

# Hydrogen Energy **Global No.1 Player**

Doosan Fuel Cell Sustainability Report 2025



**DOOSAN**

# About This Report

## Report Overview

Doosan Fuel Cell has been publishing its sustainability report since 2022 to transparently share its sustainability management activities and achievements with internal and external stakeholders. This report aligns our corporate strategy with our ESG strategy, and reflects our commitment and efforts to grow alongside the local community as a sustainable company.

## Reporting Standards

This report has been prepared in accordance with the GRI Standards 2021 (In accordance with), an international sustainability reporting framework. For key issues, we have also referred to the IFRS Sustainability Disclosure Standards published by the International Sustainability Standards Board (ISSB), including IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures. Additionally, certain disclosures reflect industry standards recommended by the Sustainability Accounting Standards Board (SASB), the climate-related financial disclosure recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and the Communication on Progress (COP) principles of the United Nations Global Compact (UNGC). All financial information is based on the Korean International Financial Reporting Standards (K-IFRS), and has been prepared on a consolidated basis.

## Reporting Period

This report covers qualitative and quantitative financial and non-financial activities and performance from January 1, 2024 to December 31, 2024. Depending on the timeliness and materiality of information, certain items may also include data from the first half of 2025.

## Reporting Scope

Financial data has been prepared on a consolidated basis. The scope of non-financial data—including environmental and social aspects—covers our headquarters in Iksan, Seoul office, and research center.

## Reporting Cycle

Annually

## Report Assurance

To ensure the reliability of the data and prevent ESG washing, this report has undergone third-party assurance by an independent external assurance provider, Korea Management Registrar Inc. (KMR). The assurer applied the AA1000 Assurance Standard (AA1000AS v3), an internationally recognized assurance standard, as well as KMR’s internal assurance standard, SRV1000. The assurance was conducted independently using a Type 2 method with a moderate level of assurance. The assurer’s Independent Assurance Statement can be found on pages 121–122.

## Contact Information

This report can be downloaded from the Doosan Fuel Cell website (<https://www.doosanfuelcell.com/en>). For inquiries, please contact us using the information below:

- Department in charge: ESG Team, Doosan Fuel Cell Co., Ltd.
- Address: 17F, 275, Jangchungdan-ro, Jung-gu, Seoul, Republic of Korea
- Email: [dfcc.esg@doosan.com](mailto:dfcc.esg@doosan.com)

# Contents



## 01 Company Overview

CEO Message	005
Group and Company-Wide Vision	006
Company Overview	007
Business Overview	010
Product Overview	011
Technology Overview	013

## 02 ESG Strategy

ESG Governance	015
ESG Strategy	016
ESG Goals and Performance	018
ESG Performance Management	019

## 03 Materiality

Double Materiality Assessment	021
Stakeholder Engagement	024
Material Topics	
#1. Climate Change Response	025
#2. Mitigation of Environmental Impact of Products	034
#3. Circular Economy	038

## 04 ESG Performance

<b>Environmental</b>	
Environmental Management	042
Improvement of Environmental Performance at Business Sites	046
Greenhouse Gas Management	047
Expansion of Eco-Friendly Products and Technologies	050
Expansion of Carbon Neutrality-contributing Products and Technologies	054
<b>Social</b>	
Talent Management	057
Human Rights Management	062
Occupational Safety and Health	065
Social Contribution	068
Supply Chain ESG management	073
Customer Satisfaction	082
<b>Governance</b>	
Governance	085
Ethical Management	088
Innovation Management	091
Information Security and Privacy Protection	093
Risk Management	097
Association and Membership Activities	099

## Appendix

ESG Data	101
GRI Index	115
SASB Index	117
TCFD Index	118
UN SDGs	119
Status of Association and Organization Memberships	120
Independent Assurance Statement	121
Assurance Statement on Greenhouse Gas Emissions	123

01

# Company Overview



005	CEO Message
006	Group and Company-Wide Vision
007	Company Overview
010	Business Overview
011	Product Overview
013	Technology Overview



Company Overview

CEO Message

Group and Company-Wide Vision

Company Overview

Business Overview

Product Overview

Technology Overview

ESG Strategy

Materiality

ESG Performance

Appendix

CEO Message



“ To our esteemed stakeholders, I would like to express my sincere gratitude for your continued trust and support for Doosan Fuel Cell. ”

As the leading hydrogen fuel cell company in Korea, Doosan Fuel Cell continues to lead the domestic fuel cell market by securing a strong competitive edge in the CHPS (Clean Hydrogen Energy Portfolio Standard) bidding market, even amid growing uncertainty and intensified competition in the domestic power generation sector. We are actively pursuing entry into the U.S. data center market and exploring new business opportunities, including marine fuel cells. To enhance our core product competitiveness, we have built a mass production system for solid oxide fuel cells (SOFCs) and begun initial production. At the same time, we continue to strengthen the quality capabilities of Phosphoric acid fuel cells (PAFCs). All of our employees remain dedicated to achieving our vision of becoming the “Global No.1 Player in Hydrogen Energy.”

We will continue to concentrate our company-wide capabilities to enhance the quality and cost competitiveness of our diverse product lineup, while securing steady mid- to long-term topline growth through overseas market expansion and business model diversification.

Aligned with this business strategy, we will enhance our ESG capabilities to contribute to business value creation and strengthen sustainability in the following ways:

First, we will strengthen our eco-friendly competitiveness to contribute to carbon neutrality.

In addition to developing products and technologies that contribute to carbon neutrality, Doosan Fuel Cell is reviewing and implementing various measures to reduce greenhouse gas emissions as part of our eco-friendly management efforts. We are continuously working to reduce greenhouse gas emissions at our business sites and improve environmental indicators through initiatives such as strengthening our energy management foundation, minimizing base load operations, and recycling waste. Going forward, we will continue to enhance our environmental performance through emissions reduction from SOFC plant operations, management of Scope 3 emissions, and the adoption of renewable energy. As our business is closely linked to value creation in response to climate change, we will further enhance our ESG capabilities for climate-related disclosures and actively engage with stakeholders through Carbon Disclosure Project (CDP) evaluations and our sustainability report, thereby reinforcing our position as an “Eco-friendly Energy Solution Provider.” Doosan Fuel Cell is committed to enhancing environmental value across the entire product lifecycle, from design and manufacturing to use. To reduce carbon emissions and improve efficiency, we have developed carbon capture, utilization, and storage (CCUS)-linked models and high-efficiency hydrogen fuel cells. We are also currently developing next-generation catalysts and metal separators. We are actively implementing a resource circulation system, recognizing the environmental and social impacts of a circular economy, and identifying tasks across each stage—R&D, production, use, and disposal—that align with our business value. We will continue to focus on developing various products and technologies for eco-friendly business, proactively disclose the environmental performance of our products, and create continuous opportunities to expand our business.

Second, we will enhance our fundamental competitiveness by advancing product quality.

Doosan Fuel Cell firmly believes that customer-centric quality management is the core of our product competitiveness, and we are devoting our full capabilities to quality enhancement. We are addressing immediate issues in our products and services that require improvement, lowering component costs, and extending product lifespans to raise our overall quality level. We will also establish the “industry’s best quality management system for fuel cells” across R&D, suppliers, factories, and services.

We will strengthen our management systems to ensure that quality translates into customer satisfaction, and foster an organizational culture where our leaders prioritize and resolve quality issues. We will continue to focus all efforts on securing fundamental competitiveness in key aspects such as product cost and quality, which are essential to our business.

Third, we will fulfill our social responsibilities to ensure that people and business grow together.

Doosan Fuel Cell supports productivity improvement, material supply stabilization, and localization development to foster shared growth with our partners. We are committed to enhancing partners’ ESG capabilities through ESG risk assessments, follow-up measures, and improved safety and health management. In the future, we will incorporate ESG policies into our procurement strategy to proactively prevent issues in partner ESG management. We are also striving to grow together with local communities and to become a respected company. With a focus on human development and community contribution, we regularly carry out social contribution activities such as employing people with disabilities, employee donations and volunteer work, and environmental campaigns. In addition, we actively promote projects such as restoring endangered species, training hydrogen professionals, and fostering industry-academia-research cooperation by leveraging our technologies and capabilities. All of our employees will continue to work hard to ensure that ESG activities grounded in social responsibility translate into business competitiveness.

As competition intensifies in the domestic market and external conditions continue to change rapidly, the business environment is becoming increasingly unpredictable. Doosan Fuel Cell will strive to build fundamental product and technology competitiveness that can withstand any changes or challenges, and will continue our efforts to establish a quality-driven culture across the organization through advanced product quality. We promise to do our utmost to deliver solid performance that meets the expectations of our stakeholders. Thank you.

Company Overview

CEO Message

Group and Company-Wide Vision

Company Overview

Business Overview

Product Overview

Technology Overview

ESG Strategy

Materiality

ESG Performance

Appendix

Group and Company-Wide Vision

Company Overview

Doosan Fuel Cell is a company specializing in fuel cells, primarily engaged in supplying fuel cell equipment for power generation and providing long-term maintenance services for fuel cell power plants. The fuel cells we manufacture and supply are eco-friendly power sources capable of distributed generation, known for their high combined efficiency—including both electricity and thermal efficiency—and excellent stability. We currently hold the No. 1 cumulative market share in Korea’s fuel cell power generation market. To respond to climate change, achieve Net-Zero by 2050, and ensure customer satisfaction, we are expanding our business portfolio through a diverse lineup of products.

Company Name	Doosan Fuel Cell Co., Ltd.
Establishment Date	October 1, 2019
CEO	Doosoon Lee, Jaedong Yoon (Co-CEOs; Jaedong Yoon appointed in March 2025)
Headquarters	100, Seogam-ro 7-gil, Iksan-si, Jeonbuk-do, Republic of Korea
Main Business Areas	Fuel cells for power generation and marine fuel cells
Major Shareholder	Doosan Enerbility Co., Ltd. (30.33% <sup>1)</sup> )
Number of Employees	542 (as of the end of 2024)
Offices/Subsidiaries	Seoul Office, R&D Center, Gunsan (SOFC) Plant

1) Includes preferred shares

History

<b>1969</b> <ul style="list-style-type: none"><li>Fuel cell installed on Apollo space shuttle by UTC Corporation</li></ul>	<b>2014~2015</b> <ul style="list-style-type: none"><li>Launched Doosan Fuel Cell BG through acquisition of U.S.-based ClearEdge Power</li></ul>	<b>2017~2018</b> <ul style="list-style-type: none"><li>Completed Iksan plant (63 MW capacity)</li><li>Reached cumulative order volume of 100 MW</li></ul>	<b>2019</b> <ul style="list-style-type: none"><li>Established Doosan Fuel Cell Co., Ltd.</li><li>Reached cumulative order volume of 300MW</li><li>Listed on the Korea Exchange</li></ul>	<b>2020</b> <ul style="list-style-type: none"><li>Completed the world’s largest and first by-product hydrogen power plant, Daesan Green Energy (50.16 MW)</li><li>Achieved cumulative orders of 465 MW</li></ul>	<b>2021</b> <ul style="list-style-type: none"><li>Achieved Korea’s first export of fuel cells for power generation (Foshan, China)</li></ul>	<b>2022</b> <ul style="list-style-type: none"><li>Completed expansion of phosphoric acid fuel cell (PAFC) plant</li><li>Broke ground for solid oxide fuel cell (SOFC) plant</li></ul>	<b>2023</b> <ul style="list-style-type: none"><li>Joined the United Nations Global Compact</li></ul>	<b>2024</b> <ul style="list-style-type: none"><li>Passed environmental testing of the world’s first SOFC cell stack for marine use</li></ul>	<b>2025</b> <ul style="list-style-type: none"><li>Completed construction of SOFC plant in Gunsan</li><li>Achieved product certification for marine SOFC</li></ul>
--	---	---	--	--	--	---	--	--	---



Doosan Credo

The Doosan Credo is a unique set of values that guides the Doosan people's behaviors and decisions. By living the Doosan Credo, we aspire to build a proud Doosan that continues to grow both its people and its business.

DOOSAN

**People**

People refers to Doosan's people who drive performance guided by the Doosan Credo. Our distinguished and sustainable success will only be possible through attracting, retaining and cultivating our people.

**Integrity and Transparency**

Integrity and transparency are the fundamental values to our survival.

**Inhwa**

We define Inhwa as teamwork in the truest sense of the word, grounded upon fairness and respect. By carefully following these virtues we have created One Doosan; a collective strength built on the contribution of a wide diversity of individuals.

**Passion for Excellence**

We secure strong competitive advantage and healthy profit by demonstrating our 'Passion for Excellence'.

**Social Responsibility**

We aim to grow alongside society as a respected partner by fulfilling our corporate social responsibilities.

Company Overview

- CEO Message
- Group and Company-Wide Vision
- Company Overview
- Business Overview
- Product Overview
- Technology Overview

ESG Strategy

Materiality

ESG Performance

Appendix

Company Overview

Business Strategy

The global environment and domestic policy landscape surrounding Doosan Fuel Cell are expected to remain highly uncertain. The second term of the Trump administration in the United States, combined with sweeping changes in global tariff and trade frameworks, the ongoing war between Russia and Ukraine, and the geopolitical crisis triggered by conflicts in the Middle East, continues to create instability in the energy market. In addition, growing volatility in the financial market and raw material prices is making the business environment for fuel cells increasingly unfavorable. Nevertheless, we are strengthening our competitiveness through technology development and production efficiency, while continuously expanding activities aimed at accelerating the transition to eco-friendly energy.

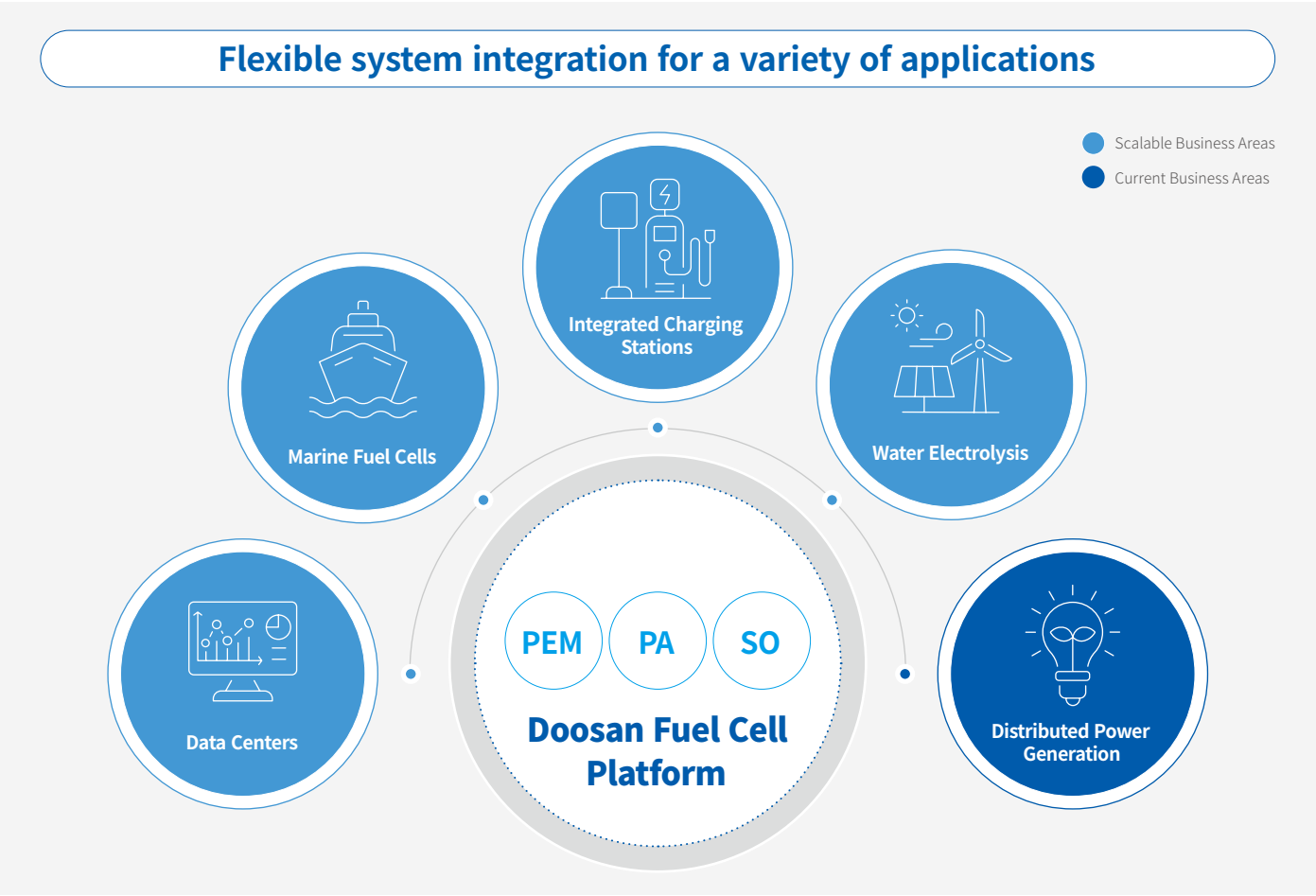
On the domestic front, the launch of the hydrogen power generation bidding market in 2023 has produced positive outcomes in areas such as reducing generation costs, expanding distributed energy resources, and contributing to domestic industries. Internationally, rising power demand—driven by artificial intelligence (AI) data centers in the United States—is drawing growing attention to fuel cells. We are actively pursuing exports to U.S. data centers by securing the necessary U.S. certifications. In addition, HyAxiom, a U.S.-based hydrogen energy subsidiary of Doosan Corporation, is intensifying sales activities targeting major data center customers. We expect these efforts to generate synergies, including deliveries to U.S. data centers. In other international markets, hydrogen fuel cells remain in the verification and demonstration phase; however, as the importance of eco-friendly power generation continues to grow, we anticipate a gradual market expansion.

Mid- to Long-term Growth Tasks

Mid- to Long-term Direction	Business Strategy
Securing Business Competitiveness	<div>- Enhance competitiveness under the Clean Hydrogen Energy Portfolio Standard (CHPS) by creating customer value</div> <div>- Commercialize high-output hydrogen models and establish mass production of solid oxide fuel cells (SOFCs)</div> <div>- Strengthen operational competitiveness through internalization of core components and establishment of a global supply chain</div>
New Business & Market Development	<div>- Expand opportunities in overseas third markets</div> <div>- Launch new hydrogen-related businesses such as marine fuel cells and water electrolysis</div>
Carbon Neutrality Response	<div>- Promote carbon-free technologies including fuel cells integrated with carbon dioxide capture technologies</div> <div>- Improve combined efficiency of cogeneration plants and enhance flexibility in energy resource utilization</div>

Strategic Directions

Doosan Fuel Cell is building a business model that accelerates the realization of carbon neutrality and a sustainable future, leveraging eco-friendly technologies and clean energy solutions to overcome today’s unstable business environment through enhanced market competitiveness. We are developing a wide range of business models based on fuel cell applications and pursuing the expansion of business opportunities in overseas markets, where interest in hydrogen energy is rising. We are also promoting new businesses to drive future growth, such as fuel cells for power generation and marine solid oxide fuel cells (SOFCs). We will reinforce the competitiveness of our existing business through active business development and cost and quality competitiveness, while accelerating the launch of new hydrogen-related businesses to expand our business portfolio.



Company Overview

CEO Message

Group and Company-Wide Vision

Company Overview

Business Overview

Product Overview

Technology Overview

ESG Strategy

Materiality

ESG Performance

Appendix

Company Overview

Domestic Business Sites

Doosan Fuel Cell Co., Ltd. is headquartered in Iksan, Jeollabuk-do, where we manufacture phosphoric acid fuel cell (PAFC) products. In addition, we operate a plant in Gunsan dedicated to producing solid oxide fuel cell (SOFC) products. We also maintain a business office in Seoul for key administrative operations, and our R&D Center located in Suji, Yongin is focused on the development of next-generation fuel cell products. As of the end of 2024, approximately 1,611 fuel cell units (equivalent to 708.4 MW) have been installed and are in operation at sites across the country.



Global Business

Doosan Fuel Cell is accelerating its global business expansion. In Nanhai District, Foshan, China, four fuel cell units have been installed. We are actively identifying key partners to expand our market presence in Asia, including China and Taiwan. We are also exploring new business opportunities in Europe and the Middle East. As of the end of 2024, the operational capacity of fuel cells for power generation overseas includes 64 MW in the United States, 1.2 MW in the United Kingdom, and 1.8 MW in China. With the increasing number of data centers, global demand for distributed power generation is expected to grow, thereby expanding the fuel cell market.



Company Overview

CEO Message

Group and Company-Wide Vision

Company Overview

Business Overview

Product Overview

Technology Overview

ESG Strategy

Materiality

ESG Performance













Appendix

Company Overview

ESG Evaluation Results

> KCGS

The Korea Institute of Corporate Governance and Sustainability (KCGS), Korea's leading ESG evaluation agency, has been assessing the sustainability management levels of domestic listed companies annually since 2011. Doosan Fuel Cell began participating in these evaluations in 2022 and has rapidly internalized ESG management, earning a comprehensive A grade for two consecutive years in 2023 and 2024. In particular, we improved our environmental rating to an A grade in 2024 through efforts in greenhouse gas reduction and circular economy initiatives.

Date	Overall Rating	Environmental (E)	Social (S)	Governance (G)
2024				
2023				
2022				

> DJSI

The Dow Jones Sustainability Indices (DJSI) were developed in 1999 by S&P, a U.S. financial information provider, and RobecoSAM, a Swiss sustainability assessment agency. Based on evaluation results and company size, the top 10–30% of companies are included in indices such as the DJSI World Index, Asia Pacific Index, and Korea Index. Doosan Fuel Cell has continuously improved its performance since its first year of evaluation in 2022, and has been listed on the DJSI Korea Index for three consecutive years starting in 2022.

Member of

Dow Jones

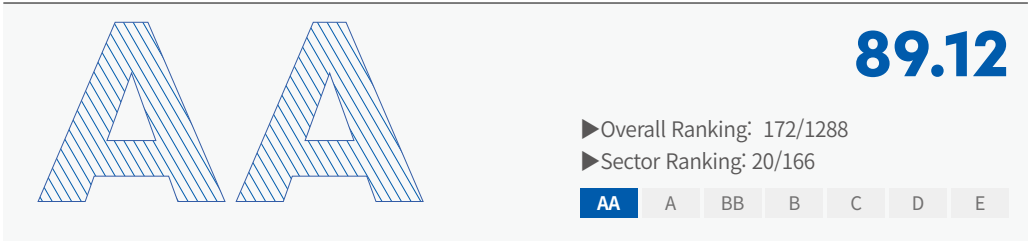
Sustainability Indices

Powered by the S&P Global CSA

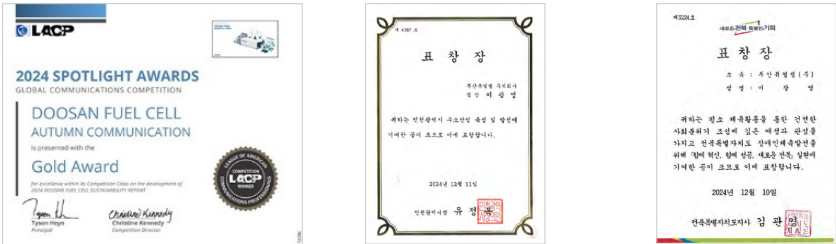
> SUSTINVEST

Sustinvest, an ESG-specialized agency, provides ESG benchmark data and related services for responsible investment mandates by large institutional investors such as the National Pension Service. Sustinvest annually evaluates ESG information of around 1,000 domestic companies. Doosan Fuel Cell received the highest AA rating for two consecutive years.

Comprehensive ESG Evaluation



> 2024 ESG-related Awards



Award Title	2024 SPOTLIGHT AWARDS	Hydrogen Talent Development Award	Contribution to the Advancement of Para Sports
Host/Organizer	LACP	Incheon Metropolitan City	Jeonbuk Special Self-Governing Province
Award Details	<ul style="list-style-type: none"><li>Excellence in structure, creativity, and clarity of the sustainability report</li></ul>	<ul style="list-style-type: none"><li>MOU signed among Incheon City, Metropolitan Office of Education, and Korea Western Power</li><li>Operation of hydrogen talent development classes for high school students in Jeonbuk-do</li></ul>	<ul style="list-style-type: none"><li>Recognition for hiring athletes with disabilities in Jeonbuk-do and supporting their performance improvement</li></ul>
Result	Gold Award in CSR Report Category	Commendation from the Mayor of Incheon Metropolitan City	Commendation from the Governor of Jeonbuk Special Self-Governing Province



Company Overview

- CEO Message
- Group and Company-Wide Vision
- Company Overview
- Business Overview
- Product Overview
- Technology Overview

ESG Strategy

Materiality

ESG Performance

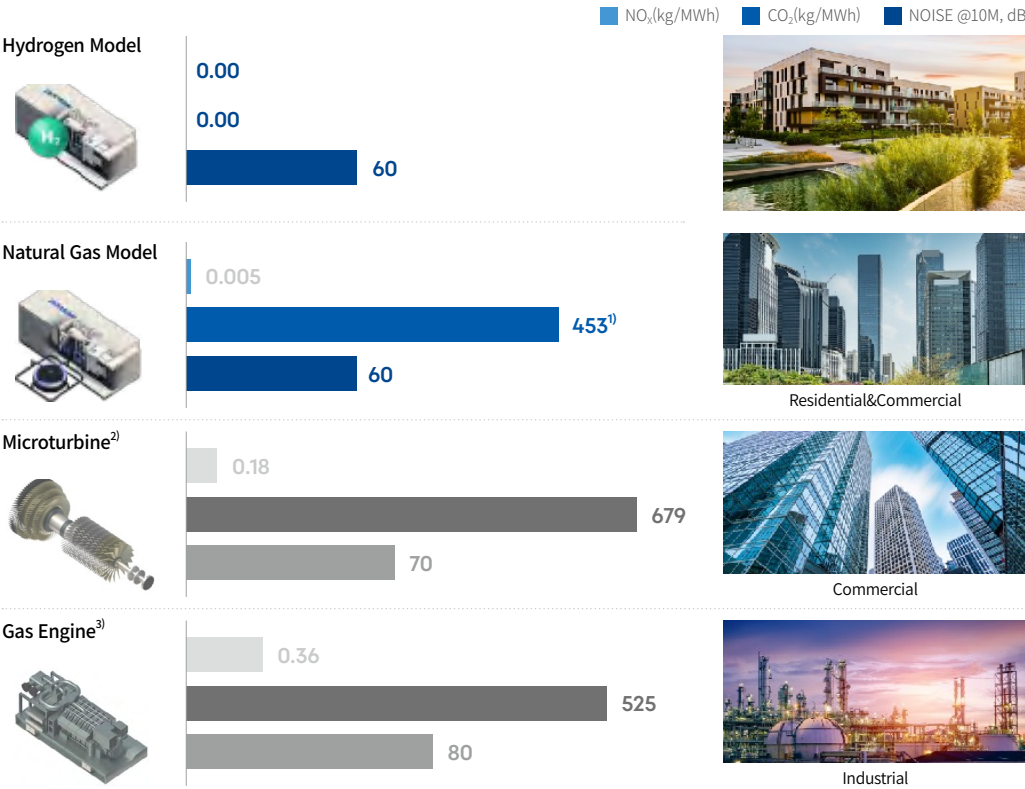
Appendix

Business Overview

Doosan Fuel Cell is a specialized company in the fuel cell industry that has led the domestic market in fuel cells for both power generation and buildings. We provide integrated solutions covering the entire value chain—from the design and development of core technologies such as stacks and systems to manufacturing, installation, operation, and maintenance. As a company specializing in hydrogen utilization within Doosan Group’s hydrogen economy value chain—which spans hydrogen production, storage, transport, and utilization—we are generating synergies by integrating with the value chains of our group affiliates.

Eco-Friendly Energy

Fuel cells enable zero-emission power generation using hydrogen. Compared to traditional power generation methods, fuel cells offer significantly lower emissions and noise levels—key environmental advantages.



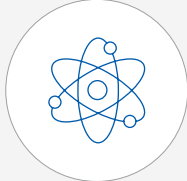
1) When producing both electricity and heat (combined efficiency: 90%)

2) 333 kW (Source: U.S. Department of Energy)

3) 633 kW (Source: U.S. Department of Energy)


Safe Technology

Fuel cell technology has demonstrated its safety and reliability since its initial application in NASA projects in the United States. It is considered a safe power generation method because it does not require high-pressure processes or combustion during operation. We maintain a high standard of safety that meets international design criteria and have acquired various safety certifications and passed inspections, making our systems suitable for both residential and commercial applications.




Non-Combustion Reaction

Power is generated through an electrochemical reaction between hydrogen and oxygen without combustion, eliminating fire risk.




Safety Devices

More than 70 double-failure and triple-failure safety devices are installed to respond to unpredictable accidents, including fuel leaks.



Low-pressure Operation

Fuel is supplied and processed at atmospheric pressure throughout the entire process. Since no fuel is stored, there is no risk of explosion.



International Design Standards

Designs comply with international standards and safety is ensured through regular inspections and certification processes.

Company Overview

- CEO Message
- Group and Company-Wide Vision
- Company Overview
- Business Overview
- Product Overview
- Technology Overview

ESG Strategy

Materiality

ESG Performance

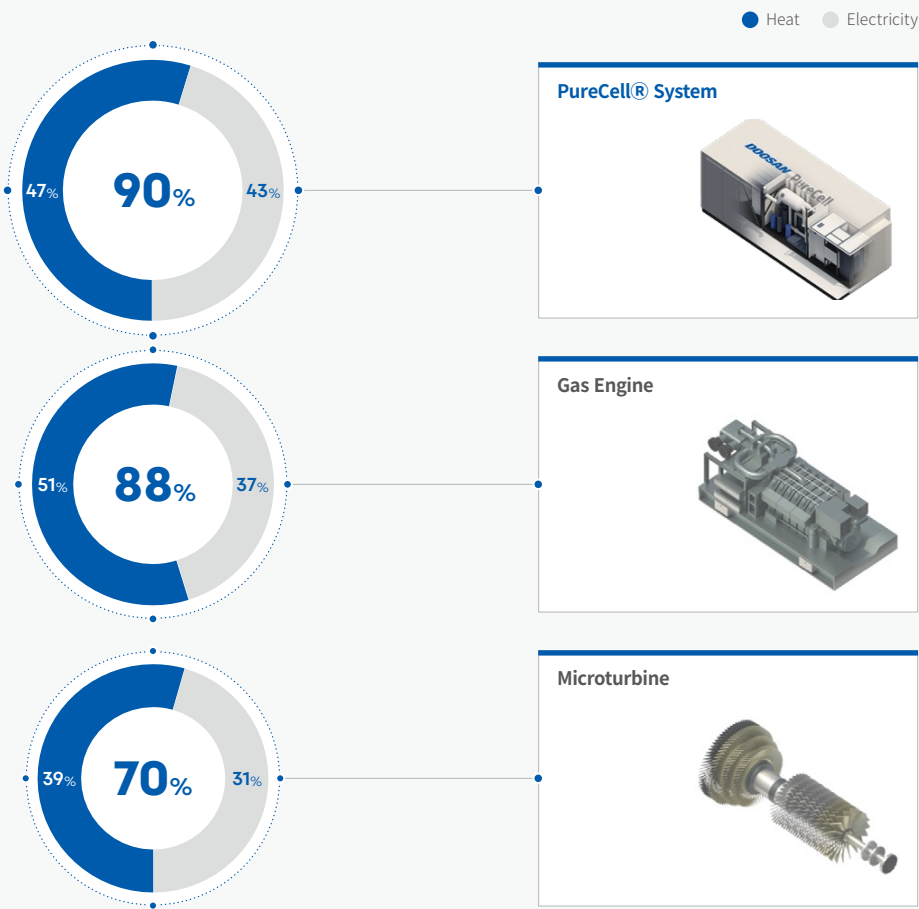
Appendix

Product Overview

High-Efficiency Power Generation

With a compact installation footprint and flexibility to adapt to diverse site conditions, our systems can minimize initial investment costs. Additionally, by supplying both electricity and heat with low energy loss and high efficiency, we help maximize productivity.

High-Efficiency Combined Heat and Power (CHP) Generator Capable of Producing Electricity and Heat Simultaneously



Company Overview

- CEO Message
- Group and Company-Wide Vision
- Company Overview
- Business Overview
- Product Overview
- Technology Overview

ESG Strategy

Materiality

ESG Performance

Appendix

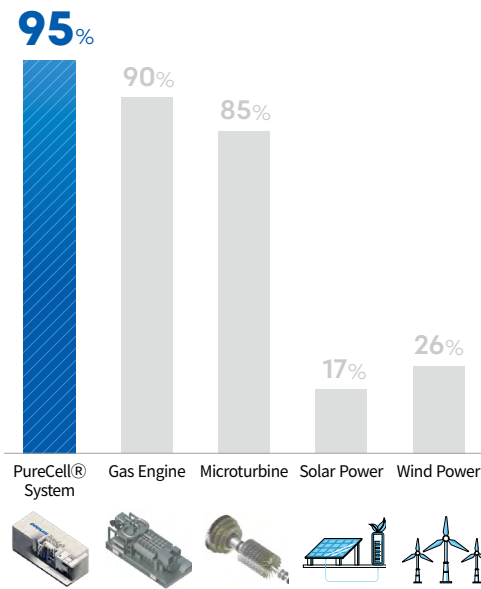
Product Overview

High Reliability

With the know-how and technical data accumulated over a long period of commercialization, we provide dependable services. Our outstanding facility utilization rate and fast responsiveness enable us to supply energy to our customers with greater stability.

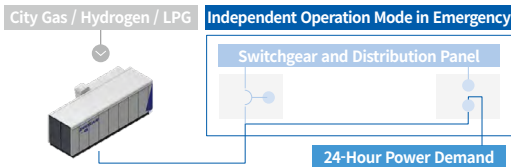
Excellent Facility Utilization Rate

Reliable supply of electricity and heat based on high reliability



Independent Operation Mode Supported

In the event of a blackout caused by natural disasters or grid issues, the system immediately switches to independent operation mode, enabling stable supply of electricity and heat.



Smart Remote Control

Through our IoT-based real-time remote monitoring system, we can respond immediately via remote control in the event of an issue, 24 hours a day



Fuel Cell Supply Status

Since equipping fuel cells in UTC's Apollo spacecraft, Doosan Fuel Cell has supplied power-generating fuel cells across Korea and overseas, contributing to the transition to eco-friendly energy.

Category	Korea		USA		UK		China	
	Capacity (MW)	units	Capacity (MW)	units	Capacity (MW)	units	Capacity (MW)	units
Operational	568.9 <sup>1)</sup>	1,294	63.8	143	1.3	3	1.8	4
Under Installation	139.5	317	53.2	74	-	-	-	-
Total	708.4	1,611	117.0	217	1.3	3	1.8	4

1) As of the end of 2024, this reflects actual supply performance. The difference from the 565 MW supply figure in the business report arises from the time gap in registering year-end supply records in the Electric Power Statistics Information System

Product Lineup

Doosan Fuel Cell currently manufactures Purecell® models such as M400 NG, Hydrogen, LPG/NG Dual, M500 Hydrogen, and Tri-gen, leading the fuel cell industry.

Purecell® M400 NG

This model generates power using natural gas supplied through a city gas network. It allows electricity and heat to be supplied utilizing existing infrastructure, making it highly applicable in urban areas.

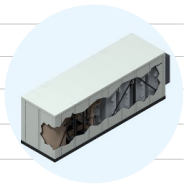
Category	Specification
Fuel	City Gas
Dimensions	8.3 x 2.5 x 3.0 m
Rated Output	440kW
Heat Supply	HG(120°C) / LG(60°C) Total: 90%
Efficiency	Electricity: 43% Heat: 47%



Purecell® M400 Hydrogen

As a zero-emission clean energy solution that generates power by supplying hydrogen, this model delivers high power efficiency and clean water generation.

Category	Specification
Fuel	Hydrogen
Dimensions	8.3x2.5x3.0m
Rated Output	440kW
Heat Supply	HG(120°C) Total: 85%
Efficiency	Electricity: 50% Heat: 35%



Purecell® LPG/NG Dual

This model can be used in areas with insufficient power infrastructure or in emergencies, as it can generate electricity and heat using LPG as fuel. It also operates in dual-fuel mode with natural gas, making it valuable for emergency power applications.

Category	Specification
Fuel	LPG/NG
Dimensions	9.8x2.5x3.0m
Rated Output	440kW
Heat Supply	HG(120°C) / LG(60°C) Total: 90%
Efficiency	Electricity: 41%, 43% Heat: 49%, 47%



Purecell® M500 Hydrogen

As a hydrogen-exclusive power generation model, it improves output by 25% compared to the existing M400 model while maintaining the same footprint, achieving higher production efficiency.

Category	Specification
Fuel	Hydrogen
Dimensions	8.3x2.5x3.0m
Rated Output	550kW
Heat Supply	HG(120°C) Total: 85%
Efficiency	Electricity: 50% Heat: 35%



Tri-gen

The Tri-gen model simultaneously produces hydrogen through an internal reformer in the fuel cell and generates electricity and heat through the stack, offering a triple energy output model. It can also be installed on-site, reducing high-pressure hydrogen transportation costs by enabling direct installation of hydrogen refueling stations.



Concept image of Tri-gen charging both fully electric loaders and hydrogen vehicles simultaneously

Company Overview

CEO Message

Group and Company-Wide Vision

Company Overview

Business Overview

Product Overview

Technology Overview

ESG Strategy

Materiality

ESG Performance

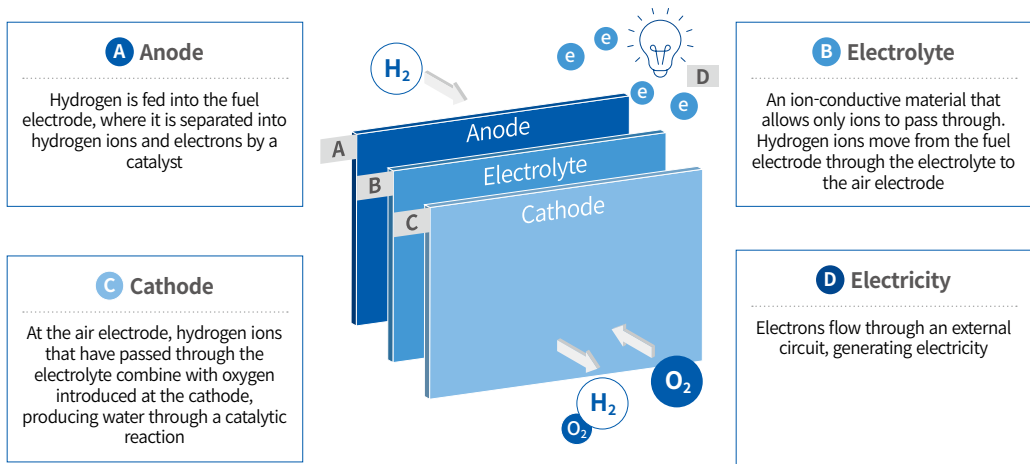
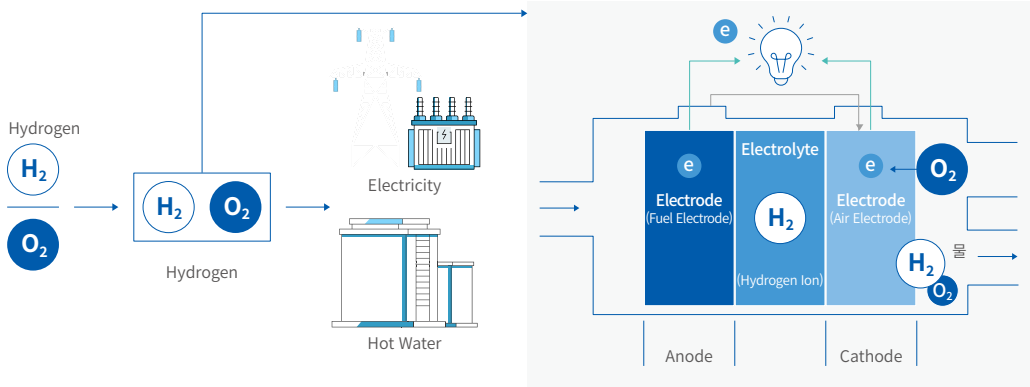
Appendix

# Technology Overview

Doosan Fuel Cell is proactively securing core technologies essential for fuel cells by conducting joint research with domestic and international universities, focusing on solid electrolytes and cathode materials. We plan to carry out research and development based on a product development roadmap centered on solid electrolytes and high-output cathode material synthesis technology, with the goal of completion by 2025.

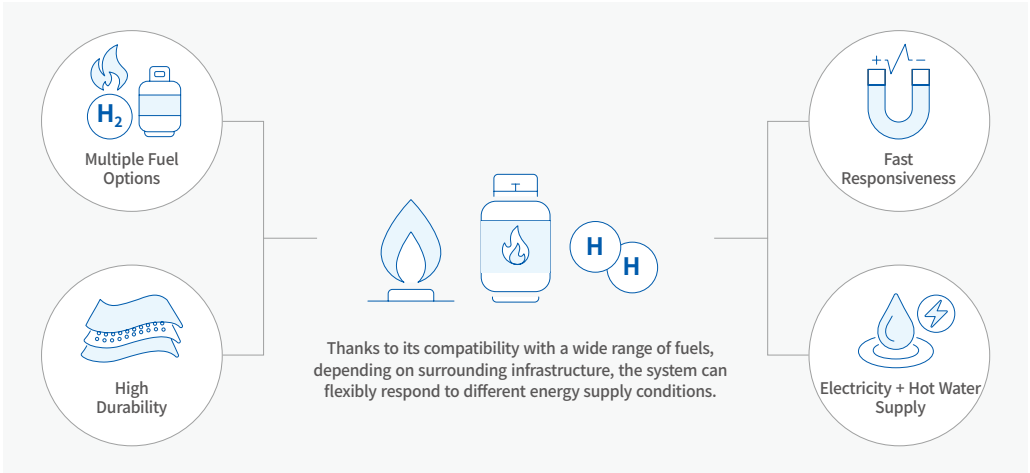
## Fuel Cell Principle

A fuel cell is an eco-friendly hydrogen power generation technology that produces electricity through the chemical reaction between hydrogen and oxygen. Doosan Fuel Cell's main product line, the PAFC-based M400 series, generates electricity based on the following principle:

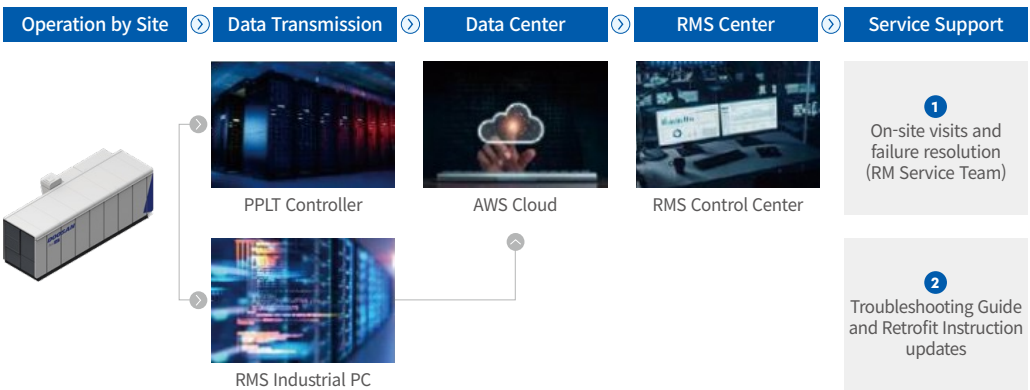


## Fuel Cell Technology

Doosan Fuel Cell mainly manufactures M400 models that employ phosphoric acid fuel cell (PAFC) technology, which uses liquid phosphoric acid as the electrolyte. Based on its high durability, this technology allows the use of various fuels—including natural gas, hydrogen, and LPG—and supports both electricity and heat generation. Customers can flexibly choose and install models suited to their specific environments. It also features fast responsiveness, enabling real-time adaptation to load fluctuations.



## Fuel Cell System



02

# ESG Strategy



015	ESG Governance
016	ESG Strategy
018	ESG Goals and Performance
019	ESG Performance Management



Company Overview

ESG Strategy

ESG Governance

ESG Strategy

ESG Goals and Performance

ESG Performance Management

Materiality

ESG Performance

Appendix

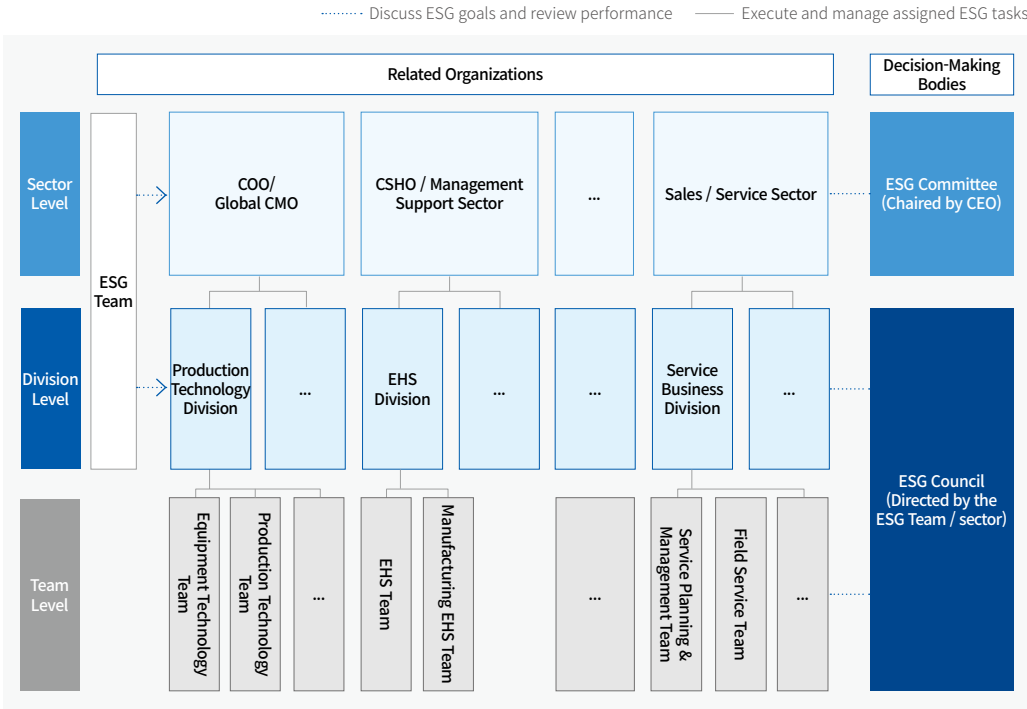
ESG Governance

ESG Committee

Doosan Fuel Cell operates an ESG Committee as the company’s highest decision-making body to identify opportunities and risks related to sustainability, analyze their impact, and establish and approve corresponding response strategies. The ESG Committee is chaired by the CEO and attended by company-wide executives and key team leaders. It is convened twice a year—once in the first half and once in the second half. At the first-half meeting, annual ESG tasks, goals, and execution plans are reported and approved. At the second-half meeting, ESG performance for the year is reviewed, and strategic direction for the following year is set.

ESG Council

To manage ESG performance and enhance execution capabilities, the ESG Council is held quarterly with the participation of working-level staff and managers from relevant departments. The 1st and 3rd quarter councils are chaired by the ESG Team, while the 2nd and 4th quarter councils are chaired by each respective sector, helping to internalize ESG practices within each department.



\* If a team reports directly to sector, it consults directly with the ESG Team for ESG-related matters.

Key ESG Committee Activities

Board of Directors ESG Activities

Date		Activities
July 23, 2024	Progress Report on 2024 First-Half ESG Activities	• Reporting of material issues
		• Reporting on major ESG tasks and goals
December 19, 2024	ESG Education for Independent Directors	- Enhancing environmental performance throughout the product life cycle, greenhouse gas reduction, pollutant/waste reduction, ESG management of the supply chain, social contribution activity plans, acquisition of family-friendly management certification, etc.
		• Trends in sustainability disclosure regulations
January 17, 2025	Reporting on 2024 Key ESG Tasks and Performance	• Reporting on climate change response activities (scenario analysis results, Scope 3 management system, etc.)
		• Reporting on the performance of tasks related to improving environmental performance throughout the product life cycle
		• Reporting on environmental performance at business sites other than climate-related (waste, pollutants, environmental accidents, etc.)

ESG Committee Activities

Date		Activities
March 22, 2024	2024 First-Half ESG Committee Meeting	• Reporting on the 2024 ESG task implementation plan
		- Reviewing renewable energy adoption measures, reducing energy consumption and greenhouse gas emissions, selecting professional ESG assessment firms for the supply chain, Scope 3 calculation strategies, establishing systems for resource circulation and environmental impact reduction, implementing human rights impact assessments, etc.
December 20, 2024	2024 Second-Half ESG Committee Meeting	• Reporting on ESG assessment results and external ESG award achievements
		• Reporting on 2024 ESG task performance
March 27, 2025	2025 First-Half ESG Committee Meeting	- Performance in reducing waste and cost savings through resource circulation, reporting on GHG reduction volumes, achievements in energy/waste/pollutant targets, supply chain ESG assessment results, Scope 3 calculation roadmap, climate disclosure readiness assessment, etc.
		• Reporting on 2025 ESG strategic direction
		• Reporting on 2025 ESG task implementation plan
		- Service quality improvement, reduction of energy consumption and greenhouse gas emissions, identification of recyclable items, establishment of customer satisfaction systems, response strategies to disclosure regulations, etc.

ESG Council Activities

Date		Activities
February 2024	2024 First-Quarter ESG Council Meeting	• Identification of key tasks focused on resource circulation and environmental impact reduction
June 2024	2024 Second-Quarter ESG Council Meeting	• Status review of task implementation by group
October 2024	2024 Third-Quarter ESG Council Meeting	• Review of ESG evaluation results by relevant departments, derivation of 2025 task pool
December 2024	2024 Fourth-Quarter ESG Council Meeting	• Compilation of sector-level task performance, provision of guidance for setting 2025 task directions
February 2025	2025 First-Quarter ESG Council Meeting	• Task identification, in-depth interviews (FGI) for IRO assessment on top three issues based on materiality assessment

Company Overview

ESG Strategy

ESG Governance

ESG Strategy

ESG Goals and Performance

ESG Performance Management

Materiality

ESG Performance

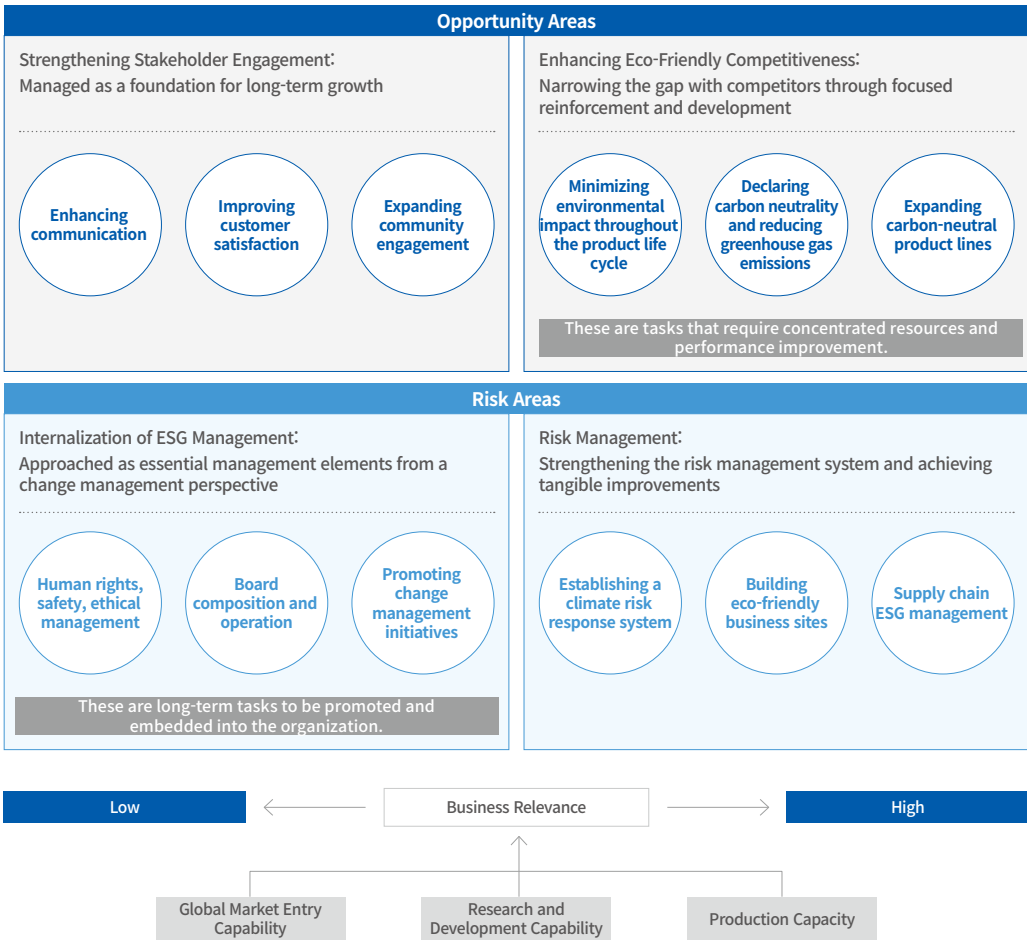
Appendix

# ESG Strategy

As a hydrogen energy company, Doosan Fuel Cell has established its ESG management strategy to reflect its commitment to environmentally friendly and sustainable growth. Based on the review and approval of the highest ESG governance body, we are actively and systematically promoting ESG initiatives.

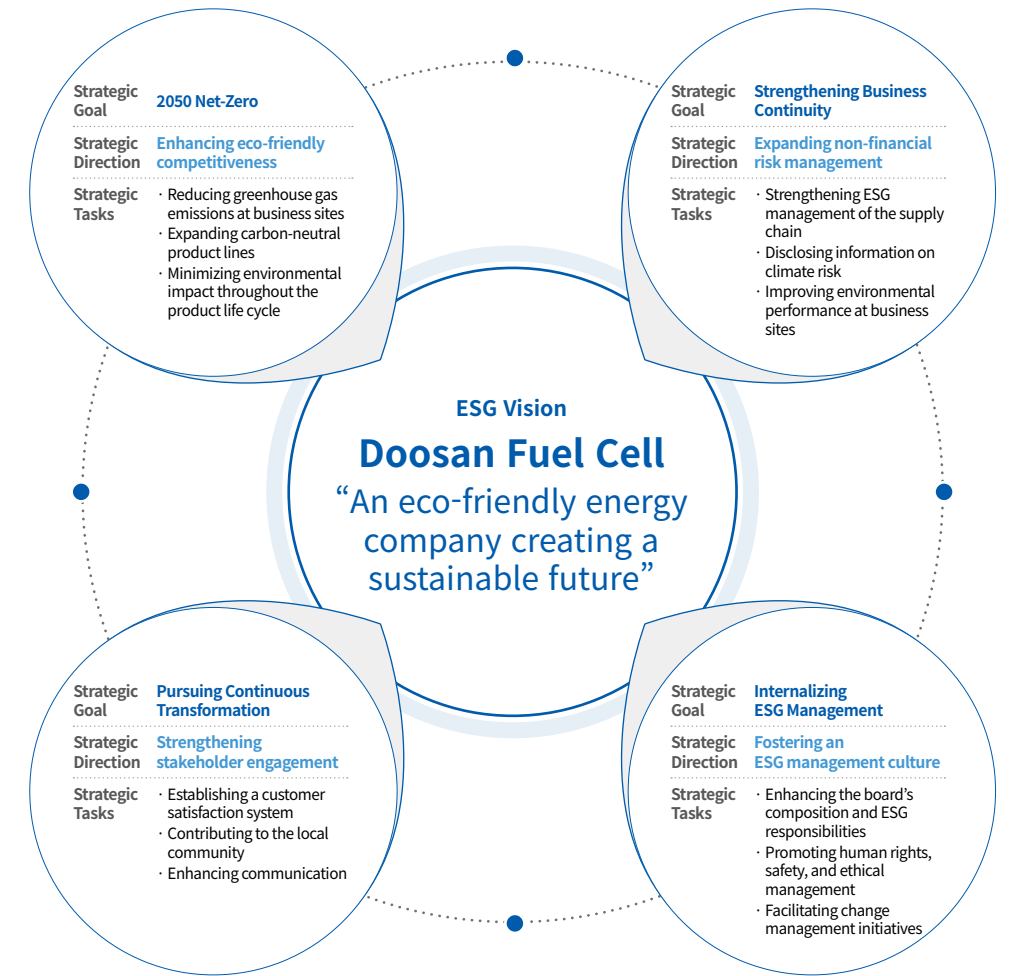
## ESG Strategic Direction

Doosan Fuel Cell has set strategic directions and action guidelines for each task based on its business relevance and risk and opportunity factors.



