

SUSTAINABILITY REPORT 2023

GS ENERGY

ABOUT THIS REPORT

GS Energy is publishing this third sustainability report in 2024 to transparently disclose our activities and achievements in the area of sustainable management to our stakeholders.

Reporting Principle

This report follows the Global Reporting Initiative (GRI) standards, and referred to the Sustainability Accounting Standards Board (SASB) standards to include essential information about sustainable management based on industry characteristics. The financial information in this report is presented on a consolidated basis and complies with the Korean International Financial Reporting Standards (K-IFRS).

Reporting Scope

This report covers GS Energy and its subsidiaries, with specific information marked when the reporting scope differs. For quantitative environmental performance, the GHG emissions data include data from joint ventures and associates.

* Subsidiaries: GS Power, Incheon Total Energy, With Incheon Energy, GS CHARGEV

** Joint ventures & associates: GS Caltex, Boryeong LNG Terminal, Shin Pyeongtaek Power, Dongducheon Dream Power, Lotte GS Chemical

Reporting Period

The report covers GS Energy's sustainable management activities and performance from January 1 to December 31, 2023. It also includes some information from the first half of 2024. The report presents quantitative performance data from 2021 to 2023 to track trends over the past three years.

Reporting Cycle

Annual (last report was published in July 2023)

Reporting Assurance

The Korea Management Registrar, an independent assurance institute, verified this report in accordance with AA1000AS v3 and AA1000AP (2018).

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Cautionary Note Regarding Forward-looking Statements

This report may contain predictions, expectations, and estimates, in addition to details of both current and past sustainable management activities and performance at GS Energy. These can be identified by the use of words such as “prospect,” “expect,” “anticipate,” “plan,” “target,” “to be” or other comparable terms. They are based on assumptions, forecasts, and expectations that we believe to be reasonable at the time of reporting. These forward-looking statements involve both known and unknown risks and uncertainties that may cause actual results to be materially different from those projected. We do not guarantee the accuracy or completeness of these judgements, estimates, or assumptions, and undertake no duty and have no obligation to update or revise any forward-looking statements or their underlying information. Please be advised that this report should not be considered as a basis for legal liability regarding investment outcomes under any circumstances.

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Interactive User Guide

GS Energy's Sustainability Report has been created as an interactive PDF to enhance the reader's convenience and understanding. It includes icons that provide easy navigation to relevant pages and shortcuts to related web pages.



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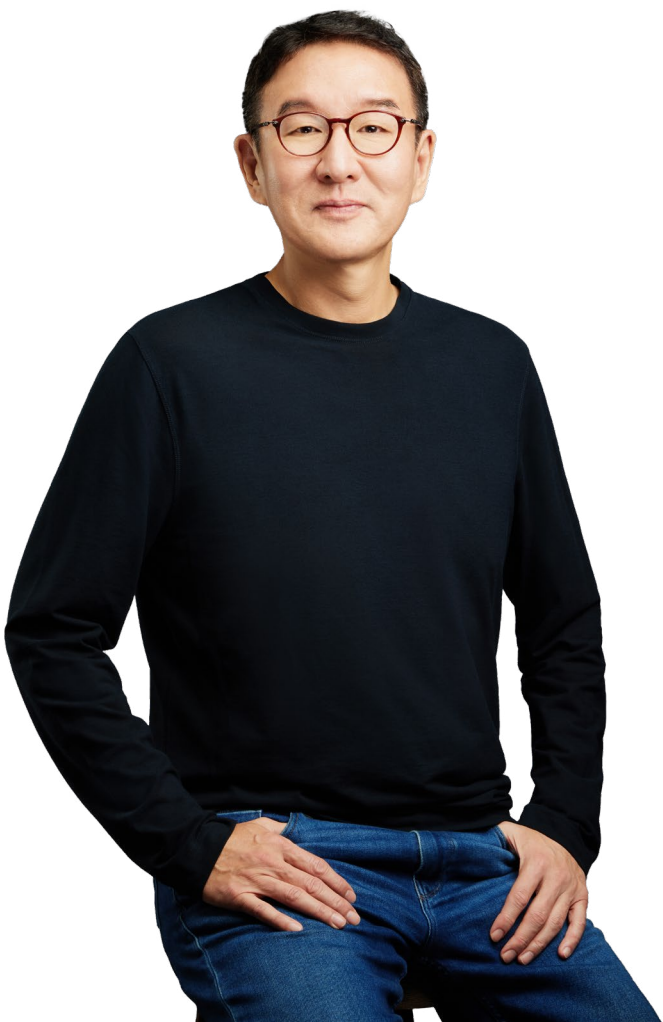


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MESSAGE FROM THE CEO



Dear Stakeholders,

I am pleased to present you with GS Energy's Sustainability Report for 2023. But before I start, I would like to extend my sincere gratitude to you for your unwavering interest and support.

Journey of Innovation and Growth

Despite the global economy's uncertainty and the many challenges of last year, we achieved remarkable accomplishments and saw continued growth. While exceeding our goals in core businesses such as electricity, collective energy, LNG, and resource development, we achieved visible results in Beyond Businesses for future growth engines, including EV charging, batteries, and hydrogen. Most notably, we launched an integrated EV charging corporation, and started our waste battery recycling business to accelerate the transition to eco-friendly energy. These continuous challenges and innovations have strengthened our competitiveness in the future energy market, and solidified the foundation for sustainable growth.

Our Efforts for a Sustainable Future

Amidst the political instability in Ukraine and the Middle East and concerns about a global economic downturn, we have redoubled our commitment to an ESG-centered business philosophy for a sustainable future. We have developed and implemented an ESG risk assessment system for new businesses, conducted ESG assessments of our subsidiaries, and established the ESG Council. These efforts demonstrate our approach to business evaluations and management from a sustainability perspective. As ESG factors continue to gain importance in the capital market, we are committed to advancing our ESG management to meet the expectations of our investors and key stakeholders while ensuring sustainable growth.

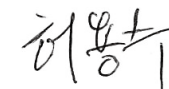
Company for People and Society

GS Energy supports all employees as they work to perform to their full potential. Based on the value of One Team, we have introduced a process to manage changes in each team. In addition, as a company dedicated to fulfilling our social responsibility, we aim to protect the environment, support energy-vulnerable populations, and improve society. To this end, we have performed a range of social contribution activities, including charity walks and plastic bottle recycling campaigns. We will continue to expand on these efforts in the future.

GS Energy intends to pursue growth through continuous innovation and challenges. We will play a leadership role in the changing energy market, and together with you, will build a better society and a sustainable future for the upcoming decades. This sustainability report is meant to communicate with you regarding our journey. I call on all of you for your continuous support and interest in GS Energy.

Thank you.













Huh Yongsoo, CEO, GS Energy



COMPANY PROFILE

GS Energy

GS Energy Corporation was established in 2012 as the energy holding company of the GS Group. All members of the company have made determined efforts to contribute to the development of the energy industry, which is the mainstay of the national economy, and to lead the energy paradigm shift for the future. Currently, GS Energy is actively engaged in the development of overseas resources, particularly in the Middle East, and is taking the lead in improving Korea's energy self-sufficiency rate and energy security, which has historically limited our domestic resources. Furthermore, we are striving to create a happy society for all through the stable supply of energy based on eco-friendly natural gas, thereby fostering a clean and convenient living environment. To this end, we have established an LNG value chain encompassing LNG imports, the operation of LNG regasification terminals, and electric power and district heating utilizing LNG as fuel, thereby reinforcing our capabilities. In addition, to contribute to the realization of a carbon-neutral society through energy transition, we will continuously explore new businesses that incorporate new energy technologies, establish an EV charging value chain and promote the development of a closed-loop system for our waste EV battery recycling business, which will ultimately achieve our larger goal of sustainable growth.

