
Carbon Neutral Guide for Suppliers
DOOWON ELECTRONICS

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1. Overview

1.1 DOOWON ELECTRONICS' Carbon Neutrality Strategy

DOOWON ELECTRONICS has set a goal of achieving carbon neutrality by 2045 across the entire value chain—from automotive parts procurement to production and vehicle operation—reflecting its commitment to sustainable development for future generations and its responsibility for protecting the global environment.

As a first step, DOOWON is transitioning its product and business portfolio from internal combustion engine vehicles to electrified vehicles to reduce and ultimately eliminate carbon emissions from vehicles sold. With a target of achieving 100% electrification (including battery electric and hydrogen fuel cell vehicles) in the European market by 2035, the company aims to fully convert sales in major global markets to electrified vehicles by 2040. In emerging markets, the pace of electrification will be accelerated in line with customer demand, market conditions, and infrastructure readiness.

Regarding renewable energy use, DOOWON has established a RE100 roadmap that aims to source 100% renewable electricity at its global production sites by 2045, ahead of the 2050 target recommended by the global RE100 initiative. The company is also promoting carbon neutrality at its production facilities by expanding the use of green hydrogen in key manufacturing processes. To meet progressive renewable energy targets (60% by 2030 and 90% by 2040, in line with RE100 recommendations), DOOWON plans to implement optimal solutions tailored to each plant, including rooftop solar panel installations, procurement of renewable energy certificates (RECs), and power purchase agreements (PPAs) with external renewable energy providers.

To achieve its carbon neutrality targets, DOOWON will not only implement initiatives at its own facilities but also provide carbon neutrality guidelines to major suppliers and encourage broader social engagement. The company will make multifaceted efforts to reduce greenhouse gas emissions throughout the entire automotive manufacturing process.

In particular, DOOWON plans to conduct Life Cycle Assessments (LCA) to analyze the environmental impact of vehicles across their entire life cycle—from raw material acquisition to vehicle use, disposal, and recycling. Based on these assessments, the company will carry out improvement activities at each stage to genuinely realize carbon neutrality.

RE100 (Renewable Electricity 100%): A global initiative in which companies commit to sourcing 100% of their electricity from renewable energy sources. This includes solar, wind, hydro, geothermal, biomass, and green hydrogen power generation.

PPA (Power Purchase Agreement): A contractual agreement under which a power generator sells electricity—typically produced from renewable sources—to an off-taker. In Korea, this agreement is usually established between renewable energy producers and Korea Electric Power Corporation (KEPCO), and requires KEPCO approval and access to grid infrastructure.

LCA (Life Cycle Assessment): A methodological approach for assessing the environmental impacts associated with all stages of a product's life—from raw material extraction, processing, and assembly to transportation, use, and final disposal. The goal is to identify opportunities for energy and resource efficiency and minimize environmental burdens throughout the entire lifecycle

1.2 Scope of Application

All suppliers that provide goods or services to DOOWON ELECTRONICS, or enter into contracts for any form of business transaction, are required to comply with this Guideline. The Guideline applies to all tiers of suppliers, including subcontractors, and compliance with the stated requirements may also be encouraged throughout the broader supply chain.

2. Compliance Requirements

2.1 Establishment of Greenhouse Gas (GHG) Response System

To ultimately achieve carbon neutrality, suppliers must establish and operate a comprehensive response system, including actionable mid- to long-term plans that encompass their own greenhouse gas (GHG) reduction strategies.

1) Reduction of GHG Emissions throughout the Product Life Cycle

(1) Suppliers shall strive to reduce environmental impact at every stage of the product life cycle.

Environmental considerations must be integrated from the development phase, including the implementation of eco-friendly procurement policies, and proactive actions shall be taken to minimize environmental impact across all life cycle stages.

(2) Suppliers are encouraged to foster a low-carbon ecosystem across the entire development process, including second-tier suppliers and raw material providers.

(3) Operation of a Comprehensive System for Achieving Carbon Neutrality

- (1) Suppliers shall establish a system for measuring and managing energy consumption and GHG emissions, and must continuously strive to reduce them.
- (2) When making new investments—such as expanding production facilities or launching electrification-related component businesses—suppliers must actively incorporate GHG reduction systems.
- (3) Suppliers must operate an environmental management system (EMS) that includes organizational structure, planning, procedures, and performance evaluations to mitigate environmental impacts.
- (4) Suppliers are encouraged to actively participate in long-term carbon neutrality initiatives such as RE100.

