



About this Report

FEATURES OF THE REPORT

This is the Integrated Report of Doosan Enerbility, a report that introduces the various systems, activities and accomplishments of the company for the purpose of enhancing corporate sustainability. The report includes not only a detailed description of Doosan Enerbility's business strategies and the new businesses regarded as drivers of future growth, but also activities and performance results related to the company's sustainability efforts in the areas of the environment and society. Doosan Enerbility has published the report annually as a way to continuously communicate with our stakeholders.

REPORT CRITERIA

This report has been prepared based on the Core Options of the GRI (Global Reporting Initiative) Standards, the global standard for report preparation. Through third-party verification, it has been confirmed that the report meets all relevant requirements. The details of the GRI Standards Index are provided in the appendix. The report adequately reflects industry standards as required by the Sustainability Accounting Standards Board (SASB) and adheres to the principles of the UNGC Communication on Progress (CoP) and the climate-related Financial Disclosures (TCFD).

DURATION AND SCOPE OF REPORT

The report was prepared using financial and non-financial performance results from January 1, 2021, to December 31, 2021. Significant matters with an impact on stakeholder decision-making have been covered for the period up to the first half of 2022. Some quantitative performance data from the past three years are presented so that trends can be observed. The financial performance data has been prepared using consolidated financial statements based on the K-IFRS (Korean International Financial Reporting Standards). If the information presented in the previous report has been either corrected or rewritten, the changes are explained with footnotes. The scope of the report includes all projects of Doosan Enerbility, both domestic and overseas. Where necessary, the report also presents the activities and performance of overseas subsidiaries.

REPORT VERIFICATION

To ensure the reliability and quality of the contents of this report, the non-financial information has been verified by an external agency. The financial information has been reviewed by an independent audit firm, with the audit results being reflected accordingly. The non-financial information was verified by the Korea Foundation for Quality. Each verification opinion can be found on pages 120.

ADDITIONAL INFORMATION

The report will be published and distributed in Korean and English. It will be available for downloading in the PDF format on the Doosan Enerbility website. Any opinions or comments can be conveyed to the contact number provided below.

Homepage www.doosanenerbility.com
Address 155, Jeongjail-ro, Bundang-gu, Seongnam-si, Gyeonggi-do
Telephone 031-5179-2696 Department in Charge Credo/ESG Team

Energy Toward Sustainability

2022 Integrated Report of Doosan Enerbility

Contents

Company Overview

CEO's Message	02
Company Profile	04

Commitment to Sustainability

Our New Strategy	08
Acceleration of Portfolio Conversion	10
ESG Management and Execution Roadmap	16

Our Business & Value Creation

Four Key Growth Drivers	22
Gas Turbine	24
Renewable Energy	26
Hydrogen	28
Next Generation Nuclear Power Plant	30

New Business Overview	32
3D Printing	34
Eco-Friendly Lithium Recovery	35
Proprietary Material Development	36
Digital Transformation	37

Existing Businesses	38
Plant EPC / Water EPC	40
Power Plant Equipment / Steam Turbine / Services Business	42
Nuclear Power / Casting & Forging	44

Environmental

Climate Change Response	48
Management of Environmental Efficiency	51

Social

Employees	56
Human Rights Management	56
Talent Development & Retention	60
Healthy & Safety Management	64

Partners	70
Shared Growth	70
Supply Chain Management	72

Customers	74
Quality Management· Customer Satisfaction	74

Local Communities	76
Social Contribution	76

Governance

Ethical Management	82
Information Security	85
Risk Management	87
Establishment of Sound Governance Structure	90

Appendix

ESG Data	94
Safety & Health Guidelines	105
Environmental Guidelines	110
UN SDGs	111
Creation of Social Value	112
Materiality Assessment	113
Stakeholder Engagement	114
GRI Standard Index	115
SASB Index	118
TCFD Index	119
UN Global Compact	119
Third Party Assurance Statement	120
Membership Status	122

Doosan Group Introduction

Doosar



becoming like a mountain by piling up soil slowly but steadily, one sack at a time.

The name “Doosan” is an amalgamation of the word “Doo 두,” a unit of measure for grain, and the word “San 산,” which stands for mountain, to represent the meaning “becoming like a mountain by piling up soil slowly but steadily, one sack at a time.” Backed by its corporate philosophy and beliefs that were built over the course of its 126-year history, Doosan aims to achieve great goals by constantly pursuing change and innovation.

New CI and Journey Toward Innovation



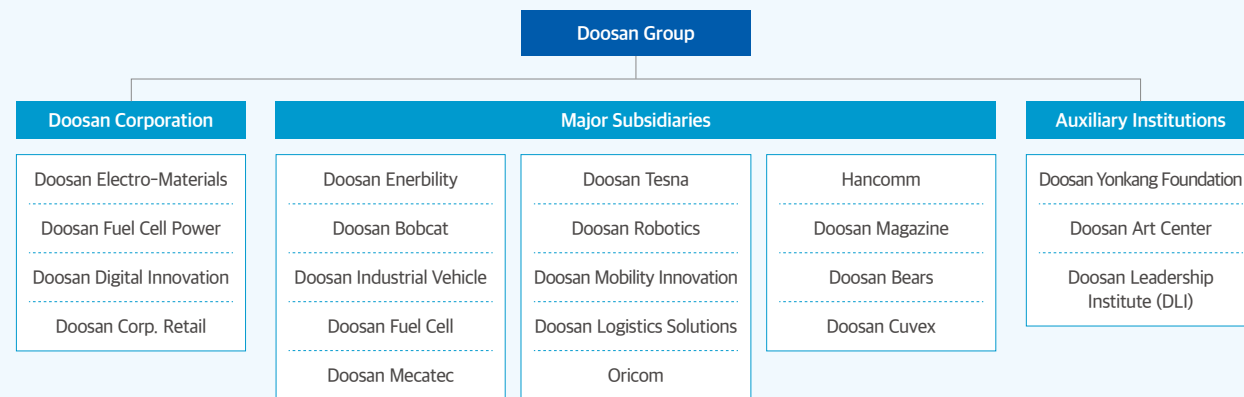
The word “Endeavor” in “Endeavor Blue,” the color newly selected to represent Doosan, implies that Doosan is a company that constantly strives to achieve something new.

In a business environment that is changing more rapidly than ever, Doosan aims to lead the global market by weaving the capabilities it has accumulated over the years into the flow of change, and the new CI symbolizes Doosan's commitment to pursuing innovation.

Group Vision



Overview of the Doosan Group Companies



* Sale of Doosan Mecatec in progress

Doosan Credo Our Beliefs and Philosophy

Doosan Cred

The Doosan Credo embodies the management philosophy and business method that have been upheld by Doosan for the last one hundred years. The Doosan Credo contains 9 core values. The core values serve as the standard for all decision making and actions implemented by Doosan. Doosan aims to achieve its ultimate goals based on these core values. The Doosan Credo consists of the Aspiration and Core Values of Doosan.

Aspiratio

Doosan's ultimate goal is to become a "Proud Global Doosan". "Proud Global Doosan" refers to the aspiration of having all stakeholders, including the employees, feel pride in being associated with Doosan. For employees, this means feeling pride for being a member of the Doosan organization, and for customers, it means becoming proud consumers of Doosan's quality products and services. For shareholders, it would mean being a proud shareholder of a company that provides fairly generated, high profits.

Core Values

Doosan people seek to uphold the nine core values of the Doosan Credo wherever Doosan business takes place to ensure that a “Proud Global Doosan” can be realized. The way we operate our business, the way we treat one another and the way we work together with our partners are all embodied in the core values. Those nine core values of Doosan are as follows.

People	Cultivating People	Integrity & Transparency
Inhwa	Customers	Technology & Innovation
Profit	Social Responsibility	Safety & Environment

Doosan People

Doosan's human resources, i.e., "Doosan People," refers to all our employees who are capable of and willing to contribute to the organization and practice the Doosan Credo, while continuously striving to improve their capabilities. Doosan people's behavior reflects the importance placed on the Doosan core values and the traits required of Doosan people. The inherent traits of Doosan people are as follows:



Limitless Aspiration



Cultivating People



Inhwa



Open Communication



Tenacity & Drive



Prioritization & Focus

Energy Toward Sustainability

2022 Integrated Report of
Doosan Enerbility

Contents

Company Overview

CEO's Message	02
Company Profile	04

Commitment to Sustainability

Our New Strategy	0
Acceleration of Portfolio Conversion	1
ESG Management and Execution Roadmap	1

Our Business & Value Creation

Four Key Growth Drivers	2
Gas Turbine	2
Renewable Energy	2
Hydrogen	2
Next Generation Nuclear Power Plant	3

3D Printing	34	Appendix
3D Printing	35	

Proprietary Material Development	36	ESG Data	99
Digital Transformation	37	Safety & Health Guidelines	109
Existing Businesses	38	Environmental Guidelines	110
Plant EPC / Water EPC	40	UN SDGs	111
Power Plant Equipment /	42	Creation of Social Value	112
Steam Turbine / Services Business		Materiality Assessment	113
Nuclear Power / Casting & Forging	44	Stakeholder Engagement	114
		GRI Standard Index	115
		SASB Index	116
		TCFD Index	119
		UN Global Compact	119
		Third Party Assurance Statement	120
		Membership Status	122
Environmental			
Climate Change Response	48		
Management of	51		
Environmental Efficiency			

CEO's Message



Dear Esteemed Stakeholders,

I would like to express my deepest gratitude to you for the unwavering support you have provided to our company, Doosan Enerbility. Through our latest Integrated Report, we will present the direction being pursued by our company to lay the foundation for sustainable growth and how we aim to move forward as a leading eco-friendly energy company.

Under the new company name, Doosan Enerbility aims to reach an advanced level of sustainable management.

In early 2022, we changed our company name from "Doosan Heavy Industries & Construction" to "Doosan Enerbility." We decided that the name we had been using since 2001 was no longer adequate in capturing the company's current image and future aspirations. Hence, we wanted to communicate with stakeholders through a new name, one that corresponds to the changing business environment and suggests the future vision of the company.

The name "Enerbility" in Doosan Enerbility was newly coined by combining the words "energy" and "sustainability," as a portrayal of our aspirations to enable the achievement of sustainability with our energy technologies. The word "Enerbility" represents the intrinsic core values of Doosan Enerbility's business, and reflects our commitment to achieving sustainable management by enriching people's lives and making Earth a cleaner planet with our energy technologies.

Doosan Enerbility intends to practice sustainable management by upgrading the ESG management system. First, the ESG Committee was restructured into a more action-oriented body. In addition, the position of CSHO (Chief Safety & Health Officer) was newly established to bolster safety management, and the greenhouse gas reduction target was newly adjusted to strengthen our response to climate change. We will be continuing with this series of efforts to maximize the creation of social value.

We will accelerate the transition of our business portfolio to be centered around eco-friendly energy.

In a global effort to respond to climate change, there has recently been a movement led by the EU to further strengthen the related policies and systems. In Korea, carbon neutrality is emerging as a key criteria for sustainable management, and the market demand for eco-friendly energy sources is growing.

Doosan Enerbility regards this change as an opportunity rather than a crisis, and as such, is rapidly shifting the focus of our business portfolio to eco-friendly energy. The interest shown by the market in our four key growth drivers - gas turbines for which transition to hydrogen gas turbines is currently underway, renewable energy, hydrogen and next generation nuclear power plant- is stronger than ever. As our business achievements become more visible, we plan to expand the share of projects related to the four major growth drivers.

We will also continue with our investments to develop and foster the growth of new businesses.

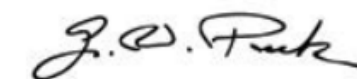
We are continuously making investments in new businesses. We are pushing ahead with businesses such as 3D printing, which is key to achieving manufacturing innovation, resource recycling using waste resources and digital transformation. These new businesses, which are in alignment with Doosan Enerbility's future plans, are forecast to continuously grow as businesses that will guarantee the company's sustainability.

With the renaming of the company this year, Doosan Enerbility is aiming to take a new leap forward as a leader of the eco-friendly energy market.

We look forward to your continued interest and unwavering support.

Thank you.

Chairman & CEO **Geewon Park**






Company Profile


Energy Toward Sustainability

The word “Enerbility” in our new corporate name “Doosan Enerbility” is an amalgamation of the words “Energy” and “Sustainability.” It also connotes the word “Enable,” representing the ability to align energy with sustainability. The new corporate name expresses the intrinsic core values of the company’s business, while also conveying the commitment to secure sustainability by making people’s lives richer and the earth cleaner with the energy technologies created by Doosan Energy. Doosan Enerbility promises to seek growth as a leading global company that leads market changes in response to the rapidly changing global technology trends.

Company Established	September 20, 1962
Representative Directors	Geewon Park, Yeonin Jung, Sanghyun Park
Business Type	Manufacturer of Machineries and Equipment
Locations	Headquarters 22 Doosan Volvo-ro, Seongsan-gu, Changwon City, Gyeongnam Province
	Bundang office 155, Jeongjail-ro, Bundang-gu, Seongnam-si, Gyeonggi-do

		
Total Assets	Revenue	Operating Profits
KRW 23.7 trillion	KRW 11.3 trillion	KRW 877.9 trillion

* Consolidated accounting basis as of the end of 2021

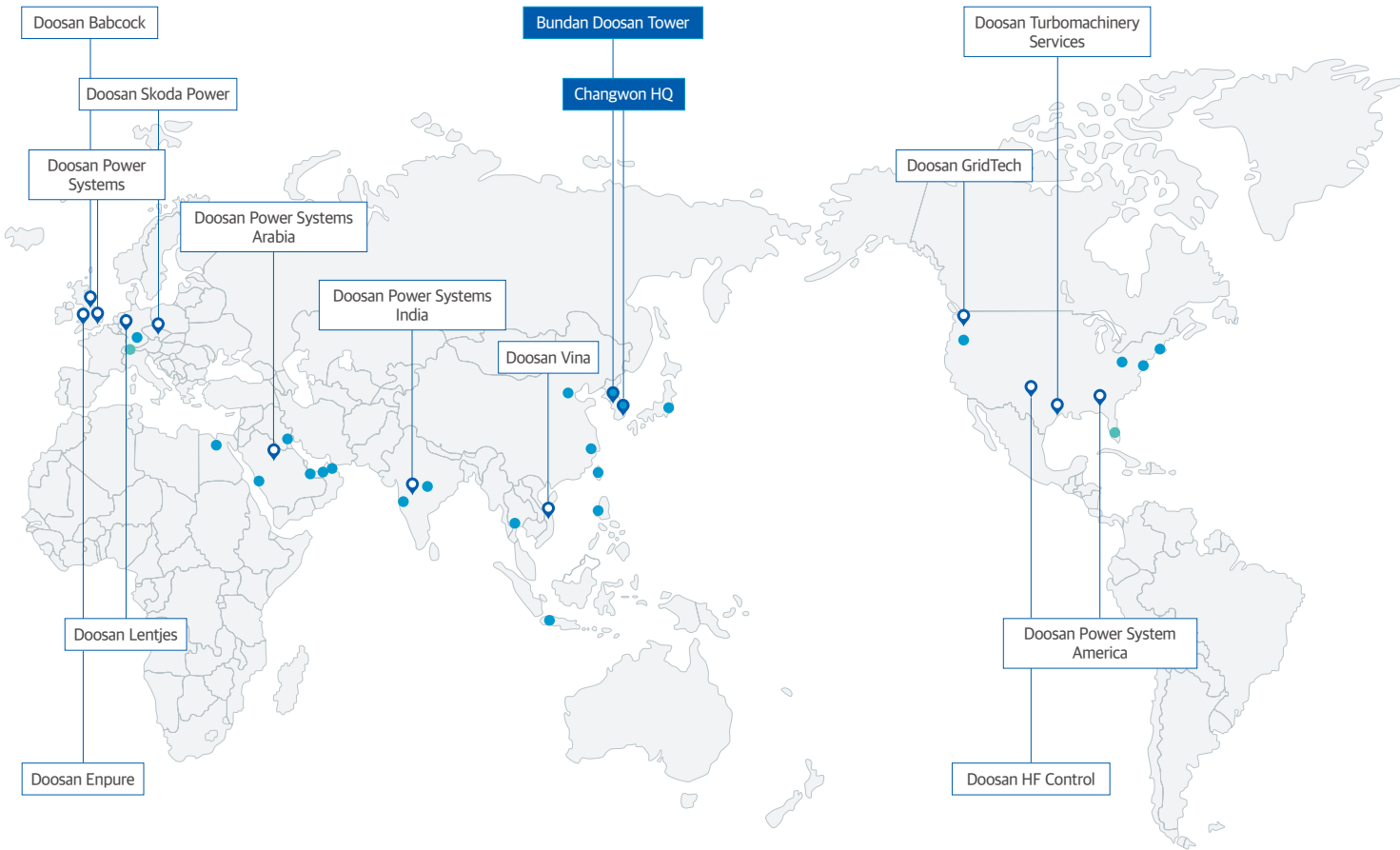
		
Number of Employees	National Quality Meisters	Korean Tech. Meisters
5,622 people	11 people	4 people

* As of the end of 2021

Doosan Histroy

1962~1980	1981~2000	2001~2011	2012~
The Beginning & Challenges	Growth & Development	Growth into a Global Enterprise	Strengthening our Eco-Friendly Portfolio
<ul style="list-style-type: none">Founded in 1962	<ul style="list-style-type: none">1982 Completed construction of Changwon General Machinery Plant (the world’s largest)	<ul style="list-style-type: none">2001 Became privatized and name changed to Doosan Heavy Industries & Construction2006 Acquired Mitsui Babcock and secured boiler technology2009 Acquired Skoda Power and secured original steam turbine technology.Completed construction of Doosan Vina Manufacturing Plant in Vietnam2011 Acquired AE&E Lentjes and secured original CFB technology.Acquired the water treatment solution provider Enpure Limited.Declaration of the Doosan Credo	<ul style="list-style-type: none">2016 Acquired the U.S.-based ESS (Energy Storage System) specialist 1 Energy Systems (Currently Doosan GridTech)2017 Obtained 5.5MW wind turbine technologyAcquired the U.S.-based gas turbine service provider ACT(Currently DTS)2020 Transition to an Eco-friendly Energy Company<ul style="list-style-type: none">Completed Doosan’s large industrial gas turbine developmentSigned a contract to build the first hydrogen liquefaction plant in Korea2022 Corporate name changed to Doosan Enerbility

Global Network



Overseas Subsidiaries / Branches / R&D Centers

Classification	Number of Companies	Entity / Branch Name
📍 Overseas subsidiaries	12	Asia Doosan Power Systems India (India), Doosan Vina (Vietnam), Doosan Power Systems Arabia (Saudi)
		Europe / Africa Doosan Power Systems (UK), Doosan Babcock* (UK), Doosan Enpure (UK), Doosan Lentjes (Germany), Doosan Skoda Power (Czech Republic)
		America Doosan Power Services America (US), Doosan HF Controls (US), Doosan GridTech (US), Doosan Turbomachinery Services (US)
● Overseas Entities, Branches / Offices (Sales Office / Other)	19	Asia Riyadh, Dubai, Abu Dhabi, Kuwait, Hanoi, Jakarta, Taipei, Manila, Bangkok, Tokyo, Beijing, Shanghai, Middle East Operation Center (UAE)
		Europe / Africa Cairo, Frankfurt
		America New Jersey, Newington (US), Pittsburgh, Corvallis,
● R&D Centers	2	ATSE(Switzerland), ATSA(US)

* Sale of Doosan Babcock (U.K) is in progress.



Commitment to Sustainability

08	Our New Strategy
10	Acceleration of Portfolio Transition
16	ESG Management and Execution Roadmap

Our New Strategy



Acceleration of Portfolio Transition

Global Energy Market Trends

The global energy market is witnessing significant changes around the world. The transition from dependence on fossil fuels to eco-friendly energy sources, such as renewable energy, gas energy, hydrogen and nuclear power, is expanding.

In the global market, the renewable energy sector is growing as part of efforts to achieve Carbon Neutrality, but the need for stable power sources has increased due to the recent emergence of energy security issues. The EU Commission is planning to include nuclear power and gas turbines in the Green Taxonomy, and the role of existing power sources in the eco-friendly energy sector is being re-evaluated. Accordingly, as the overall movements of the nuclear power market are boosted, interest in SMR, the next-generation nuclear power plant, as well as the existing large-scale nuclear power plant market is increasing.

In addition, as the major developed countries raised their targets for their 2021 Nationally Determined Contributions (NDC), the national greenhouse gas reduction target for Carbon Neutrality and investments in renewable energy and hydrogen are also expected to increase.

In Korea, while complementing Korean style Taxonomy, we are considering ways to increase the utilization of nuclear power plants along with renewable energy in line with the global energy market trends. Announcing the Basic Plan for Implementing a Hydrogen Economy, the Korean government is making active efforts to invigorate the hydrogen economy, such as facilitating the transition to a clean hydrogen supply system, building infrastructure, and introducing the Clean Hydrogen Portfolio Standards(CPHS). As such, increase in the utilization of hydrogen, such as the use of hydrogen fuel cells and hydrogen gas turbines in domestic energy generation and various industries, is expected.

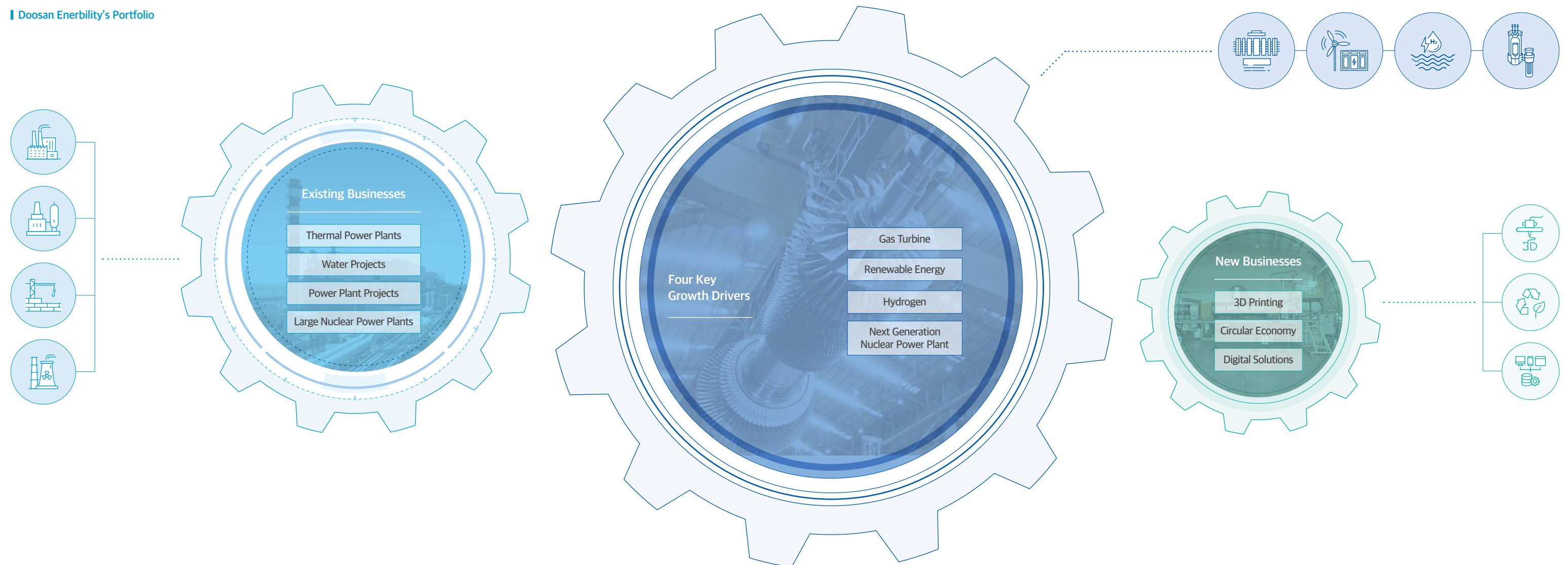
Growth Strategy for Doosan Enerbility

With the newly acquired name Doosan Enerbility, the company is now taking bold strides to dominate the eco-friendly energy industry. In addition, to secure leadership in the global market, the global perspective of eco-friendliness and the impact that changes in the energy industry are having on the company were analyzed to derive a new growth strategy.

In order to respond to changing global trends and industry trends, Doosan Enerbility is focused on transformation of its business to an eco-friendly energy portfolio and diversification of business models to include gas turbines, renewable energy, hydrogen energy and next generation nuclear power plants which have been identified as the company's four key growth drivers. Doosan Enerbility is also pursuing manufacturing innovation and resource recycling, which are expected to directly or indirectly reinforce and supplement the four key growth drivers.

For the four key growth drivers and portfolio transition, Doosan Enerbility is making efforts to achieve technology advancement, preemptively secure a solid track record and expand business based on its technological competitiveness. At the same time, along with the expansion of the O&M and the recurring businesses, which are needed for the diversification of business models to secure continuous revenue, we are strengthening our competitiveness by combining eco-friendly technologies with the existing businesses to create synergy. Doosan Enerbility has laid the foundation for carbon neutrality (Net Zero) by converting its business portfolio and seeks to respond to the rapidly changing global energy market with the four major growth drivers, new businesses and existing businesses and to conduct sustainable management.

Doosan Enerbility's Portfolio

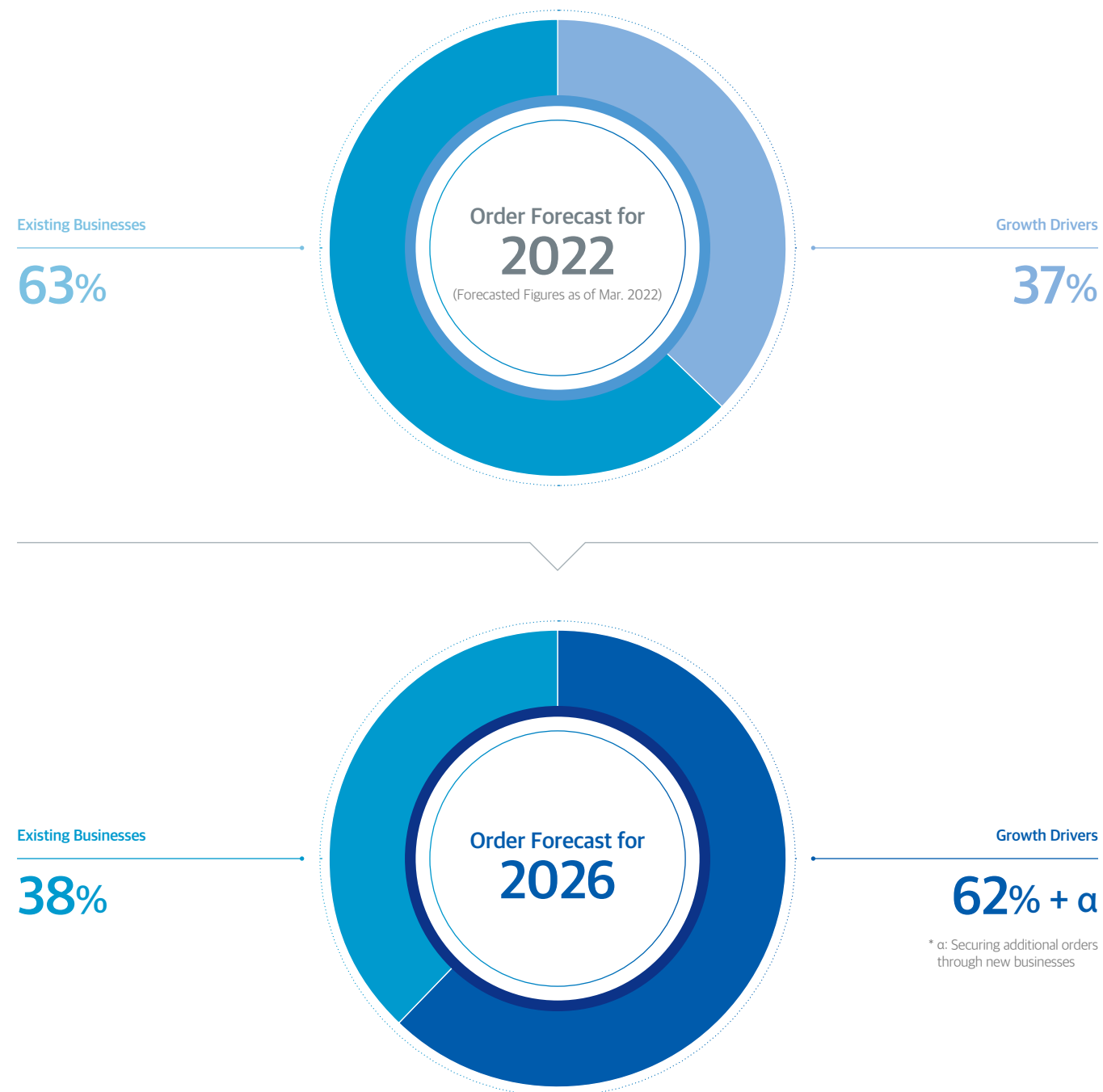


Acceleration of Portfolio Transition

Target for the Four Key Growth Drivers

In 2021, Doosan Energy restructured its business portfolio to focus more on eco-friendly businesses, and has been making efforts to accelerate the transformation. In 2022, the order intake for the key growth driver businesses is expected to reach 37% of the total order intake, which is more than a 1.7-fold increase from the 2021 performance of 21%.

Doosan Enerbility aims to increase the share of the growth driver businesses to 62% by 2026 and secure additional profits through new businesses. Doosan Enerbility will raise its position as a global energy leader by transforming our business portfolio and diversifying our business models in response to changes in the market environment.



Vision for New Businesses

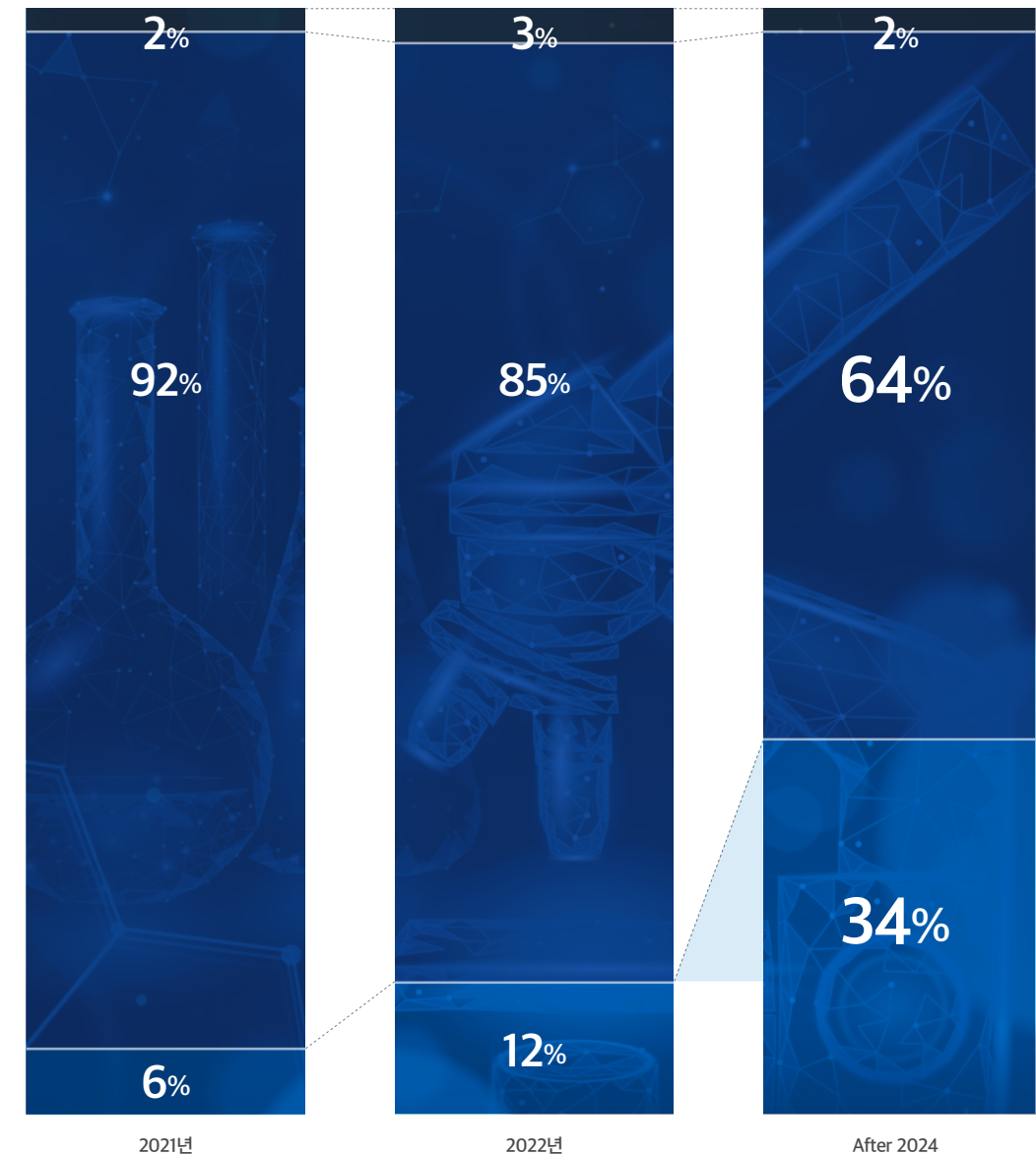
Doosan Enerbility is focusing on R&D investments for new businesses to enter the market while converting its business portfolio to focus on the four growth driver businesses. The new businesses include the largest innovative 3D printing manufacturing business in Korea, an eco-friendly lithium recovery process in the field of resource recycling, an innovative material business that enables the economical replacement of existing materials, and the digital transformation business.

As a short-term plan, we will expand the 3D printing business area and the materials scope. We will also push ahead with the lithium recovery technology demonstration and initial production. In the long term, we will pursue the commercialization of proprietary materials acquired through technology development efforts.

Doosan Enerbility is focusing most of its R&D investments on strengthening the capabilities of the four growth engines and new eco-friendly businesses. To expand our new businesses, we plan to increase the proportion of R&D investment in new businesses from 6% in 2021 to more than 30% after 2024 to help Doosan Enerbility achieve sustainability and the promised vision of decarbonized energy solutions.

R&D Investments

■ New Businesses
 ■ 4 Growth Drivers
 ■ Existing Businesses



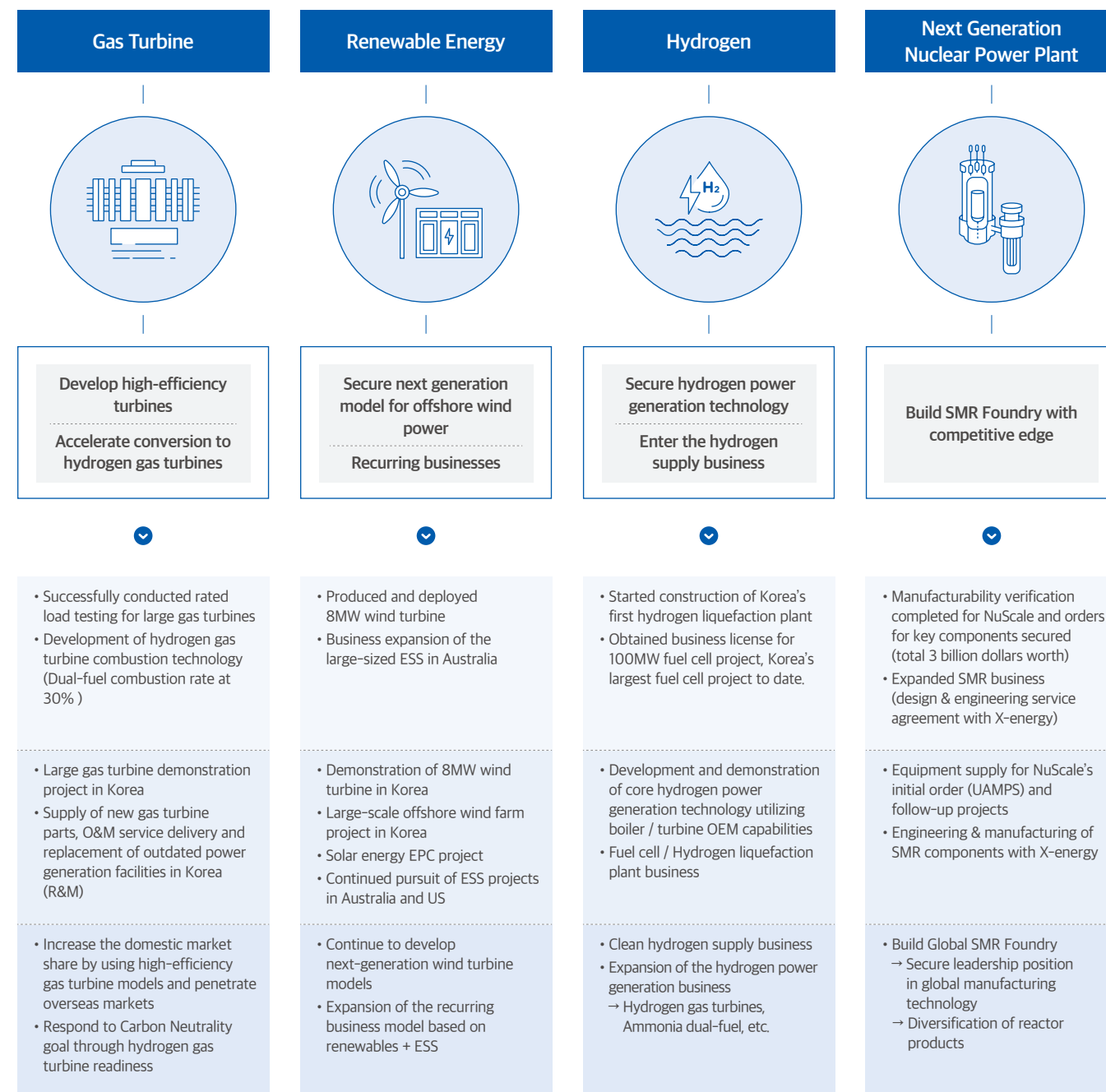
Acceleration of Portfolio Transition

Portfolio Transition Process

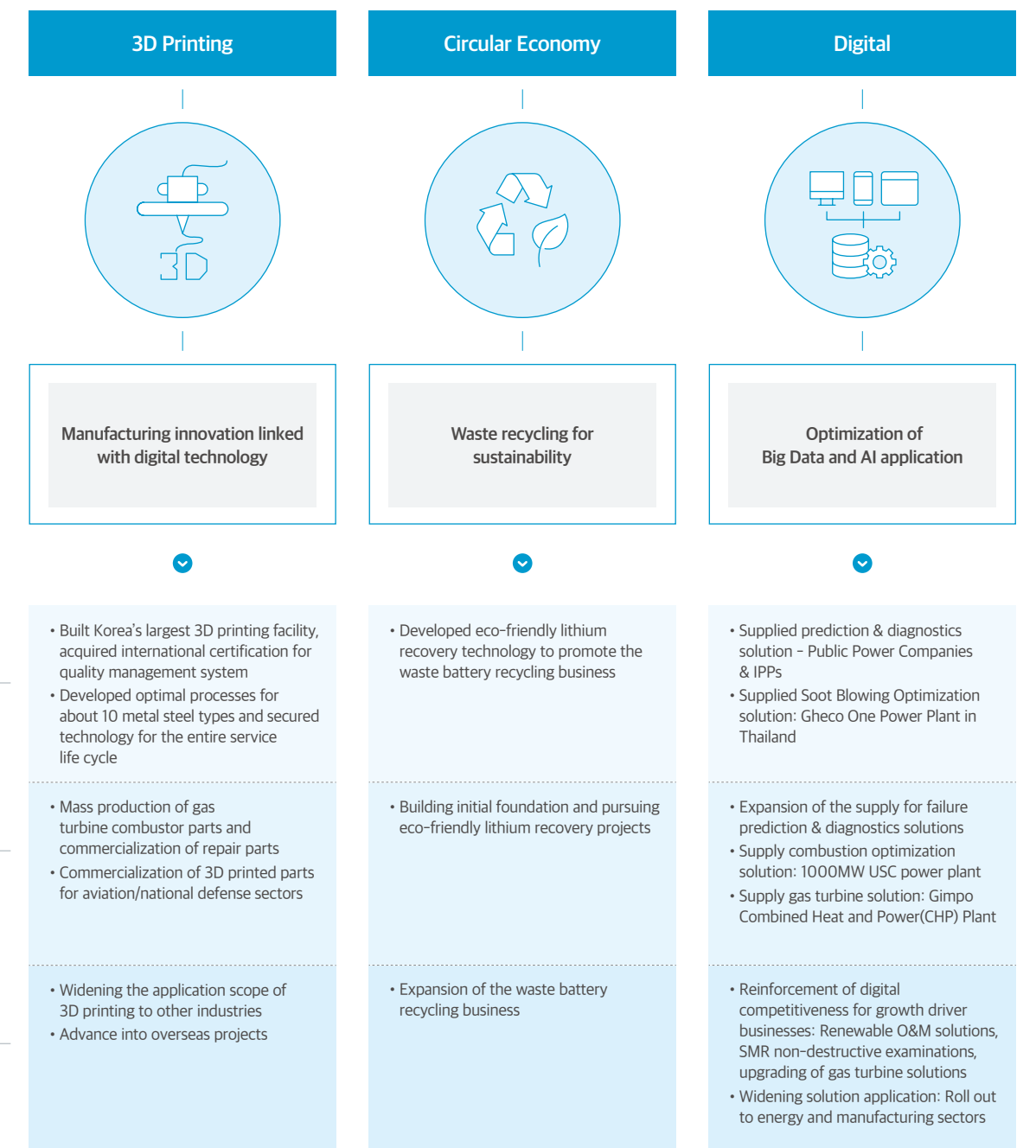
To take advantage of the eco-friendly energy related business opportunities that are being pursued with the goal of achieving carbon neutrality, Doosan Enerbility has devised detailed strategies for each business division and accelerated the eco-friendly business portfolio transition, while striving to securing new business opportunities to respond to environmental changes.

