biomass-fueled alternatives.

Principles for Net Zero Aligned Carbon Offsetting*





Regular supplementation of offset strategies reflecting technological development



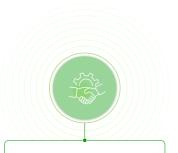
Transition from avoidance & reduction to removal

※ [Reduction] Cookstoves $distribution \rightarrow$ [Removal] Afforestation, Direct capture



Transition from short-lived storage to long-lived storage

※ [Short-lived] Afforestation, Ecosystem restoration \rightarrow [Long-lived] Direct capture, Geological storage, etc.



Establishment of a trustworthy offset market for achieving Net Zero

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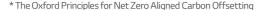
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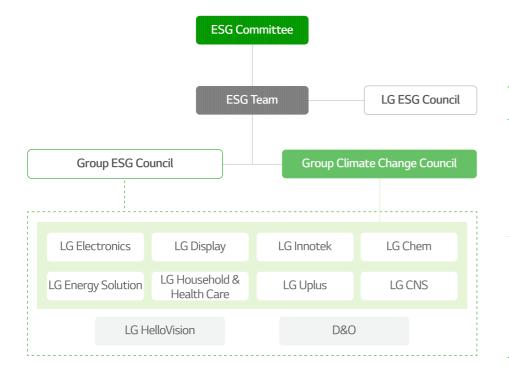
Climate Governance

The ESG Committee plays a role in deliberating, approving, and overseeing mid- to long-term directions, goals, and plans related to climate change, including responses to risks and opportunities, as well as the implementation performance of initiatives like the Net Zero integrated roadmap. The LG ESG team is responsible for establishing and updating the Group's Net Zero integrated roadmap, managing the Net Zero performance of affiliates, assessing climate risks, and creating a climate change response framework to address related issues.

The Group Climate Change Council discusses Net Zero implementation plans, renewable energy procurement, and offset credit strategies, executing tailored carbon reduction and joint renewable energy transition projects. This council, which includes relevant departments from eight affiliates, addresses detailed tasks such as tracking climate change policy trends, planning and risk identification for Net Zero implementation, and assessing natural capital dependencies and impacts. It also collaborates on process optimization and renewable energy procurement strategies within business sites. Through the Group ESG Council, relevant departments from ten affiliates discuss policies and strategies for managing ESG data, including climate change, and the operation of related systems.

Category

LG Group's Climate Governance



Group Climate Change Council	 Discuss climate change policy trends, carbon neutrality implementation plans and related challenges Discuss feasibility assessments for reduction projects, and the identification and review of offsetting projects Discuss process efficiency technologies and renewable energy procurement plans
Group ESG Council	 Discuss data management policies and system operations to ensure consistency and uniformity in ESG performance Gather opinions from subsidiaries and affiliates regarding the establishment and management of goals and targets for each ESG dimension, including climate change, circular economy, supply chain management, Health and Safety, Jeong-Do management, etc., as well as discuss implementation tasks

Key Role











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Clean Tech

LG Group plans to invest over KRW 2 trillion by 2027 in clean tech. Specifically, the group has identified key priorities that include 1 developing eco-friendly plastics using biomaterials,

2) advancing recycling technology for waste plastics and batteries, and 3) developing carbon reduction technologies based on renewable energy sources like hydrogen and solar power, to enhance competitiveness in sustainable business and technology development.

* These three areas of clean tech are classified as eligible activities under the K-Taxonomy framework

1 Bio-based & Biodegradable Plastic



LG Chem has signed a joint development agreement with the eco-friendly energy company Gevo to commercialize bio-based propylene by 2026. Through this agreement, LG Chem will receive technology from Gevo for producing propylene from bio-ethanol and plans to pursue commercialization through joint research and facility establishment. LG Chem aims to expand its eco-friendly bio business with bio-based propylene, which can reduce carbon emissions by over 90% compared to conventional products.

2 Recycling of Waste Plastic

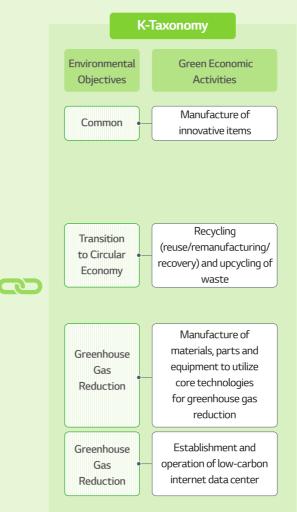


LG Electronics has been recycling plastic from collected waste electronics since 2021. By 2023, the cumulative amount of recycled plastic used has reached 114,000 tons. These recycled plastics are repurposed as cushioning materials in product packaging, helping to reduce environmental impact compared to conventional materials.