2.2 Reduction of Greenhouse Gas Emissions at Business Sites

Suppliers must manage energy consumption and GHG emissions from all facilities—factories, offices, R&D centers, and logistics hubs—to reduce their environmental footprint. This includes developing and implementing internal GHG reduction plans such as improving energy efficiency, optimizing production processes, and increasing the use of renewable energy. These efforts can also result in cost savings for the supplier.

1) Establishment of Clean Production Systems and Continuous Enhancement of Environmental Management Infrastructure

- (1) Suppliers must build environmentally friendly production systems by obtaining, implementing, and maintaining international certifications such as ISO⁴ for climate change response at all sites.
- (2) Suppliers should enhance environmental infrastructure and implement training programs to raise awareness among employees and executives regarding carbon neutrality and related environmental responsibilities.
- (3) A company-wide GHG response committee should be formed to drive improvements in energy efficiency, expand renewable energy use, and enhance working conditions.
- (4) When planning new investments, suppliers must actively consider high-efficiency equipment, expanded use of renewable energy (e.g., solar power), and PPA schemes to support ongoing innovation toward achieving carbon neutrality.

ISO (International Organization for Standardization): The ISO 14000 series consists of international standards related to environmental management. Notably, ISO 14097 is an emerging standard that provides a framework of principles and requirements for assessing and reporting greenhouse gas (GHG) management in relation to investment and financial activities.

2) Continuous Efforts to Minimize Environmental Impact

- (1) Suppliers must continuously seek ideas to reduce the use of natural resources during energy input for parts production, thereby decreasing dependence on finite resources and minimizing the negative environmental impacts caused by extraction and drilling activities.
- (2) Suppliers shall minimize waste generated at manufacturing sites and establish strict management standards to ensure proper disposal in compliance with regulations. They must also strive to improve input resource efficiency through initiatives such as packaging reduction.

2.3 Carbon Reduction Management in the Supply Chain

Suppliers must actively engage in reducing GHG emissions throughout the entire process—from raw material sourcing to product development, production, and delivery—and encourage their own supply chain partners (including raw material suppliers) to participate in such efforts to build a low-carbon supply chain ecosystem.

1) Implementation of Green Procurement Policy

(Raw Material Purchasing and Parts Development Stage)

- (1) Suppliers must promote the use of low-emission materials and actively strengthen partnerships with raw material and component suppliers who implement green and low-carbon policies.
- (2) From the design stage of parts development, suppliers should proactively reduce the use of natural resources and raw materials through lightweight design and material reduction proposals.

2) GHG Emission Reduction at Supplier Sites

- (1) Suppliers should strongly encourage and support their subcontractors to use high-efficiency equipment in production processes and expand the use of renewable energy to improve energy efficiency.
- (2) Suppliers should also recommend and support the conversion of subcontractors' delivery and operational vehicles to eco-friendly alternatives.

3) Establishment of Carbon Neutrality Response System in the Supply Chain

- (1) Suppliers must support subcontractors in managing energy consumption and GHG emissions data, and conduct regular monitoring of such data.
- (2) Suppliers should be encouraged to voluntarily participate in comprehensive GHG response initiatives, such as environmental management campaigns (e.g., CDP5, RE100), conservation activities for natural ecosystems and forests, and the development of eco-friendly component businesses

CDP : A global non-profit organization that operates a disclosure system for investors, companies, cities, and governments to manage their environmental impacts, particularly related to climate change, water security, and deforestation.

2.4 Reduction of Greenhouse Gas Emissions in the Logistics Process

Suppliers must manage GHG emissions generated during the delivery of goods to DOOWON ELECTRONICS. This includes tracking emissions related to vehicle operation, fuel consumption, and travel distance. Long-term actions should be implemented to reduce emissions, such as transitioning to eco-friendly transportation vehicles.

1) Reduction of Energy Use and GHG Emissions in Logistics

(1) Suppliers shall strive to reduce energy consumption and GHG emissions generated throughout the entire logistics process, including packaging, transportation, and vehicle operations.

(2) Suppliers must pursue energy savings by reviewing and optimizing logistics processes through efficient logistics management, inventory optimization, reduction and reuse of unnecessary packaging during deliveries, and other related activities.

2) GHG Emissions Data Management and Transition to Green Logistics

(1) Suppliers must collect and manage data related to GHG emissions generated throughout the logistics process.