## ESG Strategic Framework

Doosan Fuel Cell's ESG strategy consists of an ESG Vision, strategic goals, strategic directions, and strategic tasks. For the environmental and social aspects, we have set three strategic goals and directions, along with nine strategic tasks. For governance, we have defined one strategic goal and direction, along with three strategic tasks to manage performance.



# ESG Strategy

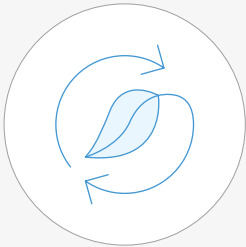
## ESG Mid- to Long-Term Roadmap

In February 2023, Doosan Fuel Cell established a mid- to long-term ESG roadmap to achieve our ESG Vision: “An eco-friendly energy company creating a sustainable future” by 2030. As the first year of implementation, we focused on establishing performance management measures based on our ESG strategy and setting goals and initiatives across the full spectrum of environmental, social, and governance areas. As a result, we exceeded some of our targets, including achieving an overall A rating in the ESG evaluation conducted by the Korea Institute of Corporate Governance and Sustainability (KCGS) in 2023.

Entering Phase 2 in 2024, we have begun defining and implementing strategic tasks that link ESG performance with business performance, while gradually preparing for mandatory disclosures. From Phase 3 in 2026, our goal is to elevate ESG capabilities to global standards, develop best practices, and advance to Top Tier ESG status within the industry.

### Phase 01

**ESG Strategy and System Establishment / Execution**  
Development and implementation of the ESG system and roadmap strategic tasks

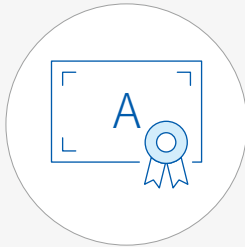


**2023**  
Foundation for ESG Management

- Established and executed ESG strategy and system
- Developed and implemented ESG performance management measures
- Set and initiated mid- to long-term greenhouse gas reduction targets
- Built and implemented an ESG evaluation system for partners

### Phase 02

**Maturity Phase of ESG Execution**  
Strengthening and refining task execution



**2024~2025**  
Achieve Overall A Rating or Higher in ESG Evaluation

- Reinforced and refined execution of ESG tasks
- ESG performance management at the C-level
- Reviewed renewable energy adoption for greenhouse gas reduction
- Conducted ESG evaluation of partners and implemented risk mitigation activities; reflected in procurement systems
- Established and implemented customer satisfaction system
- Developed and executed framework to enhance environmental performance throughout the product life cycle
- Initiated actions in response to mandatory disclosure (IRO analysis)
- Disclosed taxonomy-related information
- Calculated Scope 3 greenhouse gas emissions

### Phase 03

**Advancing ESG Implementation Activities**  
Developing ESG best practices



**2026~2030**  
Achieve ESG Global Top Tier Status within the Industry

- Advanced ESG management and platform establishment
- ESG performance management by the Board of Directors
- Reviewed and adopted additional measures to reduce greenhouse gas emissions
- Disclosed, implemented, and evaluated global supply chain risk management practices
- Built and utilized VOC (Voice of Customer) database
- Expanded ESG disclosures and enhanced reporting activities
- Conducted full product life cycle assessments (LCA) and disclosed results
- Established ESG disclosure response system

# ESG Goals and Performance

## Company Overview

## ESG Strategy

ESG Governance

ESG Strategy

ESG Goals and Performance

ESG Performance Management

## Materiality

## ESG Performance

## Appendix

## Our Goal & Performance

Goal	Detailed Task	2024 Performance	2025 Plan
Enhancing Eco-Friendly Competitiveness	Reducing Greenhouse Gas Emissions at Business Sites	<ul style="list-style-type: none"><li>Reduced greenhouse gas emissions by 416.93 tCO<sub>2</sub> at the Iksan (PAFC) and Gunsan (SOFC) plants</li></ul>	<ul style="list-style-type: none"><li>Carried out energy-saving and GHG-reduction initiatives in the electrode process at the Iksan PAFC plant</li></ul>
	Expanding Carbon-Neutral Products and Technologies	<ul style="list-style-type: none"><li>Completed KESCO certification and initiated mass production of the hydrogen model (5CSA PAFC hydrogen model)</li><li>Completed development and test operation of the CCUS (Carbon Capture, Utilization and Storage)-linked model</li><li>Conducted efficiency improvement activities for the PAFC model</li></ul>	<ul style="list-style-type: none"><li>Established a mid- to long-term roadmap for reducing GHG emissions per unit of product at the Iksan PAFC plant</li><li>Completed on-site setup and demonstration of CCUS-linked model</li><li>Continued efficiency improvement activities for the PAFC model</li></ul>
	Minimizing Environmental Impact Throughout the Product Life Cycle	<ul style="list-style-type: none"><li>Conducted design development of non-RCF (refractory ceramic fibers) components</li><li>Designed drawings for metal bipolar plate prototypes</li><li>Built and implemented reuse/remanufacturing processes for cell stack assembly (CSA)</li><li>Activated resource circulation by reusing resin</li></ul>	<ul style="list-style-type: none"><li>Completed development of Non-RCF components</li><li>Produced prototypes of metal bipolar plates and conducted safety evaluations</li><li>Reduced waste by increasing reuse/remanufacturing volume of CSA</li><li>Continued resin reuse efforts and reduced resin consumption</li><li>Reduced waste through the development and application of a non-destructive testing method for electrodes</li></ul>
Expansion of Non-Financial Risk Management	Expansion of ESG Management in the Supply Chain	<ul style="list-style-type: none"><li>Conducted supply chain ESG assessment through an external expert organization</li><li>Provided improvement guidelines based on assessment results</li><li>Delivered ESG education and evaluation results to partners</li><li>Built online communication channel for partners and held partner assemblies/meetings</li></ul>	<ul style="list-style-type: none"><li>Conducted ESG assessments for key supply chains</li><li>Established ESG management procedures for the supply chain and reflected assessment results in contract renewals</li><li>Implemented management support and ESG improvement support activities for partners</li></ul>
	Disclosure of Climate Risk Information	<ul style="list-style-type: none"><li>Disclosed Doosan Fuel Cell's governance, strategy, risks and opportunities, metrics and targets related to climate change in accordance with IFRS Sustainability Disclosure Standards (ISSB)</li><li>Conducted transition risk scenario analysis and qualitative impact analysis of climate change</li></ul>	<ul style="list-style-type: none"><li>Disclosed information through first-time submission (CDP)</li><li>Gradually calculated and disclosed Scope 3 emissions</li><li>Conduct physical risk scenario analysis and financial impact analysis related to climate change</li></ul>
	Improvement of Environmental Performance at Business Sites	<ul style="list-style-type: none"><li>Zero environmental accidents</li><li>Reduced waste emissions per unit of CSA production</li><li>Increased waste recycling rate by 5.8 percentage points compared to previous year</li><li>Reflected environmental performance in C-level evaluation criteria</li><li>Supported endangered species conservation project (signed MOU with the National Institute of Ecology's Endangered Species Restoration Center)</li></ul>	<ul style="list-style-type: none"><li>Zero environmental accidents</li><li>Reduced waste emissions per unit of CSA production</li><li>Increase waste recycling rate by 3% year-over-year</li><li>Continue endangered species conservation project (transplantation of Dendrobium moniliforme, a Class II endangered plant, on Daejangdo Island in Gunsan)</li></ul>

Goal	Detailed Task	2024 Performance	2025 Plan
Strengthening Stakeholder Engagement	Establishing a Customer Satisfaction System	<ul style="list-style-type: none"><li>Conducted first customer satisfaction survey for major clients</li><li>Carried out improvement actions based on dissatisfaction feedback</li></ul>	<ul style="list-style-type: none"><li>Develop sampling strategies for each customer segment</li><li>Refine survey items and reestablish follow-up system</li></ul>
	Contributing to the Local Community	<ul style="list-style-type: none"><li>Implemented "Green Walking Challenge Campaign" with 320 participants, totaling 34 million steps and reducing 362 kg of carbon emissions</li><li>Employed 10 athletes with disabilities</li><li>Donated operational expenses for the "Dailoum Free Meal Food Truck" in Iksan and involved 38 employees in volunteer activities</li><li>Replaced outdated boilers and gas ranges with eco-friendly boilers and induction cooktops at 38 group homes</li><li>Donated idle office equipment to facilities for persons with disabilities</li><li>Operated the "H2Dream Hydrogen Talent Development Class" with participation from 184 students ranging from high school to graduate school</li></ul>	<ul style="list-style-type: none"><li>Increase participation in the "Green Walking Challenge" to 350 participants with a target of 35 million steps</li><li>Continue expanding employment of athletes with disabilities</li><li>Continue donations to the "Dailoum Free Meal Food Truck" and establish regular volunteer activities for employees</li><li>Launch support program for "young carers" – children providing family care (first-time implementation)</li><li>Continue donating idle office equipment to facilities for persons with disabilities</li><li>Advance the "H2Dream Hydrogen Talent Development Class"</li><li>Strengthen measurement and communication of social contribution outcomes</li></ul>
	Enhancing Communication	<ul style="list-style-type: none"><li>Published the sustainability report on a regular basis and made voluntary disclosures</li><li>Updated ESG information on the company website</li><li>Disclosed Corporate Governance Report</li><li>Issued shareholder meeting notice 3 weeks in advance; avoided holding meetings on peak dates</li><li>Promoted use of electronic voting and proxy solicitation for shareholder rights</li></ul>	<ul style="list-style-type: none"><li>Gradually expand information disclosure in line with mandatory disclosure frameworks</li><li>Participated in Carbon Disclosure Project (CDP) for the first time</li><li>Quantified and disclosed the social value of fuel cells</li><li>Continue initiatives to protect shareholder rights</li><li>Classify and disclose product and service alignment with K-Taxonomy</li></ul>
Fostering an ESG Management Culture	Strengthening Board Composition and Roles	<ul style="list-style-type: none"><li>Reported agenda items related to climate change and environmental management (waste emissions, recycling, pollutant emissions, etc.)</li><li>Reported material issues to the Board of Directors</li></ul>	<ul style="list-style-type: none"><li>Established Compensation Committee within the Board</li><li>Appointed female independent director (as required for companies with assets of KRW 2 trillion or more)</li></ul>
	Human Rights Management	<ul style="list-style-type: none"><li>Acquired certification as Best Family Friendly Management</li><li>Conducted human rights impact assessment</li></ul>	<ul style="list-style-type: none"><li>Implemented mitigation measures for risks identified in the assessment</li></ul>
	Safety Management	<ul style="list-style-type: none"><li>Improved Doosan EHS Rating System (DSRS) score by 5.7% year-over-year and received the Group EHS Management Innovation Award for the second consecutive year</li><li>Achieved zero safety incidents among partners</li><li>Identified near-miss incidents and potential hazards</li></ul>	<ul style="list-style-type: none"><li>Prevented accidents through trend analysis</li><li>Identified risks in new/modified processes and conducted focused improvements</li><li>Revised and updated EHS management system regulations (ISO, DSRS)</li><li>Strengthened EHS education system for EHS leaders</li></ul>
	Ethical Management	<ul style="list-style-type: none"><li>Developed unfair trade risk identification checklist</li><li>Established operational regulations for Fair Trade Compliance Program</li></ul>	<ul style="list-style-type: none"><li>Conducted risk identification and formulated risk management measures</li><li>Operated the Fair Trade Compliance Program</li></ul>
	Facilitating Change Management	<ul style="list-style-type: none"><li>Developed and delivered in-house ESG training materials</li><li>Linked ESG performance with compensation</li><li>Supported ESG-related external education for staff in departments such as environment, social responsibility, and ethics</li></ul>	<ul style="list-style-type: none"><li>Supported implementation of ESG tasks by relevant departments</li><li>Revised in-house ESG training materials</li></ul>

Company Overview

ESG Strategy

ESG Governance

ESG Strategy

ESG Goals and Performance

ESG Performance Management

Materiality

ESG Performance

Appendix

# ESG Performance Management

## Performance Management Process

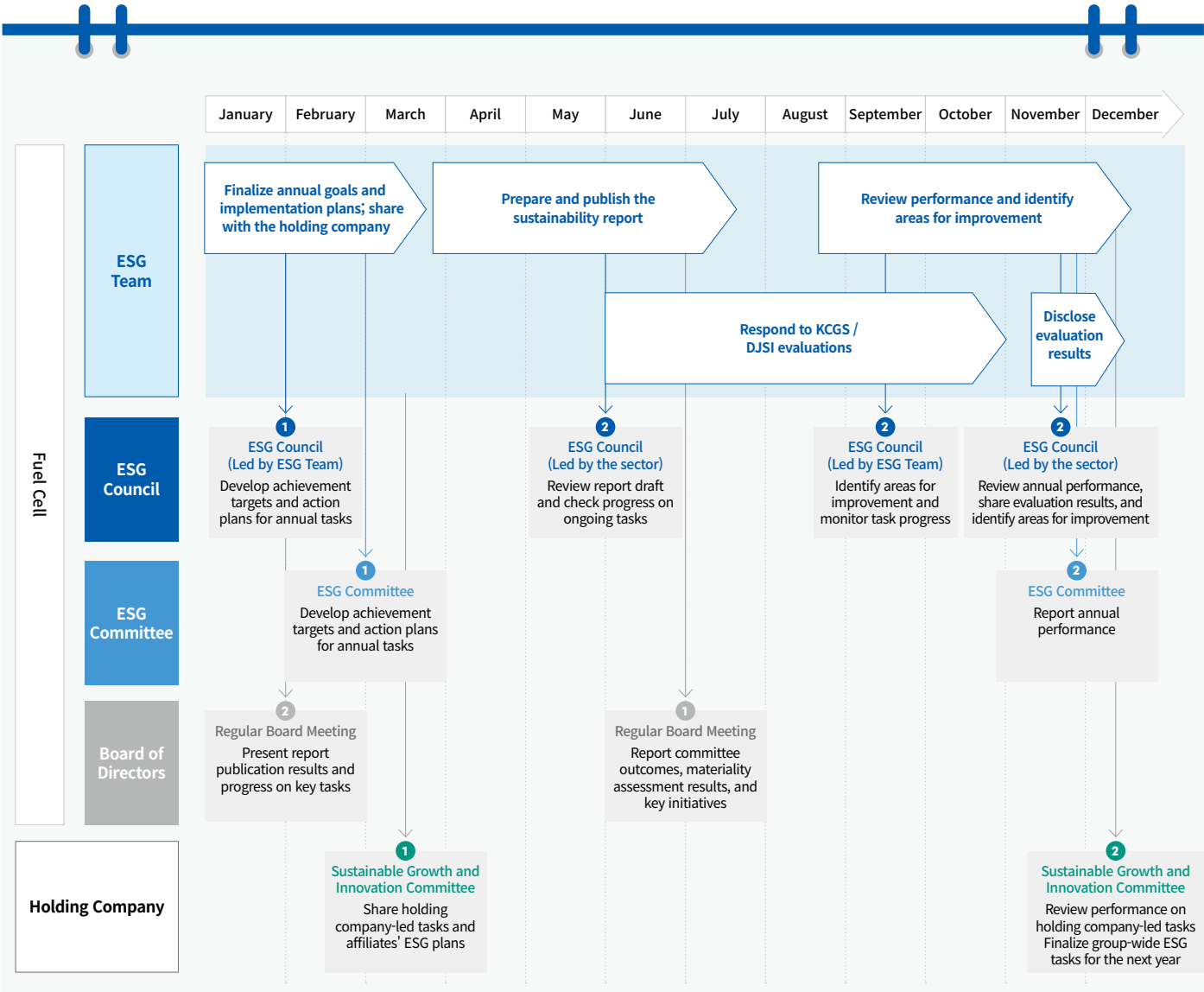
Doosan Fuel Cell manages and executes ESG strategic tasks through quarterly working-level council meetings. The 1st and 3rd quarter meetings are led by the ESG Team, while the 2nd and 4th quarter meetings are led by each sector. These meetings are used to review performance and enhance execution capabilities. In addition, the ESG Committee, chaired by the CEO, is convened to make key decisions on ESG goals, performance, and implementation plans for the given year.



2024 First-Half ESG Committee



2025 First-Half ESG Committee







03

# Materiality

021	Double Materiality Assessment
024	Stakeholder Engagement
025	Material Topic #1. Climate Change Response
034	Material Topic #2. Mitigation of Environmental Impact of Products
038	Material Topic #3. Circular Economy

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

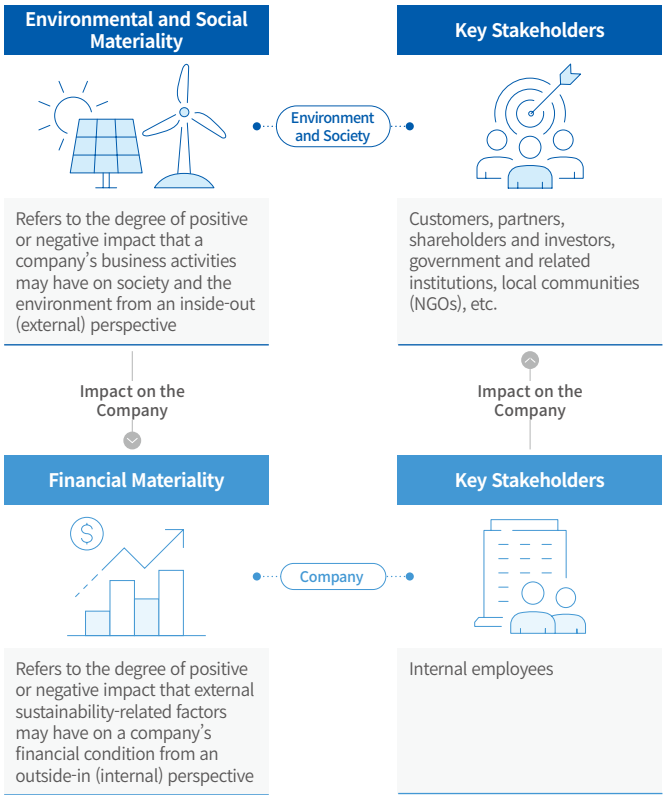
ESG Performance

Appendix

# Double Materiality Assessment

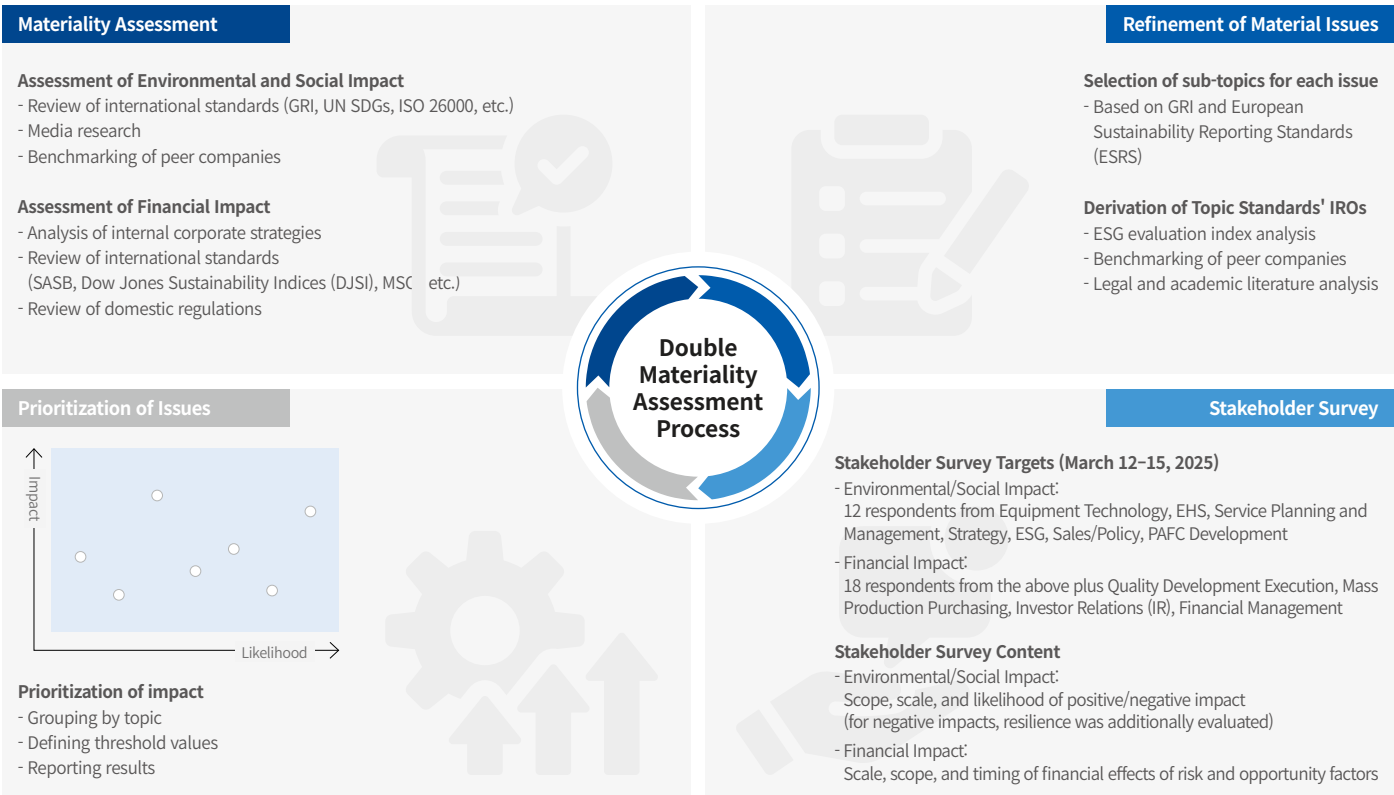
## Concept of Double Materiality Assessment

International ESG disclosure guidelines, including the Global Reporting Initiative (GRI) Standards, are applying the concept of double materiality to enhance the level of sustainability reporting. Double materiality considers both the impact of external sustainability-related factors on a company's financial condition and the impact of the company's business activities on the environment and society—that is, it reflects both inside-out (external perspective) and outside-in (internal perspective)



## Double Materiality Assessment Process

Doosan Fuel Cell conducted its double materiality assessment in accordance with the methodology of the 2021 Global Reporting Initiative (GRI) Standards, comprehensively evaluating both environmental/social and financial impacts. Through this process, we analyzed the top 10 issues derived from environmental/social and financial impact assessments and selected three material issues. For each, we identified Impact, Risk and Opportunity (IRO) factors. Surveys were conducted with the departments related to these material issues to prioritize the IROs, allowing us to determine which IRO factors require focused management by Doosan Fuel Cell. The identified IROs were then used to shape our core ESG strategies. The results of the materiality assessment were reported to and reviewed and approved by the ESG Committee, chaired by the CEO, to ensure systematic management of material issues.



# Double Materiality Assessment

## Double Materiality Assessment Results

### > Selection of Top 10 Issues

Doosan Fuel Cell identified the top 10 issues by assessing both environmental/social and financial impact. As a result, “Advancement of Corporate Governance” was newly included, while “Community Contribution” was excluded.

#### Top 10 Issues Identified

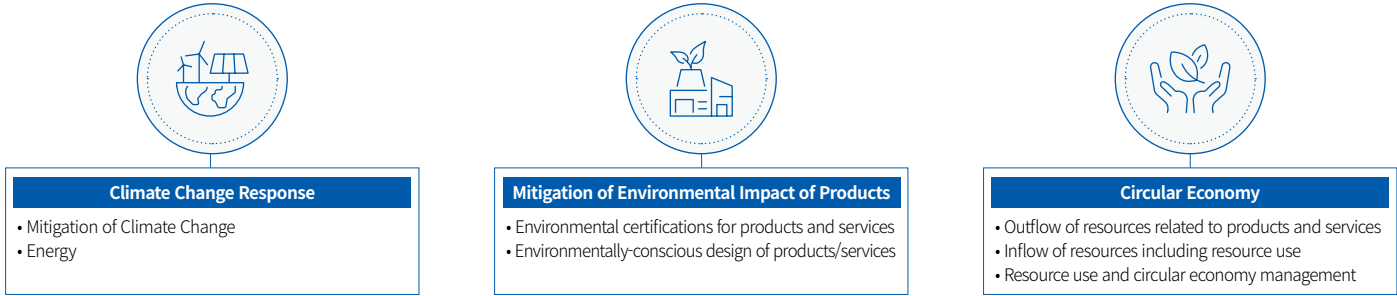
● High ● Medium ● Low

Rank	Top 10 Issues	Environmental/ Social Materiality	Financial Materiality
1	Climate Change Response	●	●
2	Mitigation of Environmental Impact of Products	●	●
3	Circular Economy	●	●
4	Occupational Safety and Health at Business Sites	●	●
5	Strengthening Anti-Corruption and Ethical Management	●	●
6	Sustainable Supply Chain Management	●	●
7	Employment and Labor Relations	●	●
8	Water Management	●	●
9	Improved Energy Efficiency	●	●
10	Advancement of Corporate Governance (New)	●	●

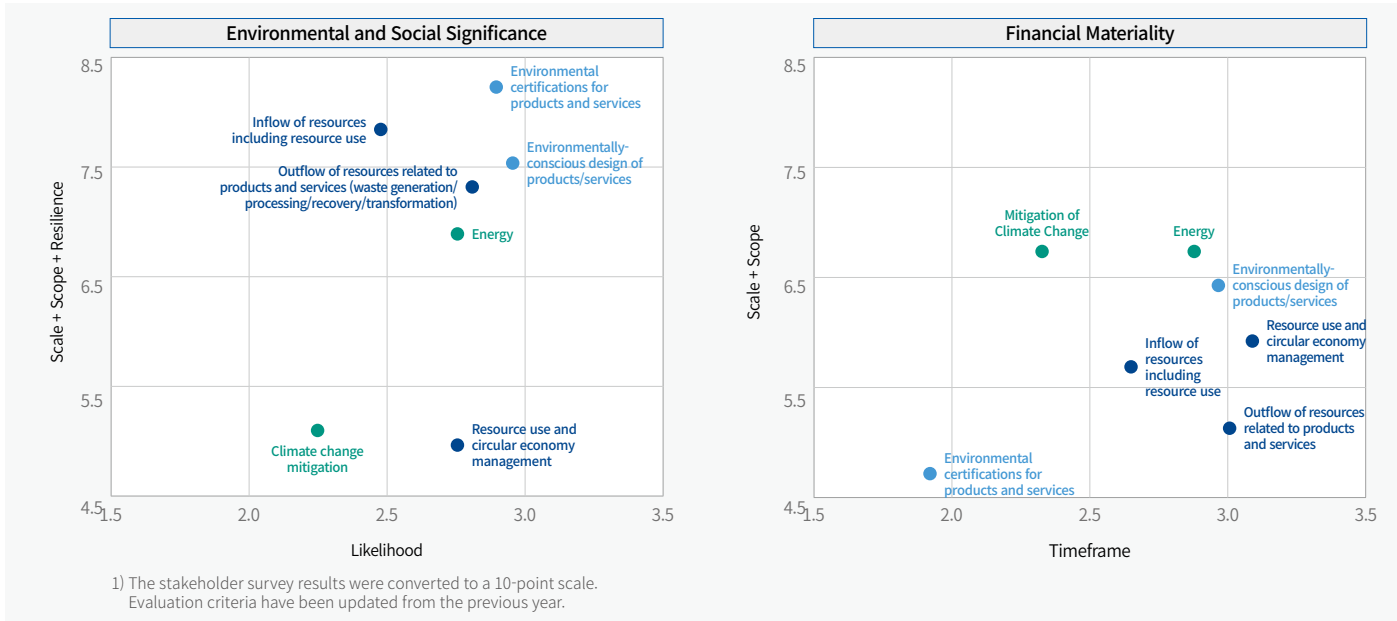
### > Material Issues IRO Analysis Results

Considering our current business context, Doosan Fuel Cell selected “Climate Change Response,” “Mitigation of Environmental Impact of Products,” and “Circular Economy” as the top 3 material issues requiring IRO (Impact, Risk, and Opportunity) analysis. These issues were further segmented, and opportunity and risk factors were analyzed in depth.

#### Selection of Sub-Topics for Each Issue



#### IRO Evaluation Results for Material Issues<sup>1)</sup>



Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

# Double Materiality Assessment

Based on the results of the IRO (Impact, Risk and Opportunity) analysis for material issues, Doosan Fuel Cell has developed response strategies and is actively implementing related initiatives. In the area of circular economy, we identified the need to build a resource circulation system, in response to the assessment that our operations have a significant environmental and social impact. We also recognized that the climate change response issue could have a substantial short-term impact on revenue and costs. As a result, we confirmed the importance of developing eco-friendly technologies and carrying out energy and greenhouse gas reduction activities to minimize financial risks while creating new opportunities. Performance on material issues is reflected in the performance evaluations and compensation of C-level executives and relevant team leaders. This report provides detailed disclosure of Doosan Fuel Cell’s policies, goals, actions, and performance related to these material issues.

Key Issues – IRO Analysis Results and Initiatives

Material Issue	IRO	Business Impact and Progress	2024 Performance	2025 Target/Metric	Cause of the Impact			External Stakeholders/Impact Areas Evaluated				Report Page
					Our Operations	Products and Services	Supply Chain	Environment	Society	Customers	External Employees <sup>1)</sup>	
Climate Change Response	Mitigation of Climate Change	<b>•Impact</b> - Increased order opportunities due to the launch of the clean hydrogen power bidding market - Weakened order competitiveness due to intensifying clean hydrogen competition - Burden associated with mandatory climate-related disclosures	<b>•Completed installation and began operation of demonstration site for CCS-linked fuel cell</b> <b>•Established roadmap to respond to mandatory climate disclosures</b>  <b>•Reduced 416.93 tCO<sub>2</sub>eq of GHG emissions through energy and base load reduction at Iksan and Gunsan plants</b>  <b>•Reviewed adoption of rooftop solar PV systems at Iksan plant</b>	<b>•Complete demonstration of 90% GHG reduction target for CCUS-linked PAFC model</b>  <b>•Expand the scope of climate-related disclosures (e.g., Scope 3 emissions)</b>  <b>•Implementation of short-term energy reduction activities at plants</b>  <b>•Implementation of base load reduction activities at plants</b>  <b>•Revise the mid- to long-term GHG reduction roadmap (shift from projected emissions-based to intensity-based approach)</b>								25-33
	Energy	<b>•Progress</b> - Develop fuel cell technology using clean hydrogen (e.g., development of CCUS-linked fuel cells, ammonia fuel cell demonstration project) - Establish a roadmap for mandatory climate disclosures and improve readiness - Implement short-term energy-saving and base load reduction activities - Review the adoption of renewable energy										
Mitigation of Environmental Impact of Products	Environmental certifications for products and services	<b>•Impact</b> - Cost savings through product efficiency improvement - Expansion of eco-friendly product business opportunities and increased revenue - Proactive compliance with increasingly stringent environmental product regulations  <b>•Progress</b> - Identify and implement initiatives to enhance environmental performance throughout the product life cycle - Promote environmentally conscious improvements at each stage: design, manufacturing, use, and disposal	<b>•Developed a framework to strengthen environmental performance throughout the product life cycle and established KPIs</b> <b>•Completed installation and began operation of demonstration site for CCS-linked fuel cell</b> <b>•Carried out PAFC efficiency enhancement initiatives, including operating temperature adjustments and power consumption reduction</b> <b>•Obtained KESCO certification and began mass production of the M500 Hydrogen model</b> <b>•Researched and initiated development of Non-RCF (refractory ceramic fiber) components</b>	<b>•Complete demonstration of 90% GHG reduction target for CCS-linked PAFC model</b>  <b>•Advance efficiency of PAFC NG model (e.g., improved insulation, next-generation catalyst design and evaluation)</b>  <b>•Reduce waste generation through equipment and facility improvements</b>  <b>•Complete development and verify performance of Non-RCF components</b>								34-37
	Environmentally-conscious design of products/services											
Circular Economy	Outflow of resources related to products and services	<b>•Impact</b> - Potential designation as a circular economy performance management target business due to increased waste emissions - Rising treatment costs or investments required to improve recycling  <b>•Progress</b> - Establish strategies for reuse/recycling of end-of-life components - Improve recycling rates during manufacturing and LTSA (Long-Term Service Agreement) processes	<b>•Transitioned CSA separator plate material from carbon to metal; completed design of metal separator plate prototype</b>  <b>•Manufactured sample separator plates using waste synthetic graphite</b>  <b>•Completed investigation of disposal status and recyclability of key end-of-life components</b> <b>•Completed 92 CSA rework cases</b>  <b>•Expanded resin reuse</b>  <b>•Continued evaluation of new vendors capable of recycling carbon separator plates</b>  <b>•Improved business site waste recycling rate from 43.1% to 48.3%</b>	<b>•Continue transitioning CSA separator plates to more recyclable materials</b>  <b>•Expand CSA rework volume</b> <b>•Improve resin recycling rate and reduce usage</b>  <b>•Further improve waste recycling rate compared to previous year</b>								38-40
	Inflow of resources including resource use											
	Resource use and circular economy management											

1) Employees of partner companies and others

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

# Stakeholder Engagement

## Stakeholder Classification

Doosan Fuel Cell actively seeks to reflect the opinions of stakeholders—who directly or indirectly affect and are affected by our business operations—in its management decision-making. After gathering input from relevant departments and reviewing the classifications with experts, we have classified stakeholders into "Shareholders and Investors," "Employees," "Customers," "Partners," "Local Communities," and "Government and Affiliated Agencies," and based on this classification system, we are conducting various activities to expand stakeholder communication.

## Strengthening Stakeholder Engagement

Doosan Fuel Cell diversifies its communication channels to respect not only the legal rights of stakeholders but also to understand and address their key concerns. Since 2022, our stakeholder communication activities and performance have been disclosed through the sustainability report. To identify sustainability issues considered important by stakeholders, we conduct a materiality assessment annually. Beginning in 2024, we started applying Impact, Risk and Opportunity (IRO) analysis to our top three material issues. The qualitative and quantitative environmental, social, and financial impacts of each issue are disclosed in our sustainability report. This ensures that stakeholders are provided with more diverse and relevant information.

### Investor Relations (IR) Activities

Doosan Fuel Cell regularly holds corporate briefing sessions to share business performance and operations with analysts from domestic and global securities firms. The schedule of these sessions is as follows:

No.	Publicly Disclosing Company	Report Title	Disclosure Date
1	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	February 7, 2024
2	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	April 23, 2024
3	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	April 30, 2024
4	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	May 21, 2024
5	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	June 17, 2024
6	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	July 19, 2024
7	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	August 30, 2024
8	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	September 26, 2024
9	Doosan Fuel Cell Co., Ltd.	[Correction] Notice of IR Session (Public Disclosure)	October 28, 2024
10	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	November 4, 2024
11	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	January 23, 2025
12	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	March 6, 2025
13	Doosan Fuel Cell Co., Ltd.	Notice of IR Session (Public Disclosure)	April 24, 2025

## Stakeholder Engagement

### Shareholders and Investors



#### Key Interests

- Financial performance
- Transparent disclosure of information

#### Communication Channels

- General shareholders' meeting
- Notice of IR session disclosures
- Company website
- Analyst meetings
- Corporate governance report

### Employees



#### Key Interests

- Employee development and improved welfare
- Active communication within the organization
- Building collaborative labor-management relations

#### Communication Channels

- Education programs
- Employee satisfaction surveys
- Grievance handling channels
- Internal online bulletin board
- Company newsletter
- Labor-management council
- Management briefing sessions
- Executive roundtables
- Change Agent (CA) activities
- Human rights impact assessments

### Customers



#### Key Interests

- Customer satisfaction and collaborative relationships
- Product quality improvement and accountability

#### Communication Channels

- Voice of Customer (VOC)
- Product training sessions
- Periodic reports
- Customer satisfaction surveys

### Partners



#### Key Interests

- Support for strengthening competitiveness and capabilities
- Enhanced information sharing
- Strengthening ESG capabilities

#### Communication Channels

- Partner councils
- Hotline
- Technology exchange meetings
- Safety and health councils
- ESG assessment briefings
- Partner general meetings

### Local Communities



#### Key Interests

- Regular engagement to hear local community voices
- Fostering hydrogen talent
- Supporting local development

#### Communication Channels

- Social contribution activities
- Meetings with local governments and welfare institutions
- Jeonbuk Sports Association for the Disabled
- University career support centers
- Incheon Metropolitan Office of Education / Incheon City Government

### Government and Affiliated Agencies



#### Key Interests

- Responding to policy changes and aligning business portfolios
- Industry-specific trends
- Establishing industry-academia-research collaboration systems

#### Communication Channels

- Policy briefings
- Public hearings on policy development
- National Assembly and government ministries



MATERIAL TOPIC #1.

Climate Change Response

Governance

> Roles and Responsibilities of Top Management

Doosan Fuel Cell has established a governance structure centered on the ESG Committee, our executive decision-making body, to manage and oversee climate change-related risks and opportunities. The ESG Committee meets twice a year. In the first half of the year, it reports on climate change-related risks and opportunities and decides on response strategies and goals. In the second half of the year, it reviews performance and establishes directions for the next year. In addition, the Head of the Management Support Sector, who oversees ESG, conducts ad-hoc reviews of climate change-related risk analyses, monitoring activities, and response strategies as necessary. Meanwhile, major strategies and tasks related to climate change are reported to the Board of Directors at least once a year.

> Status of Education for Top Management

Doosan Fuel Cell's Board of Directors consists of independent directors with expertise in ESG-related fields, including legal, financial/accounting, and technology professionals, as well as a management expert who previously served as CEO of a major airline. At the group management level, climate risks are managed under the leadership of the Head of the Management Support Sector, who also serves as the Chief ESG Officer. To enhance awareness and build the capabilities of the Board and executive management regarding climate change, Doosan Fuel Cell offers a range of educational programs, forums, and seminars.

Date	Target	Content
March 22, 2024	Management	Climate-related opportunities and risk factors, and response directions
June–October 2024	Management (Head of Management Support Sector)	Participation as a supporter of the UN Global Compact (UNGC) Climate Ambition Accelerator
December 19, 2024	Board of Directors	Trends in sustainability disclosure standards and key climate-related disclosure requirements
December 20, 2024	Management	Climate-Related Reporting Cycle and Method

> Climate Change-Related Reporting Cycle and Methods

The Board of Directors of Doosan Fuel Cell regularly receives reports on climate-related risks and opportunities, including associated financial and non-financial impacts and response measures. The management receives climate-related information and approves response strategies through the ESG Committee during the first half of each year.

Category	Board of Directors	Management
Reporting Entity	ESG Team	ESG Team and Relevant Departments
Reporting Content	Climate-related risks and opportunities, and response strategies	Climate-related risk and opportunity factors, related tasks, implementation plans, and performance
Reporting Frequency and Timing	At least once every half-year	Once every half-year

Climate Change Response Governance



> How Climate-Related Risks and Opportunities Are Considered in Decision-Making

The government is promoting the hydrogen industry as part of its policy efforts to achieve carbon neutrality. As part of this initiative, the Clean Hydrogen Energy Portfolio Standard (CHPS) was launched in 2024 in addition to the existing Renewable Portfolio Standard (RPS) for general hydrogen power generation. The combined market size of RPS and CHPS bidding is estimated to be approximately 7,800 GWh in 2024. Doosan Fuel Cell anticipates an expansion of business opportunities in line with the growing hydrogen power generation bidding market. At the same time, with the introduction of CHPS, we expect increased competition not only from existing fuel cell companies but also from new entrants such as coal-ammonia co-firing and hydrogen gas turbine operators. In response, we are investing in enhancing product competitiveness through improvements in product efficiency to lower the levelized cost of electricity (LCOE) and in quality upgrades to reduce long-term service agreement (LTSA) costs.

> Methods for Setting and Monitoring Goals Related to Climate Change Risks and Opportunities

To strengthen the execution of our climate change response strategy, Doosan Fuel Cell incorporates relevant indicators into the KPIs of team leaders from relevant departments and executive management. These KPIs are reflected in the remuneration of department heads and executive management. The performance of department heads is also partially reflected in the performance-based compensation of team members.

Climate Change KPIs

Category	Task	KPI
Setting and Tracking Progress of Climate-Related Goals	Enhancing environmental performance at business sites	- Establishing a mid- to long-term roadmap for greenhouse gas reduction - Reducing energy consumption and greenhouse gas emissions

> Controls and Procedures Supporting Executive Oversight of Climate Change

During the annual materiality assessment, Doosan Fuel Cell identifies impact, risk, and opportunity (IRO) factors related to climate change. We then conduct a survey of working-level staff from relevant departments to assess the scale, scope, and likelihood of environmental/social and financial impacts. The results are reported to the ESG Committee, which is supervised by executive management, and are used in setting response strategies and decision-making on targets. In particular, the CEO, who concurrently serves as the Chief Strategy Officer (CSO), incorporates the analysis of climate-related risks and opportunities into business strategy development, while the Head of the Management Support Sector, who oversees ESG, reflects the analysis results in the development of environmental and safety/health strategies at business sites.

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

MATERIAL TOPIC #1.

Climate Change Response

Strategy

Doosan Fuel Cell identifies climate-related risks and opportunities by referencing the TCFD framework as well as sustainability disclosure standards such as IFRS S2 and ESRS E1. Risks are classified into transition risks (policy and legal, technology, market, and reputation risks) and physical risks (acute and chronic). Opportunities are categorized into product and service, energy resources, market, and resource efficiency. To determine whether the identified risks and opportunities have material financial or strategic impacts, Doosan Fuel Cell conducts a materiality assessment. This includes evaluating the scale and scope of the impact and the time horizon over which the impact is expected to occur (short-term, medium-term, or long-term). The scale of impact is assessed based on the materiality threshold used by the Financial Supervisory Service to determine errors in financial account items. The timeframe settings reflect the fact that we establish short-term goals (AOP) within one year and long-term goals (LRP) for five years when formulating corporate strategies, and accordingly, we have defined the timeframe for climate change strategy development as short-term (within one year), mid-term (1-5 years), and long-term (more than five years).

Climate-Related Risks

Category		Climate-Related Risk	Scale	Scope	Timeframe
Transition Risks	Policy and Legal	• Strengthened climate-related disclosure obligations	KRW 400 million~<2 billion	Upstream, Downstream, Business sites	Mid-term
		• Strengthened regulations on clean hydrogen (global and domestic)	KRW 2.8 billion~<4.4 billion	Upstream, Downstream, Business sites	Mid-term
		• Stricter regulations on GHG emissions at business sites	KRW 400 million~<2 billion	Upstream, Downstream, Business sites	Long-term
	Market	• Increased demand from customers for renewable energy conversion	KRW 2 billion~<2.8 billion	Upstream, Downstream, Business sites	Mid-term
	Reputation	• Reputational risk associated with gray hydrogen usage	KRW 400 million~<2 billion	Upstream, Downstream, Business sites	Mid-term
Physical Risks	Acute	• Increased frequency and severity of extreme weather (heatwaves, floods, droughts)	<KRW 400 million	Upstream, Downstream, Business sites	Mid-term
	Chronic	• Changes in long-term climate patterns, such as rising average temperatures	<KRW 400 million	Upstream, Downstream, Business sites	Long-term

Climate-Related Opportunities

Category	Climate-Related Opportunity	Scale	Scope	Timeframe
Products and Services	<ul style="list-style-type: none"><li>• Growing market preference for eco-friendly / carbon-neutral products</li></ul>	KRW 2.8 billion~<4.4 billion	Upstream, Downstream, Business sites	Mid-term
Market	<ul style="list-style-type: none"><li>• Entry into new markets related to climate change response</li><li>• Diversification of business portfolio</li></ul>	KRW 2 billion~<2.8 billion	Upstream, Downstream, Business sites	Mid-term
Energy Resources	<ul style="list-style-type: none"><li>• Introduction of CHPS and launch of clean hydrogen power market</li></ul>	KRW 400 million~<2 billion	Upstream, Downstream, Business sites	Mid-term
	<ul style="list-style-type: none"><li>• Expansion of eco-friendly energy use during production processes</li></ul>	KRW 2 billion~<2.8 billion	Upstream, Downstream, Business sites	Mid-term
Resource Efficiency	<ul style="list-style-type: none"><li>• Improved energy efficiency</li></ul>	KRW 400 million~<2 billion	Upstream, Downstream, Business sites	Mid-term

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

MATERIAL TOPIC #1.

# Climate Change Response

Doosan Fuel Cell analyzes the impacts of climate-related risks and opportunities on our business and their potential financial implications to guide our response activities.

Business and Financial Impacts of Climate-Related Risk Factors

Category		Climate-Related Risk	Impact on Business	Potential Financial Impact	Response Activities
Transition Risks	Policy and Legal	• Strengthened climate-related disclosure obligations	• Expansion of organization and workforce to support disclosure compliance • Risk of sanctions or litigation from inaccurate or omitted disclosures • Cost of external consulting to ensure accurate disclosure	• Increased labor/operating costs for disclosure • Potential litigation expenses related to climate disclosure	• Enhanced climate disclosure readiness using outputs from the group-level climate disclosure project • Established phased roadmap for mandatory disclosures • Ongoing climate risk management and monitoring
		• Strengthened global and domestic regulations on clean hydrogen	• Need to develop clean hydrogen conversion technologies • Burden of identifying/managing new supply chains for stable clean hydrogen adoption • Intensified competition may reduce bidding competitiveness	• Increased fuel procurement costs for clean hydrogen • Clean hydrogen certification costs • R&D and conversion costs for clean hydrogen fuel cells	• Development of water electrolysis equipment through affiliates to enable internal procurement of clean hydrogen • Development of fuel cells utilizing clean hydrogen
		• Strengthened GHG emissions regulations at business sites	• Investment in equipment and personnel to enhance energy efficiency • Increased financial burden from adopting renewable energy	• Higher replacement costs for high-efficiency equipment • Increased labor costs from hiring external experts • Higher operational costs from renewable energy use	• Implemented base load and short-term energy saving initiatives • Reviewed methods and economic feasibility of renewable energy adoption
	Market	• Customer demand for transition to renewable energy	• Burden of establishing an Energy Mix strategy and evaluating feasibility of renewable adoption	• Increased electricity costs from using renewable energy	• Reviewed methods and economic feasibility of renewable energy adoption
	Reputation	• Reputational risk associated with gray hydrogen usage	• Decreased community acceptance in case of environmental issues with NG models • Diminished corporate brand value	• Limits in securing new orders and generating revenue	• Held community briefings • Distributed informational materials on environmental advantages over fossil fuels
	Physical Risks	• Increased frequency and intensity of extreme weather events (heatwaves, floods, droughts)	• Productivity reduction due to interruption of outdoor work • Additional operating costs for cooling systems	• Loss of operating profit due to disruptions in production and services • Increased costs for installation and operation of cooling equipment	• Established climate response strategies based on scenario analysis of physical risks
		• Changes in long-term climate patterns, such as rising average temperatures			

Business and Financial Impacts of Climate-Related Opportunity Factors

Category		Climate-Related Opportunity	Impact on Business	Potential Financial Impact	Response Activities
Products and Services		• Increased market preference for eco-friendly/carbon-neutral products	• Strengthened competitiveness through technology development and diverse product lineup	• Increased revenue and operating profit from new market entry through product portfolio diversification	• Development of fuel cell products for ships and CCUS-integrated applications
Market		• Entry into new markets related to climate change response • Diversification of business portfolio	• Early entry into new markets by securing eco-friendly, carbon-neutral technologies and products	• Expanded revenue streams through product portfolio diversification	
Energy		• Introduction of CHPS and opening of the clean hydrogen power market	• Increased bidding opportunities due to expansion of overall hydrogen power generation market	• Increased revenue from expanded bidding market	• Investment in clean hydrogen product development and conversion • Development of water electrolysis equipment for stable clean hydrogen procurement
		• Expansion of eco-friendly energy use during production processes	• Increased customer preference for products with environmentally friendly life-cycle performance	• Strengthened non-price competitiveness in bidding	• Implemented base load and energy reduction activities through facility efficiency improvements
Resource Efficiency		• Improved energy efficiency	• Reduced operating costs through enhanced energy efficiency	• Decreased energy costs	

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

MATERIAL TOPIC #1.

Climate Change Response

> Risk Factors Related to Climate Change Response

Category	Current Efforts	Anticipated Efforts
Partner Support	<ul style="list-style-type: none"><li>Establishing eco-friendly purchasing policies</li><li>Supporting ESG performance management of partners</li></ul>	<ul style="list-style-type: none"><li>Collaborating with partners to reduce greenhouse gas (GHG) emissions</li><li>Providing incentives based on partners' environmental performance</li></ul>
Customer Collaboration	<ul style="list-style-type: none"><li>Enhancing product maintenance, service, and operational uptime</li></ul>	<ul style="list-style-type: none"><li>Supporting customers in mitigating or adapting to environmental issues</li></ul>

> Climate-Related Transition Plan, Key Assumptions, Dependencies, and the Company's Plan for Achieving Its Goals

Doosan Fuel Cell has established a plan to reduce Scope 1 and 2 GHG emissions at the Iksan Plant by 16% compared to business-as-usual (BAU) levels by 2030. Electricity accounts for over 80% of the total energy consumption in our production processes, and therefore, we consider reducing electricity consumption and adopting renewable energy as the most effective means to reduce GHG emissions. Accordingly, we developed a reduction target roadmap based on projections of domestic GHG-related regulations, industrial electricity prices, and renewable electricity prices such as solar power. We plan to continue monitoring relevant developments regularly and flexibly adjust our implementation plan to reflect our mid- to long-term business plans. Our current plan to achieve this target, based on the following assumptions and dependencies, is as follows:

Climate Change Response Plan

GHG Emissions Regulation Outlook	As of the end of 2024, Doosan Fuel Cell's GHG emissions do not exceed 50,000 tCO <sub>2</sub> eq per company or 15,000 tCO <sub>2</sub> eq per business site, and therefore we are not currently subject to the Target Management System or the Emissions Trading Scheme. However, since March 2022, the energy consumption threshold has been removed, expanding the system's coverage, and obligations are being extended to public sector entities not previously subject to the Target Management System, such as local government-funded or -invested institutions. Additionally, beginning in June 2025, the reduction targets under the Target Management System will shift from a BAU-based approach to an absolute reduction based on a base year, reflecting a trend of increasing stringency. In response, we have developed a roadmap to reduce GHG emissions by 2030, which includes base load reduction, short-term energy-saving activities, and long-term investments in high-efficiency equipment and adoption of renewable energy.
Introduction of Renewable Energy	According to a report by the Korea Energy Economics Institute <sup>1)</sup> , the levelized cost of electricity (LCOE) for a 1MW solar power facility is projected to decrease from KRW 142 per kWh in 2023 to KRW 98 per kWh by 2030. Based on this trend, Doosan Fuel Cell is currently planning to install solar power generation facilities at its Gunsan Plant, which has high electricity consumption.
Introduction of High-Efficiency Equipment	Doosan Fuel Cell's production facilities are relatively new or recently expanded, with high-efficiency equipment and sufficient remaining useful life. As such, we do not currently plan to replace equipment for energy saving in the short term. However, we will continuously monitor the technological trends and commercialization of high-efficiency, low-carbon equipment.
In-House Energy Saving Initiatives	In the short term, Doosan Fuel Cell is working to reduce unnecessary electricity consumption through process improvements and optimization of facility operation systems. These efforts aim to reduce GHG emissions prior to implementing mid- to long-term measures such as renewable energy adoption and high-efficiency equipment investment.

> Resource Procurement for Strategy Execution

Doosan Fuel Cell is investing in new production facilities and research and development to respond to the identified climate-related risks and opportunities. For details on related financing, please refer to Section III. Financial Matters, Item 7-2 "Disclosure of Use of Funds Raised Through Securities Issuance" in our 6th Annual Business Report (fiscal year 2024).

> Progress on Previously Disclosed Plans

The goals and performance established by Doosan Fuel Cell during the reporting period in response to climate-related risks are as follows. We reduced greenhouse gas (GHG) emissions at the Iksan Plant by 91.22 tons through short-term energy-saving efforts and base load reduction activities. However, the target was not met due to increased energy consumption following the acquisition of the electrode plant around August 2024. We plan to make every effort to achieve our targets in 2025 and disclose the results transparently.

Category	Indicator	2024 Target	2024 Performance	Target Achievement
GHG Emissions Target	Iksan Plant GHG Scope 1 & 2 Emissions	5,639tCO <sub>2</sub> eq	5,785.54tCO <sub>2</sub> eq	Not Achieved

As the Gunsan Plant had not yet begun full-scale mass production in 2024, it was excluded from the target-setting and performance monitoring.

1) Interim Report No. 4: Development and Operation of a Mid- to Long-Term Power Generation Cost Forecasting System for Renewable Energy Expansion (2023) (Related Link: <https://www.electimes.com/news/articleView.html?idxno=326680>)

MATERIAL TOPIC #1.

Climate Change Response

> Climate Resilience Assessment Based on Scenario Analysis

Doosan Fuel Cell conducted climate scenario analysis to assess the potential impacts of climate change on our business. We climate risks into transition risks such as cost increases due to carbon neutrality or carbon reduction policies, and physical risks such as extreme weather phenomena that have acute or chronic impacts, and conducted climate change scenario analysis to analyze the impact of these risks on Doosan Fuel Cell's business activities and financial performance.

The climate scenario analysis was based on the internal and external management environment as of the end of 2021 and examined impacts through 2050. For transition risks, we used the Net Zero Emissions by 2050 (NZE2050) and Stated Policies Scenario (STEPS) from the International Energy Agency (IEA), which are widely used in the energy sector, to analyze potential increases in carbon-related costs, weakened order competitiveness, and higher regulatory compliance costs associated with transitioning to a low-carbon economy. For physical risks, we applied the Shared Socioeconomic Pathways (SSP) scenarios presented by the Intergovernmental Panel on Climate Change (IPCC) to assess the financial impact—specifically on operating profit—resulting from extreme climate events.

Applied Scenarios

Category		Scenario	Transition Risks	Physical Risks				
				Acute			Chronic	
				Heatwaves	Heavy Rainfall	Precipitation	Water Resources	Rising Average Temperatures
IEA	NZE2050	1.5°C A scenario in which the world achieves carbon neutrality by 2050 and limits global temperature rise to below 1.5°C	☑					
	STEPS	2.6°C A scenario assuming that the energy and climate policies announced by each country to date are fully implemented, keeping global temperature rise at 2.6°C	☑					
IPCC	SSP1-2.6	Sustainable Development Pathway A scenario assuming environmentally sustainable economic growth through technological advancement in renewable energy and minimal reliance on fossil fuels		☑	☑	☑	☑	☑
	SSP5-8.5	Fossil Fuel-Dependent Pathway A scenario based on high fossil fuel usage and unregulated urban development, focusing on rapid industrial and technological progress		☑	☑	☑	☑	☑

> Transition Risk Scenario Analysis

Doosan Fuel Cell utilized the NZE2050 climate change scenario, which assumes that the world achieves a net-zero emissions pathway by 2050 and maintains temperature rise at 1.5°C, and the STEPS scenario, which projects based on reduction targets announced to date and already confirmed plans, in addition to policies and measures already being pursued by each sector, country, and region, among IEA's climate change scenarios. These scenarios were selected to best reflect the characteristics of the hydrogen fuel cell market, which is in its early stages and highly sensitive to changes in government policy. Under the NZE2050 scenario, carbon pricing is projected to increase from USD 90 in 2030 to USD 160 in 2040, and USD 200 in 2050. Under the SPS (Stated Policies Scenario), carbon pricing is expected to reach USD 56 by 2030, USD 73 by 2040, and USD 89 by 2050.

