

Response to Climate Change (TCFD)

Governance

Laying the foundation for ESG management, LG Group has newly established the ESG Committee - through the engagement of all independent directors within the Board of Directors and the CEOs of each affiliate - to deliberate on key company-wide policies relating to ESG. The ESG management system is supervised by the ESG Team within LG Group, and this team takes the lead on major decision-making by selecting ESG agenda, including climate change, for the ESG Committee (composed of 4 independent directors and 1 executive director).

Strategies

Centered on the major listed LG companies, LG Group has established a climate change response strategy and committed to achieving Net Zero - as well as a 100% transition to renewable power. LG Electronics was the first company in Korea to commit to an SBTi-aligned target for carbon neutrality by 2030, whilst LG Chemical was the first in the domestic chemical industry to commit to carbon neutral growth by 2050. In February 2022, it committed to bringing forward its carbon neutral growth target by 20 years, with a view to achieving net zero by 2050. Further, as an eco-friendly battery company, LG Energy Solution is demonstrating its leadership in responding to climate change through its membership of both RE100 and EV100 in 2021 - a first in the battery industry. Moving forward, LG Group plans to continue supporting the leading responses to climate change by its affiliates by promoting target management, establishment of an implementation system, and monitoring of affiliates' GHG emissions/reductions on a group-level. It will also accelerate carbon reductions and the exploration of joint projects, including joint procurement of new renewable energy and promotion of carbon offsetting projects.

Risk Management

The ESG Team at LG Corp. identifies risks associated with climate change and strives to determine and mitigate potential financial impacts on key LG affiliates. Moving forward, we will establish a climate risk management system to identify, classify, and assess climate risks in line with the business characteristics of each affiliate. The risk management system might include identifying and analyzing climate risks and opportunities, analyzing materiality and impacts, managing risks and opportunities, monitoring, and assessment. Through the risk management system, LG will establish mid- to long-term strategies to manage physical and transition risks relating to climate change.

Type	Climate Change Risks	Affiliates	Potential Financial Impact
Transition Risks	Regulation	Electronics	<ul style="list-style-type: none"> Increase in emission permit purchase cost and greenhouse gas emission regulations Risk of business operation due to non-response to new policies Degradation of brand image due to non-compliance with laws
		Chemical	<ul style="list-style-type: none"> Increase in emission permit purchase cost and greenhouse gas emission debt Profitability deteriorated due to the application of the European carbon border adjustment tax
		Telecom	<ul style="list-style-type: none"> Increased financial burden due to the emission trading system
Technology	<ul style="list-style-type: none"> Substitution with low-carbon products/services Cost of transition to low-carbon technology 	Electronics	<ul style="list-style-type: none"> Increased spending due to delays in technology transfer and new technology development
		Chemical	<ul style="list-style-type: none"> High cost for low-carbon technology and renewable energy conversion as an energy-intensive industry
		Telecom	<ul style="list-style-type: none"> Reduction of operating costs/direct costs through the use of low-carbon energy
Market	<ul style="list-style-type: none"> Consumer behavior changes Uncertainty of market signals 	Electronics	<ul style="list-style-type: none"> Negative impact on transactions due to unmet customer needs
		Chemical	<ul style="list-style-type: none"> Decrease in demand for existing products/services due to changes in customer preferences Production cost increase and profit decrease due to supply chain problems
		Telecom	<ul style="list-style-type: none"> Risk of insufficient response to new market creation
Reputation	<ul style="list-style-type: none"> Changing customer preferences Growing negative perceptions of the industry 	Electronics	<ul style="list-style-type: none"> Risks in investment attraction and transaction due to increased negative views of stakeholders
		Chemical	<ul style="list-style-type: none"> Reduced demand for products and services, including shrinking plastics market
		Telecom	<ul style="list-style-type: none"> Increased stakeholder concerns or negative views and consequent loss of assets
Physical Risks	Acute	Electronics	<ul style="list-style-type: none"> Expenses caused by domestic and overseas asset damage, productivity deterioration, and asset value decline
		Chemical	
		Telecom	
Chronic	<ul style="list-style-type: none"> Changes in precipitation and weather patterns Rise in average temperature 	Electronics	<ul style="list-style-type: none"> Resulting increase in expenses between business operations
		Chemical	<ul style="list-style-type: none"> Rise in energy costs due to heat waves