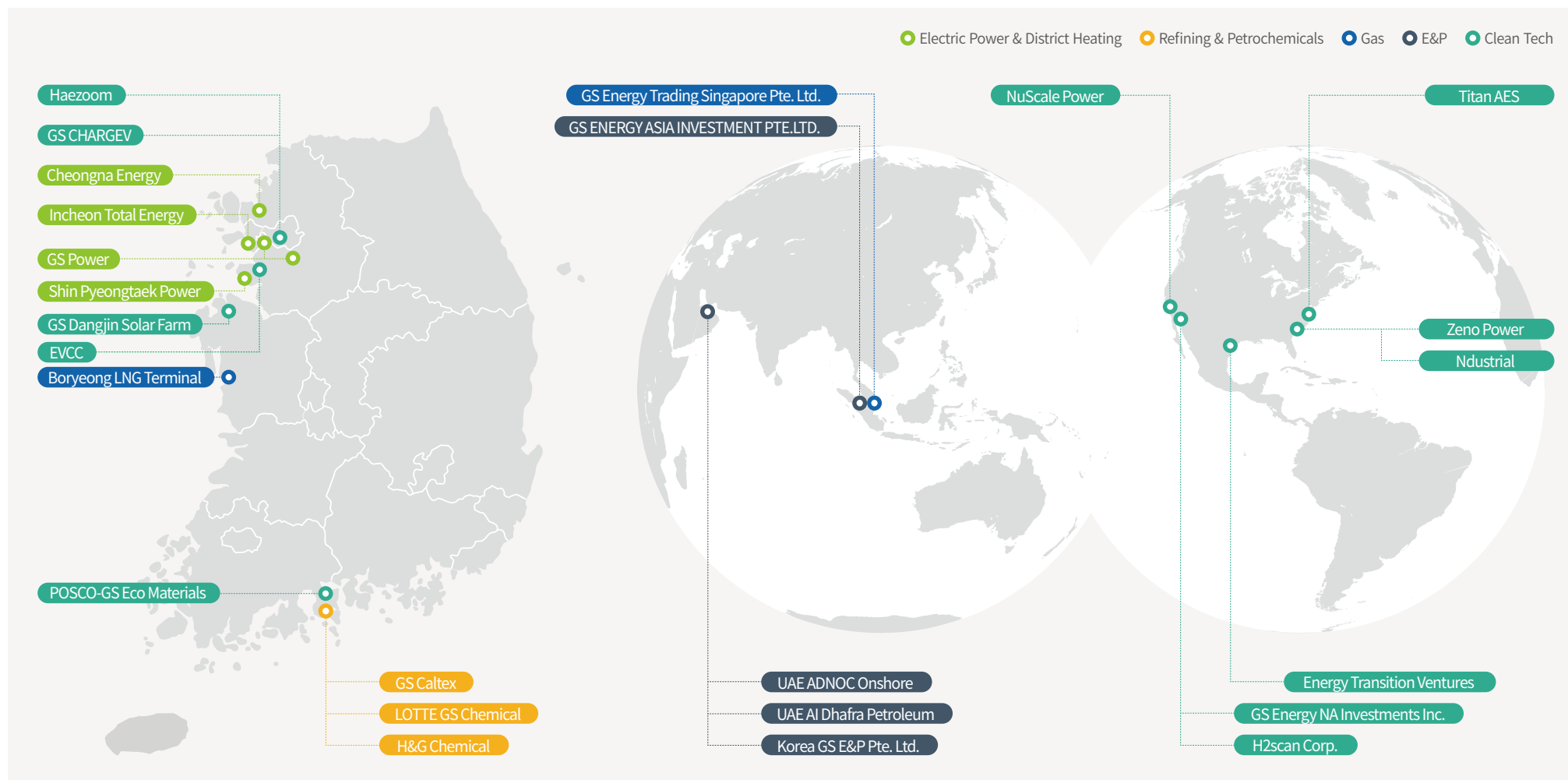
Name  GS Energy	Affiliate Business Group  GS	Foundation Date  January 3, 2012	CEO  Huh Yongsoo	Address  508, Nonhyeon-ro, Gangnam-gu, Seoul, Republic of Korea	Credit Rating*  Debenture AA (May 24, 2023) Commercial paper A1 (December 13, 2023) Corporate credit rating AA (June 14, 2023)	Domestic Subsidiaries  GS Caltex (50.0%) GS Power (51.0%) Boryeong LNG Terminal (50.0%) Incheon Total Energy (70.0%) GS Dangjin Solar Farm (100.0%) GS CHARGEV (91.3%)
Industry  Holding Company	Total Assets  KRW 15.8 trillion	Revenue (Sales)  KRW 6.5 trillion	Operating Profit  KRW 2.6 trillion	Number of Employees  196		

*Based on Korea Investors Service



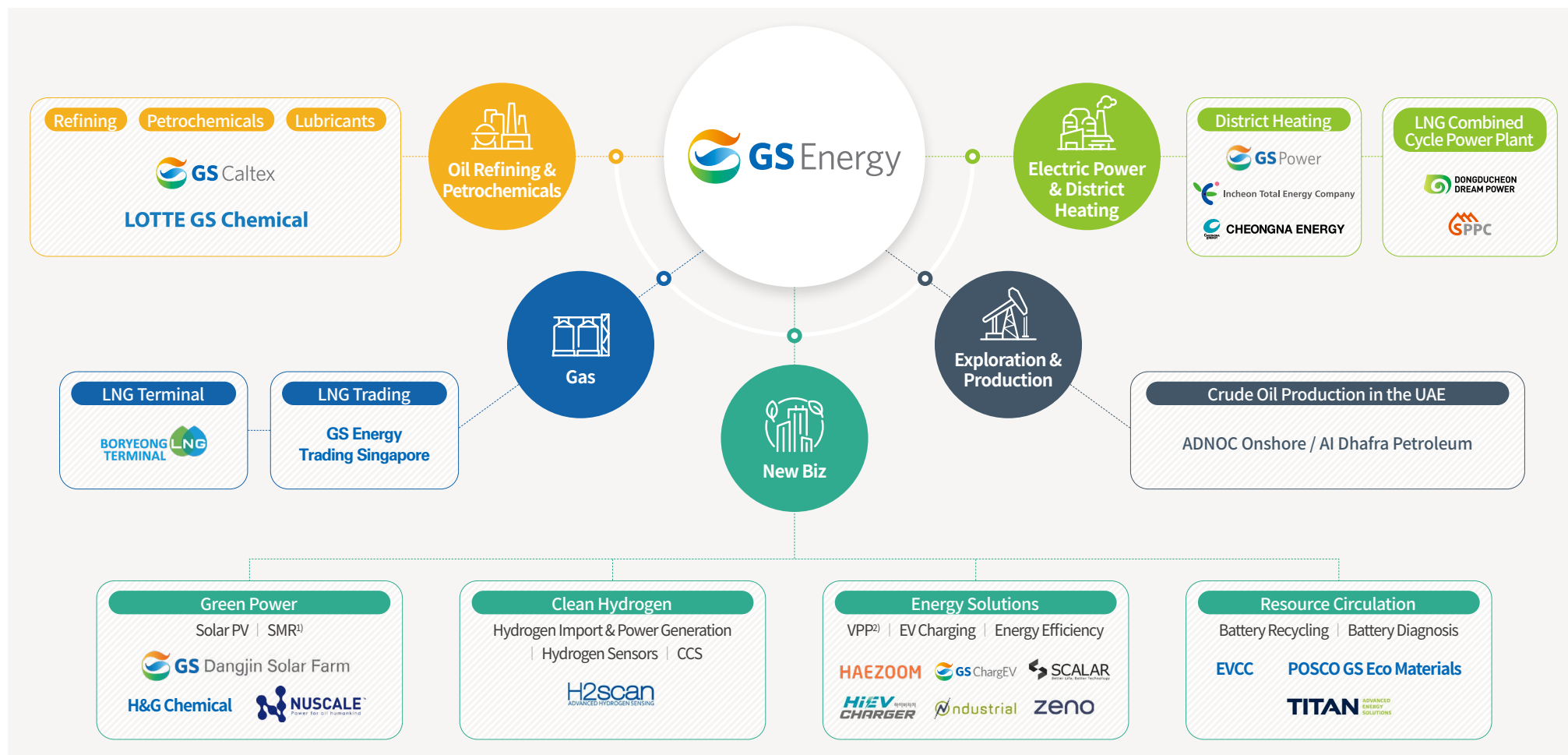
COMPANY PROFILE

Global Network



BUSINESS PORTFOLIO

Business Areas



1) SMR: Small Modular Reactor

2) VPP: Virtual Power Plant

BUSINESS PORTFOLIO

Electric Power & District Heating

GS Energy produces electricity and heat through GS Power's combined heat power plants, and the heat is supplied to Anyang, Bucheon, and their surrounding areas. By acquiring shares in Incheon Total Energy and Cheongra Energy, we have also established a large-scale network that supplies heat to 700,000 households, mainly in the southwestern part of the metropolitan area. Through these subsidiaries, we are maximizing the effect of our district heating business, which include large-scale energy savings and GHG reductions through energy efficiency improvements, diversification of the national power supply through distributed energy resources, and convenience in energy use for the residential and industrial sectors. In addition, GS Energy has expanded its electric power business by acquiring shares in Shin Pyeongtaek Power and Dongducheon Dream Power, which own LNG-fueled combined-cycle power plants. We will continue to expand our power business and establish a foundation for stable profits by continuously identifying opportunities in this sector, both at home and abroad.