Carbon Price Scenario<sup>1)</sup>

Unit: USD

Scenario Classification	Region	2030	2035	2040	2050
Stated Policies Scenario (SPS)	Republic of Korea	56	65	73	89
Announced Pledges Scenario (APS)	Emerging Markets	40	65	110	160
Net Zero Emissions by 2050 Scenario (NZE2050)	Emerging Markets	90	125	160	200

1) Source: IEA GEC Model 2024

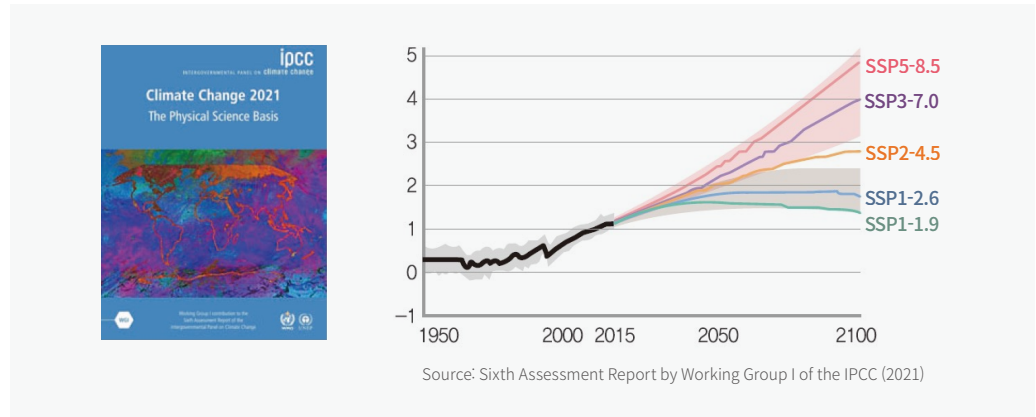


MATERIAL TOPIC #1.

Climate Change Response

> Physical Risk Scenario Analysis

The Sixth Assessment Report by Working Group I of the Intergovernmental Panel on Climate Change (IPCC) presents climate projections based on the Shared Socioeconomic Pathways (SSP) scenarios, which classify projected changes in global average temperature into five scenarios: SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5. These scenarios, an evolution of the previous Representative Concentration Pathways (RCP), incorporate socioeconomic factors to enable a more comprehensive analysis. This integrated approach reflects the reality that physical risks are influenced not only by climate change itself but also by a society's capacity to respond and adapt—hence the use of SSP scenarios in this analysis.



The SSP scenarios are based on assumed socioeconomic developments. SSP1-1.9 represents a society with the lowest greenhouse gas (GHG) emissions, while SSP5-8.5 represents the highest-emission pathway. The report projects that in the absence of GHG reduction efforts, global average temperatures could rise by up to 5°C above pre-industrial levels by the year 2100.

To assess the resilience of our strategy and business model to physical risks, Doosan Fuel Cell conducted scenario analysis for key sites including the Iksan Plant, Gunsan Plant, and our R&D Center. The analysis period spans from 2021 to 2050, and we examined changes and expected financial impacts for each site based on the following indicators: number of extreme heat days, number of heavy rainfall days, water resource availability, and increase in average temperature.

The physical risk scenario analysis method is as follows:

> Physical Risk Scenario Analysis Process



> Conclusion and Implications

Under the Net Zero Emissions by 2050 (NZE2050) scenario and the SSP1-2.6 scenario—which both reflect aggressive carbon neutrality targets—Doosan Fuel Cell expects significant burdens related to clean hydrogen, such as weakened bidding competitiveness due to stricter regulations and higher investment costs from intensified competition within the hydrogen industry. However, we also anticipate increased revenue opportunities stemming from the expansion of bidding volumes under the Clean Hydrogen Energy Portfolio Standard (CHPS). Meanwhile, under the SSP5-8.5 scenario, where average temperatures are projected to rise sharply, operating expenses—particularly cooling costs—are expected to increase by between KRW 1.9 billion and KRW 4.9 billion.

Doosan Fuel Cell plans to enhance the sophistication of our climate risk scenario analysis methodology by gradually expanding the scope to include service sites. We also intend to incorporate these analysis results into our business and investment strategies.

MATERIAL TOPIC #1.

Climate Change Response

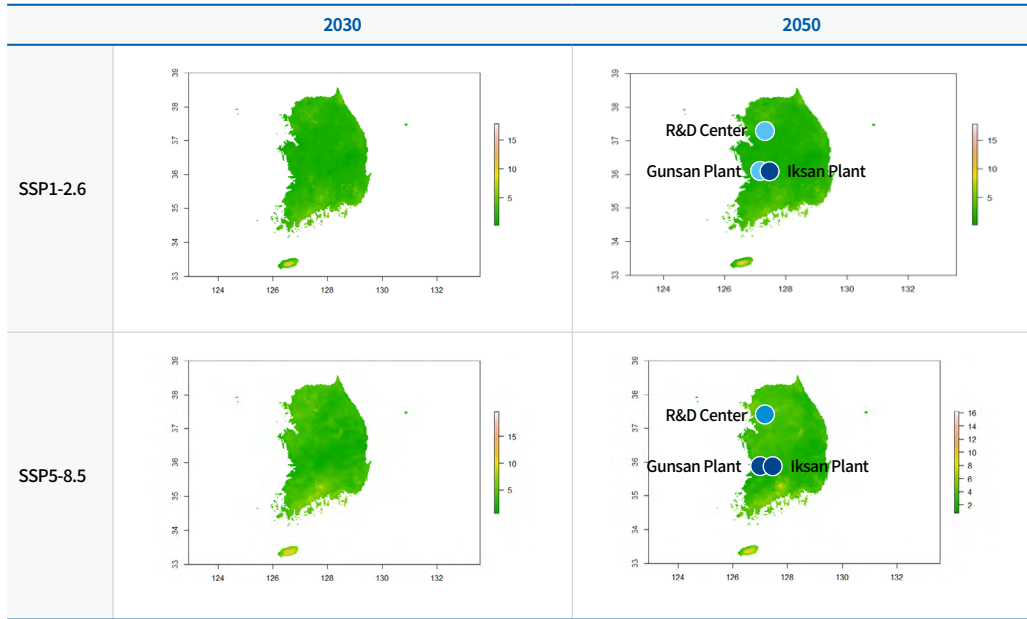
> Results of Physical Risk Scenario Analysis

Under the SSP1-2.6 scenario, the number of heavy rainfall days is projected to continuously decline. However, under the SSP5-8.5 scenario, the number of heavy rainfall days is expected to increase at the Gunsan and Iksan Plants, potentially leading to operational shutdowns, asset damage, and corresponding impacts on revenue and costs due to torrential rain. In contrast, total precipitation is projected to decline continuously through 2050 under both the SSP1-2.6 and SSP5-8.5 scenarios, and thus is not expected to have a significant impact on Doosan Fuel Cell’s business sites.

The number of extreme heat days is projected to increase by an average of 17.7 days (SSP1-2.6) to 20.1 days (SSP5-8.5) across the three business sites by 2050, compared to 2021. This increase will likely lead to higher cooling costs, requiring proactive financial planning.

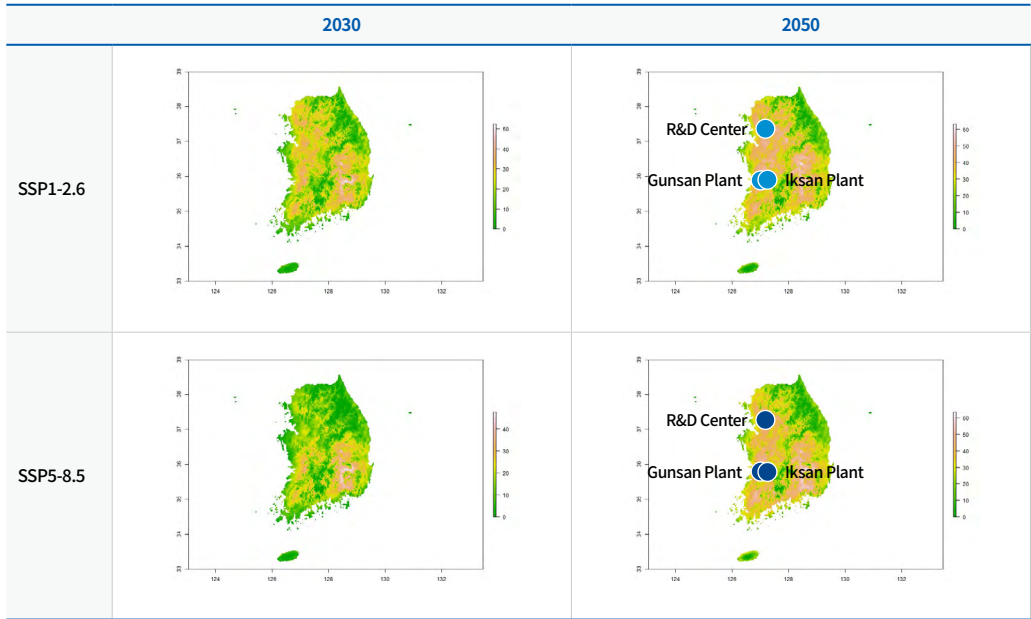
Detailed Analysis of Heavy Rainfall Days

Heavy Rainfall Days (Change in Days)    ● ↓    ● -    ● ↑



Detailed Analysis of Extreme Heat Days

Extreme Heat Days (Change in Days)    ● 10 days    ● 10-20 days    ● 20 days



Source of Scenarios: Korea Meteorological Administration – National Standard Climate Change Scenario (climate.go.kr)

Scenario	Business Site	2021	2050
SSP1-2.6	Iksan Plant	31 days	48.7 days (▲17.7 days)
	Gunsan Plant	2.2 days	1.6 days (▼ 0.6 days)
	R&D Center	3 days	1.39 days (▼ 1.61 days)
SSP5-8.5	Iksan Plant	1.79 days	2 days (▲ 0.21 days)
	Gunsan Plant	2.2 days	2.4 days (▲ 0.2 days)
	R&D Center	4.4 days	4.4 days

Scenario	Business Site	2021	2050
SSP1-2.6	Iksan Plant	31 days	48.7 days (▲17.7 days)
	Gunsan Plant	13 days	29 days (▲ 16 days)
	R&D Center	25 days	38.4 days (▲ 13.4 days)
SSP5-8.5	Iksan Plant	26.6 days	46.7 days (▲20.1 days)
	Gunsan Plant	6.1 days	30 days (▲ 23.9 days)
	R&D Center	10 days	32.7 days (▲ 22.7 days)

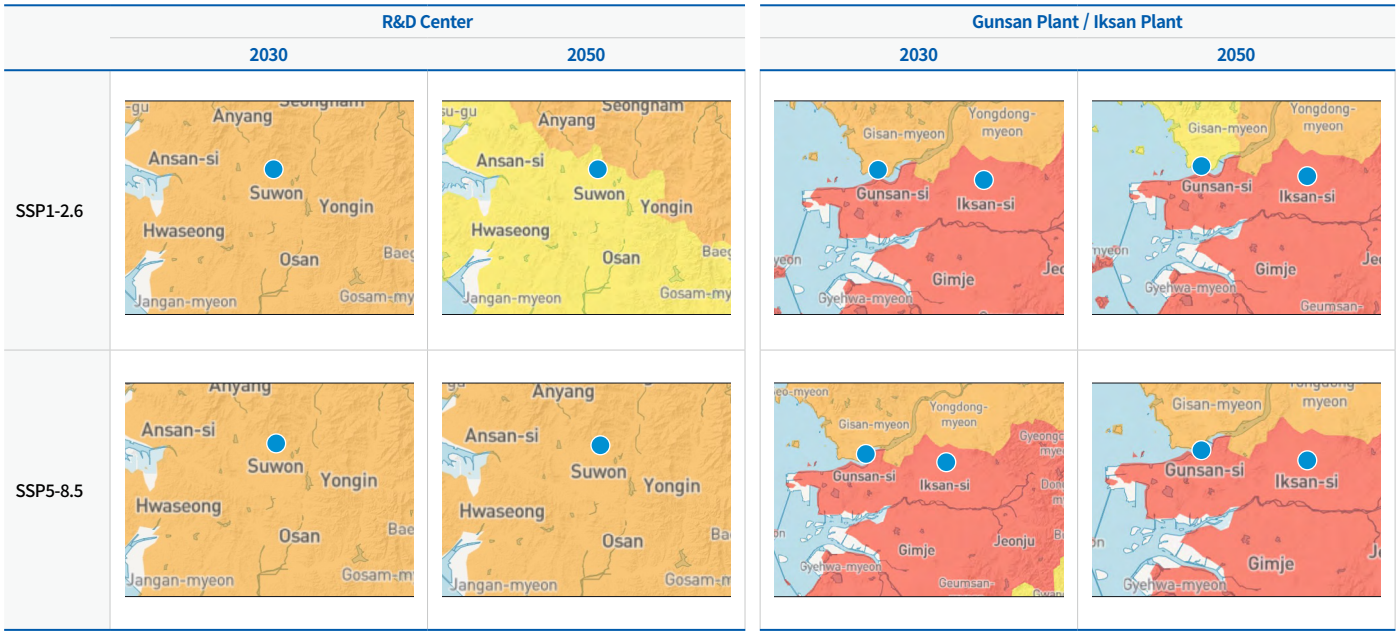
MATERIAL TOPIC #1.

Climate Change Response

> Results of Physical Risk Scenario Analysis

In the case of water stress (water resource risk), the R&D Center is classified as low risk, while the Iksan Plant and Gunsan Plant are projected to face high risk levels (40–80%) from 2030 to 2050. Regarding average temperature increases, both SSP1-2.6 and SSP5-8.5 scenarios project temperature rises across all regions where the company's business sites are located, compared to the baseline year of 2021. As such, water resource risk and rising average temperatures are both considered potential financial risk factors for Doosan Fuel Cell.

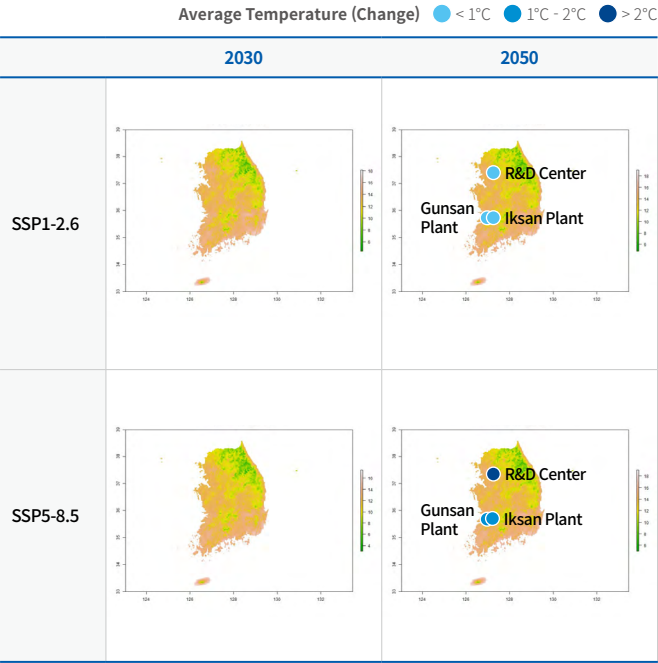
Detailed Analysis: Water Stress Risk



Source of Scenarios: World Resources Institute (WRI) (wri.org)

Scenario	Business Site	2030	2050
SSP1-2.6	Iksan Plant / Gunsan Plant	High (40–80%)	High (40–80%)
	R&D Center	Medium–High (20–40%)	Low–Medium (10–20%)
SSP5-8.5	Iksan Plant / Gunsan Plant	High (40–80%)	High (40–80%)
	R&D Center	Medium–High (20–40%)	Medium–High (20–40%)

Detailed Analysis: Average Temperature Increase



Source of Scenarios: Korea Meteorological Administration – National Standard Climate Change Scenario (climate.go.kr)

Scenario	Business Site	2030	2050
SSP1-2.6	Iksan Plant	14.5°C	15.19°C(▲0.69°C)
	Gunsan Plant	14.6°C	15.39°C(▲0.79°C)
	R&D Center	13.89°C	14.6°C(▲0.71°C)
SSP5-8.5	Iksan Plant	13.5°C	15.4°C(▲1.9°C)
	Gunsan Plant	13.6°C	15.5°C(▲1.9°C)
	R&D Center	12.6°C	14.7°C(▲2.1°C)

MATERIAL TOPIC #1.

Climate Change Response

Risk Management

> Risk Management Process

Doosan Fuel Cell has established the following process to identify, assess, prioritize, and monitor climate-related risks.



> Climate Risk Identification and Assessment

Doosan Fuel Cell identifies climate-related risks by analyzing media sources, customer requirements, peer industry practices, ESG standards, internal management strategies, ESG rating agencies, and relevant laws and regulations. In accordance with the Task Force on Climate-related Financial Disclosures (TCFD) framework, risks are classified into transition risks and physical risks. Each risk is assessed through scenario analysis and structured surveys involving relevant department representatives, evaluating the scale, scope, and likelihood of each risk to determine its priority.

> Response to Climate Risks

Risks are translated into specific action items, and response strategies are developed accordingly. Progress is reviewed through the ESG Council and finally reported to executive management and the ESG Committee.

> Climate Risk Monitoring and Reporting

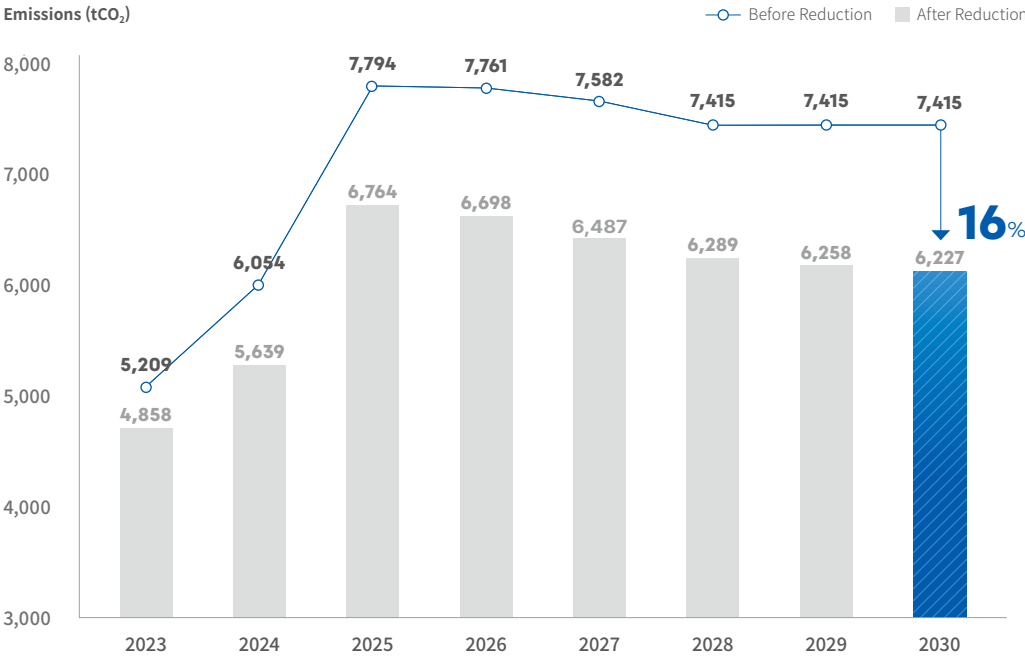
Any areas identified as insufficient during the ESG Committee’s review are reflected in the following year’s tasks, creating a continuous improvement cycle.

Indicators and Targets

Doosan Fuel Cell has selected total energy consumption and Scope 1 & 2 greenhouse gas emissions of the Iksan plant, which accounts for most of our energy consumption, as management indicators based on SASB industry-specific indicators, IFRS S2, and ESRS E1 to systematically manage climate change-related risks and opportunities, and we are monitoring performance by setting targets.

> Mid- to Long-Term GHG Emissions Reduction Target for 2030

Given the characteristics of the early-stage hydrogen industry—marked by significant expansion in facility scale and production volume—setting a base year and absolute reduction target is deemed inappropriate. Instead, Doosan Fuel Cell has adopted a reduction target based on projected emissions (BAU). We have also established a mid- to long-term emissions reduction target specifically for the Iksan Plant, which accounts for 94% of our total company-wide GHG emissions. Starting in 2025, we plan to introduce an intensity-based target, which will reflect the latest Nationally Determined Contribution (NDC) by setting GHG reduction goals per unit of sales or product output to supplement our BAU-based approach.



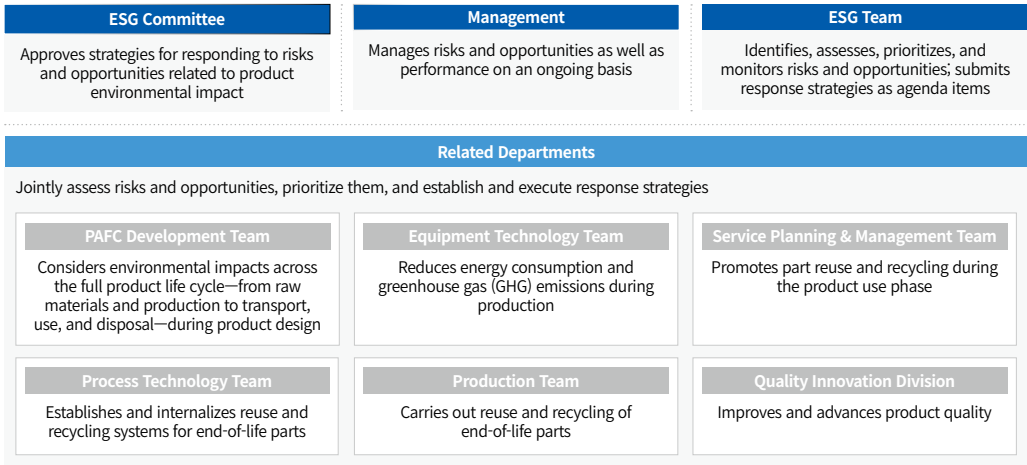
MATERIAL TOPIC #2.

Mitigation of Environmental Impact of Products

Governance

Doosan Fuel Cell has established a governance system centered on the Environmental, Social and Governance Committee (ESG Committee), our executive decision-making body, to manage and oversee risks and opportunities related to reducing the environmental impact of products. The ESG Committee is responsible for receiving reports on product-related environmental risks and opportunities and approving the corresponding response strategies. In addition, executive management monitors and manages these risks and related performance on an ad-hoc basis as necessary.

Governance Structure for Responding to Reducing Environmental Impact of Products



> Capacity Evaluation and Development for Supervising Product Environmental Issues

The ESG Committee, composed of executive management, is the final decision-making and supervisory body for issues related to the reduction of environmental impact from products. The Committee includes the Chief Executive Officer (CEO), who concurrently serves as the Chief Strategy Officer (CSO), the Chief Financial Officer (CFO), the Chief Operating Officer (COO) overseeing production and quality, and the executive in charge of ESG. They review and make decisions on risks, opportunities, financial impacts, and priority levels related to product environmental impact. Each member brings specialized expertise and continuously strengthens their capabilities through relevant education and training.

Training on Reducing Environmental Impact of Products

Date	Category	Content
March 22, 2024	Reduction of product environmental impact and resource circulation	<ul style="list-style-type: none"><li>Definition of resource circulation, benchmarking of peer cases, and implementation strategies</li><li>Legal updates under the amended “Act on Promotion of Transition to Circular Economy and Society”</li></ul>

> Frequency and Method of Reporting to the Decision-Making Body

Risks and opportunities related to the reduction of product environmental impact are reported to the ESG Committee by the ESG Team and, when necessary, to the Board of Directors. Relevant departments also support the reporting process by providing various materials to ensure the executive decision-makers fully understand the issues at hand.

Reporting Structure to the Decision-Making Body

Category	Board of Directors	ESG Committee
Reporting Entity	ESG Team	ESG Team
Report/Approval Content	Reports on risk and opportunity issues and approvals related to reducing product environmental impact	Agenda submission and approval of risks, opportunities, and response strategies; performance reporting
Reporting Frequency and Timing	Once every half-year	Once every half-year

> How Product Environmental Risks and Opportunities Are Considered in Major Decision-Making, Management, and Oversight

A representative example of how Doosan Fuel Cell incorporates product environmental risks and opportunities into its strategy is the efficiency enhancement of the PAFC model, which reduces greenhouse gas (GHG) emissions and levelized cost of electricity (LCOE) during the product use phase, and the development of the M500 Hydrogen model, which emits no GHGs during use. With intensifying competition in the existing general hydrogen power generation bidding market, rising community acceptance issues, and the launch of the clean hydrogen power market, improving product efficiency and developing hydrogen-dedicated models have become essential. Failure to respond appropriately may result in reduced community acceptance or weakened bidding competitiveness, limiting future growth potential. In response, we are improving the efficiency of the existing PAFC model to reduce GHG emissions per unit of power output and lower LCOE. Additionally, we have developed the M500 Hydrogen model, a hydrogen-exclusive product that does not require a reforming process.

> Consideration of Conflicts with Other Sustainability Risks and Opportunities

Doosan Fuel Cell’s highest decision-making body for sustainability—the Environmental, Social and Governance Committee (ESG Committee)—considers not only the impact of product-related environmental risks and opportunities on our business plans, but also whether these factors conflict with other sustainability issues. The improvement of the PAFC model’s efficiency entails increased capital investment and changes in the manufacturing process. However, due to intensified competition in the general hydrogen power bidding market, falling fuel cell unit prices, and higher fixed costs resulting from investments in production facilities, Doosan Fuel Cell recorded an operating profit of KRW 300 million on a standalone basis and KRW -1.7 billion on a consolidated basis in 2024. This reflects a potential trade-off related to the continuous increase in capital expenditures. Doosan Fuel Cell determines sustainability priorities based on financial impact. As competition in the general hydrogen power generation bidding market is expected to intensify, we have designated the fundamental enhancement of product competitiveness—such as quality and cost structure—as a core management objective for 2025 and are aligning company-wide capabilities to this end. We believe that improving the efficiency of PAFC products will simultaneously reduce GHG emissions per kWh during the use phase and lower costs, thereby strengthening product competitiveness. Thus, we view product efficiency enhancement as a goal that aligns with both reducing the environmental impact of our products and enhancing fundamental competitiveness.



Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

MATERIAL TOPIC #2.

Mitigation of Environmental Impact of Products

Strategy

> Risk Factors Related to Reducing the Environmental Impact of Products

Category	Risk Related to Reducing Product Environmental Impact	Impact on Business	Potential Financial Impact	Response Activities	Scope	Timeframe
• Product Design Stage	• Strengthened environmental regulations on raw materials/ components	• Burden of compliance with regulations	• Increased R&D expenses for modifying raw materials/design	• Development of non-RCF components	Upstream, downstream, business sites	Mid-term
• Product Manufacturing Stage	• Instability in supply of eco-friendly raw materials	• Production and delivery disruptions	• Revenue decline due to reduced output • Penalty charge due to delay in delivery date	• Monitoring trends on mandatory sourcing of eco-friendly materials	Upstream, downstream, business sites	Long-term
• Product Use Stage	• Stricter regulations on pollutants during the use phase	• Burden of R&D and facility investments for pollution reduction	• Increased R&D expenses • Increased facility investment costs	• Monitoring regulatory trends related to pollutants	Upstream, business sites	Mid-term

> Opportunity Factors Related to Reducing Environmental Impact of Products

Category	Opportunity Related to Reducing Product Environmental Impact	Impact on Business	Potential Financial Impact	Response Activities	Scope	Timeframe
• Product Disposal Stage	• Promotion of rework (reuse/recycling) for end-of-life components	• Burden of assessing recyclable components • Increased workload for managing quality of reused parts • Reduced manufacturing costs	• Increased cost for establishing reuse/recycling processes • Reduced cost of sales	• Implementation and exploration of major component rework • Monitoring cost-saving effects	Upstream, business sites	Short-term
• Product Use Stage	• Demand for hydrogen-exclusive models	• R&D workload • Modifications to parts and processes • Increased BOP efficiency through +110 kW output within the same footprint • Enhanced reputation as eco-friendly product	• Reduced transportation costs and installation costs due to decreased number of units installed • Reduced power generation costs • Increased R&D and facility investment	• Development of hydrogen-exclusive M500 Hydrogen model	Upstream, downstream, business sites	Mid-term
	• Demand for high-efficiency products	• Enhanced reputation as eco-friendly product • R&D workload	• Reduced power generation costs • Increased R&D and facility investment	• Development of high-efficiency PAFC model	Downstream, business sites	Mid-term
	• Increased demand to reduce GHG emissions from NG models	• Difficulty in hydrogen procurement • Negative perception due to GHG emissions from NG reforming • R&D workload	• Hydrogen sourcing cost burden and lowered economic viability • Increased R&D costs	• Development of CCUS-integrated PAFC model	Downstream, business sites	Mid-term

MATERIAL TOPIC #2.

Mitigation of Environmental Impact of Products

> Establishment of a Framework for Strengthening Eco-Friendliness Throughout the Entire Product Lifecycle

Doosan Fuel Cell has established a "Framework for Strengthening Eco-Friendliness Throughout the Entire Product Lifecycle," which comprehensively integrates business challenges and sustainability challenges in order to respond to the identified risks and opportunities related to reducing environmental impact from products. We have derived a total of 33 tasks across all stages of the product lifecycle—from research and development, production, and use to disposal. These tasks encompass all environmental aspects related to our products, including greenhouse gas reduction, energy conservation, recycling and reuse, and pollutant management. In 2024, we either implemented or completed 20 of the 33 tasks, achieving a progress rate of 60.6%. One task (3%) was canceled, while 12 tasks (36.4%) are scheduled for implementation. The remaining tasks are scheduled to be completed between 2026 and 2028. Based on this framework, we continue to allocate resources appropriately from the short term to the mid- to long-term. The tasks in the research and development stage are linked to the performance evaluation and compensation of the PAFC Development Team and the Global CTO. In order to minimize environmental impact and enhance sustainability throughout the entire product lifecycle.

Example: Framework for Strengthening Eco-Friendliness Throughout the Entire Product Lifecycle

Category	Research/Development Stage				Production Stage			Use/Disposal Stage			Information Disclosure
	Raw Materials/ Components	Production	Use	Disposal	Reduction of pollutant emissions	Reduction of energy/ resource consumption	Waste reduction / recycling	Replacement/ Repair Services	Collection	Recycling/Reuse/ Remanufacturing	
Performance/ Tasks	Replacement of non-RCF components	Development of 5CSA model	Development of metal bipolar plates		Reduction of air and water pollutant emissions	Greenhouse gas emissions reduction	Waste reduction and recycling enhancement	Provision of LTSA (Long-Term Service Agreement)		Rework of service parts	Taxonomy
	Development of metal bipolar plates	Development of high-efficiency PAFC				Water conservation and reuse enhancement					LCA

Risk Management

> Risk Assessment and Prioritization Method

Doosan Fuel Cell used Focus Group Interview (FGI) analysis to assess the impact of risks related to reducing the environmental impact of its products. Through the FGI analysis, employees in relevant departments responded to a questionnaire evaluating the likelihood, scope, and financial impact of each risk factor. Based on the aggregated results, priorities were determined. We use this process to review the development of response strategies for risks associated with reducing the environmental impact of our products.

> Risk Monitoring Method

The ESG Team at Doosan Fuel Cell regularly identifies and assesses risks related to reducing the environmental impact of our products, monitoring for the emergence of new risks or changes in the severity of existing ones. When the results of monitoring indicate the need for a response, we share the status and discuss countermeasures with relevant departments during the quarterly ESG Council meetings. Based on these discussions, we may revise or add to the strategies established at the beginning of the year. The results of monitoring and interdepartmental consultations are reported as needed to the Head of the Corporate Support Division, who serves as the Chief ESG Officer. If necessary, they are also reported to the Chief Executive Officer (CEO), who concurrently serves as the Chief Strategy Officer (CSO).

> Integration of the Product Environmental Risk Management Process with Other Risk Management Processes

Doosan Fuel Cell identifies risks associated with reducing the environmental impact of its products led by the ESG Team. It analyzes legal/regulatory trends, ESG disclosure regulations, and stakeholder requirements to identify major crisis factors, and requests the establishment of a response plan after selecting priorities through discussion and evaluation with relevant departments such as ESG Council and materiality assessment. Response plans are regularly approved by the ESG Committee in the first half of the year and may be reported and approved from time to time if necessary. Approved plans are carried out by relevant departments, and ESG Team conducts quarterly monitoring.

MATERIAL TOPIC #2.

Mitigation of Environmental Impact of Products

Indicators and Targets

Doosan Fuel Cell's core business involves supplying fuel cells and providing maintenance and management services based on hydrogen power generation technology, a form of clean power generation. The fuel cells we manufacture and supply are eco-friendly power sources with high combined efficiency, including both electricity and thermal efficiency, outstanding safety, and the ability to support distributed power generation. In accordance with the K-Taxonomy, we calculated our FY2024 financial performance by categorizing revenue as eligible or aligned. Additionally, we have established a green purchasing policy and manage performance annually.

Proportion of Sales from Eco-Friendly Products and Services and Green Purchasing Performance

Year	Revenue (KRW million)	Proportion of Green Revenue to Total Revenue (%)	Green Purchasing Performance (KRW million)	Proportion to Total Purchasing (%)
2022	312,149	-	30	0.3
2023	260,886	-	69	0.4
2024	411,784	42.76	109	1.0

Targets and Performance for Environmental Impact Reduction Tasks Related to Products

Year	Number of Targets	Number of Completed Tasks	Achievement Rate (%)
2024	13	12	92.3
2026	12	-	-
2028	8	-	-

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

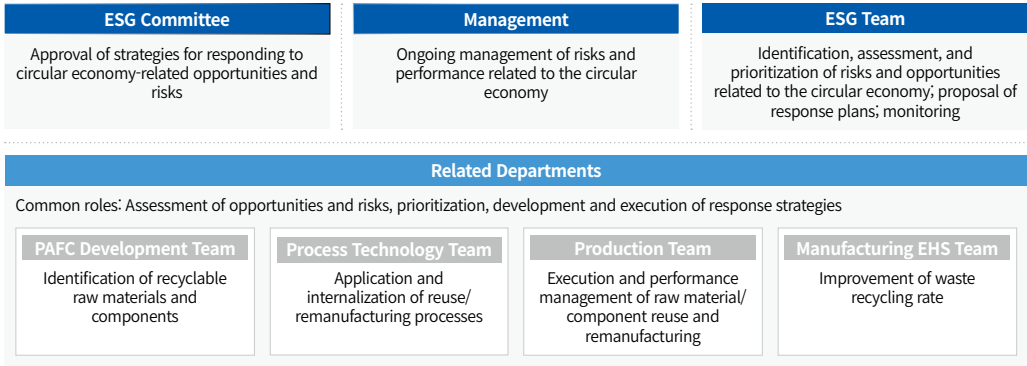
MATERIAL TOPIC #3.

Circular Economy

Governance

Doosan Fuel Cell has established an implementation system to systematically and effectively realize and internalize the circular economy, and discloses relevant information through its sustainability report. To identify and manage the impact of risks and opportunities related to circular economy issues on our business operations, we have implemented and operate a circular economy governance structure composed of the "ESG Committee – Management – Working-level Teams."

Circular Economy Governance Structure



> Executive Competency and Development for Circular Economy Oversight

The ESG Committee, composed of the management team, is the final decision-making body for supervising and managing issues related to the circular economy at Doosan Fuel Cell. The ESG Committee includes the Chief Executive Officer (CEO), who concurrently serves as the Chief Strategy Officer (CSO); the Chief Financial Officer (CFO); the Chief Operating Officer (COO) for Production and Quality; and the Head of the Corporate Support Division, who also serves as the Chief ESG Officer. The Committee receives reports on opportunities and risks, their financial impact, and prioritization, and makes decisions on response strategies. Each member possesses domain-specific expertise and continues to enhance their competencies through education on circular economy-related topics.

Circular Economy-Related Education Details

Date	Category	Content
March 22, 2024	Reduction of product environmental impact and resource circulation	<ul style="list-style-type: none"><li>Definition of resource circulation, benchmarking of peer cases, and implementation strategies</li><li>Legal updates under the amended "Act on Promotion of Transition to Circular Economy and Society"</li></ul>

> Frequency and Method of Reporting to Decision-Making Bodies

Risks and opportunities related to the circular economy are reported by the ESG Team to the ESG Committee, which serves as the main decision-making body, and to the Board of Directors when necessary. Relevant departments also support the reporting process by providing various materials to ensure the executive decision-makers fully understand the issues at hand.

Reporting Structure to the Decision-Making Body

Category	Board of Directors	ESG Committee
Reporting Entity	ESG Team	ESG Team
Report/Approval Content	Report on approved matters related to risks, opportunities, and strategies for the circular economy	Report and approval of issues related to circular economy risks, opportunities, strategies, and performance
Reporting Frequency and Timing	Once every half-year	Once every half-year

> Approach to Considering Circular Economy-Related Risks and Opportunities in Major Decision-Making and Oversight

Doosan Fuel Cell evaluates circular economy-related risks and opportunities by comprehensively considering: ① the likelihood of occurrence of circular economy risk and opportunity factors, ② the potential impact on our business if they occur, and ③ the scope of their influence. A representative example of how we incorporate circular economy-related risks and opportunities into our strategy is our initiative to reduce waste emissions. Under the national basic plan for the circular economy, the goal is to reduce the landfill rate to 1% by 2030. If we fail to respond appropriately, landfill costs could rise significantly, or disposal via landfiling may become increasingly difficult. Accordingly, we establish and manage annual targets to reduce waste emissions and increase recycling rates rather than relying on landfiling or incineration. One representative case is the development of metal bipolar plates. By replacing carbon bipolar plates, which were previously fully landfilled, with metal bipolar plates, we expect to reduce waste emissions by approximately one-eighth and significantly enhance the recycling rate.

> Consideration of Conflicts with Other Sustainability Risks and Opportunities

The ESG Committee, the highest decision-making body on sustainability at Doosan Fuel Cell, not only considers the impact of circular economy-related risks and opportunities on our business plans but also evaluates whether they conflict with other sustainability issues. To improve the waste recycling rate, raw materials and components must be composed of materials that are easy to recycle, and product design must account for ease of disassembly. However, carbon bipolar plates—which account for the majority of our landfill waste—are currently not recyclable due to their material and process characteristics. As the number of deployed fuel cells increases, so does the volume of discarded carbon bipolar plates, making it increasingly difficult to improve our waste recycling rate—a structural conflict. In determining sustainability priorities, Doosan Fuel Cell bases its decisions on financial impact. To achieve circular economy targets, we are pursuing the development of metal bipolar plates, which are easier to recycle. Commercialization of metal bipolar plates is expected around 2028, and once they replace carbon bipolar plates, we expect to reduce raw material consumption and achieve our recycling rate improvement goals. In addition, by promoting the rework of components that can be reused or remanufactured, we are not only reducing waste emissions but also enhancing cost efficiency.

Company Overview

ESG Strategy

Materiality

Double Materiality Assessment

Stakeholder Engagement

Material Topic #1.  
Climate Change Response

Material Topic #2. Mitigation of  
Environmental Impact of Products

Material Topic #3. Circular Economy

ESG Performance

Appendix

MATERIAL TOPIC #3.

Circular Economy

Strategy

Circular Economy-Related Risk Factors

Circular Economy-Related Risk	Impact on Business	Potential Financial Impact	Response Activities	Scope	Timeframe
• Strengthened landfill regulations and mandatory circular utilization rates	• Material/design changes to improve recyclability • Increased burden of landfill treatment costs	• Increased R&D costs for material/design changes • Rising landfill treatment costs	• Development of metal bipolar plates • Identification and application of reworkable components	Upstream, Downstream	Mid-term
• Obligations to reduce waste emissions	• Management burden due to designation as a regulated circular economy business site • Burden of process improvement/modification • Burden of expanding environmental facilities	• Increased labor costs for regulatory management • Productivity decline due to process shutdowns for process improvements • Increased investment in environmental facilities	• Setting and execution of waste reduction targets	Upstream, Downstream	Mid-term
• Safety of using recycled materials	• Burden of reviewing reliability and performance of recycled materials • Burden of evaluating environmental certifications for of recycled materials	• Increased testing costs due to material changes • Increased labor costs for quality verification • Increased management costs for identifying certified partners and establishing a stable supply chain	• Feasibility review of using recycled platinum for catalysts	Upstream, Downstream	Long-term
• Price volatility and supply chain instability of conventional raw materials	• Production and delivery disruptions	• Decline in revenue due to delays in production and delivery	• Supply chain diversification and localization	Upstream, Downstream	Long-term
• Strengthened regulations on designated waste disposal	• Increased burden of designated waste disposal costs	• Rising designated waste treatment costs	• Setting and execution of waste reduction targets	Upstream, Downstream	Long-term

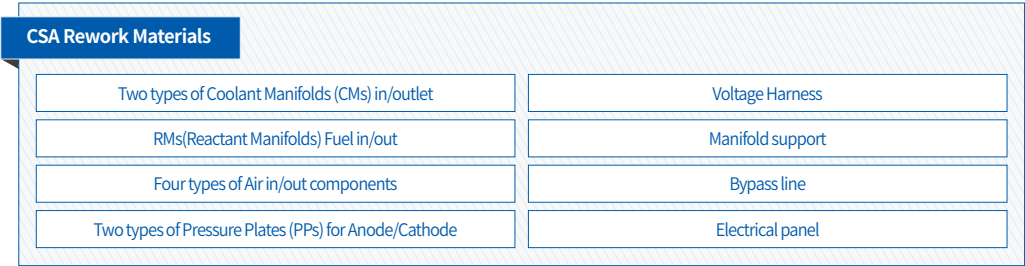
Circular Economy-Related Opportunity Factors

Circular Economy-Related Opportunity	Impact on Business	Potential Financial Impact	Response Activities	Scope	Timeframe
• Application of tariff quotas for rare metals	• Reduced purchasing costs due to tariff quotas	• Reduction in tariff-related expenses	• Continuous monitoring of policy trends	Upstream	Long-term
• Decreased use of new parts due to rework activation	• Reduced component replacement costs	• Reduction in cost of goods sold due to decreased LTSA costs	• Ongoing identification of parts applicable for rework	Operating sites	Mid-term
• Reduced resource consumption	• Reduced waste emissions	• Lower waste treatment costs	• Internalization of rework at operating sites	Operating sites	Long-term

> Rework Material Sorting for Reuse and Remanufacturing

[Detailed Overview of Product Responsibility Activities](#)

To maximize the reuse and recycling of resources from end-of-life products, Doosan Fuel Cell systematically sorts and catalogs reworkable materials. When the core component, the Cell Stack Assembly (CSA), reaches the end of its service life, we disassemble the component and either reintroduce the reworkable materials into the manufacturing process or reuse them, contributing positively to resource circulation.





MATERIAL TOPIC #3.

Circular Economy

Risk Management

> Risk Management Process Input and Parameters

Doosan Fuel Cell considers a variety of data variables to identify, assess, prioritize, and monitor risks related to the circular economy.

Variables Used in the Circular Economy Risk Management Process

Input and Parameters	Business Site Scope	Data Sources
Industry Trends	Iksan Plant, Seoul Office, R&D Center	Sustainability reports of peer companies and major power generation public enterprises, industry trend analysis reports from external research institutions
Legal/Regulatory/ Policy Trends		Korea Legislation Research Institute's National Law Information Center, National Assembly's Bill Information System, legal revision reports from law firms, Ministry of Environment's 1st Basic Plan for Resource Circulation
Status of Waste Disposal Companies	Iksan Plant	Korea Waste Association's status reports on waste disposal companies
Waste Disposal Unit Costs	Iksan Plant	Ministry of Environment's official announcement: "Unit Costs of Waste Treatment for Abandoned Waste Guarantee Insurance Calculation," by type of waste

> Risk Assessment and Prioritization Method

Doosan Fuel Cell used Focus Group Interview (FGI) analysis to assess the impact of circular economy-related risks. In the FGI analysis, responsible personnel in relevant departments responded to a questionnaire that evaluated the likelihood, scope, and financial impact of each risk factor. Based on the results, we determined their priority levels. We use this process to review and establish response strategies for circular economy-related risks.

> Risk Monitoring Method

The ESG Team at Doosan Fuel Cell regularly identifies and assesses risks related to the circular economy, monitoring the emergence of new risks and changes in their potential impact. When the results of monitoring indicate the need for a response, we share the status and discuss countermeasures with relevant departments during the quarterly ESG Council meetings. Based on these discussions, we may revise or add to the strategies established at the beginning of the year. The results of monitoring and interdepartmental consultations are reported as needed to the Head of the Corporate Support Division, who serves as the Chief ESG Officer. If necessary, they are also reported to the Chief Executive Officer (CEO), who concurrently serves as the Chief Strategy Officer (CSO).

> Integration of the Circular Economy Risk Management Process with Other Risk Management Processes

The ESG Team at Doosan Fuel Cell leads the identification of risks related to the circular economy. By analyzing trends in laws, regulations, ESG disclosure requirements, and stakeholder demands, we identify key risk factors. Prioritization is determined through discussions and evaluations with relevant departments, including ESG Council meetings and the materiality assessment process, after which response plans are requested. The response plans are approved during the ESG Committee meetings held once a year in the first half and may be reported and approved on an ad-hoc basis if necessary. The approved plans are implemented by relevant departments, and the ESG Team conducts quarterly monitoring.

Indicators and Targets

To manage circular economy-related issues, Doosan Fuel Cell monitors the following indicators: the waste recycling rate and the reuse and remanufacturing rate of recovered end-of-life parts and materials.

Circular Economy Performance

Category	2024 Target	2024 Performance	Achievement Status	Notes
Waste Recycling Rate at Iksan Plant	48.3%	49.8%	Achieved (103.1%)	Includes both general and hazardous waste
Performance of Reuse and Remanufacturing of End-of-Life Parts/Materials	401.4ton	334.3ton	Not Achieved (82.3%)	Since component reuse/remanufacturing is being conducted across all components, the target has been modified from being limited to existing CSA to overall component reuse/remanufacturing performance. Underperformance in reuse/remanufacturing due to fewer end-of-life components than expected

Circular Economy Targets

Category	2025 Target	2026 Target	2027 Target	Notes
Waste Recycling Rate at Iksan Plant	51.3%	3% improvement over the previous year	3% improvement over the previous year	-
Performance of Reuse and Remanufacturing of End-of-Life Parts/Materials	469.2ton	469.2ton	469.2ton	CSA, resin, and others

# ESG Performance



	Environmental
042	Environmental Management
046	Improvement of Environmental Performance at Business Sites
047	Greenhouse Gas Management
050	Expansion of Eco-Friendly Products and Technologies
054	Expansion of Carbon Neutrality-contributing Products and Technologies

	Social
057	Talent Management
062	Human Rights Management
065	Occupational Safety and Health
068	Social Contribution
073	Supply Chain ESG Management
082	Customer Satisfaction

	Governance
085	Governance
088	Ethical Management
091	Innovation Management
093	Information Security and Privacy Protection
097	Risk Management
099	Association and Membership Activities

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

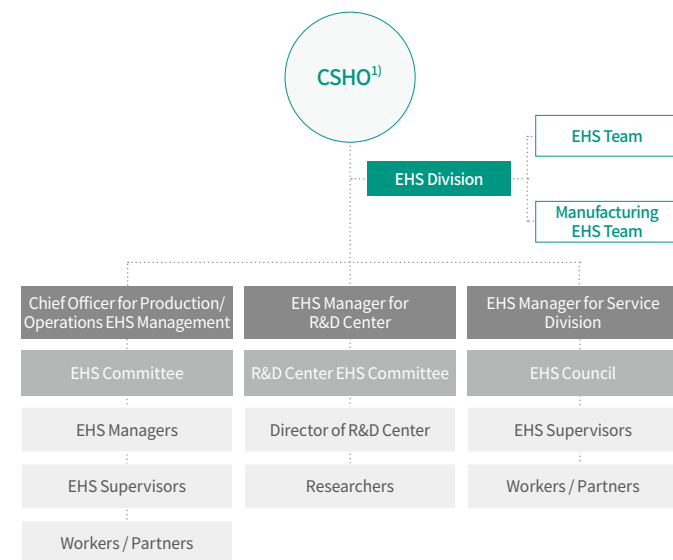
# Environmental Management

## Environmental Management Policy

### > Environmental Management Organization

Doosan Fuel Cell has appointed the Chief Safety and Health Officer (CSHO), who serves as the highest-ranking officer responsible for Environment, Health & Safety (EHS) within the organization, to comprehensively oversee environmental, safety, and health matters, with the aim of creating environmentally friendly, safe, and pleasant workplaces. Under the leadership of the CSHO, we have established a dedicated EHS management organization to oversee our manufacturing sites, research center, and service field locations. Each department designates an EHS supervisor and manager, and we strengthen EHS awareness and capabilities across the company through relevant education and inspections, empowering each team to independently carry out EHS activities. Meanwhile, the ESG Committee leads the analysis of material climate-related risks and opportunities and establishes mid- to long-term response strategies. By doing so, we integrate climate-related financial information and business strategies under a unified management framework.

### Environmental Management Organization Chart



1) CSHO (Chief Safety and Health Officer): The highest-ranking executive responsible for EHS management

### > Environmental Management Policy

Doosan Fuel Cell recognizes a safe and clean environment as a responsibility and core value shared by all of us—toward our families and society. Accordingly, we have established an Environment, Health & Safety (EHS) management system and formulated an environmental management policy, which has been approved by the Chief Safety and Health Officer (CSHO). Based on this policy, we set and implement detailed short- and mid- to long-term goals to improve environmental performance. We remain committed to minimizing environmental impact and complying with global standards.

### Environmental Management Policy

01

We build an environmental management system and pursue continuous improvement to enhance our environmental management performance.

02

We proactively identify and address environmental impacts that may arise across all business activities to prevent environmental accidents and minimize damages in the event of an emergency through enhanced response capabilities.

03

We minimize emissions of pollutants and waste generated from our business operations and reduce environmental risks through regular monitoring.

04

We comply with environmental laws and regulations and respond proactively to domestic environmental issues and international trends.

05

We use resources and energy efficiently to minimize greenhouse gas emissions and actively respond to climate change.

06

We actively participate in local environmental protection efforts and engage in open and transparent communication with our stakeholders based on integrity.

07

We continuously invest in and conduct research and development to provide eco-friendly products and services.

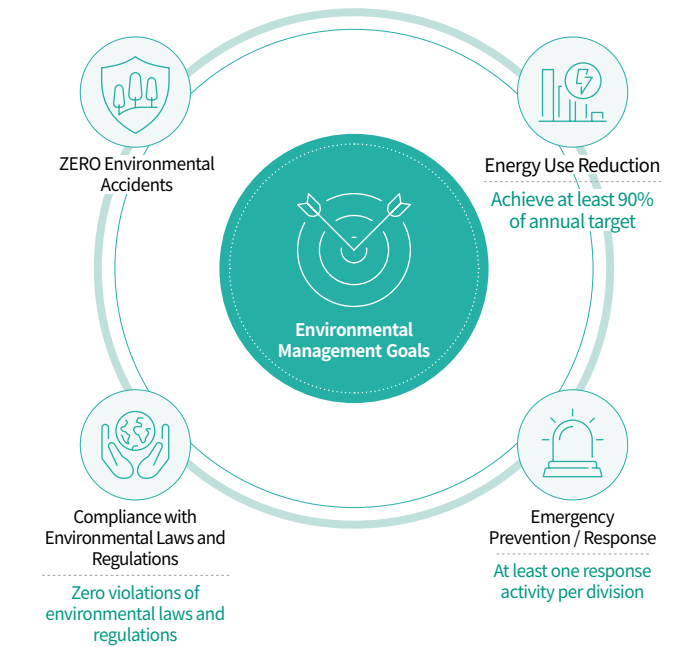
08

We work to protect the global environment—air, water, and soil—and promote various activities to preserve biodiversity.

April 3, 2023

Joonyoung Park, CSHO, Doosan Fuel Cell Co., Ltd.

### Environmental Management Goals



### Environmental Management Strategy

01	Proper monitoring (inspection and measurement) and maintenance of pollutant emission facilities and prevention facilities
02	Practice energy (electricity, gas, etc.) conservation and minimize wastewater/waste generation through resource use reduction
03	Conduct periodic compliance evaluations and monitor regulatory amendments
04	Conduct environmental impact assessments and emergency drills to prevent and respond to environmental incidents
05	Establish and continuously improve the environmental management system

# Environmental Management

## Environmental Management Programs

### > Response and Monitoring of Environmental Regulations

As environmental management gains importance both domestically and internationally and public attention on environmental impact increases, Doosan Fuel Cell is actively building an environmental management system to minimize the environmental impact of our business activities. We also monitor environmental regulations and trends in real time and conduct preemptive risk assessments for potential issues such as new facility installations.

### > Waste Management System

Doosan Fuel Cell is committed to minimizing waste generation and promoting resource circulation through a variety of initiatives. We repair and reuse major equipment with degraded performance, and prioritize recycling of waste generated at our business sites to reduce incineration and landfill volumes. We practice strict separation, storage, and discharge of waste from the point of generation, and manage it systematically in compliance with applicable regulations.

To increase recycling rates, we identify new contractors each year and award waste disposal contracts through re-bidding. We conduct preliminary evaluations to ensure only licensed and compliant contractors are selected and restrict bidding to those meeting specified criteria.

We provide waste management education to all employees and set reduction targets by team to drive practical waste reduction efforts. We will continue to strengthen our response to further reduce waste generation and increase recycling rates.

### > Minimization of Environmental Pollutant Emissions

To minimize emissions of environmental pollutants from our business sites, Doosan Fuel Cell has established internal control standards set at 30% or less of the legal emission limits. We regularly inspect and manage both emission and prevention facilities to maintain efficient operation and contribute to the preservation of the surrounding environment.

### > Biodiversity Policy

Doosan Fuel Cell considers biodiversity conservation a key task in addressing climate change and has established a biodiversity policy to minimize environmental impact in areas surrounding our business sites. We are undertaking various activities to support biodiversity preservation.

01

When initiating new projects, we conduct comprehensive pre-assessments of potential impacts on biodiversity and take steps to prevent risk factors. We also comply with legal requirements at the national and local levels related to international agreements, including World Heritage areas and International Union for Conservation of Nature (IUCN) Category I-IV protected areas.

02

Protecting endangered, rare, and endemic species is our top priority in business operations, and we actively review participation in biodiversity-related initiatives.

03

We implement internal emission standards for pollutants that are stricter than domestic and international regulatory limits, and we aim to avoid biodiversity loss through ongoing mid- to long-term climate change response activities by achieving No Net Loss (NNL) and striving for Net Positive Impact (NPI).


04

Recognizing forests as a vital resource for preserving global ecosystems, we voluntarily participate in various forest conservation activities.

05

We also seek to raise awareness of the importance of biodiversity protection among our employees and stakeholders through various media, including education and promotional campaigns.

April 3, 2023  
Joonyoung Park, CSHO, Doosan Fuel Cell Co., Ltd.



### > Establishment of Green Purchasing Criteria

Doosan Fuel Cell has established the following green purchasing criteria and operational guidelines to define green products, monitor performance, and promote the expansion of green purchases.

#### 1. Definition of Green Products

- 1.1 Products certified with an environmental label under the "Environmental Technology and Environmental Industry Support Act" and its Enforcement Decree
- 1.2 Low-carbon products under the "Act on the Promotion of Purchase of Green Products"
- 1.3 High-quality recycled products certified with the GR Mark under the "Act on the Promotion of Saving and Recycling of Resources"
- 1.3 Electric vehicles, solar-powered vehicles, hybrid vehicles, hydrogen electric vehicles as defined by the "Act on Promotion of Development and Distribution of Environment-Friendly Motor Vehicles," or vehicles publicly notified by agreement between the Minister of Environment and the Minister of Trade, Industry and Energy under the "Clean Air Conservation Act"
- 1.4 Other green products recognized under domestic laws or by public institutions
- 1.5 Green products recognized by internationally accepted product responsibility initiatives (e.g., FSC certification)

#### 2. Scope and Responsibilities

- 2.1 This standard applies to establishing eco-friendly purchasing/rental/leasing standards for the company's office consumables and business vehicles and aggregating performance.
- 2.2 The responsible departments must actively discover eligible green products and promote the development and execution of purchasing plans and procurement activities to expand green purchases.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

Environmental Management

Environmental Management System Certification

To minimize environmental impact from our business operations, Doosan Fuel Cell acquired certification for the internationally recognized environmental management system (ISO 14001) in 2022 and successfully completed the surveillance audit in 2024. To ensure continuous improvement of our environmental management system, we establish site-specific targets based on company-wide goals and carry out activities to improve environmental performance. We are also advancing the sophistication of the environmental management system by implementing a practitioner-led approach. The SOFC Gunsan Plant, currently under mass-production setup, is also scheduled to obtain environmental management system certification in the future.