Portfolio Transition Strategy

Four Growth Drivers



New Business Areas



ESG Management and Execution Roadmap

Doosan Credo and ESG

The Doosan Credo embodies the management philosophy and business method that have been upheld by Doosan for the last 126 years. It consists of the company's goal (Aspiration) of becoming a "Proud Global Doosan" and nine core values, each of which is aligned with the ESG values. We endeavor to do our best to fulfill our social responsibilities to all stakeholders, including the customers, shareholders, employees, partners and local communities, by reporting the ESG practices and plans to the ESG Committee and monitoring them.



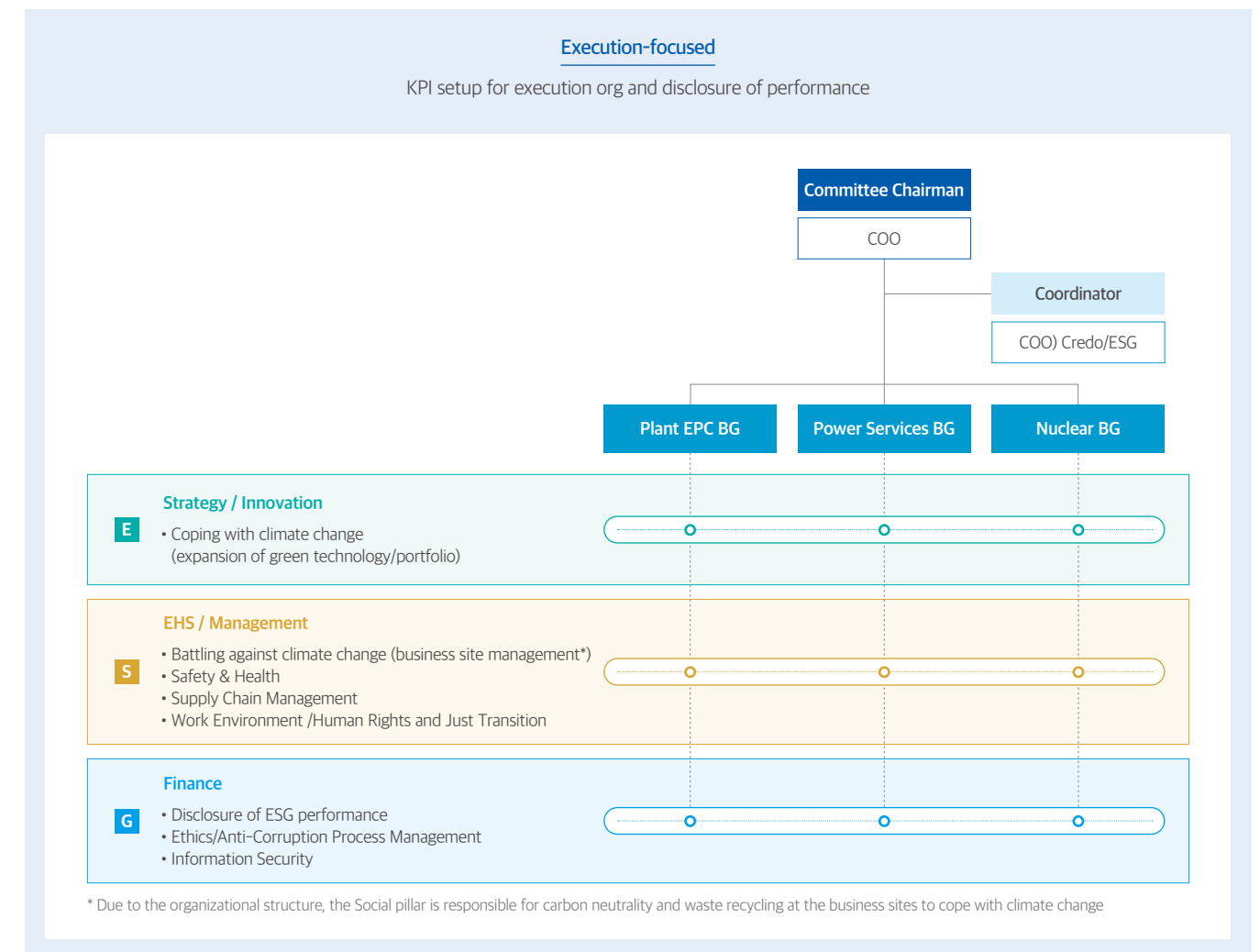
Doosan Enerbility realizes the ESG values in the process of pursuing the nine core values.

The Restructured ESG Committee

Doosan Enerbility decided to upgrade the ESG management system to effectively manage the various social issues caused by business activities and maximize the creation of social value. We restructured the ESG Committee into a Business Group-oriented structure in the first half of 2022 to strengthen the organization's execution power. The new ESG Committee is chaired by the COO, with the heads of the business divisions overseeing the Environmental, Social and Governance pillars. The Committee holds corporate-level discussions and devises response measures for the various ESG issues (i.e., major issues found through analysis of the needs of stakeholders and global trends observed from multiple perspectives). The Committee sets up an execution plan, taking into account the characteristics of the businesses and organizations, and manages the company's ESG performance in alignment with the company's overall strategic direction.

By doing so, we have the performance of the individual organizations managed at a corporate-wide level. In addition, the execution plan and performance evaluation of each organization will act as a starting point for the ESG KPI assessments, which are linked to the senior management's compensation scheme.

ESG Committee Organization Chart



ESG Management and Execution Roadmap

Future Direction of ESG Committee

From a practical point of view, the adoption of such a framework ensures that ESG management is embedded across the organization and we can be assured that the company's sustainability efforts do not end up being words only, with no action.

The Environmental pillar, led by the Strategy & Innovation Division Head, establishes and manages the corporate direction and goals for expanding our business portfolio through development of green technology and new growth drivers to effectively cope with climate change. Each business group will support our company's sustainable growth by tailoring technologies and products in line with the specific needs of the business group.

The Social pillar, led by the EHS/Management Division Head, monitors the company's current status for various social issues, such as safety & health, supply chain management, working conditions & human rights and just transition, and cooperates with each Business Group to devise practical improvement plans in response to social risks. In addition, given that the organization is the one that manages the company's facilities and EHS matters, this pillar is responsible for managing the greenhouse gas emissions of business sites and achieving tangible results in this area.

The Governance pillar, led by the Finance Division Head, will lay the foundation for more transparent, ethical and responsible management by transparently disclosing the ESG performance, improving the ethical/anti-corruption process, and reinforcing information security capabilities.



* Due to the organizational structure, the Social pillar is responsible for carbon neutrality and waste recycling in the business sites to cope with climate change

Strategy



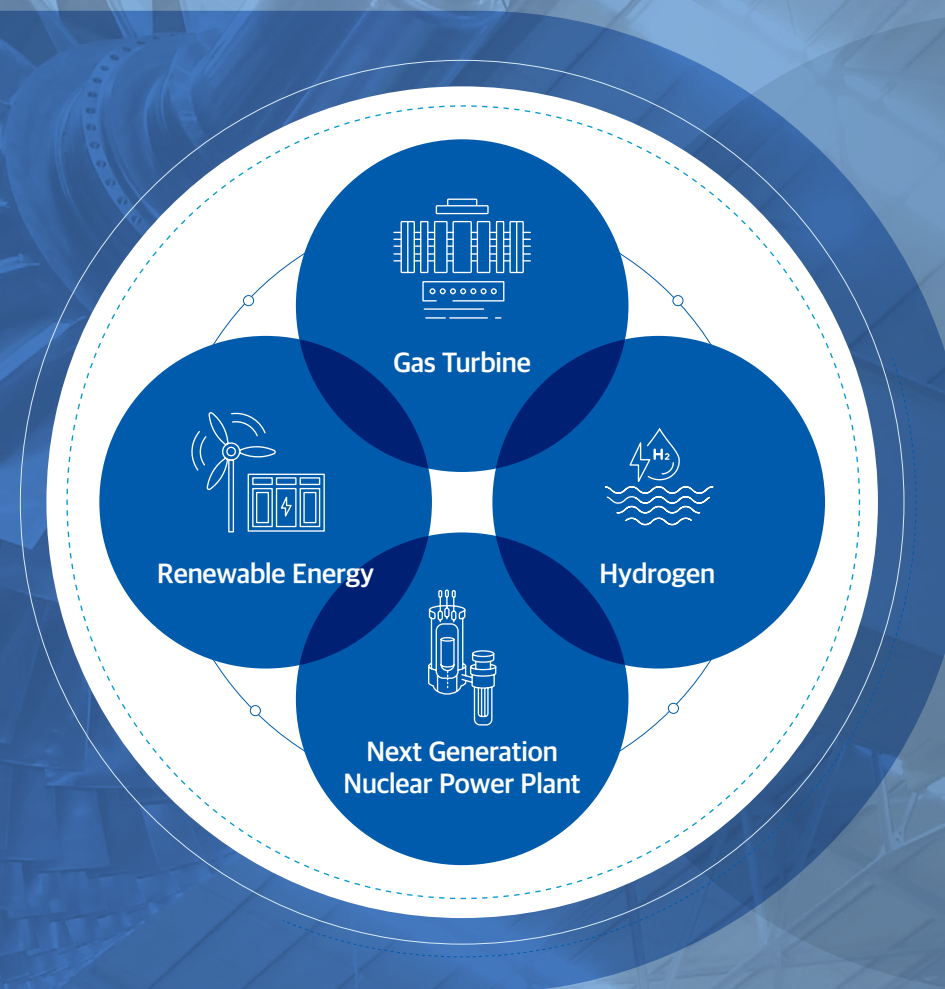
* Re:SET: Renewable Energy + Carbon Offset



Our Business & Value Creation

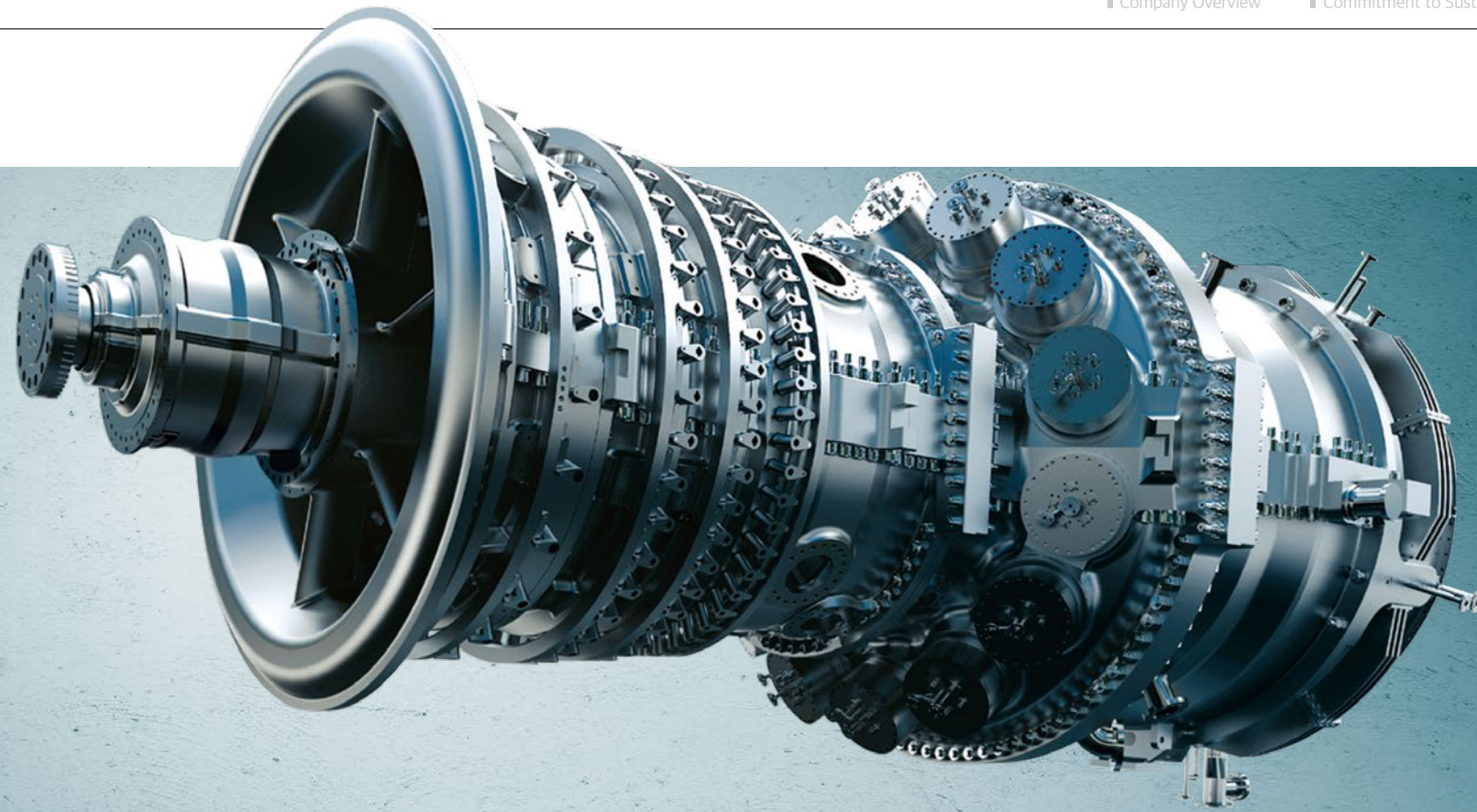
22	Four Key Growth Drivers
24	Gas Turbine
26	Renewable Energy
28	Hydrogen
30	Next Generation Nuclear Power Plant
32	New Business Overview
34	3D Printing
35	Eco-Friendly Lithium Recovery
36	Proprietary Material Development
37	Digital Transformation
38	Existing Businesses
40	Plant EPC / Water EPC
42	Power Plant Equipment / Steam Turbine / Services Business
44	Nuclear Power / Casting & Forging

Four Key Growth Drivers

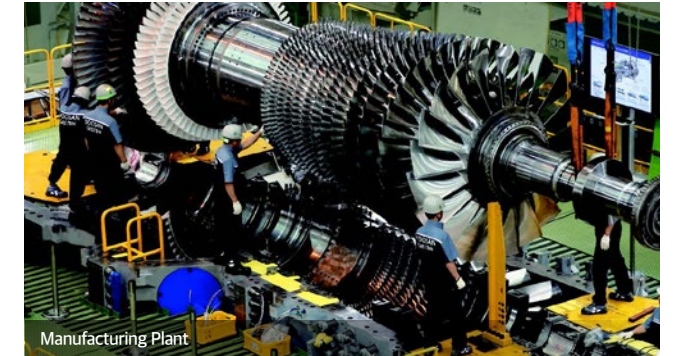


Four Key Growth Drivers

Gas Turbine



Independently developed Gas Turbine Model



Manufacturing Plant

>> Participation in Korea's National Development Project for Standard Gas-fired CCPP

Project	Standard Gas-fired CCPP Model & Testbed Construction Technology Development
Duration	May 2021 ~ April 2026
Objective	<ul style="list-style-type: none"> Promote high-efficiency standard gas-fired CCPP differentiated for the Korean market Define and develop the standard model

Completed Development of Korea's First Gas Turbine for Power Generation

Recognizing the growth potential of gas-fired power market, Doosan Enerbility started the in-house development of gas turbine in 2013 in order to secure competitiveness in the industry through localization, went through basic and detailed design stages, succeeded in final assembly of the prototype in November 2019, and completed the first stage verification test in July 2020.

Furthermore, the first domestic gas turbine, the development of which was completed in April 2022, is being installed at the Gimpo Combined Heat and Power (CHP) Plant. Korea's Doosan Enerbility, after the US, Germany, Japan, and Italy, has made a giant stride forward as the world's fifth company to develop large-scale gas turbine technology.

In the past, Korea was entirely dependent on foreign companies for gas turbine manufacturing, as it required highly sophisticated technologies. The successful localization of gas turbines heralds Korea's entry into the global gas turbine market, and we can expect to export Korean-style gas-fired Combined Cycle Power Plants (CCPP) in the near future.

Transformation and Convergence : Convergence of Hydrogen and Gas Turbine

Doosan Enerbility is accelerating technology development to convert all gas turbine models for power generation, the core of the existing business, to hydrogen turbines by 2027. A hydrogen turbine is a system that produces high-temperature/high-pressure combustion gas by burning compressed air and carbon-free fuel, hydrogen, based on the existing gas turbine technology, to run the generator and produce electricity while meeting the goal of reducing carbon.

In the initial stage, hydrogen and liquefied natural gas (LNG) are mixed and combusted to reduce carbon, but ultimately, it will be converted to an 100% hydrogen combustion system that drives a gas turbine for power generation using only hydrogen. When we look at the trends in the global energy industry, the year 2027, which Doosan Enerbility has set as the target year for complete conversion to large-scale hydrogen turbines, is more than three years ahead of the timeline set by existing competitors, making Doosan Enerbility the First Mover in the industry to take on the challenge of fully converting to a hydrogen turbine.

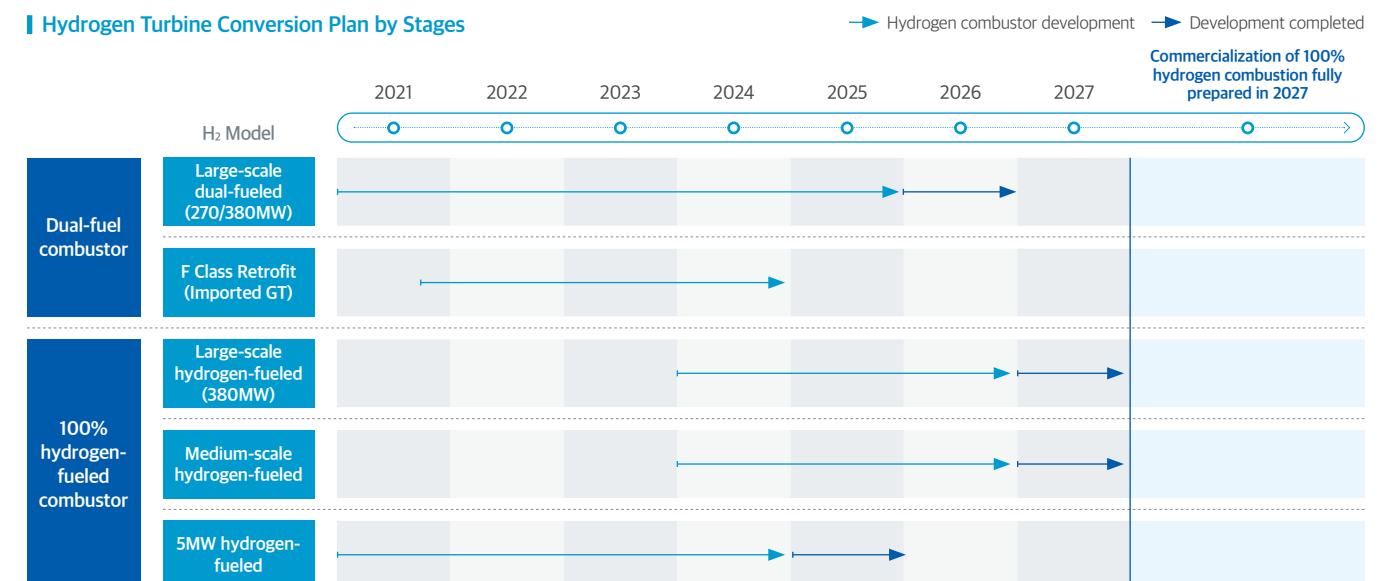
The hydrogen-only fueled gas turbine technology, which will be developed through the transformation and convergence of the existing businesses and four growth driver businesses, will further develop

the sustainable value of Doosan Enerbility's 'Eco-friendly Low Carbon Technology', and in the process, accelerate the growth of the new value chain of the hydrogen business.

Standard Gas-Fired Combined Cycle Power Plant (CCPP) Turbine Model Development Roadmap

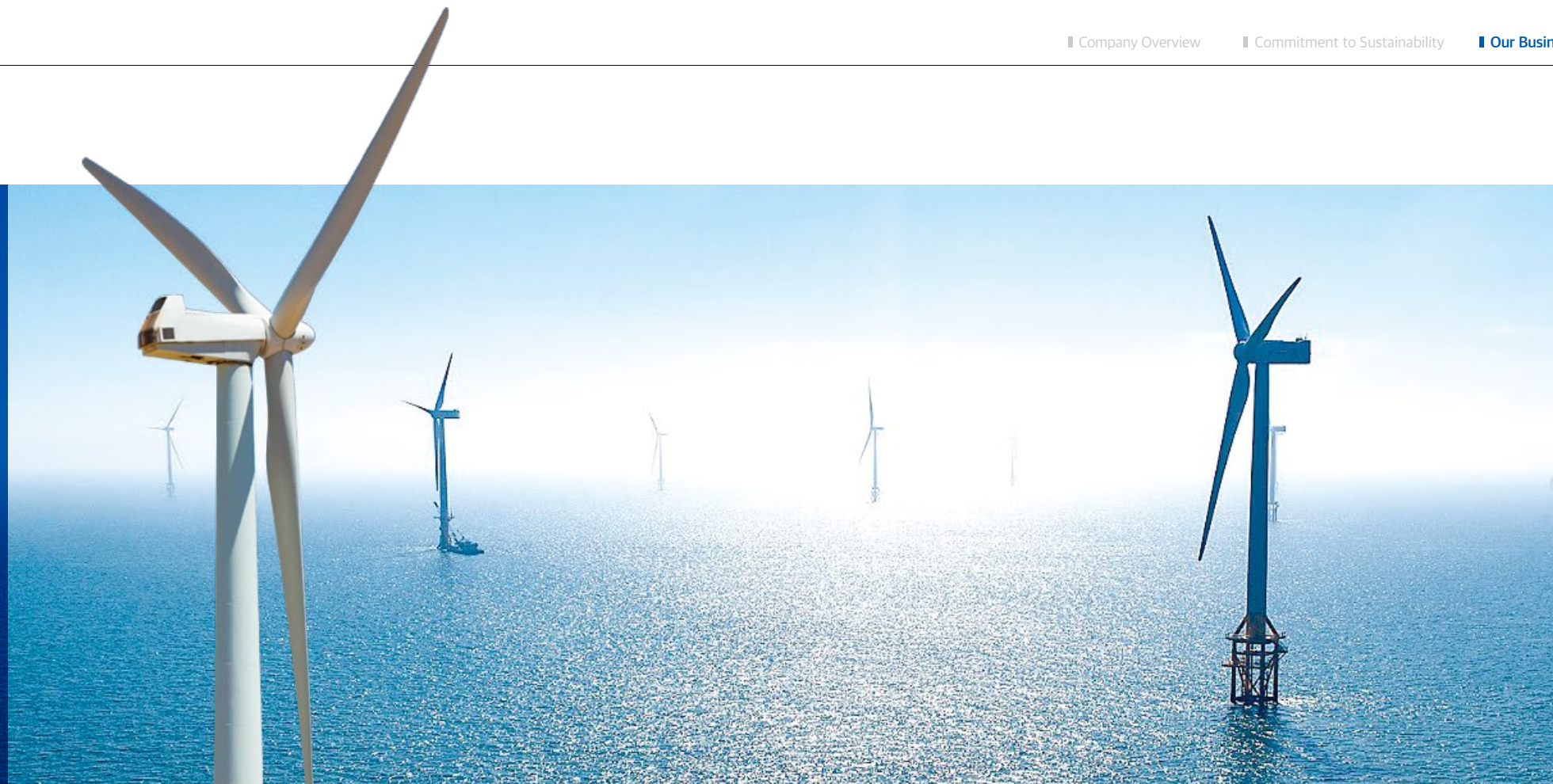


Hydrogen Turbine Conversion Plan by Stages



Four Key Growth Drivers

Renewable Energy



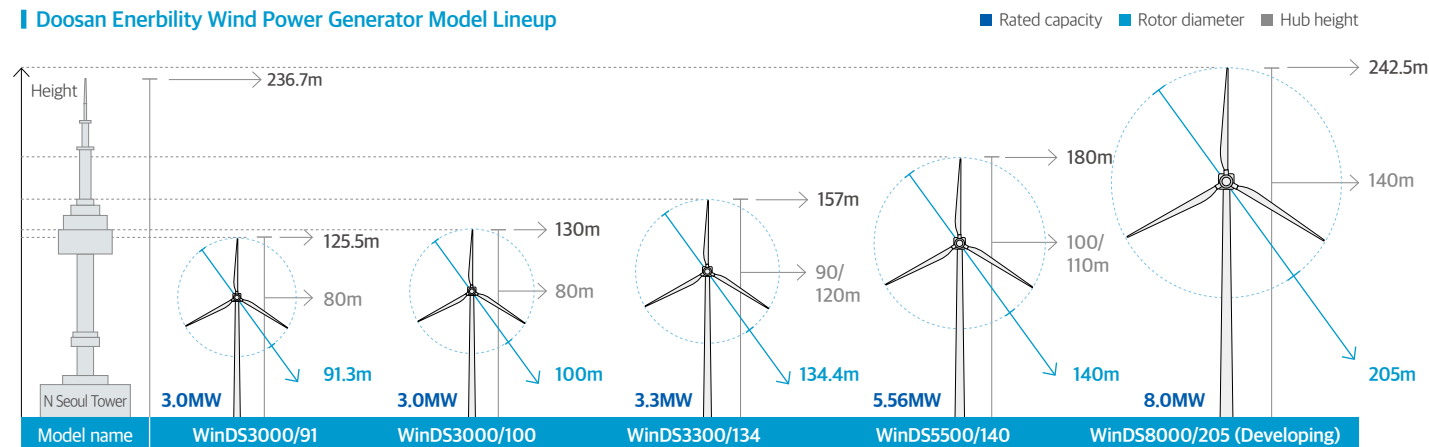
Wind Power

Our position in the domestic offshore wind power sector

Doosan Enerbility is solidifying its position as a company with the biggest wind turbine supply references in Korea, by supplying 97 wind turbines with a total capacity of about 340 MW nationwide, including Jeju Island and the West Sea. Among them, we have a record of constructing an offshore wind farms of 60 MW in the southwest region and 30 MW in the Tamra region of Jeju, and we are also constructing a 100 MW

offshore wind farm in the Hallim region of Jeju. Doosan Enerbility started developing wind turbines in 2005, and has since narrowed the technological gap with foreign leaders by securing our own technology and continuously developing more advanced technologies. In line with the trend of larger wind turbines in the future, we launched development of an ultra-large 8 MW wind turbine model optimized for domestic wind speed in 2018, which will be commercialized soon after the development is completed through prototype demonstration / certification in 2022.

Doosan Enerbility Wind Power Generator Model Lineup



ESS

Projects Won By Consortium

The consortium of Doosan Enerbility and Doosan Grid Tech, our US subsidiary, won an ESS project worth about 110 billion won in Australia in December 2021. The consortium plans to complete the ESS installation project in the Jerrabomberra area of Canberra, Australia by March 2023 using the EPC method. We will also provide maintenance services (O&M) for 20 years after the completion of the project. The ESS has a capacity of 200MWh, a large-scale project that can supply electricity to about 25,000 households daily. For the ESS deployment this time, we will apply the DG-IC(Doosan GridTech-Intelligent Controller), Doosan GridTech's control software. This has the advantage of being able to supply electricity flexibly by storing electricity during times of low power usage and supplying it during times of high usage. Doosan Enerbility and Doosan GridTech are successfully carrying out the project by leveraging our very own ESS software technology, system engineering and EPC capabilities that were secured through years of executing power generation projects.



Large-scale offshore wind power

Doosan Enerbility is moving toward development of large-scale wind turbine with a capacity of 17MW+ which is beyond 8MW, and this large-scale offshore wind turbine uses System Integration Technology which considers the wind quality, which is relatively lower speed compared to Europe due to geographical conditions. We participate in national projects for localization of parts, conducting various researches on materials, parts, and equipment partnering with 400 SMEs in an effort to achieve win-win growth. In the process of technological development, we use domestic supply chain to create an industrial ecosystem for offshore wind power to respond to supply chain risks.

>> Participation in national project of offshore wind turbine model development

Project	8MW large-scale offshore wind turbine model development (Y180EZ)
Duration	June 2018 ~ December 2022
Objective	Development of large-scale and highly efficient model specialized in domestic offshore wind power

ESS Linked with Offshore Wind Power

An ESS, which stands for energy storage system, refers to a storage device that can stores in advance renewable energy, such as solar or wind power, that may be difficult to immediately supply at a desired time, to use when needed later on. Doosan Enerbility is also adopting eco-friendly sustainable management in its offshore wind power promotion strategy.

Offshore Wind Power

- Expand domestic wind power generator by more than 23GW by 2034
- Expansion of domestic offshore wind power market using our own 8MW wind turbine model
 - Diversification of models, i.e. inclusion of 10MW wind turbine model
 - Pursuit of next generation large-scale model to gain global competitiveness

ESS

- Strengthening market presence in Australia and the Americas
- Combination of Doosan Enerbility's EPC capabilities and Doosan GridTech's digital solution software
 - Market expansion to regions with ESS growth such as Southeast Asia and Europe

Four Key Growth Drivers

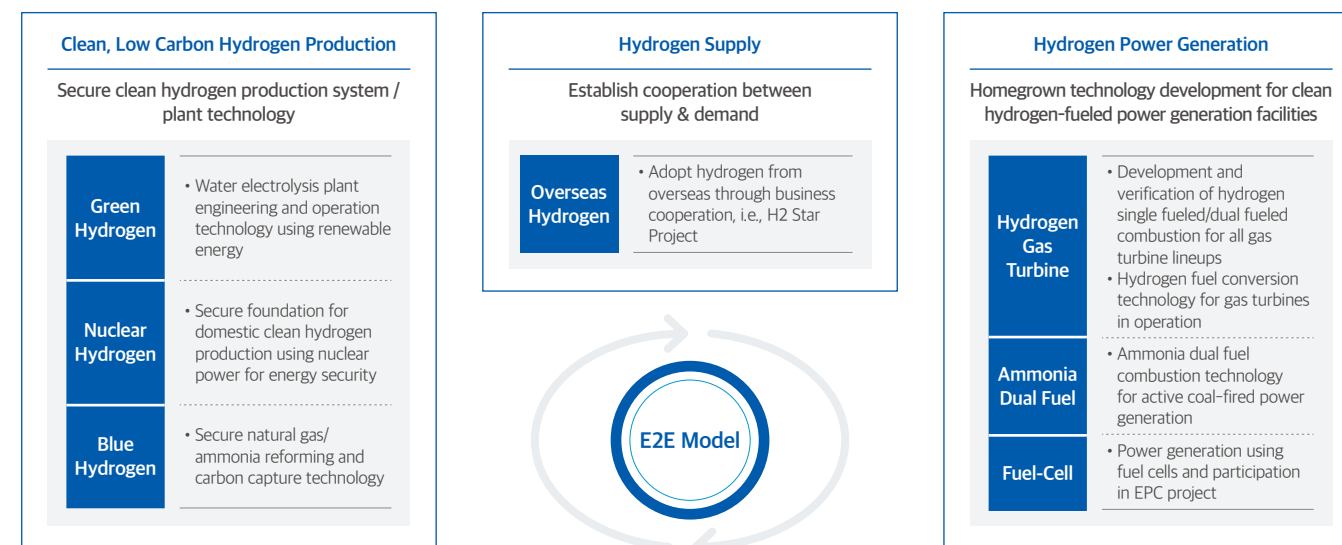


View of Hydrogen Liquefaction Plant

Doosan Enerbility's Hydrogen Business Model

Doosan Energy plans to establish an end-to-end business model by securing unrivaled hydrogen power generation technologies and providing a clean hydrogen supply solution for power generation. In the field of hydrogen power generation, we are securing core technologies for hydrogen power generation conversion, such as developing 100% hydrogen-fueled / 50% hydrogen dual-fuel combustion technology for gas turbines and ammonia dual-fuel combustion

technology for boilers by leveraging our capabilities as the sole gas / boiler power generation OEM company in Korea. By doing so, Doosan Enerbility will be able to respond to demands from various businesses and secure a leading position in the hydrogen power generation ecosystem. Furthermore, Doosan Enerbility is collaborating with Doosan Fuel Cell, a subsidiary of Doosan Enerbility, to create synergies in the field of fuel cell power generation. Doosan Enerbility is strengthening the market dominance of Doosan Fuel Cell by using Doosan Fuel Cell's fuel



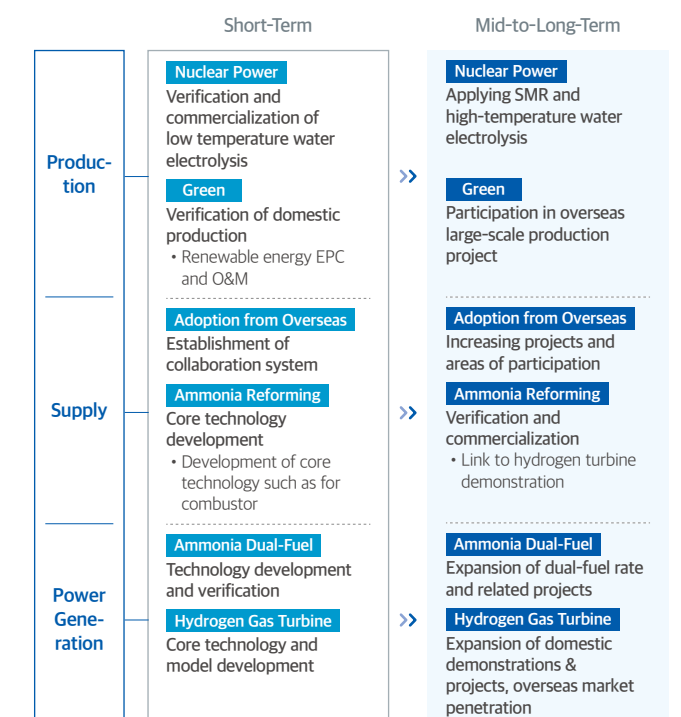
Aerial View of Changwon Fuel Cell Project

>> Participation in national project

	National Green Hydrogen Demonstration	Nuclear Hydrogen
Project	East Sea Solar PV Power Plant P2G System Engineering & Business Model Development	Development and Demonstration of Jeju Rated Wind Turbine Power-based Hydrogen Production & Storage Technology
Duration	May 2019 ~ April 2024	Nov 2020 ~ April 2023
Objective	Project Goal Development and demonstration of 2MW green hydrogen production system	Defining nuclear hydrogen concept (including justification) and selecting verification sites

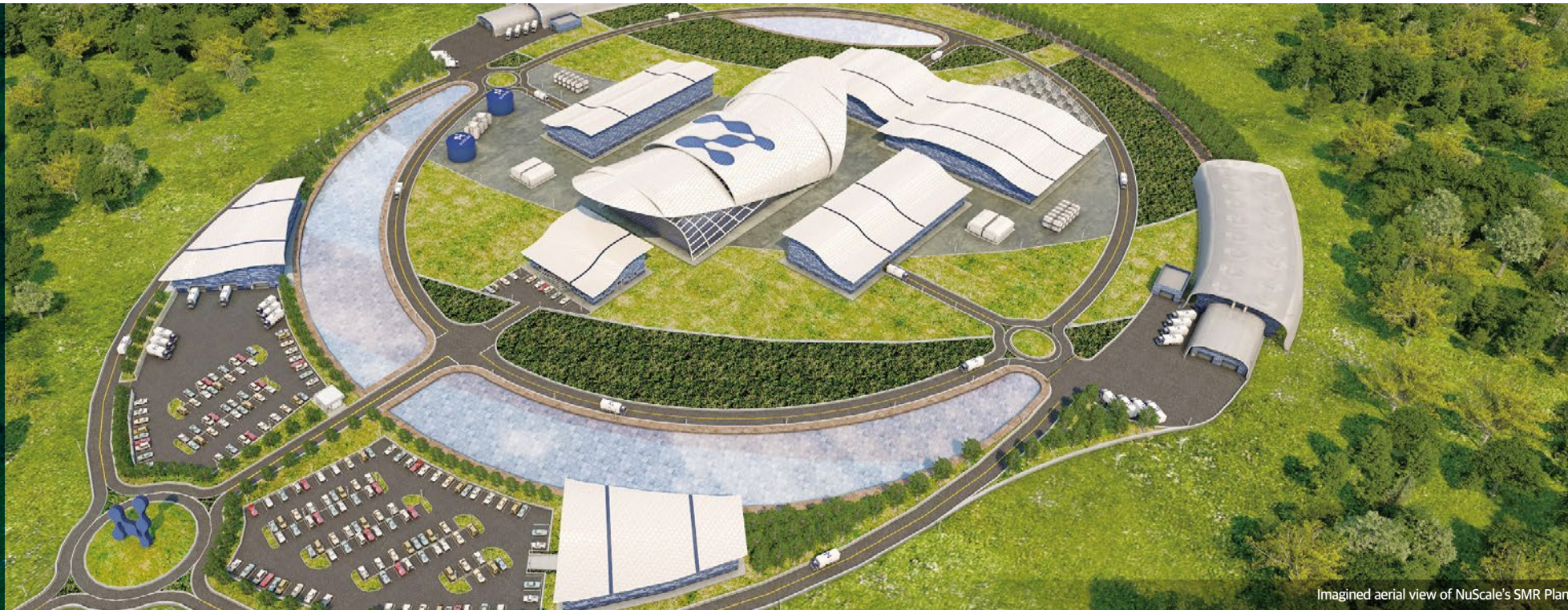
Doosan Enerbility's Hydrogen Roadmap

Doosan Enerbility plans to expand the hydrogen business in each area through a phased approach.



Four Key Growth Drivers

Next Generation Nuclear Power Plant



Imagined aerial view of NuScale's SMR Plant

SMR

Strategic Partnership with NuScale Power

In 2018, Doosan Enerbility participated in a project bid to manufacture the first SMR order for the Utah Associated Municipal Power Systems (UAMPS), NuScale Power's first SMR project in the US. Our manufacturing technology was highly valued by NuScale, which led to NuScale proposing to us participation in an equity investment and production.

In 2019, we secured equipment supplier rights and established a strategic partnership with NuScale by making a total equity investment of 44 million dollars in NuScale with a group of domestic financial investors. In 2021, with an additional 60 million dollars invested in NuScale, Doosan Enerbility secured business opportunities worth trillions of won.

SMR Construction Agreement with NuScale Power

The need for nuclear power is being re-evaluated globally to achieve carbon neutrality. Major countries, such as the US, Canada and Europe, have announced government support plans for new nuclear power plant construction and technology development such as the SMR. In line with this global trend, NuScale is expanding its business through construction agreements for SMR in Europe, including Romania and Bulgaria, as well as for projects in the US. We plan to participate in more than 10 projects currently under review by NuScale after the UAMPS project.

Country	Partner Institution	Agreement Signing
UK	Shearwater Energy	Jan 2021
	Madhvani International	June 2021
Canada	Prodige Clean Energy	May 2021
US	Grant Country PUD	May 2021
Poland	Getka/UNIMOT	Sep 2021
	KGHM	Feb 2022
Bulgaria	Bulgarian Energy Holding	Oct 2021
Rumania	SN Nuclearelectrica S.A.	Nov 2021
Kazakhstan	Kazakhstan Nuclear Power Plants	Dec 2021
	Dairyland Power Cooperative	Feb 2022
US	Nucor	Apr 2022
	Associated Electric Cooperative	May 2022

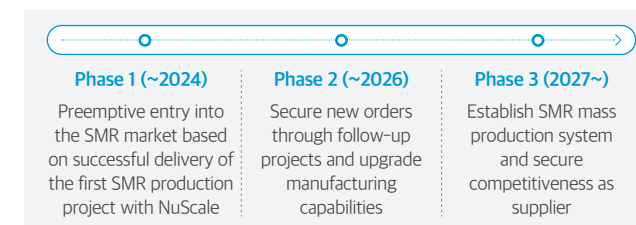
Plans for the SMR Business

Based on our strategic partnership with NuScale, we are participating in the initial production project at UAMPS (Utah Associated Municipal Power System) in Idaho, which is scheduled to be completed in 2029. As a first step, we signed the service agreement to review the manufacturability of NuScale Power Module (NPM, NuScale SMR) in August 2019 and successfully completed the review in January 2021.

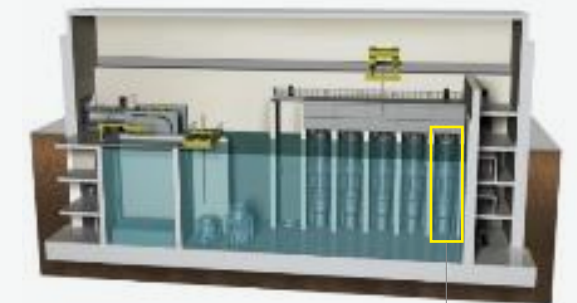
In April, 2022, we signed an agreement with NuScale to start NPM production. Starting with the cast and forged materials manufacturing at the end of 2022, we plan to start production of the NPM to be supplied to UAMPS in 2023.