GS Power was selected as the successful bidder in the competitive bidding for the Anyang/Bucheon CHP (combined heat and power) plants and district heating facilities, which was conducted by the government as part of the sale of the power generation business of the Korea Electric Power Corporation and the privatization of the Korea District Heating Corporation. The company signed an asset transfer contract on June 22, 2000, and commenced operation of the facilities on September 1 of the same year. GS Power operates a natural-gas-fueled combined-cycle power plant with a total capacity of 1,430 MW, producing both electricity and heat. The electricity is sold to the Korea Power Exchange, while the heat generated at its heat source facilities and resource recovery facilities is supplied to over 400,000 households in Anyang and Bucheon as a district cooling/heating service.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	1,651,479
Operating income	185,864
Assets	2,809,289
Contact Information	

100, Burim-ro, Dongan-gu, Anyang-si,
Gyeonggi-do, Republic of Korea
82-31-420-2590 | www.gspower.co.kr



Incheon Total Energy Company

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	323,601
Operating income	35,173
Assets	708,291
Contact Information	

37, Academy-ro 51beon-gil, Yeonsu-gu,
Incheon, Republic of Korea
82-1577-1079 | www.e-inteco.co.kr



Through Incheon Total Energy, GS Energy is contributing to the smooth supply of district heating and cooling to the Incheon area, particularly to Songdo International City, while supporting national energy conservation efforts. Incheon Total Energy has made continuous efforts to supply convenient and safe district heating and cooling while reducing the cost of heat production. Furthermore, the company is striving to provide high-quality energy services to a larger number of citizens by expanding its supply area beyond Songdo International City to include the old downtown of Incheon.

Electric Power

A CHP plant produces both electric power and heat. It is a comprehensive plant system designed to maximize energy efficiency by flexibly supplying the electricity and heat generated from a single heat source to users as needed. GS Energy sells the electricity produced at the LNG-fueled CHP plants of GS power (Anyang 964 MW, Bucheon 450 MW) and Incheon Total Energy (Incheon 187 MW) to the grid, providing a stable source of power supply to the metropolitan area.

Energy Efficiency

Our energy efficiency business provides optimal energy-saving solutions for recovering unutilized energy and improving the energy efficiency of facilities that consume energy. GS Power's optimal energy efficiency solutions for facilities and processes draw on our experience in the design, construction, and follow-up management of user facilities. Through these, we contribute to energy savings and GHG reductions at user facilities, such as Incheon Total Energy, the Anyang incinerator, and the Banwol Dyeing Complex.

District Heating & Cooling

Our district heating and cooling business provides 24/7 heating and cooling services across a district by utilizing heat produced economically at concentrated, large-scale facilities such as CHP plants. This eliminates the need for individual buildings to run their own cooling/heating facilities. In addition to the heat generated in the cogeneration process, GS Power utilizes waste heat. The company also supplies eco-friendly and stable district heating and cooling services to approximately 560,000 households in the metropolitan area.

Renewable Energy

- **Solar PVs:** GS Power operates solar power generation facilities with a total capacity of 10,000 kW at its Anyang/Bucheon CHP plants and GS Retail logistics center.
- **Fuel Cells:** Fuel cells convert the chemical energy of hydrogen and oxygen into electricity and dramatically reduce carbon emissions (capacity of 15 MW).
- **Small-scale Hydro Power and Wind Power:** GS Power operates a small-scale hydropower plant at its water purification plant in Gwangju and a wind power plant at the Gyeongju Industrial Complex.
- **ESS (Energy Storage System):** GS Power operates ESSs at its CHP plants to reduce peak load.

BUSINESS PORTFOLIO

Electric Power & District Heating

CHEONGNA ENERGY

Established in 2005, Cheongna Energy is jointly owned by GS Energy (49.9%) and Korea Western Power (50.1%). It supplies electric power to 165,000 households across Incheon and Gimpo by utilizing the waste heat from industrial processes, fuel cells, and unused heat from incinerators.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	119,530
Operating income	31,441
Assets	428,042
Contact Information	

1045, Wondang-daero, Seo-gu, Incheon, Republic of Korea
82-32-565-2800 | www.e-cheongna.co.kr



SPPC

Shin Pyeongtaek Power Co., Ltd., was jointly established by GS Energy, Korea Western Power, and KB Asset Management in 2014. Since October 2019, it has been operating a 950MW gas-fired combined-cycle power plant, and now supplies electric power to the metropolitan area, including Pyeongtaek and Hwaseong.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	1,040,219
Operating income	278,125
Assets	1,222,968
Contact Information	

271, Gyeonggi-daero, Pyeongtaek-si, Gyeonggi-do, Republic of Korea
82-31-612-2900 | www.sppc.co.kr



DONGDUCHEON DREAM POWER

GS Energy acquired shares in Dongducheon Dream Power in 2014. Dongducheon Dream Power operates an LNG-fueled combined-cycle power plant with a total capacity of 1,716 MW (two units, 858 MW each) located in Gwangam-dong, Dongducheon, Gyeonggi-do. This power plant started commercial operation in March 2015 and has since been a reliable power supplier to the northern part of the metropolitan area.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	1,744,247
Operating income	71,928
Assets	1,364,298
Contact Information	

110, Soemok-gil, Dongducheon-si, Gyeonggi-do, Republic of Korea
82-31-8082-3000 | www.iddp.co.kr



BUSINESS PORTFOLIO

Refining & Petrochemicals

GS Energy has achieved global competitiveness in the oil refining, petrochemical, and lubricant businesses through its subsidiary, GS Caltex, a world-class refining and petrochemical company. In addition, the company established Lotte GS Chemical as a joint venture with Lotte Chemical, adding to its competitiveness in the oil refining and petrochemical businesses, and has plans to establish a joint venture called H&G Chemicals with Hanwha Solutions with the aim of entering the renewable energy market through the production of EVA, a solar module material. Building on its accumulated experience and capabilities, GS Energy will continue to generate sustainable profits and enhance its competitiveness through the stable operation of its refining and petrochemical businesses, both at home and abroad.



GS Caltex operates crude refining facilities with a capacity of 800,000 barrels per day (bpd), and a heavy oil upgrading (HOU) facility with a capacity of 274,000 bpd, the largest in Korea. GS Caltex generates 70% of its revenue from exports.

Petrochemicals

GS Caltex has expanded its production capacity and competitiveness to a world-class level through continuous facility investments, and now has an annual production capacity of 2.8 million tons of aromatics. It has also secured an annual polypropylene production capacity of 180,000 tons and is growing into a global composite resins manufacturer with its composite resin (composite PP) production subsidiaries in China, the Czech Republic, and Mexico. GS Caltex commenced the MFC (mixed feed cracker) process in the third quarter of 2021, and has achieved an annual production capacity of 750,000 tons of ethylene and 500,000 tons of polyethylene. This has allowed the company to secure a more balanced portfolio in its chemicals business and establish a bridgehead to providing various functional materials that meet customer needs. GS Caltex is committed to growing into a global energy company in the chemical industry by developing an eco-friendly business in the composite resins field.

Base Oil and Lubricants

GS Caltex has expanded its production capacity for base oil to 26,000 barrels, and exports more than 79% of its total production. It also produces 9,000 barrels of lubricant products and 9,000 tons of grease products per day. The company has been recognized for its excellent products and technologies, and ranks first in market share and sales volume in the domestic market for finished lubricants. Building on its competitiveness in the domestic market, GS Caltex has been making forays into overseas lubricant markets in China, Czechia, and Mexico, where it has established subsidiaries.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	48,607,546
Operating income	1,683,792
Assets	24,321,822
Contact Information	

508, Nonhyeon-ro, Gangnam-gu, Seoul, Republic of Korea
82-1544-5151 | www.gscaltex.com