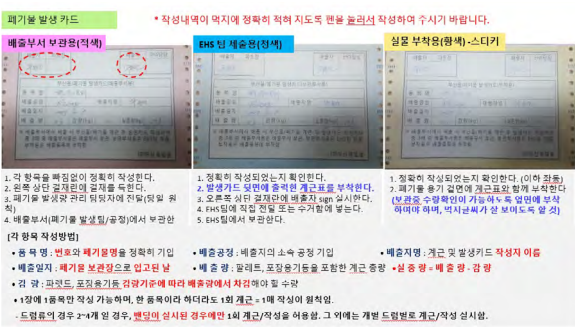


Environmental Education

Doosan Fuel Cell provides regular annual education to raise awareness and strengthen capabilities related to environmental management among employees. In 2024, we conducted four training sessions (attended by 402 employees) on a quarterly basis, and newly included training on the handling of chemical substances and major cases of environmental law violations. Following waste management training aimed at reducing waste generation and improving recycling rates at our sites, we also conducted a separate collection campaign. In addition, EHS personnel from each department and environmental technicians completed external training programs, including ISO internal auditor training.



Environmental Education in Operation



Waste Generation Card Completion Guidelines

Compliance with Environmental Laws and Regulations

Doosan Fuel Cell regularly monitors all laws and regulations related to Environment, Health & Safety (EHS), and reflects amendments into our internal policies. New information is shared with employees via the company bulletin board, and legal compliance is assessed at each business site to verify any violations. In addition, for the purchase or modification of raw materials and equipment, we conduct a pre-EHS review to identify legal compliance risks in advance and eliminate the potential for violations. There were no environmental law violations in 2024.

Environmental Impact Assessment

Doosan Fuel Cell conducts environmental impact assessments to preemptively identify and systematically manage the direct and indirect environmental effects of our business activities. Assessment results are reflected in the detailed environmental goals of each site and serve as the basis for performance evaluations and environmental risk management.

Environmental Impact Assessment Process

Environmental Impact Assessment Stages	Stage-by-Stage Implementation Details
Selection of Environmental Impact Assessment Targets	<ul style="list-style-type: none"><li>Environmental impact assessments are conducted biennially on processes, facilities, raw materials, and buildings</li><li>Ad-hoc assessments are conducted in cases of first-time evaluations or when major environmental changes occur</li></ul>
Identification of Environmental Aspects	<ul style="list-style-type: none"><li>Identify all environmental aspects across activities, services, and processes, considering condition, direct/indirect impacts, and environmental significance</li></ul>
Environmental Impact Assessment	<ul style="list-style-type: none"><li>Conduct evaluations of identified elements such as water, air, and soil</li><li>Perform quantitative assessments based on the likelihood of occurrence and severity of impact</li></ul>
Registration of Major Environmental Impacts	<ul style="list-style-type: none"><li>If the evaluation score exceeds a defined threshold, register the element in the Major Environmental Impact Register for focused management</li><li>Items below the threshold may still be registered if deemed significant</li></ul>
Goal Setting and Follow-up Management	<ul style="list-style-type: none"><li>Incorporate assessment results into goal-setting and establish improvement plans</li><li>Conduct monitoring and effectiveness evaluations of improvement actions</li></ul>



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

Environmental Management

> Identified Risks and Mitigation Measures

The 2024 environmental impact assessment conducted at the Iksan Plant identified potential negative impacts, including the following: The storage and handling of waste organic solvents (liquid form) were assessed as having the potential to cause long-term or permanent damage to water quality in the event of a leakage. As a result, this was classified and registered as a major environmental impact and is being closely managed. Similarly, the process of storing and treating wastewater was assessed as having a significant long-term impact on water quality if leakage occurs, and it has also been registered and managed as a major environmental impact. Doosan Fuel Cell manages a list of risk factors, management items, inspection cycles, and responsible personnel for each major environmental impact identified through the environmental impact assessment. To mitigate the potential negative impacts, we are actively implementing corrective measures, including emergency response drills simulating leakage scenarios of liquid waste organic solvents, as part of our continuous improvement efforts.

List of Major Environmental Impacts and Management Items

Major Environmental Impact			Management Item	Related Record	Inspection Cycle	Responsible Department
No.	Risk Factor	Environmental Aspect				
1	Leakage of liquid waste	Water, air, soil	Routine environmental operations management	Results of routine environmental operations management	Quarterly	Manufacturing EHS Team
			Inspection of emergency response equipment box	Inspection results of emergency response equipment list	Monthly	Manufacturing EHS Team
			Establishment of emergency contact system	Emergency contact protocol	Upon revision	Manufacturing EHS Team
2	Overflow	Overflow	Daily patrol	Daily patrol logs	Daily	Security Office
			Inspection of wastewater manhole condition	Wastewater and septic tank inspection checklist	Monthly	Management Support Team
			Establishment of emergency contact system	Emergency contact protocol	Upon revision	Manufacturing EHS Team

Emergency Response Drill Scenario: Simulated Leakage of Liquid Waste Organic Solvent





Situation	Scripted Scenario Content	Roles and Actions
Glycol Storage Anti-Spill Pumping Operation	1. Emergency response activity at glycol storage area "Although the fire has been extinguished, a crack has formed in the glycol containment area, and there is a risk of leakage. Please initiate emergency response measures immediately."	
	2. Emergency Response Team 1 mobilization order "Emergency Response Team 1, proceed to the glycol storage area and conduct response operations."	The team leader instructs OOO to proceed to the glycol storage area for emergency containment. OOO, wearing protective boots and gloves, proceeds to the site and guides a forklift to move an IBC container into the storage area.
	3. Emergency response implementation "Please lay absorbent pads at the entrance and place sandbags."	Absorbent pads and sandbags are placed at the entrance to the glycol storage area.
	4. Begin containment pumping after sandbag placement	Once sandbags are in place, the responders connect a pump to the IBC container and begin transferring the spilled glycol.
	5. Mission completion report "The glycol and contaminated water in the glycol storage tank were placed in IBC containers and moved to a location near the waste storage tank."	OOO transports the IBC container to the designated area near waste storage and reports mission completion to the Emergency Response Team 1 leader and the Emergency Management Team leader.

Biodiversity Conservation Activities

Doosan Fuel Cell entered into a partnership agreement in 2024 with the Endangered Species Restoration Center of the National Institute of Ecology to help preserve biodiversity in the Saemangeum area of Gunsan-si, Jeonbuk-do, where our Gunsan Plant is located. As part of this collaboration, we are engaging in transplantation and habitat preservation activities for Dendrobium moniliforme, a Grade II endangered plant species native to the northernmost part of South Korea, found in the Gogunsan Islands in Gunsan-si.

Endangered Wildlife Conservation Project

Category	Project Details
Project Period	From September 2024 onward
Location	Daejangdo, Gogunsan Islands, Gunsan, Jeonbuk-do
Project Funding	KRW 30 million donation from Doosan Fuel Cell

Project Phases	<div><div>1. Discovery of New Habitats for Dendrobium moniliforme</div><div>Surveying rocks in the Gogunsan Islands using drones to identify potential habitats.</div><div>2. Transplantation and Restoration within Alternative Habitats</div><div>Transplanting Dendrobium moniliforme individuals and restoring habitats within the Gogunsan Islands</div><div><div>2-1.</div><div>Identify and select transplant candidate sites</div></div><div><div>2-2.</div><div>Monitor post-transplant conditions</div></div><div><div>2-3.</div><div>Manage individuals and habitats after transplantation</div></div></div>	<div><div>3. Endangered Species Conservation Education</div><div>Provide ecological education for Doosan Fuel Cell employees on the importance of endangered species conservation.</div><div>4. Research on Transplanted Sites for Dendrobium Moniliforme</div><div>Use post-transplant monitoring data to identify threats and assess environmental conditions</div><div>5. Propagation and Management of Dendrobium moniliforme and Other Endangered Plants</div><div>Ongoing collaborative management of endangered plant species</div></div>
	Activity Timeline	<div><div></div><div>Agreement signed (October 2024)</div><div></div><div>Support for propagation research (From October 2024)</div><div></div><div>Transplantation of 200 Dendrobium plants (April 2025)</div><div></div><div>Post-transplant habitat management (From May 2025)</div></div>

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Improvement of Environmental Performance at Business Sites

## Water Management

Doosan Fuel Cell conducts daily inspections of water supply pipelines to detect and address potential leaks and continues to implement initiatives to reduce water consumption. In 2024, we recorded a total water consumption of 18,512 tons—an approximately 18% reduction compared to our target of 21,900 tons. In the Iksan Plant For 2025, we plan to reduce water usage by an additional 5% compared to 2024 and aim to achieve a 5% reduction each year going forward. We are also planning to complete an upgrade of our wastewater treatment system in 2025, which is expected to improve the quality of treated water. Generated wastewater is handled either through licensed wastewater contractors or sent to a terminal wastewater treatment facility. We select wastewater contractors based on transparent and fair internal standards, including a review of permits, licenses, and on-site inspections of treatment facilities to ensure legal and proper disposal.

### > Water Recycling

Doosan Fuel Cell recycles process water generated during manufacturing. This water is treated through a wastewater reuse system (coagulation, flocculation, sedimentation tanks) to remove pollutants. It is then converted into DI Water (deionized water) through RO Membrane (reverse osmosis) and ion exchange resins for reuse. In 2025, we plan to upgrade the wastewater reuse system, which is expected to improve the removal efficiency of contaminants, thereby extending filter life and enhancing the quality of DI Water.

### > Inspection of Water Supply Pipelines

Despite an increase in product output in 2024 compared to the previous year, Doosan Fuel Cell reduced water usage by approximately 34.2%. Following this, the Facility Technology Team at Doosan Fuel Cell began conducting daily inspections of utility systems and pipelines to check for gas leaks, water leaks, and other issues, ensuring prompt response in the event of any leakage or abnormality. We also track water consumption daily and monthly, identifying anomalies and minimizing unnecessary water use through proactive measures.

### > Improvement of Wastewater Treatment System

We expect the improved wastewater treatment system in the DI Water Room to enhance the quality of treated water. In the long term, this is expected to extend the replacement cycle for filters and ion exchange resins, thereby reducing associated costs.

## Waste Management

Doosan Fuel Cell strives to minimize waste generated from our business sites. We are implementing reuse of major facilities and components, and for discharged waste, we prioritize recycling to minimize the types of waste that are incinerated or landfilled. In 2024, we are processing one item that was previously incinerated with both incineration and recycling in parallel. To ensure transparency and fairness in contractor selection, we review permits, licenses, and legal compliance annually, and conduct on-site inspections of storage and treatment facilities. Only vendors meeting our suitability criteria are selected. We manage all waste discharge data through the national "Allbaro System" to ensure accurate and traceable reporting.

In 2024, following the acquisition of an electrode factory and the increase in production volume, the amount of general waste generated was 859.83 tons—approximately 27.6% above the target of 674 tons. In contrast, hazardous waste generation was 248.66 tons—about 9.6% below the target of 275 tons. At our Iksan Plant, which manages waste reduction targets, the total recycling rate improved from 41.8% in 2023 to 49.8% in 2024. Each site will continue to reduce waste from the process stage, improve reuse rates, and pursue material optimization and the discovery of new contractors to further enhance recycling performance.

## Air Pollutant Management




At the Iksan Plant, general air pollutants are managed at levels below 10% of the legal emission limits, while designated hazardous air pollutants are maintained below 30% of the legal limits. Doosan Fuel Cell does not operate facilities that emit volatile organic compounds (VOCs).

## Chemical Management

Doosan Fuel Cell manages chemical substances safely from procurement to disposal in full compliance with applicable regulations and transparent procedures, in order to fundamentally prevent health risks to employees and environmental incidents. Before purchasing any new chemicals, we conduct a prior EHS impact assessment to review regulatory requirements under domestic and international laws such as the Chemical Control Act, the Act on the Registration and Evaluation of Chemicals, REACH, and California Proposition 65. We also comply with legal procedures during procurement. In addition, external experts conduct on-site inspections of facilities that handle hazardous chemicals.

To ensure safe handling by employees, we provide access to Material Safety Data Sheets (MSDS), supply appropriate personal protective equipment (PPE), and conduct safety training prior to chemical use, including a review of safe work procedures. We also continue research and development to substitute hazardous chemicals used in product manufacturing and development with less harmful or risk-free alternatives. When use of hazardous chemicals is unavoidable, we prioritize facility improvements and investments, and provide sufficient PPE to ensure worker safety. We also carry out regular inspections and change management of handling facilities to minimize EHS-related risks.

### Chemical Substance Management Process

 <div>Pre-Evaluation of Substances</div>	<ul style="list-style-type: none"><li>• Request for chemical usage review</li><li>• Pre-EHS impact assessment for chemicals</li><li>• Review of applicable laws and regulations</li><li>• Approval for use/purchase of substance</li></ul>
 <div>Receiving and Inventory Management</div>	<ul style="list-style-type: none"><li>• Selection of storage location for chemical substances</li><li>• Management of inbound/outbound inventory</li></ul>
 <div>Storage and Handling Management</div>	<ul style="list-style-type: none"><li>• Conduct chemical handling education</li><li>• Use of personal protective equipment (PPE) during handling</li><li>• Weekly/monthly inspections of storage and handling facilities</li></ul>

# Greenhouse Gas Management

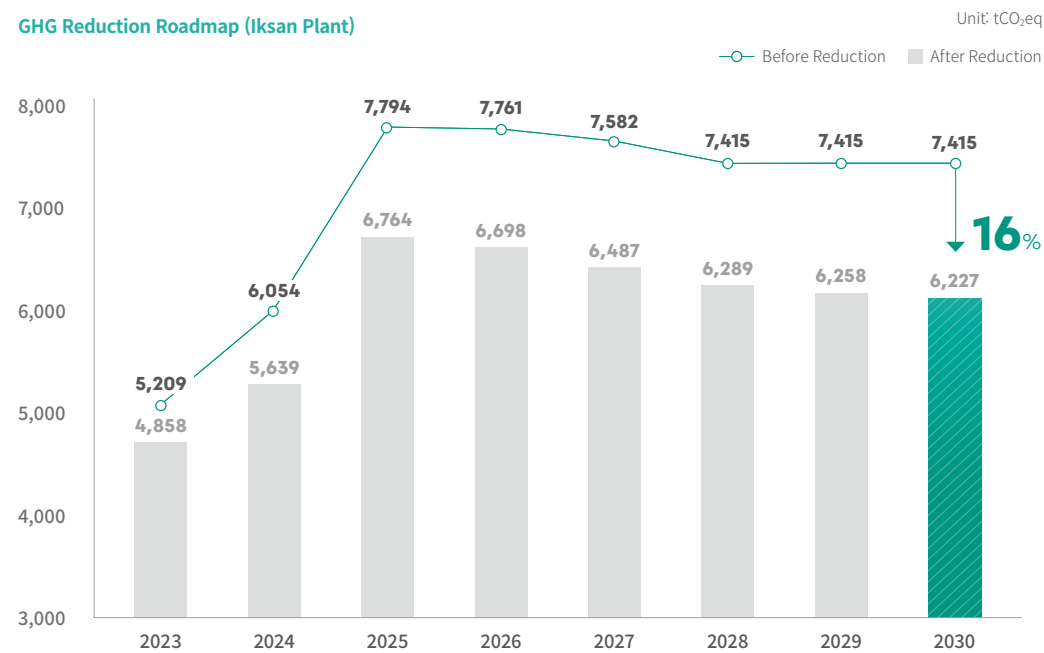
## Greenhouse Gas Emissions Status

Doosan Fuel Cell recognizes greenhouse gas (GHG) management and emissions reduction as core elements in addressing climate change and achieving carbon neutrality. Although we are not subject to the Target Management System or the Emissions Trading Scheme, we voluntarily verify our GHG emissions through third-party assurance in accordance with the IPCC Guidelines and country-specific management protocols, and we disclose the relevant information. Starting in 2025, we plan to participate in the Carbon Disclosure Project (CDP) to disclose GHG-related information more transparently and systematically.

## Target Setting for Greenhouse Gas and Energy Emissions

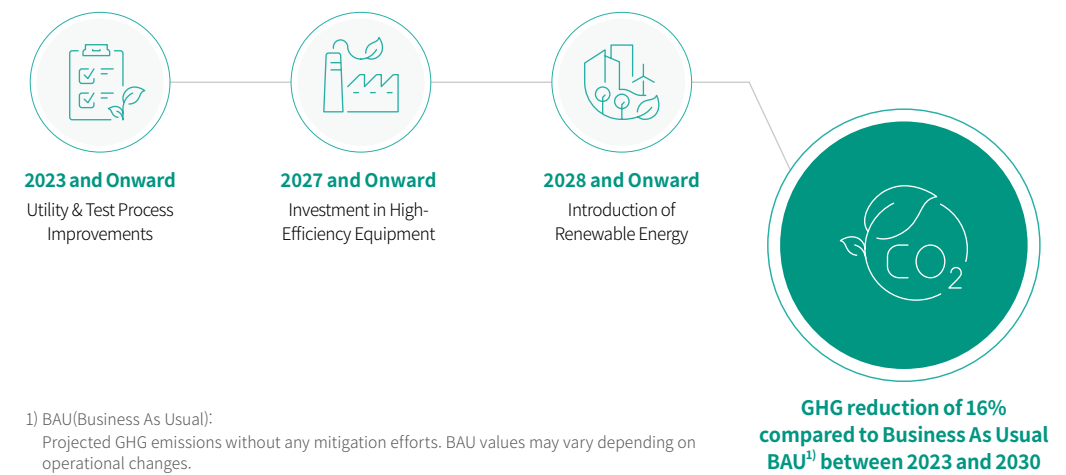
In 2024, the Iksan Plant's energy consumption target was set at 118.29 TJ. However, due to the acquisition of electrode production facilities, which are now operated at the Iksan Plant, energy consumption increased to 120.35 TJ. As a result, the plant—our primary source of energy consumption and GHG emissions—recorded total emissions of 5,785.541 tCO<sub>2</sub>eq in 2024, exceeding the target of 5,639 tCO<sub>2</sub>eq by approximately 2.6%. Nevertheless, we were able to curb the increase in emissions by implementing a variety of energy-saving measures, including inverter and fan control optimization and heater shutdown using waste heat. These activities led to a GHG reduction of 91.22 tCO<sub>2</sub>eq.

### GHG Reduction Roadmap (Iksan Plant)



## Establishment of GHG Reduction Roadmap

Doosan Fuel Cell revised its 2030 GHG reduction roadmap in response to changes in mid- to long-term production plans. As of the end of 2024, the Iksan Plant accounts for approximately 94% of our company-wide GHG emissions, and the roadmap has been specifically developed for this plant. A separate roadmap covering the Gunsan Plant (SOFC), which is scheduled to begin mass production in 2025, will be established after 2025.



## > Roadmap Revision Due to Electrode In-House Production

Starting in August 2024, Doosan Fuel Cell initiated in-house production of electrodes. A shift in the manufacturing process is scheduled to take place in 2025. These changes are expected to significantly impact GHG emission projections. As production volumes are expected to increase annually, we plan to conduct a detailed analysis of each process based on existing emissions data and establish process-specific emissions intensity targets. Through this process, we aim to build a foundation for effective GHG emissions management.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Greenhouse Gas Management

Greenhouse Gas and Energy Reduction Activities

> Strengthening the Foundation for Energy Data Collection

To support energy-saving efforts at the Gunsan Plant, Doosan Fuel Cell implemented the Utility Monitoring System (UTMS) in June 2024. This system enables real-time monitoring of major utility consumption and collects accumulated data for analysis.



> Energy Reduction Activities and Achievements

Short-Term Energy Reduction Activities

Category	Achievements
Cell4 Pump Inverter Control Optimization	Reduced greenhouse gas emissions by 349.58 tCO <sub>2</sub> eq through energy savings
Cell4 Fan Motor Control Optimization	
Optimization of Steam Supply for CSA Auto Line 2	
Application of Automatic Night-Off Function for Jetting Dehumidifier and Oven	

Base Load Reduction Activities

Category	Achievements
Heater Shutdown Using Waste Heat from Air Compressor	Reduced base load greenhouse gas emissions by 67.35 tCO <sub>2</sub> eq
Optimization of Cell4 CSA Test Stand Ventilation Fan Operation	

Optimization of Electrode HVAC Operation

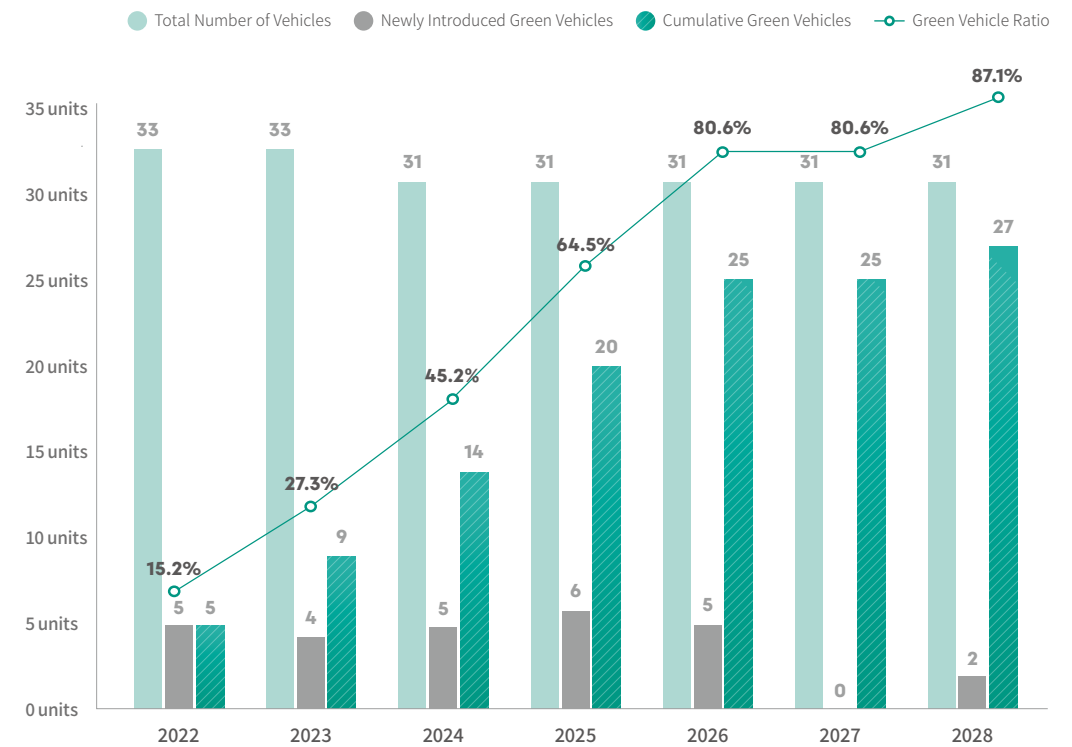
In the electrode process, where the Floc<sup>1)</sup> semi-finished product is sensitive to moisture, temperature and humidity are carefully managed to maintain storage and deposition quality. Due to the expansion of the electrode production line and the consolidation of the Clean Room<sup>2)</sup>, the total volume of the controlled environment has increased, leading to higher HVAC loads. Starting in 2025, we plan to establish a temperature and humidity monitoring system within the electrode process. Based on monitored trends, we will optimize HVAC system operation accordingly.

1) Floc: Aggregated clumps of fine particles formed using coagulants  
2) Clean Room: A controlled environment that prevents the inflow of dust or contaminants

> Introduction of Environmentally Friendly Vehicles

To minimize air pollutant and greenhouse gas emissions from company-operated vehicles, Doosan Fuel Cell continues to replace conventional vehicles with environmentally friendly alternatives each year. In 2024, the number of eco-friendly vehicles increased from 9 to 14, raising the overall proportion of green vehicles in our fleet from 27.3% to 45.2%. We plan to gradually replace additional vehicles with electric or other environmentally friendly vehicles in accordance with our mid-to long-term strategy.

Annual Plan for Introducing Eco-Friendly Vehicles and Ownership Ratio



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Greenhouse Gas Management

## Scope 3 Emissions Management

To prepare in advance for increasingly mandatory climate-related disclosures and to strengthen the eco-friendliness of our products throughout their entire lifecycle, Doosan Fuel Cell has established a phased plan to calculate and manage greenhouse gas (GHG) emissions under Scope 3. In 2024, we calculated emissions for Categories 5 through 7. Going forward, we plan to expand the scope of calculation and enhance the accuracy of our assessments by refining our methodologies and emission factors, which will be applied to drive improvement activities.

### Scope 3 Calculation Results<sup>1)</sup>

Category	Emissions	Notes
5. Waste Generation and Treatment	232.66tCO <sub>2</sub> eq	<ul style="list-style-type: none"><li>Calculation method: Based on waste treatment type by category</li><li>Activity Materials: Waste discharge and treatment performance reports</li><li>Emission factors: Environmental Product Declaration (EPD) emission factors published by the Korea Environmental Industry &amp; Technology Institute</li></ul>
6. Employee Business Travel	394.60tCO <sub>2</sub> eq	<ul style="list-style-type: none"><li>Calculation method: Cost-based</li><li>Activity Materials: Ledger for domestic/overseas travel and transportation expenses</li><li>Emission factors: U.S. Environmentally-Extended Input-Output (USEEIO) model</li></ul>
7. Employee Commuting	567.40tCO <sub>2</sub> eq	<ul style="list-style-type: none"><li>Calculation method: Distance-based</li><li>Activity Materials: Sampling survey results from employees</li><li>Emission factors: 2021 National Greenhouse Gas Emission Factors (notified by the Ministry of Environment)</li></ul>
Total	1,194.66tCO <sub>2</sub> eq	-

1) Self-assessed results not certified by a third party

### Category-Based Calculation Approach and Planning

Category	2024	2025	2026	2027	2028
1. Purchased Goods and Services					
2. Capital Goods					
3. Fuel and Energy					
4. Upstream Transportation and Distribution					
5. Waste Generated in Operations					
6. Business Travel					
7. Employee Commuting					
8. Upstream Leased Assets					
9. Downstream Transportation and Distribution					
10. Processing of Sold Products					
11. Use of Sold Products					
12. End-of-Life Treatment of Sold Products					
13. Downstream Leased Assets					
14. Franchises					
15. Investments					

Based on primary data    Based on secondary data    Not applicable

## Internal Carbon Pricing

### Application of Internal Carbon Pricing<sup>2)</sup>

Although Doosan Fuel Cell is not subject to the Target Management System or the Emissions Trading Scheme, we have introduced an internal carbon price to promote greenhouse gas (GHG) tracking and energy reduction efforts. This internal price is applied in economic evaluations and internal incentive programs to encourage employee participation in energy-saving activities.

2) Based on the closing price of KAU24 on January 2, as listed on the Korea Exchange (KRX)

### Economic Comparison by Fuel Type

When developing GHG reduction plans, Doosan Fuel Cell uses its proprietary GHG calculator and fuel comparison table to estimate potential reductions. We also assess economic feasibility by fuel type to ensure that GHG emissions are considered in decisions related to facility upgrades or fuel substitution.

### Incentivizing Individual GHG Reduction Performance

To encourage employee engagement in energy reduction, GHG reduction performance has been added as an evaluation item under the annual cost-saving incentive program.

### Annual Calculation of GHG Reduction Value

Each year, we apply our internal carbon price to the results of GHG reduction efforts and disclose the monetary value to raise awareness and promote active participation in energy-saving activities among employees. As a result, approximately 417 tons of GHG emissions were reduced at the Iksan and Gunsan Plants through activities such as shutting off heaters by utilizing waste heat from air compressors. This translated to an estimated cost saving of KRW 3.87 million based on the internal carbon price.

## Linkage to Performance Evaluation and Compensation

In line with the company’s mid- to long-term GHG reduction roadmap, annual targets are set for energy consumption and GHG emissions reductions at each site. In 2024, the performance evaluation for the Global Chief Manufacturing Officer (CMO) included environmental indicators such as “Effective operation of ISO 14001” and “Compliance with internal emission thresholds for environmental pollutants,” as well as the “Reduction of GHG emissions and energy consumption.” These metrics were linked to both performance assessment and compensation.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Expansion of Eco-Friendly Products and Technologies

## Establishment of Green Product Development and Sales Criteria

Eco-Friendly Energy	The phosphoric acid fuel cell (PAFC) systems developed by Doosan Fuel Cell offer significantly lower emissions and noise levels compared to conventional power generation methods and can provide zero-emission power generation when using hydrogen as fuel.	Development of High-Efficiency PAFC Models	With the goal of improving efficiency, Doosan Fuel Cell is working on enhancements to core stack components and overcoming current performance limits. For fuel cell electrodes, we are developing new catalysts that maximize reaction activity by modifying both materials and structures. For bipolar plates, we are developing a technology that replaces conventional graphite with metal materials, thereby expanding the design range. These component improvements are expected to raise fuel cell efficiency, which in turn will reduce the Levelized Cost of Electricity (LCOE) and enhance the role of fuel cells in advancing a hydrogen-based society.
PAFC System Integrated with CCUS	<p>Fuel cells are an eco-friendly power generation technology that produces electricity through the electrochemical reaction between hydrogen and oxygen. When PAFCs are fueled directly with hydrogen, no CO<sub>2</sub> emissions are produced. However, when hydrogen is extracted by reforming hydrocarbon fuels such as natural gas or LPG, a small amount of CO<sub>2</sub> is emitted due to combustion required for heat supply during the reforming process. While various CO<sub>2</sub> capture technologies—including wet, dry, and membrane-based methods at the 10MW scale—have been applied in coal-fired power plants and industrial processes, there are no domestic cases of developing a technology that integrates fuel cells with CCUS.</p> <p>Doosan Fuel Cell is developing design and optimal operation technologies for a PAFC system integrated with CO<sub>2</sub> capture that targets the exhaust gas<sup>1)</sup> emitted from the fuel cell system. Through technologies such as system configuration and control for CO<sub>2</sub> concentration in exhaust gases, optimized exhaust heat recovery design, and integrated management of exhaust gas from multiple PAFC units, we aim to reduce more than 70% of the CO<sub>2</sub> emitted from conventional PAFC systems. To accelerate development, a joint memorandum of understanding was signed in June 2022 among Korea Southern Power, Samsung C&amp;T, Korea Energy Research Institute, and Doosan Fuel Cell for the development and conversion of clean hydrogen fuel cells integrated with CCUS.</p> <p>1) Exhaust gas: Gases discharged from internal combustion engines, often containing large volumes of steam, combustion by-products, unburned fuel, soot, dust, etc.</p>	Development of Metal Bipolar Plates	A single PAFC fuel cell unit contains over 1,000 carbon bipolar plates. The conventional carbon plates used in CSA models contain polymer binders, making them difficult to recycle or reuse and generating a significant amount of waste during the forming process. Doosan Fuel Cell is developing metal bipolar plates that are more recyclable and can reduce raw material use by approximately 50%.
Blower Filter Design	A 1 MW fuel cell system requires a volume of air equivalent to what more than 10,000 adults breathe. To provide this airflow, Doosan Fuel Cell fuel cells are equipped with various BOP (Balance of Plant) units. In particular, high-performance filters are applied to the blower, which is responsible for air circulation, to filter out fine dust, ultrafine particles, and other impurities. This ensures that only purified air is delivered to the fuel cell stack. As a result, the broader deployment of fuel cells also contributes to fine dust reduction.	Design of Non-RCF Components	Refractory ceramic fibers (RCFs), commonly used in fire protection and aerospace applications due to their high-temperature resistance, are considered hazardous materials. These fibers are currently used in the insulation and filter components of Doosan Fuel Cell systems. Although we handle RCFs in compliance with domestic and international regulations and guidelines, we plan to further protect worker safety and health by applying Non-RCF materials to mass production products by 2025.
Development of M500 Hydrogen Model	Doosan Fuel Cell is developing the new M500 Hydrogen model to improve output and manufacturing efficiency. Like the hydrogen model in the M400 lineup, this model does not use hydrocarbon fuels and therefore emits no greenhouse gases. With approximately 25% higher output while occupying the same installation footprint, the M500 Hydrogen is expected to expand the application potential of fuel cells for power generation.		

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

# Expansion of Eco-Friendly Products and Technologies

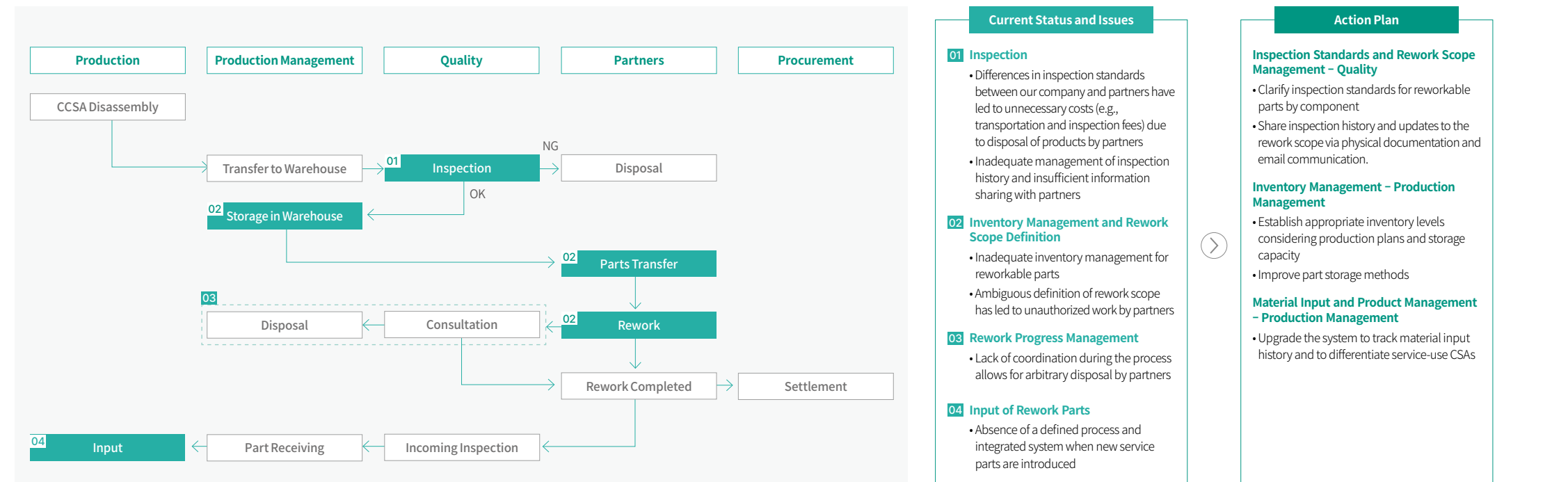
## Product Design Standards

Doosan Fuel Cell is developing a metal bipolar plate to replace the conventional graphite (carbon) bipolar plate in PAFC systems in order to improve resource circularity. We are currently working toward completing development by 2027, focusing on form design and coating reliability verification. By using metal as the base material, the new bipolar plates can be recycled—unlike the current graphite plates, which are entirely disposed of after use. Metal materials also allow for greater design flexibility, enabling further development of high-output and high-efficiency products. Additionally, the manufacturing process reduces unnecessary material loss and enhances cost competitiveness, improving both the environmental friendliness and market competitiveness of the product. Through the development of metal bipolar plates, Doosan Fuel Cell aims to strengthen eco-friendly product design and technological capability from the initial design phase, while expanding into the high-efficiency, high-output fuel cell power generation market. Meanwhile, refractory ceramic fibers (RCFs)—commonly used in fire protection and aerospace applications due to their high heat resistance—are currently applied in insulation and filter materials within our fuel cell components. Although we handle RCFs safely in compliance with both domestic and international regulations and guidelines, we plan to complete the transition to Non-RCF materials by the end of 2025. We will first design and produce a pilot product within the year and apply the Non-RCF materials to mass production thereafter, as part of our commitment to strengthening occupational safety and health for our employees.

## Responsibility for End-of-Life Products

Doosan Fuel Cell identifies and catalogs components from end-of-life products that can be reworked for reuse or remanufacturing. From the Cell Stack Assembly (CSA), we have selected the following as reworkable components: Two types of CMs (Coolant Manifolds) in/outlet, four types of RMs (Reactant Manifolds): Fuel in/out and Air in/out, two types of PPs (Pressure Plates): Anode and Cathode, and voltage harness, manifold support, bypass line, and electrical panel. In 2023, approximately 6 tons of these components were reused or remanufactured, and in 2024, this increased to approximately 52.5 tons—contributing to both waste reduction and resource circulation.

### Rework Process



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Expansion of Eco-Friendly Products and Technologies

## Financial Performance Based on K-Taxonomy Alignment Assessment

### > Overview of the K-Taxonomy

K-Taxonomy is a voluntary guideline that defines green economic activities, offering clear principles and criteria for such activities. It aims to guide green capital toward green projects and technologies while preventing greenwashing. The Ministry of Environment, Korea Environmental Industry & Technology Institute, and financial institutions are expected to expand financial support for green economic activities by implementing green bond and green loan products for K-Taxonomy-aligned economic activities. The taxonomy provides standards for determining whether a company’s economic activities are green. Activities included in the list of economic activities defined in K-Taxonomy are categorized as eligible, and those that meet all the required criteria are classified as aligned activities.

### > Eligibility and Alignment Assessment

To be recognized as a green economic activity (aligned activity), the following three principles must be satisfied: ① Contribute to the achievement of one or more of the six environmental objectives (greenhouse gas reduction, climate change adaptation, sustainable use and protection of water, transition to a circular economy, pollution prevention and control, and protection of biodiversity), ② Do no significant harm to the other environmental objectives during the achievement process, and ③ Comply with minimum safeguards, including no violations of laws related to human rights, labor, safety, anti-corruption, and cultural heritage protection. In accordance with the Green Taxonomy, Doosan Fuel Cell has classified its economic activity of manufacturing fuel cells for power generation as an eligible activity. Among these, we have separately classified those that meet the alignment, eligibility, exclusion, and safeguard criteria required to achieve the six environmental objectives as aligned activities.

### > K-Taxonomy KPI Calculation for Doosan Fuel Cell Economic Activities

Doosan Fuel Cell calculated its revenue, capital expenditure (CapEx), and operating expenditure (OpEx) KPIs aligned with the K-Taxonomy for FY2024, as follows:

Category	Environmental Objective	Revenue <sup>1)</sup>		CapEx <sup>2)</sup>		OpEx <sup>3)</sup>	
		Amount	Share	Amount	Share	Amount	Share
K-Taxonomy Aligned Economic Activities		173,668,509,286	42.17%	3,889,506,430	6.51%	202,673,831	11.82%
Common-A-(1) Manufacturing of innovative items: fuel cell-based power generation	Greenhouse gas reduction	57,149,000,000	13.88%	3,837,890,947	6.42%	202,673,831	11.82%
1-B-(5) Hydrogen and ammonia-based energy production	Greenhouse gas reduction	18,975,062,933	4.61%	-	0.00%	-	0.00%
Transition Sector 1-B-(1) LNG and blended gas-based energy production	Greenhouse gas reduction	97,544,446,353	23.69%	-	0.00%	-	0.00%
5-A-(1) Air pollution prevention and control	Pollution prevention and control	-	0.00%	51,615,484	0.09%	-	0.00%
K-Taxonomy Eligible Economic Activities		234,905,000,000	57.04%	50,191,375,069	84.01%	1,511,481,544	88.18%
Common-A-(1) Manufacturing of innovative items: fuel cell-based power generation	Greenhouse gas reduction	234,905,000,000	57.04%	50,191,375,069	84.01%	1,511,481,544	88.18%
K-Taxonomy Non-Eligible Economic Activities		3,256,904,790	0.79%	5,661,796,552	9.48%	0	0.00%
Total		411,830,414,076	100.00%	59,742,678,052	100.00%	1,714,155,375	100.00%

1) Revenue includes income from installation, construction, and operation of LNG fuel cells and hydrogen fuel cells for power plants

2) Considering that the PAFC fuel cell production facility is a general-purpose facility used for producing both hydrogen-direct-injection fuel cells and natural gas-injection fuel cells, 19.57% of the investment cost in the facility (including repair costs), which corresponds to the sales ratio of hydrogen-direct-injection fuel cells, is deemed as expenditure for hydrogen-direct-injection fuel cell production

3) Given that most of the R&D activities carried out in FY2024 focused on performance verification, improvement, and defect rate reduction of existing fuel cells, 19.57% of the R&D expenses from the previous year are similarly regarded as R&D for hydrogen-direct-injection fuel cells, in line with the CapEx calculation

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

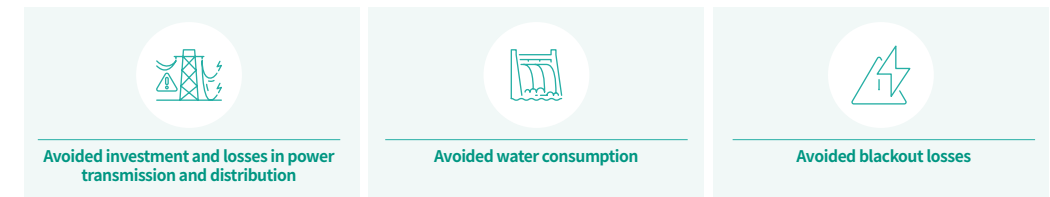
# Expansion of Eco-Friendly Products and Technologies

## Social Value of Fuel Cells

The social value of fuel cells has been measured based on product characteristics using three approaches: Eliminate Value, Improve Value, and Create Value.

### > Eliminate

The value of “Eliminate” refers to the value generated by removing negative factors associated with existing products. It represents the social value created by eliminating the adverse impacts of large-scale conventional power generation systems. The primary negative factors avoided are as follows:



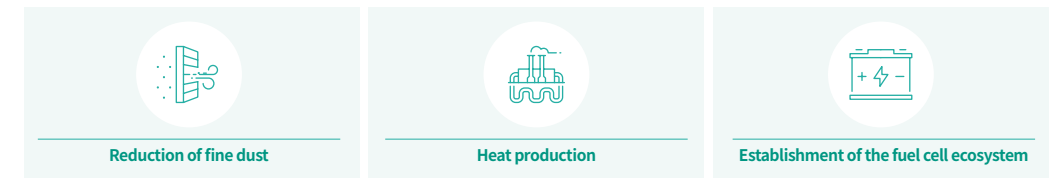
### > Improve

The value of “Improve” refers to areas where social value is enhanced compared to existing products. This was calculated based on the elimination of adverse effects caused by LNG combined cycle power generation. The primary factors contributing to improve value are as follows:



### > Create

The value of “Create” refers to new value that cannot be created by conventional products. It represents the social value uniquely generated by fuel cells. The primary factors contributing to create value are as follows:

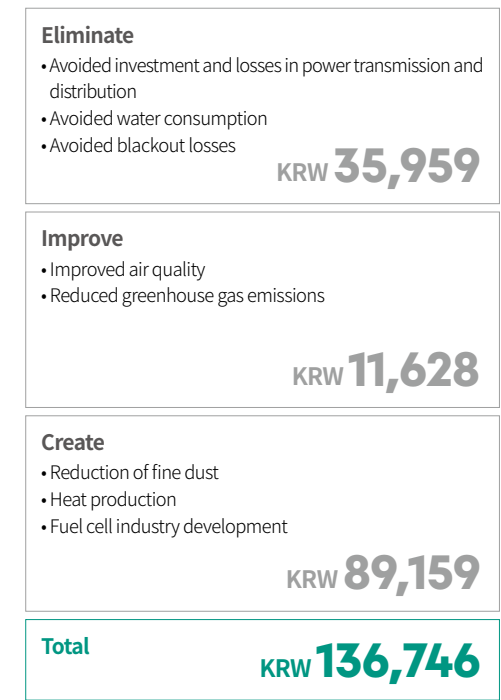


## > Social Value of Fuel Cells

The social value created by Doosan Fuel Cell’s fuel cells has been estimated at approximately KRW 136,000 per 1 MWh. Based on the output of products currently supplied and in operation by customers, we have generated an estimated annual social value of approximately KRW 681.5 billion (approximately KRW 26.8 billion based on newly operated product output in 2024). The assessment was conducted by an external expert institution, utilizing metrics and formulas derived from domestic and international research findings. The results may vary depending on the referenced data. Doosan Fuel Cell plans to continuously refine and enhance this assessment and use it as a tool to further increase the social value of our products.

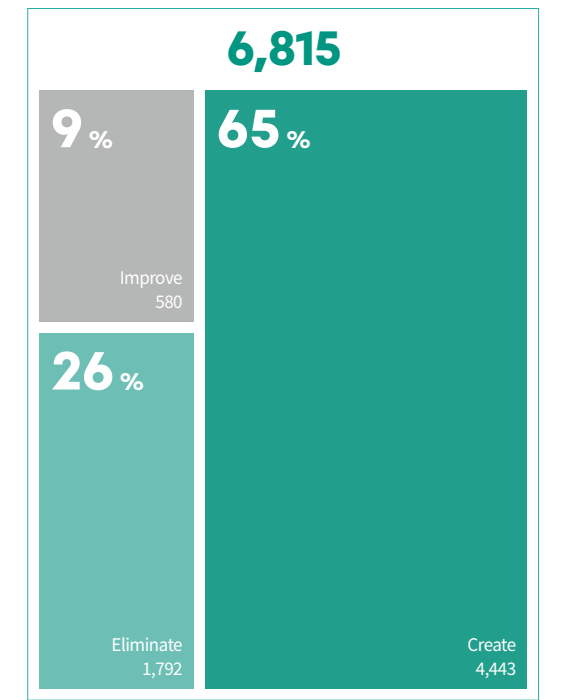
### Social Value Created per 1 MWh of Fuel Cell Output

Unit: KRW/MWh



### Social Value Generated Based on Currently Operating Products<sup>1)</sup>

Unit: KRW 100 million



1) Calculated under the assumption that all fuel cells installed and operating as of the end of 2024 continue generating electricity throughout the year without interruption

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Expansion of Carbon Neutrality-contributing Products and Technologies

## Technology Collaboration for Flexible Energy Resource Utilization

On April 17, 2025, Doosan Fuel Cell signed a memorandum of understanding (MOU) with Korea Southern Power's New Sejong Bitdream Division and Doosan Enerbility for technology collaboration on flexible energy resource utilization, initiating cooperation for the development of eco-friendly power plants. This agreement was promoted to enhance power resource flexibility through combined heat and power (CHP) mode operations using the New Sejong Division's energy resources, and to explore optimal solutions for the supply of new power and heat using LNG direct procurement and fuel cells. Through this agreement, Doosan Fuel Cell plans to develop a CHP mode that maximizes overall efficiency using hydrogen fuel cells of up to 40MW capacity in existing CHP plants that primarily use liquefied natural gas (LNG), and to advance automatic generation control (AGC) technologies for stabilizing the power grid.

This collaboration is expected to positively impact the competitiveness of district energy projects and the stable power supply of both public power generation companies and private firms by advancing AGC operation technologies in CHP mode and expanding energy efficiency through hydrogen fuel cells. Upon the successful development of this new business model, Doosan Fuel Cell anticipates additional revenue growth and plans to develop various synergistic business models through collaboration with other companies.



Technology Collaboration MOU signing ceremony for flexible energy resource utilization

## Accelerating Clean Power Generation through Carbon Capture-Linked Fuel Cell Systems

Although hydrogen is classified in various ways based on production processes and feedstocks, it is broadly categorized as green hydrogen, blue hydrogen, or gray hydrogen depending on the associated carbon dioxide emissions. According to the International Energy Agency (IEA), gray hydrogen—produced using natural gas and petroleum—accounts for approximately 81% of global hydrogen production. When carbon dioxide generated in the production of gray hydrogen is captured through Carbon Capture, Utilization and Storage (CCUS), it can achieve carbon reduction effects equivalent to that of blue hydrogen. As a transitional step toward infrastructure for clean power generation using pure hydrogen, Doosan Fuel Cell has developed a technology that utilizes hydrogen during fuel cell power generation based on city gas infrastructure and captures the remaining carbon dioxide. Following a one-year demonstration and joint technology development agreement signed with Korea Hydro & Nuclear Power in 2024, we expect to complete a demonstration in 2025 that achieves over 90% CO<sub>2</sub> recovery during fuel cell power generation, thereby accelerating the development and dissemination of clean energy. Furthermore, by applying this technology to existing fuel cell power plants in conjunction with membrane-based CO<sub>2</sub> capture systems, we aim to transform them into carbon-free, eco-friendly power plants that contribute to the realization of carbon neutrality. Doosan Fuel Cell is committed to advancing a clean energy society not only through pure hydrogen models but also by utilizing the existing natural gas (NG) infrastructure for power generation.



Demonstration of carbon capture technology in PAFC fuel cells



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Expansion of Carbon Neutrality-contributing Products and Technologies

## Building a Hydrogen Value Chain Based on Hydrogen City Development

Doosan Fuel Cell recognizes the growing importance of hydrogen in the transition to clean energy amid the era of large-scale energy transformation. Accordingly, we are drawing up a roadmap for hydrogen city development by establishing a full-cycle system that encompasses hydrogen production, storage, transportation, and utilization.

In November 2024, we signed a memorandum of understanding (MOU) with the City of Yangju to promote the hydrogen city project and lead the hydrogen economy in northern Gyeonggi Province. Through this agreement, Doosan Fuel Cell will supply and maintain the main equipment for hydrogen production and power generation—up to 800 kg/day—via a fuel cell Tri-gen system that simultaneously produces hydrogen, electricity, and heat, which serves as a core element in building the hydrogen value chain.

Tri-gen is a product that utilizes a 440 kW phosphoric acid fuel cell (PAFC) per unit and allows for on-site hydrogen refueling. It offers various advantages, including cost-competitive hydrogen supply, flexible response to hydrogen demand for mobility, and enhanced convenience for electric vehicle charging.

In this project, the City of Yangju is responsible for supporting permits and investments related to fuel cell power generation facilities and pipelines, while Daeryun ENS supplies city gas. KOHYGEN is in charge of operating the hydrogen purification facility and purchasing hydrogen, and the Yeoheung Min Clan Association provides the project site.

The Yangju Hydrogen City Project is expected to serve as a best practice for establishing full-cycle hydrogen infrastructure in inland cities and to become a leading model for energy transition toward carbon neutrality.



Yangju Hydrogen City Project MOU signing ceremony

## Laying the Groundwork for the Expansion of Domestic Mid-to-Low Temperature SOFCs for Power Generation

In addition to phosphoric acid fuel cells (PAFC), solid oxide fuel cells (SOFC)—a core offering of Doosan Fuel Cell—are being developed for marine and power generation applications through a technology partnership with Ceres Power in the United Kingdom. Whereas competitors’ SOFCs operate at temperatures exceeding 900°C, Doosan Fuel Cell’s SOFCs operate at a mid-to-low temperature of around 600°C, thereby ensuring high power efficiency and stable expected lifespan, which enhances our market competitiveness.

With the completion of a 50 MW-scale plant at the Saemangeum Industrial Complex and the commencement of mass production, we are expanding the deployment of SOFCs.

In April 2025, we signed an MOU with Samchully Co., Ltd., a domestic city gas and power company, to initiate business development cooperation for SOFC distribution. Under this partnership, Doosan Fuel Cell will oversee the development of mid-to-low temperature SOFCs for power generation, supply the main equipment, invest in pilot projects, and manage the operation of power plants. Samchully will be responsible for securing and developing the project site. By leveraging Samchully’s extensive experience in power plant project development, we aim to expand our bidding pool in the hydrogen market and strengthen collaboration with power generators to scale up SOFC distribution, enhance order competitiveness, and sustain our growth trajectory.



SOFC S300 Hydrogen Fuel Cell

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Expansion of Carbon Neutrality-contributing Products and Technologies

SOFC Product Certification for Decarbonizing Marine Transport

Approximately 80% of global trade volume is carried out through maritime transport, with more than 50,000 merchant vessels currently in operation. Most of these vessels rely on traditional energy sources such as diesel-based internal combustion engines, and despite ongoing improvements in energy efficiency, CO<sub>2</sub> emissions are projected to continue rising. In response, the International Maritime Organization (IMO) has implemented carbon reduction targets of 30% by 2030, 80% by 2040, and net-zero by 2050.

In light of these regulatory changes, the shipping industry requires a new power source that meets greenhouse gas regulations while ensuring high efficiency. As a solution, Doosan Fuel Cell is developing high-efficiency SOFCs for marine applications.

Electrical and electronic equipment installed on ships must demonstrate stability under extreme environmental conditions such as temperature, humidity, vibration, tilt, and electromagnetic interference. In 2024, Doosan Fuel Cell became the world's first to pass the environmental durability test of its core component, the cell stack, conducted by DNV, one of the world's top three ship classification societies. Following product testing (Factory Acceptance Test, FAT) and certification in 2025, we plan to validate the stability and efficiency of our products through demonstration operations aboard vessels serving as auxiliary power units (APUs) on actual shipping routes. This will accelerate our market entry and deployment in the transition to eco-friendly marine energy.



Marine SOFC FAT

Joint Promotion of Local Energy Welfare Expansion

Fuel cells produce both electricity and heat, and require a supply of city gas for operation at fuel cell power plants. As such, when a fuel cell power plant is built in an area without access to city gas, the simultaneous supply of electricity, heat, and city gas can enhance energy welfare in the local community.

To jointly promote projects aimed at expanding regional energy welfare, Doosan Fuel Cell signed a memorandum of understanding (MOU) with Seorabeol City Gas and GNC Energy.

Under this agreement, Doosan Fuel Cell will supply the main fuel cell equipment and provide long-term service agreement (LTSA) services. Seorabeol City Gas will handle city gas supply within the region, support infrastructure for the project, and share LTSA-related responsibilities. GNC Energy will be responsible for project development, investment, and EPC (engineering, procurement, and construction).

The three companies plan to build hydrogen fuel cell power plants in regions that require distributed generation and city gas, supplying electricity, heat, and city gas to provide tailored energy solutions that meet the specific demands of each region. This initiative is expected to reduce local dependence on external power sources, lower energy costs, and ultimately enhance energy self-sufficiency.

Doosan Fuel Cell intends to expand this business model, beginning with Seorabeol City Gas, to over 30 city gas suppliers nationwide to increase business opportunities. In addition, by jointly providing certain LTSA services with city gas partners, we expect to optimize Doosan Fuel Cell's regional service personnel and improve overall service quality.



Business Agreement for Expanding Local Energy Welfare

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

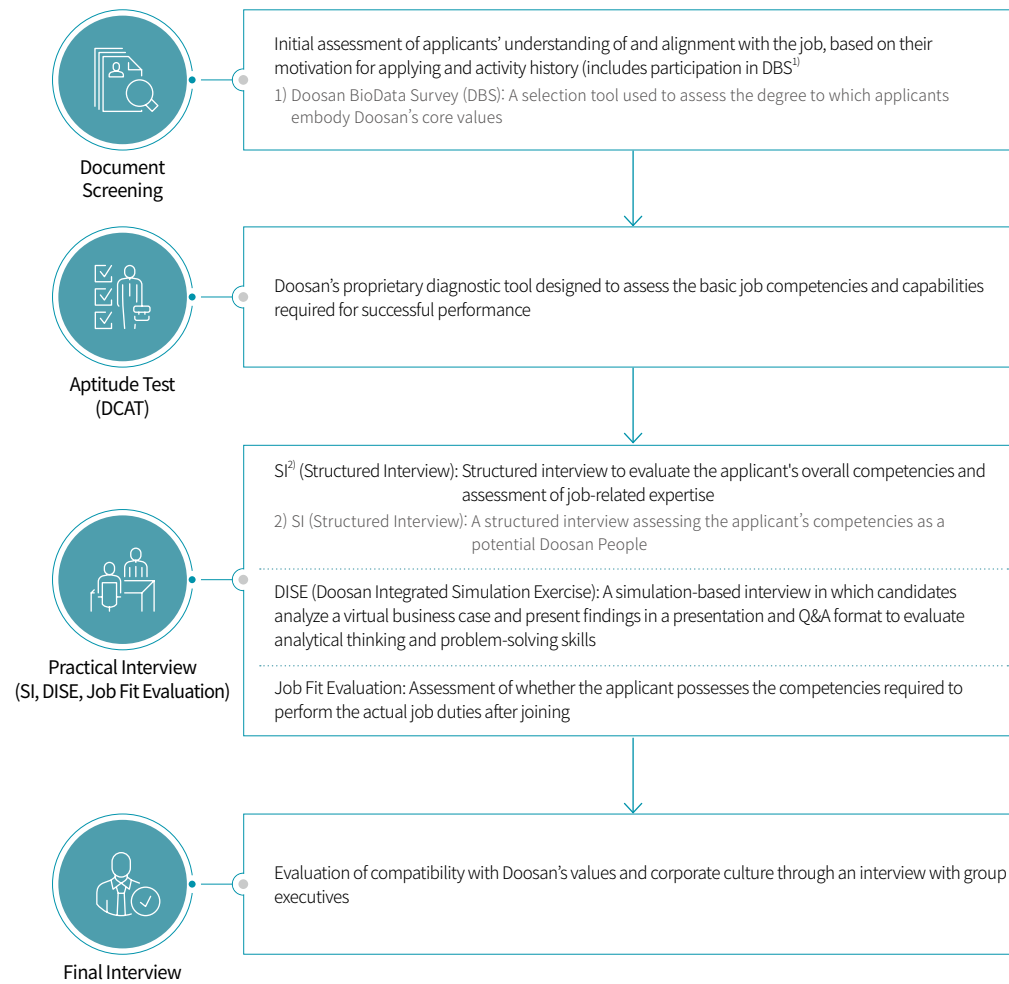
- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Talent Management

## Talent Recruitment

People refers to Doosan's people who drive performance guided by the Doosan Credo, which embodies our management philosophy and business principles. We have established a structured system to ensure transparent and fair recruitment and operate a distinct process to select candidates who align with Doosan's core values.