Management Indicators and Goals

LG Corp. is building an ESG IT portal for indicator management that encompasses ESG. To this end, we plan to select and regularly manage ESG indicators for integrated management from the LG Group perspective and focus on greenhouse gas-related management such as the greenhouse gas reduction rate, the fulfillment rate against the greenhouse gas reduction target, and the renewable energy conversion rate. Furthermore, LG Group plans to establish a monitoring system for each affiliate to prevent greenwashing at the group level by setting carbon neutrality goals and preparing an implementation system. As the importance of carbon emission management in the supply chain grows, we plan to establish a Scope 3 calculation and management plan for each affiliate to lay the foundation for carbon management in the supply chain over the long term.

Key Activities

Eco-friendly data center

To reduce the greenhouse gas emissions that can occur from data center operations, LG CNS runs an eco-friendly data center using various technologies, including a built-up outdoor air conditioning system, a concentrated air conditioning system, an airflow optimization structure, and solar power generation facilities. In addition, the company has developed an eco-friendly IT system that integrates management of data center infrastructure (electricity, temperature, humidity, lighting, security facilities, etc.), and has built real-time monitoring systems such as DCIM*, PSM** and greenhouse gas management systems. Through these efforts, it is contributing to the reduction of greenhouse gas emissions by efficiently managing computer room energy. From the design stage, LG Uplus created an eco-friendly data center applying high-efficiency energy solutions and a building structure optimized for outdoor air cooling. By optimizing indoor air flow and the building structure for outdoor air cooling, energy efficiency was increased and the use of natural energy was maximized - including the use of solar power, rain water, and geothermal heat. Further, by increasing the temperature of cold water produced by refrigerators and optimizing the operation of cold water pumps, GHG emissions were reduced by 16,000 tons as a result of the energy saved.

* Data Center Infra Management System

** Power Status Monitoring

Application of digital technology

LG U+ is responding to climate change using digital technology. To reduce energy expenses in unmanned telecommunication stations, the company is planning the introduction of an energy monitoring system that can monitor the energy sources used in these stations and manage their power usage effectiveness (PUE*). Telecommunication stations contain telecommunications equipment and environmental facilities, which mostly consist of air conditioners and thermostats to cool the heat emitted by the telecommunications equipment. The efficient use of these facilities and equipment can reduce energy costs. In winter, outdoor air - which is cooler than indoor air - is used to further save the energy consumed by environmental facilities.

* Power Usage Effectiveness: Total energy use ÷ Energy consumed by IT facilities; a lower figure represents greater efficiency

LG Smart Park

Cutting edge technologies can be found in the LG Smart Park, which LG Electronics operates to reduce the carbon emissions from product manufacturing. The LG Smart Park, which includes BECON - a building energy management solution - and energy storage systems (ESS), not only improves energy efficiency by about 30%, but also uses AI and big data to reduce the logistics area by 30% and materials loss by 80%. Further, waste steam from the waste incineration plant is recycled to the production zone of the LG Smart Park, resulting in highly effective reduction of GHG emissions. In recognition of such innovation, the LG Smart Park was selected as a Lighthouse Factory/* by the World Economic Forum (WEF), in a first for the electronic appliances industry. Moving forward, the LG Smart Park will continue to increase its proportion of solar energy generation.

* Refers to a factory that is leading the global manufacturing industry into the future through the introduction of innovative technologies, in the same way as a lighthouse guides the way by shining a light in the night sky. The WEF selects and gives recognition to such factories from around the world twice a year.