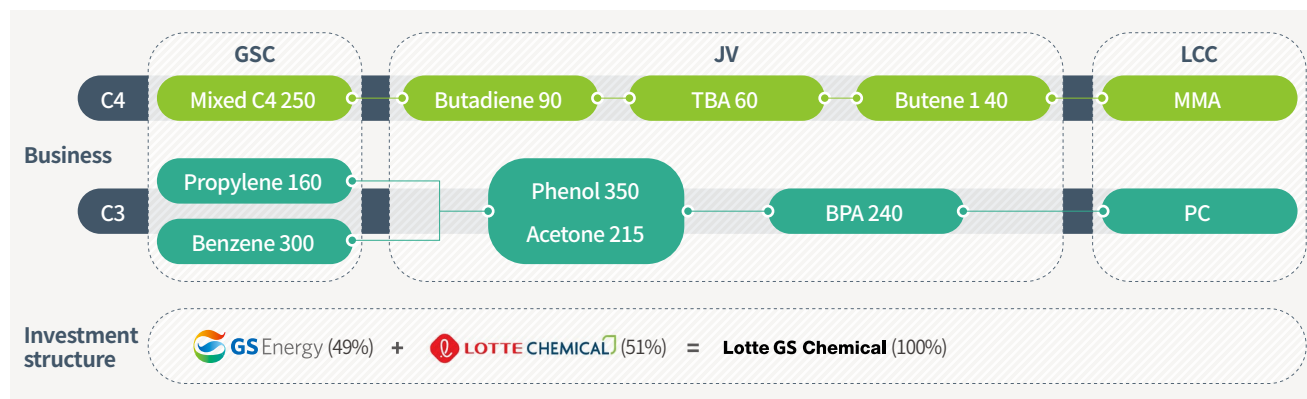
BUSINESS PORTFOLIO

Refining & Petrochemicals

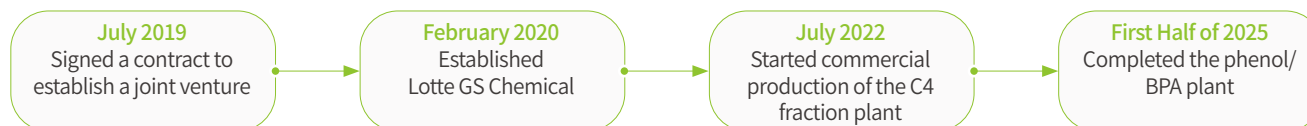
LOTTE GS Chemical

Lotte GS Chemical was established on February 12, 2020, as a joint venture between GS Energy and Lotte Chemical. Its C4 fraction plant in the Yeosu Industrial Complex began operation in July 2022. Additional facilities are also under construction for the commercial production of phenol, acetone, and BPA, and these are expected to be completed by the first half of 2025. The company has an annual production capacity of 130,000 tons of butadiene, a raw material used in high-value-added synthetic rubbers, and 60,000 tons of TBA, an artificial marble material. By the first half of 2025, it will have a production capacity of 350,000 tons of phenol and 240,000 tons of BPA, important materials in highly transparent conductive plastics and new and renewable energy. Lotte GS Chemical receives feedstock such as propylene, benzene, and C4 fraction from GS Caltex, and supplies finished products such as butadiene, TBA, phenol, acetone, and BPA to diverse customers, including Lotte Chemical.

Overview



Plan



As of 2023 (Unit: KRW million)

Category	Amount
Revenue	286,464
Operating income	17,702
Assets	844,829

Contact Information

69, Baekjegobun-ro, Songpa-gu, Seoul, Republic of Korea
82-2-440-0114 | www.lottegschem.net



BUSINESS PORTFOLIO

Gas

GS Energy has built a foundation for its LNG business by establishing a trading corporation for direct LNG imports and operating an LNG regasification terminal. We supply natural gas for power generation, industrial use, and self-consumption to direct LNG importers in Korea through the Boryeong LNG Terminal. We plan to expand our competitive fuel supply system to meet the demand for direct natural gas imports and further enhance our LNG business capabilities by adding more storage tanks and expanding the terminal. In addition to this effort, we are establishing an integrated LNG value chain through entry into the upstream sector and expanding our business model into overseas markets to solidify the foundation for GS Energy's growth as a global player.

GS Energy LNG Value Chain



GS ENERGY TRADING SINGAPORE PTE. LTD

GSETS (GS Energy Trading Singapore) is a trading subsidiary in Singapore that was established in February 2014 to secure LNG at competitive prices and supply it to end users at home and abroad. GSETS has secured a supply volume of over 1.3 million tons annually under long-term contracts as well as a competitive spot volume to accommodate the market environment, and supplies LNG to Korea through the Boryeong LNG Terminal. In addition, the company is proactively responding to the increasing demand for LNG by diversifying its LNG supply chain with various domestic LNG importers and ensuring timely procurement and supply of competitively priced LNG, thereby contributing to the energy industry in Korea. Located in Singapore, an international LNG hub, GSETS will monitor the market environment, including global LNG supply and demand, and strengthen its trading capabilities to improve the stability of energy supply.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	1,609,189
Operating income	59,875
Assets	122,189
Contact Information	

5 Temasek Boulevard #15-06, Suntec City Tower 5, Singapore 038985
+65 6884 5509



BUSINESS PORTFOLIO

Gas



Work on the Boryeong LNG Terminal commenced in February 2013 through a joint venture between GS Energy (50%) and SK E&S (50%) to construct and operate an LNG regasification terminal and supply natural gas for self-consumption. The terminal began commercial operation in January 2017 with a total storage capacity of 600,000 kℓ. As of August 2023, its storage capacity had been increased to 1.4 million kℓ, and it supplies about 7 million tons of natural gas annually for power generation and industrial use. In the future, the Boryeong LNG Terminal will gradually expand its supply to meet the demand for direct natural gas imports for self-consumption, and continue to make efforts to ensure a stable energy supply for the country and reduce energy costs.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	242,854
Operating income	91,891
Assets	1,663,336
Contact Information	
333, Ocheonhaean-ro, Ocheon-myeon, Boryeong-si, Chungcheongnam-do, Republic of Korea	
82-41-939-9955 www.lng-tml.com	



Phase 1 Commercial Operation | January 1, 2017

- LNG Tank: #1-3 (200,000kℓ* 3 units)
- LPG Tank: #1 (77,000kℓ)
- Re-gasification & transmission facility: 490 ton/h
- Jetty #1 (180,000kℓ)



Phase 2-1 Commercial Operation | July 1, 2019

- LNG Tank: #4 added (200,000kℓ* 1 unit)
- Re-gasification & transmission facility: 780 ton/h (290 ton/h added)



Phase 2-2 Commercial Operation | October 1, 2021

- LNG Tank: #5, 6 added (200,000kℓ* 2 units)
- Re-gasification & transmission facility: 1,040 ton/h (260 ton/h added)
- Jetty #2 added (2 berths in total)



Phase 2-3 Commercial Operation | August 1, 2023

- LNG Tank : #7 added (200,000kℓ* 1 unit)



Phase 2-4 Commercial Operation | October 31, 2024, expected

- Re-gasification & transmission facility: 1,400 ton/h (360 ton/h added)

BUSINESS PORTFOLIO

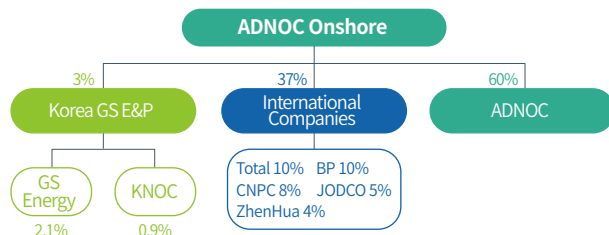
Exploration & Production

In March 2012, GS Energy became the first Korean company to participate in the development of a crude oil field in the UAE, a sector previously dominated by major global oil companies, thereby laying the groundwork for its expansion into the Middle East. In May 2015, the company further solidified its presence by participating in the development of a giant oil field in the UAE, achieving a daily crude oil production of approximately 45,000 barrels. GS Energy's daily oil production in Abu Dhabi accounts for about 1.8% of South Korea's daily oil consumption and is entirely sold to major international companies. Leveraging its global network and strategic partnerships, GS Energy will continue to advance its E&P business as a core asset of the company and contribute to securing energy resources for South Korea.

ADNOC Onshore (UAE)

In May 2015, GS Energy achieved a significant milestone by participating in the ADNOC onshore concession, a project that had been dominated by major global oil companies for the past 75 years. The concession produces approximately 1.9 million barrels of oil per day, with GS Energy's equity production amounting to 41,300 barrels per day based on its 2.1% stake. GS Energy participates in this concession through Korea GS E&P Pte. Ltd., a joint venture with the Korea National Oil Corporation.

Investment Structure



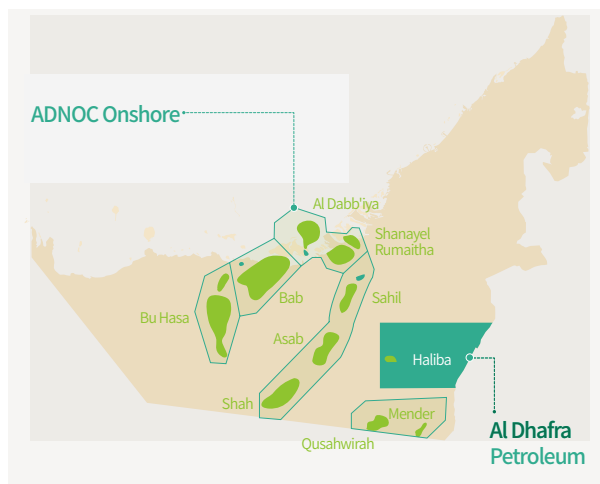
Overview

- Stake: 2.1%
- Period of petroleum rights: 2015 - 2054 (40 years)
- Reserves: 28.3 billion barrels (equity reserves: approx. 590 million barrels)
- Daily production: approx. 1.9 million barrels/day (equity oil production: approx. 41,300 barrels/day)

Korea GS E&P Pte. Ltd.