## Labor Practices Commitment

Doosan Fuel Cell respects the human rights of all stakeholders involved in its business activities, not only its employees, and recommends the same level of human rights management to third parties such as suppliers. In compliance with domestic laws and international standards on labor and human rights, Doosan Fuel Cell upholds obligations including the guarantee of diversity and inclusion, prohibition of discrimination, equal pay for equal work between men and women, setting and compliance with maximum working hours, adherence to appropriate working hours with minimized overtime, assurance of rest, annual leave and vacation for employees, compliance with procedures and notice periods for dismissal, and provision of a living wage that ensures a dignified life. To ensure these commitments, the following programs are in operation:



## Employment of People with Disabilities

Since 2022, Doosan Fuel Cell has been employing athletes with disabilities in partnership with the Jeonbuk branch of the Korea Employment Agency for the Disabled and the Jeonbuk Disabled Sports Council. As of 2025, we have employed 13 athletes with disabilities (10 as of 2024), supporting their participation in the National Para Games and national team activities.

We offer various welfare programs, including training uniforms, competition allowances, and travel expenses, to support their activities. Additionally, we provide disability awareness education for all employees to foster an inclusive workplace where persons with and without disabilities can thrive together.

Doosan Fuel Cell aims to increase employment of persons with disabilities by hiring one additional individual annually. Accordingly, we plan to employ 14 people with disabilities in 2026 and 15 people with disabilities in 2027.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

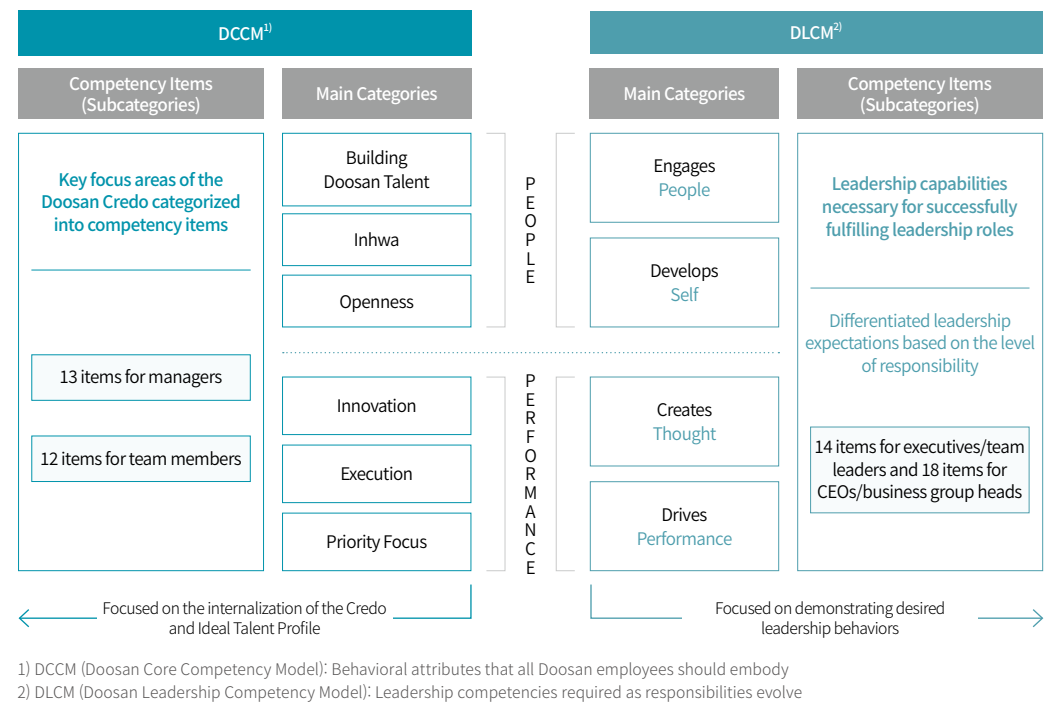
- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Talent Management

## Talent Development

Doosan Fuel Cell aims to nurture talent that combines leadership with job expertise. All employees assess their strengths and competencies based on the Doosan Competency Model (DCM), a group-wide evaluation framework, and establish individualized development plans to participate in tailored education programs.




## Strategic Talent Analysis

Doosan Fuel Cell conducts talent analysis to estimate workforce size linked to company-wide and division-specific business objectives and strategies and operates strategic workforce planning accordingly. We closely monitor workforce status through indicators such as the “recruitment and hiring process,” “turnover and resignation rates,” and “identification of employees with high turnover risk.” We effectively respond to workforce demands arising from new business initiatives through strategic recruitment and replenishment. In addition, we reinforce the capabilities required to deliver results in new business areas by analyzing “employee performance,” “strategic workforce planning,” “capability gaps in the current workforce,” and “competitive intelligence.” We are also strategically recruiting core talent in growth areas such as SOFC fuel cells and marine applications.


## Competency and Performance Evaluation

Each year, Doosan Fuel Cell evaluates the performance and competencies of office employees based on factual data and results. These evaluations serve as resources for individual performance improvement and capability enhancement.




Competency and Performance Analysis

We assess both individual competencies and performance on a five-point scale and compile the results into indicators to comprehensively analyze each employee's competency–performance level. After evaluations are completed, employees participate in one-on-one feedback sessions to review long-term evaluation trends and implications. They also discuss concrete methods and strategies to improve future performance. Evaluation results are used in decisions regarding promotions, salary increases, and performance-based bonuses.




Job Competency Analysis

To strengthen fundamental competitiveness by nurturing experts with professional job capabilities, we have established a job competency analysis system that defines required knowledge and skills by job category. Job competencies are assessed on a five-point scale, and the results are communicated to employees and incorporated into their individual development plans.




Leadership Analysis

To proactively and systematically develop leaders, Doosan Fuel Cell conducts leadership assessments for executives and team leaders through external professional assessment centers. To objectively and scientifically evaluate leadership capabilities required for higher roles, we apply proven assessment methods used by leading domestic and global companies. Using tools such as simulations, interviews, behavioral assessments, and multi-rater evaluations, we comprehensively assess leadership capabilities, qualities, and potential. The assessment results are utilized in “People Sessions” to support leader and successor selection. Those selected are developed through structured leadership development programs to become the future leaders of the organization.



058





Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Talent Management

## Employee Communication and Work Engagement

Doosan Fuel Cell communicates with employees through a variety of channels, including management briefings, roundtables, surveys, Change Agent (CA) workshops, and exit interviews.

At quarterly management briefings, senior executives including the CEO and CFO share the company’s direction and vision, explain business performance and plans, and engage in Q&A sessions to communicate transparently and motivate employees.

In addition, CA workshops hosted by the CEO are held to allow CAs—who represent the employee voice—to discuss and share ideas for improving ways of working and enhancing organizational performance. The workshop also includes a Q&A session where the CEO personally responds to questions regarding 2024 business results and general workplace matters, previously collected from employees, thereby strengthening communication between management and employees.

To secure and retain top-tier R&D talent, we have made changes to the work environment, including relocating our research center to a more advanced facility. In 2025, we relocated our R&D center to Doosan R&D Center in Suji, Gyeonggi Province to foster a sense of belonging and create an environment where employees can stay focused and deliver optimal performance.

Doosan Fuel Cell will continue to listen to employee feedback and actively address areas for improvement to build a more horizontal organizational culture and enhance work engagement.



Exterior of Doosan Institute of Technology

## Creating a Pleasant Work Environment

Following the start of SOFC production at our Gunsan Plant in North Jeolla Province in 2024, Doosan Fuel Cell established a business lounge and break room to improve the work environment and increase employee satisfaction. By creating spaces where employees can relax and communicate freely, we continue to explore ways to boost work engagement and efficiency.



Business Lounge and Break Room, Gunsan Plant, Jeonbuk-do

## Employee Development Programs

### Onboarding and Mentoring Program for New Employees

Doosan Fuel Cell regularly provides onboarding programs to help new hires, experienced employees, and interns understand the organization and build foundational competencies. The onboarding program includes various components to aid job adaptation, covering topics such as company and product orientation, workplace safety, business etiquette, and internal systems.

To support the successful integration of new employees, we operate a mentoring program that pairs new hires with senior employees and combines it with on-the-job training (OJT). Mentors and mentees follow a jointly developed activity plan for a focused three-month mentoring period. In 2024, a total of 10 new hires successfully adapted to the company through this program.

### New Education Courses in 2024

Doosan Fuel Cell has newly developed common job courses to enhance employees' job competencies. These courses are foundational job education designed to help employees understand the background and context of their work and comprehensively assess its impact to perform their duties effectively.

In 2024, we newly developed three courses: "Understanding Cost," "Understanding Quality," and "Understanding SOFC Systems." For this purpose, we selected six in-house job experts and had them participate in faculty development and advanced courses to support the development of their lecture design, development, and delivery capabilities.

All courses were produced as online content and uploaded to our dedicated internal education channel so that employees can take them whenever needed. In 2025, we plan to go beyond common job courses by establishing education systems by job function and level, and prioritizing the development of urgent and important education courses to further strengthen the foundation of job education.

## Best Family Friendly Management Certification

In recognition of its excellence in operating a family-friendly management system, Doosan Fuel Cell obtained the Best Family Friendly Management certification on December 1, 2024. We plan to continue examining areas for improvement and establishing improvement plans to create a work environment where employees and their families can work with greater peace of mind and enjoyment.



Best Family Friendly Management Certification



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Talent Management

## Work-Family Compatibility

Doosan Fuel Cell supports employees raising children in various ways. We have fostered a corporate culture where employees can freely use systems related to pregnancy, childbirth, and childcare. In addition to the statutory parental leave of up to one year, Doosan provides an additional year of parental leave through its unique “Contracted Parental Leave Program.” Upon the conclusion of parental leave, we adhere to the principle of reassigning the employee to the same position as prior to the leave, and we support reintegration through the “Parental Leave Reboarding Program.” Furthermore, Doosan Fuel Cell does not tolerate any form of discrimination or disadvantage against employees who use maternity protection programs.

### Maternity Protection Program

Reduced Working Hours	- During pregnancy: Employees in the first 12 weeks or after 36 weeks of pregnancy may reduce their working hours (up to 2 hours per day) - During childcare period: Employees with children under 8 years old or in 2nd grade or lower may reduce working hours (1 to 5 hours per day)
Prenatal Check-Up Leave	- Up to 28 weeks of pregnancy: Once every 4 weeks - 29 to 36 weeks of pregnancy: Once every 2 weeks - After 37 weeks of pregnancy: Once every week
Maternity Leave	90 days of leave available before and after childbirth (120 days for multiple births)
Pregnancy Congratulations Gift	Gift certificate worth KRW 500,000
Childbirth Congratulations Allowance	KRW 3 million for the first child / KRW 5 million for the second child / KRW 10 million for the third child or more
Pregnancy Parking Permit	Pregnant employees are provided with parking permits until the start of maternity or parental leave
Parental Leave Supporters Program	A support fund of up to KRW 500,000 per person is provided to team leaders and team members when an employee in their team applies for parental leave of six months or more
Parental Leave Reboarding Program	Program provided upon return to work after taking six months or more of parental leave - Team Leader Caring: Three meetings scheduled across the three months before and after returning to work - Psychological Counseling Service - Emergency Childcare Support Service: Emergency childcare service available after return to work

### Daycare Center

To alleviate the burden of childcare and allow employees to focus on work, we provide and support access to the “Future Tree Daycare Center” for employees’ children aged 1 to 5. For employees whose children are unable to attend the Future Tree Daycare Center, we offer childcare subsidies for children aged 1 to 2.

### Family Care Leave

To allow employees to spend more time with their families, we offer reduced working hours or leave of up to 90 days per year.

### Nursing Room

A nursing room is available at the headquarters to serve as a space for rest and nursing for pregnant employees.

### Flexible Work Arrangement

We promote efficient working styles by operating a flexible work environment through selective working hours, staggered commuting hours, remote work, and work-from-home arrangements.

### Child Education Expense Support

To ease the financial burden of education for employees, we provide school entrance congratulatory payments and tuition support for children entering middle school, high school, or university, as well as school supply allowances for high school entrants.

### Children's Day Event

On Children's Day, we host various events at DLI YeonGangWon and baseball stadiums, offering opportunities for employees and their children to enjoy time together and build strong bonds.

## Work-Life Balance

### Leave System

Doosan Fuel Cell actively encourages the use of summer and year-end leave to support employees' work-life balance and opportunities for rest and recharge. We provide five days of paid summer vacation during the summer season and recommend taking time off during the final week of December so that all employees can rest. In addition, we have introduced a “half-half day off” system that allows employees to take time off in 2-hour increments, thereby supporting a more flexible work environment.

### Housing Finance Support

To ensure stable and secure housing for our employees, we operate a housing fund support system. We help alleviate financial burdens by providing partial financial support for home purchase or rental.

### Health Checkups and Medical Expense Support

We offer comprehensive health checkups for employees and their spouses and provide medical expense support for employees and their families. We have also strengthened protection through group insurance to allow employees to focus on treatment in the event of accidents or illness.

### Selective Working Hours System

Doosan Fuel Cell implemented a flexible working hours system as of January 2025. This system allows employees to autonomously design their work schedules within the total working hour limits, thereby improving flexibility and efficiency. Through this initiative, we aim to help employees maintain a work-life balance and stay engaged, while also enhancing our ability to attract and retain top talent.

## Horizontal Organizational Culture

In line with the Doosan Group’s efforts to build a horizontal organizational culture, Doosan Fuel Cell has revised its HR system and held employee briefings. The revised system was designed based on feedback gathered through focus group interviews (FGIs), surveys, and opinion-collection FGIs conducted with employees in 2022–2023, and has been in effect since February 2024. Through the HR system revision, Doosan Fuel Cell promotes horizontal and open communication, enabling faster and more efficient decision-making and building an agile organizational culture that can respond swiftly to rapidly changing business environments.

### HR System Changes

Grade System Revision	- The existing five-tier grade system based on job titles (Staff-Assistant Manager-Manager-Deputy General Manager-General Manager) was restructured into: P1 Grade (Senior Associate, professional development stage), and P2 Grade (Principal, job expert) - The existing “Team Leader” position is now classified under P3 Grade - The existing merit system for title-based promotion has been aligned with the new grade structure, while maintaining the total amount of promotion-related merit
Promotion System Revision	- To enhance the development of team members’ professional capabilities, we introduced a P2 qualification review and implemented a “Self-Nomination System” to reinforce self-directed development - During the P2 qualification review, we adopted “360-degree evaluations” and “expertise interviews” - To strengthen competency review for newly appointed team leaders, we introduced a P3 qualification certification process - A “Self-Nomination System” was also introduced for the “Team Leader Readiness Certification” to support self-directed growth - During the team leader candidate review process, we conduct “360-degree evaluations” and “leadership interviews”

## Retirement and Pension

All employees are enrolled in retirement pension plans and the National Pension Service in accordance with the Act on the Guarantee of Workers’ Retirement Benefits and the National Pension Act.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

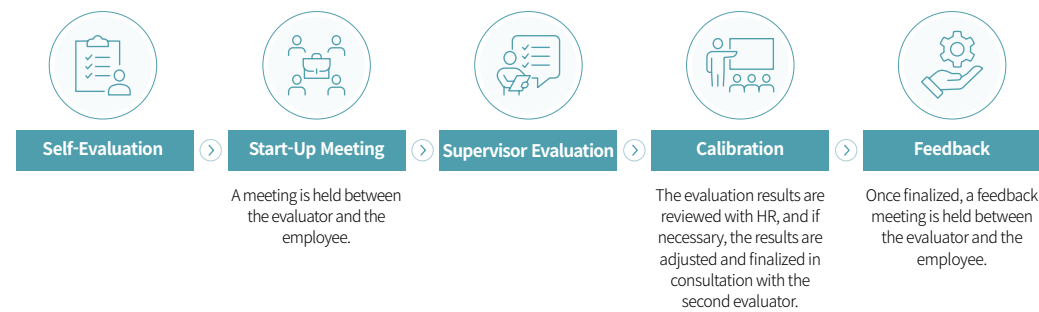
# Talent Management

## Fair Performance Evaluation and Compensation

Doosan Fuel Cell operates an evaluation system to support employee performance improvement and competency development. Evaluations are divided into leadership competencies, aimed at developing global leaders based on the Ideal Talent Profile, and job competencies, focused on cultivating job expertise. Performance is assessed using the Management by Objectives (MBO) approach, in which the level of goal achievement is measured against predetermined targets. Continuous feedback and performance sharing occur between evaluators and employees. During the evaluation process, start-up meetings, feedback meetings, and discussions between first and second evaluators help ensure active communication and enhanced fairness.

Evaluation results are reflected in HR decisions such as position promotions, title appointments, salary increases, and performance-based incentives, thereby encouraging employee development in both performance and competency. Among employees below executive level, executive officers (1.7% of all employees) are eligible for long-term cash incentives over an average of three years. These incentives range from 20% to 40% of the annual salary and are paid based on both quantitative indicators (MBO) and qualitative indicators assessed over a three-year performance period, including growth potential, market conditions, portfolio improvement, and adequacy of planning levels.

### Evaluation Process



## Establishing a Sound Labor-Management Culture

### > Regular Labor-Management Council Meetings

Doosan Fuel Cell holds regular (quarterly) labor-management council meetings to improve employees' working conditions and boost morale. With a 100% agenda resolution rate, we continuously strive to create a workplace where people want to work.

Quarter	Agenda Items Submitted / Resolved	Key Agenda Items
1Q 2024	3 / 3	Substitution of Spring Event
2Q 2024	4 / 4	Review of safety shoe replacements
3Q 2024	4 / 4	Adjustment of promotion dates (for technical supervisors and above)
4Q 2024	4 / 4	Additional items for the Jeon-guk-dong break room
1Q 2025	4 / 4	Provision of cool-dry T-shirts for workers outside of temperature-controlled processes

### > Three Consecutive Years of Agreement Without Negotiation & Joint Labor-Management Workshops

Based on mutual trust, we have solidified labor-management relations through three consecutive years of agreement without collective bargaining since 2022. Twice annually, union executives and company management (team leaders and above) participate in joint workshops to strengthen cooperation and build rapport. These activities allow both parties to genuinely understand each other's challenges and collaboratively resolve labor-management issues in a meaningful way.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Human Rights Management

## Guidelines for the Prevention of Discrimination and Harassment

Prohibition of Sexual Harassment, Workplace Harassment, and Discrimination	<b>Prohibition of Sexual Harassment in the Workplace</b>   No employer, manager, or employee may cause sexual humiliation or discomfort to another employee by using their status in the workplace or in relation to job performance to make sexual remarks or behaviors. No disadvantage in working conditions or employment may be imposed on an employee for refusing such sexual conduct or any other related request.
	<b>Prohibition of Workplace Harassment</b>   No one may cause physical or psychological pain to others or worsen their work environment by using a position of superiority in terms of organizational status or interpersonal relations beyond the proper scope of work. Acts of workplace harassment include physical abuse, harassment based on identity or job, verbal abuse, personal harassment, and deterioration of the working environment.
	<b>Prohibition of Discrimination</b>   No employee shall be treated unfairly on the basis of gender, race, ethnicity, nationality, religion, age, political opinion, or region of origin.
Actions in Case of Incidents	<b>Report Reception (Doosan Fuel Cell Human Rights Center and Doosan Group Internal/External Reporting Channels)</b>   Anyone who becomes aware of an incident of sexual harassment, workplace harassment, or discrimination may report it. Upon receiving a report, appropriate actions such as initiating an investigation will be taken.
	<b>Investigation and Review (Responsible Department)</b>   An investigation will be conducted to confirm whether sexual harassment, harassment, or discrimination occurred. The identities of those involved in the investigation will be kept confidential. During the process, the victim's opinions regarding resolution methods will be heard, and upon request, appropriate measures such as workplace reassignment or leave may be taken.
	<b>Action (Department in Charge of HR Committee)</b>   If a violation is confirmed, prompt disciplinary action or other equivalent measures will be taken against the perpetrator. Employees who report or claim to have been affected by sexual harassment, harassment, or discrimination are protected.
Confidentiality	<b>Monitoring (Human Rights Center, HR)</b>   We monitor whether appropriate measures have been implemented and ensure that there is no subsequent harm or retaliation. Preventive measures are also in place to avoid any disadvantage to the victim.
	Employees who participate in the investigation process must not disclose any confidential information obtained through the investigation.
	The company may require the perpetrator to receive counseling or attend training to prevent recurrence of workplace sexual harassment, harassment, or discrimination.
Recurrence Prevention Measures	The company provides training at least once a year to prevent sexual harassment, harassment, and discrimination in the workplace. Additional training sessions may be held or related materials may be posted or distributed as needed for prevention and response.
	<b>Employer</b>   The employer must work to prevent workplace sexual harassment, harassment, and discrimination and take appropriate measures to protect victims and handle incidents when they occur.
	<b>Managers</b>   Managers must not resolve incidents at their own discretion upon becoming aware of workplace sexual harassment, harassment, or discrimination. Administrators do not take arbitrary actions against the victim's will, expose the victim to secondary damage, support the perpetrator, or blame the victim. They must not take unilateral action against the victim's will, expose them to secondary harm, defend the perpetrator, or blame the victim. Managers must proceed with procedures that can resolve the case while respecting the victim's will. Managers shall actively cooperate with the responsible department's case handling and measures and make efforts to protect victims and prevent recurrence.
Preventive Education	<b>Employees</b>   Anyone aware of workplace sexual harassment or harassment should advise the victim to report it. Respondents, perpetrators, and other employees must not force a method of resolution against the victim's will, disclose the identities of those involved, or spread facts or falsehoods related to the incident. Employees must cooperate with the resolution process and must not blame the victim in relation to the incident.
	<b>Roles and Responsibilities</b>
	<b>Responsible Department</b>
Communication Channels (Platforms)	<b>Internal Reporting Center</b>   Banner and email reporting via Group Portal (compliance@doosan.com)
	<b>Human Rights Center</b>   Reporting via human rights officer email (humanright_dfc@doosan.com)
	<b>External Reporting Center</b>   stopit@humanlabor.com
※ For internal inquiries and consultation on workplace sexual harassment, email stopit@doosan.com	

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Human Rights Management

## Human Rights Policy

Doosan Fuel Cell respects the human rights of not only its employees but also all stakeholders involved in its business operations. We also recommend that third parties, including partners, practice human rights management at the same level. Doosan Fuel Cell requires its partners and key business partners to fulfill obligations related to human rights protection and monitors their compliance. With the CEO's declaration of support for the Ten Principles of the UN Global Compact on human rights, labor, environment, and anti-corruption, Doosan Fuel Cell practices human rights management based on internationally recognized principles such as the Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights (Ruggie Framework), and operates a due diligence system.

<b>Non-Discrimination in Employment and Guarantee of Freedom of Association and Collective Bargaining</b>	We do not tolerate any form of unfair discrimination in employment based on gender, religion, disability, age, social status, or region of origin, and we embrace diversity. We also recognize the freedom of association and collective bargaining for workers and do not impose any disadvantage for participating in union activities.
<b>Prohibition of Forced Labor and Child Labor</b>	We do not allow any form of forced labor in our business activities and comply with the minimum employment age as defined by local laws. If we become aware of any instance of employing underage workers, we will take immediate corrective action and work to eliminate all labor practices that undermine human dignity.
<b>Occupational Safety and Health Assurance and Responsible Supply Chain Management</b>	We maintain a safe working environment and comply with all environmental, health, and safety laws and regulations applicable to our workplaces. We also implement specific safety and health measures for pregnant employees, persons with disabilities, and other vulnerable workers. We have established policies and guidelines for ESG risk management across the supply chain, and we conduct continuous monitoring. We support and cooperate with all business partners in their implementation of human rights management. We will suspend business relationships with any supply chain partners who fail to correct significant human rights violations.
<b>Protection of Human and Environmental Rights of Local Communities</b>	We respect the rights of local communities, including the right to life, freedom of movement, personal safety, and property ownership. We adhere to a precautionary approach to environmental issues, establish and implement plans to prevent, mitigate, or control severe environmental degradation and disasters.
<b>Customer Human Rights Protection</b>	We ensure that our product design, manufacturing, and labeling meet legal standards and do not harm customers' lives, health, or safety due to defects. In the event of harm, we promptly notify customers of the risks and recall the affected products. We also respect customer privacy and take necessary measures to protect the personal data collected by the company.

## Human Rights Education

Doosan Fuel Cell conducts human rights education at least once a year for all employees to raise awareness and promote respect for human rights. Educational topics include sexual harassment prevention, workplace harassment prevention, and disability awareness.

In 2024, 99% of employees completed the training, and in 2025, we conducted offline, workplace-specific sexual harassment and harassment prevention training. Rather than merely conveying legal standards, we aim to create a workplace culture where everyone is cautious and considerate by conducting education centered on various cases that can occur in reality.

## Human Rights Issue Reporting Channels

Doosan Fuel Cell provides a cyber reporting center on its website, allowing all stakeholders, including employees, to report human rights violations and other unethical behaviors. Reports can be submitted anonymously and are protected by confidentiality. All reports received are thoroughly protected and promptly handled in accordance with internal procedures. In the event of a human rights-related issue, victims or witnesses may report through the Internal Reporting Center, Workplace Harassment & Sexual Harassment Prevention Center, or Human Rights Center.

Internal Reporting Center	
Workplace Harassment & Sexual Harassment Prevention Center	
Human Rights Center	
<b>External Reporting Center</b>	stopit@humanlabor.com
<b>Internal Reporting Center</b>	Banner and email reporting via Group Portal (compliance@doosan.com)
<b>Human Rights Center</b>	Reporting via human rights officer email(humanright_dfc@doosan.com)
*For internal inquiries and consultation related to workplace sexual harassment, contact: stopit@doosan.com	

## Grievance Resolution Process for Human Rights Issues

Doosan Fuel Cell operates a grievance handling and redress system to support employees who have experienced adverse impacts related to human rights. All procedures are carried out fairly and promptly in accordance with three core principles: protection of anonymity, prevention of disadvantage, and provision of feedback.

<b>Case Reception</b> 	As soon as a human rights-related grievance is identified, the case is officially received, and the complainant (victim) is notified of the company's readiness to initiate an investigation.	<div><b>Number of Grievance Cases Addressed Related to Human Rights</b></div> <div>1case</div>
 <b>Consultation</b> 	The Head of the Human Rights Center and the HR team's human rights officer conduct a consultation to determine the direction of case handling.	
 <b>Investigation (Fact-Finding)</b> 	<ul style="list-style-type: none"><li>• If the victim requests a formal company investigation, an investigation committee is formed and preparations begin</li><li>• The committee collects facts, the victim's requests, and evidence, and reports to the CEO</li><li>• The investigation report includes facts, determination of whether harassment/sexual harassment occurred, and the committee's opinion on the level of disciplinary action for the perpetrator</li><li>• The complainant and respondent are informed of the investigation results and, if necessary, the schedule of the HR Committee</li></ul>	
 <b>Deliberation and Action</b> 	The method of action is determined based on the handling approach requested by the victim	<div><b>Resolution Rate</b></div> <div>100%</div>
 <b>Monitoring</b> 	To prevent recurrence, regular interviews and monitoring with the victim are conducted	



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

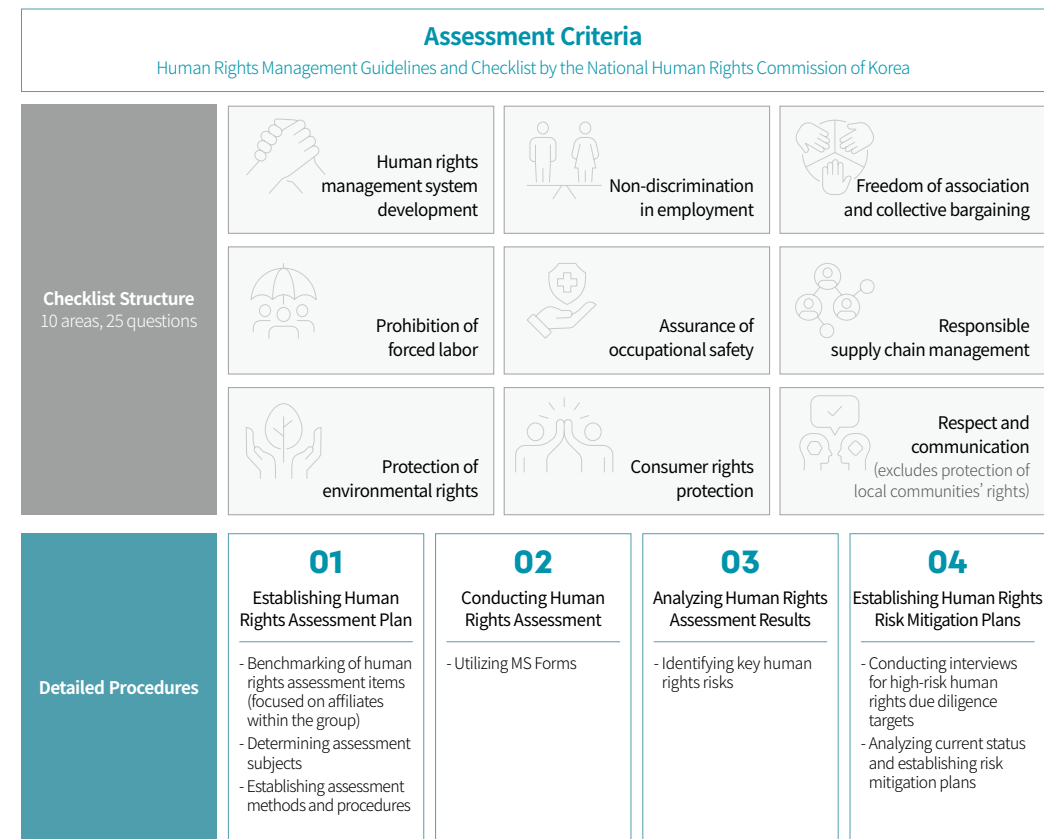
Appendix

# Human Rights Management

## Human Rights Impact Assessment

Doosan Fuel Cell conducts human rights impact assessments to identify negative impacts and key areas of vulnerability related to human rights issues. In the human rights impact assessment conducted in 2024, 50% of all employees participated, and no critical human rights issues were identified. However, areas such as human rights management system development, respect and communication, and supply chain management showed relatively low employee recognition levels. These were selected as priority improvement areas, and corrective measures for these topics will be implemented in 2025. We are also considering ways to raise awareness of the grievance resolution process—such as informing employees about the procedures and annual performance of the grievance system—and to encourage its active use.

### Human Rights Impact Assessment Process<sup>1)</sup>



1) Including employees of internal partners

## Human Rights Risk Mitigation Plan

### > Respect for Human Rights

Based on our Human Rights Policy Declaration announced in 2021, Doosan Fuel Cell respects the human rights of not only employees but also all inclusive stakeholders, including partners. We do not tolerate any inappropriate language or behavior—such as verbal abuse, physical violence, or sexual harassment—that goes against the spirit of harmony, whether internally or in our relationships with partners. Such incidents can be reported via the Human Rights Center helpline or internal reporting channels. When a human rights violation occurs, we promptly take action in accordance with our handling procedures and action manual. We also provide ongoing preventive education to ensure that employers, managers, and employees all continue to raise their awareness of human rights.

### > Human Rights Risk Mitigation Measures

Doosan Fuel Cell has established and operates a Human Rights Center to raise awareness among employees and conducts annual training on sexual harassment prevention, disability awareness, and workplace harassment prevention.

In September 2021, we officially announced our Human Rights Policy Declaration—developed in agreement with labor unions—in accordance with government guidelines.

In 2022 and 2024, we conducted human rights assessments based on the National Human Rights Commission of Korea's checklist, composed of 10 areas and 25 questions. Through these assessments, we identified key human rights risks and established mitigation plans and redress measures for areas with lower evaluation results. These action plans are managed as part of our company-wide ESG strategic tasks. We continuously monitor the progress of these tasks and identify additional management items each year to strengthen our human rights management practices.

In 2025, we plan to provide guidance on how to access the company's grievance resolution system—including how to file a report, reporting methods, and processing procedures—so that employees can more easily use the system. In addition, by sharing annual statistics on grievance reports and resolutions, we aim to create an environment where employees can recognize that the system is effectively functioning.

First.	We will designate the publication of the internal human rights management process as a strategic task and re-educate employees on our human rights policies, regulations, and reporting channels to enhance awareness of the grievance handling process.
Second.	To improve human rights awareness among leaders, we will implement separate offline human rights training for those in leadership positions, in addition to the mandatory legal education, to ensure they fully understand the grievance handling process. We also plan to re-educate them on available reporting channels. To raise awareness of the importance of human rights in everyday life, we will regularly issue a Human Rights Management Letter containing case law on workplace harassment and updates on related legal amendments.

First Half of 2024	Human rights impact assessment conducted
Second Half of 2024	Employee satisfaction survey conducted
2025	Mitigation measures from the human rights impact assessment to be implemented
2026	Effectiveness assessment of mitigation measures from the human rights impact assessment to be conducted



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

# Occupational Safety and Health

## Occupational Safety and Health Management Goals



**Achieve zero-accident business sites**

Zero work-related accidents and illnesses



**Strengthen EHS Leadership activities**

100% execution against divisional plans



**Enhance Risk Management**

Achieve 95% or more of annual targets



**Identify and improve potential workplace hazards**

Achieve 95% or more of annual targets

## Occupational Safety and Health Management Strategy

- Ensure legal and regulatory compliance and prevent serious accidents by strengthening the occupational safety and health management system
- Deliver strong leadership commitment to safety and enhance employee awareness through executive-led inspections, meetings, and other EHS leadership activities
- Prevent major industrial accidents and establish an autonomous safety and health system by operating PSM (Process Safety Management) at business sites
- Prevent accidents through safety and health regulations and compliance, and manage serious risks effectively through a robust risk assessment system
- Operate risk management by actively identifying and improving potential safety and health hazards
- Establish and operate a systematic safety and health management process for partners to enhance management standards and realize shared growth in occupational safety and health

## Occupational Safety and Health Policy

Doosan Fuel Cell recognizes a safe and clean work environment as a core value and a fundamental responsibility toward its employees, their families, and society. To that end, we have established an Occupational Health and Safety Management System (ISO 45001) and implement department-specific action plans in alignment with our occupational safety and health policy.

In addition, we ensure that all employees work in a safe environment by complying with relevant laws and regulations, including the Serious Accidents Punishment Act and the Occupational Safety and Health Act. We remain committed to continuously enhancing the safety of our workplaces in line with global standards.

01

We place top priority on the life and health of everyone we work with, based on the philosophy of respect for human life. All employees are expected to actively engage in occupational safety and health activities with a sense of ownership and lead by example.

02

We establish an occupational safety and health management system and continuously improve its effectiveness while actively complying with relevant laws and company regulations.

03

With full participation of all employees, we aim to fundamentally prevent safety accidents by effectively identifying and eliminating potential hazards.

04

We provide regular occupational safety and health education and emergency response activities for both Doosan Fuel Cell and partner company employees to enhance safety awareness and risk management capabilities.

05

Through continuous investment and development, we strive to ensure the safest working environment and facilities operation capabilities.

06

We promote open communication with all stakeholders based on honesty and transparency and fulfill our social responsibilities in the local community.

April 3, 2023

Joonyoung Park, CSHO, Doosan Fuel Cell Co., Ltd.



## Occupational Safety and Health Management System

To establish a safety and health framework at our workplaces, Doosan Fuel Cell obtained international certification for its Occupational Health and Safety Management System (ISO 45001) in 2022. We have maintained certification through periodic follow-up audits by external professional organizations. We also use the Doosan EHS Rating System (DSRS), a quantitative EHS performance assessment tool developed in-house by the Doosan Group, to regularly assess the safety and health levels of our business sites. Based on these evaluations, we are continuously advancing our occupational safety and health management and striving to prevent serious industrial accidents.



## > Occupational Safety and Health Education Performance

Doosan Fuel Cell regularly conducts safety and health education on various topics to enhance employees' safety and health compliance awareness and spread a proactive safety and health culture. We also conduct EHS awareness surveys to assess the effectiveness of education and reflect the results in our education plans. Along with this, we conduct emergency response training based on emergency scenarios at least once every half year to strengthen our emergency response capabilities.

Education Title	Target Participants	Frequency	Number of Participants
Regular Occupational Safety and Health Education	R&D, Service, Technical Employees	Quarterly	420
New Employee Orientation	Newly Hired Employees	Upon hiring	171
Supervisor Education	Supervisors	Once per year	77
Job Training	Safety and Health Management Officer	Once every two years	2
	Safety and Health Managers	Once every two years	3
PSM (Process Safety Management) Education	PSM Process Operators	2 hours per year	183
Special Occupational Safety Education	Service, Technical Employees	Upon hiring	71

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Occupational Safety and Health

## Establishment of Mid- to Long-Term Roadmap for Occupational Safety and Health Management

Doosan Fuel Cell places the highest priority on safety and health and is committed to ensuring the safety of all employees and local communities. Based on a mid- to long-term roadmap for occupational safety and health, we set key performance indicators (KPIs) and establish annual safety and health implementation plans, monitoring them regularly to assess target achievement and effectiveness.

Starting in 2024, we entered Phase 2 of our occupational safety and health plan, reinforcing department-led execution of EHS activities and advancing the EHS capabilities and management levels of both internal and external partners.

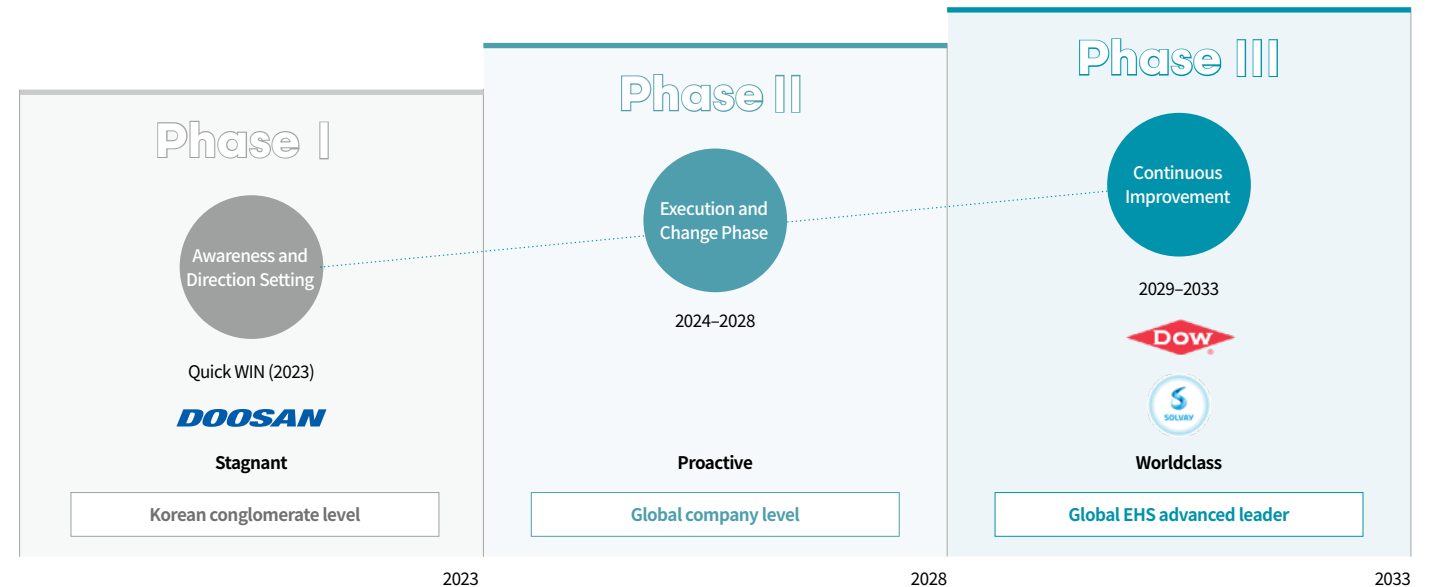
Doosan Fuel Cell will continue to improve step by step by setting detailed goals from a long-term perspective, aiming to establish a safety and health culture in which employees recognize the importance of safety and actively put it into practice.

### > Improvement in DSRS Quantitative Evaluation

In 2024, we focused on strengthening the EHS capabilities of partner companies and enhancing EHS monitoring. As a result of various initiatives, we improved our DSRS level and were awarded the Innovation Award at the Group EHS Fair for the second consecutive year.



### Step-by-Step Roadmap for Occupational Safety and Health



KPI	“Zero” employee accidents and occupational illnesses DSRS quantitative evaluation level ↑ 65%		
	“Zero” employee accidents and occupational illnesses DSRS quantitative evaluation level ↑ 75%		
Implementation Plan	“Zero” employee accidents and occupational illnesses DSRS quantitative evaluation level ↑ 85%		
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			
Implementation Plan			

# Occupational Safety and Health

## Occupational Safety and Health Management Activities

Doosan Fuel Cell prioritizes the safety and health of employees and partner company workers, practicing people-oriented management based on respect for humanity. To identify and eliminate or minimize EHS-related risk factors in advance, we operate various evaluation, inspection, and emergency response systems. In particular, we continue to promote the voluntary participation of executives and managers in occupational safety and health activities through exemplary leadership. We also publish a monthly EHS newsletter to provide useful safety and health information applicable to daily life, and encourage employee interest and participation in EHS through site-specific events.

### > Establishment of Occupational Safety and Health Organization and Target Setting

Based on our EHS policy, Doosan Fuel Cell sets safety and health goals at both the company-wide and site levels and implements them systematically. We have established and are operating a dedicated occupational safety and health department to prevent accidents and achieve each unit’s safety and health goals. Supervisors and safety personnel are appointed at each site to ensure effective implementation.

### > Compliance with Occupational Safety and Health Principles and Accident Prevention

Doosan Fuel Cell has established safety, health, and environmental regulations and guidelines and strictly adheres to them to prevent EHS-related accidents. Workers performing actual operations directly participate in risk assessments to effectively identify risk factors. The safe work procedures established through risk assessments are thoroughly communicated to all related employees, including partner companies, and are followed by pre-inspections to ensure thorough accident prevention.

### > Management of Potential Occupational Safety and Health Risks

Doosan Fuel Cell encourages the proactive identification and improvement of on-site EHS risk factors by all employees and links this initiative to a regular reward program to enhance participation and execution.

In particular, we systematically manage “near miss” incidents—situations where accidents almost occurred but caused no harm—to ensure workplace safety.

### > Accident Response Procedures

The company has established and operates accident management regulations to ensure prompt initial response and prevent the spread of incidents. These regulations apply not only to the company itself but also to all in-house and external contractors working within the company. In the event of an accident, the company takes systematic measures in accordance with the following procedures: Emergency response → Work suspension → Accident reporting → Accident investigation → Establishment and implementation of preventive measures → Accident closure reporting

### > Occupational Safety and Health Leadership Activities

Doosan Fuel Cell demonstrates executive commitment to safety and health by conducting inspections, meetings, and discussions as part of active EHS leadership practices.

We also operate EHS consultation bodies where workers participate directly in the operation of the occupational safety and health management system and regulatory compliance, thereby assigning responsibility and authority over EHS activities. This leads to autonomous safety practices by employees, elevates safety awareness, and contributes to accident prevention and sustainable growth at our worksites.

### > Employee Health Promotion

Doosan Fuel Cell conducts regular health checkups to promote employee health and prevent occupational diseases. For employees with notable findings, we offer continued health consultations and follow-up care, in addition to various health promotion programs. We also promote self-directed health care through fitness testing events, smoking cessation programs, and other initiatives.

### > Emergency Response

Doosan Fuel Cell conducts emergency scenario drills twice a year to minimize damage to people and property at and around the workplace in the event of an emergency. In 2024, we enhanced our employees’ emergency response capabilities through scenario-based drills simulating emergencies by process type. We also conduct joint emergency drills with public institutions such as fire stations to establish cooperative systems with stakeholders.

### > Occupational Safety and Health Management in Customer Service

Doosan Fuel Cell has established and operates an autonomous safety and health management system for its fuel cell service operation sites. We identify and improve potential hazards during maintenance activities in advance to prevent accidents and fulfill our safety and health commitments to customers. In preparation for full-scale production of our domestically developed 330kW-class SOFC, we plan to strengthen safety management by signing an MOU with the Korea Electrical Safety Corporation in May 2025. This partnership will focus on developing inspection standards and strengthening safety management education.



### > Outsourced Construction Safety Management and Partnership Building

Doosan Fuel Cell has established management regulations to prevent accidents related to outsourced construction work at our business sites. We have systematically defined a safety management process for internal construction and maintenance service sites and are implementing it to prevent safety accidents.

In addition, we operate regular consultative meetings with partner companies to communicate and resolve mutual issues in a timely manner.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance












- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Social Contribution

## Social Contribution System and Direction

In alignment with the group-wide vision of “Proud Doosan that continues to grow both its people and its business,” Doosan Fuel Cell promotes strategic social contribution activities. To enhance future competitiveness and corporate value, we support local community development and contribute to the social economy through initiatives in various fields including education, culture, sports, and the environment, thereby promoting sustainable growth and social inclusion.

Mission	Enhancing future competitiveness and corporate value through strategic social contribution activities		
Key Strategies	<div><div>Growth of People</div><div>Support for talent cultivation and job creation</div><div><div>1. Hydrogen energy talent development</div><div>2. Development of educational content and expanded participation opportunities</div><div>3. Empowerment and growth of persons with disabilities</div></div></div>	<div><div>Contribution to Local Communities</div><div>Support for the underprivileged and contribution to the local community</div><div><div>1. Exploring solutions to social issues through support for marginalized groups</div><div>2. Participation in and contribution to local communities</div></div></div>	<div><div>Leveraging Core Capabilities</div><div>Utilizing proprietary technologies and competencies</div><div><div>1. Sharing engineering technologies and understanding of the hydrogen energy industry and products</div><div>2. Leveraging employees' talents</div></div></div>
	<div></div>	<div></div>	<div></div>
SDGs			
Enabler	Social Contribution System and Employees' Commitment		
Business KPI	Conduct hydrogen energy training for middle and high school students to help cultivate future talent	Support marginalized groups and strengthen communication with local communities through activities linked to eco-friendly businesses	Contribute to enhancing corporate image and expertise by establishing industry-academia-research collaboration systems for hydrogen industry development and support
Social KPI	Contribute to job creation for vulnerable groups by operating an athletic team for persons with disabilities	Conduct ecosystem restoration activities with local communities near major customers	Transfer principles and technologies of hydrogen fuel cells using internal capabilities
Programs	<div><div>• Employment and operation of athletes with disabilities</div><div>• H2Dream: Hydrogen energy career exploration class (for high school students)</div><div>• H2Dream: Doosan Fuel Cell tour program (for university students)</div></div>	<div><div>• Iksan Dailoum Free Meal Food Truck support and regular volunteer activities</div><div>• Green Walking Challenge &amp; Urban Forest Creation</div><div>• Biodiversity conservation project</div><div>• Young Carer Support Project</div><div>• Energy efficiency support for child welfare facilities</div><div>• Donation of unused office automation (OA) equipment</div><div>• Coffee ground recycling</div></div>	<div><div>• Industry-academia-research collaboration projects</div><div>• Participation in fuel cell-related academic conferences and sharing of best practices</div></div>

## Mid- to long-term social contribution promotion plan

Doosan Fuel Cell is systematically implementing social contribution initiatives to realize the vision of “Leading Global Corporate Social Responsibility (CSR).”

Phase 1	Phase 2	Phase 3
<b>Establishment of Social Contribution System (2022–2023)</b> <div>Laying the foundation for social contribution activities</div>	<b>Enhancing Execution Capability in Social Contribution (2024–2025)</b> <div>Strengthening the ability to implement and operate social contribution activities</div>	<b>Advancing the Social Contribution Framework (2026–2027)</b> <div>Establishing a strategic social contribution system and achieving measurable outcomes</div>
<b>Development and Implementation of Social Contribution Programs</b> <div><div>• Developed and implemented an energy efficiency support project for child welfare facilities, replacing outdated boilers and gas ranges at 85 group homes</div><div>• Donated 103 units of unused OA equipment</div><div>• Hired 8 athletes with disabilities (2022)</div><div>• Launched “Green Walking Challenge &amp; Urban Forest Creation,” with a total of 1,187 employee participants over 2022–2023</div><div>• Developed the “H2Dream” hydrogen talent development class with 85 participants (2023)</div><div>• Implemented coffee ground recycling (2023)</div><div>• Carried out community contribution through the Iksan Dailoum Free Meal Food Truck volunteer program (2023)</div></div>	<b>Activation of Social Contribution Programs</b> <div><div>• Expanded Green Walking Challenge &amp; Urban Forest Creation to be held twice annually (2023)</div><div>• Signed an MOU with Incheon Metropolitan City, Incheon Metropolitan Office of Education, and Korea Western Power to scale and institutionalize H2Dream (2024)</div><div>• Increased the number of athletes with disabilities employed to 10 (2024)</div><div>• Employment of 13 athletes with disabilities by 2025</div></div> <div><b>Communication and Collaboration with Stakeholders</b><div>• Strengthened collaboration with universities near the Iksan headquarters, institutionalized visit programs (2024)</div></div> <div><b>Expansion of Management System for Social Contribution</b><div><div>• Develop and operate performance measurement models (2025)</div><div>• Strengthen operational systems using core competencies</div></div></div>	<b>Expansion of Social Contribution Programs</b> <div><div>• Develop new programs and improve existing ones (aligned with UN SDGs and current trends)</div><div>• Explore ways to contribute to solving social issues</div></div> <div><b>Internalization of Social Contribution Activities</b><div><div>• Establish a platform to encourage voluntary employee participation</div><div>• Build infrastructure to promote participation by local communities and partners</div></div><div><b>Establishment of Social Contribution Operating System</b><div><div>• Measure, analyze, and disclose program performance</div><div>• Build a monitoring system for programs</div><div>• Expand linkage with the creation of social value</div></div></div></div>
<b>Expansion of Employee Participation</b> <div><div>• Promoted programs and improved volunteer convenience (2022)</div><div>• Recognized outstanding participants (2023)</div></div>	<b>Establishment of Social Contribution Management System</b> <div><div>• Set strategic direction and goals for social contribution (2022)</div><div>• Appointed dedicated organization and personnel (2022)</div><div>• Established systems and operational processes (2022)</div></div>	<b>Introduction of New Social Contribution Programs</b> <div><div>• Launched the Young Carer Support Project (2024)</div><div>• Plan to conduct biodiversity conservation activities in partnership with the Endangered Species Restoration Center at the National Institute of Ecology (2025)</div></div>



- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

# Social Contribution

## Social Contribution Activities

### > Social Contribution Activities for “Growth of People”

#### Employment of Athletes with Disabilities

Doosan Fuel Cell directly employs athletes with disabilities and provides salaries and welfare benefits to support a stable training environment. We signed agreements with the Jeonbuk branch of the Korea Employment Agency for Persons with Disabilities and the Jeonbuk Sports Association for the Disabled, and as of 2025, we employ nine athletes with severe disabilities and four athletes with mild disabilities, supporting their training and participation in competitions. As a result, athletes representing Doosan Fuel Cell participated as representatives of Jeollabuk-do Special Self-Governing Province in the 2024 National Para Games and achieved notable results—winning four gold medals, three silver medals, and three bronze medals. Furthermore, in May 2025, Doosan Fuel Cell’s Park Jun-young was selected as a national para-cycling team member and went on to win a gold medal at the “UCI Para-cycling World Cup.” Doosan Fuel Cell will continue to promote the employment of persons with disabilities and support athletes in improving their performance.



Gold Medal in Team Archery at the National Para Games



Gold medal at the UCI Para-cycling Road World Cup

#### Donation to Chung-Ang University

Since 2008, the Doosan Group has supported development funds for Chung-Ang University. These funds are used for tuition and facility expenses at schools established and operated by Chung-Ang University Foundation, contributing to nurturing talent needed in society. Doosan Fuel Cell donated KRW 1 billion in 2021, KRW 1.5 billion in both 2022 and 2023, and KRW 1 billion in 2024

#### H2Dream Hydrogen Energy Talent Development

As a specialized fuel cell company, Doosan Fuel Cell has been operating the “H2Dream” hydrogen energy talent development program since 2023 to foster future professionals in the hydrogen sector. This program is designed for high school and university students interested in the hydrogen energy field and helps them understand the hydrogen industry and fuel cell products. It also includes power plant and factory tours, career exploration sessions, and on-site job experience to help students grow into future hydrogen professionals.

In April 2024, we signed an MOU with Incheon Metropolitan City, the Incheon Metropolitan Office of Education, and Korea Western Power to expand the program for high school students. For university and graduate students, we are collaborating with major domestic energy-related institutions such as KAIST and the Korea Institute of Energy Technology. We are also strengthening cooperation with regional institutions such as Jeonbuk National University and technical colleges to further support hydrogen talent development.



H2Dream Hydrogen Energy Career Exploration Class



H2Dream Hydrogen Energy Talent Development MOU



H2Dream Hydrogen Energy Career Exploration Class for University Students

### > Social Contribution Activities for “Community Engagement”

#### Sponsorship and Volunteer Activities for the Iksan “Dailoum Free Meal Food Truck”

With its headquarters and plant located in Iksan-si, Jeollabuk-do, Doosan Fuel Cell supports the operation of Iksan City’s “Dailoum Free Meal Food Truck” to improve local community welfare. The Dailoum Free Meal Food Truck is a vehicle that travels to low-income neighborhoods with limited access to local welfare centers, providing free meals on site. Since 2023, Doosan Fuel Cell has donated KRW 6 million annually to Iksan City for the operation of the Dailoum Free Meal Food Truck. Additionally, employees participate monthly as volunteer servers. In both 2023 and 2024, 40 employees participated in these volunteer activities. To encourage and recognize internal volunteering, we operate an awards program to honor outstanding volunteers and volunteer teams.



Awards for outstanding volunteers of the Iksan “Dailoum Free Meal Food Truck” and activity photos



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Social Contribution

## Green Walking Challenge & Biodiversity Conservation Project

Since 2022, Doosan Fuel Cell has been conducting the "Green Walking Challenge," a walking campaign that encourages employees to practice carbon neutrality and protect ecosystems in daily life. Each year, we use a mobile walking app to track the total number of steps taken by employees, partners, and family participants, converting them into donation amounts. These donations are then given to environmental organizations and used for urban forest creation and biodiversity conservation activities.

A total of 1,316 people have participated in the four rounds of the Green Walking Challenge since 2022. When converted into carbon absorption, the total additional steps taken by participants equal the amount of carbon absorbed in one year by 249 thirty-year-old pine trees. In particular, 320 participants joined the Green Walking Challenge held in October 2024, logging a combined total of 34 million steps, which contributed to reducing carbon emissions by 362 kg. This reduction is equivalent to the amount of carbon absorbed in one year by 55 thirty-year-old pine trees.

The donations were used for urban forest creation. In October 2022, 25 employees participated in a tree-planting activity along Anyangcheon. In April 2023, 30 employees planted 1,000 saplings—Korean willow, goat willow, and wild rose—near Salgoji Park along Jungnangcheon, helping to create shelters for small birds and other wildlife. In October 2023, 50 employees and local residents participated in planting approximately 3,000 shrubs at the Yucheon Ecological Wetland Park in Iksan, contributing to river purification and ecosystem protection.

In October 2024, we signed a memorandum of understanding with the National Institute of Ecology's Endangered Species Restoration Center to collaborate on "biodiversity conservation and the restoration of endangered species." The donations raised through the Green Walking Challenge were used to transplant Dendrobium moniliforme (classified as Class II endangered wild species in Korea) in the Saemangeum area of Gunsan, where our plant is located. On May 14, 2025, 20 Doosan Fuel Cell employees participated in transplanting about 120 Dendrobium moniliforme plants over an area of approximately 1,051 square meters on Daejang Island. Doosan Fuel Cell will continue monitoring the restoration of Dendrobium moniliforme and pursue ongoing biodiversity conservation efforts.