Based on our capability to produce the main equipment for nuclear power plants, we are solidifying our partnership with NuScale Power, X-energy and other SMR design engineering companies. In addition, starting with the UAMPS project, we plan to expand our business in line with the growth of the global SMR market. On the domestic front, we will participate in technological development for innovative SMR design and aim to supply the innovative SMR in the future.

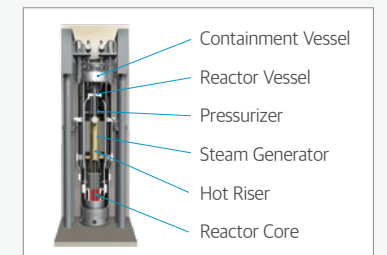
Strategy for Expanding SMR Business



>> NuScale Small Module Reactor



Inside NuScale's SMR Reactor Building

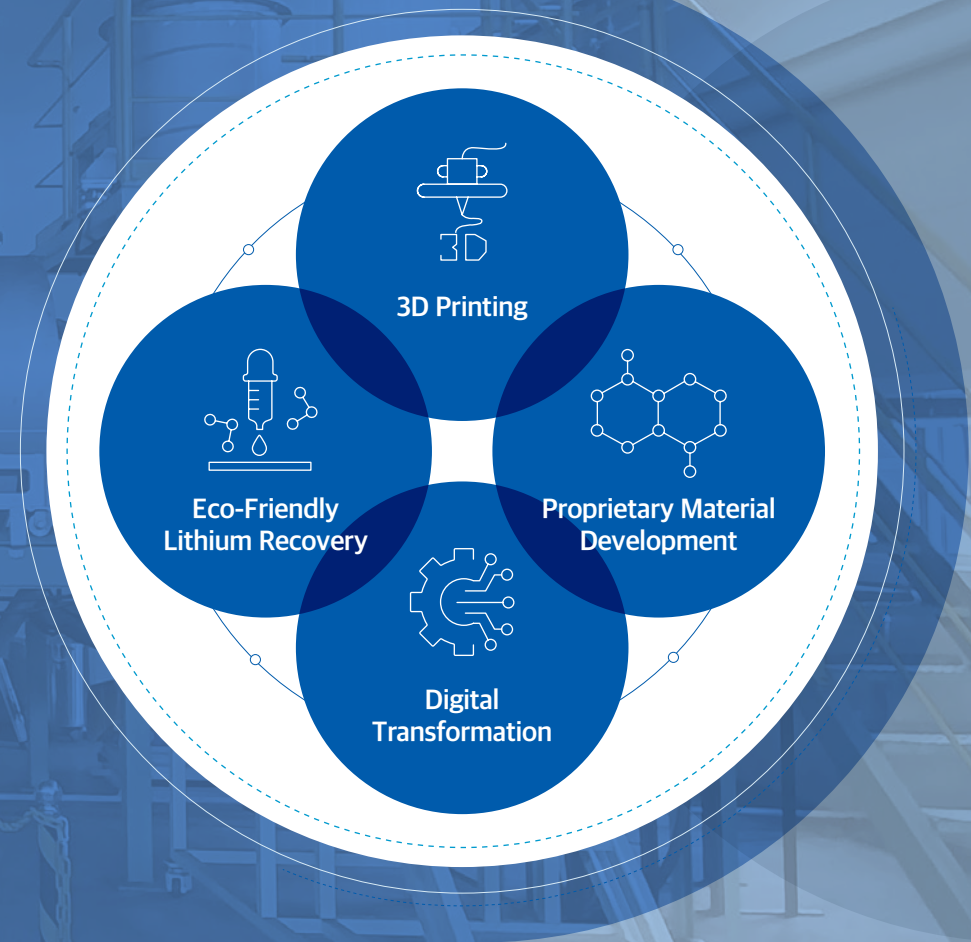


NuScale Power Module

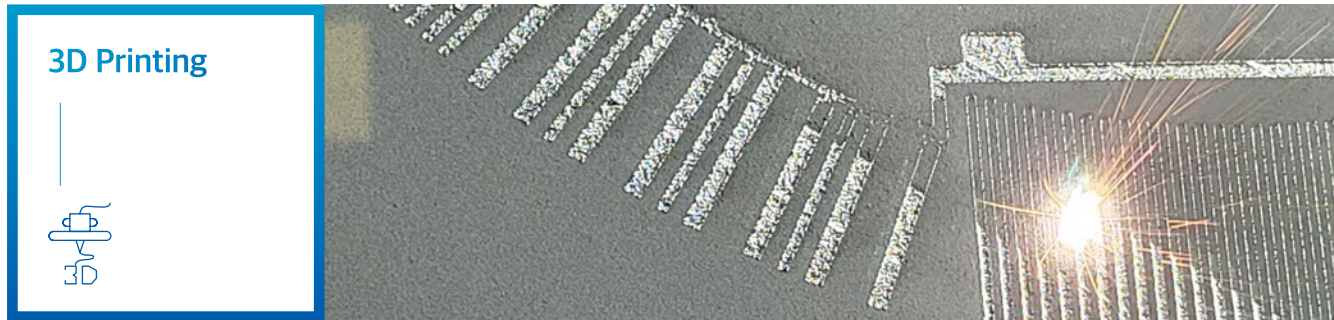
Back-end Fuel Cycle - Nuclear Fuel Cask & Decommissioning

With the number of aged nuclear power plants increasing in Korea as well as worldwide, we expect increased opportunities in the nuclear decommissioning and spent nuclear fuel dry storage cask businesses. Thus, we are aiming to dominate the market early on by leading technology development in the field of Back-end Fuel Cycle. We own our own model as we had secured the technology for designing spent nuclear fuel transportation & storage casks. In 2021, we supplied a cask to the Three Mile Island (TMI) Nuclear Power Plant in the U.S., becoming the first Korean company to export a nuclear fuel cask overseas. In 2022, we obtained design certification for our storage cask from the US Nuclear Regulatory Commission (NRC), an authority of nuclear regulations and licensing. In addition, we are preparing to win the project for Korea's first nuclear cask project. Based on our nuclear power plant operating services technology, we have developed core decommissioning technologies for nuclear reactors and steam generators through participation in a national project. We plan to lead the domestic nuclear power plant decommissioning business and seek participation in overseas markets based on these core technologies we have developed.

New Business Overview



New Business Overview



Doosan Enerbility, through continuous technology development efforts, has secured the technologies required across the entire 3D printing process, from the design to final assembly and quality inspection. We hold notable strengths in the field of Power Bed Fusion (PBF) 3D printing.

To improve the performance of the gas turbine which we are independently developing, we applied 3D printing manufacturing technology to the combustor parts and successfully conducted demonstration tests of the gas turbine. We started mass production of the product this year. Doosan Enerbility plans to expand the scope of 3D printing applications to the aviation and defense industries to strengthen the competitiveness of our core business. We are also participating in joint development projects with customers in various industries, and such efforts are coming to fruition, such as in the form of prototype production and successful demonstration tests. In addition, we have also implemented an internationally certified quality management system (AS9100, ISO9001) which satisfies the quality requirements.

Doosan Enerbility has built a 3D printing fabrication shop (the largest in Korea, 1,100m²) that is capable of technology development and mass production. We are operating a total of five 3D printers, including the world's largest 3D printer, and we plan to continuously expand our 3D manufacturing capabilities in connection with our business plan.

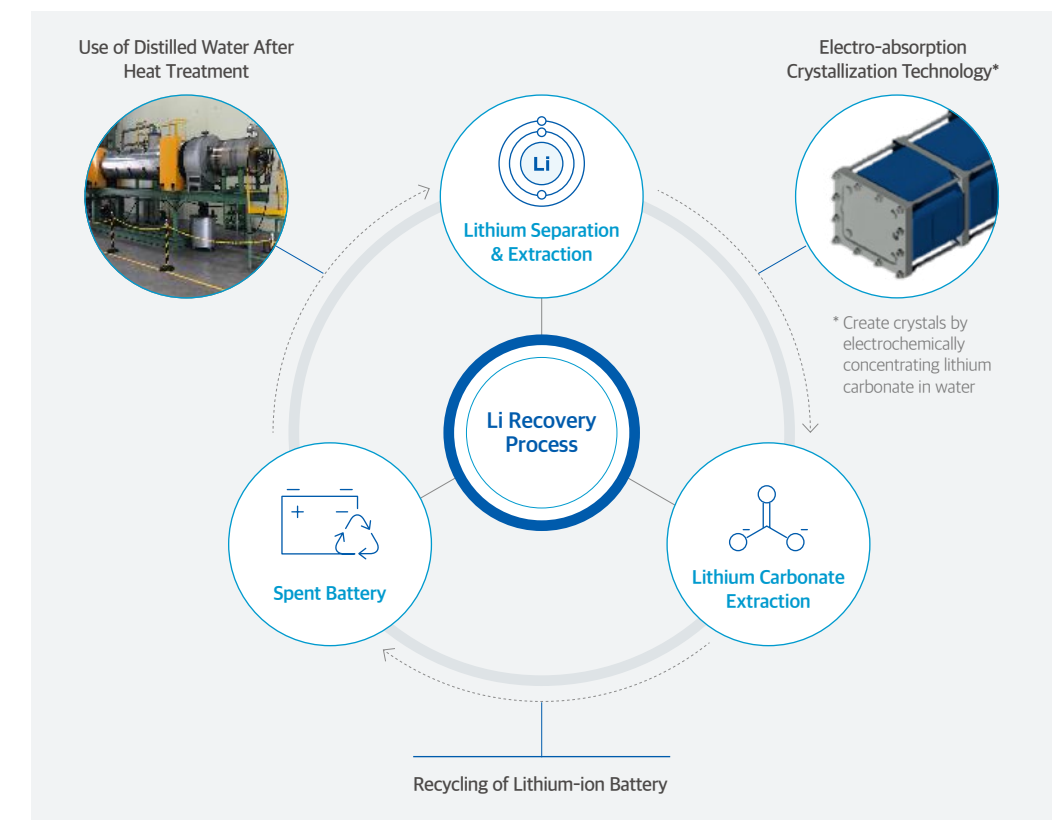


One of the key elements of Doosan Enerbility's eco-friendly resource recycling business is the lithium recovery technology to recover lithium from waste batteries. The procedure of extracting lithium from used batteries involves heat treatment, acid leaching (dissolving the material with an acid solution), evaporative concentration, and crystallization and this normally involves the use of large amount of chemicals, including sulfuric acid.

Doosan Enerbility has succeeded in developing an eco-friendly technology to recover lithium from waste batteries by developing a new lithium extraction method that does not use any chemicals.

Doosan Enerbility is preparing for rapid growth of the waste battery recycling market, which is expected to reach the size of KRW 68 trillion globally by 2040. To secure the reliability of our independently developed lithium recovery technology, Doosan Enerbility is planning to demonstrate and verify the performance of a commercial model. In 2022, we plan to start designing a commercial model for lithium carbonate production.

Eco-friendly Lithium Recovery Process



New Business Overview

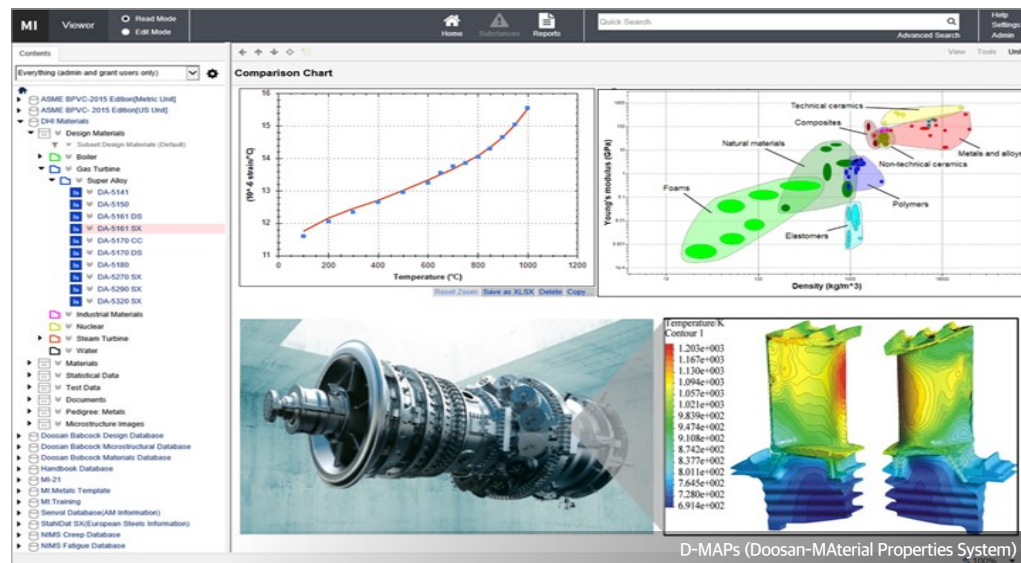
Proprietary Material Development



Doosan Enerbility holds material engineering capabilities that cover the entire process from development and manufacturing of materials to evaluation of the material properties for various types of materials used across all the related industries, including the equipment parts manufacturing, shipbuilding, maritime and power plant sectors.

We completed implementation of the D-MAPs, the platform for our material properties database and we plan to continuously update the database with the latest data and have it maintained properly, so that we may continue to stably offer the materials data required during any stage of the value chain. Furthermore, through the convergence of D-MAPs-based digital materials technology with materials-related AI technology, we plan to expand into more diverse businesses, such as the development of materials for the renewable, clean energy sector (i.e., hydrogen energy), lightweight materials for the aerospace industry and carbon composite materials.

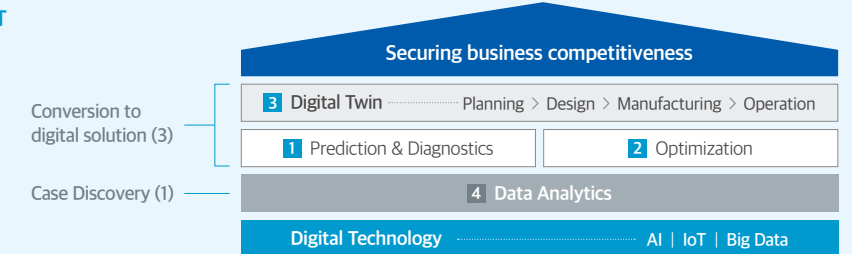
Furthermore, we plan to strengthen our own material competitiveness and expand our business by developing economical and high-yielding new steel grades with excellent physical and chemical properties and by developing materials for fuel cells parts that can help secure price competitiveness.



Digital Transformation



Role of DT



The digital solutions that Doosan Enerbility is seeking to commercialize are the solutions developed by integrating the unique capabilities of Doosan with various IT technologies (AI, Cloud, Big Data). They can be classified as follows: (1) Prediction & Diagnostics, (2) Optimization, (3) Digital Twin, (4) Data Analytics solutions.

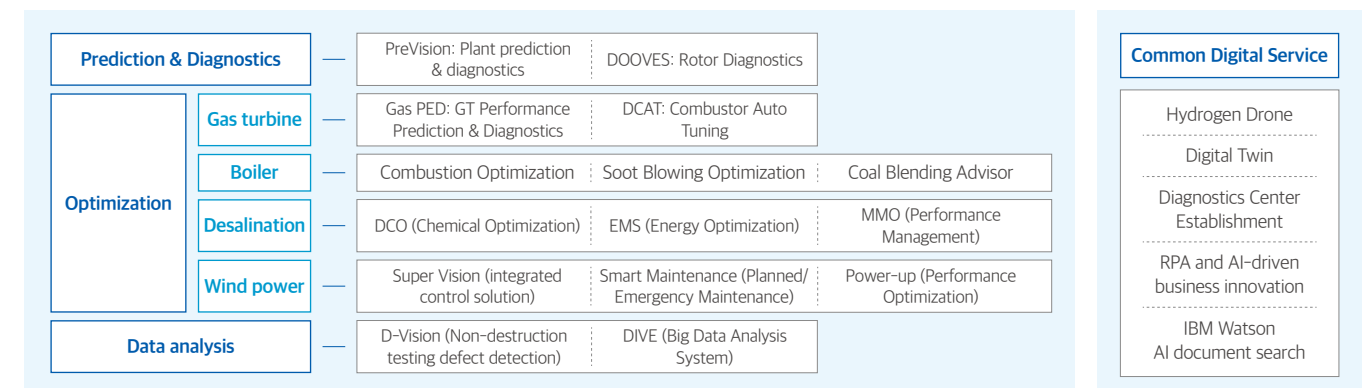
The Prediction & Diagnostics solution is a solution that detects abnormal signs of equipment or facilities in advance and diagnoses the causes to prevent future failures and improve availability. As our prediction & diagnostics solution has the advantage of being applicable to not only specific devices, but for general purposes, its utilization is expected to increase even further when a solid track record has been built by applying this solution to different types of plants or devices, not to mention power plants. We are expanding business opportunities based on our success in commercializing the prediction & diagnostics solution with the Korea East-West Power Co. in 2019 and Narae Energy Service in 2021. We are also seeking to apply the solution to wind turbines, gas turbines and may other types of plants and devices of the Doosan Group.

In the optimization solutions area, we have integrated the three solutions – the combustion optimizer, soot blowing optimizer and coal blending advisor – and are seeking to commercialize the integrated solution for power companies at home and abroad. Among these, the combustion optimizer was recognized as a solution that minimizes the emission of pollutants, such as NOx, through a demonstration at the Sasan Power Plant of Reliance Power Company in India in 2018 and a pilot project of the combustion optimizer

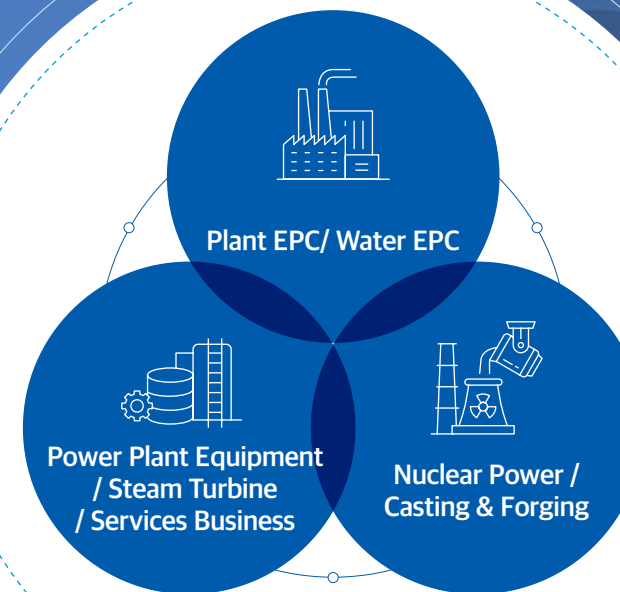
solution is currently in progress at the Shinboryeong Power Plant of Korea Midland Power Co. The Soot Blowing Optimizer solution was implemented at Thailand's Gheco Power Plant in 2021. In the water business sector, we have developed optimization solutions, such as Energy Management Solution, to minimize power consumption at seawater desalination plants and the DAF Chemical Dosing Optimizer to optimize chemical injection optimization solutions and are pursuing commercialization of the solutions.

The Digital Twin virtualizes devices or facilities and allows the virtualized device data to be reflected in the design and operation of the actual devices through real-time data integration with IoT sensors and simulations. A conformance test for the solution has already been completed on wind turbines and we expect that the digital twin can be used for various purposes, such as O&M of the wind turbines, gas turbines and nuclear power plant components supplied by Doosan Enerbility. Data analysis is an image analysis service that finds product defects by analyzing non-destructive examination (NDE) images (radiographic, ultrasonic inspection) of welded parts based on AI technology. This in-house developed non-destructive defect detection solution has been used internally since the end of 2019 to analyze data from various devices, facilities and O&M data to reflect the findings in our actual operation. It was also introduced as a representative innovation case at the “Google Cloud Digital Manufacturer Summit” hosted by Google Cloud, and we plan to expand the scope of application to various business fields in cooperation with Google Cloud.

Use Cases of DT



Existing Business



Existing Business



Doosan Enerbility, as a global leader in the power generation sector, possesses EPC capabilities for executing activities across the entire value chain from plant design to equipment supply, construction and commissioning. Based on these capabilities and references, we are carrying out numerous projects at home and abroad, especially in Vietnam. We are further solidifying our position as an EPC player by winning many projects in succession, starting with the Mong Duong 2 Thermal Power Plant in 2010 to Vinh Tan 4 and Nghi Son 2 thermal power plant projects. Recently, despite increasing efforts from the Chinese EPC companies to keep Doosan Enerbility in check, in October 2021, we won the 1,200MW Vung Ang 2 Power Project in the Vung Ang Special Economic Zone, Ha Tinh Province, in the northern central part of Vietnam and we are applying our accumulated on-site experience to the construction for the plant that is currently successfully in progress. Although the share of coal-related orders has been high for the past 10 years for Doosan Enerbility, we are in the process of converting our mid- to long-term business portfolio by reducing the share of coal-fired power plant business and increasing the share of low-carbon energy plants to become a company that specializes in eco-friendly power generation. In the case of Guam's combined cycle power plant for which the contract was signed in December 2020, we are building an eco-friendly power plant with ultrafine dust emissions that are only one-ninth of that of coal-fired power plants, and air pollutants such as sulfur oxides are less than a third of that emitted from coal-fired power plants. Doosan Enerbility is expanding the EPC area to renewable energy-based power plants, such as fuel cell power plants and will be making more aggressive effort to increase our presence in the combined cycle power plant and renewable energy plant market based on our EPC capabilities, technology and delivery performance.

Based on our competitiveness in EPC projects, we are actively diversifying our business portfolio to include not only power generation, but also other business areas such as construction. In the domestic private sector, we are contributing to creating a comfortable living space by executing various construction projects such as the 5th apartment complex in Deokgye, Yangsan, and an officetel, a multi-purpose building with residential and commercial units, in Dapsimni. Also, in the public sector, we have won a contract for the construction of storage tanks for Dangjin LNG Units 1-4, the largest in Korea, ordered by Korea Gas Corporation. We are in the process of constructing four storage tanks of 270 thousand kiloliters and supplying equipment such as cryogenic pumps.



As climate change accelerates, regional variations in precipitation are widening, and water scarcity is becoming a serious problem. However, most (97%) of the Earth's water is salt water, and less than 1% is actually potable water. This is the reason why many countries around the world are focusing on the seawater desalination business to overcome the water shortage issue.

Doosan Enerbility is actively participating in the desalination business based on its world-class technology and market share, and is producing approximately 8 million tons of freshwater per day through 32 projects. This is equivalent to the volume of water that can be used daily by about 26 million people, half of the population of Korea.

Doosan Enerbility has its own technology for the pretreatment system and seeks to maximize customer satisfaction through various business models, from the EPC turnkey business to plant operation and maintenance services, based on Doosan Enerbility's unparalleled technology.

In January 2022, Doosan Enerbility signed a memorandum of understanding with "Hassan Allam," a leading developer and large-sized construction firm in Egypt, and Almar Water Solutions, a company formed through a Saudi Arabia-Spain joint venture, to form a comprehensive cooperative system for a seawater desalination project with a capacity of 1 million tons per day in Ismailia, Egypt. This is expected to serve as a bridgehead for Doosan Enerbility's entry into the Egyptian market.

Efforts to Strengthen Our Competitiveness

Doosan Enerbility is carrying out various activities to strengthen our EPC capabilities.

In the engineering area, we are striving to improve design integrity through digitalization activities. We are also maximizing the efficiency of design schedule management through digital technology-based Power BI activities.

In the procurement area, we rely on Global Sourcing to purchase and supply optimal products that respond to the needs of the client. Finally, in the construction area, manpower with abundant construction experience is assigned to the sites to run the projects, while various career development programs are being conducted to discover and nurture key talents for the construction and commissioning process.



Existing Business

Power Plant Equipment



Doosan Enerbility has the capabilities to design, manufacture and install the main components of boilers. In particular, our own heavy oil-fired boilers and 1000MW USC boilers have been recognized as world-class products. We also acquired the German company AE&E Lentjes, which helped to further strengthen our capabilities in the equipment manufacturing business at home and abroad, as we came to own the technologies for AQCS, Waste-to-Energy (WtE) plants and CFB boilers. In addition, through the acquisition of Skoda Power, we have strengthened the competitiveness of our existing flagship products, such as steam turbines and generators, and plan to continue to secure stable orders intake and profits. At the same time, we are continuously winning new orders in the gas-fired power generation sector by providing comprehensive solutions that can be applied to various gas turbines models, based on our solid track record in the domestic and overseas CCPP (Combined Cycle Power Plant) markets.

Boiler Business Conversion

In response to changes in the thermal power plant market, Doosan Enerbility is pursuing a business transition from the existing coal-fired boiler business to the WtE (Waste to Energy) business and the development of ammonia dual-fuel boiler technology. We were able to prove the competitiveness of our eco-friendly solution technology by winning the Olsztyn WtE EPC project in Poland in 2020, followed by the Warsaw WtE EP project in Poland and the Wiesbaden WtE EP project in Germany in 2021, based on the WtE technology held by our subsidiary Doosan Lentjes. In addition, we are developing ammonia dual-fuel technology that can reduce carbon emissions by applying ammonia dual-fuel to existing power generation boilers, a high-carbon consumption business with high carbon emissions. In the existing domestic boiler market, the installation of 1000MW class USC boilers has increased rapidly since 2019. Although USC boiler is a boiler that has adopted a carbon emission reduction technology compared to existing boilers, it is a large facility with very large carbon emission compared to other power generation energy sources and since the remaining life of USC boilers is more than 30 years per plant, high-carbon emission of these boilers must be addressed from a carbon-neutral point of view. However, there is a dilemma that the sudden disposal of large coal-fired power plants can cause a new problem directly related to national security, namely, electric power instability, and for this reason, it remains as a national challenge.

Under these circumstances, ammonia dual-fuel power generation can be a stable implementation plan for carbon neutrality and energy conversion, and it is one of the core contents of the eco-friendly energy sources included in the 2050 carbon neutral scenario that the government has been planning. Dual-fuel combustion refers to burning two or more fuels. An ammonia dual-fuel boiler has adopted a new technology that reduces carbon emissions by mixing and burning ammonia, a fuel that does not emit carbon, and thermal fuels such as coal. Ammonia dual-fuel boiler is a technology that reduces carbon by 20% when 20% ammonia is used in combustion. Doosan Enerbility is participating in the development of a technology that reduces carbon while maintaining the same calorific value during dual-fuel combustion. This was possible due to Doosan Enerbility's experience as an OEM company with a track record of supplying many existing boilers in Korea that separates Doosan Enerbility from others, and such experience will support our transition to ammonia fuel-cell boiler business through the realization of remodeling technology for ammonia dual-fuel combustion.

We plan to obtain optimization technologies in the field of high-efficiency STGs and BOP (Balance of Plant) systems for domestic combined cycle power plants through successful execution of the scheduled CCPP Power Package Solution projects. In 2021 we won the Shinsejong thermal power plant (210MW×1), Daegu thermal power plant (124MW×1), and Cheongju thermal power plant (124MW×1) projects by working together with a domestic EPC company, and we plan to continue to strengthen partnerships with domestic EPC companies to increase overseas CCPP STG order intake. In addition, we succeeded in winning a contract for Quang Trach (701.5MW×2) in Vietnam based on the technology and price competitiveness we have secured through a partnership with a domestic EPC company. Through cooperation with major domestic EPC companies, we have won numerous domestic and overseas projects, demonstrating Doosan Enerbility's excellent technology and business competitiveness.



Steam Turbine Generator

Service Business Leveraging Our Power Generation Competency



As an OEM provider of power plant equipment, Doosan Enerbility is carrying out the services business for various areas like sales, design, procurement, manufacturing, project management and quality assurance, as well as plant engineering (PE) and construction. Our service capabilities are specialized in power plant diagnoses & assessments, reverse engineering of other OEM main equipment, field engineering, local operation and RMS (Remote Monitoring System). By leveraging these specialties, we won the facility improvement project for Dangjin AQCS (Air Quality Control Systems) #1~4 in 2021. Based on the experiences of executing various types of projects at home and abroad, we expect to be able to firmly establish our services business at an early stage and to improve the stability of our business portfolio, not only by expanding our supply of routine/planned maintenance services and related spare parts for the OEM power plants that we have built and supplied main equipment for, but also by winning more Non-OEM service orders for the power plants supplied by other companies.

Strengthening the Capabilities of Service Specialist TAs (Technical Advisors)

The fundamental element of the services business is to secure maintenance service orders for customers' power plants and to stably supply and install the parts designed and manufactured by Doosan Enerbility to ensure proper maintenance. The key success factor in the services business is the competence of the service specialist TAs who work at the point of contact with customers. We are striving to improve the capabilities of our services business by newly forming the Technical Service Center Team, an organization dedicated to nurturing service specialist TAs, developing training curriculum and carrying out activities to improve competitiveness linking with our overseas subsidiaries.

Expansion of Services Market

Based on our extensive experience and know-how in the power generation services business, we won the maintenance contract for the UAE BNPP (Barakah Nuclear Power Plant) in 2019, securing the basis for further expanding the nuclear power plant services business. As we have identified the need for fuel conversion (coal / petroleum → gas) in the thermal power plants of the Middle East and South America, we are actively targeting these markets by leveraging our fuel conversion technologies. We also have service capabilities for combined cycle power plants such as the one we demonstrated by executing the Oseong CCPP O&M project. We are expanding our service business scope by securing service technology for various types of power generation.

Development of Digital Solution

In order to generate additional revenue and secure competitiveness in the service business, Doosan Enerbility has digital solutions that include predictive diagnosis solution (PreVision), Power-up solution, and Smart maintenance solution. In addition, we are continuously reviewing to secure a digital solution as an enabler to strengthen the business competitiveness of solar power and ESS.

We are scheduled to supply a gas turbine solution (DooCare package*) to the Gimpo Combined Heat and Power(CHP) Plant. We plan to strengthen the competitiveness of our gas turbine and secure differentiating factors that separate our gas turbine from others by leveraging our digital solutions to increase efficiency and reliability.

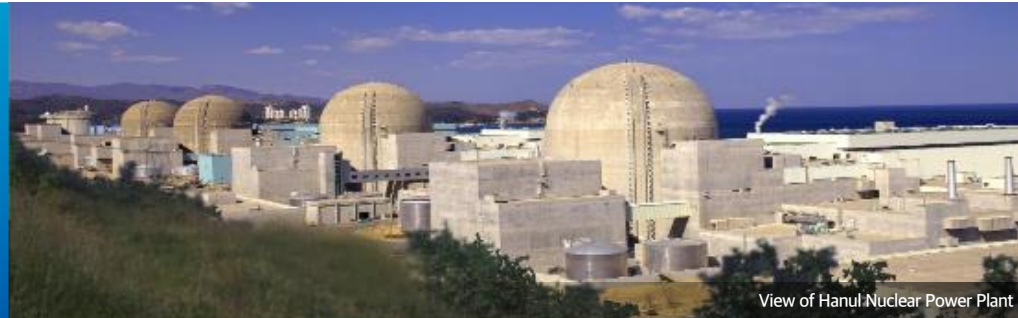
Dooves, our diagnostics solution for a rotor, has been implemented on a domestic site as a pilot implementation and its performance is currently being monitored and reported on a regular basis. Doosan Enerbility plans to secure and upgrade our vibration diagnostics solution for all rotors including gas turbine.

Doosan Enerbility signed an MOU with SK C&C for cooperation in the area of smart manufacturing platform and plans to provide various digital solution technologies such as predictive diagnostic solutions and digital twins, actively considering joint business opportunities at the same time.

* DooCare Package Solution: A digital solution package that optimizes and monitors the performance of Doosan Enerbility's gas turbine. DooCare Package Solution consists of combustor automatic tuning solution (DCAT), performance diagnostics solution, and predictive diagnostics solution (Prevision).

Existing Business

Nuclear Power



View of Hanul Nuclear Power Plant

Nuclear Component Manufacturing & Power Plant Services

Doosan Enerbility holds the track record for having supplied the most nuclear power plant components across the globe over the past three decades, and we are recognized as being the global leader for our expertise in engineering and manufacturing nuclear power plant components. We are also the only company to have manufactured the main components for both the Korean-type APR1400 reactor and the U.S. AP1000™ reactor. The Korean-type nuclear components manufactured by Doosan have been verified for its safety and design, as reflected in the full design certification received from the NRC, the US regulatory authority, and the user requirements certification in Europe. The competitiveness of our prices, delivery time and product quality were also proven through the successful execution of the UAE Barakah Nuclear Power Plant Project, our first nuclear export project. Backed by our competitiveness in manufacturing nuclear power plant components and as a Key Player of the Team Korea that we have formed together with Korea Hydro & Nuclear Power (KHNP) and Korea Electric Power Corporation (KEPCO), we are actively carrying out the development and design demonstration of reactors to win orders for the Korean style nuclear power plant in the Czech Republic and Poland.

Based on our engineering capabilities and experience in main component manufacturing, Doosan Enerbility is expanding its services business, such as replacement and repair / maintenance of main components in the operational nuclear power plants.

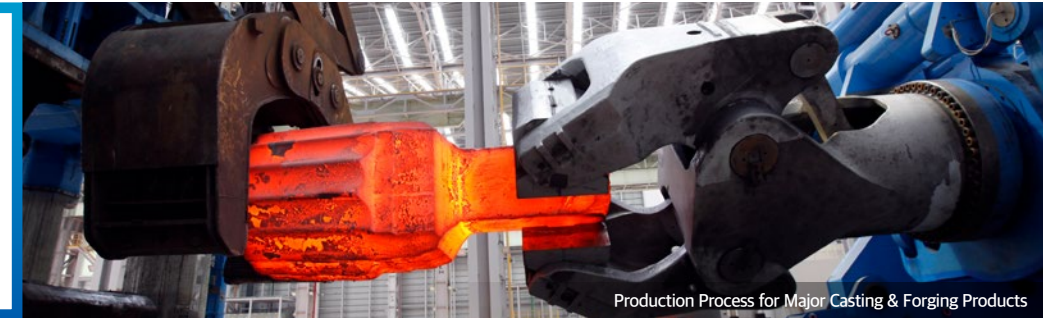
Since 2012, we have been manufacturing and constructing steam generators / reactor heads for replacement of components in operational nuclear power plants in Korea and have been continuously providing main equipment repairs/maintenance, preventive maintenance, and performance improvement services to power plants.

In the international market, starting with the supply of replacement steam generators for the Sequoyah Nuclear Power Plant in the United States in 2003, we have been manufacturing and supplying replacement reactor heads, steam generators and pressurizers for nuclear power plants in operation in the United States. In 2019, we won the maintenance services contract for the UAE Barakah Nuclear Power Plant for which we had previously won the nuclear new build project and by doing so, successfully entered the overseas market for plant maintenance services.



View of ShinHanul unit 1, 2

Castings & Forgings

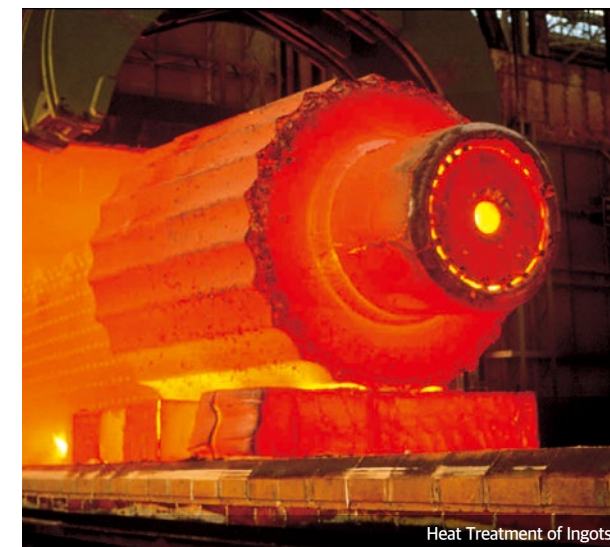


Production Process for Major Casting & Forging Products

Efforts to Strengthen Our Competitiveness

In response to the advancement of industries, we are endeavoring to acquire more competitiveness by making investments in remelting facilities required for production of high purity steel, along with investments in optimal infrastructure for manufacturing highly-functional metal, all of which will help us deliver value to our customers. Furthermore, by developing new products aimed at achieving external growth and profitability, we are stepping up our efforts to improve our business portfolio. We are leveraging our expertise to keep up the steady supply of our company's products to the local Korean market, as well as to the wider global market, including China, Southeast Asia, Europe and the States. We were recognized by the Ministry of Trade, Industry and Energy (MOTIE) for our outstanding product manufacturing technology and exporting competitiveness when eight of our products, including our mold steel, marine crankshaft, work roll and low-pressure turbine rotor shaft, were awarded as World-Class Products.

PCHE (Printed Circuit Heat Exchanger), which we are pursuing as a new business, is a high-efficiency heat exchanger that has been reduced to one-tenth the size of conventional heat exchangers. As it can increase the heat exchange rate by more than 90% and maximize the heat exchange effect in a limited area, the scope of application of PCHE is expanding to hydrogen refueling stations, LNG carriers, and power plant parts, etc. In October 2020, we started the commercial operation of the 600-ton hot press (high-temperature diffusion bonding), an essential facility for PCHE. In 2021, we successfully entered the market by starting mass production of PCHE for hydrogen charging stations and PCHE for fuel cells. We anticipate new sales opportunities in the shipbuilding, maritime and power generation sectors will further increase as we hold the Flow Path Design Capability, which is a core technology for PCHE.



Heat Treatment of Ingots



17,000-ton Forging Press



Environmental

48 Climate Change Response

51 Management of
Environmental Efficiency

Responding to Climate Change

Recognizing the seriousness of rapid climate change, Doosan Enerbility is setting a course of action for effectively responding to climate change by devising measures that at minimum meet the TCFD recommendations. By analyzing both risks and opportunities, we are taking preemptive measures aimed at preventing risks in advance. We are also taking strategic action of identifying business opportunities and having these opportunities reflected accordingly into our business plans.

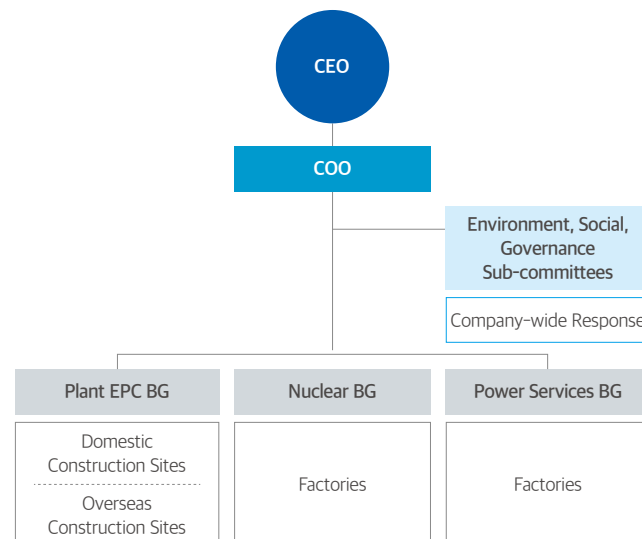


Doosan Enerbility has raised its carbon emissions target by reflecting the Nationally Determined Contribution (NDC) target for 2030, which represents the country's commitment to greenhouse gas reduction, and by analyzing various scenarios. We have established a systematic carbon neutrality roadmap and are making efforts to improve energy efficiency, as well as the process and system for emissions calculation.

Governance

Doosan Enerbility has an ESG Committee chaired by the COO, with the climate change-related risks and opportunities being identified and analyzed by the relevant sub-committees, so that a preemptive response may be devised at a company-wide level. The ESG Committee consists of three sub-committees: the Environmental, Social, and Governance sub-committees. For each sub-committee, a minimum of three meetings are convened each year, including the working level manager meetings and the ESG Champions meetings to discuss the ESG issues. At the annual ESG committee meeting held at the end of the year, the final decision is made on the issues raised through the working-level meetings and the Champion meeting. The management and the board of directors will reflect the key management items in the KPIs and continue to monitor the progress to manage the climate change issues through their respective implementation organizations.

Organization Chart



Strategies to Counter Climate Change

Climate Change-Related Risks & Opportunities

In order to devise strategies to effectively respond to climate change, Doosan Enerbility analyzes and identifies physical/transition risks and opportunities in terms of business strategy and financial impact according to scenarios, time period, and management scope, and develops countermeasures to mitigate each risk.

Strategy and Countermeasures to Address Physical Risks

In order to prevent an increase in business operating costs that may occur due to physical risks, we are implementing various measures such as early risk management, and Quality Gate system to systematically manage the risks and are also making efforts to strengthen Green Tech related technologies with the goal of achieving sustainable management. As earthquakes/floods occur with increasing frequency due to climate change, Doosan Enerbility is conducting situational assessments and making related investments on a regular basis to respond to these physical risks.

Risk Factors	Countermeasures & Investments
Sewage facility overflowing due to changes in precipitation (heavy rain) at Changwon Plant	• Reinforce sewage treatment-related facilities and increase investment • Design and build sewage pipelines in cooperation with Changwon City
Risk of building collapse in case of earthquake magnitude of 5 or greater identified during earthquake-resistance performance evaluation of Changwon main building	• Invest about KRW 1.8 billion to reinforce earthquake resistance (Dec 2021) → Secured first grade earthquake resistance

Strategy and Countermeasures to Address Transition Risks

Doosan Enerbility has defined the expedited transition to an eco-friendly business portfolio as its key strategic direction to effectively respond to the rapidly changing market conditions and intense technological competition caused by climate change. We will focus on growth and investment in the four areas - renewable energy, gas turbines, hydrogen and small modular reactors. In the short term, we will be focusing on completing the development of our clean energy business model in Korea, and by leveraging our successful track record in Korea, we aim to expand into the overseas market to ultimately become the global leader of the clean energy sector.