As of 2023 (Unit: KRW million)

Revenue	Operating income	Assets
2,358,720	1,662,209	2,182,760



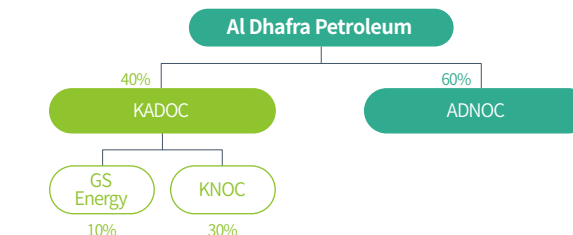
Operation Site of Haliba Field in the Al Dhafra Petroleum Concession Area

- 1) Domestic daily oil consumption: 2.54 million barrels (source: Petronet)
Al Dhafra: 4,100 barrels/day, ADNOC Onshore: 41,300 barrels/day
- 2) Korea Abu Dhabi Oil Corporation Ltd.

Al Dhafra Petroleum (UAE)

In June 2019, Al Dhafra Petroleum (UAE) started commercial production. Our production volume is 4,100 barrels of crude oil per day based on our 10% stake. Al Dhafra Petroleum is continuously exploring ways to increase production by discovering and developing additional structures within the concession area. GS Energy is participating in this project through KADOC Ltd.,²⁾ a joint venture with the Korea National Oil Corporation.

Investment Structure



Overview

- Stake: 10%
- Period of petroleum rights: 2012 - 2042 (30 years)
- Reserves: 200 million barrels (equity reserves: approx. 20 million barrels)
- Daily production: approx. 41,000 barrels/day (equity oil production: approx. 4,100 barrels/day)

KADOC

As of 2023 (Unit: KRW million)

Revenue	Operating income	Assets
653,301	471,243	1,020,526

BUSINESS PORTFOLIO

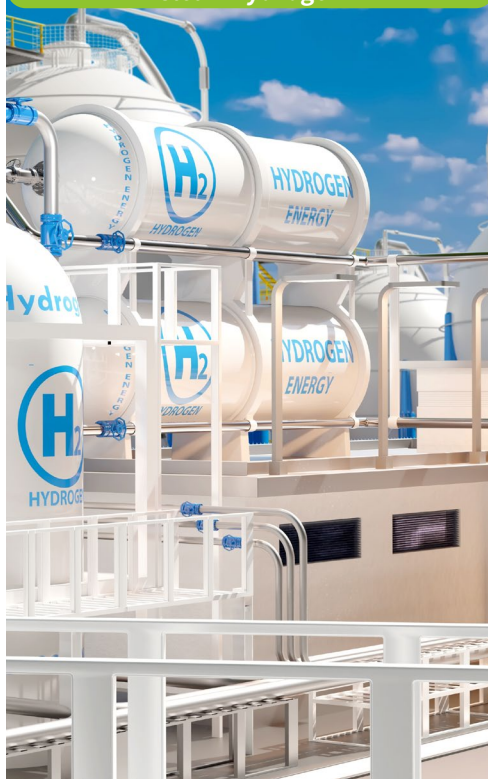
New Business

GS Energy has created synergies by expanding its business portfolio into new eco-friendly business areas alongside its existing energy business. In the areas of green power generation, clean hydrogen, electric power solutions, and resource circulation, we are laying the groundwork for new businesses that can achieve sustainable growth and respond to changes in the energy market. Moreover, we are exploring new business opportunities and securing future growth engines by proactively identifying and investing in cutting-edge overseas technologies for each of these energy trends. GS Energy will take the lead in the Korean energy industry by continuously striving to discover energy sources that contribute to the future of humanity and the environment, and constantly pursuing new energy businesses that incorporate various emerging technologies.

Green Power Generation



Clean Hydrogen



Electric Power Solution



Resource Circulation



BUSINESS PORTFOLIO

New Business

GS Dangjin Solar Farm

GS Dangjin Solar Farm, a fully-owned subsidiary of GS Energy, was established in October 2020 to operate and manage a solar power plant that is currently under construction on low-grade agricultural land in Chorakdo-ri, Seokmun-myeon, Dangjin, Chungcheongnam-do. It is slated to start commercial operation in the 3rd quarter of 2025, with an annual production of about 230,000 MWh of electricity. GS Dangjin Solar Farm will make continuous efforts to contribute to the stable supply of renewable energy in line with the government's renewable energy expansion policy.

Location	Capacity	Area	Investment	Annual power generation	Annual GHG emissions reduction
Chorakdo-ri, Seokmun-myeon, Dangjin, Chungcheongnam-do, Republic of Korea	175MW	About 1.58 million m ²	About KRW 250 billion	About 230,000 MWh	About 105,660 tCO ₂ -eq
History					
October 2020: Established SPC December 2020: Acquired a power generation business license					
December 2022: Completed an environmental impact assessment					
December 2023: Obtained permission for development activities June 2024: Broke ground					
Q3 2025: Launching commercial operation					

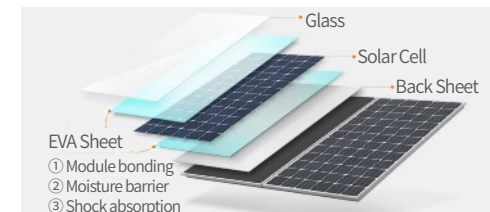


H&G Chemical

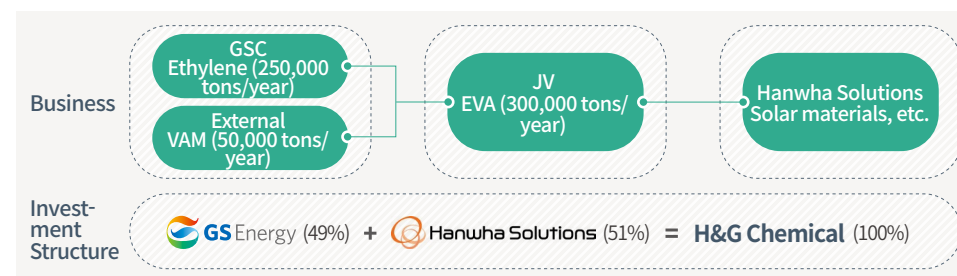
H&G Chemical is a joint venture established under an agreement signed in September 2022 between GS Energy and Hanwha Solutions. The plant construction is underway, with the goal of commencing commercial production in the second half of 2025. H&G Chemical will have a production capacity of 300,000 tons per year for EVA (ethylene vinyl acetate), a crucial material used in solar module sheets. The company will receive a stable supply of ethylene through GS Caltex and supply EVA to global solar component manufacturers through Hanwha Solutions. GS Energy's investment in solar material and component production will contribute to the implementation of carbon-neutral policies to respond to climate change.

Contact Information

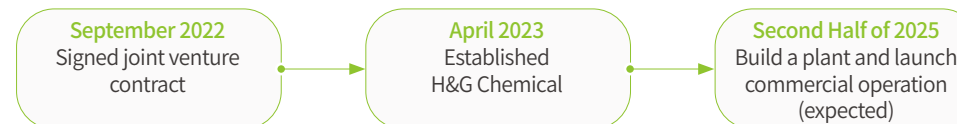
1721-1, Jungheung-dong, Yeosu-si,
Jeollanam-do, Republic of Korea
82-61-680-5204 | ※ Website to be built



Overview



Plan



BUSINESS PORTFOLIO

New Business



GS CHARGEV provides an integrated charging solution, establishing and operating both slow and fast EV chargers. As of the end of 2023, the company was operating approximately 45,000 EV chargers.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	55,554
Operating income	(24,490)
Assets	154,842
Contact Information	

117, Seochojungang-ro 8-gil, Seocho-gu, Seoul, Republic of Korea
82-1544-4279 | www.gschargev.co.kr



※ The above financial information includes the profit and loss of GS Connect prior to the merger.