3 Renewable Energy



LG Chem is constructing a hydrogen plant at its Daesan facility in Chungcheongnam-do with an annual capacity of 50,000 tons to produce hydrogen directly for use as fuel. The hydrogen, produced through a high-temperature steam reaction with methane gas, will be reused as fuel in the naphtha cracking center (NCC) pyrolysis process. LG Chem plans to increase the proportion of hydrogen used in the NCC process fuel to up to 70% by 2025, aligning with its carbon reduction target. LG Uplus is achieving carbon reduction through its eco-friendly, high-efficiency Internet Data Centers (IDCs). The newly completed Pyeongchon 2nd Center, finalized in October 2023, incorporates a range of renewable energy technologies including solar photovoltaic systems and geothermal heat pumps—right from the design stage to maximize energy savings.















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LG Group will enhance its response capabilities by advancing its carbon reduction strategy for 「Climate Change Mitigation」 and conducting climate risk assessments to prepare for 「Climate Change Adaptation」.











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Next Step

LG Group is implementing a series of initiatives to build a comprehensive climate action framework centered on Climate Change Mitigation and Adaptation.

Climate Change Mitigation

Establishing Scope 3 Calculation and **Verification Systems**

LG Group is considering establishing a Scope 3 verification system, addressing issues such as ambiguity in calculation boundaries and standards, as well as the need to eliminate double counting across affiliates. Moving forward, LG Group will work towards developing a mid- to longterm framework for Scope 3 calculation, management, and verification through consultations with the Group Climate Change Council and relevant departments within its affiliates.

Developing RECs/SMP* Price Forecast Establishing a Strategy to Secure Carbon

LG Group has developed a domestic carbon emissions trading price prediction model utilizing AI and big data, which has been integrated into LG ESG Intelligence. The group plans to further enhance this model by developing domestic RECs and SMP price prediction models to support renewable energy purchasing decisions, such as for RECs and PPAs. Through ongoing model advancements, LG Group aims to ensure the economic feasibility and cost-effectiveness of its Net Zero implementation. * System Marginal Price

Credits through External Offset Projects

LG Group plans to establish a strategy for securing offset carbon credits in line with the guidelines agreed upon for international carbon markets under Article 6 of the Paris Agreement. The group is also considering a selective approach to using offset credits.



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Climate Change Adaptation

Assessment and Adaptation Planning

LG Group plans to establish a climate risk assessment standard to minimize the environmental, social, and economic impacts of climate change and to comply with mandatory climate disclosures. This effort includes evaluating the effects of climate change on business operations and developing a climate change adaptation plan.

Establishing Standards for Climate Risk Incorporating Climate Disaster Risk Identifying Climate-related O

LG Corp. has established a system to review and manage ESG risks associated with carbon and energy, hazardous and polluting substances, and health and safety within its investment processes to ensure competitiveness. Moving forward, LG Corp. aims to strengthen this ESG risk review system by incorporating assessments of climate-related disaster risks.

LG Group recognizes that climate change will present various opportunities, including technological innovation, the creation of new markets, and improvements in operational efficiency. To support sustainable business competitiveness, LG Group plans to classify and list its economic activities according to the EU-Taxonomy and K-Taxonomy. This information will be disclosed to stakeholders and investors to provide a standardized basis for promoting sustainable investments.

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GHG Emissions Status (Scope 1,2)

(Unit: Thousand tCO₂eq)

	2022						2023			
Affiliate	Tabal	Dome	Domestic Overseas		Tabal	Domestic		Overseas		
	Total	Scope 1	Scope 2	Scope 1	Scope 2	Total	Scope 1	Scope 2	Scope 1	Scope 2
Total*	19,368	6,791 (35%)	7,909 (41%)	651 (3%)	4,017 (21%)	17,448	6,192 (36%)	7,547 (43%)	604 (3%)	3,105 (18%)
LG Electronics	928	110 (12%)	224 (24%)	155 (17%)	438 (47%)	874	75 (9%)	217 (25%)	134 (15%)	448 (51%)
LG Display	5,515	1,048 (19%)	2,612 (47%)	111 (2%)	1,744 (32%)	4,303	953 (22%)	2,342 (55%)	103 (2%)	904 (21%)
LG Innotek	365	17 (5%)	266 (73%)	2 (1%)	79 (21%)	243	19 (8%)	186 (76%)	2 (1%)	36 (15%)
LG Chem	9,563	5,490 (57%)	3,078 (32%)	149 (2%)	846 (9%)	9,036	5,032 (56%)	3,040 (33%)	145 (2%)	819 (9%)
LG Energy Solution	1,408	72 (5%)	193 (14%)	234 (17%)	909 (64%)	1,493	68 (4%)	309 (21%)	219 (15%)	897 (60%)
LG Household & Health Care	136	47 (34%)	90 (66%)	-	-	125	38 (30%)	88 (70%)	-	-
LG Uplus	1,454	7 (1%)	1,446 (99%)	-	-	1,373	8 (1%)	1,365 (99%)	-	-