Category	Factors		Period	Management Scope
Physical Risks	Sudden Risks	• Costs for recovery when large disasters occur (e.g., earthquakes, heavy rain, thunderstorm)	Short-term	Company, Suppliers
	Constant Risks	• Increase in manufacturing facility operating costs owing to climate change	Mid-term	Company
Transition Risks	Policy / Law	• Rise in carbon credit purchasing costs owing to the increase in CO ₂ emissions and rising carbon credit prices • Additional costs expected from purchase of renewable energy	Long-term	Company
	Technology	• Increase in investments owing to rising number of eco-friendly, low-carbon facilities • Fierce competition expected in the development of eco-friendly technology	Long-term	Company
	Market	• Downsizing of existing businesses and markets caused by market restructuring	Long-term	Company, Customers
Opportunities	Product / Service / Market	• Growing demand of businesses for high-efficiency, eco-friendly energy • Due to promotion of the renewable energy sector, possible to adopt various types of new technology and renewable energy, e.g. blue, green hydrogen • Growing market for digital technology-based power plant services, such as energy saving solutions • Increase in intangible assets, such as greater brand value, expected once reputation is established as an eco-friendly company	Long-term	Company, Customers

To address the risk of rising costs caused by the increase in CO₂ emissions and price hike of carbon credit purchasing costs, we are continuously monitoring the government's regulations on the emissions trading system. Internally, we are carrying out emission reduction activities through the improvement of energy efficiency and energy consumption, and externally, we are making efforts to secure emission rights by participating in domestic and overseas reduction projects. We participated in the project to provide cooking stoves to low-income households in Myanmar and we plan to convert the emissions reduction results from such projects into emission rights that can be used in Korea.

Risk Management

Doosan Enerbility is effectively operating an integrated risk management process to secure the company's sustainability and to prevent risks that have a negative impact. The process is carried out in four stages: Identification of Risks & Opportunities, Gate Keeping, Evaluations & Assessments, Response & Reporting. At each stage, company-wide discussions are conducted through the relevant management organization's internal consultative body. We are also increasing the Business Groups' participation and expanding their roles to strengthen detailed level execution. The progress and results of the risk identification and mitigation programs are reported directly to the top management, and if they are classified as critical risks in consideration of their impact on management activities, they are submitted to the Board of Directors to reach the most optimal decision.

Risk & Opportunity Management Process and Analysis



Metrics and Reduction Targets

Greenhouse Gas Reduction Target and Action Plan

Doosan Enerbility has devised greenhouse gas reduction targets and the Net Zero Roadmap as a way to effectively address the risks related to climate change. We applied the Science Based Targets initiative(SBTi)'s absolute contraction approach to conduct an analysis on the government's Nationally Determined Contribution(NDC) target and the greenhouse gas emissions reduction trend identified in climate change scenarios showing temperatures well below 2°C and 1.5°C. Along with this, we considered the domestic renewable energy market situation and economic viability to set our greenhouse gas reduction targets. We set a target of achieving a 19.4% reduction by 2030 compared to the 2017 emissions level, bringing it down from 258,000 tons in 2017 to 208,000 tons by 2030, with the ultimate goal being to reach Net Zero by 2050 through improvement of energy efficiency at business sites, increase of renewable energy use, execution of reduction projects (offset), and application of new technologies. We plan to validate this target based on the SBTi. To achieve the target greenhouse gas reduction, we have established and implemented an annual greenhouse gas reduction execution plan. Our reduction efforts include energy efficiency improvements, conversion to renewable energy, greenhouse gas offset programs, and application of new production technologies to reduce greenhouse gas emissions at business sites and factories. We also estimate greenhouse gas emissions based on scenario analyses by climate change risk factors and measure their financial impact.

Metrics and Targets

Doosan Enerbility is managing the greenhouse gas metrics through the GEMS(Green Energy Management System). With the GEMS, greenhouse gas reduction targets are set at a corporate-wide level, as well as for the Changwon plant, Business Groups, manufacturing shops and individual departments, all in alignment with the national greenhouse gas emissions allowance and the company's carbon neutrality goals. The monthly greenhouse gas emissions based on energy consumption is monitored in real time to effectively manage greenhouse gas emissions at a corporate-wide level and to facilitate achievement of the targets.

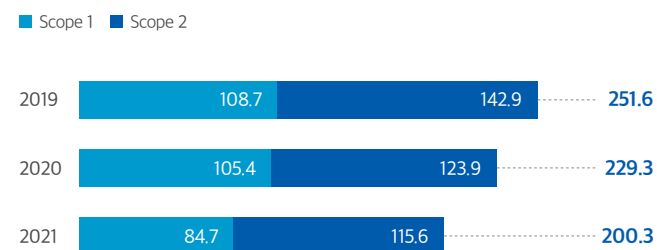


GEMS(Green Energy Management System)

Greenhouse Gas Emissions

Doosan Enerbility's greenhouse gas emissions in 2021 was 200.3 thousand tCO₂eq, a reduction of 13% compared to the previous year. Scope 1 emissions amounted to 84.7 thousand tCO₂eq, a reduction of 20% compared to the previous year, and the Scope 2 emissions amount was 115.6 thousand tCO₂eq, a 7% reduction compared to last year. We are striving to achieve our greenhouse gas reduction goals by carrying out improvement activities based on the real-time monitoring system for greenhouse gas emissions at worksites..

Greenhouse Gas Emissions (Scope 1 & 2) (Unit: 1,000 tCO₂eq)



Target Management Activities & Performance

In order to achieve the greenhouse gas reduction goal, Doosan Enerbility has defined three areas of action: improving energy efficiency, securing carbon credits, and establishing a climate change response system. We define our annual action plan in the three areas, conduct the activities according to the plan and evaluate the results. In 2021, we reduced about 2,000 tons of greenhouse gas emissions through replacement of existing lightbulbs of our offices with 1,800 high-efficiency LED lamps, replacement of air compressor with inverter air compressors and energy saving activities at worksites, and generated about KRW 500 million in profits from the sale of carbon credit.

Improvement of energy efficiency

- Replaced lightbulbs in annex buildings and offices with 1,800 LED lamps
- Replaced air compressors at worksites with Inverter Air Compressor
- Currently reviewing fuel conversion for heat treatment and heating furnace at production sites.

Securing carbon credit

- Working to convert the carbon credit obtained from the 'Cooking Stove' project in Myanmar to a domestic carbon credit
- Establishing a plan to participate in the government's greenhouse gas reduction support project

Set up climate change response system

- Improve the system to expand the scope of management for greenhouse gas emissions

Management of Environmental Efficiency

Doosan Enerbility is making every effort to reduce the environmental impact that occurs in the course of business activities based on our people and nature-oriented business philosophy. Furthermore, we are making considerable investments in preserving the environment and implementing eco-friendly policies. We have also set up key strategic goals that are used to constantly monitor and execute related initiatives.

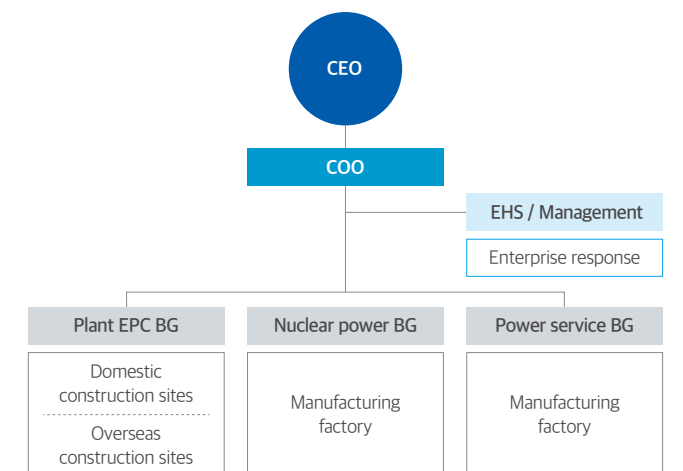


Environmental Policy & Organizational Operation

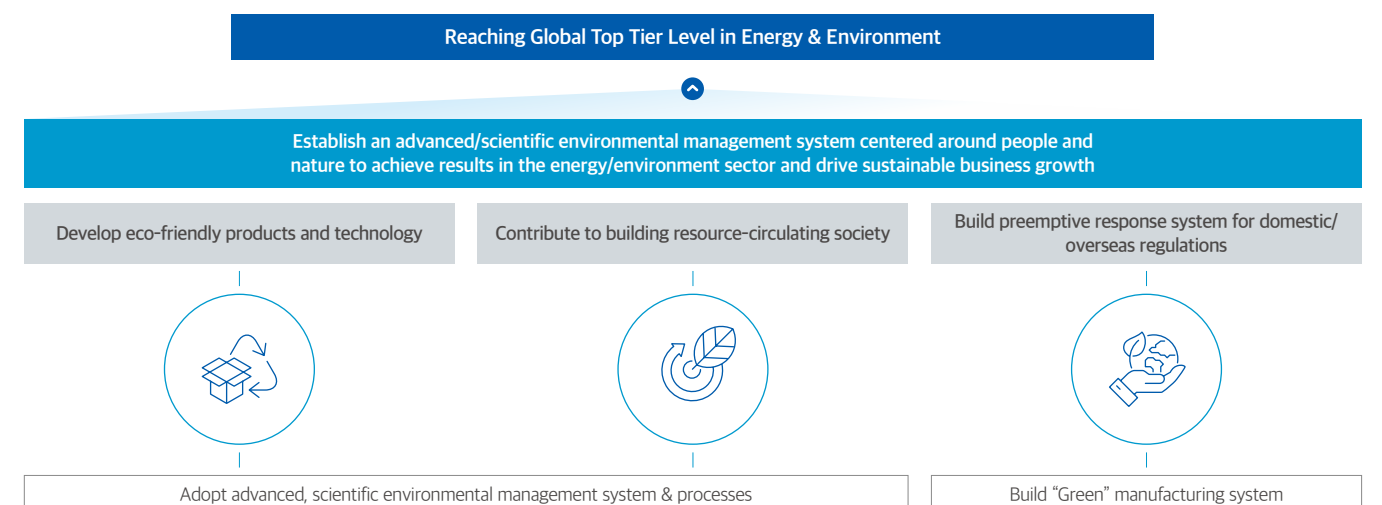
Doosan Enerbility is operating the Environmental Management System (EMS) to efficiently consume resources and minimize negative impacts on the environment.

The EMS manages the key aspects of environmental management: purpose and goal, role, responsibility & authority, compliance with laws and requirements, continuous improvements, understanding of stakeholders' needs and expectations, environmental education, and performance evaluation. Important agenda items are reported to the board of directors and managed accordingly. Furthermore, in order to manage and maintain these key aspects in accordance with global standards, we have obtained the International Standard Organization's certification on environmental management system (ISO 14001). In 2021, as part of our continuous efforts to reduce the emission of environmental pollutants and to reflect our stakeholders' expectations and internal/external issues, we invested a total of KRW 3.04 billion in installing 12 units of the telemonitoring system (TMS) for the purpose of reducing the emission of environmental pollutants.

Organization Chart

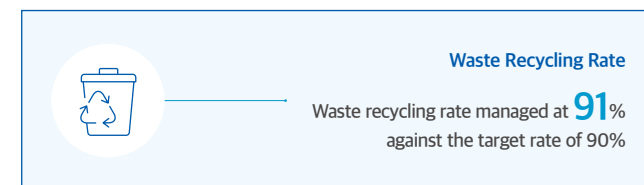


Vision and Strategy



Expansion of Waste Management Scope

- Doosan Enerbility is taking active measures to respond to the Resource Circulation Act, which has been in effect since 2019. In order to increase the circulation of eco-friendly resources and minimize environmental pollution, we are carrying out activities to suppress the generation of waste and promote recycling. Our waste management strategy was built on the basic principles of refraining from the simple burying and incineration of waste and taking actions to increase recycling and fundamentally reduce waste emission.
- We have implemented processes to separate and reuse waste refractory materials in the steelmaking process, sort and recycle waste paint and organic solvent iron containers, and select and reuse incineration target waste materials with high calorific values as solid fuel to increase the recycling rate.
- In addition, we are making efforts to minimize incineration/landfill waste by discovering new recycling companies to improve the recycling rate and we closely monitor whether the companies are properly handling the waste by conducting on-site inspections of waste treatment companies on an annual basis.

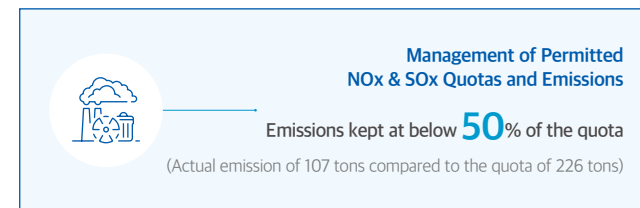


Management of Air Pollutant Emissions

Doosan Enerbility is managing air pollutants generated from emission facilities through process control and facility investments to reduce the generation of air pollutants. In 2021, we emitted 107 tons compared to the total permitted emissions quota (NOx, SOx) of 226 tons, and have managed to keep the air pollutant emissions level at 50% or less than the assigned quota. We have effectively reduced air pollutant emissions by installing dust collector systems, such as a rooftop hoods for electric arc furnaces. In order to adhere to the total emissions regulations, we invested KRW 2.75 billion in 2021 to install and operate telemonitoring systems (TMS) on 12 furnaces of forging facilities. In addition, we invested KRW 200 million to install low-NOx burners to 12 absorption coolers & heaters used in restaurants and offices to reduce nitrogen oxide emissions and comply with legal emission standards.

In 2019, an agreement was made with the Gyeongnam Provincial Office to pursue the voluntary reduction of fine dust, and we have set up a yearly reduction plan that extends up to 2024. In 2021, we succeeded in reaching our goal by emitting only 30 tons, which was 51% of the 2021 target emissions of 59 tons.

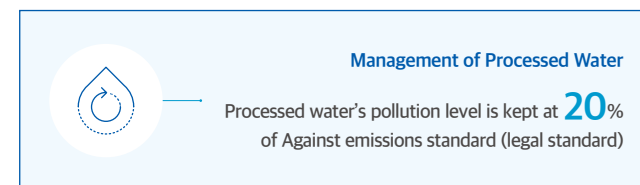
Contamination levels are regularly inspected to check on the generation of contaminants in the production processes and the environmental impact on areas near workplaces. We also measure pollution level on the boundaries of the production facilities and communicate with the local communities on regular basis.



Activities to Reduce Water Pollutants

Wastewater generated at Doosan Enerbility is processed safely using the internal wastewater treatment facilities, and the water is not directly released, but is transferred to the water recycling center of the local government for additional purification in order to minimize the risk of river contamination.

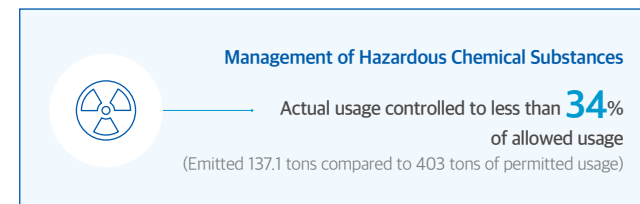
Moreover, in order to monitor the effectiveness of wastewater treatment and compliance with the water release standards, water quality is measured once a week by an external water quality inspection company. Also, we conduct pollution level analysis on the rainwater collected from the storm drain canals around the business site and the seawater collected from near the Yongho village and the pier.



Strengthening of Chemical Substance Management

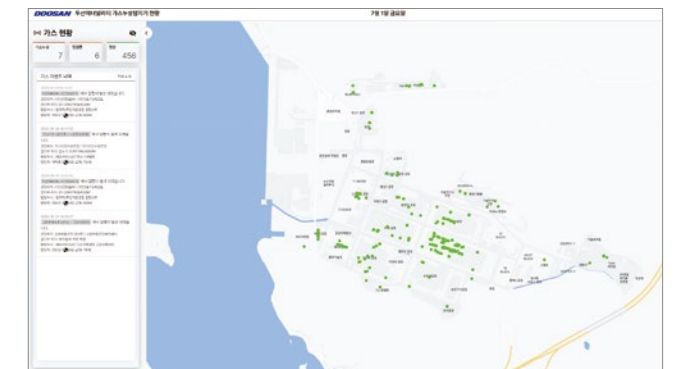
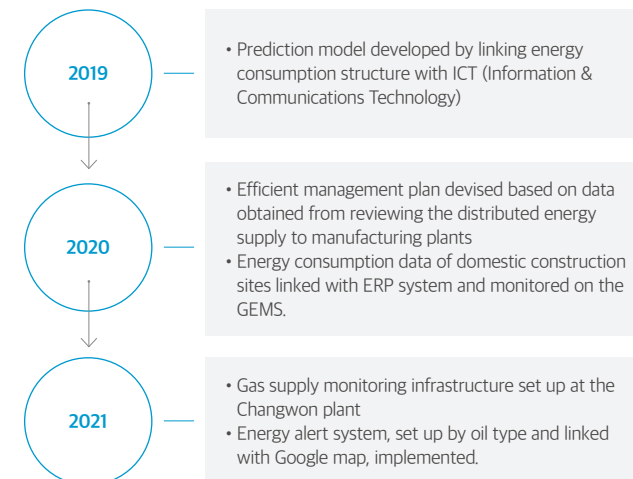
Doosan Enerbility established DCIS (Doosan Chemical Information System) to manage the entire lifecycle of chemical substances from their purchase to usage. Abiding by the principle of requesting prior approval for all chemical substances delivered to our business sites, we thoroughly control the entry and exit of hazardous chemicals.

Three chemicals (sulfuric acid, caustic soda and 2-furanmethanol) are designated as hazardous substances at the Changwon plant. We are constantly endeavoring to reduce their usage, having lowered it to 137.14 tons in 2021 compared to the 403 tons of permitted annual usage.



Implementation of Integrated Energy System

Doosan Enerbility has established a mid-to-long term plan for energy efficiency improvement and carbon emissions reduction to achieve its Net Zero goal by 2050. We are pursuing the integration of the energy system in phases based on big data related to energy efficiency.

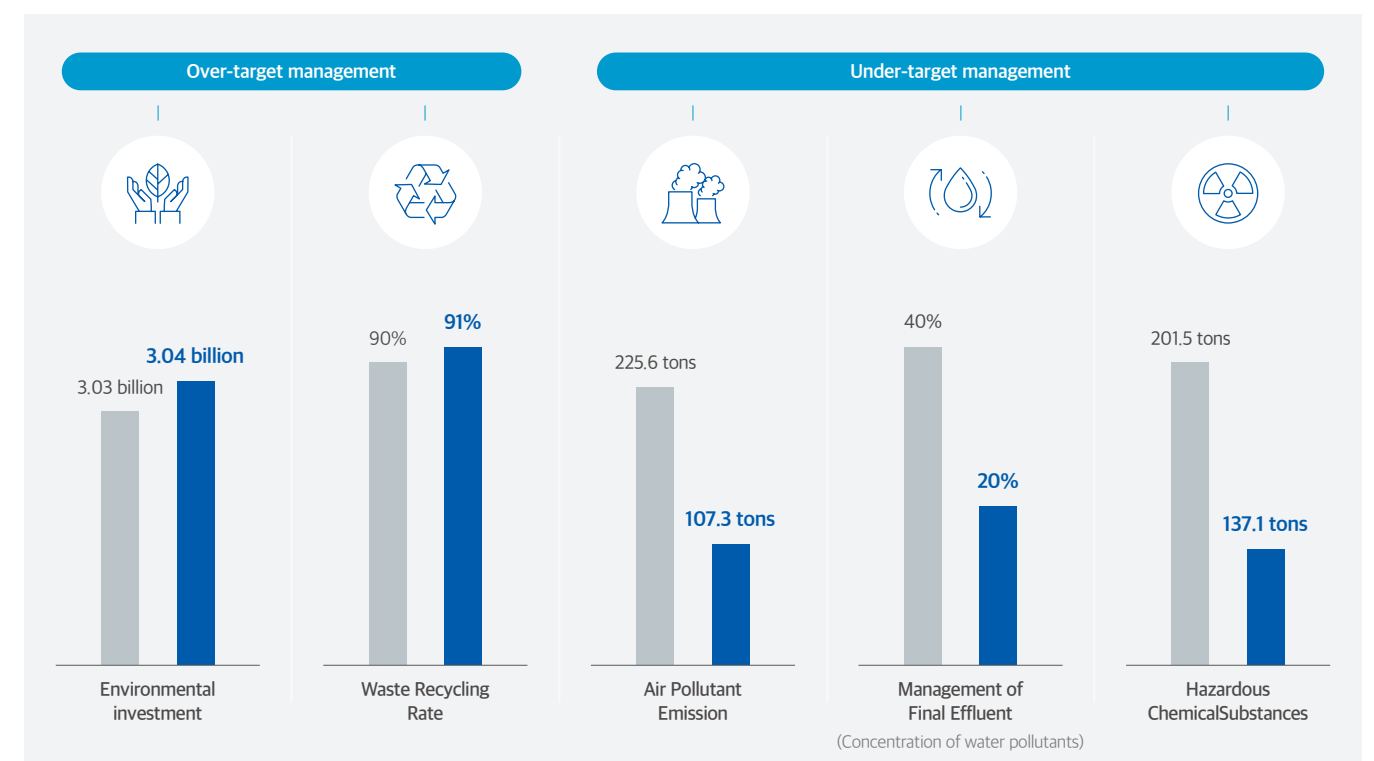


Gas Leak Detector Map

Provision of Environmental Training Programs

Topic	Target Group	Contents of Training
Chemical Substances	Workers at Changwon Plant (including workers of partners)	(Changwon) Status review of hazardous chemicals usage and countermeasures in case of leakage
Hazardous Chemicals	Managers and Chemical Handlers	Guidelines on the handling of hazardous chemicals and management of hazardous chemicals storage facilities
Establishment of Waste Sorting Culture	Partner Companies	Guidelines on waste sorting and disposing of specific waste, such as paint waste.

KPIs and Performance of Environmental Sector



Social

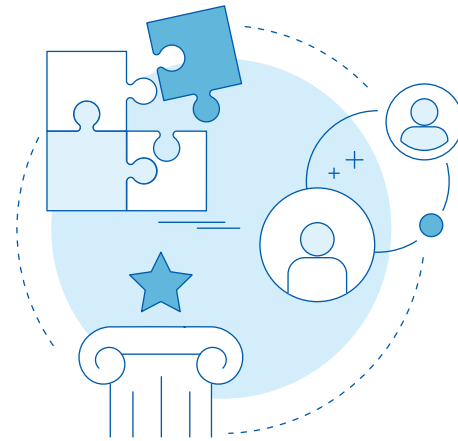


56	Employees
56	Human Rights Management
60	Talent Development & Retention
64	Healthy & Safety Management
70	Partners
70	Shared Growth
72	Supply Chain Management
74	Customers
74	Quality Management-Customer Satisfaction
76	Local Communities
76	Social Contribution

Employees

Human Rights Management

At Doosan Enerbility, we are dedicated to respecting human rights in our business management. All employees and stakeholders display their mutual respect for one another by practicing the Code of Conduct, and their dignity and value as human beings are protected. We conduct human rights assessments and human rights due diligence to ensure that a proper human rights management system can be firmly established at the company. Moreover, we strive to promote a corporate culture that respects human rights and embraces diversity.

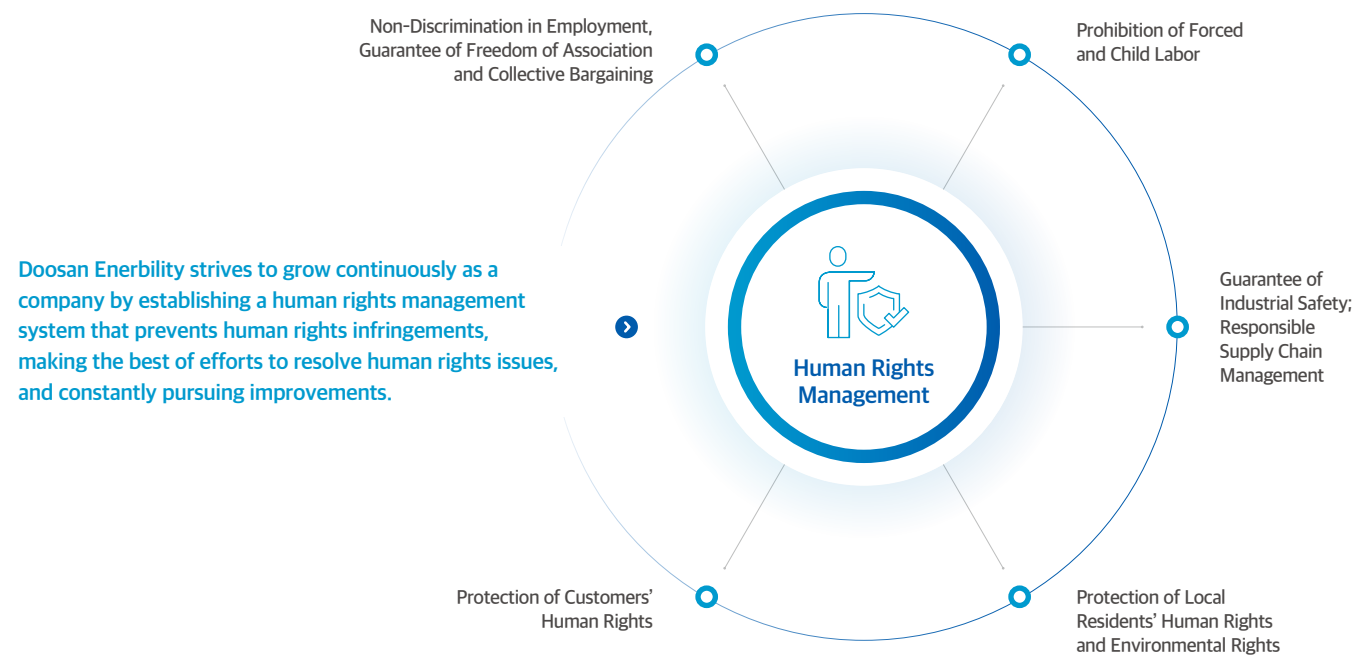


Human Rights Management Policy and Commitment

- Doosan Enerbility respects the human rights of all our employees and stakeholders with whom we do business. We also recommend the same level of human rights management from third parties, such as our suppliers and business partners, as well.
- As a lead group signatory of the UN Global Compact, we will abide by the 10 Principles of the UN Global Compact relating to human rights, labor, the environment and anti-corruption. Based on the Universal

Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights: Ruggie Framework, we have established the human rights due diligence framework to assess the human rights management practices and inspection system.

- We comply with labor principles and ordinances related to child labor, forced labor, human trafficking, and equal remuneration recommended by ILO and ratified by the government.



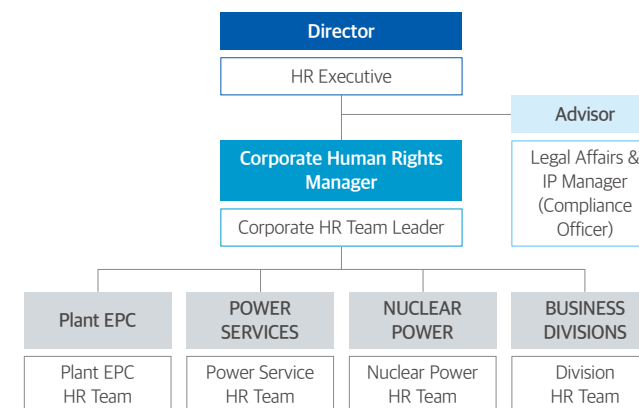
Doosan Enerbility strives to grow continuously as a company by establishing a human rights management system that prevents human rights infringements, making the best of efforts to resolve human rights issues, and constantly pursuing improvements.

Organization in Charge

Operation of Company's Human Rights Committee

- The Human Rights Committee is composed of Corporate HR and Business Group (BG) HR people with a compliance officer assuming a consulting role. The committee plans for and operates company-wide human rights management activities
- In the event of a human rights issue, the Human Rights Committee addresses it promptly in accordance with the process for handling complaints under the principle of ensuring confidentiality and protecting whistleblowers

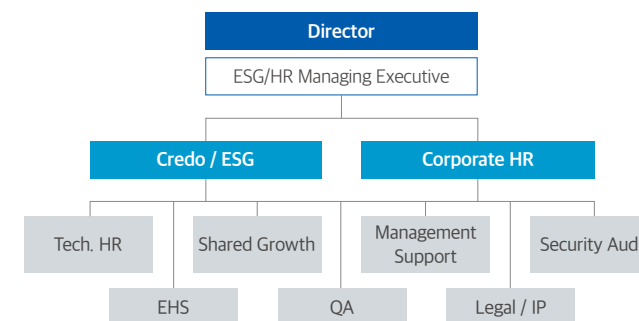
Human Rights Committee



Human Rights Steering Committee

- The HR Executive heads the Human Rights Steering Committee
- The Steering Committee assesses the human rights management situation on a regular basis and makes supplementations and improvements as needed.
- The Steering Committee is responsible for the overall process of Human Rights Impact Assessment, which includes assessment of the status of the company's human rights management situation, establishment of a human rights risk management plan, execution of the plan, and monitoring of the results.

Composition of Human Rights Steering Committee



Human Rights Impact Assessment

Doosan Enerbility has created a human rights management checklist as a means of establishing a human rights management system, with which it performs annual assessments. Each organization assesses the human rights management status in the relevant categories according to the checklist, plans and implements improvements to address insufficiencies, and reports on the performance results.

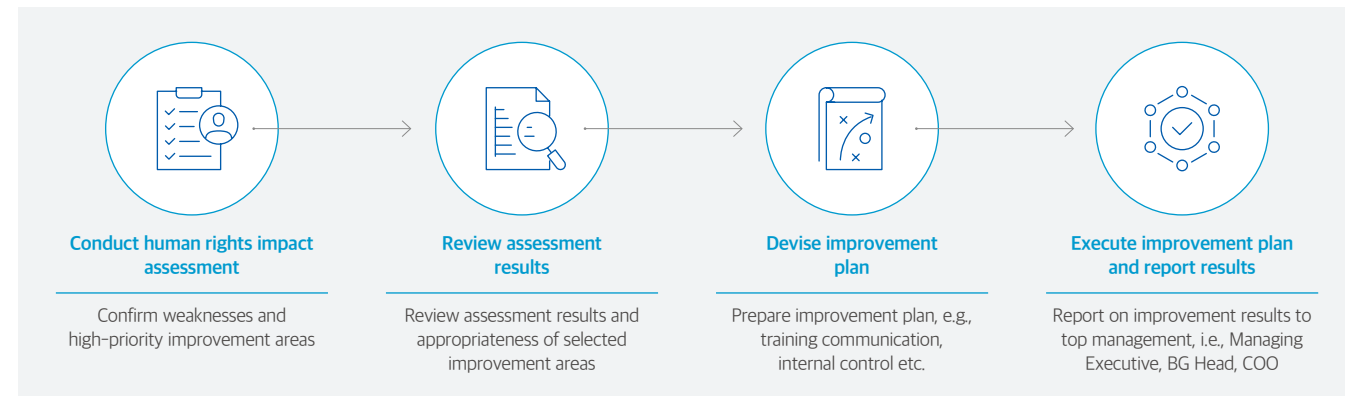


Results of Human Rights Impact Assessment

The 2021 human rights management checklist assessment results satisfied all the sub-categories of "Consumer Human Rights Protection (Category 10)," and "Respect and Communication (Category 11)" out of the 12 categories assessed. Under "Respect and Communication," we received a positive review for establishing and operating the cyber reporting center and the workplace bullying and sexual harassment prevention center. Meanwhile, we found weaknesses in 'Responsible Supply Chain Management (Category 7)' which we plan to continuously address and make improvements.

Major Human Rights Issues	Target Group	Risk Mitigation
Guarantee of Freedom of Association and Collective Bargaining <ul style="list-style-type: none"> Unfair labor practices 	Workers	<ul style="list-style-type: none"> Continuously roll out training to executives and managers on preventing unfair labor practices
Responsible Supply Chain Management <ul style="list-style-type: none"> Failure to offer advanced human rights training program to security personnel Human rights protection-related provisions only partially included in agreements Failure of partners to include provisions on respecting human rights in agreements 	Partners	<ul style="list-style-type: none"> Offer advanced training programs on human rights protection Specific provisions relating to human rights protection to be clearly inserted when renewing contracts (at year-end) Review partners' ESG areas in general (inclusion of human rights protection provisions)

Human Rights Impact Assessment Process



Development of Human Rights Management Checklist

- We developed the human rights management checklist, taking into consideration the characteristics specific to our business, and using the National Human Rights Commission of the Republic of Korea (NHRCK)'s guidelines and checklist.
- The checklist was revised to consist of 182 metrics related to a total of 12 categories and 50 sub-categories by adopting the two additional categories of “Respect and Communication” and “Privacy Protection” in 2020.

Assessment Categories		Target Group
Establishment of human rights management system	Responsible supply chain management	Workers
Non- discrimination in employment	Protection of local residents' human rights	Workers
Guarantee of freedom of association and collective bargaining	Consumer human rights protection	Women
Prohibition of forced labor	Respect and communication	Local residents
Prohibition of child labor	Privacy protection	Customers
Guarantee of industrial safety	Guarantee of environmental rights	Workers
		Local communities

Activities to Reinforce Respect of Human Rights

Operation of Complaint Handling Hotline

Under the responsibility of respecting human rights, we have adopted a system for handling human rights-related complaints and providing remedies to help employees whose human rights have been violated. The entire process is based on the three basic principles of ensuring anonymity, preventing any disadvantage from being given to the informant and providing feedback.

Number of Human Rights Complaints Resolved

(Unit : Case)

Category	2019	2020	2021
Official Count of Complaints Filed	10	2	7
% Cases Handled	100%	100%	100%
No. of Cases Resolved	10	2	7
Resignations	2	0	0
Disciplinary Actions	1	1	2
Cases Closed / No Consultations	7	0	5
Other Measures (transfer to different team, etc.)	0	1	0

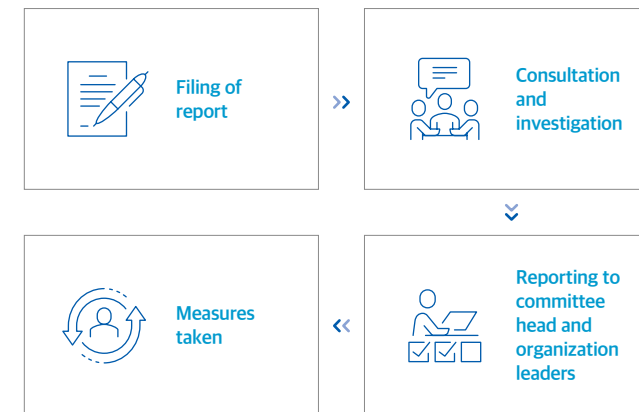
Operation of Reporting Center

We have established a system for ensuring fair investigation and efficient handling of reports filed through our company's reporting center. The reporting center is where reports can be filed on any violation of the law or company policies, such as the Doosan Credo or Code of Conduct, as well as any unfair business practices. It runs under the operating rules of the company's whistleblowing policy.

Reports can be filed online or via other various channels according to the operating rules and the informant's identity and the contents of the report will remain confidential to ensure that the informant is not put at any disadvantage for the report s/he filed in good faith.

Cases filed through the reporting center are investigated by the managing departments to verify the facts, and the results are then reported to the CEO. If the investigation results call for disciplinary action against the violator, appropriate action is taken by the department in charge of disciplinary action after the reporting. When all the necessary procedures are completed, the department in charge reports on the details to the CEO and notifies the informant of the results.

Case Reporting and Handling Process



Establishment of Center for Prevention of Workplace Bullying and Sexual Harassment

Doosan Enerbility complies with the Labor Standards Act and Act on the Equal Employment Opportunity, and respects the diversity of our employees, thereby ensuring there is no discrimination committed based on gender, disability, religion, or any other external factors. In 2021, we established the Center for Prevention of Workplace Bullying and Sexual Harassment. The center uses an external channel for the filing of reports in order to guarantee objective discernment and to minimize the psychological burden for informants.

The report filing and initial interviews are handled by an external agency for objective confirmation of the facts, after which the cases are passed on to Doosan Enerbility to carry out the ensuing internal processes.



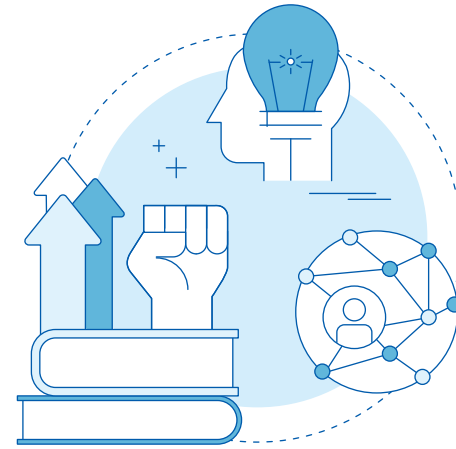
Training to Reinforce Human Rights at Workplace

Doosan Enerbility is endeavoring to cultivate a healthy work culture and actively promote human rights awareness among its employees by offering various training programs to all its employees, including programs such as the “Prevention of Sexual Harassment at Workplace,” which aims at eliminating gender discrimination at work, “Improving Awareness of the Disabled at the Workplace,” which aims at eliminating any discrimination and prejudice against the disabled at work, and “Prevention of Workplace Bullying,” which is a program aimed at preventing the physical and mental pain of workers.

Employees

Talent Development and Retention

Doosan Enerbility performs a wide range of activities aimed at transforming our business portfolio to one that is environment-friendly and seeks to optimize our ESG management system, all the while upholding the traits unique to “Doosan People.” We strive to become a company that supports the employees’ continuous growth as experts and to foster a sound corporate culture, one that is based on the mutual trust and happiness of its employees.

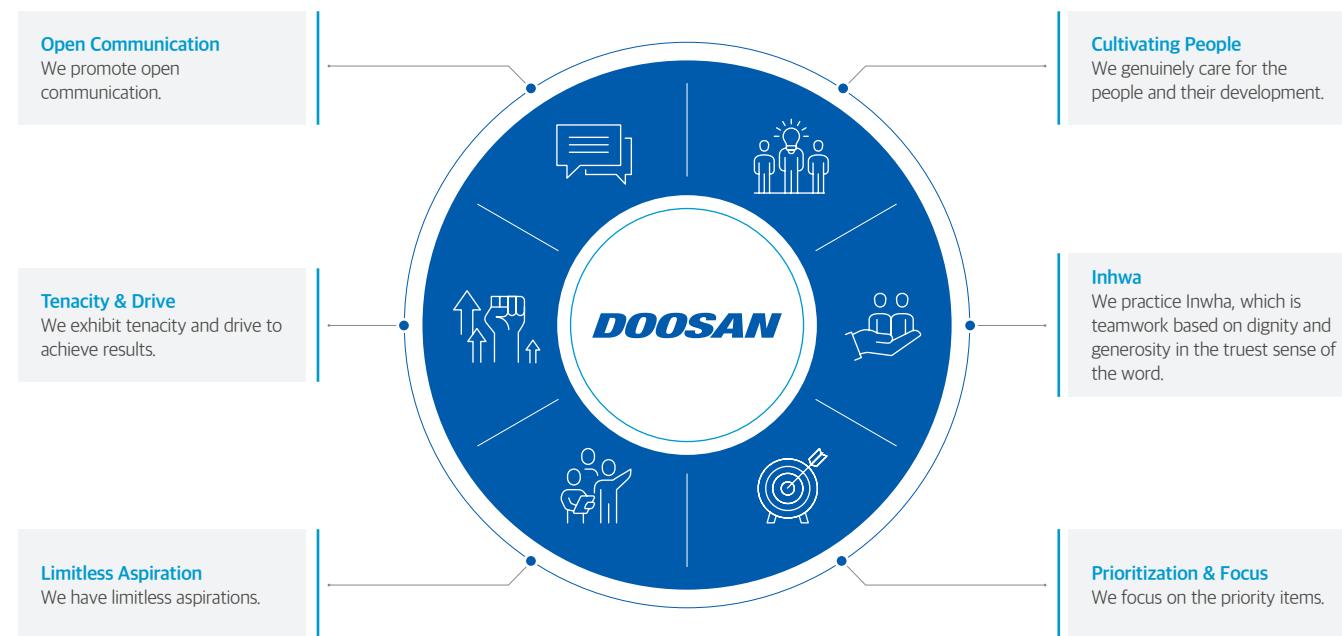


Doosan People

“Doosan People” are firmly committed to contributing to the company. They put this mindset into practice and are always striving to achieve self-improvement. They place ultimate importance on the Doosan core values and work to constantly put them into practice.