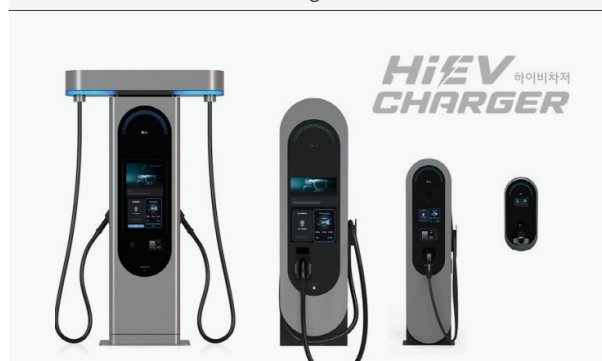


HiEV CHARGER is an EV charger manufacturer established jointly by GS Energy, GS Neotec and LG Electronics. The company is committed to supplying a range of chargers with a world-class level of quality and competitiveness.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	5,884
Operating income	(7,032)
Assets	48,543
Contact Information	

222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Republic of Korea
82-70-4348-3705 | www.hievcharger.co.kr

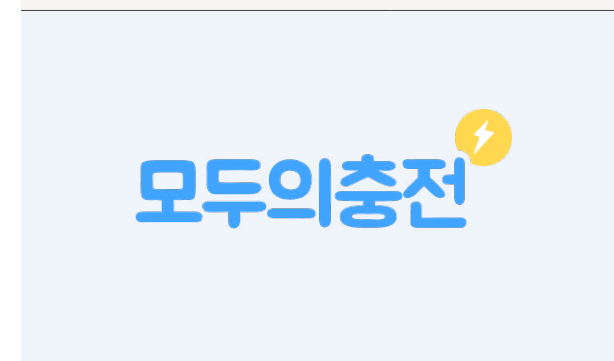


SCALAR DATA operates an integrated platform for EV chargers called “EV Modu.” The company has integrated complex EV charging payment methods, and provides EV charging services for individuals and the My Car Service for the convenient use of EVs.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	4,666
Operating income	9
Assets	7,552
Contact Information	

515, Nonhyeon-ro, Gangnam-gu, Seoul, Republic of Korea
82-2-6953-1507 | evmodu.kr



BUSINESS PORTFOLIO

New Business

HAEZOOM

As a satellite data and artificial intelligence technology-based energy IT company, Haezoom is accelerating the development of technologies for its energy platform and VPP businesses. It is also conducting an R&D project worth over KRW 20 billion to advance power generation forecasting and electricity analysis technologies for its VPP business. Currently, the company is one of the leading energy companies participating in a real-time market demonstration project on Jeju Island. With its “Haezoom Platform,” which has over two million users, the company has established itself as a prominent solar power and energy enterprise, and actively engages in third-party PPA transactions. Recently, it has developed a new business by linking its DR (demand response) business with EV charging providers to generate revenues and contribute to the development of VPP technology. Moving forward, Haezoom plans to promote its IT-based cleantech business for cleaner energy and more sustainable growth.

As of 2023 (Unit: KRW million)

Category	Amount
Revenue	20,934
Operating income	(1,183)
Assets	31,151

Contact Information
128, Beobwon-ro, Songpa-gu, Seoul, Republic of Korea 82-2-889-9941 www.haezoom.com



POSCO-GS Eco Materials

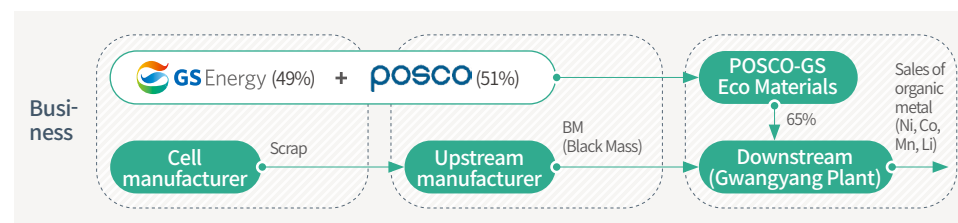
To launch an EV battery recycling business that recovers lithium, nickel, cobalt, and manganese from waste EV batteries for re-purposing as cathode battery materials, GS Energy established POSCO-GS Eco Materials, a joint venture with POSCO, in December 2022. Through this partnership, we aim to establish a foundation for our battery recycling business. POSCO-GS Eco Materials is 51% owned by POSCO Holdings and 49% owned by GS Energy, with a total investment of KRW 170 billion. In addition to battery recycling, the company will also venture into BaaS (battery as a service), which includes battery diagnosis, evaluation, and reuse.

Contact Information

440, Teheran-ro, Gangnam-gu, Seoul,
Republic of Korea
82-2-3457-1413



Overview



Plan



CLEAN TECH

Expanding the Green Power Generation Portfolio

We run a large-scale solar power generation business in Korea, which is one of our future growth engines for practicing ESG management. We are moving ahead with a 175MW solar power generation project in Dangjin, Chungcheongnam-do, which will begin commercial operation in Q3 2025. In June 2021, we signed a business agreement with Iberdrola, the world's second-largest renewable energy company, establishing a foothold for growth beyond Asia in the global renewable energy market.

Green Energy

- Large-scale solar power generation in Korea
- Establishment of a foundation for entering overseas markets

Back-ground

- Growing need for carbon-free energy to achieve GHG reduction targets and meet increasing demand for corporate ESG portfolios
- Increasing policy support under the government's renewable energy promotion plan

Renewable Energy

We are entering the renewable energy industry to respond to climate change, and striving to contribute to the energy transition towards carbon neutrality. In addition, we plan to advance into the global renewable energy industry by promoting various renewable energy businesses, including solar power generation.

Solar Power

- Solar power generation project on low-grade agricultural land (175MW GS Dangjin Solar Farm, expected to start commercial operation in 3Q, 2025)
- Exploration of additional opportunities to realize large-scale solar power generation (low-grade agricultural land in Korea, site for construction, floating solar power plant, etc.)



Overseas Markets

- Ongoing network building with global energy companies
- Analysis of renewable energy markets in North America and Vietnam and discovery of business opportunities



SMR

SMRs (small modular reactors) are cutting-edge reactors that are eco-friendly, safe, and stable. They are expected to play a key role in achieving carbon neutrality by 2050. Currently, nuclear power generation is classified by the EU Taxonomy as a "green" economic activity that is friendly to the environment and climate. Accordingly, in June 2021, GS Energy invested in NuScale Power, which has the world's most advanced SMR technology, and secured exclusive business rights on the Korean Peninsula. GS Energy will continuously ensure a reliable and eco-friendly energy supply.



NuScale Power received design certification approval from the US NRC (Nuclear Regulatory Commission) in 2020, and its FOAK (first-of-a-kind) plant, funded by the US Department of Energy, is expected to be completed in 2029. GS Energy will continue to expand its clean energy portfolio and pursue technological innovations such as SMRs, which will become a key technology in achieving carbon neutrality.

Size of Scale

- An SMR plant only needs about 40% of the land used by a conventional power plant. The size is adjustable according to the number of modules.



Construction Period

- It takes about four years, as constructing core equipment plants is a prerequisite to transport and installation.

CLEAN TECH

Leading the Reorganization of Infrastructure for the Clean Hydrogen Economy

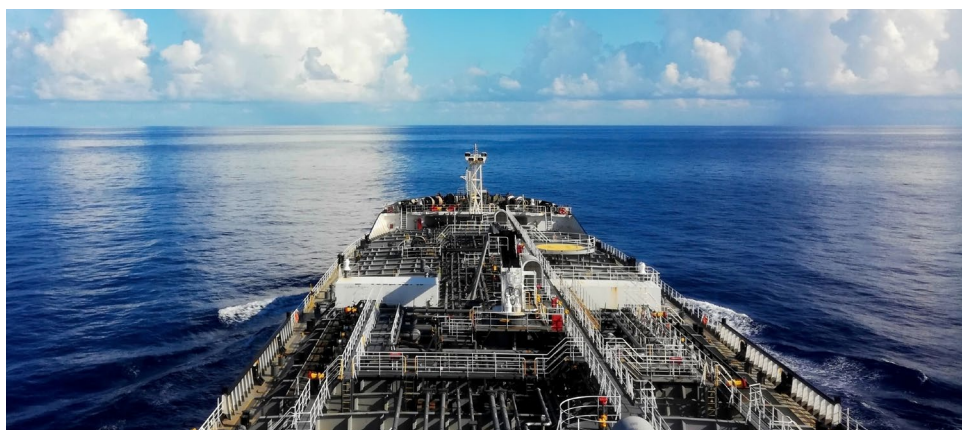
GS Energy is entering the hydrogen business with the goal of making it one of its growth engines through ESG management. Following an eco-friendly blue ammonia development project with ADNOC, the company is looking to participate in more clean hydrogen and ammonia projects overseas, and is pushing ahead with the construction of infrastructure to import these fuels. We aim to take a leading role in reorganizing the hydrogen infrastructure at home and abroad in preparation for the emergence of a clean hydrogen economy.

New CCS Busi- ness

Carbon Capture and Storage (CCS) is a process of capturing carbon dioxide from various emission sources, transporting it to a sequestration point, and utilizing or storing it underground. Its major processes and utilization technologies are similar to those required for petroleum development, leading major oil companies and related enterprises worldwide to spearhead the CCS business. GS Energy is actively reviewing, in collaboration with various industry stakeholders, the options for storing domestically emitted and captured carbon dioxide in nearby offshore areas or in depleted gas fields overseas.