## Young Career Support Project

In 2024, Doosan Fuel Cell signed an agreement with ChildFund Korea's Jeonbuk Regional Headquarters to launch a Young Carer support project in Iksan, where its plant is located. "Young Carers" refers to children who care for parents with disabilities or serious illnesses, or children in grandparent-headed or single-parent households who must take on the role of de facto head of household and shoulder the family's livelihood.

To alleviate the burdens of housing, healthcare, and education for these children, Doosan Fuel Cell selected two young carers and is providing support of KRW 10 million per child annually. Rather than offering a one-time donation, this is a long-term support program designed to ensure the stable growth and independence of young carers, with plans to continue the support until they reach adulthood.



Dendrobium Moniliforme Transplant Event



Dendrobium moniliforme transplant activity in Daejangdo

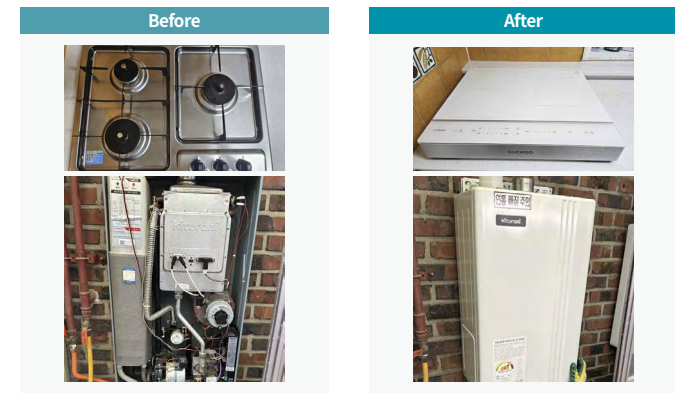


Young Career Support Project

## Energy Efficiency Improvement Project for Child Welfare Facilities

Through Community Chest of Korea, Doosan Fuel Cell donates KRW 30 million annually to the Korea Group Home Association, a non-profit organization, to support energy efficiency improvement projects for group homes housing underprivileged adolescents. The project aims to improve air quality, reduce greenhouse gas emissions, prevent safety accidents, and enhance residential welfare by replacing outdated boilers and gas ranges in social welfare facilities (group homes) with eco-friendly and safe appliances. In 2022, condensing boilers and induction cooktops were provided to 40 group homes, and the same support was expanded to 50 group homes in 2023. In 2024, the company supported 45 group homes with condensing boilers, induction cooktops, and dedicated pots, ensuring more practical improvements in their living environments.

### Before and After Improvements



## OA Equipment Donation

Doosan Fuel Cell donates obsolete OA (office automation) equipment through the "Love PC Sharing" project led by the Korea Disabled People's Digital Accessibility Association. In 2024, a total of 103 devices were donated, and in March 2025, an additional 61 devices—including laptops and monitors—were contributed. Reusable donated equipment is delivered to child care facilities and used for IT education for children and youth. Non-functional devices are sold, and the proceeds are used to fund the Seoul Association of Child Welfare's core projects, sponsorships, and support programs.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

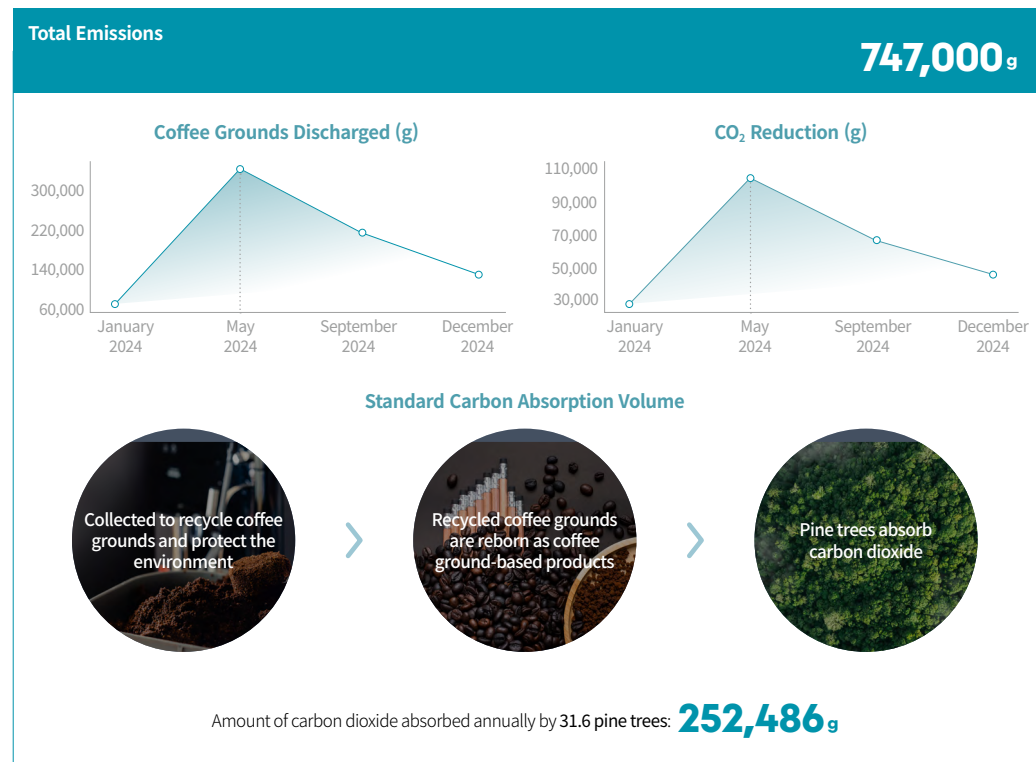
# Social Contribution

## Coffee Ground Recycling

Doosan Fuel Cell recycles coffee grounds generated from coffee machines used to support employee welfare in the office. Since 2022, we have been regularly delivering used coffee grounds to Coffee Cube Co., Ltd., a company specializing in coffee grounds recycling, thereby contributing to resource circulation and the reduction of carbon emissions generated during waste disposal processes.

The collected coffee grounds are repurposed into various products, including office supplies and daily necessities. In 2024 alone, we recycled a total of 747 kg of coffee grounds. Through this initiative, we achieved a carbon dioxide (CO<sub>2</sub>) reduction effect of 252 kg, which is equivalent to the amount of carbon absorbed annually by approximately 31.6 pine trees that are 30 years old.

We plan to continue delivering used coffee grounds to Coffee Cube Co., Ltd. on a regular basis and to actively purchase products made from recycled coffee grounds, thereby contributing to the stable recycling of coffee grounds and the practice of resource circulation.



## Employee Participation in the Donation Fund

Doosan Fuel Cell employees voluntarily participate in monthly recurring donations. The company operates a matching grant program that matches employee donations at a 1:1 ratio to raise a social contribution fund. This fund, accumulated annually, is used to implement a variety of social contribution programs. Notably, in Iksan, where our headquarters is located, we support the “Dailoum Free Meal Food Truck” program, which provides nutritious meals to vulnerable groups. Beginning in 2025, we will also support the “Young Carer Support Program,” which aims to assist teenage young carers who are left in the blind spots of caregiving systems, helping them build a better future.

## > Social Contribution Activities Utilizing Core Competencies

### Academia-Industry-Research Collaboration

To foster the hydrogen energy industry—which is gaining attention as a key solution for achieving carbon neutrality and mitigating climate change—and to train professionals in this field, Doosan Fuel Cell, as a hydrogen-specialized company, actively leverages its expertise and capabilities. We collaborate with major universities in Korea to participate in education programs and curriculum development related to green hydrogen production and fuel cells, and jointly carry out research projects.

In 2024, we participated in the “Doosan Group-Chung-Ang University AI Joint Research Project,” conducting a task on “Predictive Maintenance and Fault Cause Analysis for Fuel Cells,” and held a results-sharing event. Beginning in 2025, we will support hydrogen education programs at major Korean universities through participation in the “Hydrogen Industry Human Resources Development Council,” which is being carried out in cooperation with the Ministry of Trade, Industry and Energy and led by the Korea Hydrogen Alliance. In particular, through the AI joint research with Chung-Ang University, we expect to significantly reduce the time required for diagnosing fuel cell malfunctions in power generation sites and improve diagnostic accuracy.



Inaugural ceremony of the Hydrogen Industry Human Resources Development Council

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health

Social Contribution

- Supply Chain ESG Management
- Customer Satisfaction

Governance

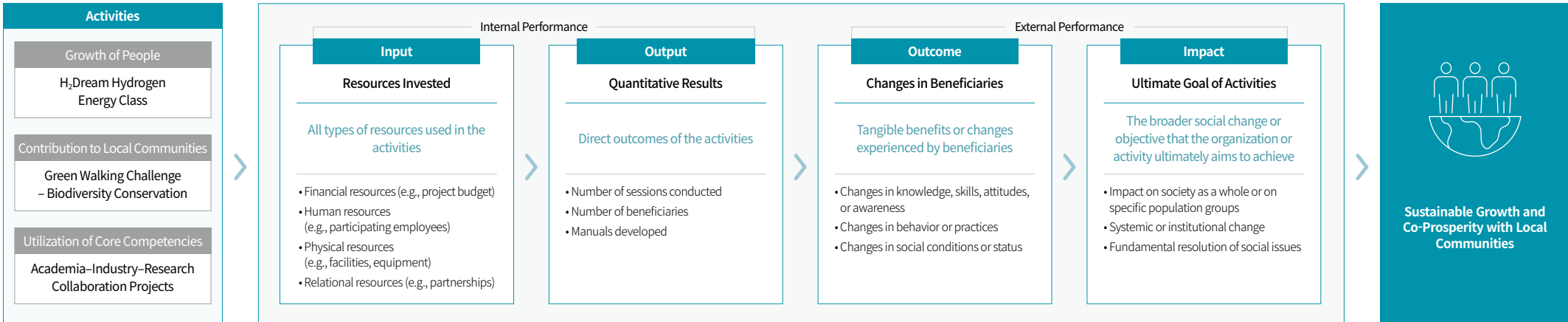
- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Social Contribution

Evaluation of Social Contribution Performance

To pursue sustainable growth and win-win relationships with local communities, Doosan Fuel Cell has established a social contribution strategy under three pillars: “Growth of People,” “Contribution to Local Communities,” and “Utilization of Core Competencies.” Based on this strategy, we carry out a variety of social contribution initiatives. For the first time, we adopted the I-O-O-I analysis method to evaluate the outcomes of our social contribution activities by systematically analyzing the entire process—from resource input to social impact. Widely used in the nonprofit sector, this method is recognized for its objectivity and effectiveness in performance evaluation.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution

Supply Chain ESG Management

- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Supply Chain ESG Management

## ESG Management System for Suppliers

Doosan Fuel Cell has established a supply chain ESG risk management system and developed a mid- to long-term implementation roadmap to build a sustainable supply chain with strong ESG capabilities.

### Supply Chain ESG Implementation Roadmap

	Introduction Stage (2023–2024)	Growth Stage (2025–2026)	Stabilization Stage (From 27 Onward)
Goal	Establish supply chain ESG management system	Enhance supply chain management system	Establish a sustainable supply chain with ESG capabilities
Details	<ul style="list-style-type: none"><li>Establish supply chain ESG management guidelines</li><li>Select external ESG assessment agencies</li><li>Conduct self-assessments and on-site due diligence</li></ul>	<ul style="list-style-type: none"><li>Standardize and expand criteria for assessment targets</li><li>Establish management plans for high-risk partners</li><li>Build tailored improvement support systems</li></ul>	<ul style="list-style-type: none"><li>Establish and support self-directed ESG improvement plans</li><li>Link assessment results to purchasing systems</li></ul>

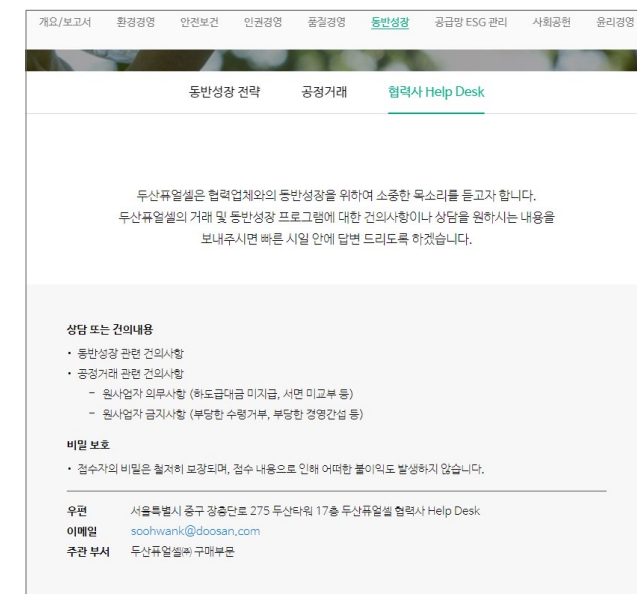
In 2025, we plan to continue working with a supply chain ESG assessment agency to conduct self-assessments for first-tier partners of products and components. Additionally, we will conduct in-depth assessments and on-site inspections for critical and leverage partners to ensure reliability and strengthen due diligence.

## Definition of Supply Chain in ESG Partner Management

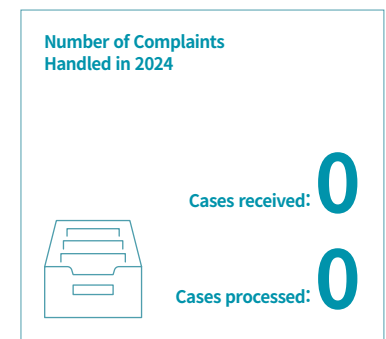
To prevent potential losses caused by disruptions in component procurement—such as delays in production schedules and delivery issues resulting from partner-related risks—Doosan Fuel Cell evaluates all partners annually based on business impact and purchasing risk. Through this process, we identify partners subject to ESG risk management. In 2024, we selected a total of 34 partners for assessment and carried out improvement support activities based on the evaluation results.

## ESG Education and Communication with Partners

In addition to ESG risk assessments, Doosan Fuel Cell regularly provides education programs for its partners, covering a wide range of topics such as labor and human rights, safety and health, environment, ethics and fair trade, and general business management. To ensure ongoing communication, we operate an online VOC (Voice of the Customer) submission channel on our website, allowing partners to share feedback or file complaints. We are committed to handling and responding to every submission without exception.



Partner Help Desk





- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

# Supply Chain ESG Management

Doosan Fuel Cell requires new partners to submit an Ethics Pledge and a written commitment to comply with the Partner ESG Guideline upon entering into contracts.

## Partner ESG Guideline (GSSC: Guideline for Sustainable Supply Chains)

### > 1. Overview

#### 1.1 Purpose:

Doosan Fuel Cell has established the Partner ESG Guideline (GSSC: Guideline for Sustainable Supply Chains, hereinafter referred to as the “Guideline”) to build an ethical and sustainable supply chain. The Guideline defines the requirements related to labor and human rights, safety and health, environment, ethics, and fair trade that partners supplying products and services to Doosan Fuel Cell must follow. Partners are also expected to promote compliance with this Guideline throughout at least the first tier of their own supply chains. This Guideline is based on the Code of Conduct of the Responsible Business Alliance (RBA) and may be supplemented with globally recognized standards and guidelines issued by authoritative international organizations, such as the ILO Declaration on Fundamental Principles and Rights at Work and the UN Universal Declaration of Human Rights. The Guideline does not represent an exhaustive list of all responsibilities to be fulfilled by partners, and it is subject to periodic review, supplementation, and revision.

#### 1.2 Scope of Application:

All partners who provide goods or services to Doosan Fuel Cell or have entered into contracts for any form of business transactions must comply with this Code of Conduct. All partners subject to this Code of Conduct are encouraged to ensure that their business partners (sub-partners) and other entities within their supply chains also comply with the provisions set forth in this Code of Conduct.

#### 1.3 Responsibilities and Roles of Partners:

All partners of Doosan Fuel Cell must consider the provisions of this Code of Conduct in their business operations and decision-making processes. Doosan Fuel Cell and any third-party organization commissioned by Doosan Fuel Cell may, to the extent permitted by law, conduct inspections and due diligence to assess whether partners are complying with this Code of Conduct. Based on the results of such inspections and due diligence, Doosan Fuel Cell may recommend improvements regarding identified risks. Partners are expected to develop and implement risk mitigation plans through mutual consultation regarding the recommended improvement areas.

This Code of Conduct does not specify all obligations required of partners. To promote the establishment of a sustainable supply chain, the Code will be periodically reviewed, supplemented, and revised. The full version of this Code of Conduct is available on the Doosan Fuel Cell website, and further inquiries can be made through the relevant contact at Doosan Fuel Cell.

### > 2. Labor and Human Rights

#### 2.1 Prohibition of Discrimination:

Partners of Doosan Fuel Cell must strive to create a workplace free from unlawful discrimination and harassment in employment practices such as hiring, promotion, compensation, and access to education opportunities. Discrimination based on race, color, age, gender, sexual orientation, ethnicity, disability, health condition, pregnancy, religion, political affiliation, union membership, nationality, or marital status is strictly prohibited.

#### 2.2 Humane Treatment:

Partners of Doosan Fuel Cell must respect the human rights of all workers and ensure that there is no sexual harassment, sexual abuse, corporal punishment, mental or physical coercion, verbal abuse, or unreasonable restrictions imposed on workers. To this end, partners must establish reasonable disciplinary policies and procedures and clearly communicate them to all workers.

#### 2.3 Protection of Juvenile Workers:

Partners of Doosan Fuel Cell must comply with the International Labour Organization’s (ILO) Minimum Age Convention and must not employ individuals under the minimum legal working age defined by local laws. Workers under the age of 18 must not be assigned to overtime, night shifts, or tasks that pose health and safety risks. If there are interns or trainees, partners must ensure they are appropriately managed and supported in accordance with local laws and regulations.

#### 2.4 Wages and Benefits:

Partners of Doosan Fuel Cell must comply with relevant laws regarding minimum wages and overtime pay and must pay workers on designated dates. In addition, they must provide payslips in a language the workers can understand. All workers’ working hours and number of workdays must not exceed the maximum limits set by local labor laws.

#### 2.5 Voluntary Employment and Prohibition of Forced Labor:

Partners of Doosan Fuel Cell must not impose forced labor (including slavery, human trafficking, or involuntary prison labor) against the will of workers. Upon hiring, a labor contract written in a language the worker understands must be signed, and a copy must be provided to the worker. When employing foreign workers, the originals of personal documents such as passports and work permits must be kept in the possession of the workers themselves. Employers may retain such documents only when legally required, and even in such cases, workers must not be denied access to their documents under any circumstances. Partners must not require workers to pay recruitment fees or other employment-related fees to labor agents or subcontractors. Workers’ freedom of movement must not be unreasonably restricted, and they must be free to resign from employment at will.

#### 2.6 Freedom of Association:

Partners of Doosan Fuel Cell must guarantee, in accordance with local laws, the right of workers to freely form or join labor unions and to engage in collective bargaining and peaceful assembly or protests. Workers or worker representatives must be able to communicate opinions and concerns regarding working conditions and company policies to management without fear of discrimination, retaliation, or intimidation.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Supply Chain ESG Management

> 3. Safety and Health

3.1 Occupational Safety Management:

Partners of Doosan Fuel Cell must eliminate physical hazards in advance and take preventive measures through proper design, engineering and administrative controls, preventive maintenance, and safe work procedures. In addition, partners must ensure that workers are not exposed to potential safety hazards (e.g., electricity and other energy sources, fire, vehicles, fall risks). If such risks cannot be fully controlled by these measures, appropriate personal protective equipment (PPE) must be provided to workers.

3.2 Safe Operation of Machinery and Equipment:

Partners must assess safety hazards related to Doosan Fuel Cell’s production and mechanical equipment. If there is a risk of worker injury due to equipment, partners must install safety devices, protective barriers, and emergency systems, and provide workers with proper protective gear.

3.3 Emergency Preparedness:

Partners of Doosan Fuel Cell must establish emergency response manuals that include procedures for reporting, responding to, and following up on emergencies such as natural disasters, infectious disease outbreaks, fires, and safety incidents. Training must be conducted at least semiannually, in accordance with local emergency laws and the partner’s own plans and manuals. Emergency exits, guide lights, detectors/alarms, and firefighting systems must be installed and regularly checked to ensure proper functionality.

3.4 Incident and Illness Management:

Partners must establish procedures and systems to prevent, manage, track, and report occupational injuries and work-related illnesses. These systems should identify worker injuries and illnesses, provide necessary documentation, and include corrective actions to prevent recurrence.

3.5 Compliance with Safety and Health Laws and Regulations:

Partners must comply with safety and health laws and regulations in the countries where they operate and must obtain and maintain all necessary safety and health-related licenses and permits required for business operations.

3.6 Implementation of a Safety and Health Management System:

To prevent industrial accidents and maintain optimal working conditions, partners must implement a safety and health management system<sup>1)</sup> in which top management incorporates safety and health policies into company policy and reviews results through planning, execution, and inspection.

1) Recognized examples include ISO 45001 established by international standards organizations and KOSHA-MS (formerly KOSHA 18001) developed by the Korea Occupational Safety and Health Agency

3.7 Risk Assessment:

Partners must regularly conduct risk assessments to identify potential exposure of workers to hazards and take proactive measures to prevent risks. Based on the results, they must implement safe process design, technical and administrative controls, preventive maintenance, and reflect safety considerations in work procedures. Continuous education must be provided, and appropriate PPE should be supplied and strictly enforced among relevant workers.

3.8 Health Checkups and Follow-Up Management:

In accordance with health examination laws in their respective countries of operation, partners must provide regular general or special health checkups for employees. Based on the results, they must take necessary actions such as changing work locations, reassigning duties, or reducing working hours when required.

3.9 Physically Demanding Tasks:

Partners must identify, evaluate, and control workers' exposure to physically demanding work such as lifting heavy materials, highly repetitive tasks, prolonged standing work, and physically exhausting assembly work.

3.10 Hygiene, Food, and Housing:

Partners must provide workers with access to clean restroom facilities, drinking water, hygienic food preparation/storage facilities, and designated eating areas. Dormitories provided to workers must be kept clean and safe and must offer adequate lighting, emergency exits, heating, hot water, ventilation, personal storage space, and properly secured private spaces of reasonable size.

3.11 Safety and Health Communication:

Partners must provide workers with appropriate safety and health information and training regarding all known workplace hazards, in the workers’ native language or a language they can understand. Safety and health information must be clearly posted in the workplace. Regular safety and health education must be provided to all workers, and partners must encourage workers to freely report any health and safety concerns.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Supply Chain ESG Management

## > 4. Environment

### 4.1 Compliance with Environmental Laws and Regulations:

Partners of Doosan Fuel Cell must comply with all applicable environmental laws and regulations in the countries where they operate. They must also adhere to environmental permitting and reporting requirements as well as Doosan Fuel Cell’s environmental and quality management standards.

### 4.2 Hazardous Materials Management:

Partners must identify hazardous materials used at their business sites and manage their safe handling, transport, storage, usage, and disposal history. Hazardous materials refer to chemicals or substances that, if released into the environment or exposed to humans, may pose a risk to environmental safety or worker health.

### 4.3 Management of Environmental Pollutants:

Partners must establish a monitoring system for information on environmental pollutants generated from facilities, work processes, and sanitation systems at the workplace. They must comply with the control and treatment methods and permissible limits as defined under local regulations. Environmental pollutants include wastewater, waste (general and designated), air pollutants, and ozone-depleting substances.

### 4.4 Resource Efficiency Improvement:

Partners must improve the efficiency of resource use at their business sites through activities such as process optimization, raw material substitution, and recycling and reuse of resources. Resources include raw and subsidiary materials, energy, and water used in production activities.

### 4.5 Compliance with Product Environmental Regulations:

Partners must comply with all relevant local laws, regulations, and customer requirements concerning product-related environmental regulations, including labeling for recycling and disposal, as well as prohibitions, authorizations, and registrations of specific substances.

### 4.6 Energy Consumption and Greenhouse Gas Emissions Management:

Partners must calculate and record company-wide energy consumption and greenhouse gas emissions, including direct emissions (Scope 1) and indirect emissions (Scope 2). They must also explore ways to increase energy efficiency while minimizing both energy consumption and greenhouse gas emissions.

### 4.7 Biodiversity Conservation and Prevention of Deforestation:

Partners must respect global environmental efforts such as the Convention on Biological Diversity led by the United Nations Environment Programme (UNEP) and the UN Strategic Plan for Forests and Global Forest Goals (GFGs). In all business activities, they must make every effort to avoid causing negative environmental impacts.

## > 5. Ethics and Fair Trade

### 5.1 Transparent Management and Anti-Corruption:

The highest standards of ethical conduct are required in all business relationships. All forms of unethical behavior—such as corruption, extortion, embezzlement, bribery, kickbacks, and improper hospitality—must be strictly prohibited through a zero-tolerance policy. Partners of Doosan Fuel Cell must implement monitoring and enforcement procedures to detect and prevent such practices, foster voluntary ethical compliance, and comply with anti-corruption laws by implementing monitoring, record-keeping, and enforcement systems.

### 5.2 Compliance with Fair Trade Practices:

Partners of Doosan Fuel Cell must prohibit providing or accepting means of gaining benefits through unfair or inappropriate transactions in business. They must comply with laws and regulations related to fair trade and must not engage in practices that undermine the principles of fair business transactions, including unfair trade practices. In addition, partners must not collude with other businesses to unlawfully restrict competition regarding the pricing, quantity, geographic areas, or terms of goods or services. They must not acquire, use, or disclose confidential information about Doosan Fuel Cell, its competitors, other partners, or third parties through illegal or improper means.

### 5.3 Transparent Disclosure of Information:

Partners must truthfully disclose information related to their business operations, financial conditions, and business performance in accordance with applicable laws and regulations. All business transactions must be conducted transparently and accurately reflected in their business books and records. Partners must disclose information on labor, health and safety, environmental management, business activities, structure, financial status, and performance in line with generally accepted industry practices. Any falsification or misrepresentation of records or practices related to the supply chain will not be tolerated.

### 5.4 Protection of Intellectual Property Rights:

Partners must not infringe or unlawfully use intellectual property belonging to others, such as patents, software, designs, and trademarks. Intellectual property rights must be respected, and the transfer of technology and know-how must take place in a manner that protects these rights.

### 5.5 Privacy Protection:

Partners must systematically manage and protect the personal data of all stakeholders (including partners, customers, and employees). All handling of personal data—including collection, storage, use, provision, and disposal—must be carried out in compliance with relevant data protection laws.

### 5.6 Protection of Identity and Prohibition of Retaliation:

Partners must establish and operate procedures that ensure confidentiality, anonymity, and protection of identity, allowing workers to raise concerns without fear of retaliation.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Supply Chain ESG Management

> 6. Management System

6.1 Regulatory Compliance:

Partners of Doosan Fuel Cell must strive to comply with all laws, regulations, and customer requirements related to business operations. They must also make continuous efforts to improve their compliance systems.

6.2 Partner Responsibility:

Partners must communicate this Code to their sub-partners and encourage compliance. If a sub-partner violates relevant laws or regulations or is found to pose a risk, the partner must recommend appropriate corrective actions.

6.3 Risk Assessment and Management:

Partners of Doosan Fuel Cell must establish procedures to identify risks related to this code of conduct and, when significant risks are discovered, develop and implement measures to mitigate such risks.

6.4 Goal Setting and Performance Management:

Partners must document their objectives, targets, and implementation plans for improving social, environmental, and occupational safety and health performance. They must also regularly assess progress toward these goals.

6.5 Guideline Accessibility and Training:

Partners of Doosan Fuel Cell must understand and comply with this Guideline. To support this, they should make the Guideline easily accessible to employees and establish training programs to facilitate effective implementation and compliance.

6.6 Feedback and Reporting:

Partners must operate procedures for collecting employee feedback regarding the standards and conditions to which this Guideline applies and work to implement improvements based on that feedback. Any behavior that may violate this Guideline can be reported through the Doosan Fuel Cell Cyber Reporting Center (Tel: 02-3398-0922 / Website: <https://ethicshelpline.doosan.com/cbrpt/frontView.do?lang=USD>).

> 7. Responsible Procurement of Materials

7.1 Conflict Minerals:

As part of a responsible supply chain, partners of Doosan Fuel Cell must not use minerals originating from specific regions that are subject to restrictions due to serious concerns over human rights violations and environmental destruction. These include tin, tungsten, tantalum, and gold. Partners must establish and implement policies that comply with relevant international regulations and country-specific laws related to conflict minerals. Partners are expected to make every effort to identify the origin of such materials and provide related information to verify sourcing.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

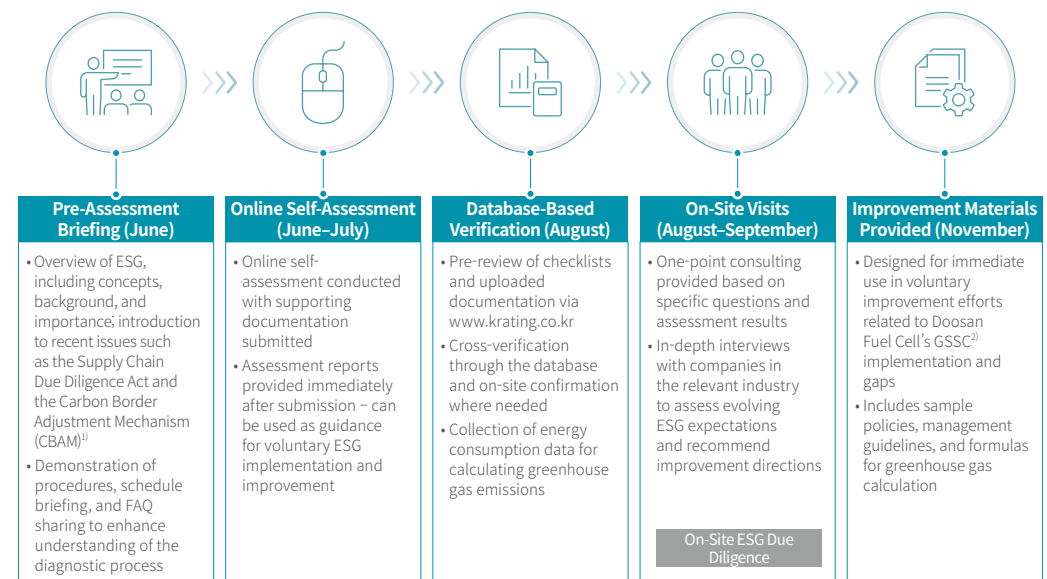
# Supply Chain ESG Management

To evaluate the sustainability of its supply chain, Doosan Fuel Cell works with ESG assessment professionals to conduct both self-assessments and on-site diagnostics of partners' ESG risks. We also operate a process that involves visiting partners on-site to verify the results of their self-assessments and to support ESG improvement initiatives.

## Supply Chain Risk Assessment and Follow-up Measures

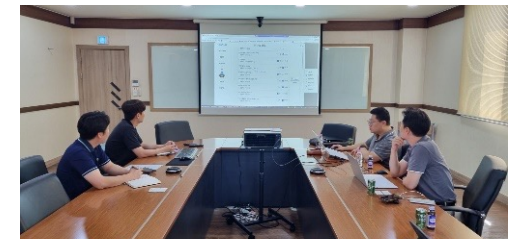
Since 2023, Doosan Fuel Cell has established a supply chain ESG management system and has conducted evaluations of its partners. Based on criteria such as procurement volume, classification as critical parts, substitutability, level of expertise and proprietary technology, procurement lead time, country and regional risk, and organizational scale, partners are categorized into four types: Critical, Bottle Neck, Leverage, and Routine.

In collaboration with a professional risk diagnostic firm, we conducted ESG assessments of all first-tier component partners (34 companies in total) from June to September 2024. For those classified as Critical or Leverage, we carried out independent third-party on-site inspections to verify the validity of submitted data and provided improvement direction through one-point consulting sessions. The final evaluation results are shared with each partner in the form of a result report and improvement guideline. These results are also reported to the ESG Committee, chaired by the CEO of Doosan Fuel Cell, and will be subject to continuous oversight and management.

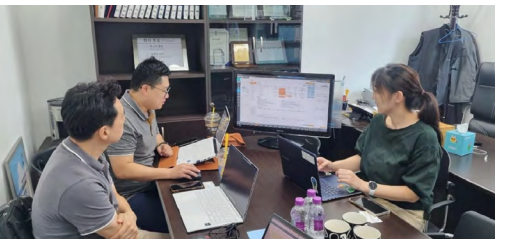


1) CBAM (Carbon Border Adjustment Mechanism): A system that imposes a fee on products imported into the EU to reflect the carbon costs incurred if those same products were produced within the EU

2) GSSC (Guideline for Sustainable Supply Chains): Doosan Fuel Cell's ESG Guideline for Partners (<https://www.doosanfuelcell.com/en/sustainability/sust-0701/>)



Supply Chain ESG On-Site Due Diligence

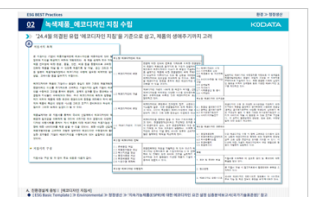


## Supply Chain Risk Assessment Initiative and Methodology

Doosan Fuel Cell's ESG risk assessment for supply chain partners is conducted by Korea Evaluation Data (KoDATA), a third-party institution with expertise in ESG. KoDATA dispatches professional auditors to visit supplier sites in person to evaluate ESG operations, policies, systems, and performance. This includes document and record reviews, site inspections, and interviews with key personnel and other stakeholders. The evaluation methodology is based on KoDATA's proprietary checklist, developed using: Relevant local laws and regulations, international standards such as ISO 14001, 26000, 37001, and 45001, and industry-recognized frameworks such as the Responsible Business Alliance (RBA) Code of Conduct.

## Partner ESG Capacity-Building Program

Since 2023, Doosan Fuel Cell has operated a program to support the improvement of ESG performance among its partners. Each year, we provide ESG-related education to key component partners. In May 2024, we invited 34 ESG-assessed partners to participate in a session covering ESG fundamentals, supply chain due diligence systems, and greenhouse gas management. In addition, in August and September 2024, professional consultants visited eight selected partners to provide customized on-site education and improvement guidance. Partners that participated in the evaluation through KoDATA's system were also provided with peer benchmarking data and a reference booklet titled "ESG Best Practice", which includes corrective and improvement examples that can be applied directly.



Partner ESG best practice case studies





Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Supply Chain ESG Management

## Shared Growth Support Programs

### > Support for Partner Productivity Improvement

To enhance partner productivity, Doosan Fuel Cell directly invests in selected equipment needed by its partners and also provides technical training on new equipment.

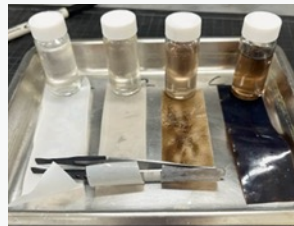
### > Stabilization of Supply through Dual Sourcing of Raw Materials and Components, and Development of the Hydrogen Industry Ecosystem

Doosan Fuel Cell contributes to both supply chain stabilization and the development of the domestic hydrogen industry ecosystem by localizing imported raw materials and components in cooperation with domestic partners.

### > Localization of Dyneon Tape (Fluorinated Adhesive Tape)

Previously, the fluorinated adhesive tape used in fuel cell production was entirely imported. However, due to the withdrawal of overseas partners, supply stability was jeopardized. Doosan Fuel Cell addressed this issue by identifying a domestic partner and engaging in the following win-win cooperation activities to stabilize the supply chain while reducing logistics and production costs:

- Technology Transfer and Capacity Building
  - Transferred tape manufacturing technology to the partner, significantly enhancing their technical capabilities.
  - Carried out joint R&D projects to improve product quality and increase production efficiency.
- Support for Production Equipment and Workforce Development
  - Assisted in the adoption of new production equipment to increase the partner’s manufacturing capacity.
  - Provided manufacturing-related education and training for the partner’s employees, contributing to the improvement of workforce capabilities.
- Win-Win Partnership and Trust Building
  - Through efforts to maintain product quality and smooth supply chain operations, a strong relationship of trust was established between both companies.



Left: Three localized replacements /  
Right: Original imported product



Localized product

## Support for Electrode Dual Sourcing and Localization

Doosan Fuel Cell has localized the catalyst electrode—a core component of fuel cells that was previously sourced exclusively from overseas partners. This has allowed for dual sourcing, improved supply stability, and reduced costs. To raise the localization rate of key parts, we actively identified and supported domestic companies with technical development. These efforts have improved the stability of sourcing materials that were once dependent on foreign partners and contributed to building the domestic hydrogen fuel cell component ecosystem.

## Safety and Health Council and Joint Labor–Management Inspections

Doosan Fuel Cell regularly operates a Safety and Health Council with internal and external partners and conducts joint labor–management inspections. These activities are designed to proactively address potential safety and health issues. We will continue operating these systems to identify areas for improvement and support voluntary safety and health initiatives, ensuring safer work environments through mutual reinforcement.



Safety and Health Council meeting



Joint labor–management inspection

## Improving Safety and Health Management Standards Among Partners

Doosan Fuel Cell enters into contracts only with partners that meet our required safety and health competencies. Even after contracts are signed, we regularly evaluate the safety and health management systems, implementation levels, and any incidents. The results are reflected in decisions on future or extended contracts. In 2024, a total of 21 new safety and health evaluations were conducted. Of these, five partners did not meet the evaluation standards and were excluded. Doosan Fuel Cell continues to enhance the safety and health standards of all partners by rewarding outstanding performers and supporting underperforming partners through education, improvement assistance, and corrective actions.

## Support for Partner Risk Assessments

Doosan Fuel Cell provides technical guidance to partners on risk assessment methodologies to help identify potential hazards in the workplace in advance and minimize the risk of safety incidents. In 2024, we conducted technical guidance sessions focused on scheduled risk assessments. We will continue to provide technical guidance on safety and health, including regular risk assessments, to help ensure that no safety incidents occur at partner worksites.

## Safety Education for Partner Employees

To strengthen partners' capacity in safety and health management, Doosan Fuel Cell conducts safety training sessions covering various topics such as key safety and health regulations, internal safety standards, and real-world incident cases. We will continue to enhance safety awareness and capabilities among partner employees through regular safety and health inspections and support programs.



### Safety education for partner employees

## Partner Roundtables

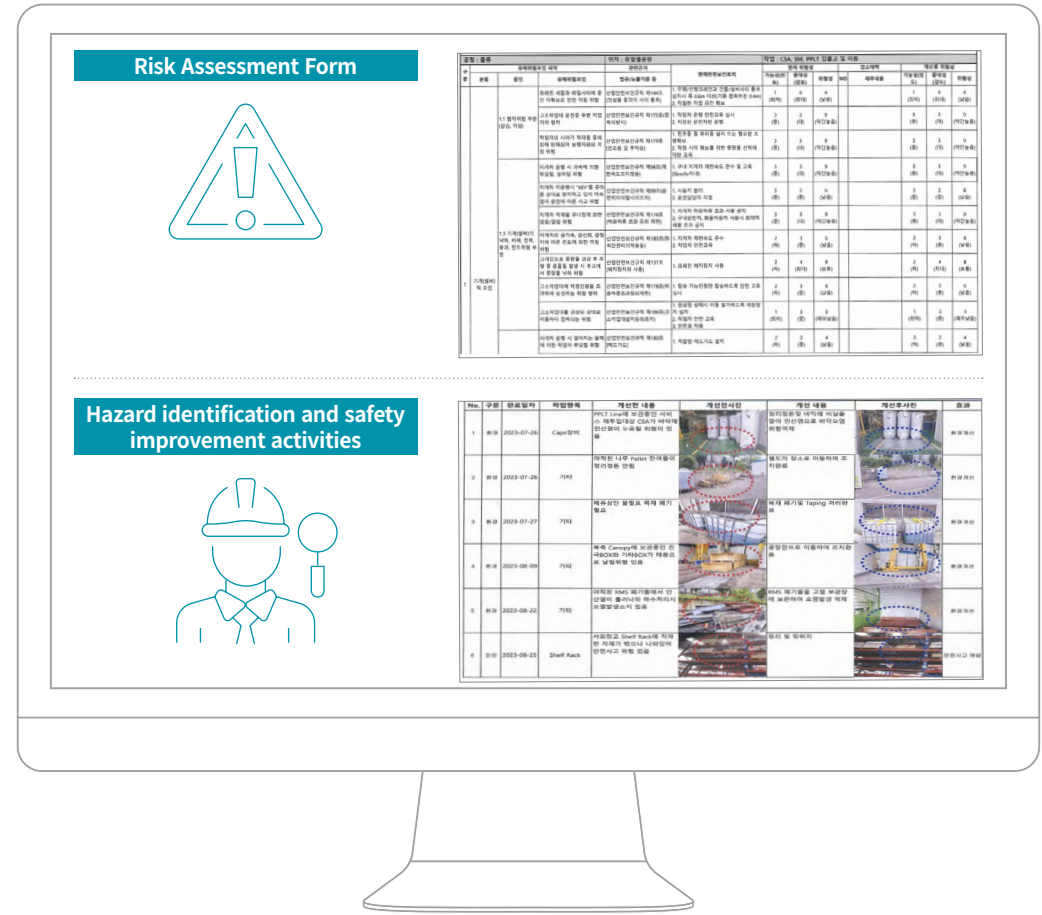
Doosan Fuel Cell regularly holds roundtables with key partners. During these sessions, we share our EHS goals, relevant regulations, accident prevention initiatives, and newly launched promotional campaign plans, encouraging active partner engagement. We also discuss areas requiring information exchange or support, strengthening our cooperative relationships. In 2024, partner employees actively participated in the ongoing promotions and campaigns.

## Partner Safety and Health Recognition Program

Doosan Fuel Cell has extended its reward system for identifying potential EHS hazards and near-miss incidents to include partner employees. This initiative is designed to motivate partners to actively participate in risk mitigation activities. As a result, we recognized a total of 14 cases of potential hazard identification in 2024—once in the first half and once in the second half of the year.



Safety and health recognition ceremony for partner employees



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management

Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Customer Satisfaction

## Quality Policy

Through tireless efforts across all teams, Doosan Fuel Cell is committed to delivering “clean and reliable, optimal hydrogen energy solutions” by producing high-efficiency and highly reliable products, acquiring certifications across sectors, conducting regular safety inspections, and designing in accordance with international standards. Fuel cells, which originated in the aerospace industry, adhere to the most rigorous quality standards across all industrial sectors. Since the days of UTC in the United States, Doosan Fuel Cell has led the global fuel cell market with a proven track record in stability and quality. We strictly comply with our quality processes to uphold our values of creating customer value, high efficiency and low cost, and pursuing sustainable growth.

<div>Development Quality</div> <div><ul style="list-style-type: none"><li>· New product development and quality gate management through the PDP (Product Development Process)</li><li>· KESCO type approval process to verify regulatory compliance for new or modified models</li></ul></div>	<div>Component Quality</div> <div><ul style="list-style-type: none"><li>· Change control for partner components</li><li>· Ongoing audits and support for mass production processes to ensure the quality of partner-supplied parts</li></ul></div>
<div>Process Quality</div> <div><ul style="list-style-type: none"><li>· Real-time monitoring of quality trends via MES (Manufacturing Execution System), along with quality gate reviews between processes to ensure manufacturing integrity and prevent defective products from reaching customers</li><li>· Statistical quality control to optimize processes and identify defects</li><li>· Periodic product inspections by KESCO to ensure the safety of fuel cell power generation equipment</li></ul></div>	<div>Service Quality</div> <div><ul style="list-style-type: none"><li>· Stable PPLT operation supported through LTSA (Long-Term Service Agreements) and timely service delivery</li><li>· Ongoing capability enhancement training for service personnel and real-time operational monitoring through a control center</li></ul></div>

## Quality Management System

Doosan Fuel Cell operates a computerized standard document management system (Spec Center), ensuring that standardized work procedures—from product design and production to service—are always available and up to date to reflect customer requirements. We have secured operational efficiency by running an MES-based integrated manufacturing/operations system that enables real-time process tracking. This system also allows us to monitor quality in real time, preemptively detect potential defects, and take preventive and corrective measures. Based on this foundation, paperless processes have been implemented and applied since 2023.

## Enhancement of Quality System Execution

To reinforce execution of our quality management system, we conduct periodic Patrol Quality Control (PQC) inspections across all stages from receiving to shipment. In 2023, we focused on field application of the latest work standards and assessed the effectiveness of corrective actions for nonconformities. Identified improvement areas were shared and addressed through communication with relevant departments. In 2024, we intensified inspections on compliance with process-specific work standards, ensuring full alignment between field operations and documented standards.

## Expansion of Quality Management Certification System

Doosan Fuel Cell ensures continuous quality control based on its certified quality management systems, including ISO 9001, KGS design-phase inspection, and KS standards. We were the first domestic fuel cell company to obtain and maintain both product initial inspection and manufacturing facility registration in accordance with the Electric Safety Management Act, establishing a compliant quality management system for fuel cell power generation equipment. In 2023, we successfully completed the ISO 9001 recertification audit, reaffirming compliance with system requirements. We also maintained and responded to KESCO’s quarterly manufacturing facility inspections, continuing to drive improvements in both process and product quality. In 2024, we conducted scheduled internal audits to proactively identify nonconformities and resolve any deficiencies. To prepare for the full-scale entry of our fuel cell business into the global market in 2025, we obtained U.S. certification for our fuel cell cell stack. While our Iksan plant continues to produce phosphoric acid fuel cells (PAFCs), we have established a new 50 MW solid oxide fuel cell (SOFC) manufacturing facility at the Saemangeum Industrial Complex in Gunsan, which has already obtained ISO 9001 certification and KESCO manufacturing facility approval, reflecting our active pursuit of advanced quality management. We will continue preparing for additional KESCO certifications to secure an early foothold in the solid ceramic electrolyte-based fuel cell market. We will also expand our fuel cell model portfolio and acquire the necessary certifications to position ourselves as a global leader in the fuel cell industry.



Quality Management System Certificate, KESCO Product Initial Inspection Confirmation and Manufacturing Facility Registration

## Assurance of Product Safety

With the implementation of the Clean Hydrogen Portfolio Standard (CHPS) in 2024, Doosan Fuel Cell—Korea’s leading provider in the hydrogen fuel cell market for power generation—plans to actively expand its business operations and enhance customer satisfaction by leveraging its advanced technologies in phosphoric acid fuel cells (PAFC) and its soon-to-be-commercialized solid oxide fuel cells (SOFC). We place top priority on ensuring product quality and safety and are committed to ongoing quality verification activities. Because our fuel cell systems are installed and operated in residential and urban environments, we prioritize safety more than any other type of power generation equipment. All systems undergo first- and second-stage verification and quality inspections during production. During the design and manufacturing stages of hydrogen fuel cells, we obtain manufacturing facility certification and pre-use product safety inspection from the Korea Electrical Safety Corporation (KESCO) in accordance with Article 63 of the Electric Utility Act and Article 31 of its Enforcement Decree, as well as key international standards related to product safety components. Only fuel cell systems that have passed these inspections are installed and operated on-site. In 2024, to support the mass production and early market entry of a new model, we acquired additional KESCO manufacturing facility certification for the M500 Hydrogen model, following a successful demonstration test during the manufacturing phase and the completion of legal initial inspection procedures.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management

Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Customer Satisfaction

Acquisition of FC1 Certification in the U.S.

To export fuel cells to the United States, the Initial Factory Evaluation (IFE) of our fuel cell manufacturing plant, known as FC1, was conducted at the Iksan plant by CSA Group. The evaluation reviewed the operation of our quality management system and compliance with relevant requirements, with a particular focus on the management status of measuring instruments used in test items. We met all required standards, passed the initial factory evaluation, and acquired certification to manufacture fuel cells for export to the U.S.

Preemptive Quality Assurance

In May 2025, we successfully completed the pre-shipment customer inspection for the “Hi-Changwon Fuel Cell” project, a large-scale project with a total capacity of 39.6MW. To ensure consistent preemptive quality assurance, we plan to continue conducting pre-shipment inspections with customer participation to ensure the successful completion of the project.

Partner Quality Internalization & Quality Improvement Activities

We regularly hold quality meetings with key partners to discuss ways to enhance quality among relevant personnel. By segmenting the QSA/QPA check sheets for each partner, we conduct customized audits that reflect the size and characteristics of each partner, identifying and addressing areas for improvement.

Technology Exchange Meetings

In the first week of every even-numbered month, we host technology exchange meetings for employees involved in production, quality, and each manufacturing process. These meetings cover topics such as key component functionalities and process improvement initiatives, including issues like reinforced GDL contamination control, electrode trimming soot formation, and pre-sintering temperature enhancement. Through this knowledge-sharing, we strengthen job understanding, practical skills, and technical expertise.

Establishment of a Quality Improvement Culture

To enhance customer satisfaction and strengthen our fundamental competitiveness, Doosan Fuel Cell is fostering a company-wide culture of quality improvement. In addition to existing job competency enhancement efforts, we introduced several initiatives in 2024, such as the "Quality Detective System" for reporting changes, the publication of a quality newsletter, and a quality slogan contest. These initiatives aim to build consensus and encourage participation across all employees.

> Job Competency Enhancement

Since the second half of 2024, all employees at Doosan Fuel Cell have voluntarily participated in the "Quality Detective" program to identify and improve quality issues, thereby enhancing the quality of both processes and services. To raise quality levels by notifying all employees of the company's overall quality activities and status, we have installed quality bulletin boards in offices and factories. Through these boards, we share quality policies, quality news, issues, and improvement suggestions so that all employees can take pride in quality and approach their work accordingly. These series of activities are continuously promoted to improve Doosan Fuel Cell's quality and change employees' quality mindset.

> Quality Detective System

To prevent quality issues in advance and stop their spread, we operate a change reporting system known as the "Quality Detective System." This system targets unreported changes in the 3Ms—Machine, Method, and Material—discovered during daily operations and ensures they are promptly addressed to improve quality and customer satisfaction. This reporting system is in place not only in manufacturing processes but also at service sites, and all reported cases are handled urgently to stabilize quality. By identifying and correcting actual quality issues, the system makes a tangible contribution to quality improvement.

> Quality Slogan Contest

A company-wide slogan contest was held to emphasize the importance of foundational principles in quality. A total of 108 slogans were submitted, and two were selected through a company-wide vote. “Thorough from the Basics, Quality is Our Pride” and “My Original Mindset from the Start, Quality that Doesn’t Feel the Same.” This initiative serves as a reminder of the importance of adhering to the basics, no matter how many times it is emphasized. The selected slogans are being promoted company-wide through screen savers, posters, and other materials.

> Publication of Quality Newsletter

To help embed a culture of quality improvement, we publish a monthly newsletter featuring ongoing activities. The newsletter includes examples of immediate on-site actions (Quick Fixes), a “Spoonful of Quality Knowledge” section explaining key terminology and concepts, as well as outcomes of technology exchange meetings, customer inspections, and certification audits. It also includes updates on quality campaigns such as the slogan contest and the Quality Detective System, sharing company-wide initiatives aimed at establishing a culture of quality.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management

Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

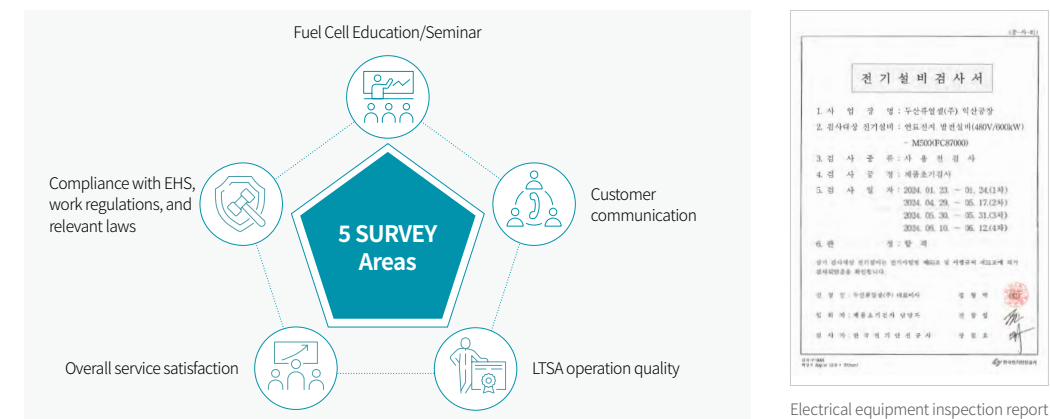
Appendix

# Customer Satisfaction

## Development of Customer Satisfaction Evaluation Indicators and Satisfaction Survey

### > Development of Customer Satisfaction Evaluation Indicators

As the number of fuel cell operating sites and our customer base continues to grow, Doosan Fuel Cell provides customized education programs on a semiannual basis to help customers better understand fuel cells. We also conduct customer satisfaction surveys to listen to various customer voices (VoC) raised during operation and continuously reflect them in product improvement and service quality enhancement efforts. The survey focuses on three key areas: product performance satisfaction, service operation satisfaction, and customer service responsiveness.



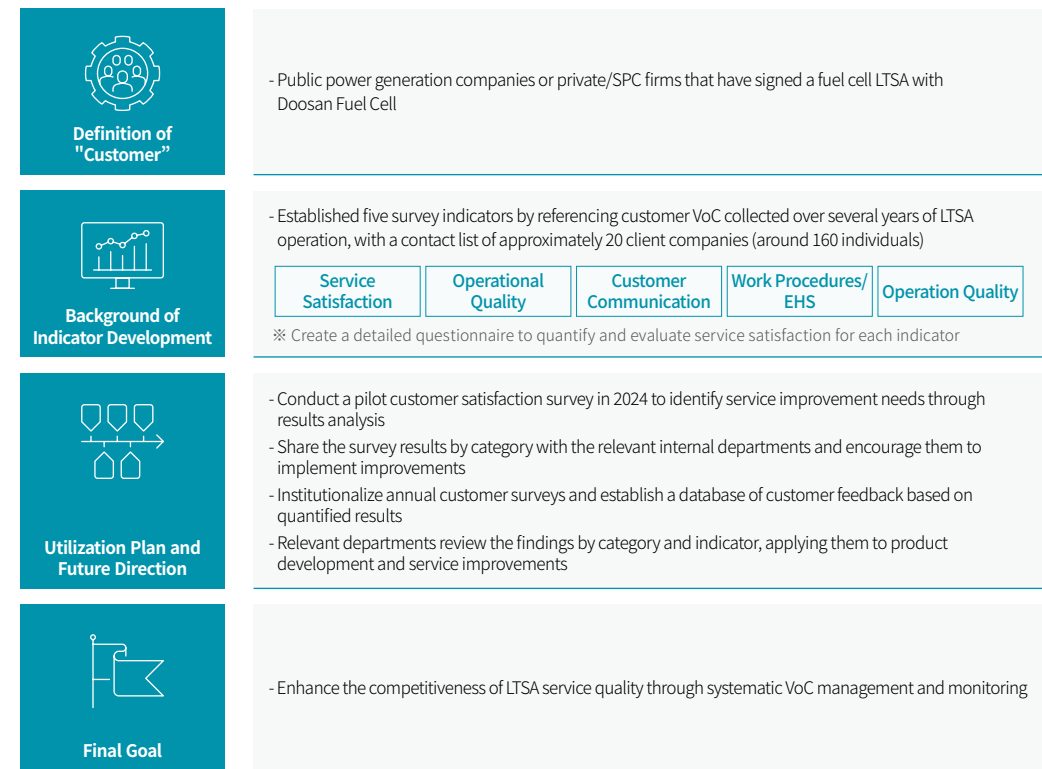
## Implementation and Results of the Satisfaction Survey

In May 2024, Doosan Fuel Cell conducted a service satisfaction survey targeting our client companies. We sent survey invitations via email to 20 client companies, and received responses from 11 of them, from which the following results were derived.

In the operation quality of Long Term Service Agreements (LTSA), we received positive feedback on the efficiency of the equipment, regular performance reports, and field response capabilities. In the customer communication category, we received very favorable responses regarding the courteousness of our contract managers and our proactive participation and support in client engagement activities.

In the environment, health, and safety (EHS) category, customers expressed high satisfaction with adherence to work procedures, use of protective equipment, and our participation in client-led safety and health councils. Lastly, all client companies indicated a strong willingness to participate in regular training sessions, and we will incorporate their various suggestions regarding training content into future sessions.

The overall average satisfaction score was approximately 80 points. In 2025, we plan to improve our customer satisfaction survey system to further enhance satisfaction with operations, product performance, and customer response.