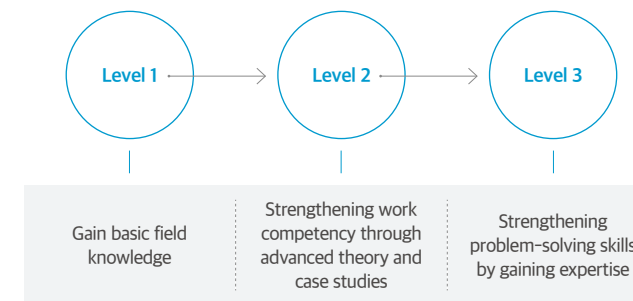
Doosan Enerbility seeks to provide its employees with a happy business environment and as such, has a clearly defined set of strategies and system for people development, one that aims at developing training programs and creating a corporate culture that supports the growth of its employees to become talents befitting “Doosan People.”

Doosan People



Direction of Talent Cultivation

Doosan Enerbility cultivates talents who hold both leadership skills and functional expertise. Our employees create their own development plans according to their strengths and competency level, and participate in various training programs aligned to their development needs. Doosan Enerbility offers a variety of training programs to its employees, as well as self-initiated learning programs and individually customized development programs, all for the purpose of cultivating environment-friendly talents. Recently, as the company is switching its business portfolio over to eco-friendly one, organizational restructuring is planned/under way. In line with this, OJT is strengthened and implemented for those deployed to other departments in order to support their early onboarding.



Wide Variety of Leadership and Functional Training Programs Offered

Doosan Enerbility continuously develops leadership and functional training programs and provides various contents to support the development of its employees. In 2021, the New Leader Assimilation Training Program was devised, offering newly appointed leaders the chance to share their vision and goals for the organization as a means of supporting the effective operation of the organization.

Main Leadership Programs

Program	Content	Participation
New Leadership Assimilation Program	Supporting the effective operation of the organization by having new leaders share their vision, goals, and leadership style, etc.	Organization Leaders
New Team Leader Course	Building the mindset and skillsets required of competent team leaders	팀장
Special Class of the Month - Leadership / Functional	Special lecture given on a trendy topic reflecting the current internal / external issues	All Applicants
Online Leadership / Management Course	Supporting employees' self-development by creating year-round learning contents, i.e. leadership, business management, language programs.	All Employees

Main Functional Training Programs

GT Academy	<ul style="list-style-type: none"> Understanding the overall process of GT from bidding/ winning of contract to O&M Helping to secure advanced development & design know-how for core technologies of GT
Wind Power Academy	<ul style="list-style-type: none"> Learning about status and vision/strategy of wind power business and related operations Advanced understanding of core technology and products of wind power
New Business Academy (Planned for 2022)	<ul style="list-style-type: none"> Cultivating experts on environment-friendly new businesses, such as SMR, ESS, ammonia dual-fuel combustion, etc.



GT Academy

Cultivating a Culture That Promotes Employees' Self-Development

In line with the new corporate trend of encouraging employees' voluntary efforts for competency enhancement, Doosan Enerbility has strengthened its program offerings to promote employees' self-initiated learning.

We offer an on/offline special “Class of the Month” lecture by inviting inspiring lecturers who are active trend leaders or providers of insight, while also providing access to an audio book and e-book library to support employees' growth via self-initiated learning. In response to the coronavirus situation, we have also equipped ourselves with an online studio and online training kits, thereby establishing a solid foundation for providing quality online training programs in a timely manner whenever needed.



Class of the Month

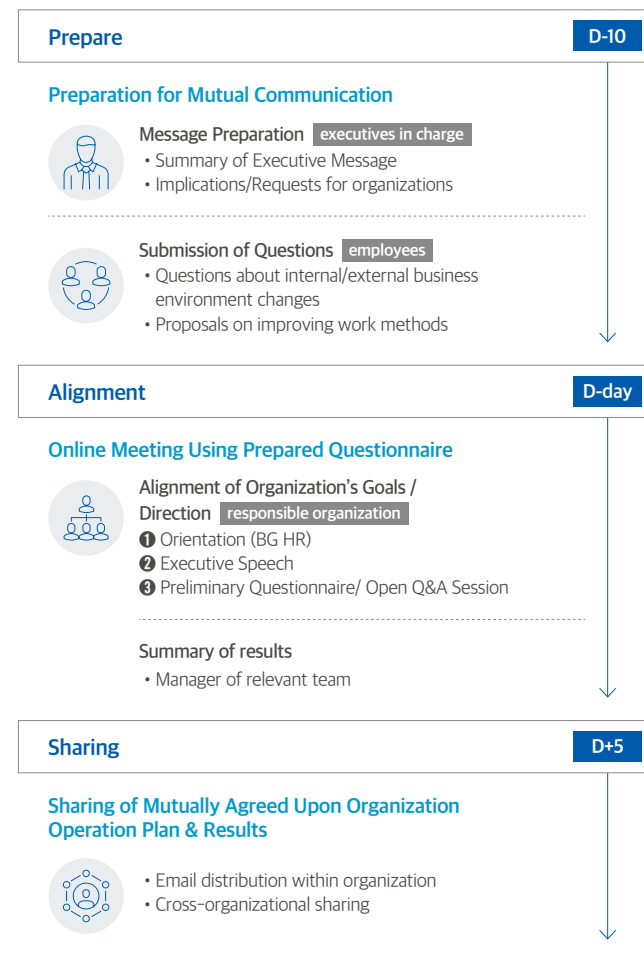
Establishment of Mutual Trust and a Happy Corporate Culture

Doosan Enerbility operates a variety of programs aimed at promoting mutual communication between employees and leaders. We have a corporate culture that encourages open communication through which we seek to establish a more horizontal organizational structure and we endeavor to offer our employees a most optimal working environment.

Program for Mutual Communication with Executives (DEP)

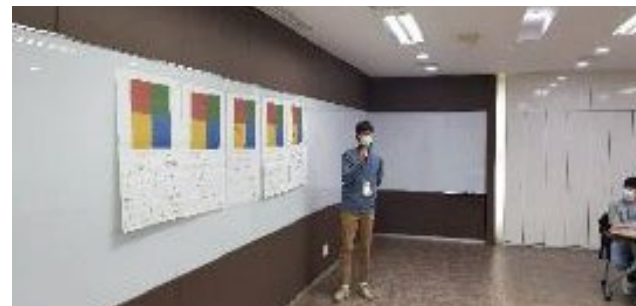
Through the Dynamics Enhancement Program (DEP), which is held in the form of online meetings, the vision and strategy of the organization is cascaded down from the executives to the employees. This allows the sharing of the organization's future plans, which are aligned with changes in the internal and external business environment, as well as any key messages from the leadership.

This program aims to promote mutual communication between the executives and team members by encouraging discussions on the challenges faced by the organization and providing the team members with opportunities to make suggestions to the executives on work methods.



Program for Promoting Teamwork (Team-Up Program)

We offer the Team Up Program for the purpose of promoting flexible communication and mutual understanding within the organization. Through the Birkman assessment of individuals, members gain an understanding of each others' strengths and characteristics, enabling collaboration to be achieved at a higher level as a whole.



Team-up Program activity

Raising the Happiness Index of Employees' Families

We offer various maternity protection programs, such as maternity leave, parental leave and shortened work hours for family care purposes, all of which are provided to help employees achieve a good work-life balance. We also have an in-house childcare center at which childcare services are offered for our employees' children.

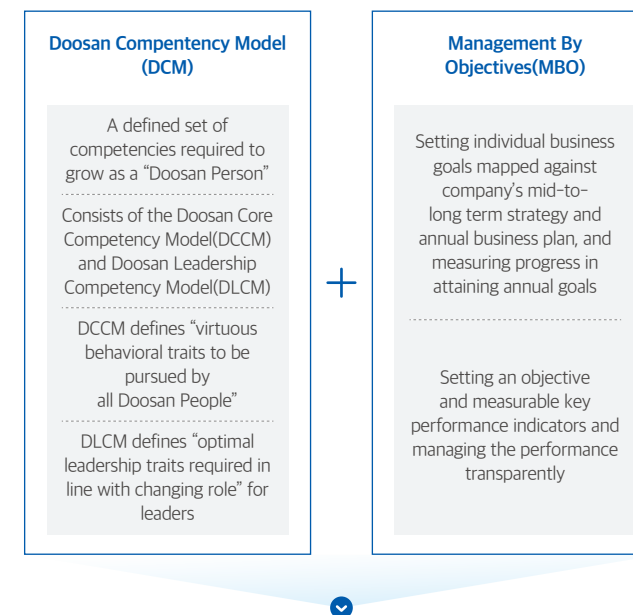
On account of such family-friendly arrangements, we conducted a "Work-Life Balance Satisfaction Survey" in 2021, which resulted in us being certified once again as a family-friendly company by the Ministry of Employment and Labor. The satisfaction survey aims to assess whether the company is operating the family-friendly system in an ideal manner, and ultimately to create a social environment where workers can enjoy a good work-life balance. Among the survey findings, the score is generally high on the item of colleagues' consideration in case one is having personal issues.

We will continue to improve upon our system in order to create a happy corporate culture for our employees.

Employee Benefits for Work-Life Balance	
Celebratory gift for pregnancy and childbirth	Flexible working hours, e.g., different clock-in / clock-out time
Children's tuition support	Dormitory support for employees' children entering university in Seoul metropolitan region
Maternity protection, e.g. parental leave, shortened working hours during pregnancy	Financial support on fertility procedure
Childcare center at workplace	Financial support on spouse / children's operation and medical fees
Work at home	Paid family care leave

* Refer to Appendix for details on employee benefits

Competency Evaluation and Performance Management



DCM and MBO evaluation results are linked to the company's compensation scheme, i.e., annual salary, bonus and promotions. As such, these act as drivers for individual growth and the strengthening of competencies

Establishment of Sound Industrial Relations

Doosan Enerbility has maintained a dispute-free workplace for 16 consecutive years (2016~2021) by upholding a stable labor-management relationship. On 24 November 2021, we held the signing ceremony for the collective bargaining agreement after going through 32 rounds of negotiations, and we are continuing to discuss ways to improve the working environment and employee welfare through various committees, such as the Labor-Management Council and Policy Improvement Committee. In 2022, starting off with the collective bargaining meeting on May 17th, we have currently finished conducting the 13th working-level negotiations, and are seeking to guarantee that the employees get the opportunity to freely participate in the decision-making processes by promoting smooth industrial relations. Individual communication channels were also set up within the Business Groups/ Divisions to reflect the employees' suggestions and promote harmony between labor and management.



2021 Doosan Enerbility Collective Bargaining Agreement Signing Ceremony

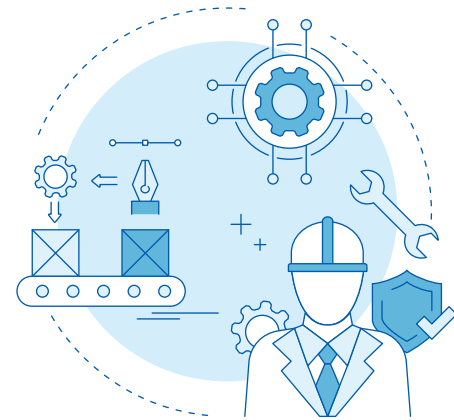
Reemployment Program

Doosan Enerbility offers a reemployment program for regular full-time employees of the age 50 or older who face involuntary retirement. The program consists of online courses on change management after retirement, life planning and self-development, and the development of job-specific functional competencies and business skills. Upon completion of the training, individuals receive support on creating a roadmap outlining their individual career paths for the sake of ensuring successful life planning and career shifts. In 2021, a total of 33 employees volunteered to participate in the program. We will continue to support the participants in designing their life and career paths by offering diagnoses and consultations on their talents, aptitude, and work experience from a life-long perspective.

Employees

Safety & Health Management

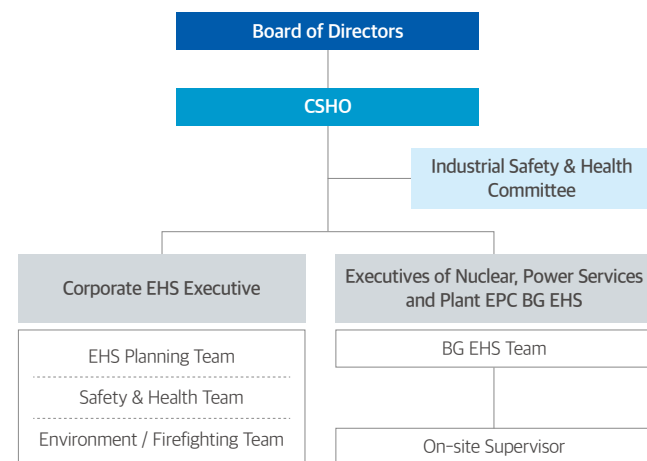
Doosan Enerbility regards safety and health as top priority in business management and as such, we are constantly striving to effectively manage the safety and health of our employees. As part of these efforts, we have defined the prevention of critical disasters, management of high-risk work processes and sites, and improvement of capabilities for managing partners' safety as our key strategic initiatives for building a safe workplace.



Safety & Health Implementation System

At Doosan Enerbility, the Head of the EHS / Management Division is assigned to oversee the General Safety & Health Management and leads the Industrial Safety & Health Committee, which deliberates over and decides on major issues related to occupational health and safety. Details of the important decisions and deliberations are ultimately reported to and approved by the Board of Directors. The Occupational Health and Safety Committee consists of an equal number of people from the employer and employee sides and plays the role of planning and inspecting the various activities related to employees' health and safety. Doosan Enerbility has an ISO 45001-certified health and safety management system which dictates all health and safety protocols. Furthermore, in order to help prevent industrial disasters from occurring at partner companies, much effort is being invested into supporting the safety and health of partners' employees, such as operating a Council for Partners' Health & Safety.

Safety & Health Managing Organization

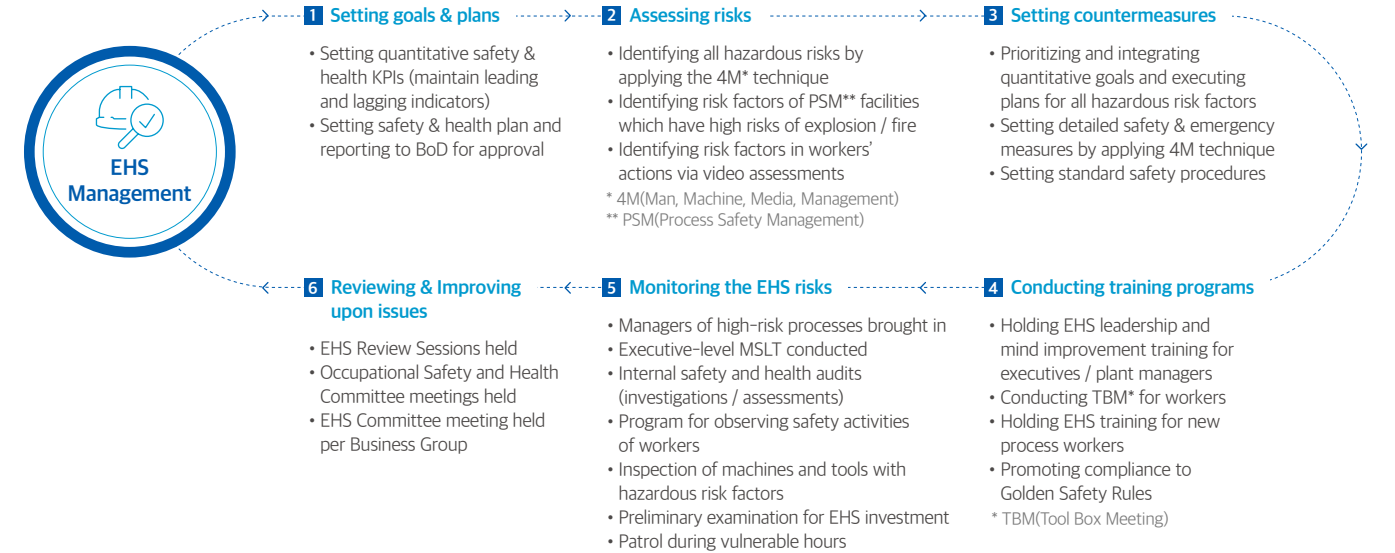
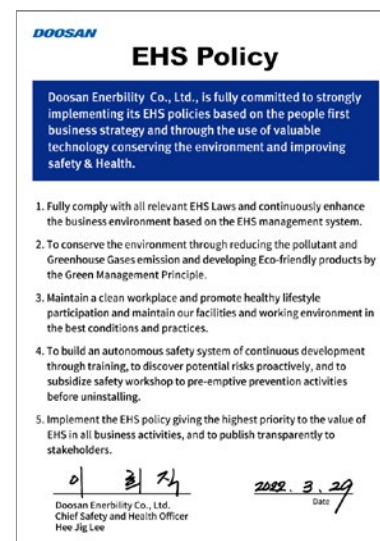


EHS Strategy

Doosan Enerbility aims to achieve zero serious accidents to create an eco-friendly workplace that is accident-free. Under the EHS policy, we focus on preventing "serious industrial accidents" by not only strengthening execution through the promotion of workers' engagement, but also by upgrading the partners' operations to eliminate unstable conditions and unsafe behaviors for the sake of effective action and systematic management.

By applying a scientific safety & health management system, Doosan Enerbility is constantly striving to identify hazardous risk factors at business sites and prevent major disasters. We are also striving to improve our safety & health management competencies and raise overall safety awareness across the entire value chain at our headquarters, work sites and partner companies.

EHS Policy



Safety & Health Management System

Doosan Enerbility assesses all the hazardous EHS risk factors at production sites, prepares countermeasures and conducts a strict training program for all workers including partners, followed by a constant monitoring process. Moreover, we constantly endeavor to identify EHS issues, make improvements and to actively address the numerous environmental changes in our surroundings. Our senior management and related managers have been showing their commitment to safety and working to identify any on-site difficulties by regularly conducting Management Safety Leadership Tours (MSLTs) at the sites of high-risk processes and operations.

Overseas Subsidiaries' Certification on Safety & Healthy Management System

United Kingdom (Doosan Babcock) ISO 45001	Czech Republic (Doosan Skoda Power) ISO 45001
Vietnam (Doosan VINA) ISO 45001	Germany (Doosan Lentjes) ISO 45001

* As of end of 2021

Safety Incident Handling Process



Response to Safety Incidents & Emergencies

Safety Incident Handling Process

Whenever a safety incident occurs, Doosan Enerbility follows the rules and processes outlined in the company's safety incident management protocol to swiftly deal with the matters. For the investigations, we utilize the incident simulation and RCA (Root Cause Analysis) techniques to identify the root causes. Not only do we take follow-up actions, but we also take preventive measures, such as ongoing safety management and training programs.

Emergency Response System and Drills

In case of unexpected incidents or disasters, we have secured an emergency response manual and process and conduct emergency drills at productions sites and offices at least 60 times a year.



Emergency Response Training

Emergency Training

Strengthening Site Safety Management Actions

Actions to Eliminate Unsafe Behaviors

To prevent unsafe behaviors of workers, we have adopted 13 Golden Safety Rules of which five are “Core Safety Rules” relating to critical high-risk disasters.



Golden Safety Rules

Core Safety Rules

Strengthening the Safety Management for High-Risk Processes

We have focused on expanding each of the following activities to effectively manage the safety of high-risk processes and lower the accident rates at the Changwon plant, while continuously performing EHS risk monitoring.

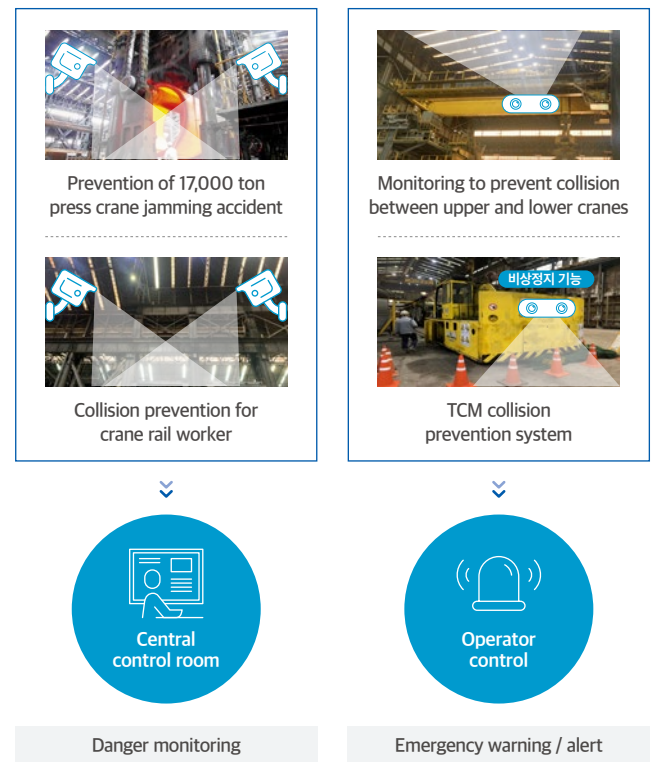
>> Safety Management for High-Risk Processes

- 1 Get managers of high-risk processes engaged
- 2 Conduct preliminary safety inspection on outsourced construction work and obtain early permit for high-risk operations
- 3 Adopt special EHS patrol system during vulnerable hours (weekends, evening time)
- 4 Prohibit mixed operations and clarify R&R to eliminate blind spots
- 5 Adopt entry restriction process on high-risk sites
- 6 MSLT to be conducted by executives

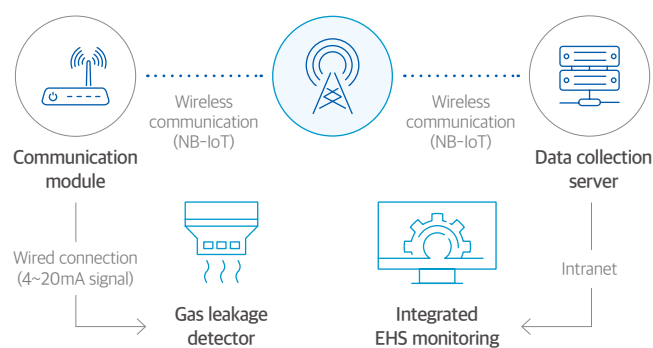
Establishment of Smart EHS

We have equipped various high-risk facilities, sites, equipment and environmental control facilities with new digital technologies for the purpose of implementing an integrated monitoring system that enables managers to identify risk situations in real time and make timely responses. In case of the integrated monitoring system adopted for gas leak detectors that help prevent fires and explosions, the system relies on wired or wireless connections which allow the detectors’ digitally processed signals to be transmitted to a server, making it possible for managers to perform real-time detections at any time from anywhere. We have completed implementing the system at 55.2% of all sites to date.

System for Restricting Access & Monitoring High-Risk Equipment at Forging Shop



Integrated Monitoring of Gas Leaks for Preventing Fires / Explosions



Establishing Doosan EHS Safeguarding Environment

By strengthening the mobile technology functions adopted at construction sites, this has led us to benefit from real-time risk alerts & halting of operations and enhanced business efficiency, thereby creating an environment where we can concentrate more on safety activities.



Doosan EHS Safeguarding Application Screen

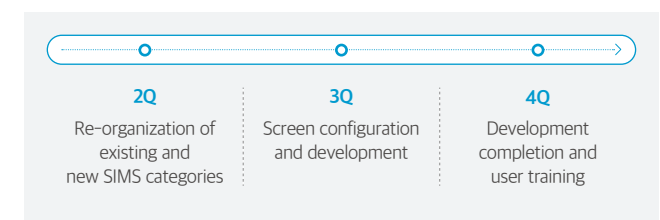
2022 Development Timeline



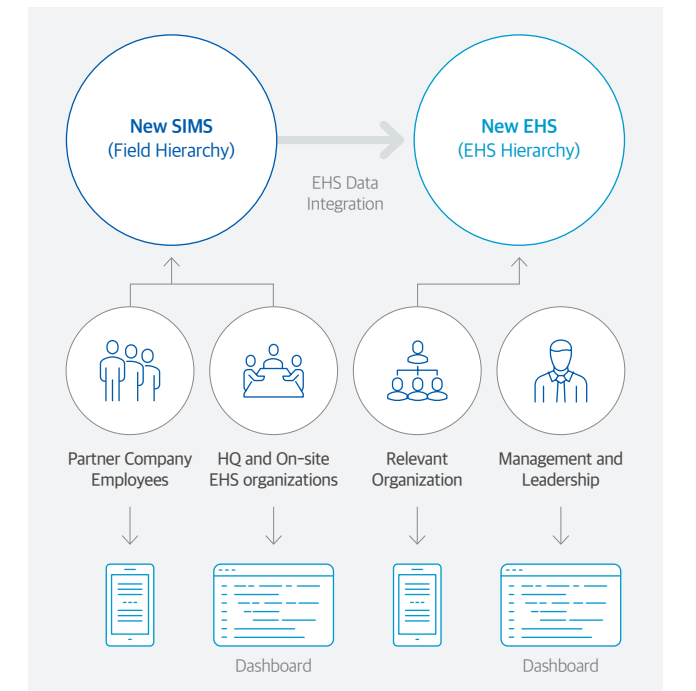
SIMS (Site Information Management System) Upgrade

We are working to digitalize our EHS system by implementing a Smart Safety Management System, which enables more efficient safety management for construction sites, allowing us to effectively focus on safety management activities aimed at accident prevention.

System Implementation Timeline for 2022



EHS System



Establishment of General Control Center

We established a general control center to conduct ongoing monitoring of risk factors at domestic and overseas construction sites, while using CCTVs and the DSC (Doosan Safety Cam) to perform monitoring without any restrictions in time or location. As a part of this safety and health monitoring system, we installed 250 movable CCTVs at Korean and overseas sites to strengthen control over high-risk operations.



General Control Center

DSC



* Must be used for health and safety management duties

Actions Taken in Response to Serious Industrial Accidents Punishment Act

In response to the Serious Industrial Accidents Punishment Act enacted on 27 January 2022, we prepared the Guidelines on Serious Industrial Accidents Punishment Act and trained all the managers at the Changwon plant and domestic construction sites. Moreover, we implemented a dashboard to monitor the compliance to Serious Industrial Accidents Punishment Act to ensure that there is no violation.











Guideline Book and On-Site Training



Implementation of Real-Time Monitoring Dashboard

Yr 2022 Eight Key Initiatives for Preventing Serious Industrial Accidents

We selected eight key initiatives for the prevention of serious industrial accidents and implemented them at the Plant EPC Business Group's domestic and global construction sites.

Key Initiatives		Expected Results
Safety Help Room	>>  >>	Safety gear/ protective gear provided to partners in a timely manner
System for Preventing Risks of Collapse	>>  >>	Advance warning of collapse of protective walls & support structures
DSC Operation	>>  >>	Real-time joint-inspections conducted with HQ
Provisional Facilities' QR Code Inspections	>>  >>	Regular inspections conducted on provisional facilities
Listening to Workers' Opinions on Health & Safety	>>  >>	Activities for improving health & safety with participation of workers
Operation of Movable CCTVs	>>  >>	Strengthened control of high-risk operations
Authorizing Workers with Rights to Suspend Work	>>  >>	Reinforcement of workers' authority to stop work in risky situations
Installation of Human-Detection Cameras on Construction Equipment	>>  >>	Prevention of jamming accidents involving construction equipment

Employee Health Management

Operation of Shoulder Disorder Program

In an effort to prevent and manage employee illnesses, we inspect activities that could cause musculoskeletal disorders and have each department submit and deliver an annual improvement plan upon finding jobs that involve such activities. By running a musculoskeletal disorder prevention program, we endeavor to minimize musculoskeletal disorders among employees, and for departments where musculoskeletal disorders are frequent, an in-house physical therapist provides customized stretching lessons. If individuals show symptoms of musculoskeletal disorder, physical therapy and exercise physiology treatments are offered under the supervision of physicians at affiliated medical clinics.

Operation of In-house Clinic

Doosan Enerbility has been operating an in-house medical clinic, equipped with doctors, nurses, physical therapists and trainers, to offer one-stop medical treatment to its employees. We provide influenza vaccinations each year for our employees, their families and partner companies' employees, with a total of approximately 5,400 vaccinations having been provided in 2021. Vaccinations for endemic diseases prevalent in each region / country (e.g., malaria, typhoid, yellow fever) are provided as well to prevent diseases that may be contracted abroad. Furthermore, doctors at affiliated clinics check the health of workers and provide EHS training and over-the-counter medicine before their departure to foreign countries. Arrangements are also made for medical personnel to go on overseas visits regularly to workplaces with poor medical infrastructure to provide health consultations and treatment to the locals.

General Health Checkups

For employees who have been employed for 5 years or longer at the company or are aged 35 or higher, we support general health checkups for such employees and their spouses once a year, and for employees who have been employed for 20 years or longer or are aged 45 or higher, PET-CT scans or cardiovascular MRA scans are additionally offered. To manage work-related diseases, we provide special and general health checkups at least once a year, and for those with symptoms, we offer medicine prescriptions, sports therapy, training and follow-up management. Furthermore, to effectively manage cardiovascular diseases, we provide annual cardiovascular disease risk examinations and offer specialist consultations and follow-up management to high-risk employees through our in-house clinic.

Psychological Counseling Program

"Misodam," an in-house counseling center, is operated to treat employees suffering from stress and grievances through counseling sessions with professional counselors. There were a total of 869 counseling cases (226 internal counseling and 643 external counseling) and a total of 324 visitors in 2021. We also offer the same counseling services to the employees' family members via an external counseling center.

Healthcare Programs Customized for Age Groups

Doosan Enerbility offers lifetime healthcare programs for its employees, customized to suit the needs of their age group starting from the time of their employment to retirement. We have a partnership with five large hospitals located in Seoul and Busan, as well as an arrangement with 14 orthopedic and dental clinics near our construction sites. We also make sure our employees, their spouses and offspring get access to healthcare benefits by offering financial support in the form of medical subsidies that amount to a maximum of KRW 20 million per person in case of accidents or illnesses.

Safety Management Support for Partner Companies

Doosan Enerbility requires its partners to comply with the Industrial Safety and Health Act, appoint safety managers, conduct employee training and medical examinations and to conduct other various health & safety related activities starting from the stage of partner selection and contract signing. In order to reinforce safety management and prevent accidents in the gray zone areas of sites for partners, we provide support on obtaining certification for the safety management system (KOSHA MS) and financial support on examination costs. Moreover, we support 50% of the labor costs for our partners' safety managers to help them improve the safety of dangerous work sites and to enable them to hire more safety managers.

Operation of Safety Training Programs

Doosan Enerbility conducts health & safety training programs for its employees and partner companies to roll out safety training at a wider level and to enhance the overall safety awareness.

Training Programs

EHS Mind-Set	Training program conducted for all employees to provide an understanding of the EHS role for each employee level and to strengthen the related competencies.
Specialized Training for Risk Assessment	Competency training for site managers / supervisors on discovering risk factors and making improvements
TBM Execution	Conducting TBM prior to each job to ensure learning and understanding of safety measures needed to address the risk factors involved in the job
Specialized Training for Forklift Drivers	Hands-on training (other than legally required training) for forklift drivers
Training for Partners' Safety Managers	Training for enhancing the skills of partners' safety managers
Training for Partners' New Hires	Health & safety training program (other than legally required training) offered to all the new employees

Partners

Shared Growth

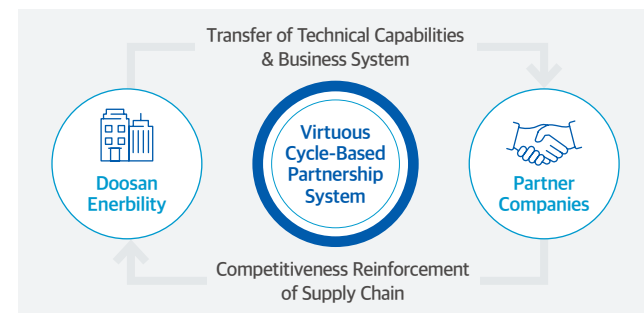
Doosan Enerbility is pursuing supportive activities aimed at building a strong trust-based partnership with suppliers to ultimately achieve shared growth. By preparing a supply chain for new businesses and operating an advanced supplier development program to help strengthen suppliers' capabilities, we endeavor to build a mutual growth system in which we can grow together with our partners.



Promotion Strategy for Shared Growth

Establishing a Virtuous Cycle-based Partnership

Doosan Enerbility has established a virtuous cycle-based partnership system, whereby all our partner companies can benefit from Doosan Enerbility's technology and business systems to improve their management capabilities. Through this system, Doosan Enerbility aims to raise the competitiveness of our supply chain network and contribute to the local and national economies by achieving shared growth with our partners.



Preparing for New Businesses with Partner Companies

In line with our plans for transitioning our business portfolio, we are engaging in various technology exchanges with our partners for the new businesses, and jointly carrying out the preparations and implementation process for new businesses as part of our efforts to achieve shared growth and foster growth of our partners.

Progress of New Business Establishment

Standard Gas-fired	Wind Power	SMR, CASK, WtE
<ul style="list-style-type: none"> Established supply chain for each item of Gimpo CHP PJT 	<ul style="list-style-type: none"> Established supply chain for 8MW model development 	<ul style="list-style-type: none"> Currently in process of establishing supply chain for new business Continuously being updated in line with market and supply chain situation, etc.

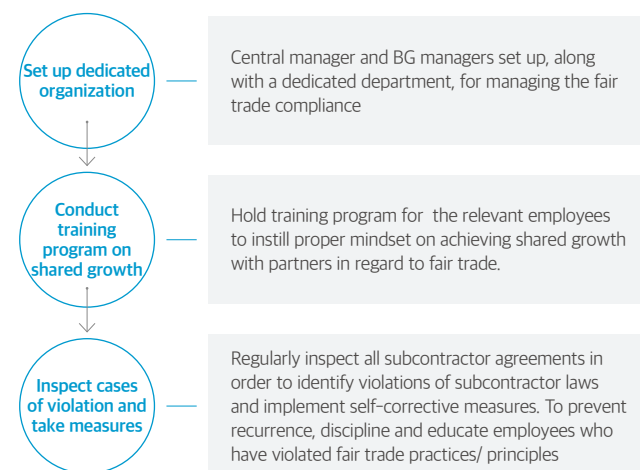
Co-prosperity plan for partners to invigorate the nuclear power industry

Doosan Enerbility joined the government's trend in reinforcing the competitiveness of the nuclear power industry and announced the 5 Co-prosperity Plan for Nuclear Partners of job creation, financial support, support for sharpening technological prowess, support for discovering new growth engines and support for overseas advancement, vigorously pushing forward with the plan.

Shared Growth Management System

Fair Trade Self-Compliance Program

To ensure self-compliance to fair trade laws and regulations, Doosan Enerbility has implemented a fair trade self-compliance program which is our internal compliance system for self-establishing and operating training programs and inspections to further enhance transparency and fairness.



Preparation of Self-Compliance Manual

Doosan Enerbility has prepared and is distributing to the employees a manual providing an easy and clear explanation of the anti-corruption / unfair trade laws and guidelines related to fair trade self-compliance.

Shared Growth Call Center

Doosan Enerbility's shared growth call center receives consultation cases and reports filed on unfair subcontracting, acts of unfair trade, violation of fair trade self-compliance rules, etc. The call center strictly guarantees confidentiality of the internal / external reports and strives to manage the cases in a prompt and fair manner.

Shared Growth Activities

Shared Growth Support Program

Doosan Enerbility actively operates shared growth programs in the following four areas in order to achieve mutual growth with partners - Improving competitiveness, supporting overseas expansion, financial support, and stronger communication. In particular, regular / irregular communication activities with its partners led to the company's more active reception / resolution of the partners' difficulties and suggestions. For instance, after the enforcement of the Severe Accidents Punishment Act, it designated a safety manager to secure safety of partners' employees and supports relevant management expenses.



Accomplishments in Supporting Partners

>> Accomplishments in improving fundamental competitiveness of partner companies

Technology Repository System	Supported fee for 20 cases
Benefit-Sharing System	Discovered 24 new projects, 11 projects approved
National Human Resources Consortium	509 ppl, 66 companies
Partners Training on Quality Guidance & Improvement	487 ppl, 156 companies

>> Financial Support to Partner Companies

Shared Growth Fund	KRW 10.6 bn loan support
Mutual Partner loan	KRW 83 bn to primary partners
Nomubi.com	KRW 249.6 bn to non-primary partners
Direct Financing	KRW 100 m to one company

>> Supporting Partners' Expansion into Overseas Markets

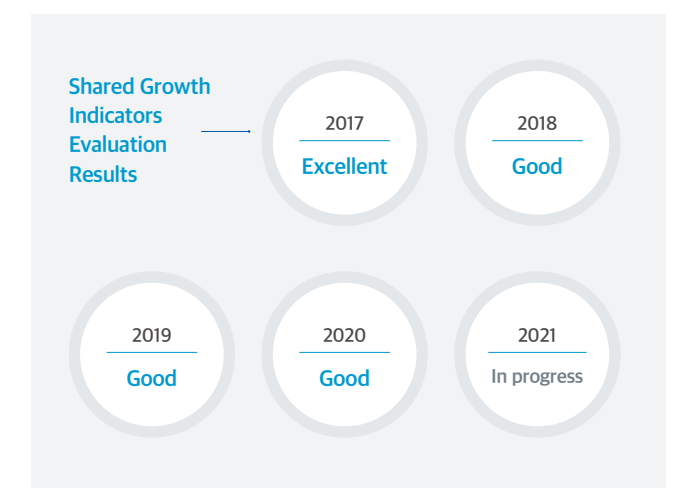
Support on getting approval from overseas clients	176 cases
Jointly venturing into overseas sites	6 companies, 6 cases

>> Strengthening Communication

Steering Committee	Convened 2 times
Visit partner companies (listening to their hardships & suggestions)	150 companies
Lunar New Year/Chuseok Gifts to Partners' Employees	1,960 employees

Evaluation of Shared Growth Indicators

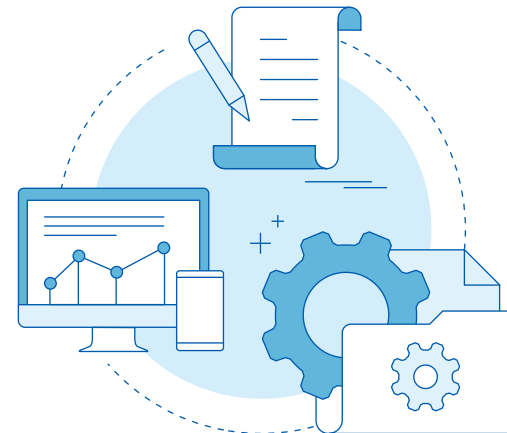
Doosan Enerbility pursues various shared growth activities together with partner companies and manages the performance using the Fair Trade Commission's Fair Trade Agreement Evaluation Metrics and the Shared Growth Committee's Shared Growth Performance Indicators.



Partners

Supply Chain Management

Doosan Enerbility endeavors to uphold “Inwha” for continuous growth, a customer-oriented philosophy, transparent management practices and innovativeness for heightened competitiveness, while also delivering on its corporate social responsibilities. We periodically conduct overall competency assessments on our partners, with ESG included as a key evaluation metric, as part of our efforts to establish an effective supply chain ESG management system. This is used to regularly assess and manage the economic, environmental and social risks that may exist in the supply chain.



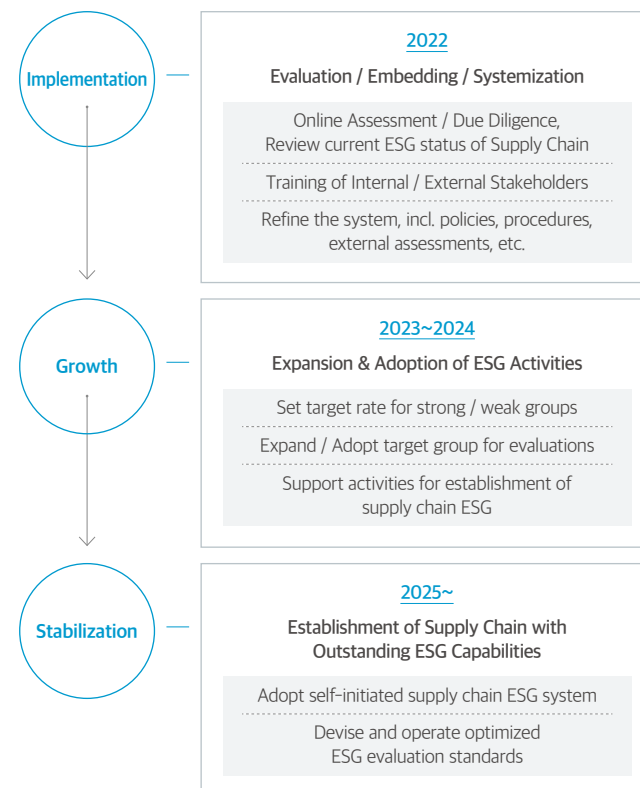
Supply Chain ESG Guidelines

Doosan Enerbility announced the release of its “Doosan Enerbility Supplier ESG Guidelines” which are based on the Ten Principles of the UN Global Compact for human rights, labor, environment and anti-corruption. All vendors are required to comply with these guidelines. The guidelines also outline the prohibition of using minerals of conflict. The Supplier ESG Guidelines are available on our company website.