Import of Clean Hydrogen and Ammonia

GS Energy has been participating in an eco-friendly blue ammonia project led by ADNOC, a state-owned oil company in the UAE, with an annual production capacity of 1 million tons. As one of the participants in the project, GS Energy signed a shareholder's agreement in late 2022 and secured a supply of 200,000 tons of clean ammonia. In addition to this project, the company is considering participating in various projects in North America, the Middle East, and Australia to import clean hydrogen and ammonia from diverse suppliers.



Establishment of Hydrogen and Ammonia Supply Infrastructure

GS Energy is promoting projects to build a clean hydrogen and ammonia supply infrastructure, including terminals and pipelines, to ensure a reliable supply of these clean fuels. In addition, the company is actively discussing clean hydrogen and ammonia supply and infrastructure projects with various users to create synergies with other key assets and businesses of GS Group.



CLEAN TECH

Leading the Smart Energy Solutions Market

We have established the charging infrastructure necessary for the EV ecosystem, and put it into operation. In August 2021, we built a joint venture, G-Connect, with GNTel. This was renamed GS Connect in July 2022 to reflect our commitment to EV charging services as a future core business. After acquiring CHARGEV in November 2022, we launched GS CHARGEV through a merger. We have about 45,000 EV chargers nationwide, which has secured us a leading position in the slow charger market. In addition, we are expanding the virtual power plant (VPP) business, which collects and analyzes data in real time, collects surplus power from multiple distributed resources, such as PV, DR, and ESS, and supplies it where it is needed.

New Energy Solution Business

- Goal of becoming the No. 1 EV charging service provider and a leader in customer value
- Promoting the creation of an EV ecosystem by strengthening EV charging networks
- Connection and integrated management of various distributed resources



EV Charging

Background

- Increased implementation of EV promotion policies and anticipated growth in consumer demand for EVs

Business

- Constructing charging networks in residential areas and securing customer demand
- Addressing customer pain points and optimizing customer experience based on data
- Leveraging the ecosystem to build a foundation for new businesses



Virtual Power Plant (VPP) Solar PV · ESS · Fuel Cell

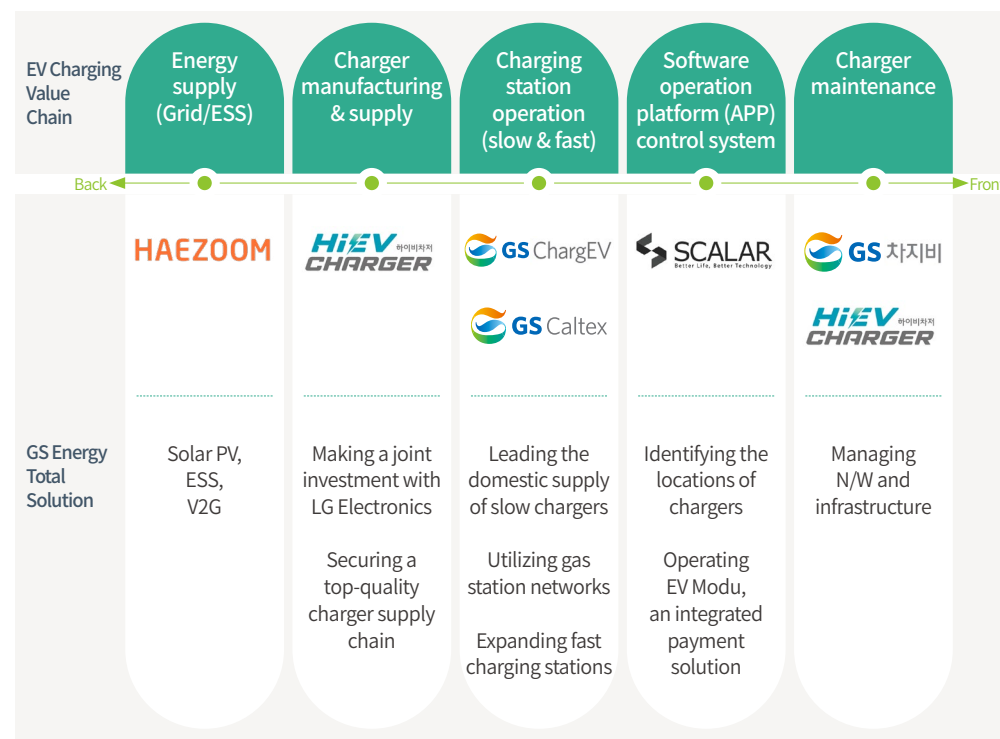
Background

- Growing instability in power supply due to increasing power generation from renewables
- Greater need for digitalized energy solution to supplement power systems

Business

- Integrating resources and optimizing trading
- Forecasting and bidding for power generation
- Continuously expanding VPP resources from a mid- to long-term perspective
- Securing competencies to operate an integrated platform

GS Energy's EV Charging Business



CLEAN TECH

Creating an Ecosystem of Resource Circulation

We are expanding our business opportunities in EV battery recycling. To achieve this, we have invested in MinTech, a company specializing in battery diagnosis and evaluation, and signed an MOU with GS Mbiz, which has a nationwide automobile maintenance network. These enabled us to launch B+BIDGE, a real-time monitoring service app for EV batteries. Based on these achievements, we aim to expand our portfolio to include battery recycling, which will contribute to the resource circulation ecosystem. To launch an EV battery recycling business aimed at recycling the lithium, nickel, cobalt, and manganese extracted from EV batteries as cathode battery materials, we have made investments in the following companies: SCTPS, a specialist in battery transportation and packaging; and Thoth, which uses AI-powered robots for the automatic disassembly of batteries. Additionally, we have invested in EVCC, which has production capabilities and a network to secure waste battery materials; and ECO RNS, a company with pyrometallurgy technology for lithium recovery from waste batteries using a dry process. Furthermore, we have established POSCO-GS Eco Materials in partnership with POSCO to create a closed-loop system for the battery recycling business.

Battery Recycle

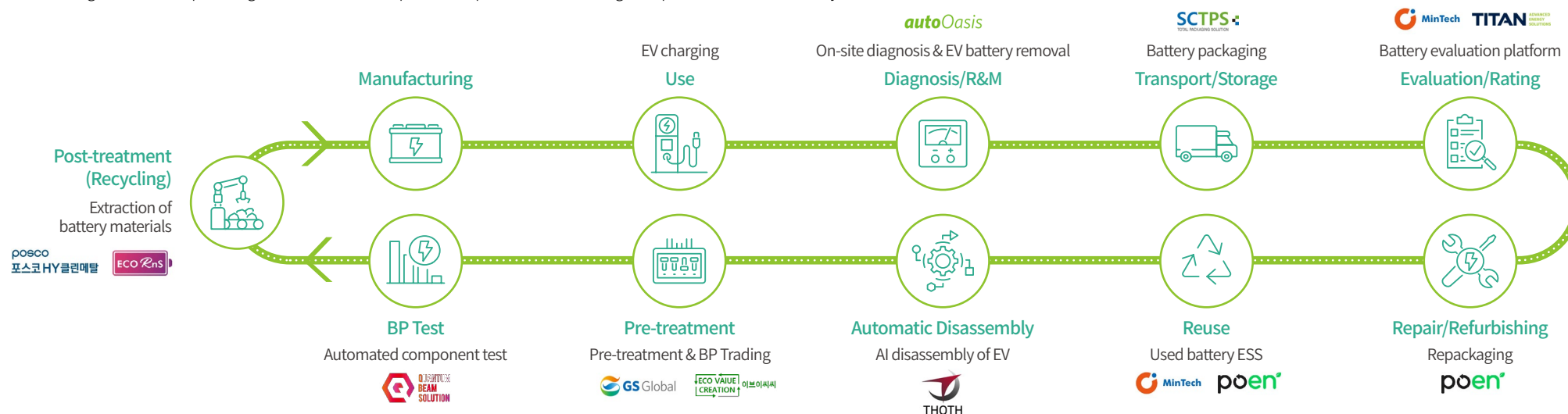
- Efficient collection of waste batteries through existing nationwide networks
- Creation of new value through the diagnosis and evaluation of collected batteries
- Creation of a resource circulation ecosystem through EV battery recycling for battery materials

Background

- Increase in end-of-life batteries due to the expansion of EVs and ESS
- Growing need for an entity to diagnose, evaluate, and manage batteries to further expand EVs
- Growing social interest in a circular economy for battery materials

GSE Business in the EV Battery Circular Economy

Establishing a closed loop through investments and partnerships with outstanding companies in the EV battery value chain



CLEAN TECH

Startup Open Innovation Program

The GS Challenge

The GS Challenge was launched in 2021 to search for promising startups that can collaborate with GS Energy in creating a sustainable future based on next-generation energy technologies. The program targets early-stage startups and pre-startups with next-generation energy technologies. Selected startups are offered various growth opportunities, which include discussing strategic collaboration with GS Energy and attracting investment through a five-month accelerator program. The fourth season of the GS Challenge ended in May 2024. We hold the Alumni Day for the selected startups and create opportunities to cooperate with external institutions, which makes the open innovation program an exemplary program in Korea's energy industry.