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^{*} Calculated based on the market-based emissions of the seven affiliates

^{*} Rounding adjustments may cause discrepancies between the sum of parts and the total sum

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D o w n s t r e a m







GHG Emissions Status (Scope 3)

(Unit: Thousand tCO₂eq)

						(0)	iit. Tilousanu (CO ₂ eq)
Category	LG Electronics	LG Display	LG Innotek	LG Chem	LG Energy Solution	LG Household & Health Care	LG Uplus
Total*	70,225.1	913.0	689.0	11,472.0	6,471.6	240.4	560.4
1. Purchased goods & services	2,807.9	447.3	487.1	10,215.1	5,762.1	133.8	155.7
2. Capital goods	401.0	379.5	-	245.9	-	-	225.5
3. Fuel- and energy-related activities (not include in scope 1 or scope 2)	135.1	-	67.6	399.6	124.1	12.6	0.3
Upstream transportation & distribution	1,794.6	18.3	80.3	611.3	128.1	-	40.6
5. Waste generated in operations	12.8	22.3	3.9	-	37.8	4.3	1.6
6. Business travel	46.1	7.5	4.8	-	12.5	-	2.4
7. Employee commuting	78.1	5.2	5.6	-	7.7	0.7	6.4
8. Upstream leased assets	65.4	11.8	-	-	-	-	-
Downstream transportation & distribution	-	-	39.7	-	-	-	-
10. Processing of sold products	37.8	5.0	-	-	-	-	-
11. Use of sold products	61,207.8	-	-	-	-	-	61.6
12. End of life treatment of sold products	1,153.4	-	-	-	399.4	87.5	1.6
13. Downstream leased assets	3.0	16.0	-	-	-	1.4	-
14. Franchises	N/A	-	-	-	-	-	15.6
15. Investments	2,482.3	-	-	-	-	0.2	49.2

* Calculated according to each affiliate's calculation standards (The emissions in this table are based on 2023 data, and '-' indicates exclusion from the calculation scope.)

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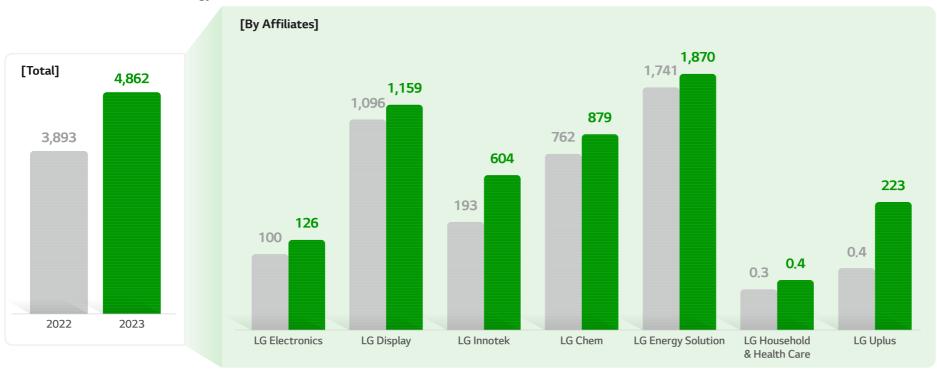
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^{*} Rounding adjustments may cause discrepancies between the sum of parts and the total sum

Renewable Energy Transition Status

The Amount of Renewable Energy Transition in 2022-2023

(Unit: GWh)



* Based on data aggregated by LG Corp. for each affiliate

Renewable Energy Transition Rate* by Affiliates

Category	LG Electronics	LG Display	LG Innotek	LG Chem	LG Energy Solution	LG Household & Health Care	LG Uplus
2022	8%	12%	22%	10%	56%	0.2%	0.01%
2023	10%	15%	61%	13%	56%	0.2%	7%

^{*} Renewable energy consumption compared to total annual electricity consumption











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Net Zero Target Establishment Scope*