* https://www.doosanenerbility.com/kr/management/growth_esg

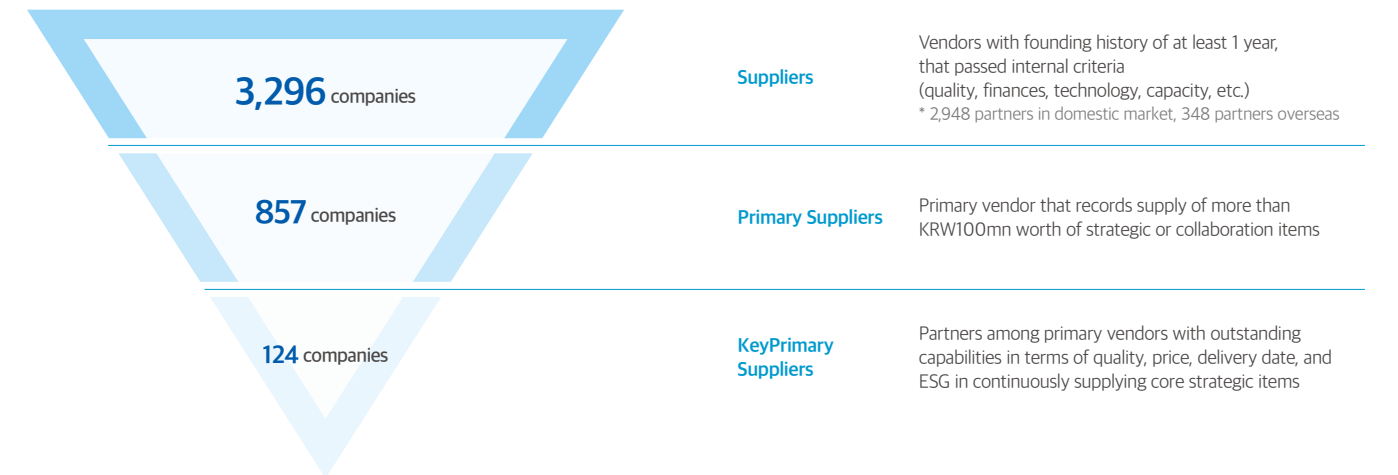
Establishment of Supply Chain ESG Management System

Doosan Enerbility is seeking to establish a structured evaluation system to ensure effective ESG management for the supply chain. We are endeavoring to refine our supply chain evaluation system, as well as other related systems, and seek to also change the perspective of employees and vendors. Through a virtuous cycle of measurement, assessment and improvement of the supply chain evaluation system, we intend to embed ESG management across the entire supply chain.



Size of Major Partners

(as of end of 2021)



Adoption of Supply Chain Evaluation System

Doosan Enerbility has established its own supply chain ESG evaluation system by benchmarking best practices and receiving consultation from external specialists. We are developing the evaluation system to become more sophisticated by incorporating categories like labor & human rights, health & safety, environment and fair competition, which are reflective of the Global Supply Chain ESG Evaluation Standards and government policies.

Establishment of Supply Chain ESG KPIs

Doosan Enerbility aims to expand and upgrade its supplier ESG management in line with the newly updated Supply Chain ESG Management System and as such, has devised a set of KPIs that are to be applied to the supply chain ESG management starting in 2022.

Renewed KPI Categories

Rate of Evaluated Suppliers, Evaluation Grades	• Rate of suppliers assessed in the annual evaluation, Rate of outstanding/weak supplier grades
Supplier's Execution Rate of ESG Improvement Tasks	• Improvement tasks to be defined by vendor • Monitoring and support for goal achievement
Training Rate & Satisfaction Level	• ESG training programs and surveys for internal/external stakeholders

Supplier ESG Evaluation System



Customers

Quality Management-
Customer Satisfaction

As a leader of the energy sector, Doosan Enerbility’s primary goal is to provide customer satisfaction and create value for them by ensuring they are provided with products and services of the highest quality. We have acquired world-class engineering competencies and manufacturing capabilities by constantly pursuing innovation in our quality and supply chain management processes. Doosan Enerbility has achieved maximum customer satisfaction by adopting a quality assurance system, which ensures that the highest of quality is maintained throughout all stages of the business, from material warehousing to product shipping.



Quality Management Policy

Doosan Enerbility promotes quality management activities to secure world-class competency in the areas of power plant design, manufacturing, installation, and commissioning. Furthermore, we maintain a well-structured and systematic quality assurance system that meets global standards. This ensures that Doosan Enerbility can provide quality products and services without defects-the quality that customers desire and deserve. All the organizations and employees of the company strictly adhere to the provisions of the company's Quality Management Policy.

Doosan Quality Management System (DQMS)

Doosan Enerbility has implemented the DQMS (Doosan Quality Management System), which digitally manages the quality-related information and documents. We digitalized the quality-related data for all stages, from the inspection planning to assessment results. The DQMS has helped to gain visibility on the progress of quality management and reinforce the execution power.

Application

User Management

Internal user management	External user management
Company account management	Email sending management

Quality Assurance

Quality Assurance Portal	Quality Level Symbol
Vendor Quality Requirement	Vendor Evaluation

Equipment and Materials

Basic NDE information	NDE equipment management
NDE material management	RT Film Location

Quality Planning

Customer QIP	Project MPP
Company standard QP / MPP	Company performance management
Inspection instruction TRV	Inspection instruction

Inspection Execution

Item / PR QC approval	Receipt of inspection and assignment of inspectors
Execution of inspection and entry of results	Acceptance inspection request
Outcome of mold tool steel	Inspection request status

Reports

Packing Photo	Material certificate
NDE inspection report	Authenticity confirmation
Cumulative heat treatment record	

Quality Problems

QFR / NCR	CAR / ADR / IR
Supplier NCR	Supplier SDR

QVD

QVD Template	Gathering of QVD records	Storage and distribution of QVD
List of materials	Review of company QVD	Inquiry of report

Preventive Quality

Defects in precedent numbers	Preventive quality activity pool	
Prevention of PJT recurrence	Preventive quality activity status	Prototype management

Status Monitoring

Quality failure expenses	Quality control status	Inspection status
Welding repair rate of casting products	Disposal rate of forging products	Defect rate of supplier

Common Features

System management	Community	Permission management
Pop-up management	Approval management	Menu management

Qualifications and Education

Classification qualification management	Quality personnel qualification management
Education plans	Execution of education

Acquisition of Quality Certification

Doosan Enerbility has acquired international certification for optimizing quality management and operating a quality assurance system and environmental & safety management system corresponding to global standards. We acquired a total of 55 certifications from international agencies in the areas of nuclear, thermal, wind power and seawater desalination in an effort to prove our technical prowess and win customers’ trust. We were the first in Korea to obtain the 2022 ISO 19443 certification and are now equipped to export nuclear facilities to Europe.

ISO 19443 Certificate



International Quality Standards Certifications DHIC Acquired

Relevant areas	Types of certifications	Number of certifications
ASME (in nuclear / non-nuclear sectors)	N/NPT, U, S, etc.	17
KEPIC (in nuclear sector)	MN, SN, EN, etc.	8
ISO	9001, 1400, etc.	4
Other	PED H, Shipping Register, etc.	23

Quality Improvement Program

Improving the Non-Destructive Examination System

We have improved our non-destruction examination (NDE) system, which prevents tampering of NDE reports drawn up for products being prepared for external clients, by setting it up in a standard Web environment based on information & communication technology, enabling us to use features like personal authentication and electronic approval on mobile devices.

Quality Management Training for Nuclear Power Personnel

To secure customers’ trust regarding the quality of our nuclear products, we conducted training programs for the nuclear power personnel, covering contents such as opinions voiced by the customers, case examples of nuclear quality issues and measures fo preventing recurrences, all for the purpose of improving the nuclear personnel's overall mindset.

Activities for Achieving Quality Innovation

Implementation of RT Auto-Evaluation System

We developed an AI-based automatic evaluation solution for conducting RT (Radiographic Testing) on the welded parts of boiler tubes, adopting the same exact method of reading practiced by skilled readers. By implementing the solution in our production process (D-Vision), we were able to establish the RT auto-evaluation system successfully and further enhance our corporate credibility.

Development of Welding Variables Monitoring System

We also maintain high quality by monitoring the voltage, electric currents and preheat temperature, which are major variables of welding jobs, remotely and in real-time, through our internally-developed welding variables monitoring system.



Development of Mobile Welding Application

We developed and operate a mobile welding application to provide easy access to information, such as welder qualifications & certification, welding materials shipping status, welding variables monitoring data, to raise the quality of our welding works.



Customer Satisfaction Survey

Doosan Enerbility conducts customer satisfaction surveys annually, either by online channels or in-person interviews, to secure better quality and competitiveness in the market. The survey is conducted on not only domestic customers, but also our overseas customers, with the aim being to provide better products and services through the objective analysis of our performance and by listening to the opinions voiced by our customers.

(Unit: Score)

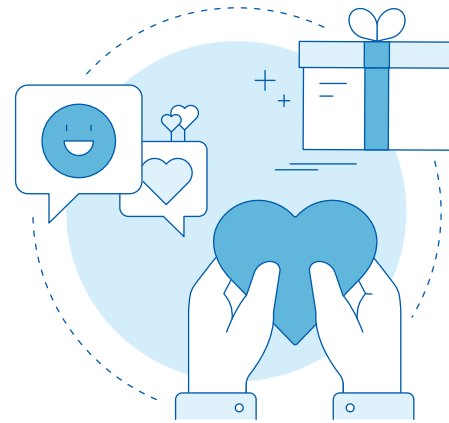
Category	2018	2019	2020	2021
Domestic survey results	82.1	83.3	87.1	81
Overseas survey results	-	94.1	-	-

* 2020 & 2021 surveys not conducted due to COVID-19

Local Communities

Social Contribution

Doosan Enerbility strives to establish a reputation as a well-respected social contributor in the local community and to instill pride in our “Doosan People.” Furthermore, through social contribution activities that are aligned with the UN SDGs, we are endeavoring to contribute to the local community by implementing programs designed to meet the needs of our society.



Social Contribution Strategy

To achieve the goal of promoting the development of local communities and increasing the corporate value, Doosan Enerbility adheres to the following three principles – Business Orientation, Community Focus, and Employee Engagement. Specifically, we implement three key streams of activity: fostering talented personnel, supporting vulnerable social groups, and working closely with local communities on activities to meet their needs.

In line with the needs of the rapidly-changing business environment, the society is increasingly demanding more from the companies in

fulfilling their corporate social responsibilities in various areas based on the ESG requirements. We are adapting to these changes by preparing new initiatives for social contribution that will help us establish our own unique identity as a leading social contributor.

Through our social contribution activities, which reflect our unique business characteristics, we aim to raise our corporate value, find ways to help develop the local communities by addressing the environmental and social issues, and to grow continuously by forming a greater coalition with the local communities.

The Three Major Principles



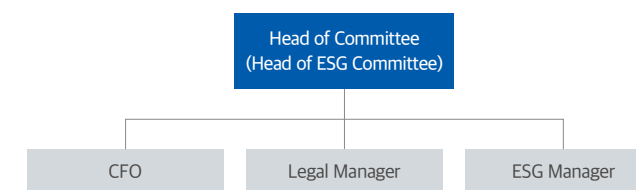
Areas of Activity



Social Contribution Management System

Doosan Enerbility operates a Social Contribution Committee which oversees the effectiveness of social contribution programs and activities, as well as the transparency of donations. The Social Contribution Committee, which consists of the managing executives from the relevant departments including the ESG Committee Chairman, reviews and discusses the public good and adequacy of support funds provided to the local communities. The Social Contribution Committee determines whether the purpose and contents of the support funds correspond with the direction pursued by the Company for social contribution, in addition to verifying the transparency and adequacy of support funds and beneficiaries. Furthermore, we also operate the Doosan Enerbility Social Volunteer Group, which is composed of our employees, as well as a special volunteer group formed of experts who wish to share their talents with the local communities. We ensure that the volunteer work is provided where needed in society and promote a culture where employees are encouraged to participate in volunteer work.

Social Contribution Committee Organization Chart



Major Social Contribution Activities

Talent Cultivation Programs

A particular area of focus for Doosan Enerbility is to foster future talents in accordance with Doosan Group's management philosophy of fostering talented personnel. Reflecting the characteristics of our engineering business, we support the cultivation and hiring of engineering talents and offer basic education and talent development programs to children and youths in the local community.

Cultivating Technical Resources | Through industry-academia cooperation with three Meister schools/special vocational high schools, we have been operating the “Doosan Class,” through which we offer a customized program for developing company-specific technical skills. However, as the program was temporarily suspended due to the COVID-19, we plan to resume the program after redefining the curriculum.

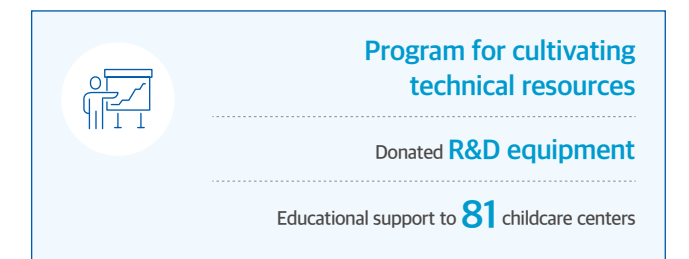
The company's Business Group for Vocational Training Consortium also provides technical training to those in the job market and offer the graduates job opportunities with our partners to help small- to mid-sized companies find workers.

While we had to temporarily conduct online courses due to the COVID-19 last year, we plan to switch back to classroom training programs starting in the second half of this year. In addition, Doosan Enerbility donated R&D equipment to Jeju National University, in support of the initiative to cultivate engineering experts. From 2019 to July 2022, the company made three-rounds of donations to the university offering 77 types of equipment including the cooling system for superconducting coil while lending 40 types of equipment to the Korea Electrotechnology Research Institute, while also encouraging the two to use them alternately. Through this, the company aims to promote more active R&D activities in the field of superconducting coil, as well as trainings of experts in this field.

Education & Talent Development for Children and Youths | Since 2011, we have been providing children at the childcare centers with which we have an affiliation, with study books every semester to help with their studies. The number of books distributed to the 81 childcare centers we have affiliations with totals 100,000 to date. To help youths who have athletic talent, but who face financial difficulties, we are participating in the “Youth Dream Up” project through which we are providing support to three students in the fields of archery, shooting and baseball.



>> Major Accomplishments of 2021



Program to Support the Underprivileged

Doosan Enerbility is providing support to a diverse group of underprivileged people who are in blind spots of the welfare system. We promote the culture of sharing in our company by providing our employees with opportunities to utilize their talents and skills in participating in activities that prevent social issues.

Supporting the Underprivileged in Our Community | To support the stable operation of the childcare facilities we have an alliance with a number of childcare centers and also sponsor the children at such facilities to help them grow and gain economic independence. A total of 3,200 of our employees have come together to raise funds for monthly sponsorship and we also arranged gift packages of snacks to be delivered on Children's Day to 2,000 children as signs of encouragement to help them overcome difficulties during the COVID-19 pandemic.

Talent Sharing Programs | Doosan Enerbility operates volunteer service groups in which employees utilize their professional skills and talents to contribute to the local community. There are social volunteer groups for technical skills development, promotion of safety, career education, and the monitoring of harmful environment for youths. The group for monitoring harmful environment for youths was organized with the goal to create a safe and healthy environment for the underprivileged youths. Despite restrictive activities during the COVID-19 outbreak last year, 32 volunteers participated in delivering supportive goods and school uniforms as part of the efforts to protect the youths.

>> Major Performances of 2021



Walkathon fundraiser and talent sharing by employees

665 employees

Support 2,000 children and teenagers from marginalized families in the community

Approx. 2,000 students

Walkathon Fundraiser Campaign | Doosan Enerbility conducted a contact-free social contribution campaign amid the COVID-19 outbreak. Our employees at the Bundang Doosan Tower held a walkathon fundraiser campaign together with the police department of Bundang city and raised a total of KRW 10 million, which was delivered to the Gyeonggi Regional Headquarters of ChildFund. Our employees in Changwon also took a turn in participating in season 2 of the walkathon fundraiser campaign in connection with the "Youth Dream Up" project and sponsored three young underprivileged athletes.



DOO! Charity Walk Campaign Poster

Category	Season1	Season2
Region	Bundang	Changwon
Goal	20mn steps	60mn steps
No. of Participants	218	415
No. of Donated Steps	56,181,619	74,728,778
Achievement rate	281%	124%
Sponsorships	2 underprivileged children with walking disability	3 underprivileged young athletes



Sponsoring underprivileged children with walking disability

Program for Staying Close to the Community

We have constructed a good cooperative network with diverse stakeholders of the community to support development of the local community and participate in various value-raising social contribution activities.

Recovering from Damages for COVID-19 | We conducted various activities to help the small businesses, traditional markets, and farming villages suffering from the repercussions of the COVID-19. They include donating Local Love Gift Certificates to the marginalized and local childcare centers in association with local organizations, such as Changwon City and Changwon Chamber of Commerce and Industry, so that the certificates could be used at traditional markets to help recovery of the local economy. Also, for farms suffering from lack of workers during the harvesting season owing to the COVID-19, we lent a helping hand in harvesting onions at seven farms in the Changnyeong region together with the local agricultural cooperative of Gyeongsangnam-do.



Invigorating the Traditional Markets



Lending a Helping Hand to Farms

>> Major Performances of 2021



with stakeholders

small businesses and farm villages

COVID-19 recovery program

Support 27

Protection of Marine Environment | In order to protect the environment of the local community, we are carrying out environmental cleanup activities along the coastal area of Gwisan-dong, near the company, together with Changwon City and the governing district office every year. In 2021, despite the spread of the COVID-19, about 30 people participated and collected about 1 ton of marine waste while circulating around the entire coastline. Furthermore, in accordance with the terms of the agreement made on saving the Masan Bay in Changwon, we are working together with 16 civic groups and companies in the jurisdiction to continuously protect the local environment, such as by participating in sea purification activities and cooperating on marine pollution control activities.



Coastal Area Cleanup Activities

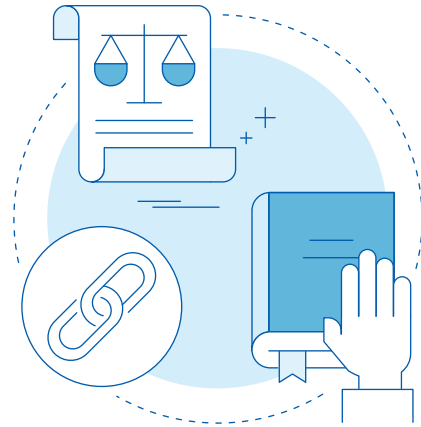


Governance

82	Ethical Management
85	Information Security
87	Risk Management
90	Governance Structure

Ethical Management

Doosan Enerbility has been cultivating an ethical corporate culture by putting into practice core values, such as honesty, transparency, and fairness, throughout its operations. While working towards the goal of ethical management, we have sought to establish a strong company-wide system, one that is based on a strict set of principles and strategies, to prevent risks more effectively. We have endeavored to prevent unethical behavior and corruption among our employees and suppliers by adopting a systematic approach to ethical management.

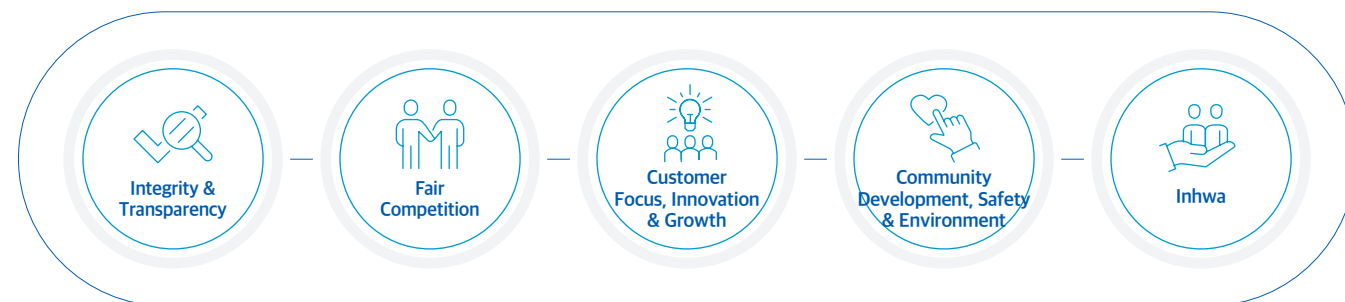


Ethical Management Policy

Code of Conduct

Doosan Enerbility has established and implemented a Code of Conduct and is seeking to raise the company's competitiveness through Inhwa, a customer-centric management philosophy, transparent management and innovation. We apply the Code of Conduct to all our workplaces at home and abroad in an effort to realize the goal of ethical management.

Doosan's Code of Conduct



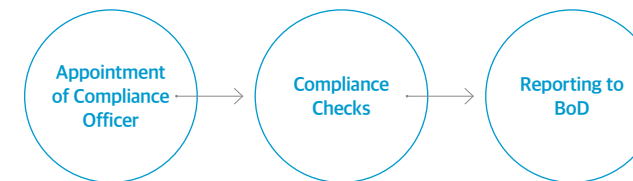
>> Anti-Corruption and Anti-Bribery Policy

- 1 "Doosan People" do not receive, demand, promise or express the intention to offer direct or indirect bribes, entertainment, or any other form of unfair profit from or to any individual of a vendor in relationship with or having intention to have relationship with Doosan Enerbility, or any public worker related to the business of Doosan Enerbility.
- 2 "Doosan People" comply with anti-corruption and anti-bribery laws and international standards.
- 3 "Doosan People" use the company's funds for legitimate business purposes only and are prohibited from using it for one's personal interests or third-party profit.

* "Bribes" refer to inducements offered in the form of money, goods and other assets, as well as other tangible and intangible benefits. Regardless of its form, anything that essentially carries the nature of bribery and anything in violation of laws and ordinances related to political funds are considered a bribe.
* Doosan Enerbility has a Social Contribution Committee set up to operate as a body for deliberating over and deciding on all matters related to donations, including the decision of making donations, the beneficiaries and donation amounts.

Ethical Management System

Doosan Enerbility has been appointing a compliance officer since 2012 to monitor business ethics and anti-corruption issues and to reinforce ethical management. Compliance checks are led by the compliance officer and the assessment details are reported and disclosed at the regular Board of Directors meetings, all of which serves as the foundation for ethical management.

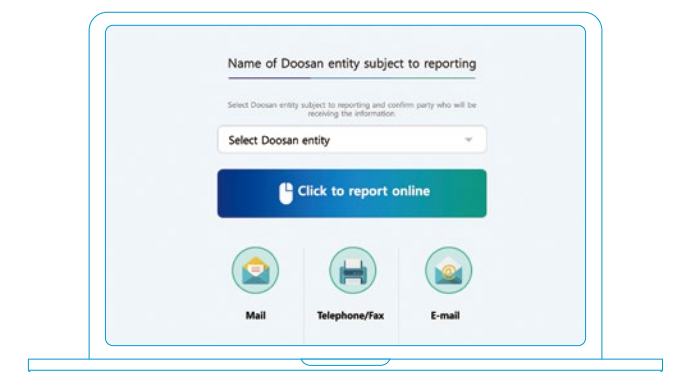
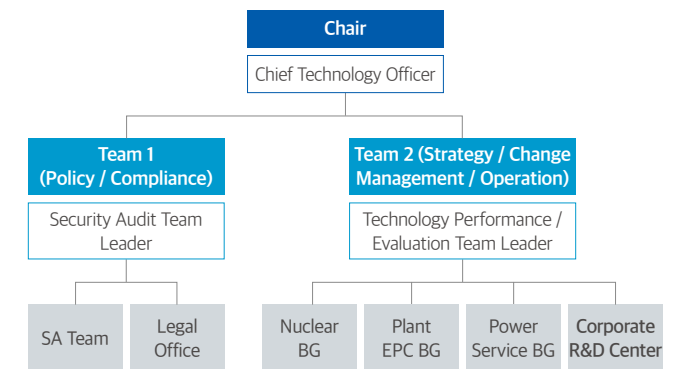


Category	Key Activities	Frequency
Status Check of Stakeholders	• Status review of stakeholders, such as the executives and team leads	Annually
Compliance Check of Privacy Regulations	• Check on compliance of privacy protection laws and related internal policies	Regularly
Compliance Check of Overall Business Operations	• Check on compliance in both the new and existing businesses, i.e., business confidentiality, unfair competition, fair trade, illegal solicitations, etc.	Regularly
Compliance Programs for Employees	• Training on Code of Conduct and prohibition of illegal solicitation and bribery, etc.	Annually or Regularly
ESG Committee Activities	• Check / Advise on domestic & international laws concerning environment, human rights, governance, etc.	Regularly
R&D Security and Integrity Activities	• Training offered to R&D project managers to raise R&D security and integrity awareness	Regularly

The technical competitiveness of Doosan Enerbility has increased considerably over the years and so has the significance of research security and control over technology leaks. The R&D Security & Integrity Review Committee has been established to reinforce research security and to review and decide upon enactment/amendment of regulations, major policies and other matters related to the overall inspection and management of R&D integrity.

For other illegal practices, we run the Cyber Reporting Center (i.e., Whistleblowing Center) to be used for filing reports on any violation of the law or company policies, such as the Doosan Credo or Code of Conduct. We guarantee anonymity and protection of the informants, making sure that the informant's identity, the fact of whether or not a report was filed, and the contents of the report are all kept confidential. Upon request from the informant, we take appropriate personnel measures to protect the informants against or prevent them from any disadvantage.

Organizational Chart of Security & Ethics Review Committee



Cyber Reporting Center (<https://ethicshelpline.doosan.com/>)

>> Operational Policy

- The Doosan Whistle Blowing Center is open to all Doosan employees and to the public, and enables anyone to report possible violations of applicable laws and internal policies, including the Doosan Credo and the Doosan Code of Conduct.
- Whistleblowing reports may be submitted anonymously or non-anonymously. However, the Company may not investigate anonymous reports which are not supported by concrete evidence.
- The identity of the whistleblower and the contents of the report will be kept confidential. The Company prohibits any retaliation against employees for submitting reports in good faith.
- The Doosan Operational Rules of the Whistleblowing System apply to the whistleblowing reports submitted by employees of Doosan. These Rules are available on the Company's intranet or can be obtained from the Company's designated whistleblowing department.
- In addition to this online whistleblowing system, the Company accepts whistleblowing reports via various channels, including mail, telephone, fax, e-mail and meetings with the designated whistleblowing department.

Strengthening Ethical Management

Expanding the Scope of Domestic / Overseas Site Management

Doosan Enerbility strives to raise the level of ethical management at not only the domestic sites, but at the overseas subsidiaries as well. All employees are required to adhere to the “Code of Conduct Compliance Agreement” and are provided with a business ethics checklist, as well as a presentation explaining the basics of the checklist, as part of the efforts to strengthen the compliance with anti-graft laws. When signing contracts with overseas agencies, we strictly enforce activities calling for ethical management by including compliance clauses stipulating the prohibition of illegal / unlawful action.

Strengthening Ethical Management of Partners

We are strengthening ethical management over our partners by introducing our company's Code of Conduct to them and providing guidance on how to file reports on violations to enable prior assessment of potential issues and to facilitate the reporting of risks. We also send out letters emphasizing adherence to the Code of Conduct during the traditional holiday seasons and monitor compliance by adding compliance clauses to all our partner agreements, as well as check on the anti-corruption status of new partners.

Compliance Officer's Letters for Improving Employee Awareness

Doosan Enerbility sends out Compliance Officer's Letters to employees, touching upon topics such as important laws, systems and guidelines that can be applied to everyday operations, in order to ensure employee engagement and cooperation on establishing an ethical business culture. In 2022, the compliance officer sent out letters introducing amendments made to relevant laws, such as the revised Improper Solicitation and Graft Act and the Monopoly Regulation and Fair Trade Act, along with some case examples of violations that resulted in penalties. Such efforts are being made to help cultivate a corporate culture that practices anti-corruption by raising employee awareness regarding such matters.

Ethical Management Training Programs for Employees

Doosan Enerbility holds Code of Conduct training programs for the employees at its Korean headquarters and overseas subsidiaries every year. The participants, who are from various job groups and employee levels, are required to submit Code of Conduct Compliance Agreements and are encouraged to uphold ethical business practices.

2021 Status of Ethics Training Programs

Category		Total trainee	Training completed	Completion rate
Domestic	Office work	3,002	2,941	98%
	Technical work	1,443	1,383	96%
Overseas	Office work	891	797	89%
	Technical work	1,089	1,089	100%
Total		6,425	6,210	97%



Compliance Officer's Letter

Information Security

Doosan Enerbility has strengthened its information protection system by acquiring the ISO 27001 certification (international standard for information security) as part of our company-wide efforts to expand our global business and gain greater credibility for our information security. Our information security managing organization and customized security policies ensure the protection of important trade secrets and compliance with relevant laws and regulations.



We are also actively investing in the expansion of security controls overseas by securing a system to monitor and address global security threats in order to preemptively manage such security risks. Furthermore, through regularly conducted security training and simulation programs aimed at identifying and preventing email hackings which are posing a serious threat, we are making special efforts to raise the employees' security awareness.

Information Security Management System

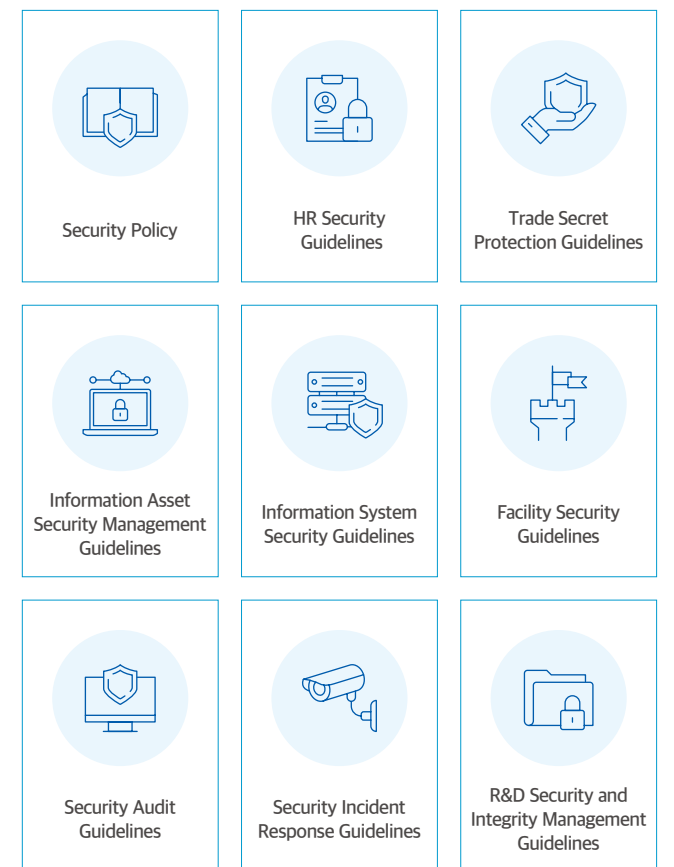
Doosan Enerbility conducts internal audits on the information system to protect company assets and to guarantee data integrity and the efficient usage of data resources, which are delivered on our advanced ISO 27001-certified information security management system.



Information Security Policy

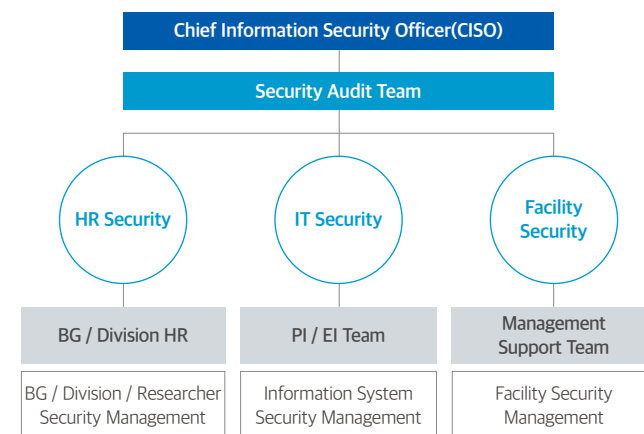
Doosan Enerbility enforces information protection measures and policies that all employees are required to comply with in order to address the rising importance of information security and to protect customer value. In the case of our overseas subsidiaries, the basic policy is to apply the same set of standards, but we allow leeway so that a separate set of security policies aligned to the local laws and environment can be adopted in order to meet each company's business needs and the local security laws.

DHIC's Information Security Management System



Information Security Managing Organization

Doosan Enerbility has a Chief Information Security Officer (CISO) appointed to minimize the security risks within the organization and business. The CISO has the role of leading and supervising the company's information security operations. In line with the rising importance of information protection, we also have a dedicated organization, led by the Security Audit Team, perform security planning and information system audits.

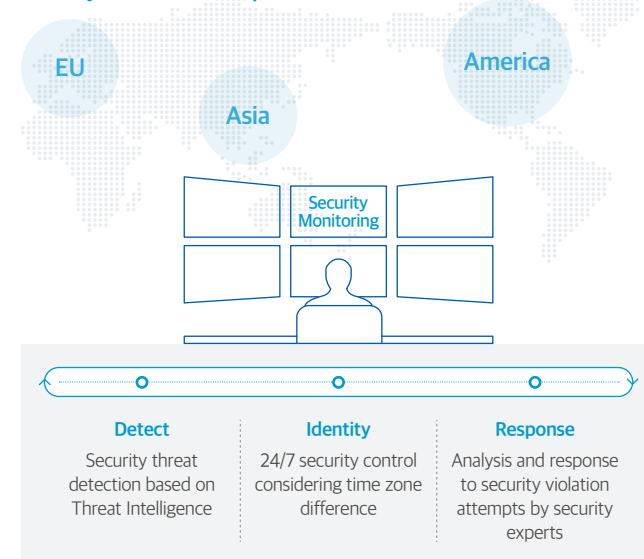


Activities and Programs for Strengthening Information Security

Global SOC

Doosan Enerbility has secured a global 24×7 operating system for monitoring and addressing security threats in real time and has implemented an advanced security control system that can efficiently detect, analyze and address IT risks via a standardized incident response process, one that applies AI technology and an automation platform.

Security Control and Response



Security Control Collaboration with External Institutes

Doosan Enerbility engages in security control activities based on Big Data-based Threat Intelligence (TI) technology and has established and implemented the C-TAS (Cyber Threat Analysis and Sharing), a Korean threat intelligence system, in cooperation with KISA (Korea Internet & Security Agency). Using these systems, we systematically collect cyber threat information. The collected data is analyzed, after which the results are shared among agencies to prevent and strengthen the response to external infiltration threats to our IT network.

Security Incident Response & Management

Doosan Enerbility manages and responds to security incidents through a team exclusively in charge of incident response. In case of security incidents, such as malignant code attacks or ransomware infections, we take immediate measures by following a pre-established, efficient resolution process. Furthermore, we conduct system hacking simulations to preemptively prevent hacking attacks and address them early on during the initial stage. We are also performing system monitoring to identify areas of weakness as a means of effectively preventing and dealing with security incidents.

Improvement of On-Site Security

Doosan Enerbility has strengthened its on-site security guidelines in order to improve the overall security at its overseas sites. We plan to improve the security level at all our work sites by initially performing a trial operation at the newly opened sites and making improvements as needed based on the results.



Activities for Raising Security Awareness

Security Training Programs

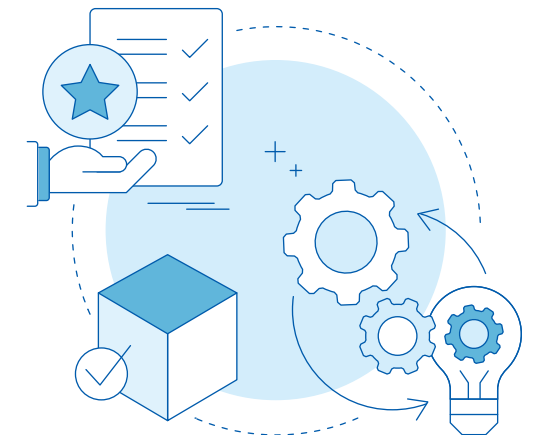
Doosan Enerbility offers online training programs to the employees every year, with the necessary training being provided to new hires, newly appointed department heads and the security managers of each department. We also send out emails and post any changes in the company's security policies and any news concerning security issues on the company portal to raise the employees' awareness of information security.

Email Hacking Simulations

In reflection of the recent trend observed for hacking incidents, Doosan Enerbility is conducting email hacking simulation exercises on a quarterly basis. The simulation is of incidents that can occur in real life, such as ransomware attacks, online banking frauds and information theft, so that the employees can have a better awareness of the dangers of such situations.

Risk Management

Doosan Enerbility monitors financial, social and environmental risk factors to prevent and manage the various risks that can affect our projects and the climate change situation. To prevent management risks, we set up a Quality Gate system to eliminate risks in advance and in the case of risks categorized as critical risks due to the level of business impact, we try to reach the most optimal decision by raising the matters to the Board of Directors for review.



Risk Management System

Doosan Enerbility operates a Quality Gate system, which is essentially a risk management system that helps identify potential risks early on and prevent risks posed to the financial, environmental, and social values of the company. Once the decision is made to participate in a project bid, the company enters the bid development phase of the Quality Gate process and at the Gate 2 stage, checklists that were drawn up for each area and categorized according to specifications (5 large categories, 10 medium categories, and 97 small categories) are used to define the project requirements and assess local conditions. Through this process, we derive a risk analysis and action plans. The risks identified are then

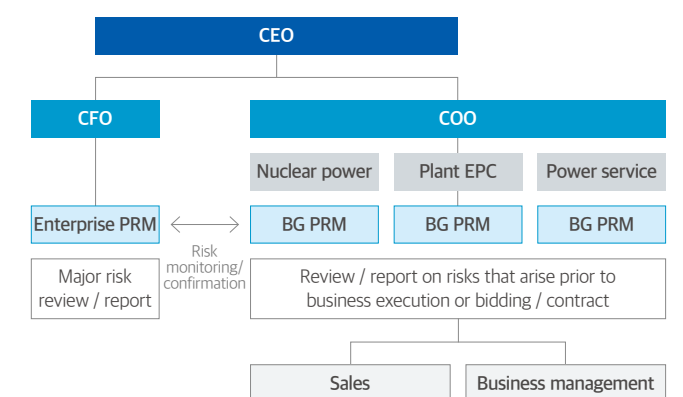
inquired about and answered by the client before we finalize the bid price, which we then submit as a bid participant.

Doosan Enerbility operates a Corporate PRM team to objectively identify risks in our business. The risks identified by the Corporate PRM team is then reported to the CFO, who remains independent from the business divisions. The overall risk management process at Doosan Enerbility starts with each business department checking on and managing risks at the sites. They report to the BG / Corporate PRM teams who review the matters. Important risks are monitored and checked on to facilitate timely decision-making by the management as needed.

>> Quality Gate Process

- Select project**
Review key checkpoints before selecting project to bid on
- Develop bid**
Confirm that the risks have been comprehensively evaluated and reflected to decide on bidding price
- Sign contract**
Check to see risks are adequately resolved through negotiations, then proceed to final approval of contract signing
- Prepare for project**
Finalize project delivery plan, then check to see that there are no new risks discovered
- Execution**
Decide on details of the actual project execution. Continue monitoring to ensure that risks are being continuously assessed and managed as planned
- Project Closing**
Evaluate project performance and share experience and know-how. Organize experience and know-how acquired during the project and provide feedback to following projects

Risk Managing Organization



* Business management: Management of risks in all processes including design, purchasing, construction and commissioning.

Risk Training and Risk Management Culture

Doosan Enerbility trains employees on risk management policies and the risk status to reinforce our risk management process and related capabilities. We operate the PM Academy to help Project Managers and the related staff understand the risk management system and procedures. Not only do we promote the risk management culture through such training programs, but we also check on and manage the various risk control items and key risk factors that are needed to identify potential risks. Furthermore, we offer financial compensation to all the employees and executives based on the performance results achieved for risk management.

Environment and Social Risk Management Activities

Doosan Enerbility takes extra measures to manage social risks as well as environmental risks. We are endeavoring to reinforce management to ensure that our projects cause no negative environmental and social impact. We identify such risks before commencing the project and take appropriate countermeasures. We are constantly pursuing activities aimed at creating a better environment.

Project Name	Risk Analysis	Measures
Van Phong Project 1	Residential waste piling up on site and air pollution	Transported all waste to landfill and lay gravel on site to prevent air pollution
	Complaints filed by local residents living near construction site	Built futsal court for the People's Committee of the site's jurisdiction, repaired nearby school facilities, and held events for children living near the cleanout site
	Risk of killing sea creatures	Obtained approval from Vietnam's Ministry of Natural Resources and Environment on changing plans to using landfills instead of the sea for waste disposal, thereby protecting the sea creatures.
Yanbu Project 4	Risk of destroying coral reef habitat	Created better coral reef habitat



1, 2 - Van Phong Project 1 - Gravel on Landfill
3, 4 - Van Phong Project 1 - Futsal Court Construction and School Facility Repair



Emerging Risks

Doosan Enerbility identifies and analyzes emerging risk factors that could have a serious impact on our business and take preemptive measures to address such risks.