## Product Recall

There have been no product recalls from 2021 to the first half of 2025. Fuel cells are delivered under a 20-year LTSA, and our headquarters staff are directly responsible for on-site operation, repair, and maintenance. Each customer site's fuel cell system is monitored 24/7 by the Headquarters Control Center. If any abnormal operation is detected, we have a system in place for remote control or immediate on-site technician response, which helps prevent customer inconvenience or damage resulting from product issues.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Governance

Board of Directors (BOD) Governance Structure

The Board of Directors deliberates and resolves key management matters of the company. It makes decisions on matters prescribed by laws or the Articles of Incorporation, matters delegated by the General Meeting of Shareholders, and key issues related to our basic management policies and business execution. Any amendment to the Articles of Incorporation requires the approval of the General Meeting of Shareholders in accordance with Article 434 of the Commercial Act. As of the end of 2024, our Board of Directors consists of two executive directors and four independent directors. None of the board members concurrently hold four or more other official positions. Doosan Fuel Cell has not adopted the liability exemption system for directors pursuant to Article 400-2 of the Commercial Act, and therefore there are no limitations on the responsibilities of directors. The Chair of the Board and convener is CEO Doosoon Lee, who was appointed considering both his expertise in business operations and the need for efficient board governance. Our board has four committees, all composed entirely of independent directors: the Audit Committee, the Independent Director Nomination Committee, the Internal Transaction Committee, and the Compensation Committee. Directors serve until the conclusion of the regular General Meeting of Shareholders convened for the final settlement of accounts within three years of appointment, typically a term of about three years. As of the end of 2024, the average tenure of our board members is approximately 31 months.

The Board holds one regular meeting every March at the beginning of the fiscal year, and may convene extraordinary meetings as necessary. Board meetings are held and resolutions are passed with a majority of directors present and a majority of those present voting in favor. Directors with conflicts of interest are restricted from voting on relevant resolutions. In 2024, the Board held a total of nine meetings, with an average attendance rate of 93%.

The proportion of independent directors was 60% at the end of 2022 and 2023, and 67% at the end of 2024. As of the end of 2024, no women have been appointed to the Board, and all members are over the age of 50. Our Articles of Incorporation stipulate that notices for board meetings must be given at least one day in advance. No independent directors had an attendance rate below 75%. The proportion of independent directors with experience in the same industry decreased from 33% in 2022 and 2023 to 25% at the end of 2024.

As of the end of 2024, there were no cases where independent directors expressed opposing or revised opinions on board agenda items. Excluding the largest shareholder and related parties, the combined shareholding ratio of registered executives is 0.01%. The combined shareholding ratio of affiliated companies has remained at 30.33% from 2020 through 2024<sup>1)</sup>

The number of voluntary disclosures was three in 2022, two in 2023, and one in 2024. Each year from 2022 through 2024, there has been one independent director with expertise in risk management. Risk management is conducted by relevant departments and reported to the Board and the Audit Committee. There are no separate committees established for risk management. As of the end of 2024, two of our independent directors concurrently serve as registered directors at other companies, each holding an independent directorship at one other company.

Doosan Fuel Cell Shareholding Structure (as of 2024)

Total shareholding ratio by government institutions (National Pension Service)	4.34%
Shareholding ratio by the founding family and affiliated foundations	6.34%
Number of non-voting shares (treasury shares)	12,564
Number of voting shares (floating shares)	81,831,662

1) Including preferred shares

Status of the Board of Directors (as of the end of 2024)

Category	Name	Gender	Major Career	Job Responsibilities	Initial Appointment	Tenure
Executive Director	Hyungrak Chung	Male	CEO, Doosan Fuel Cell Co., Ltd.	CEO	2022	33 months
	Doosoon Lee	Male	CEO, Doosan Fuel Cell Co., Ltd.	CEO, Chair of the Board	2024	9 months
Independent Director	Changhyeon Ko	Male	Attorney, Kim & Chang Director, Korean Securities Law Association	Audit Committee Member Chair, Internal Transaction Committee Independent Director Nomination Committee Member	2019	63 months
	Kwanyoung Lee	Male	Distinguished Researcher, Korea Advanced Institute of Science and Technology (KAIST) Former Professor, Department of Chemical and Biological Engineering, Korea University	Audit Committee Member Internal Transaction Committee Member Chair, Independent Director Nomination Committee	2019	63 months
	Chanseok Park	Male	Former First Deputy Secretary General, Board of Audit and Inspection Former Advisor, Samsung Life Insurance Co., Ltd. CPA, Ilshin Accounting Corporation	Chair, Audit Committee Internal Transaction Committee Member Independent Director Nomination Committee Member	2024	9 months
	Seongkwon Jung	Male	Former CEO, Asiana Airlines, Inc.	Audit Committee Member Internal Transaction Committee Member Independent Director Nomination Committee Member	2024	9 months

Status of the Board of Directors (as of the end of June 2025)

Category	Name	Gender	Major Career	Job Responsibilities	Initial Appointment	Tenure
Executive Director	Doosoon Lee	Male	CEO, Doosan Fuel Cell Co., Ltd.	CEO, Chair of the Board	2024	15 months
	Jaedong Yoon	Male	CFO, Doosan Fuel Cell Co., Ltd.	CFO	2025	3 months
Independent Director	Chanseok Park	Male	Former First Deputy Secretary General, Board of Audit and Inspection Former Advisor, Samsung Life Insurance Co., Ltd. CPA, Ilshin Accounting Corporation	Chair, Audit Committee Internal Transaction Committee Member Independent Director Nomination Committee Member Compensation Committee Member	2024	15 months
	Seongkwon Jung	Male	Former CEO, Asiana Airlines, Inc.	Audit Committee Member Internal Transaction Committee Member Chair, Independent Director Nomination Committee Chair, Compensation Committee	2024	15 months
	Jeho Lee	Male	Former Presiding Judge, Jeonju District Court Former Legal Secretary, Office of Civil Affairs, Presidential Office Attorney, Kim & Chang	Audit Committee Member Chair, Internal Transaction Committee Independent Director Nomination Committee Member Compensation Committee Member	2025	3 months

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Governance

Concurrent Positions of Registered Executives at Other Companies

(As of December 31, 2024)

Executive with Concurrent Position		Other Company with Concurrent Position		
Name	Position	Company Name	Position	Full-Time/Non-Executive Status
Changhyeon Ko	Independent Director	HD Hyundai Samho Co., Ltd.	Independent Director	Non-Executive
Chanseok Park	Independent Director	Hanon Systems Co., Ltd.	Independent Director	Non-Executive
Doosoon Lee	CEO	HyAxiom. Inc.	CEO	Full-Time
		Doosan H2 Innovation Co., Ltd.	CEO	Full-Time

Meanwhile, in 2023, Doosan Fuel Cell amended its Board of Directors regulations to strengthen ESG oversight by the Board. These amendments institutionalized provisions for professional personnel support for independent directors and revised the Audit Committee regulations to grant the committee the authority to approve the appointment of the head of the internal audit department. In addition, we regularly present key ESG agenda items to the Board twice a year (in the first and second halves), reporting on our targets and achievements.

Management Ownership<sup>1)</sup>

The status of company shares held by our management is as follows:

(As of December 31, 2024)

Name	Responsibilities	Number of Shares Held	Value of Shares (KRW) <sup>2)</sup>	Stock Holdings Value as a Percentage of Average Executive Base Salary <sup>3)</sup>
Doosoon Lee	CEO	6,154 shares	98,217,840	44.8
Seungjun Lee	Head of Sales and Service Sector	1,750 shares	27,930,000	12.7
Joonyoung Park	CSHO / Management Support Sector	1,800 shares	28,728,000	13.1
Wonjo Bang	COO, CMO	2,083 shares	33,244,680	15.2
Jaedong Yoon	Head of Finance and Administration Sector	1,877 shares	29,956,920	13.7

1) Executive stock ownership is publicly available in the business report at DART, under: VIII. Matters Regarding Executives and Employees > 1. Status of Executives and Employees > A. Status of Executives

2) Based on the closing price on December 30, 2024 (KRW 15,960 per share)

3) Average base salary of executives: KRW 219.2 million

Evaluation and Compensation

The compensation of directors is executed in accordance with our internal regulations within the compensation limit approved at the General Meeting of Shareholders. The compensation of executive directors is provided in the form of a base annual salary and performance-based incentives in accordance with the "HR Management Regulations for Executive Personnel," while independent directors receive only a base annual salary without any performance-based incentives. We ensure that the compensation of directors is fair and transparent, and we disclose the information in accordance with relevant laws and regulations. The performance-based evaluation for executive compensation is conducted based on the results of assessments that reflect both quantitative indicators (MBO), such as financial and strategic performance tasks, and qualitative indicators, such as growth potential, portfolio improvement, and the appropriateness of the business plan. The CEO's compensation is determined based on performance indicators such as revenue, operating profit, free cash flow (FCF), and debt ratio. In addition, the short-term incentive for the CEO is paid in cash at the beginning of the year following the performance evaluation year, based on the assessment results of both quantitative indicators (MBO), such as financial performance tasks, and qualitative indicators, such as growth potential and market conditions. For long-term incentives, we operate the Restricted Stock Unit (RSU) and Phantom Stock Plan (PSP) programs to promote the achievement of long-term performance by executives, and these incentives are paid in actual shares or cash on the designated payment date after three years from the grant date.

Board Independence

Doosan Fuel Cell aims to ensure that independent directors constitute a majority of the total number of directors and has appointed more than three independent directors to enhance the independence of the Board of Directors. Through this, we have strengthened the Board's oversight function while enabling balanced and objective decision-making. As of the end of 2024, we had four independent directors, representing 67% of the Board. Subsequently, with the expiration of terms for two independent directors and the appointment of one new independent director at the Annual General Meeting of Shareholders in March 2025, the number of independent directors was reduced to three, resulting in an independent director ratio of 60% on the Board. In addition, in accordance with applicable laws and regulations, we restrict the voting rights of any director who has a conflict of interest on a given agenda. The Board of Directors operates four committees, including the Audit Committee, all of which are composed entirely of independent directors to ensure independent and transparent decision-making.

Operation of Board Committees (as of 2024)

Category	Audit Committee	Internal Transactions Committee	Independent Director Nomination Committee	Compensation Committee
Composition	All Independent Directors	All Independent Directors	All Independent Directors	All Independent Directors
Role	Auditing of the company's accounting and operations	Review and approval of internal transactions under the Fair Trade Act	Nomination of independent director candidates	Review and approval of executive compensation-related matters
Activities	Selection of external auditor, reporting of audit results, etc.	Approval of transactions with affiliates, etc.	Nomination of independent director candidates	Approval of long-term incentive payments, etc.
Number of Meetings Held	7	3	1	Established in 2025
Attendance Rate	97%	92%	67%	-
Agenda Items	13 items including audit result reports	3 items including approval of internal transaction changes	1 item on nomination of independent director candidates	-

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

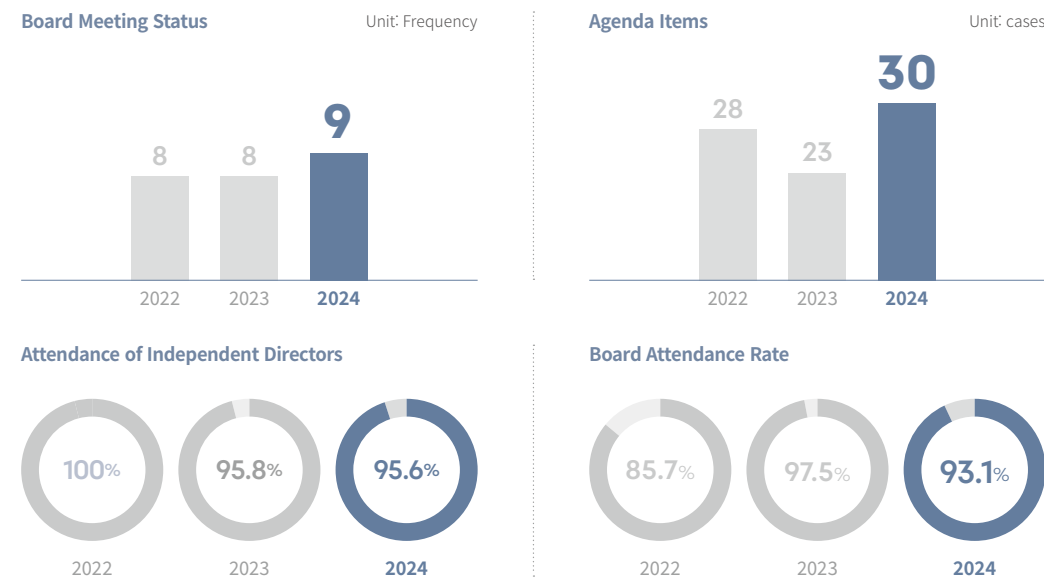
- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

Governance

Key Resolutions of the Board of Directors

The Board of Directors resolves key management matters of the company, including the disposal and transfer of significant assets and large-scale borrowings, in accordance with laws and internal regulations. In 2024, a total of nine board meetings were held, during which 30 agenda items, including the approval of the 5th fiscal year financial statements and business report, were reported and resolved. The relevant details are disclosed transparently through the business report.



Diversity of Independent Directors

Doosan Fuel Cell does not discriminate based on religion, gender, race, age, disability, political orientation, region, or nationality when appointing independent directors and makes efforts to ensure diversity in the composition of the Board of Directors.

Appointment Procedure and Criteria for Independent Directors

Candidates for independent director positions are selected through the review and recommendation process of the Independent Director Nomination Committee, which is composed entirely of independent directors. In this process, the candidate's qualifications, independence, and expertise in relevant fields are taken into consideration. Once candidates are selected, they are officially appointed as independent directors upon approval by the Board of Directors and the General Meeting of Shareholders. The term of office for independent directors is three years, and reappointment is limited to one term in accordance with Article 542-8 of the Commercial Act and other applicable regulations.

Meanwhile, when appointing independent directors, we verify that candidates do not fall under any of the following disqualifications as stipulated in Article 382 of the Commercial Act: ▲ Directors, auditors, executive officers, or employees who were engaged in the company's business within the past two years ▲ The largest shareholder, if an individual, and their spouse or lineal ascendants and descendants ▲ Spouses or lineal ascendants and descendants of directors, auditors, or executive officers ▲ Directors, auditors, executive officers, or employees of corporations with significant business relationships or interests with the company ▲ Directors, auditors, executive officers, or employees of another company where a director, executive officer, or employee of the company also holds a position as director or executive officer

Stakeholder Communication

The Board of Directors engages in internal and external communication with stakeholders through various channels such as public disclosures and investor relations (IR) activities. We also promptly disclose resolutions of the General Meeting of Shareholders and key management decisions to provide timely information to shareholders and stakeholders. For the fiscal years 2019 to 2021, the notice of the Annual General Meeting of Shareholders was issued 14 days in advance, and for the fiscal years 2022 to 2024, the notice period was extended to 21 days.

Electronic Voting and Written Voting Systems

To protect the voting rights of minority shareholders, Doosan Fuel Cell has adopted and operates a written voting system in accordance with Article 35 of its Articles of Incorporation. Furthermore, to improve shareholder convenience, we introduced the electronic voting system pursuant to Article 368-4 of the Commercial Act, starting from the 2020 Annual General Meeting of Shareholders. This allows shareholders to exercise their voting rights electronically without attending the meeting in person. In addition, we have implemented a proxy solicitation system beginning with the 2022 Annual General Meeting of Shareholders.



Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Ethical Management

## Preface to the Ethical Standards

Doosan Fuel Cell seeks to enhance corporate competitiveness and faithfully fulfill its social responsibilities based on transparent management and innovation, in alignment with our business philosophy of people-oriented values and customer-centricity to achieve sustainable growth. To this end, we have established our Ethical Standards, which serve as a code of conduct that all employees must observe during the performance of their duties. These Ethical Standards apply to all employees of Doosan Fuel Cell (hereinafter referred to as “Doosan People”), and we also encourage third parties, including partners that conduct business with Doosan Fuel Cell, to adhere to them.

Doosan People are responsible for understanding and complying with all applicable laws, internal regulations, and these Ethical Standards. The Legal/Compliance Team has developed and manages detailed guidelines for matters not explicitly addressed in the Ethical Standards or those requiring further interpretation. These guidelines can be accessed through the company’s intranet or obtained directly from the team. In the event of any conflict between these Ethical Standards and applicable laws, the relevant laws shall take precedence.

If an employee discovers any conduct that violates or may violate the Ethical Standards, they may report the issue in accordance with the company’s procedures and regulations. In such cases, the identity of the whistleblower and the fact of the report will be kept confidential, and any person who raises concerns in good faith will not suffer any disadvantage or retaliation as a result.

 [View Doosan Fuel Cell’s Ethical Standards](#)

## Anti-Bribery and Anti-Corruption Policy

Doosan Fuel Cell complies with the group-wide detailed ethical regulations approved and declared by the Group CEO. Key provisions of the guidelines related to anti-bribery and anti-corruption within the Ethical Standards include the “Guidelines for Honest and Transparent Business Conduct” and the “Guidelines on the Prohibition of Improper Solicitation and the Receipt of Money or Valuables,” as summarized below:

01. Employees shall not receive money, real estate, gifts, entertainment, or any other economic benefits from stakeholders related to their duties.
02. However, the following may be permitted: the fulfillment of financial obligations, or transportation, lodging, or meals uniformly provided by the host to participants in official events related to business, in accordance with generally accepted social norms.
03. Employees must receive training on the prohibition of improper solicitation and the acceptance of money or valuables at least once annually. Such education may be provided in writing, in person, or online.
04. If an employee becomes aware of conduct that violates these guidelines, they must report it to the company through internal reporting channels or other available means.
05. All employees must be familiar with and comply with these guidelines. Employees who violate them may be subject to disciplinary action or other necessary measures in accordance with company regulations.

 [View Doosan Fuel Cell’s Detailed Ethical Regulations](#)

## Operation of the Help Desk


We have established a designated Help Desk for inquiries regarding our ethical management policy, detailed provisions of our Ethical Standards, and other reports or concerns. This Help Desk is publicly accessible via our company website and serves as a channel for guidance and consultation. Through this initiative, we have enhanced understanding of Doosan Fuel Cell’s ethical management principles and business conduct policies among both internal employees and external stakeholders.

For inquiries or assistance related to the Ethical Standards or violations thereof:

Mailing Address	17F, 275, Jangchungdan-ro, Jung-gu, Seoul, Republic of Korea
Email	inhye.jo@doosan.com
Responsible Department	Legal/Compliance Team, Doosan Fuel Cell Co., Ltd.

## Operation of the Internal Reporting System

Doosan Fuel Cell operates an internal reporting system to ensure a transparent and fair ethical management framework. All reports are handled in strict confidentiality, and whistleblowers are protected from any form of disadvantage. Key matters are reported to the CEO and the Audit Committee. We operate a Cyber Whistleblower Center on our company website, which is open to anyone and allows for both anonymous and identified reporting.

 [View Operating Policy of the Doosan Fuel Cell Cyber Whistleblower Center](#)

 [View Doosan Fuel Cell Cyber Whistleblower Center](#)

### Operating Policy of the Cyber Whistleblower Center

- The Doosan Fuel Cell Cyber Whistleblower Center is open to both employees and external parties. It accepts reports of violations of laws, the Doosan Fuel Cell Credo, the Ethical Standards, and other forms of improper conduct.
- Reports may be submitted anonymously or under a real name. However, the company may choose not to investigate anonymous reports that lack specific supporting evidence.
- The company guarantees the confidentiality of the whistleblower’s identity and the content of the report, and strictly prohibits any disadvantage or retaliation against individuals who report in good faith.
- Reports submitted by employees are governed by the company’s internal reporting system regulations, which are available through DoDream or the responsible department.
- In addition to the Cyber Whistleblower Center, reports may be submitted via mail, phone, fax, email, or by visiting the responsible department.

### Reporting Channels

- 

**Mailing Address**  
Compliance Team, Doosan Fuel Cell, 17F, 275, Jangchungdan-ro, Jung-gu, Seoul, Republic of Korea
- 

**Phone / Fax**  
+82-2-3398-3894 / +82-2-3398-3792
- 

**Email**  
compliance@doosan.com
- 

**Responsible Department**  
Legal/Compliance Team, Doosan Fuel Cell Co., Ltd.

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

# Ethical Management

## Violations of Ethical Management and Disciplinary Measures

In 2024, two reports were received, and one disciplinary action (a warning) was issued. In accordance with the Ministry of Employment and Labor’s “Privacy Protection Guide,” when a violation of the Ethical Standards occurs, we disclose cases of unethical behavior—excluding any personal data—through white papers, case-sharing in ethics education, or the Ethical Management Letter. This promotes transparency and helps prevent the recurrence of similar incidents. In addition, pursuant to Doosan Fuel Cell’s disciplinary and reward regulations, we link compliance to employee compensation and take appropriate actions—both rewards and disciplinary measures—based on performance evaluations.

## Anti-Corruption Survey of Suppliers and Employees

Doosan Fuel Cell conducts an annual survey of employees and partners to assess awareness of ethical management and to collect opinions and feedback. The results of these surveys are used to develop anti-corruption measures and identify improvements needed in ethical management practices.

The 2024 employee survey was conducted anonymously to encourage honest and active participation. It included 24 items for employees and 21 items for partners, including descriptive questions.

### Composition of the Anti-Corruption Survey

Diagnostic Area	Number of Questions
Basic Information (Affiliation/Position)	2
Ethical Management System and Policies	6
Sound Organizational Culture	4
Integrity and Transparency	5
Fair Competition	4
Employee Relations	3

The survey was conducted using a five-point scale: “Strongly Disagree (0 points)” – “Disagree (25 points)” – “Neutral (50 points)” – “Agree (75 points)” – “Strongly Agree (100 points).” The results showed an average score of 76 points for employees and 86 points for partners, placing both within the range between “Agree” and “Strongly Agree,” indicating that ethical management is generally well upheld. Doosan Fuel Cell plans to identify and address areas with below-average scores by implementing targeted improvement measures.

## Anti-Corruption and Ethical Standards Education

All employees of Doosan Fuel Cell participate in annual education programs on the Ethical Standards, delivered both online and in-person, to strengthen awareness of ethical management. Every employee submits the Ethics Pledge and a Conflict of Interest Declaration, demonstrating their commitment to upholding ethical values and performing their duties with integrity and transparency. We also communicate the importance of practicing and complying with the Ethical Standards through messages from the CEO, addressed to all employees. In particular, during times when gifts are typically exchanged—such as holidays—the CEO issues an annual announcement emphasizing the importance of practicing integrity, transparency, and compliance with laws, in order to raise employee awareness.

CEO Letter

Dear employees of Doosan Fuel Cell Co., Ltd.,  
  
As we strive for sustainable growth as a competitive company, and to earn the trust of our shareholders and customers, honesty and transparency are our most critical values. With this in mind, I would like to share the following reminders:  
  
First, honesty and transparency are values that must be upheld in every aspect of our organization and business operations.  
  
Second, compliance with laws and regulations is a fundamental duty of every employee and an essential condition for the sustainability of our business.  
  
If you encounter or become aware of any misconduct related to our Ethical Standards, honesty, transparency, or regulatory compliance, you must report and share the issue immediately. I kindly urge all of you to remain committed to your responsibilities as employees of Doosan Fuel Cell Co., Ltd., so we do not miss the critical timing to resolve issues.  
  
Thank you.

2024 Employee Participation Rate in Ethics Education

94%

2024 Average Ethics Education Time Per Employee

84 minutes

CEO Announcement



- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

# Ethical Management

## Key Fair Trade Practices

### > Distribution of Fair Trade Guidelines

Doosan Fuel Cell is committed to helping employees recognize the evolving regulatory landscape and prevent inadvertent violations of relevant laws in the course of their duties. To this end, we have established guidelines to prevent violations related to unfair subcontracting terms and to prevent unlawful support and internal trading favoritism. When requesting materials from subcontractors, we distribute guidelines on preparing and issuing a Technology Data Provision Agreement and a Non-Disclosure Agreement. In addition, to comply with international trade sanctions, we distribute due diligence questionnaires when conducting business with overseas companies to mitigate related risks.


### > Implementation of the Price Adjustment System

Following the enforcement of the Price Adjustment System on October 4, 2023, we have made internal announcements to provide relevant information and promote compliance with the law.

Effective October 4, 2023, the Price Adjustment System has come into force.  
Please refer to the following information when conducting subcontracting transactions to avoid any disadvantages due to noncompliance.


What is the Price Adjustment System?

① When a **principal contractor** outsources the manufacture, construction, or repair of goods or services to a subcontractor,  
② **matters related to price adjustment**—such as the name of the goods, key raw materials, adjustment conditions, reference indicators, and formulas—  
③ **must be documented in the agreement**, ④ **issued to the subcontractor**, ⑤ and the delivery price must be ⑥ **adjusted and**  
⑦ **paid** accordingly based on the agreement.




Conclusion and issuance of adjustment agreements

>>>




Change in raw material prices

>>>



Adjust the delivery price according to the agreement

>>>



Pay the adjusted price

Key Step

Note: Even if the Price Adjustment System is applied, it does not exempt the transaction from the application of Article 16 and Article 16-2 of the Fair Transactions in Subcontracting Act (regarding subcontract price adjustment due to design changes or changes in supply costs).

### > Fair Trade Education Programs

Doosan Fuel Cell operates a variety of educational programs to help employees apply fair trade-related laws and guidelines in their day-to-day work. To this end, we provided online education on the key provisions of the Fair Transactions in Subcontracting Act to relevant department personnel, along with an online briefing on our internal guidelines for preventing unfair support and internal trading favoritism. In addition, to ensure compliance with the recently enacted Price Adjustment System for subcontracting transactions, we conducted targeted training for closely related departments such as the Purchasing Team. The training covered the law's key requirements, penalties for non-compliance, and key considerations to ensure adherence. To prevent the leakage of confidential information, we also conduct regular intellectual property (IP) training sessions. These sessions aim to prevent unfair trade practices by raising awareness of potential risks and providing instruction on proper information management and protection methods. Each training session and briefing includes a Q&A segment to avoid one-way knowledge delivery. We also share real-world case studies that employees can reference in their daily tasks, minimizing trial-and-error in actual operations.

### > Strengthening Internal Fair Trade Monitoring

To ensure compliance with the Monopoly Regulation and Fair Trade Act, Doosan Fuel Cell includes legal officers in the payment process for inter-affiliate transactions and requires prior approval from the Board of Directors to preemptively review potential unfair support violations before contracts are executed. To comply with the Subcontracting Act, we strengthened internal monitoring periodically by visiting Seoul office, research institute, and Iksan and Gunsan business sites together with the holding company's shared growth team to investigate unfair special agreement status, educate on the scope of application of the Subcontracting Act, review precautions when concluding confidentiality agreements, methods for preparing consent forms for providing technical materials to subcontractors, and check the status of technical material delivery. To support these efforts, we built and completed enhancements to the document-sharing system, Tech-Bridge, which now requires that no subcontractor-provided data be accepted unless a prior non-disclosure agreement has been signed and a Technology Data Provision Agreement has been completed. This ensures systematic compliance. Furthermore, we conducted a fair trade risk assessment to identify departments with high-risk exposure to legal violations. We continue to monitor these departments to prevent any infractions of applicable laws.

### > Future Plans

In alignment with the Fair Trade Commission's key policy directions for 2025, Doosan Fuel Cell plans to operate various voluntary compliance programs related to fair trade. To this end, we have established internal regulations for voluntary compliance, appointed a compliance officer, and are working to formalize the CEO's commitment and publish a Fair Trade Compliance Handbook. We will continue monitoring and educating departments directly affected by fair trade-related laws to proactively control potential risks. In addition, we will stay up to date with international fair trade issues and respond swiftly, ensuring that all employees are well-informed and fully compliant with relevant policies and regulations.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Innovation Management

## R&D Investment

### > Doosan’s Fuel Cell Technology Competitiveness

Doosan Fuel Cell is committed to enhancing the competitiveness of its fuel cell products for power generation and developing new products to secure future markets. We are actively investing in R&D and striving to lead the hydrogen economy by advancing breakthrough technologies.

#### Safe Technology

Our technology operates without high pressure or combustion, offering inherent safety. It was first proven through application in NASA’s projects and has since continued to demonstrate high safety standards. Our products are designed in compliance with international standards and have acquired multiple safety inspections and certifications. This enables safe installation in residential and commercial buildings.

#### High Durability

Doosan Fuel Cell’s PAFCs operate at temperatures below 200°C and incorporate stable stack technology, enabling long system lifespans.

#### Easy Installation

Doosan Fuel Cell’s PAFCs are packaged in a container-sized format (8.3m × 2.5m × 3.0m), allowing for easy transport and multi-story installation, which maximizes land-use efficiency and avoids location restrictions imposed by environmental and climate conditions. This enables significant reductions in installation area and initial investment cost compared to other renewable energy technologies of the same capacity.

#### Fuel Flexibility

In addition to hydrogen, our systems can use natural gas and LPG as fuel, offering flexible application based on customer and site conditions.

#### Fast Response and High Equipment Availability

Doosan Fuel Cell’s PureCell® product line, with high-rated outputs of 440kW and 550kW, is a representative flexible power source capable of responding in real time to fluctuating demand, with ramp-up and ramp-down speeds of 10kW/sec and 20kW/sec, respectively. With an average availability rate exceeding 95% and 365-day continuous operation at rated output, our systems ensure reliable energy production under all conditions and demonstrate strong grid resilience in crisis situations such as power outages. Unlike conventional combustion-based generation methods, our systems emit no harmful substances, and noise levels are kept under 60dB, ensuring quiet operation even in residential areas.

#### Combined Heat and Power Supply

This is a high-efficiency energy conversion technology that supplies not only electricity but also heat for cooling, heating, or industrial use with up to 90% overall efficiency.

### > Development of Technologies to Reduce Levelized Cost of Electricity (LCOE)

With the continued expansion of renewable energy adoption, there is increasing demand for lower power generation costs of PAFC products. Doosan Fuel Cell aims to reduce the Levelized Cost of Electricity (LCOE) through continuous development of cost-reduction technologies.

#### Localization of Components

As of the end of 2024, Doosan Fuel Cell achieved a 99% localization rate by working with approximately 140 domestic partners supplying parts. All key components, including cells and stacks, are manufactured, tested, maintained, and upgraded domestically.

#### Metal Bipolar Plates

In PAFC stacks, bipolar plates, which is a core component of PAFCs, account for about 30% of the total cost, making them a crucial cost driver and performance component. Doosan Fuel Cell is developing long-life, low-cost bipolar plates by replacing expensive graphite materials with metallic alternatives that support more economical materials and processing technologies.

#### Next-Generation Catalysts

PAFCs use platinum-based catalysts, a commercially established class of precious metal catalysts. Due to their high cost and import dependency, Doosan Fuel Cell is developing high-performance and high-durability next-generation localized catalysts through joint R&D with domestic partners and institutions.

#### Product Efficiency Improvement

We are striving to achieve LCOE reduction goals and enhance product competitiveness through research and development activities such as reviewing product operating temperature increase conditions, reducing power consumption, improving reformer insulation, and improving BOP component costs.

#### Internalization of Electrode Production

In 2024, we acquired the electrode business unit of Doosan Corporation’s Electronics BG and began in-house production of fuel cell electrodes. By directly producing and managing core raw materials, we have enhanced production efficiency, mitigated supply chain risks, and strengthened cost competitiveness.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Innovation Management

## Open Innovation

Innovation Activities	Details
Collaboration with Domestic Expert Research Teams	<ul style="list-style-type: none"><li>To develop high-efficiency and high-durability electrode catalysts, we selected specialized research teams from domestic universities with expertise in catalyst structure design and are collaborating through contract-based joint research</li></ul>
Participation in Fuel Cell Society Seminars	<ul style="list-style-type: none"><li>Introduced and promoted a variety of hydrogen-based solutions—including Solid Oxide Fuel Cells (SOFC), Phosphoric Acid Fuel Cells (PAFC) for power generation and marine use, and Proton Exchange Membrane Electrolyzer Cells (PEMEC)—through participation in fuel cell society seminars.</li></ul>
Reduced Development Timeline and Resource Optimization through Collaboration with Structural Analysis Specialists	<ul style="list-style-type: none"><li>Maintained a ready pool of vetted vendors to quickly identify and engage the most appropriate partners, significantly reducing sourcing time.</li><li>Outsourced the use of high-performance equipment and costly software licenses required for validating large-scale products, resulting in cost efficiencies.</li><li>Deployed highly skilled external experts for complex analytical tasks, enabling high-intensity work execution within a shorter timeframe.</li></ul>
Collaboration with Outsourcing Partners	<ul style="list-style-type: none"><li>Utilized a pool of structural analysis specialists to lower costs associated with high-performance validation tools and licenses for large-scale product testing. Carried out dense, short-term analysis work through collaboration with experienced external personnel, effectively reducing turnaround time.</li><li>Entered long-term partnerships with vendors specializing in 2D and 3D drafting to streamline lower-value tasks and strengthen operational synergy through tailored capabilities.</li></ul>
Intra-Group Collaboration within the Doosan Group	<ul style="list-style-type: none"><li>Co-developing metal bipolar plates in partnership with Doosan Enerbility, another Doosan Group company.</li><li>Combining both companies' expertise in bipolar plate design and coating technologies to drive the development of high-performance components.</li></ul>

## Product Innovation

To accelerate growth and secure future markets, Doosan Fuel Cell has improved and developed its existing PAFC NG model into new variants, including an LPG-compatible model, a Tri-gen model, and a hydrogen model. In addition, we are actively pursuing the development of next-generation products such as a CCUS-based model.

The LPG-compatible model is capable of operating on both natural gas (NG) and liquefied petroleum gas (LPG), enabling efficient power generation based on regional fuel availability and cost. The model has successfully completed development and demonstration, and has been commercialized.

The Tri-gen model, which produces electricity, heat, and hydrogen simultaneously, is currently under development as part of a government-funded project and is expected to be commercialized following successful demonstration. As a distributed power source, the Tri-gen model supplies electricity and heat while also functioning as an urban charging station for hydrogen and electric vehicles—positioning it as foundational infrastructure for the transition to a hydrogen economy.

To strengthen competitiveness in the power generation market, we are also advancing beyond our existing PAFCs technology by developing SOFC systems. SOFC systems for power generation operate at high temperatures above 800°C, offering excellent electrical efficiency but with the limitation of shorter expected lifespans. To address this, we are developing mid- to low-temperature SOFC systems that mitigate these durability concerns. We are working in collaboration with Ceres Power, a U.K.-based fuel cell technology company, to develop mass production technologies for cell stacks, the core component of fuel cells. In support of this effort, we invested KRW 72.4 billion through 2024 to establish a 50 MW production facility, with mass production scheduled to begin in 2025.

Separately, the M500 Hydrogen model, which is designed to increase output by more than 25% within the same footprint as the current M400 model, is expected to reduce power generation costs and enhance production efficiency. Development was completed in the first half of 2024, and mass production commenced in the second half of the year.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Information Security and Privacy Protection

## Information Security Management System

As a designated handler of national core technologies—including hydrogen technologies (designated in April 2023)—Doosan Fuel Cell complies with the Act on Prevention of Divulgence and Protection of Industrial Technology and the Guidelines for the Protection of Industrial Technology. In accordance with these regulations, we are subject to regular audits by relevant national agencies, covering our security management system, information systems, and vulnerability assessments. We have appointed executive-level officers to oversee security: a Chief Information Security Officer (CISO) and a Chief Privacy Officer (CPO). Under their supervision, our dedicated security department leads various activities to safeguard national core technologies and manages internal and external security risks. We conduct regular assessments of vulnerabilities across our IT/OT systems, applications, and network infrastructure, and continuously enhance our information security systems to protect company assets from both internal and external threats.

Our central security department monitors for potential breaches involving national core technologies and inspects harmful network traffic. To promote effective coordination and communication among departments handling personal data, we operate a regular security council. In the event of a security incident, the council convenes to formulate and implement countermeasures and discusses preventive strategies to avoid recurrence.

As an affiliate of the Doosan Group, Doosan Fuel Cell benefits from group-wide security initiatives. Doosan Corporation has obtained ISMS (Information Security Management System) certification, and we participated in a simulated hacking drill organized by Doosan Corporation as part of third-party vulnerability analysis efforts, reinforcing our information security capabilities.



Since establishing our security regulations in 2020—including policies on HR and partner security, IT systems, security audits, security management, incident response, facility security, trade secret protection, information assets and devices, and cloud security—we have reviewed and revised them annually as necessary. These security policies are published on the internal portal and shared with all employees.

Leveraging the security systems of both Doosan Fuel Cell and the broader Doosan Group, we proactively respond to potential threats by detecting and analyzing attempted intrusions. Our 24/7 monitoring solutions safeguard internal information assets in real time.

We have applied multi-factor authentication (MFA) to internal system access solutions, including VPN<sup>1)</sup> and VDI<sup>2)</sup>, to ensure secure remote access. This includes the use of one-time passwords (OTP) to prevent unauthorized access through credential theft.

- 1) VPN (Virtual Private Network): A solution that allows users to access the company network via a public network such as the internet
- 2) VDI (Virtual Desktop Infrastructure): A solution that provides each user with a virtual desktop and data storage by using centralized, virtualized server resources



To ensure the legal protection and secure management of trade secrets, Doosan Fuel Cell maintains and updates a comprehensive inventory of critical trade secrets each year. We implement monitoring and blocking policies to detect and prevent the external transfer of sensitive information, thereby minimizing exposure risks. Each department designates a security officer and coordinator to promote awareness and ensure close cooperation with the security team in the event of incidents or warning signs.

Upon an employee's departure, we review the individual's external email activity over the preceding six months to identify any potential leakage of trade secrets.

To prevent the exposure of sensitive information in the event of theft or loss, all company-issued PCs are equipped with BitLocker, a remote disk encryption tool.

We have also taken a proactive approach to risk management by subscribing to personal data protection liability insurance.

For partners, we enforce security requirements under the "HR & Partner Security Policy." Partner personnel entering our facilities are required to sign a Security Pledge, complete security education, and are restricted from bringing in information devices. During service engagements, system access is granted on a minimum-privilege basis. Upon completion of services, access badges are collected, and all related data must be deleted from any devices used during the engagement.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Information Security and Privacy Protection

## Enhancing Information Security Awareness

Doosan Fuel Cell conducts mandatory annual information security training for all employees, covering key topics such as data leakage prevention, trade secret protection, information device management, and privacy protection.

To mitigate threats such as phishing emails intended for account hijacking, ransomware distribution, wire fraud, and data breaches, we conduct quarterly simulation training (three phishing email drills and one personal data breach response drill per year). These exercises are followed by awareness campaigns that educate employees on how to identify and report phishing emails, thereby strengthening their incident response capabilities. This includes writing security incident reports, submitting notifications to the responsible departments, and following up with appropriate corrective measures.

We also designate a "Security Check Day" four times a year to share relevant news and key security notices. On these occasions, we provide checklists and guides to help employees conduct self-assessments of their security practices.

### Key Activities for Information Security and Customer Data Protection

Education and Training Activities	Description	Target Audience	Frequency
Employee Security & Privacy Protection Education	Overview of security compliance requirements	All employees	Annually
New Hire / Experienced Employee Information Security Education	Introduction to security policies and processes	New and experienced employees	At onboarding
Department Security Officer Education	Introduction to security policies and processes	Departmental security officers and managers	Annually
Partner Security Education	Overview of information protection requirements for partners	Partner employees	Annually
Phishing Simulation Exercise	Simulated response to phishing emails and personal data breach scenarios	All employees	4 times per year
Security Check Day	Awareness-raising through security news and internal notices	All employees	4 times per year

### Security Check Day Checklist

Objective	Description	Target
Security Audit & Response	Daily PC & Digital Security	Individual
	Information systems	Department
	Trade Secret Documents	
	Facility Access Control	Security Manager
	Priority Security Management	
Awareness Enhancement	Security Newsletter	



Information security-related posts



Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

# Information Security and Privacy Protection

## Information Security Management Process

### STEP 01.



#### Initial Response

- 1 Employees must refrain from responding arbitrarily and must immediately report the issue to the security department, following the department's instructions. However, if there is a risk of widespread damage through the company's network—such as in the case of a ransomware attack—the affected device must be immediately disconnected from both wired and wireless networks before reporting to the security department.
- 2 The security department must promptly notify relevant departments, including information system management, operations, and other associated teams, and initiate containment measures to prevent further damage. The security team must assess the severity of the incident and report it to the responsible executive. If necessary, the security department may isolate the incident site and secure involved personnel, evidence, and documentation.
- 3 In the event of a major security incident that could significantly impact the company, the head of the security department must report the incident to the responsible executive and senior management. A Crisis Response Team must be convened to deliberate and implement response measures. When external communication is required, a single communication channel—such as the public relations department—must be designated to prevent misinformation or further damage.

### STEP 02.



#### Incident Investigation and Response

- 1 After the initial response, the security department or the Crisis Response Team conducts a formal investigation of the incident using the collected evidence, ensuring its legal validity is maintained. If necessary, the company may request assistance from external authorities.
- 2 During the investigation, preliminary actions may be taken to prevent the spread of damage.
- 3 Upon completing the investigation, the security department or Crisis Response Team must prepare a report covering the following items and submit it to the responsible executive depending on the severity of the incident. If necessary, this can be reported to the security officer and others even during the investigation.  
1) Incident subject and personal information 2) Date, time, and location of incident occurrence 3) Incident content and circumstances 4) Judgment on investigation results 5) Follow-up measures and improvement recommendations
- 4 Information regarding the security incident must remain confidential until the investigation is completed. Investigation results will be disclosed only to involved employees, the security officer, and senior management.

### STEP 03.



#### Security Incident Follow-up Measures

- 1 When corrective actions are required to prevent recurrence, the head of the department involved in the incident must establish and report a response plan or implemented actions to the security department within two weeks of receiving the incident resolution report.
- 2 The security department is responsible for verifying whether the department has taken appropriate corrective action. The timing of this verification may vary depending on the urgency and importance of the incident.
- 3 Based on the results of the investigation, the company may impose disciplinary action or penalties on the responsible employees or departments and take legal action if deemed necessary.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Information Security and Privacy Protection

## Privacy Protection Management System

### > Strengthening Privacy Protection

Doosan Fuel Cell continuously monitors the enactment and revision of domestic and international laws and regulations to ensure the secure handling of personal data and full compliance with privacy-related legislation. We promptly reflect these changes in our internal management plans and privacy policy, and communicate updates to relevant departments. We conduct annual implementation checks on personal data handlers and data processing systems, including education and evaluations for commissioned partners and internal audits of key areas. Identified vulnerabilities are addressed and managed accordingly.

- To improve privacy awareness and management capabilities among partners entrusted with personal data, we assign dedicated personnel who must complete privacy protection education once per year and conduct internal assessments. Partners that fail to complete the required education or provide supporting documentation are subject to penalties, including contract termination.
- An annual audit of privacy protection practices is conducted by Doosan Corporation (as an external auditor), and any findings are addressed within the year.
- Employees responsible for handling personal data are required to install personal data encryption software to proactively prevent issues in the event of a data breach.

### > Internalizing a Privacy Protection Culture

Doosan Fuel Cell provides mandatory annual privacy protection education for personnel responsible for and handling personal data, in accordance with statutory obligations. To foster a culture of compliance, we promote privacy protection awareness through posters, newsletters, and PC screensavers, reinforcing responsible behavior and company-wide understanding of data protection practices.

### Personal Data Protection Principles

01	Scope of Personal Data Collection	We do not collect sensitive personal data that may infringe on a data subject's unique identifiers or fundamental rights, including race, religion, beliefs, place of origin, domicile, political orientation, criminal records, health status, and sexual life.
02	Categories and Methods of Personal Data Collection	<div>1) Handling Complaints and Inquiries</div> <div>- Required items: Name, email address</div> <div>2) Service Analysis and Quality Improvement</div> <div>- Service usage records, access logs, cookies, and IP address</div> <div>3) Recruitment Process and Decision-making</div> <div>- General Information: Name (in Korean/Chinese/English), date of birth, gender, photo, password, etc.</div> <div>- Sensitive information: Disability status, type of disability, and disability grade</div>
03	Provision of Personal Data to Third Parties	<div>Personal data may be provided to third parties only in the following circumstances:</div> <div>- With separate consent from the data subject, or when required by law or necessary to comply with a legal obligation</div> <div>- When the data subject is unable to express consent or cannot be contacted in advance due to reasons such as legal incapacity or unknown whereabouts</div>
04	Purpose of Personal Data Collection and Use	<div>1) Customer-Related</div> <div>- Service Analysis and Quality Improvement: To provide better services to users through usage analysis and to enhance the overall quality of this website</div> <div>- Handling Complaints and Inquiries: To confirm issues, conduct fact-checking, provide updates, and notify results</div> <div>2) Recruitment-Related</div> <div>- Screening and Decision-making: To verify identity, manage recruitment screening, communicate with applicants, and reference relevant laws such as the Act on the Honorable Treatment of Veterans and the Act on the Employment Promotion of Persons with Disabilities (e.g., veteran status, disability information)</div>
05	Privacy Protection Officer and Contact Information	<div>A. Chief Privacy Officer (CPO)</div> <div>- Name: Wonjo Bang, Executive Director</div> <div>B. Personal Information Department</div> <div>- Title: Change Management / Production Control Team, Doosan Fuel Cell Co., Ltd.</div> <div>- Phone: +82-63-831-0717</div> <div>- Fax: +82-63-831-0717</div> <div>- Email: daeha.kim@doosan.com</div>

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

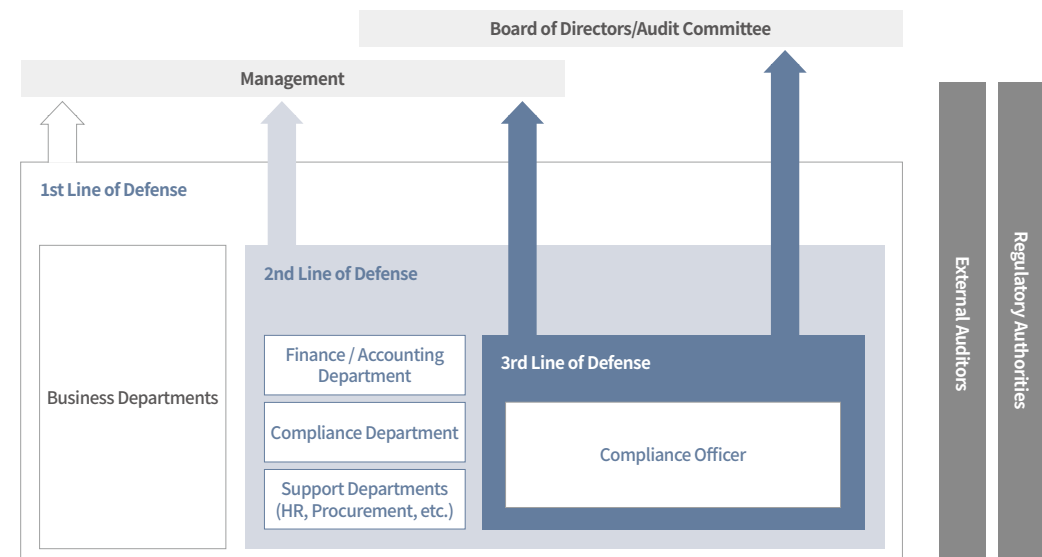
- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

# Risk Management

## Risk Management Governance

Doosan Fuel Cell has established an appropriate internal control system to effectively and efficiently achieve its organizational objectives—including operational efficiency, reliability of financial reporting, and compliance with laws and regulations—through systematic, company-wide risk management activities. Departments directly involved in the manufacture, production, and supply of products are primarily responsible for managing and monitoring risks as part of daily operations (first line of defense). Risk monitoring is further supported by related departments that are functionally separate, such as finance, accounting, compliance, and support departments (second line of defense). Finally, in accordance with Article 542-13 of the Commercial Act and related regulations, Doosan Fuel Cell has appointed a compliance officer, who provides independent assurance on the effectiveness of the company’s risk management and compliance processes by fulfilling an internal audit function (third line of defense).



## Emerging Risks and Mitigating Actions

Emerging Risk	Diversification of the Fuel Cell Market (Demand for Innovative Technologies)		Security Threats from Advancements in Artificial Intelligence (AI)
Description	As the fuel cell market continues to diversify, there is growing pressure to develop innovative technologies. Companies must invest resources and capabilities to develop technologies that meet evolving customer needs in rapidly changing market environments.		While AI technology enhances productivity, it also increases the likelihood of misuse, thereby elevating cybersecurity risks. Companies must prepare for new security threats that cannot be addressed by traditional systems.
Impact	Failure to develop or commercialize innovative technologies in a timely manner may result in failure to realize expected returns on R&D investments, which could negatively affect the company's profitability and revenue.		As a handler of national core technologies, Doosan Fuel Cell's technological and economic value is highly significant both domestically and internationally. A data breach could seriously undermine our technological competitiveness, national security, and broader economic development.
Mitigating Actions	Doosan Fuel Cell is securing core technology and production capacity to enter the marine fuel cell market, leveraging Korea's first commercialized Solid Oxide Fuel Cell (SOFC) technology. We are conducting a demonstration project for marine fuel cells in collaboration with shipping companies and shipbuilders.		Led by the Chief Information Security Officer (CISO) and Chief Privacy Officer (CPO), our security department carries out various activities to protect national core technologies. These include harmful traffic monitoring, vulnerability assessments, and simulation drills to safeguard the company's assets from internal and external threats.

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

Environmental Management

Improvement of Environmental Performance at Business Sites

Greenhouse Gas Management

Expansion of Eco-Friendly Products and Technologies

Expansion of Carbon Neutrality-contributing Products and Technologies

Social

Talent Management

Human Rights Management

Occupational Safety and Health

Social Contribution

Supply Chain ESG Management

Customer Satisfaction

Governance

Governance

Ethical Management

Innovation Management

Information Security and Privacy Protection

Risk Management

Association and Membership Activities

Appendix

# Risk Management

## Risk Management Activities

Doosan Fuel Cell categorizes risk types that may affect corporate management and strategy and reviews risk exposure at least once a year in accordance with our risk management process. We also carry out systematic response measures for identified risks. To foster a risk-aware culture, we provide risk management education to all executives and independent directors at least once a year.

Risk Type			Risk Type		
Potential Risk			Potential Risk		
Management Activities			Management Activities		
Business Risk	Risks related to contract terms and fulfillment of orders	- Internal review of all contract terms by relevant departments - Management approval and reporting process for contract execution	Quality Risk	Risks associated with product/service quality and production	- Implementation of company-wide quality issue identification and improvement programs - Installation of quality bulletin boards in offices and factories - Bi-monthly technical exchanges between Production and Quality teams
Foreign Exchange Risk	Exposure to exchange rate fluctuations due to global operations	- Use of natural hedging between export and import currencies - Management of foreign exchange risk through forward contracts and other derivatives under the Foreign Exchange Risk Management Policy - Sensitivity analysis based on ±10% changes in exchange rates	Supply Chain Risk	Business continuity risks of key component partners	- Grouping of primary component partners based on business impacts and procurement risks - Development of ESG evaluation metrics by groups, followed by self-assessments and on-site audits - Provision of improvement support based on self-assessment results
Interest Rate Risk	Risks related to variable-rate financial assets and liabilities exposed to interest rate fluctuation	- Sensitivity analysis of pre-tax profit/loss in response to ±100bp interest rate fluctuations on variable-rate financial assets and liabilities	Information Security Risk	Risk of data breaches	- Monitoring and minimizing IT access privileges by job function - Conducting quarterly simulations to prevent personal data breaches
Credit Risk	Financial losses arising from a counterparty's default under financial instruments	- When contracting with new business partners, evaluate creditworthiness using financial information and credit rating agency information, determine credit transaction limits, and receive collateral or payment guarantees - Periodic reassessment of business partner creditworthiness and readjustment of credit transaction limits	Human Risk	Risks of losing or failing to attract and retain top talent	- Development of a strategic workforce plan aligned with company-wide business strategy - Planning and execution of key talent recruitment to drive new business performance
Liquidity Risk	Difficulty in meeting obligations related to financial liabilities payable in cash	- Establishment of regular cash flow plans to ensure alignment with the maturity structure of financial asset	Legal / Ethical Risk	Risk of violations related to anti-corruption and fair trade regulations	- Operation of ethical regulations and cyber/internal whistleblower center - Implementation of fair trade, anti-corruption, and ethical management education - Adoption of a fair trade compliance program

Company Overview

ESG Strategy

Materiality

ESG Performance

Environmental

- Environmental Management
- Improvement of Environmental Performance at Business Sites
- Greenhouse Gas Management
- Expansion of Eco-Friendly Products and Technologies
- Expansion of Carbon Neutrality-contributing Products and Technologies

Social

- Talent Management
- Human Rights Management
- Occupational Safety and Health
- Social Contribution
- Supply Chain ESG Management
- Customer Satisfaction

Governance

- Governance
- Ethical Management
- Innovation Management
- Information Security and Privacy Protection
- Risk Management
- Association and Membership Activities

Appendix

# Association and Membership Activities

## UNGC Participation

In June 2023, Doosan Fuel Cell joined the United Nations Global Compact (UNGC) and formally declared its support for the Ten Principles. In 2024, we submitted our first Communication on Progress (CoP) report, outlining our progress in the four core areas covered by the Ten Principles. We plan to continue reporting annually on our implementation progress through the CoP. Since joining, our working-level employees have actively participated in various working groups, accelerator programs, and seminars hosted by the UNGC to internalize the Ten Principles of the UNGC and embed ESG practices across the company. In 2024, a total of ten Doosan Fuel Cell employees completed programs in ESG, environment, human rights, anti-corruption, and sustainable finance working groups, as well as the Business & Human Rights Accelerator, Climate Ambition Accelerator, and Target Gender Equality program. In 2025, we plan to participate in six working groups—including the Corporate Social Contribution Working Group—and two accelerator programs to stay informed on critical ESG issues and trends, and to continue strengthening internal capabilities.

### Operation of ESG Integration Working Groups



#### Environment Working Group

Enhance corporate readiness for global environmental regulations and share strategies for low-carbon energy transition



#### Sustainable Finance Working Group

Share insights and practices on impact investing, ESG bonds, and investor relations disclosures from the perspective of investors and listed companies



#### Human Rights Working Group

Understand business and human rights trends and explore key challenges and solutions to internalize human rights management



#### ESG Working Group

Strengthen corporate response capabilities to overarching ESG (environmental, social, governance) issues



#### Anti-Corruption Working Group

Explore recent trends in ethical management and emerging anti-corruption topics within the broader ESG framework

## Association and Membership Activities

Doosan Fuel Cell actively participates in a variety of industry associations and initiatives related to hydrogen and renewable energy to contribute to the implementation of the Paris Climate Agreement and the realization of carbon neutrality. In particular, the CEO of Doosan Fuel Cell Co., Ltd. serves as the Chair of the Korea Hydrogen Fuel Cell Industry Association, where he engages with stakeholders across the hydrogen industry ecosystem and plays an active role in advancing the sector. To address the climate crisis and foster the renewable energy industry and its ecosystem, we also participate in the RE100·CF100 Energy Solution Alliance, which promotes policy support, technology development, and workforce training related to renewable energy and zero-carbon power sources.