(2) Suppliers must actively participate in the recycling of packaging materials used during delivery (e.g., transport boxes, pallets, cushioning materials), and implement long-term efforts to transition to eco-friendly transportation vehicles to reduce GHG emissions.

2.5 Disclosure of Energy Usage and GHG Emission Data

Suppliers must accurately calculate and provide data on energy consumption and GHG emissions at their facilities in accordance with the method specified by DOOWON ELECTRONICS, and within the requested deadline.

If the supplier is designated as a "GHG Management Entity" or "Emission Allocation Entity" by government authorities, they must provide verified actual emission data. If some sites are not included in the official scope, data from those excluded sites must also be submitted.

1) Transparent and Accurate Disclosure of Energy and GHG Data

(1) Upon request from DOOWON ELECTRONICS, suppliers must provide accurate and timely data regarding their energy consumption and GHG emissions.

(2) The facilities required to provide information may include factories, research and development centers, offices, sales offices, logistics facilities, and other related sites. Suppliers must calculate the data accurately according to the specified standards at the time of the request and provide the information promptly.

2) Types of Indicators Related to Energy Consumption and GHG Emissions

- (1) Indirect GHG emissions from electricity/steam usage: The amount of electricity and steam consumed at business sites (including electric vehicle charging).
- (2) GHG emissions from stationary combustion facilities: The amount of fuel used in combustion facilities (such as LNG, gasoline, diesel, kerosene, etc.).
- (3) GHG emissions from mobile combustion processes: Fuel consumption during site internal transportation necessary for production and fuel used during delivery from suppliers to DOOWON ELECTRONICS.
- (4) Others: Status of renewable energy usage, participation in CDP and RE100 initiatives, and information on reduction activities.

2.6 Active Participation in Various Domestic and International Environmental Impact Reduction Activities

1) Active Interest and Participation in Environmental Management Activities

- (1) As a specialized automotive parts manufacturer, suppliers must fulfill their social responsibility by developing and promoting environmentally friendly vehicles.
- (2) Suppliers should actively participate in various awareness-raising educational programs related to ESG management and carbon neutrality, and strive to enhance environmental awareness among their employees.
- (3) Suppliers must comply with environmental laws and agreements and disclose their efforts and achievements in environmental management.
- (4) Suppliers shall actively cooperate with self-assessments, written evaluations, and on-site audits conducted to support ESG management.
- (5) Suppliers must establish and continuously maintain an environmental management system verified by external organizations, such as ISO certifications for international climate change standards.

⁶ ESG Management: Refers to environmental, social, and governance management practices aimed at promoting sustainable and responsible business operations.

2) Establishment and Improvement of Governance for Systematic and Efficient Carbon Neutrality Promotion

- (1) The company must establish policies, management organizations, and a company-wide greenhouse gas council to achieve mid- to long-term carbon neutrality, addressing climate change response, energy consumption, and greenhouse gas emissions management.
 - (2) Carbon neutrality should be reflected in the company's sustainability management strategy by supplementing regulations and policies, and establishing codes of conduct, guidelines, and requirements for business partners (including sub-tier suppliers).
 - (3) Efforts must be made to achieve the carbon neutrality strategy by setting performance indicators (KPIs), such as greenhouse gas reduction at business sites, identification of suppliers with climate risks, and ESG self-assessment evaluations, and by conducting regular tracking and management.
 - (4) The company should actively participate in external platforms related to carbon neutrality, such as CDP and RE100.
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3) Enhancing Cooperation with Suppliers for Carbon Neutrality Promotion

- (1) Joint ESG initiatives among suppliers should be strengthened through activities such as greenhouse gas knowledge-sharing sessions, environmental performance evaluations and awards, and joint research on low-carbon parts development. Plans for mutual growth and synergy creation should be reviewed to encourage the active participation of second-tier suppliers.
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2. Responsibilities and Roles of Suppliers

All suppliers of DOOWON ELECTRONICS must consider the matters presented in this guideline when making business decisions and operating their businesses. DOOWON ELECTRONICS, as well as any third-party agencies commissioned by DOOWON, may inspect and audit the suppliers' compliance with this guideline within the limits permitted by law.

Based on the results of such inspections and audits, DOOWON ELECTRONICS may recommend improvements regarding identified risks. Suppliers are expected to establish and implement risk mitigation plans based on mutual consultation.

This guideline will be regularly reviewed, supplemented, and revised to support the establishment of a sustainable supply chain, and can be found on the DOOWON ELECTRONICS website.