Category	Risk Description	Business Impact	Counter Strategy
<div>Case 1</div> <div>Uncertainty of hydrogen energy business</div>	Although the hydrogen energy market is expanding worldwide in response to climate change, it is still in the early stages in terms of stable technology and policies. Therefore, there may be unaccounted factors in terms of profitability and rising financial costs, such as delays in future project timelines and consequent investment losses, due to the immaturity of the hydrogen business.	We are entering the hydrogen energy business which is drawing attention as a new source of energy. We are expanding our participation throughout the hydrogen value chain, from hydrogen production to hydrogen storage and transportation to hydrogen utilization. Although we anticipate market growth owing to the recent show of policy support, we recognize that there are uncertainties in the early stages of the business and that delays in the business may increase the financial burden and there may be a need for revision of the business strategy to transition to a green business portfolio.	We are identifying additional potential business areas so that hydrogen-related technologies under development, such as hydrogen gas turbines, can be used for other related businesses. We are seeking stable ways of securing technology, such as alleviating the financial burden by entering into technology cooperation agreements with the government and academia.
<div>Case 2</div> <div>Conservation of biodiversity in offshore wind power projects</div>	There may be changes in government policies and spread of negative perception due to the expansion of international regulations on biodiversity conservation and controversy over biodiversity hazards of offshore wind turbines. Finding evidence of such hazards may change the international standards of relevant technologies, which may further incur financial loss and additional investment costs.	As the most experienced offshore wind power company in Korea, we are capable of providing total solutions, from the supply of equipment, provision of EPC and O&M services to development of projects. We are currently closing the technology gap with top global players through the development and acquisition of our own technology. However, if controversy over the biodiversity hazards of offshore wind turbines leads to increased government regulations, the demand for change in existing technologies and reduction of business may cause the deterioration of profitability. Furthermore, it may also create additional burden, such as having to devise regulatory responses and developing new design engineering technologies, to reduce hazards.	In order to conserve biodiversity and prevent damage to the ecosystem, we strive to minimize ecological impacts during the design and construction phase, such as by using eco-friendly paints, designing foundations while considering the aquatic ecosystem, and applying noise and vibration prevention technologies during facility construction. In addition, the company is conducting joint technology development with relevant institutions to alleviate the burden of additional investment costs associated with new technology development. And to preserve biodiversity in the surroundings near our sites, we are aiming to cultivate an environment that can house a larger pool of fish resources, as well as promote a mutually beneficial relationship with the local residents.

Biodiversity Management

We conduct site surveys according to our risk management system to review site conditions, which are reflected in our bid price and application. Prior to the project, we fill out the report on environmental impact, disclose details on any species requiring protection, and deliver on our responsibilities to protect the local ecosystem.

Region	Project	Priority Area of Management	No. of Species Managed	Details of Species Under Management
 Oman	Sharqiyah IWP	Water	9	Turtle, whale, dolphin, fox, lizard(35), gazelle, camel, goat, and bird (94 kinds including eagle and seagull)
	Pyeongchon General Industrial Complex	Fertile soil, Native trees	6	• Fertile soil (5,900m³): park planting soil (3,498m³) + green landscaping soil (2,402m³) • 47 oaks, 4 oaks, 3 hornbeams, 665 pines, 27 pines, 16 oaks, total 762
	Suncheon Trimaje	Natural trees, park & green zone	2	• 269 oaks (1 type), 126 Japanese oaks, total 395 • Park: 25,157m², Green zone: 45,834m²
	Honam Railway Zone 3	Fertile soil		• Fertile soil 1,976m³
	Ulsan Down 2 Public Residential Area Construction (Zone 1)	Damaged trees, animals, fertile soil	3	• 280 tree transplanting, 1 old-growth tree (prunus pine), Nannophya Pygmaea Rambur • Fertile soil 28,100m³
 Korea	Gilcheongasu Road Expansion Work	Animals and plants	7 legally protected species	• Wild cat, mandarin duck, bean goos, white-tailed sea eagle, grey frog hawk, kestrel, and white-naped crane
	345kV POSpower Transmission Line Construction	Animals:plants, air, water topography: geology resource circulation noise-vibration	18	• Plant: Spiny lily • Mammals: marten, otter, wild cat, goat, flying squirrel • Birds: mandarin duck, falconer, kestrel, eagle, red-bellied hawk, falcon, goshawk, white-necked falcon, hornbill, eagle owl • Fish: Yeonjun Mochi, Handuk Broiler
	Gimpo CHP Plant Construction Office	Animals and plants	6	• 153 evergreen trees, 612 deciduous trees • Wild cat, goose, goshawk, kestrel, Korean frog, yellow duck
	Changnyeong-Milyang Highway	Animals and plants, fertile soil	1 animal 1 plant	• 493 oaks, wild cat • Fertile soil 2,526m³
	Changwondong eup-Gimhaehallim Expressway Construction	Animals	27	• 2 species of mammals (pig, otter), 1 species of amphibians (squirrels), 2 species of reptiles (tortoises, snakes), 22 species of birds (horseback, kestrel, bird falcon, mandarin duck, red-bellied hawk, alligator hawk, falconer, yellow-billed spoonbill, great swan, gary, goose, white-headed goose, stinging duck, red-crowned crane, eagle owl, white-tailed eagle, goshawk, hawk, sandpiper, eagle, white eagle, egret)
	Sejong-Anseong Highway	Plants	6	• Oaks, oriental oaks, Mongolian oaks, Japanese oaks, white oaks, pine trees, total 324
	Hamyang-Changnyeong Highway (Zone 7)	Plants, fertile soil	1	• 99 oaks, fertile soil 558m³, 883m³

Establishment of Sound Governance Structure

Doosan Enerbility has taken various steps to enhance shareholder value and the rights and interests of our stakeholders by establishing a transparent and independent governance structure based on the principle of check and balance. Our senior management practices business accountability by leveraging their accumulated expertise and reasonable decision-making, while outside directors continue to take the majority seat in our Board of Directors. Doosan Enerbility is strengthening institutional fairness and laying the foundation for transparent management based on sound governance activities.



Governance of Board of Directors

Doosan Enerbility's Board of Directors operates based on the four operating principles : responsible leadership, efficient operation, fair salary, and stakeholder-focus. To ensure fairness in the operation of the Board of Directors, directors with special interest in the matter put up for vote are restricted from exercising their voting rights. In principle, in order for a vote to be passed, the majority of the directors must be present at the meeting and the majority of those present must have voted in favor of the motion. It is possible to convene a meeting when more than one third of registered directors jointly call for a meeting while specifying the purpose of the meeting and the desired date.

Composition of the Board of Directors

As of Mar. 29, 2022, our BoD is composed of seven directors. Three inside directors (executive directors) including the CEO and four outside directors (non-executive directors) with various experiences in the industry. The position of the BoD Chairman is assumed by the CEO in a bid to enhance the efficiency of management judgments and realize the goal of responsible management. Although we have not segregated the CEO-BOD Chairman appointment structure for the sake of efficient business execution, we ensure the sound composition of the BoD and independence in operation by keeping outside members as the majority (50%).

At the time of appointing the directors, we strive to form a board of directors in consideration of various perspectives, including gender, industrial experience, religion, academic discipline, race, disabilities, and political orientation, along with the BoD's independence and expertise. In addition, when appointing outside directors, we strictly adhere to the company's independence policies and review whether or not the candidate has any special affiliations with the company.

Four Operating Principles



Composition of Board of Directors

Position	Name	Gender	Term	Position	Career Highlights
Inside Directors	Park, Geewon	Male	2008.03~2023.03	Chairman & CEO Chairman of BoD	(Currently) Chairman & CEO of Doosan Enerbility (Currently) Vice-Chairman of Doosan Group
	Jung, Yeonin	Male	2019.03~2025.03	President & COO	(Currently) COO & President of Doosan Enerbility (Formerly) Head of Doosan Vina
	Park, Sanghyeon	Male	2021.03~2024.03	President & CFO	(Currently) CFO & President of Doosan Enerbility (Formerly) CEO of Doosan Bobcat
Outside Directors	Nam, Ickhyun	Male	2017.03~2023.03	Member of Audit Committee	(Currently) Professor at College of Business Administration, Seoul National University (Formerly) Director of Graduate School of Business, Seoul National University
	Lee, Junho	Male	2019.03~2025.03	Member of Audit Committee	(Currently) Lawyer at Kim & Jang Law Firm (Formerly) Judge at Seoul District Court
	Bae, Jinhan	Male	2021.03~2024.03	Head of Audit Committee	(Currently) Professor at Korea University, Business School (Currently) Vice President of the Korean Association of Fair Economy (KCPA)

* BoD member Daeki Kim resigned on Apr. 29, 2022 for personal reasons

* BoD member Nam Ick-hyun was appointed as an audit committee member on June 22, 2022

Operation of Board of Directors

When an important management issue arises regarding economic, environmental and social issues, the Board of Directors jointly review the matter and seek to find a solution. According to the Articles of Association, for the sake of fast and efficient decision-making, a committee is established to operate under the Board of Directors. Regular BoD meetings are convened monthly and ad hoc meetings are held whenever needed. To protect the right of the shareholders and stakeholders, BoD information and meeting minutes are disclosed through the company's website, business reports and governance reports.

Committees

Committee Type	Role	Purpose
Outside Director Candidates Nomination Committee	Recommends candidates to be nominated as outside director at general shareholders meeting	To strengthen the BoD's independency
Audit Committee	Carries out audits on the company's accounting and overall business	To strengthen BoD's check and balance function based on expertise in accounting and financial matters
Internal Transaction Committee	Carries out assessments & approvals of internal transactions with persons of special relation	To enhance transparency

BoD Performance

Category	2019	2020	2021
No. of meetings convened	11	16	18
No. of agendas voted on	35	37	39
No. of agendas modified	0	0	0
No. of agendas reported	8	7	7

In 2021, 18 BOD meetings were held in total, and 39 agendas (general meetings of shareholders, BOD, investment and planning / management, accounting / finance, and other major managerial topics) were submitted for decision making while 7 agendas for reporting.

BoD Attendance

>> Outside Directors' Attendance

	2019	2020	2021
	97.7%	92.2%	94.4%

>> BoD Attendance

	2019	2020	2021
	98.6%	95.4%	93.4%

Compensation for BoD Members

Doosan Enerbility pays remuneration to the board members within the limit set at the general shareholders meeting.

Category	No. of Members	Total Compensation	Average Compensation Per Member
Inside Director (excluding outside directors, members of Audit Committee)	3		
Outside Director (excluding members of Audit Committee)	1	KRW 691mn*	KRW 86mn*
Members of Audit Committee	3		
Permanent Auditor	none		

* Amount includes compensation for the resigned outside director until date of resignation (Mar. 30, 2021)

* Amount calculated as of the date of inside director appointment on Mar. 30, 2021

Appendix



94	ESG Data
105	Safety & Health Guidelines
110	Environmental Guidelines
111	UN SDGs
112	Creation of Social Value
113	Materiality Assessment
114	Stakeholder Engagement
115	GRI Standard Index
118	SASB Index
119	TCFD Index
119	UN Global Compact
120	Third Party Assurance Statement
122	Membership Status



ESG Data _ ECONOMIC PERFORMANCE DATA

2020-2021 CONSOLIDATED STATEMENT OF FINANCIAL POSITION

59th Report as of December 31, 2021
58th Report as of December 31, 2020

(Unit: KRW)

Subject	End of 59 th Report		End of 58 th Report	
Assets				
Current Assets		8,417,624,107,978		9,946,795,870,391
Cash & Cashable Asset	1,908,603,989,132		2,336,795,020,568	
Short-Term Finances	519,150,027,683		316,762,603,159	
Short-Term Investment Securities	197,197,204,569		268,262,018,463	
Accounts Receivable	921,080,464,985		2,036,954,321,016	
Unclaimed Construction	1,632,887,643,517		1,764,133,275,013	
Outstanding Balance	207,625,154,622		236,838,070,204	
Prepayment	499,609,555,547		452,091,457,840	
Prepaid Expenses	129,779,489,360		94,593,137,930	
Short-Term Loans	62,126,808,865		149,986,369,488	
Derivatives Evaluation Assets	30,275,102,551		58,352,499,895	
Binding Contract Asset	45,877,394,613		5,900,766,998	
Inventory Assets	1,788,420,159,139		1,958,721,611,748	
Non-Current Assets Held for Sale	319,607,727,615		11,495,049,364	
Other Current Assets	155,383,385,780		255,909,668,705	
Non-Current Assets		15,302,921,520,663		15,620,378,420,713
Long-Term Finances	29,271,959,777		23,367,497,135	
Long-Term Investment Securities	301,709,821,939		926,508,778,964	
Investments by Dependent Enterprise, Related Enterprises and Joint Enterprises	582,045,106,081		162,973,738,141	
Unclaimed Construction	102,739,503,644		102,739,503,644	
Long-Term Loans	44,703,080,573		230,048,605,914	
Tangible Assets	5,436,969,444,692		6,157,806,963,024	
Intangible Assets	8,015,980,133,418		6,900,287,804,408	
Real Estate Investments	72,920,331,892		81,937,006,635	
Derivatives Evaluation Assets	8,683,481,005		37,748,633,632	
Binding Contract Assets	20,892,251,073		9,818,569,590	
Security Deposits	363,655,647,884		488,311,023,811	
Deferred Tax Assets	232,791,073,638		442,532,656,942	
Other Non-Current Assets	90,559,685,047		56,297,638,873	
Total Assets		23,720,545,628,641		25,567,174,291,104
Liabilities				
Current Liabilities		10,125,765,540,983		13,070,548,146,216
Purchase Liabilities	1,880,747,776,315		2,194,328,819,387	
Short-Term Loans	3,908,482,953,731		5,368,579,020,551	
Securitized Liabilities			59,550,657,597	
Accounts Payable	399,635,790,173		492,438,703,598	
Advances Received	64,196,097,441		96,754,115,588	
Excessively Charged Construction	1,455,693,415,375		1,666,079,090,537	
Deposits	30,295,770,427		32,641,867,115	
Accrued Expenses	411,290,713,603		645,041,631,439	
Net Corporate Tax Liabilities	36,231,843,804		38,710,823,579	
Current Maturities of Long-Term Liabilities	938,862,829,868		1,590,801,459,636	
Derivatives Evaluation Liabilities	211,671,916,451		61,603,742,869	

Subject	End of 59 th Report		End of 58 th Report	
Liabilities				
Confirmed Contract Liabilities	10,120,811,188		17,401,805,083	
Estimated Liabilities	320,457,896,603		508,536,449,621	
Current Lease Liabilities	64,880,159,213		66,465,579,213	
Liabilities held for sale	273,469,051,609			
Other Current Liabilities	119,728,515,182		231,614,380,403	
Non-Current Liabilities		4,787,184,442,937		5,390,129,463,903
Private Loans	848,257,259,234		1,800,160,199,498	
Long-Term Loans Payable	1,516,918,542,299		1,183,035,254,754	
Long-Term Securitized Liabilities			49,102,652,561	
Long-Term Accounts Payable	14,522,398,927		14,928,812,333	
Net Defined Benefit Liabilities	540,496,543,264		721,424,677,702	
Deposit Securities	330,443,720,443		309,091,438,251	
Derivatives Evaluation Liabilities	37,802,056,172		70,772,172,508	
Confirmed Contract Liabilities	5,651,863,540		24,633,647,381	
Deferred Corporate Tax Liabilities	462,047,648,049		334,221,214,442	
Estimated Liabilities	312,515,735,320		370,469,192,358	
Non-Current Lease Liabilities	316,307,158,369		171,864,529,234	
Other Non-Current Liabilities	402,221,517,320		340,425,672,881	
Total Liabilities		14,912,949,983,920		18,460,677,610,119
Capital				
Controlling Company Proprietor's Equity		6,091,427,146,585		3,188,385,999,809
Capital	2,675,624,980,000		1,937,707,325,000	
Capital Surplus	1,865,083,188,183		2,662,214,482,750	
Other Capital	46,159,352,713		47,907,323,727	
Accumulated Other Comprehensive Income	731,324,738,126		587,157,416,427	
Retained earnings (Deficit)	773,234,887,563		(2,046,600,548,095)	
Non-Controlling Interest		2,716,168,498,136		3,918,110,681,176
Total Capital		8,807,595,644,721		7,106,496,680,985
Total Liabilities & Capital		23,720,545,628,641		25,567,174,291,104

R&D INVESTMENT

Classification	Unit	2019	2020	2021
R&D Investment cost	KRW one million	2,391	1,674	1,692
R&D cost ratio to sales amount ¹⁾	%	6.5	4.9	4.7

1) Calculation based on the Headquarters of Doosan Enerbility

STATUS OF EXPENSES BY INDUSTRIAL ASSOCIATIONS¹⁾

Classification	Unit	2019	2020	2021
Donated by	-	SBA	SBA	SBA
Amount	KRW one million	512	262	324

1) No donation record for political organizations and lobbyists



ESG Data _ SOCIAL PERFORMANCE DATA

STATUS OF EMPLOYEES

Classification			Unit	2019	2020	2021
Total number of employees ¹⁾			Persons	6,721	5,587	5,622
By country	Domestic		Persons	6,249	5,152	5,215
	Overseas		Persons	472	435	407
Percentage of employees by country out of total number of employees	Republic of Korea		%	-	-	99.66
	Republic of Korea (Managerial Position)		%	-	-	43.45
	Ukraine		%	-	-	0.12
	Ukraine (Managerial Position)		%	-	-	0.00
	US		%	-	-	0.04
	US (Managerial Position)		%	-	-	0.04
	India		%	-	-	0.04
	India (Managerial Position)		%	-	-	0.00
	Others		%	-	-	0.14
	Others (Managerial Position)		%	-	-	0.02
Number of employees by gender according to the employment contract	Permanent worker	Male	Persons	5,711	4,509	4,373
		Female	Persons	197	167	160
	Contract worker	Male	Persons	697	788	971
		Female	Persons	116	123	118
Diversity of Employment	Total number of employees at managerial position or higher		Persons	-	-	2,443
	Total number of employees at executive position or higher		Persons	-	-	60
	Disabled		Persons	130	79	71
	Disabled		%	1.9	1.4	1.3
	National Merit		Persons	153	113	109
	National Merit		%	2.3	2	1.9

1) The number is based on the employees as of the end of 2021 and includes the Business Group (BG) contract workers and on-site hires, but excludes consultants / advisers, external directors / representative directors, and short-term assignees (based on the employees in the Business Report)

GENDER CLASSIFICATION

Classification		Unit	2019	2020	2021
Ratio of female employees	All employees	%	4.7	5.2	4.9
	All managerial positions (including junior managers, medium managers and executives)	%	2.9	3.0	3.5
	Junior managers	%	1.4	1.3	1.0
	Executive managers (Up to 2 ranks below CEO)	%	-	-	-
	Revenue-generating functions	%	2.2	3.8	3.0
	Positions related to STEM ¹⁾	%	1.4	1.6	2.3
Number of female employees	Number of female employees at higher-managerial position	Persons	-	-	-
	Number of female employees at executive managerial positions	Persons	-	-	-

1) Science, Technology, Engineering, Mathematics

NEW HIRES & TRANSFERS

Classification			Unit	2019	2020	2021
Number of New Hires ¹⁾	Total		Persons	350	532	676
	By Gender	Male	Persons	278	375	614
		Female	Persons	72	157	62
	By Age	Younger than 30 years old	Persons	78	154	137
		Younger than 30 years old	Persons	215	249	366
		Over 50 years old	Persons	57	129	173
	Open positions filled by internal candidates (internal employment)		%	91.7	74.4	70.2
Employee Turnover	Total		Persons	737	1,432	214
	By Gender	Male	Persons	683	1,357	204
		Female	Persons	54	75	10
	By Age	Younger than 30 years old	Persons	46	43	6
		30 to 50 years old	Persons	384	540	111
		Over 50 years old	Persons	307	849	97
	Transfer Rate (Permanent workers)		%	12.5	30.6	4.7
Voluntary Transfer Rate		%	3.1	2.5	3.1	
Average years of employment	Average years of employment of male employees		Years	-	-	15
	Average years of employment of female employees		Years	-	-	8

1) The number is based on the employees as of the end of 2021 and includes the Business Group (BG) contract workers and on-site hires, but excludes consultants / advisers, external directors / representative directors, and short-term assignees (based on the employees in the Business Report)

TRAINING FOR EMPLOYEES

Classification			Unit	2019	2020	2021
Average Training Hours Per Person	By Gender	Male	hours	11.4	4.4	7.9
		Female	hours	4.3	3.9	7.2
	By Job Group	Office Workers	hours	11.7	4.8	6.0
		Technical Workers	hours	7.6	3.7	12.7
	By Training Type	Classroom Training	hours	4.3	1.2	5.1
		Online Training	hours	6.3	3.2	2.7
	By Position	Managerial Position	hours	13.8	5.2	6.0
		General Staff Position	hours	13.8	3.5	16.5
		Admin.Support Position	hours	1.4	2.7	1.8
	Average education hours of all employees		hours	10.6	4.5	7.8
Average Training Cost Per Person ¹⁾	Total cost for education & training		KRW	-	-	1,414,724,008
	By Job Group	Office Work	KRW	-	-	299,211
		Technical Work	KRW	-	-	123,724
	Average training cost of all employees		KRW	207,558	115,088	251,641

1) Results will be released from 2021



RATIO OF WORKERS COVERED BY COLLECTIVE AGREEMENT

Classification		Unit	2019	2020	2021
Number of Workers for Membership		Persons	2,902	2,143	1,809
Labor Union, Labor Management Committee	Number of Memberships	Persons	1,893	1,549	1,460
	Ratio of Membership	%	65.2	72.3	80.7

RATIO OF EMPLOYEES WHO RECEIVE PERFORMANCE EVALUATION

Classification		Unit	2019	2020	2021
Office Workers		%	100	100	100
Technical Workers		%	100	100	100

BASE SALARY AND INCENTIVE OF FEMALE EMPLOYEES COMPARED TO MALE EMPLOYEES¹⁾

Classification		Unit	2019	2020	2021
Base salary and incentive of female employees compared to male employees		%	100	100	100

1) At the domestic business sites, employees holding the same position/duty are treated equally when it comes to promotion and compensation in accordance with the company policy.

GENDER WAGE INDICATOR¹⁾

Classification		Unit	2019	2020	2021
Average Base Salary of Female Employees	Executive Position (Base Salary)	KRW 1 million	-	-	-
	Executive Position (Base Salary+Cash Incentives such as Performance Incentive)	KRW 1 million	-	-	-
	Managerial Position (Base Salary)	KRW 1 million	58	58	63
	Managerial Position (Base Salary+Cash Incentives such as Performance Incentive)	KRW 1 million	63	58	63
	Non-Managerial Position (Base Salary)	KRW 1 million	31	28	27
Average Base Salary of Male Employees	Executive Position (Base Salary)	KRW 1 million	194	157	124
	Executive Position (Base Salary+Cash Incentives such as Performance Incentive)	KRW 1 million	217	167	130
	Managerial Position (Base Salary)	KRW 1 million	72	63	73
	Managerial Position (Base Salary+Cash Incentives such as Performance Incentive)	KRW 1 million	81	67	78
	Non-Managerial Position (Base Salary)	KRW 1 million	34	34	31

1) In 2019-2021, the gap between the base salary and non-base salary came from overseas relocation allowances, transfers to another subsidiary, etc.

STATUS OF MATERNITY LEAVE¹⁾

Classification		Unit	2019	2020	2021
Number of employees who have the right to receive parental leave ²⁾	Male	Persons	2,092	1,931	1,778
	Female	Persons	79	84	82
Number of employees who have used parental leave	Male	Persons	52	42	59
	Female	Persons	23	24	17
Ratio of usage of parental leave	Male	%	2.5	2.2	3.3
	Female	%	29.1	28.6	20.7
Number of employees who have returned to work after parental leave	Male	Persons	38	39	50
	Female	Persons	9	23	18
Number of employees who worked for 12 months continuously after returning from parental leave	Male	Persons	16	30	26
	Female	Persons	14	6	18
Ratio of employees who worked for 12 months continuously after returning from parental leave ³⁾	Male	%	84	79	67
	Female	%	64	67	78

1) Three-year data modified based on the disclosed number of personnel which includes the technical staff and contract workers

2) Number of employees with children under nine years old

3) (Number of employees who retain their position for 12 months or longer after returning to work in the base year / Number of employees who returned to work in the previous reporting period) × 100

EMPLOYEE SATISFACTION

Classification		Unit	2019	2020	2021
Employee satisfaction survey results		%	-	-	12

1) Employee satisfaction survey on family-friendly corporate environment is scored out of a perfect score of 15.

STATUS OF INTERNAL REPORT ON ETHICAL MANAGEMENT

Classification		Unit	2019	2020	2021
Domestic		Cases	24	23	31
Overseas		Cases	9	0	2
Total		Cases	33	23	33

CONFIRMED CORRUPTION CASES & COUNTERMEASURES¹⁾

Classification		Unit	2019	2020	2021
Number of confirmed corruption cases		Cases	5	2	-
Number of disciplinary actions (Layoff, suspension, etc.)		Cases	5	1	-
Number of contracts that are either terminated or not renewed with business partner due to corruption		Cases	0	0	0

1) Including the subsidiaries' corruption cases



LEGAL ACTION FOR COLLUSION

Classification	Unit	2019	2020	2021
Number of legal actions	Cases	0	0	0

LEGAL ACTIONS FOR UNFAIR TRANSACTIONS

Classification	Unit	2019	2020	2021
Number of legal actions	Cases	0	0	1

LEGAL ACTIONS FOR CORRUPTION¹⁾

Classification	Unit	2019	2020	2021
Number of legal actions	Cases	0	0	0

1) No fine or penalty has been imposed for 3 years

CORRECTIVE ACTIONS FOR DISCRIMINATION¹⁾

Classification		Unit	2019	2020	2021
Number of reports of discrimination		Cases	5	2	1
Number of confirmed facts and actions		Cases	5	2	1
Details	Financial compensation for victims	Cases	0	0	0
	Dismissal of offender	Cases	0	0	0
	Punishment of offender	Cases	0	0	1
	Corrective order to offender	Cases	0	0	0

1) The company has a system for filing reports on discrimination and strictly observes the policy of protecting the informants

NUMBER OF COMPLAINTS OF WHICH THE VIOLATION OF CUSTOMER
PRIVACY AND THE LOSS OF CUSTOMER INFORMATION HAS BEEN VERIFIED

Classification	Unit	2019	2020	2021
Number of leaks, theft, and loss of customers' data and related complaints	EA	0	0	0

PARTICIPATION IN VOLUNTEER WORK

Classification		Unit	2019	2020	2021
Number of Activities		Cases	302	19	15
Participation by Employees	Number of Participants	Persons	1,580	101	710
	Participation Rate	%	25	2	13
Hours Invested in Volunteer Work	Total Hours of Volunteer Work	Hours	12,016	780	5,662
	Hours of Volunteer Work Per Person	Hours	1.87	0.2	1.1

EXPENSES FOR SOCIAL CONTRIBUTION

Classification		Unit	2019	2020	2021
Amount of Expenses	Cash	KRW 100 million	6.6	3.8	4.5
	Goods	KRW 100 million	0.4	0.2	0.1
	Operation costs	KRW 100 million	0.5	0.1	0.1
	Total	KRW 100 million	7.5	4.1	4.7
Details of Expenses	Charitable donations	KRW 100 million	0.1	0.0	0.2
	Investment in local community	KRW 100 million	7.4	4.1	4.5
	Commercial initiative	KRW 100 million	0.0	0.0	0.0
Purpose of Activity	Fostering talented personnel	KRW 100 million	6.0	3.6	4.0
	Supporting alienated social classes	KRW 100 million	0.2	0.1	0.1
	Provision of support close to local community	KRW 100 million	1.3	0.4	0.6

MAJOR NEGATIVE SOCIAL EFFECTS IN SUPPLY CHAIN AND CORRECTIVE ACTIONS

Classification	Unit	2019	2020	2021
Number of subsidiaries which conducted social impact assessments	EA	148	318	318
Number of partner companies which have been confirmed of actual & potential negative social effects	EA	0	0	0
Ratio of partner companies which have taken consultation for improvement based on results of evaluation	%	100	100	100
Number of disciplinary actions for partner companies ¹⁾	EA	1	2	0

1) Number of deliberations made by the Shared Growth Promotion Committee on disciplinary action according to the specifications in Doosan Enerbility's Differentiation Procedure for Partner Companies.



SUPPLY CHAIN STATUS AND PURCHASE AMOUNT¹⁾

Classification		Unit	2019	2020	2021
Number of Suppliers	Domestic	Companies	11,305	11,560	11,720
	Overseas	Companies	2,298	2,344	2,511
	Total	Companies	13,603	13,904	14,231
Purchase amount from suppliers	Domestic	KRW 100 million	20,084	17,045	13,968
	Overseas	KRW 100 million	3,375	4,163	6,582
	Total	KRW 100 million	23,459	21,208	20,550
Percentage of purchase from domestic suppliers		%	85.6	80.4	70.0

1) Calculation based on figures from Doosan Enerbility headquarters

SUPPLY CHAIN PURCHASE(TOP 10 Countries)

Ranking	Country	No. of suppliers as of the end of 2021(companies)	Purchase amount (Unit: KRW 100 million)		
			2021	2020	2019
1	Korea	2,948	23,163	17,224	19,635
2	Germany	61	2,096	591	442
3	Japan	24	1,685	1,024	458
4	Unites States	25	510	238	322
5	India	13	383	18	23
6	China	35	329	154	275
7	Vietnam	3	234	705	95
8	Czech Republic	3	188	186	162
9	Italy	24	169	238	205
10	UK	19	147	227	89
11	Switzerland	9	109	114	178

PRODUCT SAFETY

Classification	Unit	2019	2020	2021
Number of safety related recall incidents	Cases	0	0	0
Total number of products returned due to the issue of safety related recall	EA	0	0	0
Amount of financial sanctions in relation to product safety (penalty, fine, etc.)	KRW	0	0	0

HUMAN RIGHTS ASSESSMENT

Classification		Unit	2019 ¹⁾	2020 ²⁾	2021 ³⁾
Internal business activities (employees)	A. Total assessment rate for past 3 years	%	23.1	-	15.4
	B. Rate of severe risks identified among the assessed sites (A)	%	12.3	-	13.1
	C. Rate of cases where mitigable/remedial measures were taken among the sites where risks were identified (B)	%	57.1	-	100

1) Conducted at Doosan Enerbility headquarters, Vietnam, and India (out of a total of 13 business sites including the HQ and subsidiaries)

2) No assessment was performed this year, as it was spent on developing the human rights management evaluation indices and review process

3) Conducted at Doosan Enerbility headquarters and Vietnam (out of a total of 13 business sites including the HQ and subsidiaries)

SAFETY & HEALTH OF EMPLOYEES

Classification			Unit	2019	2020	2021
Employees	LTIR	Domestic	LTIR	0.16	0.27	0.37
		Overseas	LTIR	0.00	0.00	0.00
		Total	LTIR	0.10	0.13	0.10
	ODR	Domestic	ODR	0.20	0.52	0.46
		Overseas	ODR	0.00	0.00	0.00
		Total	ODR	0.13	0.12	0.05
	LWSR	Domestic	LWSR	25.10	80.63	155.18
	Number of disasters	Domestic	Cases	10	14	17
		Overseas	Cases	0	0	1
Total		Cases	10	14	18	
Partner Companies	LTIR	Domestic	LTIR	0.26	0.34	0.56
		Overseas	LTIR	0.00	0.00	0.00
		Total	LTIR	0.06	0.10	0.15
	LWSR	Domestic	LWSR	24.77	31.13	66.79
	Number of disasters	Domestic	Cases	24	28	31
		Overseas	Cases	0	1	1
		Total	Cases	24	29	32

1) LTIR (Lost Time Incident Rate), U.S. OSHA (Work loss rate by the standard of Occupational Safety & Health Administration) = (Total number of suspended work hours / Total work hours) × 200,000

2) ODR (Occupational Disease Rate) = (Number of Occupational diseases and Patients related with occupation / Total work hours) × 200,000

3) LWSR (Lost Workday Severity Rate) = (Total loss of work days / Total work hours) × 200,000 *LTIR, ODR, and number of disasters follow the computation standard of all domestic and overseas business sites. LWSR follows the computation standard of all domestic business sites



EMPLOYEE WELFARE SYSTEM

The employee welfare system is applicable to all employees.

Category	Details									
Pregnancy and childbirth gift	<ul style="list-style-type: none">• Provision of gifts worth KRW 100,000 to all pregnant female workers• Provision of congratulatory leave (10 days) and congratulatory money (KRW 100,000) to employees who give birth to a baby									
Maternity protection system, such as maternity leave and reduction of working hours during pregnancy	<ul style="list-style-type: none">• Various maternity protection schemes pursuant to relevant laws<ul style="list-style-type: none">- Leave of absence before and after childbirth (90 days, 120 days for multiple births)- Parental leave (1 year)- Reduction in working hours during child rearing (1 year)<ul style="list-style-type: none">→ Reduction by 2 hours a day for female employees who are within 12 weeks of pregnancy or after 36 weeks of pregnancy- Change in working hours for pregnant employees (change of clock-in/out time)- Paid leave for fetal examination	<ul style="list-style-type: none">- Leave for miscarriage / stillbirth								
		<table><tr><th>Pregnancy</th><th>Leave</th></tr><tr><td>Within 11 weeks</td><td>Up to 5 days from date of miscarriage / stillbirth</td></tr><tr><td>12 weeks~15 weeks</td><td>Up to 10 days from date of miscarriage / stillbirth</td></tr><tr><td>16 weeks~21 weeks</td><td>Up to 30 days from date of miscarriage / stillbirth</td></tr></table>	Pregnancy	Leave	Within 11 weeks	Up to 5 days from date of miscarriage / stillbirth	12 weeks~15 weeks	Up to 10 days from date of miscarriage / stillbirth	16 weeks~21 weeks	Up to 30 days from date of miscarriage / stillbirth
		Pregnancy	Leave							
		Within 11 weeks	Up to 5 days from date of miscarriage / stillbirth							
		12 weeks~15 weeks	Up to 10 days from date of miscarriage / stillbirth							
16 weeks~21 weeks	Up to 30 days from date of miscarriage / stillbirth									
<ul style="list-style-type: none">* Same as the maternity leave policy (Paid for the first 60 days and unpaid for the remaining 30 days) in Article 75 of the Employment Act										
<ul style="list-style-type: none">- Spouse maternity leave (10 days of paid leave within 90 working days after childbirth)- 3 days of leave for subfertility / infertility treatment (Paid leave for the first day and unpaid for the remaining 2 days)- Provision of pregnant women's lounge and lactation room (Paid time-off for lactation of 30 minutes or longer provided twice a day)										
<table><tr><th>Pregnancy</th><th>Allowed frequency of leave request</th></tr><tr><td>Up to 28 weeks</td><td>Once per 4 weeks</td></tr><tr><td>From 29~36 weeks</td><td>Once per 2 weeks</td></tr><tr><td>After 37 weeks</td><td>Once per week</td></tr></table>	Pregnancy	Allowed frequency of leave request	Up to 28 weeks	Once per 4 weeks	From 29~36 weeks	Once per 2 weeks	After 37 weeks	Once per week		
Pregnancy	Allowed frequency of leave request									
Up to 28 weeks	Once per 4 weeks									
From 29~36 weeks	Once per 2 weeks									
After 37 weeks	Once per week									
Provision of in-house childcare facilities	<ul style="list-style-type: none">• To support employees good work / family balance, an in-house childcare center is provided at Changwon and Bundang.<ul style="list-style-type: none">- Specialized childcare programs / special activities by age group offered through education experts, including experts of child development									
Flexible working hours such as differing clock-in/out times	<ul style="list-style-type: none">• Differing clock-in/out times based on agreement with team leader (Options between starting work at 7, 8, 9, or 10 o'clock for 8-hour work day)• Operation of Remote Office at Dongdaemun Doosan Tower for employees in the Bundang / Dongtan metropolitan area to help improve work concentration, strengthen self-initiated work performance, and prevent loss of work time due to long commuting time• Part-time contract worker currently employed (1 person as of June 20, 2022)									
Financial support on treatment for subfertility / infertility	<ul style="list-style-type: none">• In the case of subfertility / infertility treatment, one-time financial support within the range of KRW 1 million is provided, in addition to the government subsidy.									
Support of medical expenses such as surgery for spouse / children	<ul style="list-style-type: none">• Financial support on surgeries for employees, their spouses and children<ul style="list-style-type: none">- In case of surgery / procedure due to illness or injury outside of work, and diagnosis of cancer, brain disease, cardiovascular disease, intractable disease, financial support of up to KRW 20 million, with no limit on minimum billing amount, is provided for the medical expenses (Applicable individually per employee, spouse and child)• Subsidy of 200,000 won per month is provided for offspring under the age of 20 who were diagnosed as a Grade 3 or higher disability level.									
Tuition support for children	<ul style="list-style-type: none">• Tuition support is provided to offspring of employees for pre-school, elementary school, high school and college education<ul style="list-style-type: none">- Fixed rate tuition support for elementary school students aged 3 years or older- Full support on admission fee, tuition and membership fees for middle and high school students- Support on admission fee and tuition for college students (up to 3 students)									
Provision of dormitories for children of employees who entered universities located in metropolitan area	<ul style="list-style-type: none">• Provision of apartment dormitories in Seoul area to provide housing convenience for children who have entered a four-year university in the metropolitan area among employees working in non-metropolitan areas (Doosan Dormitory, support for up to 2 years)									
Work-from-Home	<ul style="list-style-type: none">• Work-from-Home offered to those with need to prevent COVID-19 infections from those with infected family members or those who were in close contact, and to protect the particularly vulnerable people, such as pregnant employees and those with underlying ailments. (The formerly adopted rotational work-from-home scheme no longer practiced)									
Family Care (does not include paid parental leave)	<ul style="list-style-type: none">• Pursuant to the relevant laws, days-off for family care is permitted up to a max. of 10 days per year and leave of absence for family care is permitted up to a max. of 90 days per year. (However, if days-off for family care is used, these days will be included in the calculation of total leave of absence for family care.)									
Qualifications Allowance	<ul style="list-style-type: none">• Payment of incentives offered by the company as encouragement to those who acquired advanced technical qualifications specified by the company (fixed amount, one-time payment).• If the company uses or appoints it for various sales purposes, a monthly flat amount allowance is paid as set per qualification level.									

SAFETY & HEALTH GUIDELINES

Based on a people-centered management philosophy and technology used to enhance the value of the planet, Doosan Enerbility set up operational guidelines for the safety and health management system in accordance with the Doosan Credo and EHS policy. It is our aim to create an accident-free and eco-friendly workplace for our employees, partners, customers and local communities and to ensure the safety of our employees. To this end, we will focus on the continuous identification of on-site risk factors and prevention of disasters, carry out activities for disease prevention and health promotion, improve our safety and health management capabilities and promote safety awareness throughout our value chain, including at our headquarters, business sites and partner companies.

1 Safety & Health Goals and Management Policy Setup

We promote a business management policy that contains the management's goals for employees' safety and health and the commitment held for improvement of this area. We also set up and manage goals that can be used to assess the level of the safety and health management system. With regard to the management policy and goals, we listen to voices of the site workers to set a quantitative goal and have this disclosed so that it can be widely recognized and implemented. Pursuant to relevant laws and regulations, we report the results to the board of directors and go through the proper approval process.

2 Operation of Health & Safety Management System

The health and safety management system is established, documented, implemented and maintained based on the ISO 45001 requirements and management policies. For the sake of ensuring effective safety and health management at sites, the operating guidelines and standards to be complied with are clearly stipulated in the business manuals on goal management, risk assessment, learning & development, documentation/ data management and internal audits.

3 Participation of Workers

In principle, all information related to safety and health management should be disclosed. We are committed to ensuring the engagement of workers in all processes of the safety and health management system. To this end, we set up the Occupational Safety and Health Committee formed by representatives of workers and established a process where each employee can raise issues about safety and health and suggest improvement plans.

4 Identification, Removal, Replacement and Control of Risk Factors

We conduct risk assessments and determine acceptability by identifying risk factors, dangerous areas related to all activities, products and services, as well as dangerous machinery, instruments and facilities, and by conducting medical check-ups for workers. We define the targets that are subject to improvement, prioritize the countermeasures and devise an overall plan for removing, replacing or controlling the risks.

5 Preparation of Emergency Measures & Response to Emergencies

To minimize the damage to employees and financial loss in the event of an emergency caused by a production process, products, workers, equipment and service, we set up and operate an overall process that includes risk-specific emergency response planning, education and training and follow-up measures. We provide regular training by creating worst case scenarios and alternative scenarios.

6 Safety & Health Assurance for Subcontracting, Outsourcing and Consignment Cases

We ensure the safety and health of not only our employees, but also others who work at our sites. The safety and health level is evaluated in order to select suppliers with the ability to prevent industrial accidents. The contractual conditions necessary for the assurance of safety & health are specified in the EHS standard terms and conditions. We promote shared growth by regularly evaluating the safety and health activities and providing financial and technical support.

7 Evaluations and Improvements

We conduct internal audits to identify whether all activities for safety and health are carried out in accordance with the systematic and documented procedures. We evaluate the performance of the safety and health management system to facilitate the achievement of the safety & health goals. Accordingly, we continuously improve upon the effectiveness and efficiency by implementing corrective actions for incidents and non-conformities related to the health and safety management system.