Affiliate	Emission sources	Domestic	Domestic, other	Overseas	Overseas, other	
LG Electronics			-		-	
LG Display			-	Includes production sites, sales corporations, and R&D centers	-	
LG Innotek			-		-	
LG Chem	Scope 1, Scope 2 (Electricity / Heat)	Scope 2 R&D centers and	-	Includes production sites	Only includes production corporations for which it owns more than 50% of shares	
LG Energy Solution			logistic centers -		Includes production sites, and joint ventures	-
LG Household & Health Care			Only includes domestic production sites LG Household & Health Care, Coca Cola, Haitai	Excluded	-	
LG Uplus			Includes domestic network equipment, all domestic regions domestic companies and IDC	None	-	

^{*} Out of a total of 321 global production corporations, R&D centers, sales corporations, and branches across 7 companies, 182 facilities are subject to analysis, excluding overseas sales corporations and branches with minimal emissions (as of 2023)











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Independent Assurance Statement

To readers of LG Net Zero Special Reporting 2023~2024

Introduction

Korea Management Registrar (KMR) was commissioned by LG Corp. (LG) to conduct an independent assurance of LG Net Zero Special Reporting 2023–2024 (the "Report"). The preparation of the Report is the sole responsibility of the management of LG. KMR's responsibility is to issue an assurance statement over the limited scope of data and information specified below.

Scope and Standards

LG described its roadmap and strategies to achieve net zero objectives in the Report. Our Assurance Team carried out an assurance engagement in accordance with the assurance standard SRV1000 of KMR's Global Management Committee while referring to the disclosure requirements proposed by the Climate Change Reporting Framework (CCRF) of the Climate Disclosure Standards Board (CDSB) to provide a limited assurance. We assessed the net zero roadmap and emissions reduction strategies provided in the Report based on the principles of understandability and verifiability to challenge the reliability of the information.

Confirmation that the Report was prepared in accordance with the standards and requirements was included in the scope of the assurance. We have reviewed the disclosures below for the confirmation:

Disclosure requirements of "strategic analysis" proposed by CCRF

- the impact of climate change on the organization's long-term and short-term strategic objectives,
- the organization's long-term and short-term strategies, including greenhouse gas emissions reduction, to address climate change,
- the implications of climate change issues on the organization's business strategy and a description of the way in which
 management has applied the requirements on its decision-making,
- details of the current and future financial implications associated with climate change strategies, risks, and greenhouse gas emissions, and
- the information that is used internally for decision-making purposes of the company's strategy, goals, and objectives and what is provided externally.

As for the reporting boundary, the engagement excludes the data and information of LG's partners, suppliers, and any third parties.

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 assurance engagement:

- reviewing the understandability and verifiability of the net zero roadmap and strategies described in the Report,
- reviewing the compliance with the disclosure requirements,
- · checking the organizational boundaries set by seven participating affiliates and the scope of operational control,
- reviewing the reliability of the greenhouse gas emissions disclosed by the participating affiliates, and
- interviewing people in charge of preparing the Report.

Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with LG on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, nothing has come to our attention to suggest that the Report was not prepared in accordance with the principles described below. We did not find any evidence that the data included in the scope defined above is not properly described.

| **Understandability** | The Report presented the roadmap and strategies to become carbon neutral and contained accurate, detailed information. The classification and characterization of the information provided was clear and concise while the description was detailed enough to make it easy to compare.

| Verifiability | The Review Team identified errors in the data and information provided, which LG. subsequently corrected before issuing the final version of the report. We believe the data and information included in the report are accurate and reliable. Nothing has come to our attention to imply that the Report does not provide a fair representation of LG's responses to material stakeholder issues.

Recommendations

We expect that the Report can be utilized as a means of communication with stakeholders. The following recommendations are provided for further improvements:

- LG has demonstrated a structured approach to analyzing and managing investment and operating costs associated with greenhouse gas reduction initiatives for carbon neutrality through a cost-benefit analysis, effectively highlighting the benefits gained from such investments and efficient operations. We recommend that LG strengthen the data aggregation standards and methodologies used in the cost-benefit analysis to be aligned with financial reporting objectives.
- The report provides detailed information on Scope 1 and 2 emissions for each subsidiary as well as reduction targets. It also acknowledges the importance of establishing systems for estimating, managing, and verifying Scope 3 emissions over the long term. We recommend that LG set Scope 3 emissions reduction targets in the medium to long term

Independence

KMR has no other contract with LG and did not provide any services to LG that could compromise the independence of our work.

October 31st, 2024 CEO **Hwang Eun-ju**





E. J Havay











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