3rd General Meeting of the Korea Hydrogen Fuel Cell Industry Association

Year of Participation / Membership	Association / Organization
2024	RE100 · CF100 Energy Solution Alliance
2023	Hydrogen City Convergence Forum
2022	Korea Hydrogen Fuel Cell Industry Association
2021	Energy Alliance
	Clean Ammonia Council
	Energy Future Forum Korea
	Energy Transition Forum Korea
2017	Hydrogen Convergence Alliance
2016	Fuel Cell Industry Promotion Association
2003	Korea New and Renewable Energy Association





# Appendix

101	ESG Data
115	GRI Index
117	SASB Index
118	TCFD Index
119	UN SDGs
120	Status of Association and Organization Memberships
121	Independent Assurance Statement
123	Assurance Statement on Greenhouse Gas Emissions

# ESG Data

## Environmental

### Greenhouse Gas

Category			Unit	2022	2023	2024
Total Greenhouse Gas Emissions (Scope 1 + 2)			tCO <sub>2</sub> eq	6,293	4,798	6,187
Greenhouse Gas Emissions Intensity (Scope 1 + 2)			tCO <sub>2</sub> eq / KRW 100 million	2.0	1.8	1.5
			tCO2eq / unit <sup>1)</sup>	36.587 <sup>2)</sup>	52.747	51.124
Greenhouse Gas Emissions	Scope 1 (Direct Emissions)		tCO <sub>2</sub> eq	1,267	924	936
	Scope 2 (Indirect Emissions)	Market-Based	tCO <sub>2</sub> eq	5,026	3,874	5,252
		Location-Based	tCO <sub>2</sub> eq	5,026	3,874	5,252
	Scope 3 <sup>3)</sup>	Category 5	tCO <sub>2</sub> eq	-	-	232.7
		Category 6	tCO <sub>2</sub> eq	-	-	394.6
		Category 7	tCO <sub>2</sub> eq	-	-	567.4

1) Based on the number of fuel cells produced

2) The figure 36.590 reported in the 2023 report was rounded at the fourth decimal place and has been corrected to 36.587

3) Results are internally calculated and have not been verified by a third party

### Energy

Category		Unit	2022	2023	2024
Total Energy Consumption <sup>1)</sup>		TJ	135.2	98.8	128.1
		MWh	37,567	27,438	35,593
Total Non-Renewable Energy Consumption <sup>2)</sup>		TJ	135.2	98.8	128.1
		MWh	37,567	27,438	35,593
Electricity		TJ	103.71	80.29	109.19
Steam		TJ	18.95	6.89	7.83
LNG		TJ	12.59	11.61	9.36
Gasoline					0.92
Diesel					0.84
Total Renewable Energy Consumption <sup>3)</sup>		TJ	-	-	-
		MWh	-	-	-
Grid Electricity Ratio <sup>4)</sup>		%	76.86	81.28	85.21
Energy Intensity	TJ / KRW 100 million		0.043	0.038	0.031
	TJ / unit		0.786	1.085	1.059
	MWh / KRW 100 million		12.04	10.52	8.64
	MWh / unit		218.41	301.52	294.16
Data Scope		%	100	100	100

1) In the 2023 report, the total was calculated as the sum of non-renewable and renewable energy consumption. From 2024, figures are reported in line with KCGS evaluation standards as the sum of total non-renewable and total renewable energy consumption

2) Additional data disclosed from 2024

3) In the 2023 report, reported as new and renewable energy consumption; from 2024, reported as renewable energy consumption in accordance with KCGS standards

4) Proportion of electric energy within the total energy consumption

### Water

Category			Unit	2022	2023	2024
Iksan Plant	Withdrawal	Municipal Water	ton	31,681	28,151	18,512
		Groundwater	ton	-	-	-
		Freshwater	ton	-	-	-
		Total	ton	31,681	28,151	18,512
	Discharge <sup>1)</sup>		ton	283	333	551
	Consumption <sup>2)</sup>	Water Consumption	ton	31,398	27,818	17,961
		Water Consumption Intensity	ton/KRW 100 million	10.1	10.7	4.4
	Recycling	Water Recycle Volume	ton	8,769	9,669	9,946
		Water Recycling Rate	%	27.9	34.8	55.4
R&D Center	Withdrawal	Municipal Water	ton	89	23	22
		Groundwater	ton	-	-	-
		Freshwater	ton	-	-	-
		Total	ton	89	23	22
	Discharge		ton	10	8	4
	Consumption	Water Consumption	ton	79	15	18
		Water Consumption Intensity	ton/KRW 100 million	0.0253	0.0057	0.0044
Seoul Office	Withdrawal	Municipal Water	ton	3,653	4,848	5,211
		Groundwater	ton	-	-	-
		Freshwater	ton	-	-	-
		Total	ton	3,653	4,848	5,211
	Discharge <sup>1)</sup>		ton	-	-	-
	Consumption	Water Consumption	ton	3,653	4,848	5,211
		Water Consumption Intensity	ton/KRW 100 million	1.17	1.86	1.27

1) Discharge volume is calculated based on wastewater discharge

2) Consumption is calculated as water withdrawal minus discharge

ESG Data

Environmental

General Waste

Category				Unit	2022	2023	2024
Total General Waste Generated				ton	929.25	724.59	859.83
Treatment Volume				ton	923.24	705.28	821.33
Recycled General Waste	Total General Waste Recycled/Reused			ton	444.37	301.80	430.86
	General Waste Recycling Rate <sup>1)</sup>			%	47.82	41.65	50.11
Disposed General Waste	Total Disposed General Waste			ton	478.87	403.48	390.47
	Landfilled General Waste			ton	405.92	336.50	363.65
	General Waste Incinerated With Energy Recovery			ton	-	-	-
	General Waste Incinerated Without Energy Recovery			ton	72.95	66.98	26.82
	General Waste Treated by Other Means (On-Site Storage)			ton	-	-	-
	General Waste With Unknown Treatment Method			ton	-	-	-
Data Scope				%	100	100	100

1) Starting from 2024, recycling rate is calculated based on total generated volume, not treated volume. Accordingly, the figures for 2022–2023 have been revised based on the same standard

Designated Waste<sup>2)</sup>

Category				Unit	2022	2023	2024
Total Designated Waste Generated				ton	8.66	249.32	248.66
Treatment Volume				ton	8.95	249.42	248.35
Recycled Designated Waste	Total Designated Waste Recycled/Reused			ton	6.34	247.36	246.74
	Designated Waste Recycling Rate <sup>1)</sup>			%	73.24	99.22	99.23
Disposed Designated Waste	Total Disposed Designated Waste			ton	2.61	2.06	1.61
	Landfilled Designated Waste			ton	-	-	-
	Designated Waste Incinerated With Energy Recovery			ton	-	-	-
	Designated Waste Incinerated Without Energy Recovery			ton	1.65	1.58	0.89
	Designated Waste Treated by Other Means (On-Site Storage)			ton	0.96	0.48	0.72
	Designated Waste With Unknown Treatment Method			ton	-	-	-
Data Scope				%	100	100	100

2) Due to the treatment of waste carried over from the previous year, the treatment rate may exceed 100% of the generated volume

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Environmental

Pollutants

Category		Unit	2022	2023	2024
Chemical Substance Emissions		ton	-	-	-
Hazardous Chemical Usage		ton	0.01	0.23	0.67
Water Pollutant Emissions <sup>1)</sup>	Biochemical Oxygen Demand (BOD)	ton	0.000134946	0.000098784	0.000903168
	Suspended Solids (SS)	ton	0.000087318	0.000409248	0.001467648
	Total Organic Carbon (TOC)	ton	0.000089964	0.000310464	0.000762048
Air Pollutant Emissions	Particulate Matter (PM)	ton	0.26	0.28	0.84
	NOx Emissions	ton	-	-	-
	SOx Emissions	ton	-	-	-
	VOC Emissions	ton	Not applicable	Not applicable	Not applicable

1) Effluents are discharged into the joint treatment facility operated by Doosan Corporation Electronics BG. Therefore, concentrations are based on its effluent report standards, while flow volume and operating days are calculated using our internal criteria

Status of Eco-Friendly Vehicles

Category	Unit	2022	2023	2024
Number of Eco-Friendly Vehicles	units	5	9	14
Ratio of Eco-Friendly Vehicles	%	15.2	27.3	45.2

Product Responsibility

Category			Unit	2022	2023	2024
Resource Circulation	Total Weight of Reused/Recycled Raw Materials		ton	-	-	334.4
	Ratio of Reused/Recycled Raw Materials		%	-	-	10.7
End-of-Life Product Management	Recyclability/Reuse Rate of Sold Products		%	-	37.8	37.8
	Weight of Collected End-of-Life (EOL) Materials		ton	-	6.1 <sup>1)</sup>	52.5
	Recycling Rate of Collected EOL Materials		%	-	11.5	10.7
	Total Cost Savings or Revenue From Recycling or Reuse		KRW million	-	199.03	3,220.64
Product Efficiency	Purecell® M400 NG	Power Efficiency	%	43	43	43
		Thermal Efficiency	%	47	47	47
		Overall Efficiency	%	90	90	90
		Operating Hours	hours	87,600	87,600	87,600
	Purecell® H2	Power Efficiency	%	50	50	50
		Thermal Efficiency	%	35	35	35
		Overall Efficiency	%	85	85	85
		Operating Hours	hours	87,600	87,600	87,600
	Purecell® LPG/NG Dual	Power Efficiency (LPG/NG)	%	41/43	41/43	41/43
		Thermal Efficiency (LPG/NG)	%	49/47	49/47	49/47
		Overall Efficiency	%	90	90	90
		Operating Hours	hours	87,600	87,600	87,600
Green Sales <sup>2)</sup>	Green Sales		KRW million	-	-	173,669
	Ratio to Total Sales		%	-	-	42.2
Green Purchasing <sup>3)</sup>	Green Purchasing		KRW million	30	69	109
	Ratio to Total Purchases		%	0.3	0.4	1.0

1) Corrected due to data error  
2) Figures adjusted based on 2024 K-Taxonomy compliance criteria  
3) Refers to purchases aligned with the "Green Purchasing Criteria" (see page 43 of the report)

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Environmental

Raw Material Consumption

Category	Unit	2022	2023	2024
Total Water Consumption	ton	4,183	2,226	3,112
Non-Renewable Raw Material Consumption	%	100	100	100
Renewable Raw Material <sup>1)</sup> Consumption	%	-	-	-

1) As defined in Article 2 and Article 33-2 of the “Act on the Promotion of Saving and Recycling of Resources” and Article 2 of the Enforcement Decree of the “Act on Promotion of Transition to Circular Economy and Society”

Environmental Management

Category	Unit	2022	2023	2024
Environmental Law Violations	Number of Violations	cases	-	-
	Fines / Penalties	KRW million	-	-
	Environmental Liabilities Incurred at Year-End	KRW million	-	-
Environmental Management and Eco-Friendly Product Certifications	Total Number of Production Sites	sites	1	1
	Number of ISO 14001-Certified Sites	sites	1	1
	Ratio of ISO 14001-Certified Sites <sup>1)</sup>	%	100	100
Environmental Investment	Capital Expenditure	%	408.1	0.0
	Operating Expenses	KRW million	200.7	70.9
	Total Expenditure	KRW million	608.8	70.9
	Cost Savings (Revenue, Tax Benefits)	KRW million	8,920	7,785

1) The percentage is calculated as the proportion of revenue from ISO 14001 certified business sites to total revenue per business site

Environmental Education

Category	Unit	2022	2023	2024
Number of Participating Employees <sup>1)</sup>	persons	117	440	402
Education Hours per Employee <sup>2)</sup>	hours	4	4	4

1) Includes participants in four in-person education sessions held annually

2) Education schedule: Once per quarter, 1 hour per session, based on the average number of annual employees



# ESG Data

## Social

### Employee Status

Category		Unit	2022	2023	2024
Total Number of Employees		persons	471	470	542
By Gender	Male	persons	418	417	484
	Female	persons	53	53	58
Regular Employees	Total	persons	452	448	440
	Male	persons	407	405	401
	Female	persons	45	43	39
	Ratio of Regular Employees	%	96.0	95.3	81.2
	Ratio of Male Employees	%	90.0	90.4	91.1
	Ratio of Female Employees	%	10.0	9.6	8.9
Contract Employees	Total	persons	19	22	102
	Male	persons	11	12	83
	Female	persons	8	10	19
	Ratio of Contract Employees	%	4.0	4.7	18.8
	Ratio of Male Employees	%	57.9	54.5	81.4
	Ratio of Female Employees	%	42.1	45.5	18.6
Non-Affiliate Workers <sup>1)</sup>	Total Number of Non-Affiliate Workers	persons	-	-	29
	Number of Self-Employed Workers	persons	-	-	0
	Number of Dispatch Workers	persons	-	-	29
By Age Group	Under 30	persons	153	149	189
	30 to 50	persons	287	286	326
	Over 50	persons	31	35	27
	Ratio of Under 30	%	32.5	31.7	34.9
	Ratio of 30 to 50	%	60.9	60.9	60.1
	Ratio of Over 50	%	6.6	7.4	5.0

1) In the 2023 report, ratios were calculated based on the total number of employees. From the 2024 report onward, the ratios are calculated separately for regular and contract employees

Category		Unit	2022	2023	2024
By Region	Domestic	persons	471	470	542
	Overseas	persons	0	0	0
By Nationality	Korea	persons	470	469	542
	USA	persons	0	0	0
	Canada	persons	1	1	0
	Ratio of Korean Employees <sup>1)</sup>	%	99.8	99.8	100.0
	Ratio of U.S. Employees	%	-	-	-
	Ratio of Canadian Employees	%	0.2	0.2	-
Managerial Positions by Nationality	Korea	%	99.5	99.5	100.0
	USA	%	-	-	-
	Canada	%	0.5	0.5	-
Employees with Disabilities <sup>2)</sup>	Number of Employees	persons	9	9	10
	Ratio	%	1.91	1.91	1.85

1) From the 2024 report, updated to reflect Doosan Group consolidated basis  
2) Based on year-end reporting as defined in the Act on the Employment Promotion and Vocational Rehabilitation of Persons with Disabilities

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Social

Employee Diversity

Category		Unit	2022	2023	2024
Total Number of Managerial Positions <sup>1)</sup>	Total	persons	202	210	204
	Male	persons	187	195	191
	Female	persons	15	15	13
	Ratio of Female Managers	%	7.4	7.1	6.4
Number of Senior Managers <sup>2)</sup>	Total	persons	8	9	5
	Male	persons	7	7	5
	Female	persons	1	2	0
	Ratio of Female Senior Managers	%	12.5	22.2	0.0
Number of Mid-Level Managers <sup>2)</sup>	Total	persons	-	-	23
	Male	persons	-	-	22
	Female	persons	-	-	1
	Ratio of Female Mid-Level Managers	%	-	-	4.3
Number of Junior Managers <sup>2)</sup>	Total	persons	188	198	176
	Male	persons	174	185	164
	Female	persons	14	13	12
	Ratio of Female Junior Managers	%	7.4	6.6	6.8
Number of Managers in Revenue-Generating Departments <sup>3)</sup>	Total	persons	63	50	51
	Male <sup>4)</sup>	persons	-	-	49
	Female	persons	5	3	2
	Ratio of Female Managers in Revenue-Generating Departments	%	7.9	6.0	3.9
Number of Managers in STEM Departments	Total	persons	93	94	89
	Male	persons	-	-	85
	Female	persons	5	4	4
	Ratio of Female Managers in STEM Departments	%	5.4	4.3	4.5

1) Based on positions of senior level and above

2) From 2024, reported based on Doosan Group consolidated job grade structure

3) Excludes Management Support Sector, Business Management Sector, Business Innovation Division, and Independent Directors

4) From 2024, reported based on Doosan Group consolidated data

Turnover Management (Employee Turnover Status)

Category		Unit	2022	2023	2024
Total Number of Employee Turnovers <sup>1)</sup>		persons	105	59	110
Overall Employee Turnover Rate <sup>1)</sup>		%	22.3	12.6	20.3
Number of Voluntary Turnovers (Regular Employees Only) <sup>2)</sup>		persons	91	48	41
Voluntary Turnover Rate (Regular Employees Only) <sup>2)</sup>		%	20.1	10.7	9.3
By Employment Type	Regular Employees	persons	91	48	41
	Non-Regular Employees	persons	14	11	69
By Gender	Male	persons	87	49	74
	Female	persons	18	10	36
By Age <sup>1)</sup>	Under 30	persons	46	21	32
	30 to Under 50	persons	54	29	58
	Over 50	persons	5	9	20
By Region <sup>1)</sup>	Domestic	persons	105	59	110
	Overseas	persons	0	0	0
By Position Level	Senior Managers	persons	0	2	2
	Mid-Level Managers	persons	3	3	1
	Junior Managers	persons	37	23	22
By Nationality <sup>1)</sup>	Korea	persons	104	59	109
	USA	persons	1	0	0
	Canada	persons	0	0	1

1) 2022 and 2023 data corrected due to errors

2) Reported based on regular employees in accordance with Doosan Group consolidated basis

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Social

Hiring

Category		Unit	2022	2023	2024
Total Number of New Hires		persons	88	55	199
By Gender	Male	persons	79	44	153
	Female	persons	9	11	46
By Age	Under 30	persons	41	26	103
	30 to Under 50	persons	39	24	76
	Over 50	persons	8	5	20
By Position Level <sup>1)</sup>	Senior Managers	persons	2	2	2
	Mid-Level Managers	persons	13	7	1
	Junior Managers	persons	13	10	19
By Nationality <sup>2)</sup>	Korea	persons	-	-	199
	USA	persons	-	-	0
	Canada	persons	-	-	0
Diversity	Persons with Disabilities	persons	8	2	4
Total Recruitment Costs		KRW million	177.4	121.9	78.0
Average Recruitment Cost per Person		KRW million	2.02	2.22	0.39
Number of Internal Transfers		persons	114	92	54
Number of Open Positions Filled Internally	persons		-	-	54
	%		56.4	62.6	21.3

1) From 2024, reported based on Doosan Group consolidated basis

2) From 2024, reported based on Doosan Group consolidated data

Return on Human Capital Investment

Category	Unit	2022	2023	2024
Return on Human Capital Investment	%	1.2	1.0	1.0

Collective Bargaining and Labor Union

Category		Unit	2022	2023	2024
Collective Bargaining <sup>1)</sup>	Number of Employees Covered by Collective Bargaining	persons	-	-	304
	Ratio of Employees Covered by Collective Bargaining	%	-	-	56.1
Labor Union <sup>2)</sup>	Number of Employees Eligible for Union Membership	persons	129	128	173
	Total Number of Union Members	persons	121	127	138
	Ratio of Unionized Employees	%	93.8	99.2	79.8

1) From the 2024 report, updated to reflect Doosan Group consolidated basis

2) 2022 and 2023 data corrected; the denominator updated to the number of eligible employees for union membership in accordance with Doosan Group consolidated basis

Annual Compensation Ratio<sup>1)</sup>

Category	Unit	2022	2023	2024
Annual Total Compensation Ratio (Median-Based)	%	-	-	560
Annual Total Compensation Ratio (Mean-Based)	%	-	-	470
Median Employee Compensation	KRW million	-	-	52.5
Mean Employee Compensation	KRW million	-	-	62.6

1) Ratio of the highest-paid individual's annual compensation to the annual compensation of all other employees, excluding the highest-paid individual

Performance Evaluation

Category		Unit	2022	2023	2024
Long-Term Incentives Coverage	Ratio of Senior Managers	%	100	100	100
	Ratio of Employees below Senior Management	%	-	-	-
	Ratio of Employees Evaluated	%	100	100	100
Performance Evaluation Coverage	Number of Employees Subject to Performance Evaluation <sup>1)</sup>	persons	319	318	308
	Number of Employees Evaluated <sup>1)</sup>	persons	319	318	308
	Ratio of Employees under Management by Objectives (MBO) <sup>2)</sup>	%	62.7	67.7	56.8
	Ratio of Employees under Multi-Rater Evaluation	%	-	-	-
	Ratio of Employees under Ranking-Based Evaluation within Same Grade	%	62.7	67.7	56.8

1) Includes executives

2) Number of employees evaluated / total number of employees

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

# ESG Data

## Social

### Occupational Safety and Health

Category		Unit	2022	2023	2024
Workers Overseeing Operations and/or Workplaces	Number of Workers	persons	61	65	77
	Ratio	%	12.6	13.8	13.5
Workers Covered by Occupational Safety and Health Management Systems (by Law and Systems)	Number of Workers	persons	485	505	571
	Ratio	%	100	100	100
Workers Covered by Occupational Safety and Health Management Systems (by Internal Audits)	Number of Workers	persons	226	139	194
	Ratio	%	47.0	29.6	34.0
Workers Covered by Occupational Safety and Health Management Systems (by External Audits or Certifications)	Number of Workers	persons	226	139	194
	Ratio	%	47.0	29.6	34.0
Occupational Injury Rate		%	0.0	0.2	0.2
Lost Time Injury Frequency Rate (LTIFR)	Number of Lost Time Injuries – Employees	cases	0	1	1
	LTIFR – Employees	cases/million hours	0.00	1.01	0.87
	Number of Lost Time Injuries – Partners	cases	0	1	0
	LTIFR – Partners	cases/million hours	0	15	0
Occupational Illness Frequency Rate (OIFR) <sup>1)</sup>	Number of Recordable Work-Related Illnesses – Employees	cases	0	0	0
	OIFR – Employees	cases/million hours	-	-	0
	Number of Recordable Work-Related Illnesses – Partners	cases	-	-	0
	OIFR – Partners	cases/million hours	-	-	0
Total Recordable Incident Rate (TRIR)	Number of Work-Related Fatalities – Employees	cases	-	9	10
	TRIR – Employees <sup>1)</sup>	cases/million hours	-	8.95	8.74
Number of Work-Related Fatalities	Employees	persons	0	0	0
	Partners	persons	0	0	0
	Fatality Rate – Employees	%	0	0	0
	Fatality Rate – Partners	%	0	0	0
	Total Work-Related Fatality Rate	%	0	0	0
Number of Work-Related Fatalities Among Non-Employees Managing Workplaces		persons	0	0	0
Recordable Work-Related Injuries	Number of Workers	persons	0	9	10
	Ratio	%	0	1.89	1.85
Number of Lost Workdays		days	0	21	31
On-Site Safety Inspections (Number of Inspections per Site)		cases	18	24	65
Total Annual Work Hours <sup>2)</sup>	Employees	hours	-	-	1,144,704
	Partners	hours	-	-	61,248

1) In the FY2023 report, TRIR was calculated per 200,000 hours; from the FY2024 report, the basis has been changed to per 1 million hours  
2) From 2024, reported based on Doosan Group consolidated basis

### Employee Capacity Development

Category		Unit	2022	2023	2024
Total Education Hours		hours	4,053	5,308	5,991
By Age	Under 30	hours	1,484	1,694	1,063
	30 to Under 50	hours	2,378	3,319	4,776
	Over 50	hours	191	295	152
By Gender	Male	hours	3,593	4,706	4,854
	Female	hours	460	602	1138
By Position Level	Executives – Senior Management and Above	hours	87	136	79
	Employees – Junior Management and Above	hours	1,631	2,236	3,264
	Employees – Below Junior Management	hours	2,335	2,936	2,649
By Nationality	Korea	hours	-	-	5,991
	USA	hours	-	-	0
	Canada	hours	-	-	0
Average Education Hours per Employee <sup>1)</sup>		hours	8.6	11.3	11.1
Total Education Expenses		KRW million	-	-	720
Average Education Expense per Employee <sup>1)</sup>		KRW thousand/ person	2.1	1.4	1.3
Education Type	Mandatory Legal Education	hours	1,413	460	1,493
	Job Training	hours	2,640	4,848	4,498
Education Satisfaction		points	88	92	94

1) Denominator: Total number of employees

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Social

Equal Pay for Equal Work (Gender Pay Equity)

Category		Unit	2022	2023	2024
Average Base Salary	Male Executives (Senior Management and Above)	KRW million	228	230	219
	Female Executives (Senior Management and Above)	KRW million	210	217	-
Average Total Compensation (Base Salary + Incentives)	Male Executives (Senior Management and Above)	KRW million	299	273	223
	Female Executives (Senior Management and Above)	KRW million	408	257	-
Average Base Salary <sup>1)</sup>	Male Managers	KRW million	80.0	81.7	84.5
	Female Managers	KRW million	76.0	79.5	84.2
Average Total Compensation (Base Salary + Incentives) <sup>1)</sup>	Male Managers	KRW million	91.0	90.8	91.0
	Female Managers	KRW million	87.0	90.1	91.9
	Male Non-Managers	KRW million	51.0	46.1	43.6
	Female Non-Managers	KRW million	54.0	52.4	48.6
Gender Pay Gap	Gender Pay Gap	%	4.2	6.8	8.7
	Average Hourly Wage – Male Employees	KRW	21,226	22,396	22,207
	Average Hourly Wage – Female Employees	KRW	20,339	20,880	20,278
	Statutory Annual Working Hours	hours	2,086	2,086	2,086
	Pay Gap Based on Mean Compensation (All Employees) <sup>2)</sup>	%	95.0	99.7	91.3
	Pay Gap Based on Median Compensation (All Employees) <sup>3)</sup>	%	108.0	105.0	119
	Mean Bonus Gap (All Employees) <sup>4)</sup>	%	108.4	161.2	99.5
	Median Bonus Gap (All Employees) <sup>5)</sup>	%	132.4	113.3	131.8

1) Based on Doosan Group consolidated grading structure for managerial positions

2) (Average hourly wage of female employees / average hourly wage of male employees) × 100

3) (Median salary of female employees / median salary of male employees) × 100

4) (Average bonus received by female employees / average bonus received by male employees) × 100

5) (Median bonus of female employees / median bonus of male employees) × 100 / Median bonus : the midpoint of bonuses received within a given group, organization, or industry

Parental Leave

Category		Unit	2022	2023	2024
Number of Employees Eligible for Parental Leave	Male	persons	190	143	115
	Female	persons	7	10	8
	Total	persons	197	153	123
Ratio of Employees Eligible for Parental Leave	Male	%	40.3	30.4	21.2
	Female	%	1.5	2.1	1.5
	Total	%	41.8	32.6	22.7
Number of Employees Who Took Parental Leave	Male	persons	1	1	1
	Female	persons	3	0	4
	Total	persons	4	1	5
Ratio of Employees Who Took Parental Leave	Male	%	0.5	0.7	0.9
	Female	%	42.9	0.0	50.0
	Total	%	2.0	0.7	4.1
Number of Employees Who Returned After Parental Leave <sup>1)</sup>	Male	persons	0	2	0
	Female	persons	2	2	1
	Total	persons	2	4	1
Ratio of Employees Who Returned After Parental Leave <sup>1)</sup>	Male	%	0.0	100.0	0.0
	Female	%	100.0	100.0	50.0
	Total	%	66.7	100.0	50.0
Number of Employees Retained for Over 12 Months After Returning from Parental Leave <sup>1)</sup>	Male	persons	1	0	2
	Female	persons	0	1	1
	Total	persons	1	1	3
Ratio of Employees Retained for Over 12 Months After Returning from Parental Leave <sup>1)</sup>	Male	%	100	0	100
	Female	%	0	50	50
	Total	%	100	50	75

1) 2022 and 2023 data corrected due to errors



Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

ESG Data

Social

Human Rights Management

Category		Unit	2022	2023	2024
Number of Discrimination and Harassment Cases		cases	2	0	1
Number of Grievances Raised via Employee Communication Channels		cases	-	-	1
Number of Complaints Filed with the OECD National Contact Point (NCP)		cases	-	-	-
Financial Losses Due to Discrimination Cases		KRW	-	-	-
Human Rights Education	hours	hours	1,413	1,265	1,493
	Ratio of Employees Who Participated	%	100	98	99
Human Rights Due Diligence or Impact Assessments	Total Number of Business Sites Where Human Rights Reviews or Impact Assessments Were Conducted	entities	3	4	4
	Ratio of Business Sites with Human Rights Reviews or Impact Assessments	%	100	100	100
	Number of Partners Assessed for Human Rights Reviews or Impact Assessments	entities	0	0	0
	Number of Joint Ventures Assessed for Human Rights Reviews or Impact Assessments	entities	0	0	0

Social Contribution

Category		Unit	2022	2023	2024
Ratio of Business Sites Operating Community Engagement, Impact Assessments, or Development Programs		%	100	100	100
Total Social Contribution Expenditures		KRW million	1,713.0	1,683.8	1,140.6
Cash Donations		KRW million	1,076.4	1,643.1	1,120.8

Employee Satisfaction Survey

Category		Unit	2022	2023 <sup>5)</sup>	2024 <sup>5)</sup>
Employee Satisfaction <sup>1)</sup>		%	76	-	-
Job Satisfaction <sup>2)</sup>		points	68	-	-
Sense of Purpose <sup>2)</sup>		points	69.7	-	-
Happiness <sup>3)</sup>		number	328	-	-
Stress <sup>4)</sup>		number	544	-	-
Data Scope		%	75	-	-

- 1) Percentage of employees who responded with high satisfaction (7 or higher on a 10-point scale)
- 2) Average score of all respondents
- 3) Number of positive keywords selected per person among the top three emotions experienced in the past week
- 4) Number of negative keywords selected per person among the top three emotions experienced in the past week
- 5) Data not available for 2023 and 2024 due to non-implementation

Customer Satisfaction Surveys

Category		Unit	2022	2023	2024
Customer Satisfaction Score		points	-	-	80
Target Number of Companies for Customer Satisfaction Survey		entities	-	-	20
Number of Companies Surveyed		entities	-	-	11
Number of Customers Surveyed		persons	-	-	11

Recall Management

Category		Unit	2022	2023	2024
Number of Recalls Issued		entities	0	0	0
Number of Recalled Products		entities	0	0	0

# ESG Data

## Economy and Governance

### Summary Financial Information<sup>1)</sup>

Category	Unit	2022	2023	2024
Revenue	KRW million	312,149	260,886	411,784
Gross Profit	KRW million	44,679	39,537	36,162
Operating Profit	KRW million	7,222	1,642	(1,729)
Profit (Loss) Before Income Tax	KRW million	4,277	(12,541)	(10,222)
Net Profit (Loss)	KRW million	3,864	(8,500)	(10,475)
Liabilities	KRW million	503,865	558,191	680,759
Equity	KRW million	523,064	512,652	498,896
Total Assets	KRW million	1,026,930	1,070,843	1,179,655

1) Based on 2024 consolidated financial data

### Distribution of Economic Value

Category	Unit	2022	2023	2024
Dividends Paid to Shareholders	KRW million	-	-	-
Government (Corporate Tax Expense (Income))	KRW million	413	(4,041)	253
Total Amount Paid to Employees	KRW million	42,330	41,418	51,530
Payments to suppliers	KRW million	374,860	169,962	192,153
Community Investment <sup>1)</sup>	KRW million	1,680	1,643	1,121
Payments to Investors <sup>2)</sup>	KRW million	4,931	17,626	20,143
Total Economic Value Distributed	KRW million	424,214	226,608	265,200

1) Reported as donations in the business report (refers to community-directed donation expenditures)

2) Revised from “Interest Expense” in the cash flow statement to “Interest Expense” under Note 27. Finance Income and Costs in the business report

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

- GRI Index
- SASB Index
- TCFD Index
- UN SDGs
- Status of Association and Organization Memberships
- Independent Assurance Statement
- Assurance Statement on Greenhouse Gas Emissions

ESG Data

Economy and Governance

Violations of the Code of Conduct

Category	Unit	2022	2023	2024
Corruption or Bribery	cases	0	0	1
Customer Privacy Protection	cases	0	0	0
Conflicts of Interest	cases	0	0	0
Money Laundering or Insider Trading	cases	0	0	0

Anti-Corruption Policy Notification and Education

Category		Unit	2022	2023	2024
Number of Members of the Governance Body (Board of Directors)		persons	5	5	5
Number of Governance Body Members Trained on Anti-Corruption		persons	0	0	0
Ratio of Trained Governance Body Members		%	0	0	0
Number of Workers Educated (by Employment Type)	Regular Employees	persons	445	438	511
	Contract Employees	persons	0	0	0
	Total	persons	445	438	511
Ratio of Workers Educated	Total	%	99	100	94
Ratio of Workers Educated (by Employment Type)	Regular Employees	%	99	100	94
	Contract Employees	%	0	0	0
	Number of Workers Educated – Domestic	persons	445	438	511
	Ratio of Workers Educated – Domestic	%	99	100	94

Ethical Management

Category	Unit	2022	2023	2024
Code of Conduct Coverage Rate for Employees	%	100	100	100
Rate of Employee Acknowledgment and Signing of Ethical Standards	%	100	100	100
Rate of Code of Conduct Education Provided to Employees	%	99	100	94

Government Expenditures and Association Fees<sup>1)</sup>

Category	Unit	2022	2023	2024
Lobbying	KRW million	0	0	0
Political Contributions	KRW million	0	0	0
Trade, Industry, Business Associations or Tax-Exempt Organization Membership Fees <sup>2)</sup>	KRW million	902	495	553
Other Expenditures	KRW million	0	0	0
Total <sup>2)</sup>	KRW million	902	495	553

1) No political spending in accordance with the Political Funds Act of Korea

2) Data revised due to changes in reporting criteria

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

# ESG Data

## Economy and Governance

### Major Policy-Related Expenditures<sup>1)</sup>

Category	Unit	2022	2023	2024
Korea Hydrogen Fuel Cell Industry Association	KRW million	400	305	455
Korea Hydrogen Alliance (formerly H <sub>2</sub> Korea)	KRW million	50	50	50
Energy Transition Forum Korea	KRW million	5	0	5
Energy Future Forum Korea	KRW million	5	5	5

1) No donations made to political organizations, lobbyists, or similar entities

### IT Infrastructure Incidents

Category	Unit	2022	2023	2024
Number of IT Infrastructure Incidents	cases	0	0	0
Financial Loss from IT Infrastructure Incidents	KRW million	0	0	0

### Information Security

Category	Unit	2022	2023	2024
Number of Information Security Breaches	cases	0	0	0
Number of Customers and Employees Affected by Information Security Breaches	persons	0	0	0
Share of Investment in Information Security (Out of Total IT Expenses) <sup>1)</sup>	%	6.95	- <sup>2)</sup>	- <sup>2)</sup>

1) Based on publicly disclosed data from the Information Security Industry Promotion Portal

2) Not calculated for 2023–2024, as the company was not subject to mandatory disclosure

### Supply Chain Risk Management

Category		Unit	2022	2023	2024
Total Number of Partners <sup>1)</sup>		entities	105	132	137
Number of Key Partners <sup>2)</sup>		entities	13	11	5 <sup>1)</sup>
ESG Risk Assessment	Number of Partners Subject to Assessment	entities	13	43	34
	Ratio of Partners Assessed	%	12.4	32.6	24.8
	Target Number of Assessments	entities	-	43	34
	Number of Partners Undergoing Regular Assessment	entities	13	43	34
	Ratio of Regularly Assessed Partners (Out of All Partners)	%	12.4	32.6	24.8
Results of ESG Risk Assessment	Number of High-Risk Partners Identified	entities	1	-	8
	Ratio of High-Risk Partners with Identified Areas for Improvement	%	-	-	100
	Number of High-Risk Partners That Implemented Improvements <sup>3)</sup>	entities	-	-	-
Implementation of ESG Risk Improvement Tasks	Number of Partners Supported for Implementation	entities	-	-	32
	Target Number of Partners for Support	entities	-	-	32
	Ratio of Partners Identified as High Risk During Task Implementation	%	-	-	25

1) Includes subcontractors + large/mid-sized companies + overseas partners

2) Number of critical partners among those subject to supply chain ESG assessments

3) Currently undergoing implementation; reassessment planned in 2025

# ESG Data

## Economy and Governance

### Board Composition

Category		Unit	2022	2023	2024
Total Number of Board Members	Number of Executive Directors	persons	2	2	2
	Number of Independent Directors	persons	3	3	4
Board Industry Experience	Directors With Industry Experience	persons	1	1	1
Board Gender Diversity	Number of Female Directors	persons	0	0	0

### Board Operations (Average Attendance Rate)

Category		Unit	2022	2023	2024
Executive Directors		%	66.7	100.0	88.9
Other Non-Executive and Independent Directors		%	100.0	95.8	95.6
Total		%	85.7	97.5	93.1
Average Tenure of Board Members		years	2.5	3.5	2.6

### Board Compensation

Category		Unit	2022	2023	2024
Executive Directors	Base Salary	KRW million	523	429	564
	Performance-Based Bonus	KRW million	280	59	41
Independent Directors	Base Salary	KRW million	216	212	270
	Performance-Based Bonus	KRW million	-	-	-

### Voting Rights on Shares

Category		Unit	2022	2023	2024
Number of Non-Voting Shares		shares	12,564	12,564	12,564
Number of Voting Shares		shares	81,831,662	81,831,662	81,831,662



Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

- ESG Data
- GRI Index
- SASB Index
- TCFD Index
- UN SDGs
- Status of Association and Organization Memberships
- Independent Assurance Statement
- Assurance Statement on Greenhouse Gas Emissions

GRI Index

**Statement of Use:** The reporting entity, Doosan Fuel Cell, has reported the information for the period from January 1, 2024 to December 31, 2024 in accordance with the GRI Standards 2021.

**GRI 1 Used:** GRI 1 Foundation 2021

**Applicable GRI Sector Standards:** As of the reporting date, no GRI Sector Standards have been published for sectors applicable to Doosan Fuel Cell (based on GICS and other industrial classification standards). Therefore, sector standards have not been applied.

Category	Index	Description	Reporting Page
GRI 2: General Disclosures	2-1	Organizational Details	6
	2-2	List of Entities Included in the Organization's Sustainability Reporting	2
	2-3	Report Period, Reporting Cycle, and Contact Point	2
	2-5	External Assurance	121-122
	2-6	Activities, Value Chain, and Other Business Relationships	7-13
	2-7	General Workers	105
	2-8	Non-regular Workers	105
	2-9	Governance	85-87
	2-10	Nomination and Selection of the Highest Governance Body	85-87
	2-11	Chair of the Highest Governance Body	85-87
	2-12	Role of the Highest Governance Body in Overseeing Impact Management	15-16
	2-13	Delegation of Responsibility for Impact Management	15-16
	2-14	Role of the Highest Governance Body in Sustainability Reporting	15-16
	2-15	Conflicts of Interest	FY2024 Business Report
	2-16	Communication of Critical Concerns	15
	2-17	Collective Knowledge of the Highest Governance Body	15

Category	Index	Description	Reporting Page
GRI 2: General Disclosures	2-18	Evaluation of the Performance of the Highest Governance Body	19
	2-19	Remuneration Policies	86
	2-20	Remuneration Decision-making Process	86
	2-21	Total Annual Compensation Ratio	107
	2-22	Statement on Sustainable Development Strategy	5
	2-23	Policy Commitments	15-17
	2-24	Responsibility for Policy Commitments	
	2-25	Processes to Address Negative Impacts	97-98
	2-26	Mechanisms for Seeking Advice and Raising Concerns on Ethics	88
	2-27	Legal Compliance	44, 90, 112
	2-28	Membership of Associations	120
	2-29	Methods of Stakeholder Participation	24
	2-30	Collective Agreements	107
GRI 3: Material Topics Disclosure	3-1	Process for Determining Material Topics	21-24
	3-2	List of Material Topics	21-24

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

GRI Index

Category	Index	Description	Reporting Page
GRI 3: Material Topics Disclosure	3-3	Management of Material Issues	23
GRI 302: Energy	302-1	Energy Consumption Within the Organization	101
	302-2	Energy Consumption Outside the Organization	Information Not Sufficiently Available
	302-3	Energy Intensity	101
	302-4	Reduction of Energy Consumption	48
	302-5	Reductions in Energy Requirements of Products and Services	Information Not Sufficiently Available
GRI 3: Material Topics Disclosure	3-3	Management of Material Issues	23
GRI 305: Emissions	305-1	Direct Greenhouse Gas Emissions (Scope 1)	101
	305-2	Indirect Greenhouse Gas Emissions (Scope 2)	101
	305-3	Other Indirect Greenhouse Gas Emissions (Scope 3)	101
	305-4	GHG Emissions Intensity	101
	305-5	Reduction of Greenhouse Gas Emissions	48
	305-6	Emissions of Ozone-Depleting Substances (ODS)	Not applicable
	305-7	Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Other Significant Air Emissions	103
GRI 3: Material Topics Disclosure	3-3	Management of Material Issues	23
GRI 306: Waste	306-1	Waste Generation and Significant Waste-related Impacts	39
	306-2	Management of Significant Waste-related Impacts	40
	306-3	Waste Generation	102
	306-4	Waste Recycling	102
	306-5	Waste Treatment	102

Category	Index	Description	Reporting Page
GRI 205: Anti-corruption	205-2	Communication and Education About Anti-Corruption Policies and Procedures (Met)	112
	205-3	Confirmed Incidents of Corruption and Actions Taken	112
GRI 301: Raw Materials	301-1	Weight or Volume of Materials Used	104
	301-2	Recycled Input Materials Used	103-104
GRI 303: Water	303-2	Water Discharge-related Impacts	46
	303-3	Water Withdrawal	101
	303-4	Water Discharge	101
	303-5	Water Consumption	101
	304-3	Habitats Protected or Restored	45
GRI 308: Supplier Environmental Assessment	308-2	Negative Environmental Impacts in the Supply Chain and Actions Taken	73-81
GRI 401: Employment	401-1	New Employee Hires and Turnover	106-107
	401-2	Benefits Provided to Full-Time Employees That Are Not Provided to Temporary or Part-Time Employees	59-60
	401-3	Parental Leave	109
GRI 403: Occupational Health and Safety	403-1	Occupational Health and Safety Management System	65-67
	403-2	Hazard Identification, Risk Assessment, and Incident Investigation	65-67
	403-3	Occupational Health Services	65-67
	403-4	Worker Participation, Consultation, and Communication on Occupational Health and Safety	65-67
	403-5	Worker Training on Occupational Health and Safety	65-67
	403-6	Promotion of Worker Health	65-67
	403-7	Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked by Business Relationships	65-67
	403-8	Workers Covered by an Occupational Health and Safety Management System	65-67
	403-9	Work-Related Injuries	108
	403-10	Work-Related Illnesses	108
GRI 404: Training and Education	404-1	Average Training Hours per Employee	108
	404-2	Employee Capacity Building and Career Transition Support Program	58-59, 110
	404-3	Percentage of Employees Receiving Regular Performance and Career Development Review	
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of Governance Bodies and Employees	106
	405-2	Ratio of Basic Salary and Remuneration of Women to Men	109
GRI 414: Supplier Social Assessment	414-2	Negative Social Impacts in the Supply Chain and Actions Taken	73-81
GRI 416: Customer Health and Safety	416-2	Incidents of Non-compliance Concerning the Health and Safety Impacts of Products and Services	82-84

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

- ESG Data
- GRI Index
- SASB Index
- TCFD Index
- UN SDGs
- Status of Association and  
Organization Memberships
- Independent Assurance Statement
- Assurance Statement on  
Greenhouse Gas Emissions

# SASB Index

SASB Industry: Renewable Resources & Alternative Energy (Fuel Cells & Industrial Batteries)

Topic	Code	Accounting Metric	Scope	Unit of Measure	Reporting Page
Energy Management	RR-FC-130a.1	Total Energy Consumption	Quantitative	Gigajoules (GJ)	101
		Grid Electricity Ratio	Quantitative	Percentage (%)	101
		Renewable Energy Ratio	Quantitative	Percentage (%)	101
Employee Health and Safety	RR-FC-320a.1	Total Recordable Incident Rate (TRIR)	Quantitative	Ratio	108
		Total Recordable Fatality Rate	Quantitative	Ratio	108
	RR-FC-320a.2	Description of Efforts to Assess, Monitor, and Reduce Employee Exposure to Health Hazards	Discussion and Analysis	Not applicable	65-67
Product Efficiency	RR-FC-410a.1	Average Storage Capacity of Industrial Batteries by Product Application and Technology Type	Quantitative	Specific Energy (Wh/kg)	N/A
	RR-FC-410a.2	Power Efficiency by Product Application and Technology Type	Quantitative	Percentage (%)	103
		Thermal Efficiency or Average Energy Efficiency of Fuel Cells by Product Application and Technology Type	Quantitative	Percentage (%)	103
	RR-FC-410a.3	Coulombic Efficiency or Average Battery Efficiency by Product Application and Technology Type	Quantitative	Percentage (%)	N/A
	RR-FC-410a.4	Average Operating Lifetime of Fuel Cells by Product Application and Technology Type	Quantitative	hours (h)	N/A
	RR-FC-410a.5	Average Operating Lifetime of Batteries by Product Application and Technology Type	Quantitative	Number of Cycles	N/A
End-of-Life Product Management	RR-FC-410b.1	Recyclability/Reuse Rate of Sold Products	Quantitative	Weight-Based Percentage (%)	N/A
	RR-FC-410b.2	Weight of Recovered End-of-Life (EOL) Materials	Quantitative	tons (t)	102
		Recycling Rate of Recovered End-of-Life (EOL) Materials	Quantitative	Percentage (%)	102
	RR-FC-410b.3	Description of Approach to Managing Hazardous Materials Use, Landfilling, and Disposal	Discussion and Analysis	Not applicable	43-44, 47
Materials Procurement	RR-FC-440a.1	Description of Risk Management Related to the Use of Critical Materials	Discussion and Analysis	Not applicable	N/A

Activity Indicators	Code	Scope	Unit of Measure	Reporting Page
Number of Products Sold	RR-FC-000.A	Quantitative	units	8
Total Storage Capacity of Sold Batteries	RR-FC-000.B	Quantitative	megawatts (MW)	N/A
Total Energy Output Capacity of Sold Fuel Cells	RR-FC-000.C	Quantitative	megawatts (MW)	8

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

- ESG Data
- GRI Index
- SASB Index
- TCFD Index
- UN SDGs
- Status of Association and Organization Memberships
- Independent Assurance Statement
- Assurance Statement on Greenhouse Gas Emissions

# TCFD Index

TCFD Recommendations		Reporting Page
Governance	a) Description of the board's oversight of climate-related risks and opportunities	25
	b) Description of management's role in assessing and managing climate-related risks and opportunities	25
Strategy	a) Description of climate-related risks and opportunities in the short, medium, and long term	26
	b) Description of the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	27-28
	c) Description of the resilience of the organization's strategy, considering different climate-related scenarios, including a 2°C or lower scenario	29-32
Risk Management	a) Description of the organization's processes for identifying and assessing climate-related risks	33
	b) Description of the organization's processes for managing climate-related risks	33
	c) Description of how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	33
Indicators and Targets	a) Metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	33
	b) Scope 1, Scope 2, and, if applicable, Scope 3 greenhouse gas emissions, and the related risks	33
	c) Targets used by the organization to manage climate-related risks and opportunities and performance against targets	33

Company Overview

ESG Strategy

Materiality

ESG Performance

Appendix

ESG Data

GRI Index

SASB Index

TCFD Index

UN SDGs

Status of Association and  
Organization Memberships

Independent Assurance Statement

Assurance Statement on  
Greenhouse Gas Emissions

UN SDGs

UN SDGs	Specific Goals	Reporting Page
<div><div>3</div><div>GOOD HEALTH AND WELL-BEING</div></div>	Good Health and Well-Being	Ensure healthy lives and promote well-being for all at all ages
<div><div>4</div><div>QUALITY EDUCATION</div></div>	Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
<div><div>5</div><div>GENDER EQUALITY</div></div>	Gender Equality	Achieve gender equality and empower all women and girls
<div><div>6</div><div>CLEAN WATER AND SANITATION</div></div>	Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all
<div><div>7</div><div>AFFORDABLE AND CLEAN ENERGY</div></div>	Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable, and modern energy for all
<div><div>8</div><div>DECENT WORK AND ECONOMIC GROWTH</div></div>	Decent Work and Economic Growth	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

UN SDGs	Specific Goals	Reporting Page
<div><div>9</div><div>INDUSTRY, INNOVATION AND INFRASTRUCTURE</div></div>	Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
<div><div>10</div><div>REDUCED INEQUALITIES</div></div>	Reduced Inequalities	Reduce inequality within and among countries
<div><div>13</div><div>CLIMATE ACTION</div></div>	Climate Action	Take urgent action to combat climate change and its impacts
<div><div>15</div><div>LIFE ON LAND</div></div>	Life on Land	Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss
<div><div>16</div><div>PEACE, JUSTICE AND STRONG INSTITUTIONS</div></div>	Peace, Justice and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels
<div><div>17</div><div>PARTNERSHIPS FOR THE GOALS</div></div>	Partnerships for the Goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development



# Memberships in Associations and Organizations

## Association / Organization

Korea Industrial Safety Association – Seoul Regional Headquarters	Korea Listed Companies Association	Jeonbuk Regional Chemical Plant Council
Korea Hydrogen Alliance	Korea Hydrogen Fuel Cell Industry Association	Jeonbuk Environmental Engineers Association
Energy Future Forum Korea	Korea New and Renewable Energy Association	KOREA Investor Relations Service
Energy Transition Forum Korea	UN Global Compact Network Korea	Korea Fire Safety Institute
Clean Ammonia Council	Iksan Business Environment Council	RE100 • CF100 Energy Solution Alliance
Korea H2 Business Summit	Iksan Region Safety and Health Council	The Korean Institute of Chemical Engineers
Iksan Chamber of Commerce and Industry	Korea Project Management Association	Korea Industrial Safety Association
Korea Industrial Technology Association		

# Independent Assurance Statement

## To readers of Doosan Fuel Cell Sustainability Report 2025

### Introduction

Korea Management Registrar (KMR) was engaged to conduct an independent assurance of Doosan Fuel Cell Sustainability Report 2025 for the year ending December 31, 2024. The preparation, information and internal control of the report are the sole responsibility of Doosan Fuel Cell's the management. KMR's responsibility is to comply with the agreed engagement and express an opinion to Doosan Fuel Cell's management.

### Subject Matter

The reporting boundaries included the performance and activities of sustainability-related organizations as described in Doosan Fuel Cell's report:

- Doosan Fuel Cell Sustainability Report 2025

Reference Standard

- GRI Standards 2021 : 2023 (GRI)

### Assurance criteria

KMR conducted the verification in accordance with the globally recognized standard AA1000AS v3 and KMR's assurance standard SRV1000 based on requirements of ISO 17029 and KMR EDV 01, and set the levels of assurance and materiality as below. Under AA1000AS v3, We assessed the adherence to the four principles presented in AA1000AP:2018—Inclusivity, Materiality, Responsiveness, and Impact—and evaluated the reliability and quality of the data and information using the GRI index specified in the report. Under SRV1000, we conducted a multidimensional review aimed at zero data errors, applying expert judgment to determine the materiality criteria.

- ISO 17029 : 2019, ISO 14065 : 2020, AA1000AS v3 : 2020 (AccountAbility), AA1000AP : 2018 (AccountAbility), SRV 1000 : 2022 (KMR), KMR EDV 01 : 2024 (KMR)
- Levels of assurance/materiality: AA1000AS v3 – Type 2/moderate, limited/ not set

### Scope of assurance

The scope of our assurance included the verification of compliance with the reporting requirements of the GRI Standards 2021. We confirmed that the following indicators of material topics were identified through the materiality assessment process.

- GRI Standards 2021 reporting principles
- Universal Standards
- Topic Specific Standards
  - GRI 302: Energy
  - GRI 305: Emissions
  - GRI 306: Waste

As for the reporting boundary, the engagement excludes the data and information of Doosan Fuel Cell'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 engagement:

- Evaluating the appropriateness of the reference standard used as a basis for preparing sustainability information and the reliability of the materiality assessment process and its findings;
- Conducting inquiries to understand the data management and control environment, processes, and information systems (the effectiveness of controls was not tested);
- Evaluating the appropriateness and consistency of the methodology for estimation (note that the underlying data was not tested and KMR has not made any estimates);
- Visiting the headquarters, determining visit sites based on the site's contribution to sustainability and the possibility of unexpected changes since the previous period and sampling data, and carrying out due diligence on a limited number of source records at the sites visited;
- Interviewing people in charge of preparing the report;
- Considering whether the presentation and disclosures of sustainability information are accurate and clearly defined;
- Identifying errors through comparison and check against underlying information, recalculation, analyses, and backtracking; and
- Evaluating the reliability and balance of information based on independent external sources, public databases, and press releases.

### Limitations and Recommendations

The absence of generally accepted reporting frameworks or well-established practices on which to draw to evaluate and measure non-financial information allows for different measures and measuring techniques, which can affect comparability between entities. Therefore, our assurance team relied on professional judgment. The scope of this assurance included the confirmation of the truthfulness of claims regarding results that have already been obtained as stipulated by ISO 17029. However, the plausibility of intended claims of forecasts or hypotheses was not validated even if the related content was contained in the report.

A limited assurance evaluates the appropriateness of the criteria used by Doosan Fuel Cell for preparing sustainability information on subject matters, the risk of material misstatement in the sustainability information, whether due to fraud or error, responses to risks, and disclosure of the sustainability information on subject matters. However, the scope of the risk assessment process and the subsequent procedures performed in response to assessed risks, including an understanding of internal controls, is more limited than that of a reasonable assurance.

Our assurance team conducted our work to a limited extent through inquiries, analysis, and limited sampling based on the assumption that the data and information provided by Doosan Fuel Cell are complete and sufficient. To overcome these limitations, we confirmed the quality and reliability of the information by referring to independent external sources and public databases, such as DART and the National GHGs Management System (NGMS).

# Independent Assurance Statement

## Conclusion and Opinion

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

## Inclusivity

Doosan Fuel Cell 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

Doosan Fuel Cell 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

Doosan Fuel Cell 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 Doosan Fuel Cell’s actions.

## Impact

Doosan Fuel Cell 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 assessing the adherence to AA1000AP (2018) principles, we have assessed the reliability of sustainability performance data, including greenhouse gas emissions (Scope 1, 2, and 3), energy consumption, water consumption, general and hazardous waste generation, ESG assessment and support for the supply chain, and gender pay equity. 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.

## KMR’s Competence, Independence, and Quality Control

Korea Management Registrar (KMR) is a verification body for the greenhouse gas emissions trading scheme, accredited by the Korea Laboratory Accreditation Scheme (KOLAS) under the National Institute of Technology and Standards of Korea for ISO/IEC 17029:2019 (Conformity Assessment - General principles and requirements for validation and verification bodies), ISO 14067, and additional accreditation criteria, ISO 14065. It is also recognized by the Korea Accreditation Board (KAB) for ISO/IEC 17021:2015 (Requirements for bodies providing audit and certification of management systems), and the National Institute of Environmental Research under the Ministry of Environment of Korea. Additionally, KMR maintains a comprehensive quality control system that includes documented policies and procedures of the KMR EDV 01:2024 (ESG Disclosure Assurance System) based on ISO/IEC 17029 requirements and compliant with IAASB ISQM1:2022 (International Standard on Quality Management 1 by the International Auditing and Assurance Standards Board). Furthermore, KMR adheres to the ethical requirements of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior in accordance with the IESBA Code:2023 (International Code of Ethics for Professional Accountants). Our assurance team consists of sustainability experts. Other than providing an independent assurance, KMR has no other contract with Doosan Fuel Cell and did not provide any services to Doosan Fuel Cell that could compromise the independence of our work.

## Limitations of Use

This assurance statement is made solely for the management of Doosan Fuel Cell for the purpose of enhancing an understanding of the organization’s sustainability performance and activities. We assume no liability or responsibility for its use by third parties other than the management of Doosan Fuel Cell. The statement is valid as of the assurance date below. Certain events that may occur between the assurance date and the time of reading this report could have a material impact on the report, which may lead to revisions to this assurance statement. Therefore, we recommend visiting the Doosan Fuel Cell website and verifying whether this is the latest version.

June 25, 2025

CEO 

# Assurance Statement on Greenhouse Gas Emissions

## Verification Target

Korean Foundation for Quality (hereinafter ‘KFQ’) has conducted a verification of Scope 1, 2 Greenhouse Gas Emissions (hereinafter ‘GHG emissions’) of Doosan Fuel Cell co., Ltd.<sup>1)</sup> (hereinafter ‘Company’) for 2024. KFQ is responsible for providing an assurance statement on the GHG emissions based on the verification scope and criteria described below, while the responsibility for the claims made regarding the GHG emissions rests with the company.

1) Address (based on headquarters) : 100 Seokam-ro 7-gil, Iksan-si, Jeollabuk-do

## Verification Purpose

The purpose is to provide an independent verification opinion on the company’s voluntary GHG emissions inventories.

## Verification Scope

KFQ’s verification scope covered facilities and emission sources under the operational control and organizational boundary<sup>2)</sup> of the company during 2024.

2) Subject to verification: Iksan Factory, Seoul Office, Gwanggyo Research Institute

## Verification Criteria

The verification was carried out at the request of the company using:

- ISO 14064-1:2018, ISO14064-3:2019
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories
- Rule for emission reporting and certification of greenhouse gas emission trading scheme (Notification No. 2025-28 of Ministry of Environment)

## Verification Approach

The verification has been conducted in accordance with the verification principles and standards of the ‘ISO14064-3:2019’ under the limited verification level. The verification shall contain the potential inherent limitation in the process of application of the verification criteria and methodology.

## Conclusion

Based on the criteria and guidelines stated above, KFQ’s verification opinion is as follows.

- 1) GHG emissions Company were properly calculated according to the verification standards.
- 2) The data and information used in calculating the GHG emissions were appropriate, reasonable, and no significant errors or omissions could affect verification statement were not found. The materiality assessment result of GHG emissions has met the agreed-upon criterion of less than 5%.
- 3) Accordingly, KFQ provides a verification opinion that is “Unmodified”.

Unit: tCO<sub>2</sub>eq

Site Name	Scope 1	Scope 2	Total
Iksan Plant	800.983	4,984.648	5,786
Seoul Office	134.744	131.025	266
Gwanggyo R&D Center	0	136.129	136
Total	936	5,252	6,187


\* The GHG emissions for each site are rounded to the nearest whole number. As a result the total reported emissions may differ from the actual sum by less than ±1 tCO<sub>2</sub>eq.



www.kfq.or.kr

Q Tower, 78 Sasmjeon-ro, Songpa-gu, Seoul, 05606, Republic of Korea

May 28th, 2025



CEO Ji-Young Song

Korean Foundation for Quality



***DOOSAN***