ESG Data _ ENVIRONMENTAL PERFORMANCE DATA

* All environmental performance data was compiled based on data from Doosan Enerbility headquarters (Part of the data is from domestic sites)

REDUCTION OF ENERGY CONSUMPTION

Classification	Unit	2019	2020	2021
Introduction of high-efficiency facilities	TJ	38	21	16
Sub total	TJ	38	21	16

USE OF ENERGY

Classification	Unit	2019	2020	2021
Fossil fuels	MWh	469,466	342,456	368,253
Electricity	MWh	299,913	254,225	250,853
Sub total	MWh	769,379	596,681	599,149
Energy Use (Direct)	TJ	4,708	1,339	1,423
Energy Use (Indirect)	TJ	2,699	2,441	2,411
Energy Costs	KRW 1 million	60,310	50,010	50,206
Cost Reduction	KRW 1 million	2,415	2,750	830

TOTAL EXPENSES AND REVENUE FOR ENVIRONMENT

Classification	Unit	2019	2020	2021
Amount of environmental investment	KRW 1 million	2,200	623	3,040
Expense of cosigned waste treatment	KRW 1 million	1,759	1,378	1,865
Clean air	KRW 1 million	335	739	1,399
Water quality	KRW 1 million	297	216	646
Total environmental costs	KRW 1 million	4,591	2,956	6,950

Classification	Unit	2019	2020	2021
Sales revenue of waste	KRW 1 million	805	544	766

USE OF RAW MATERIALS

Classification		Unit	2019	2020	2021
Non-renewable raw materials	Scrap iron	Ton	120,300	78,915	77,368
	Recovered iron	Ton	64,462	41,432	41,486
	Chip	Ton	11,478	9,622	8,169
	Alloy steel	Ton	6,256	4,316	4,409
	Quicklime	Ton	7,742	5,294	5,259
	Fluorspar	Ton	874	725	649
	Lump coal	Ton	4,697	3,068	2,905
Total		Ton	215,809	143,372	140,245

RECYCLING OF RAW MATERIALS

Classification	Unit	2019	2020	2021
Recovered iron	Ton	64,462	41,432	41,486
Chip	Ton	11,478	9,622	8,169
Ratio of Recycled Raw Materials	%	35	36	35

QUANTITY TO TAKE FOR EACH SUPPLY SOURCE

Classification	Unit	2019	2020	2021
Surface layer water	Ton	0	0	0
Underground water	Ton	1,627	3,299	27,174
Rainwater	Ton	0	0	0
Wastewater from other business sites	Ton	0	0	0
Water system or other water supply system	Ton	1,201,208	942,262	985,282
Others	Ton	0	0	0
Total	Ton	1,202,835	945,561	1,012,456

RECYCLING AND REUSE OF WATER

Classification	Unit	2019	2020	2021
Quantity of Recycled Water	Ton	0	0	0
Quantity of alternative water	Ton	0	0	0

EMISSION OF GREENHOUSE GAS¹⁾

Classification	Unit	2019	2020	2021
Direct Emissions of Greenhouse Gas (Scope 1)	1,000 tCO ₂ eq	108.7	105.4	84.8
Direct Emissions of Greenhouse Gas (Scope 2)	1,000 tCO ₂ eq	142.9	123.9	115.5
Total	1,000 tCO ₂ eq	251.6	229.3	200.3

1) This is the data based on the date of publication of the integrated report in July 2022 and may be changed later according to the government's calculation standards.

SUBSTANCES DISCHARGED INTO AIR

Classification	Unit	2019	2020	2021
NOx Emission Amount	Ton	0	110	104
SOx Emission Amount	Ton	0	4	3
VOC (Volatile Organic Compound) Discharge Amount	Ton	32	29	28
HAP (Hazardous Atmosphere Pollutants) Discharge Amount	Ton	0	0	0
PM (Particulate Matter) Discharge Amount	Ton	12	8	8



WASTE DISCHARGE

Classification		Unit	2019	2020	2021
Hazardous Waste	Recycling (Recycle rate)	Ton	608 (15.7)	637 (21.4)	712 (24.5)
	Fertilization	Ton	0	0	0
	Incineration	Ton	430	305	301
	Landfill	Ton	2,813	2,035	1,894
	Others	Ton	0	0	0
	Total	Ton	3,851	2,977	2,907
General Waste	Recycling	Ton	50,732	36,865	32,747
	Fertilization	Ton	0	0	0
	Incineration	Ton	838	780	774
	Landfill	Ton	742	601	392
	Field Storage	Ton	0	0	0
	Others	Ton	0	0	0
	Total	Ton	52,312	38,246	33,913

WASTEWATER & RAINWATER DISCHARGE

Classification		Unit	2019	2020	2021
Name of Final Discharge Place for Wastewater		-	Deokdong Water Regeneration Center	Deokdong Water Regeneration Center	Deokdong Water Regeneration Center
Treatment Method for Wastewater		-	Physical & Chemical Treatment, etc.	Physical & Chemical Treatment, etc.	Physical & Chemical Treatment, etc.
Discharged Amount of Wastewater (A)		Ton	144,348	94,469	84,565
Name of Final Discharge Place for Rainwater		-	Masan Bay, etc.	Masan Bay, etc.	Masan Bay, etc.
Treatment Method for Wastewater		-	Silt Protector, etc.	Silt Protector, etc.	Silt Protector, etc.
Discharged Amount of Rainwater (B)		Ton	3,059,804	3,225,230	3,311,920
Total Discharged Amount of Wastewater & Rainwater (A)+(B)		Ton	3,204,152	3,319,699	3,396,485
Water Quality of Discharged Wastewater	COD	mg/l	9.9	9.9	9.1
	SS	mg/l	3.8	3.8	3.8
	N-H	mg/l	1.0	0.7	0.2
	Fe	mg/l	0.1	0.2	0.1
	T-N	mg/l	1.6	1.8	3.8
	T-P	mg/l	0.2	0.2	0.1
Water Quality of Discharged Rainwater	COD	mg/l	3.1	3.0	3.9
	SS	mg/l	1.9	4.8	4.2
	T-N	mg/l	0.9	1.0	1.1
	T-P	mg/l	0.0	0.6	0.1

HAZARDOUS CHEMICALS DISCHARGE

Classification	Unit	2019	2020	2021
Number of Substances ¹⁾	EA	3	3	3
Amount of Hazardous Chemicals Used	Ton	229	131	137

1) No hazardous chemicals leaked during 2019-2021

PURCHASING ECO-FRIENDLY PRODUCTS

Classification	Unit	2019	2020	2021
Purchased Amount	KRW 1 million	22,737	21,037	37,340

VIOLATION OF ENVIRONMENTAL LAWS

Classification	Unit	2019	2020	2021
Number of environmental incidents	Cases	0	0	4
Fine imposed due to incidents	KRW 1 million	0	0	5

ENVIRONMENTAL GUIDELINES

Following our people-first management philosophy and technology, Doosan Enerbility is committed to environmental protection. In this regard, Doosan Enerbility has established environment guidelines in alignment with our Doosan Credo. They contain company policies on environmental management and protection, internal protocols for working together to protect the environment, along with employees, partners, customers, and local communities. Doosan Enerbility has implemented the following measures in order to reduce the environmental impact of our business activities.

Environmental Management of Production and Business Sites For effective environmental management of production and business facilities, Doosan Enerbility has established 12 procedures of goal management, education and training, documents and records, and internal evaluation, as well as 40 instructions related to the environmental impact assessment, atmospheric environmental management, and waste management.	Waste Management Doosan Enerbility has implemented a waste management system encompassing the entire waste management process, from generation to final disposal. Through this, Doosan Enerbility defines the application range, terminologies, and responsibilities and authorities for the generation, collection, disposal, and inspection of waste, as well as consigned contracts and monitoring. Guidelines are also provided regarding waste recycling.
Selection & Continuous Evaluation of Suppliers, Partner Companies and Service Providers Doosan Enerbility conducts regular evaluations (twice annually) of the EHS management of partner companies. Evaluation results are utilized to provide incentives and impose penalties on partner companies. In addition, Doosan Enerbility conducts regular training for partner companies regarding EHS, particularly concerning the environmental standards and laws. Through such training, which is delivered through the consultation committee (comprised of partner company chairs), Doosan Enerbility reduces EHS risks throughout its entire supply chain.	Engineering and Maintenance Doosan Enerbility has established an environmental manual in order to minimize the occurrence of environmental pollution when operating, maintaining, and repairing power plants installed by Doosan Enerbility. The aim is to fundamentally prevent environmental pollution due to abnormal operation. This manual, which is adapted to the characteristics of each power plant, helps Doosan Enerbility minimize environmental impact related to the operation of power plants.
Development of Products and Services Doosan Enerbility acknowledges both the crisis and opportunity presented by climate change and other diverse environmental issues. Accordingly, Doosan Enerbility actively pursues R&D to develop products and services which can minimize the environmental impact of Doosan Enerbility's business activities.	New Projects Doosan Enerbility has a Project Environmental Plan which sets forth detailed methods of assessing environmental management before launching a new project. The Project Environmental Plan covers project policies related to water supply and waste discharge requirements, hazard substance management, and air pollution control.
Logistics Doosan Enerbility has a set of operational guidelines set up to minimize the environmental pollution caused by its logistics process. A business manual was drawn up using best practices identified for each stage of the logistics process, from the price quotation to preliminary assessment, selection of logistics company, signing of contract, delivery (via land, barge, air) to cargo insurance.	Preliminary Due Diligence for M&As Doosan Enerbility identifies environmental risks by conducting preliminary due diligence on companies before mergers & acquisitions. Major evaluation items include pollution of soil and underground water, asbestos, hazardous chemicals, environmental pollution prevention facility, and greenhouse gas management. The evaluation results are considered an important factor at the time of acquisition and merger.
Preservation of Biodiversity Doosan Enerbility strives to protect and manage the creatures that need to be preserved in the area where they live. Through the environmental impact assessment, we fulfill our obligation to take measures to protect the ecosystem and push ahead with protection activities for the designated protected species. We conduct monitoring to minimize and mitigate environmental changes and share the monitoring results with the client to systematically manage the changes.	Deforestation Prevention Doosan Enerbility is working to protect and restore the forests of its business sites and nearby communities. Based on EMS (EHS Management System), we comply with laws and regulations, carry out protection and investment activities, and conduct corporate-wide monitoring on a regular basis. When necessary, we manage the risk of deforestation through the participation of partners and specialized companies.

Implementation of Sustainable Management based on UN SDGs

Doosan Enerbility has set goals for 2030 by selecting water, energy, climate change response, health, and education as five core areas among the 17 goals of the UN SDGs. Since the establishment of the SDGs Commitment in 2017, we have been steadily promoting activities to achieve the goals. In line with the transition of our eco-friendly business portfolio, we will carry out activities to increase access to sustainable and modern energy through market expansion in gas turbine, renewable energy, hydrogen and small modular reactors (SMR).

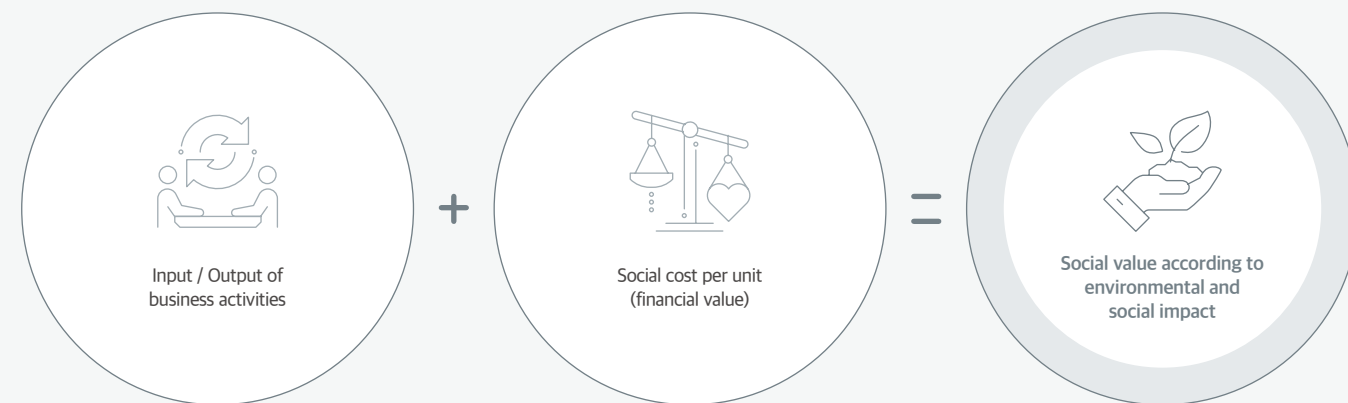
Goal	Environment	Commitment
<div><div><div>6</div><div>CLEAN WATER AND SANITATION</div></div><div><div>Increase water reserves</div></div></div>	<div><div>SDG 6. Clean water and sanitation</div><div>Ensure availability and sustainable management of water and sanitation for all (6.1 / 6.3)</div></div>	<div><div>By 2030, we will increase the water reserves of the Arabian Peninsula by more than 10% (2 billion tons) compared to BAU through the Water project, thereby continuously expanding the supply of water to water-scarce areas worldwide.</div></div>
<div><div><div>7</div><div>AFFORDABLE AND CLEAN ENERGY</div></div><div><div>Ensure sustainable energy access</div></div></div>	<div><div>SDG 7. Sustainable energy</div><div>Ensure access to affordable, reliable, sustainable and modern energy for all(7.1 / 7.2 / 7.3)</div></div>	<div><div>By 2030, we will increase the global supply of eco-friendly power generation by more than 6% (40GW) compared to BAU with high-efficiency eco-friendly power generation technology, and contribute to diversifying the energy mix by promoting energy technologies such as high-efficiency gas turbines, wind power generation and ESS.</div></div>
<div><div><div>13</div><div>CLIMATE ACTION</div></div><div><div>Reduce greenhouse gas emissions</div></div></div>	<div><div>SDG 13. Climate change action</div><div>Implement urgent action to tackle climate change and its impacts (13.1)</div></div>	<div><div>By 2030, we will reduce greenhouse gas emissions from business processes in Korea by 15% (40,000 tons*) compared to 2017, and continue to develop technologies to respond to climate change to reduce greenhouse gases.</div></div>
<div><div><div>3</div><div>GOOD HEALTH AND WELL-BEING</div></div><div><div>Expand disease prevention and treatment</div></div></div>	<div><div>SDG 3. Health and welfare</div><div>Ensure healthy lives and promote well-being for people of all ages (3.4)</div></div>	<div><div>By 2030, we will supply basic medicines to 80,000 underprivileged people in countries, including Vietnam and India, and support local medical care to contribute to the improvement of global health standards.</div></div>
<div><div><div>4</div><div>QUALITY EDUCATION</div></div><div><div>Nurture local talent</div></div></div>	<div><div>SDG 4. Quality education</div><div>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (4.4)</div></div>	<div><div>By 2030, through the “Youth Energy Project,” a flagship CSR program, we will provide 50,000 underprivileged children and adolescents with education and career experience opportunities customized for each stage of growth, thereby contributing to nurturing local talents.</div></div>

Creation of Social Value

We plan to continuously increase the positive impact not only on the financial value generated through our business, but also on the social and environmental aspects of our business activities. To this end, Doosan Enerbility is upgrading the system that converts social and environmental impacts into financial values. The resulting value calculated through social value measurement is defined as the social value created by Doosan Enerbility. We will continue to expand business activities that have a positive impact and promote improvement initiatives that are aimed at reducing business activities with negative impact.

How to measure social value

We measured the social value created by Doosan Enerbility in 2021 based on the input / output data of business activities and domestic and foreign statistical/research data, which were converted into financial value.



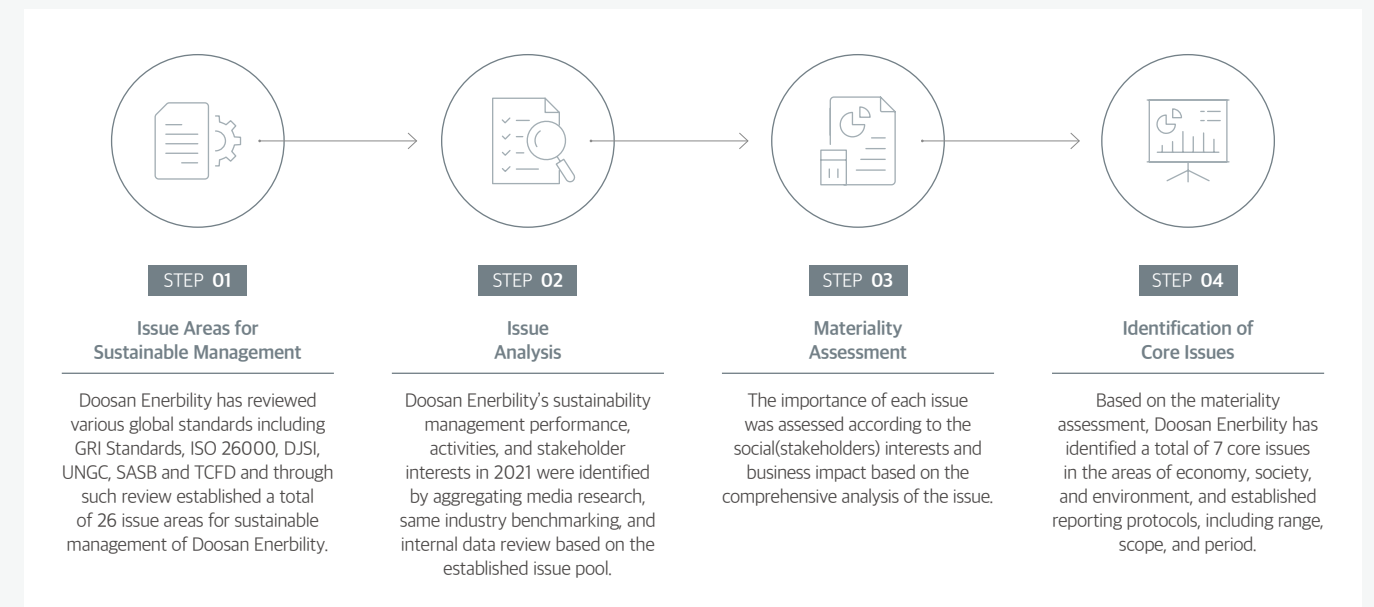
Social Value Measurement Results

(Unit: KRW 100 million)

Value Measurement Items	Environment		Social		Economy	
	Greenhouse gas impact	-	Employee impact	+	Shareholder dividend	+
	Water impact	-	Safety accident impact	-	Investor interest	+
	Waste impact	-	Partner impact	+	Government tax	+
	Atmospheric environmental impact	-	Community investment	+		
Social Value Measurement Results		-127		3,084		4,645
Total Social Value						7,602

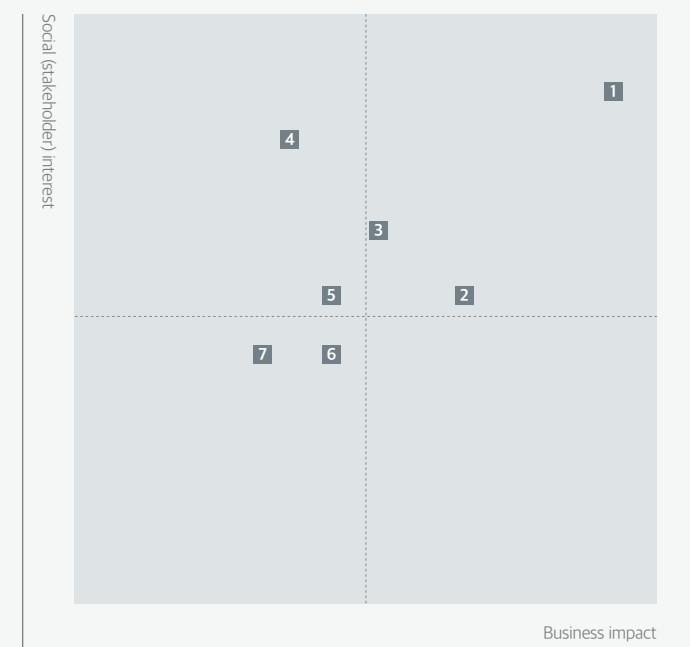
MATERIALITY ASSESSMENT

Doosan Enerbility conducts an annual materiality assessment to identify issues of significant concern to stakeholders, as well as major issues that could have a large impact on the performance. The items to be evaluated in the Materiality Assessment were identified from a pool of collected issues based on international standards, media research and stakeholders' requests. Doosan Enerbility discloses the results through a general report and considers stakeholder concerns in the decision-making and management process. The issues identified through the materiality assessment have been diligently disclosed in the Integrated Report of Doosan Enerbility.



Core Issues in 2021

Type	Core Issues (7)	Integrated Report Contents	Page
E S	1 Coping with climate change	Environmental • Coping with climate change	48-50
	5 Reduction in waste and hazardous chemicals disposal	Environmental • Environmental efficiency management	51-53
	3 Strengthening safety management	Social • Safety-health management	64-69
	6 Respect for employee diversity and ban on discrimination (Elimination of discrimination by age, gender, ethnic and culture)	Social • Human rights management	56-59
	7 Strengthening sustainability of partner companies and supporting their improvement + Shared growth	Social • Shared growth • Supply chain management	70-73
G	2 New Business centered-portfolio management	Our New Strategy • Acceleration of Portfolio Transition	10-15
	4 Technical innovation and R&D investment	Our Business Value & Creation • New business overview	34-37









STAKEHOLDER ENGAGEMENT

Stakeholders' Communication Channels

Classification System & Communication Channels

Doosan Enerbility defines the following major stakeholder groups: Shareholders, customers, employees, partner companies, the local community, government, and competitor companies. Doosan Enerbility actively communicates with these different stakeholder groups through various communication channels and considers their feedback to make improvements to the company operations.

<div><div>Shareholders</div><div>Doosan Corp., Foreign investors, Institutional investors, Minority shareholders</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>IR</td><td>As necessary</td></tr><tr><td>Conference</td><td>As necessary</td></tr><tr><td>Overseas NDR(Non-Deal-Roadshow)</td><td>As necessary</td></tr></table>	Communication Channel	Times of Operation	IR	As necessary	Conference	As necessary	Overseas NDR(Non-Deal-Roadshow)	As necessary	<div><div>Local Community</div><div>Local residents, Schools, Research institutions, NGOs</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>Joint programs with social welfare center & local children's welfare center</td><td>Monthly</td></tr><tr><td>Doosan Day of Community Service</td><td>Once a year</td></tr><tr><td>Consultative groups of Doosan Enerbility's Social Volunteer Group</td><td>Monthly, frequent</td></tr><tr><td>Doosan Enerbility Communication Consultation Committee with Local Community (Woongnam-dong)</td><td>Semi-annual, frequent</td></tr><tr><td>Social contribution-related agencies (Gyeongnam Province, Changwon City, beneficiary agency)</td><td>Frequent</td></tr><tr><td>Workshop for leaders of social contribution from enterprises in Gyeongnam Province</td><td>Once a year</td></tr><tr><td>Consultation Committee for Local Community Contribution</td><td>Frequent</td></tr><tr><td>Ocean Plant Design Study Group</td><td>Semi-annual</td></tr></table>	Communication Channel	Times of Operation	Joint programs with social welfare center & local children's welfare center	Monthly	Doosan Day of Community Service	Once a year	Consultative groups of Doosan Enerbility's Social Volunteer Group	Monthly, frequent	Doosan Enerbility Communication Consultation Committee with Local Community (Woongnam-dong)	Semi-annual, frequent	Social contribution-related agencies (Gyeongnam Province, Changwon City, beneficiary agency)	Frequent	Workshop for leaders of social contribution from enterprises in Gyeongnam Province	Once a year	Consultation Committee for Local Community Contribution	Frequent	Ocean Plant Design Study Group	Semi-annual																
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<div><div>Customers</div><div>Domestic public power company, Domestic private power company, Overseas clients</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>Road show</td><td>As necessary</td></tr><tr><td>Technology presentation</td><td>As necessary</td></tr><tr><td>VOC (Voice of Customer)</td><td>Frequent</td></tr><tr><td>Safety education for private power generation company</td><td>As necessary</td></tr><tr><td>Technology exchange & seminars</td><td>Once or twice a year</td></tr><tr><td>Emergency action team & call center for power generation interruptions</td><td>As necessary</td></tr><tr><td>Customer Satisfaction Survey</td><td>Once a year</td></tr><tr><td>KHNP's Security Council of Partner Company</td><td>Semi-annual</td></tr></table>	Communication Channel	Times of Operation	Road show	As necessary	Technology presentation	As necessary	VOC (Voice of Customer)	Frequent	Safety education for private power generation company	As necessary	Technology exchange & seminars	Once or twice a year	Emergency action team & call center for power generation interruptions	As necessary	Customer Satisfaction Survey	Once a year	KHNP's Security Council of Partner Company	Semi-annual	<div><div>Government</div><div>Central government, Local government, Related agencies</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>Shared Growth Committee</td><td>Frequent</td></tr><tr><td>Fair Trade Commission</td><td>Frequent</td></tr><tr><td>FKILSC</td><td>As necessary</td></tr><tr><td>SMEs Agriculture & Fishery Cooperation Foundation</td><td>As necessary</td></tr><tr><td>KEITI</td><td>As necessary</td></tr><tr><td>Safety & Health Innovation Leader Forum</td><td>Every quarter</td></tr><tr><td>PSM Consultation</td><td>Every quarter</td></tr><tr><td>Fine Dust Reduction Voluntary Agreement</td><td>Semi-annual</td></tr><tr><td>Fire Prevention Development Consultation</td><td>Monthly</td></tr><tr><td>Gyeongnam Province & Changwon City</td><td>As necessary</td></tr><tr><td>Gyeongnam Environmental Engineers Association</td><td>Semi-annual</td></tr></table>	Communication Channel	Times of Operation	Shared Growth Committee	Frequent	Fair Trade Commission	Frequent	FKILSC	As necessary	SMEs Agriculture & Fishery Cooperation Foundation	As necessary	KEITI	As necessary	Safety & Health Innovation Leader Forum	Every quarter	PSM Consultation	Every quarter	Fine Dust Reduction Voluntary Agreement	Semi-annual	Fire Prevention Development Consultation	Monthly	Gyeongnam Province & Changwon City	As necessary	Gyeongnam Environmental Engineers Association	Semi-annual
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<div><div>Employees</div><div>Employees at Headquarters, Employees at overseas branch offices, Employees of overseas subsidiaries</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>Industry Safety & Health Committee</td><td>Every quarter, frequent</td></tr><tr><td>Labor-Management Consultation</td><td>Every quarter</td></tr><tr><td>Education for employee(s) dispatched to overseas field sites</td><td>As necessary</td></tr><tr><td>Statutory education for safety & health</td><td>Regular</td></tr><tr><td>Management Status Presentation</td><td>Every quarter</td></tr><tr><td>CTO Meeting</td><td>5 times or more a year</td></tr><tr><td>Security Council</td><td>Frequent</td></tr></table>	Communication Channel	Times of Operation	Industry Safety & Health Committee	Every quarter, frequent	Labor-Management Consultation	Every quarter	Education for employee(s) dispatched to overseas field sites	As necessary	Statutory education for safety & health	Regular	Management Status Presentation	Every quarter	CTO Meeting	5 times or more a year	Security Council	Frequent	<div><div>Competitors</div><div>Manufacturer of Power Generation Facilities,, Desalination Company, Water Treatment Plant</div></div> <table><tr><th>Communication Channel</th><th>Times of Operation</th></tr><tr><td>Construction Safety Department Heads Consultation</td><td>Every quarter</td></tr><tr><td>Construction Safety Hands-on Workers Consultation</td><td>Every quarter</td></tr><tr><td>Health Managers Consultation</td><td>Every quarter</td></tr><tr><td>Leader's Meeting for Chairs of Construction Companies for Safety & Health</td><td>Once a year</td></tr><tr><td>Executives and General Managers' Meeting for Safety & Health</td><td>Every quarter</td></tr><tr><td>Technology Exchange Group</td><td>As necessary</td></tr></table>	Communication Channel	Times of Operation	Construction Safety Department Heads Consultation	Every quarter	Construction Safety Hands-on Workers Consultation	Every quarter	Health Managers Consultation	Every quarter	Leader's Meeting for Chairs of Construction Companies for Safety & Health	Once a year	Executives and General Managers' Meeting for Safety & Health	Every quarter	Technology Exchange Group	As necessary												
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Doosan Enerbility Operation Committee	Monthly																																										

GRI Content Index

Universal Standard (GRI100)

Topic	No.	Title	Page	Remarks
Organizational Profile	102-1	Name of organization	4, 5	
	102-2	Activities, brands, products, and services	24-45	
	102-3	Location of headquarters	4	
	102-4	Location of operations	Business reports, 5	Status quo of the consolidated subsidiaries 457p
	102-5	Ownership and legal form	Business reports	Shareholder agenda 419p
	102-6	Markets served	4, 5	
	102-7	Scale of the organization	4	
	102-8	Information on employees and other workers	73, 96	
	102-9	Supply chain	5	
	102-10	Significant changes to the organization and its supply chain	94, 95	
	102-11	Precautionary Principle or approach	87-89	
	102-12	External initiatives	122	
	102-13	Membership of associations	122	
Strategy	102-14	Statement from senior decision-maker	3	
	102-15	Key impacts, risks, and opportunities	3	
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	82-84	
	102-17	Mechanisms for advice and concerns about ethics	82-84	
Governance	102-18	Governance structure	90, 91	
	102-19	Delegating authority	16-19	
	102-20	Executive-level responsibility for economic, environmental, and social topics	16-19	
	102-21	Consulting stakeholders on economic, environmental, and social topics	16-19	
	102-22	Composition of the highest governance body and its committees	90, 91	
	102-23	Chair of the highest governance body	90, 91	
	102-24	Nominating and selecting the highest governance body	90, 91	
	102-26	Role of highest governance body in setting purpose, values, and strategy	90, 91	
	102-29	Identifying and managing economic, environmental, and social impacts	16-19	
	102-30	Effectiveness of risk management processes	87-89	
	102-31	Review of economic, environmental, and social topics	90, 91	
	102-33	Communicating critical concerns	87-89	
	102-34	Nature and total number of critical concerns	90, 91	
	102-35	Remuneration policies	90, 91	
	102-36	Process for determining remuneration	63	



Topic	No.	Title	Page	Remarks
Stakeholder Participation	102-40	List of stakeholder group	114	
	102-41	Collective bargaining agreements	98	
	102-42	Identifying and selecting stakeholders	114	
	102-43	Approach to stakeholder engagement	114	
	102-44	Key topics and concerns raised	113	
Reporting Practice	102-45	Entities included in the consolidated financial statements	Business Reports	status quo of the consolidated subsidiaries 457p
	102-46	Defining report content and topic Boundaries	About this report, Content	
	102-47	List of material topics	113	
	102-48	Restatements of information	About this report, Content	
	102-49	Changes in reporting	113	
	102-50	Reporting period	About this report	
	102-51	Date of most recent report	About this report	
	102-52	Reporting cycle	About this report	
	102-53	Contact point for questions regarding the report	About this report	
	102-54	Claims of reporting in accordance with the GRI Standards	About this report	
	102-55	GRI Index	115, 116	
	102-56	External Assurance	120, 121	

Topic-Specific Standards

Economic Standard (GRI200)

Topic	No.	Title	Page	Remarks
Economic Performance	201-1	Direct economic value generated and distributed	94, 95	
	201-3	Defined benefit plan obligations and other retirement plans	Business Reports	Retirement Benefit Debt 126, 254p
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	101	
Anti-corruption	205-3	Confirmed incidents of corruption and actions taken	100	
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	100	

Environment Standard (GRI300)

Topic	No.	Title	Page	Remarks
Energy	302-1	Energy consumption within the organization	106	
	302-4	Reduction of energy consumption	106	
	302-5	Reductions in energy requirements of products and services	106	
Water	303-1	Interactions with water as a shared resource	107	
	303-2	Management of water discharge-related impacts	52	
	303-3	Water withdrawal	107	
	303-4	Water discharge	108	
	303-5	Water consumption	108	
Biodiversity	304-2	Significant impacts of activities, products, and services on biodiversity	88, 89	
Emissions	305-1	Direct (Scope 1) GHG emissions	107	
	305-2	Energy indirect (Scope 2) GHG emissions	107	

Social Standard (GRI400)

Topic	No.	Title	Page	Remarks
Employment	401-1	New employment & transfer	97	
	401-3	Parental leave of absence	99	
Occupational Health and Safety	403-2	Risk factor identification, risk assessment, accident investigation	64-69, 87, 88	
Training and Education	404-1	Average hours of training for each employee	97	
Diversity and Equal Opportunity	405-1	Governance & Diversification of Employees	96, 97	
Human Rights Assessment	412-1	Business sites for review or evaluation on human rights	56-58	
Socioeconomic Compliance	419-1	Violations of social and economic laws and restrictions	100	



SASB Index

Sustainability Disclosure Topics & Accounting Metrics

Topic	Code	Title	Page	Remarks
Energy Management	RT-EE 130a.1	(1) Total energy consumed	106	
		(2) Percentage grid electricity	-	
		(3) Percentage renewable	-	
Hazardous Waste Management	RT-EE 150a.1	(1) Amount of hazardous waste generated	108	
		(2) Percentage recycled	108	
	RT-EE 150a.2	(1) Number of reportable spills	108	
		(2) Aggregate quantity of reportable spills	108	
		(3) Quantity recovered	108	
Product Safety	RT-EE-250a.1	(1) Number of recalls issued	102	
	RT-33-250a.2	(2) Total units recalled	102	
Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	-	
	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	-	
	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	26, 27	
Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	24-45	
Business Ethics	RT-EE-510a.1	(1) Corruption and bribery	82-84	
		(2) Anti-competitive behavior	82-84	
	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	100	
	RT-EE-510a.3	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	100	

Activity Metrics

Code	Accounting Metrics	Page	Remarks
RT-EE 000.A	Number of units produced by product category	24-45	
RT-EE-000.B	Number of employees	96	

TCFD Index

Classification	Details	Page
Governance	a) Describe the board's oversight of climate-related risks and opportunities	48, 49
	b) Describe management's role in assessing and managing climate-related risks and opportunities	48, 49
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	48, 49
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	48, 49
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	50
Risk management	a) Describe the organization's processes for identifying and assessing climate-related risks	49, 50
	b) Describe the organization's processes for managing climate-related risks	49, 50
	c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management	49, 50
Metrics and targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	50-53
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions and the related risks	50
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	50-53

UN Global Compact

As a member of the UN Global Compact since 2014, Doosan Enerbility complies with the ‘Ten Principles of the United Nations Global Compact,’ which covers human rights, labor, environment and anti-corruption. Doosan Enerbility has adopted international standards on socially responsible management and confirms its commitment to becoming a leading global enterprise, as well as a model company representing South Korea, for sustainable socially-responsible business operations.

10 Principles			Page
Human Rights	Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	56-58
	Principle 2	Ensuring that they are not complicit in human rights abuses.	56-58
Labor	Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	56
	Principle 4	The elimination of all forms of forced and compulsory labor;	56
	Principle 5	The effective abolition of child labor	56
	Principle 6	The elimination of discrimination in respect of employment and occupation.	56
Environment	Principle 7	Businesses should support a precautionary approach to environmental challenges;	48-53
	Principle 8	Undertaking initiatives to promote greater environmental responsibility;	48-53
	Principle 9	Encouraging the development and diffusion of environmentally friendly technologies.	48-53
Anti-Corruption	Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery	72, 82-84

THIRD PARTY ASSURANCE STATEMENT

Dear Stakeholders of Doosan Enerbility

Korean Foundation for Quality (further ‘KFQ’) has been requested by Doosan Enerbility to conduct an independent assurance on the 2022 Integrated Report for Doosan Enerbility (further ‘the Report’). KFQ has responsibility to provide an independent assurance statement in accordance with the standards and scope of assurance as specified below. Doosan Enerbility has sole responsibility for the preparation of the Report.

Standard and Scope of Assurance

- Standards : AA1000AS (v3), AA1000AP (2018)
- Type : Type 1 [covers the assessment of adherence to the Accountability principles of inclusivity, materiality, responsiveness, and impact.]
- Level : Moderate [limited evidence has been obtained to support our assurance statement]
- Scope : GRI Standards (2020) Core option
- Reporting Principles
- Universal Standards
- Topic Specific Standards

<ul style="list-style-type: none">• Economic Performance : 201-1, 201-3• Emissions : 305-1, 305-2• Indirect Economic Impact : 203-1• Employment : 401-1, 401-3• Anti-Corruption : 205-3• Occupational Health and Safety : 403-2• Anti-competitive Behavior : 206-1	<ul style="list-style-type: none">• Training and education : 404-1• Energy : 302-1, 302-4, 302-5• Diversity and Equal Opportunity : 405-1• Water and Effluents : 303-1, 303-2, 303-3, 303-4, 303-5• Human Rights Assessment : 412-1• Biodiversity : 304-2• Socioeconomic Compliance : 419-1
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Methodology

In order to assess the reliability of disclosures about the sustainability performance in the Report by applying the standards, we reviewed sustainability-related processes, systems, internal control procedures, and available data. The documentation reviewed during the assurance engagement includes:

- Non-financial information e.g., data provided to us by Doosan Enerbility, disclosed Business Reports, the previous sustainability report, and information obtained from media and/or the internet; and
- Financial information i.e., Financial statements reported on the DART (Data Analysis, Retrieval and Transfer System, <http://dart.fss.or.kr>), the Electronic Disclosure System managed by Financial Supervisory Service.

The assessment was performed by document review and inspection through teleconference. We interviewed employees who are responsible to prepare the Report, where we evaluated the validity of the materiality assessment processes, a stakeholder-centric approach to select material issues, data collection and management procedures, report preparation procedures, and validation of claims stated in the report. It was confirmed that errors, inappropriate information, and ambiguous expressions identified during the assessment were properly corrected prior to the Report being published.

Competency and independence

The assurance team was organized in accordance with KFQ’s internal regulations. KFQ has no conflict of interest which could threaten the independence and impartiality of verification, other than providing third-party audit services to the Doosan Enerbility’s business.

Limitations

The completeness and responsiveness of sustainability performance in the Report has inherent limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, assessment is conducted based on provided data and information without verification for original data of specified performance information which is out of assurance scope.

Findings and Conclusions

As a result of the above assessment, we confirm that the content of the Report fulfills the requirements of the ‘Core option’ of GRI Standards and secured reasonable basis to assurance level of Type 1 in accordance with AA1000AS (v3). Within the scope of the assurance activities above, we could not find further significant error or inappropriate information from the final Report against the following principles:

- **Inclusivity** | Doosan Enerbility is gathering opinions from various stakeholders including shareholders and investors, customers, employees, and government through communication channels such as Web Page, Satisfaction Survey, Employee Meeting, Operating Committee, Training and Board of Directors. Nothing came to our attention to suggest that the main stakeholders are not stated in the Report.
- **Materiality** | Doosan Enerbility identifies important issues by conducting a materiality assessment in terms of stakeholders’ Interests and business impacts, followed by prioritization. It is confirmed that the Report properly describes the identified issues resulting from the materiality assessment without any omission.
- **Responsiveness** | Doosan Enerbility consistently engages with stakeholders to respond to their feedback and main interests. Nothing came to our attention to suggest that its responses and performance are inappropriately described in the Report.
- **Impact** | Doosan Enerbility is identifying and monitoring impacts relating to stakeholders and reporting them to the extent possible. Nothing came to our attention to suggest that it does not properly assess and report impacts relating to material issues.

Recommendation for improvement

KFQ recommends following developmental approaches in order to systematize sustainability management in the future and to disclose results of the report effectively.

- Through the activities of the ESG committee reorganized in 2022, we look forward to seeing tangible results in improving the environment, society, and governance of Doosan Enerbility
- In the future, it is expected that the diversity and economic, environmental, and social-related expertise and experience criteria of Doosan Enerbility’s Board of Directors selection criteria will be reflected in actual selection results.

July, 2022
Seoul, Korea

Ji Young Song, CEO
Korean Foundation for Quality (KFQ)

Ji Young Song

MEMBERSHIP STATUS

Standard	List of Associations
Common	Korea New & Renewable Energy, World Energy Council Korean Member Committee, Korea Plant Industries Association, The Korean Society of Mechanical Engineers, Korea association of Machinery Industry, Korea Association of Standards & Testing Organization, The Korean Society of Combustion, Korea Industrial Technology Association, Korea Chamber of Commerce and Industry, Korea Enterprises Federation, Korea International Trade Association , Korea Management Association, Korea Arab Society, Fair Competition Federation, UN Global Compact Network Korea, Carbon Disclosure Project, Korea Listed Companies Association, Korea Intellectual Property Assoc., Korea Intellectual Property Assoc, Korean Society for Prognostics and Health Management, Korea Customs Logistics Assoc., Korea AEO Assoc., Energy Alliance, Korea Plant Industries Assoc.
New business	HZKOREA, Green Ammonia Consultative Body, Korea H2 Business Summit
Plant EPC	Construction Association of Korea, Korea Mech. Const. Contractors Association, Korea Housing Builders Association, Korea Electrical Contractors Association, Korea Information & Communication Contractors Association, Korea Fire Facility Association, Korea Construction transport New technology Association, Korea Federation of Construction Contractors, International Desalination Association, KPDA, Korea Egypt Economic Cooperation Council, International Contractors Assoc. of Korea
Power Generation	Korea Institute of Electrical Engineers, Korean Society of Mechanical Engineers, Korea Society for Fluid Machinery, Korea Wind Energy Industry Assoc., Korea Wind Energy Assoc., Jeonnam Wind Power Assoc., Energy Transition Forum Korea
Nuclear Power	Korea Atomic Industrial Forum, Korea Nuclear Association for International Cooperation, Korean Nuclear Society, Korean Radioactive Waste Society, Korea Nuclear Equipment Advancement Association, Korea Hydro Power Industry Association, Korean Society of Pressure Vessels and Piping, Korea Defense Industry association, Korean Society for Fluid Machinery
Quality	Korean Society for Nondestructive Testing, National Quality Master Assoc., Korean Master Hand Assoc., NIAC

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