Season 1

Growth through Sustainability를 위한 도전
The GS Challenge.
 바이오 기술로 만드는 지속가능한 미래에 함께 도전할 기술 스타트업들을 찾습니다.

| 모집기간 | 21.1.22.(금) ~ 3.7.(일)
| 모집대상 | 바이오 기술 기반 예비-초기 스타트업

| 모집분야 | 바이오 기술로 만드는 새로운 생합, 바이오 기술로 만드는 깨끗한 환경, 바이오 기술로 만드는 건강한 미래

| 지원혜택 | Accelerating & Mentoring, Collaboration & Networking, GS Infra, Seed Funding

| 지원방법 | 홈페이지 지원 www.thegschallenge.com | 문의 | steve@bluepoint.ac

The GS Challenge: Growth through Sustainability에 도전하는 스타트업을 위한 액셀러레이팅 프로그램입니다.

Season 2

GS에너지 bluepoint partners

The GS Challenge. Future Energy
 차세대 에너지 기술로 만드는 지속가능한 미래

| 모집기간 | 21.9.6.(일) ~ 10.12.(목)
| 모집대상 | 에너지 기술 기반 예비, 초기 스타트업

| 모집분야 | 차세대 에너지 기술로 만드는 깨끗한 환경, 차세대 에너지 기술로 만드는 건강한 미래, 차세대 에너지 기술로 만드는 지속가능한 미래

| 지원혜택 | Accelerating & Mentoring, Collaboration & Networking, GS에너지 Infra, Seed Funding

| 지원방법 | 홈페이지 지원 www.thegschallenge.com | 문의 | steve@bluepoint.ac

The GS Challenge: Growth through Sustainability에 도전하는 스타트업을 위한 액셀러레이팅 프로그램입니다.

Season 3

The GS Challenge. FUTURE ENERGY
 차세대 에너지 기술로 만드는 지속가능한 미래

| 모집기간 | 22.10.21.~22.11.18.
| 모집대상 | 에너지 기술 기반 예비, 초기 스타트업

| 모집분야 | 차세대 에너지 기술로 만드는 깨끗한 환경, 차세대 에너지 기술로 만드는 건강한 미래, 차세대 에너지 기술로 만드는 지속가능한 미래

| 지원혜택 | Accelerating & Mentoring, Collaboration & Networking, GS Energy Infra, Seed Funding

| 지원방법 | 홈페이지 지원 www.thegschallenge.com | 문의 | steve@bluepoint.ac

The GS Challenge: Growth through Sustainability에 도전하는 스타트업을 위한 액셀러레이팅 프로그램입니다.

Season 4

The GS Challenge. FUTURE ENERGY
 차세대 에너지 기술로 만드는 지속가능한 미래

| 모집기간 | 23.9.25.~23.10.26.
| 모집대상 | 에너지 기술 기반 예비, 초기 스타트업

| 모집분야 | 차세대 에너지 기술로 만드는 깨끗한 환경, 차세대 에너지 기술로 만드는 건강한 미래, 차세대 에너지 기술로 만드는 지속가능한 미래

| 지원혜택 | Accelerating & Mentoring, Collaboration & Networking, GS Energy Infra & Network, Partnership Benefit, Funding

| 지원방법 | 홈페이지 지원 www.thegschallenge.com | 문의 | steve@bluepoint.ac

The GS Challenge: Growth through Sustainability에 도전하는 스타트업을 위한 액셀러레이팅 프로그램입니다.

CLEAN TECH

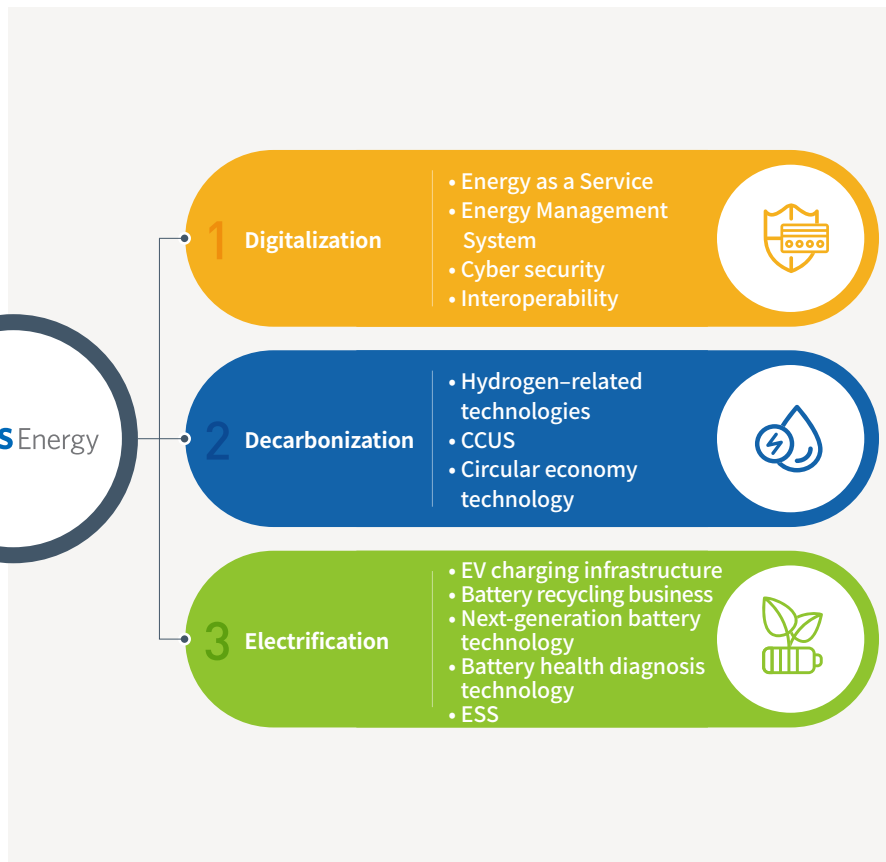
Overseas Investment Strategy

We established the Global Investments to invest and develop businesses that provide energy economically, reliably, and sustainably. The Global Investments selected three investment areas based on the latest global energy industry trends, and we seek to secure future growth engines by reviewing and investing in overseas companies with leading technologies and funds.

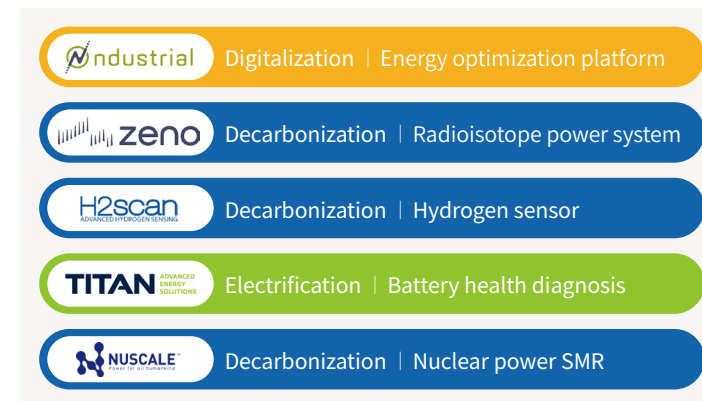
Investment Purpose



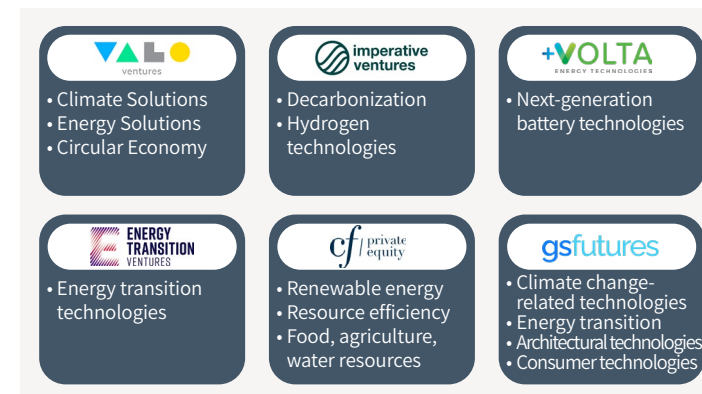
Investment Areas



Directs



Funds



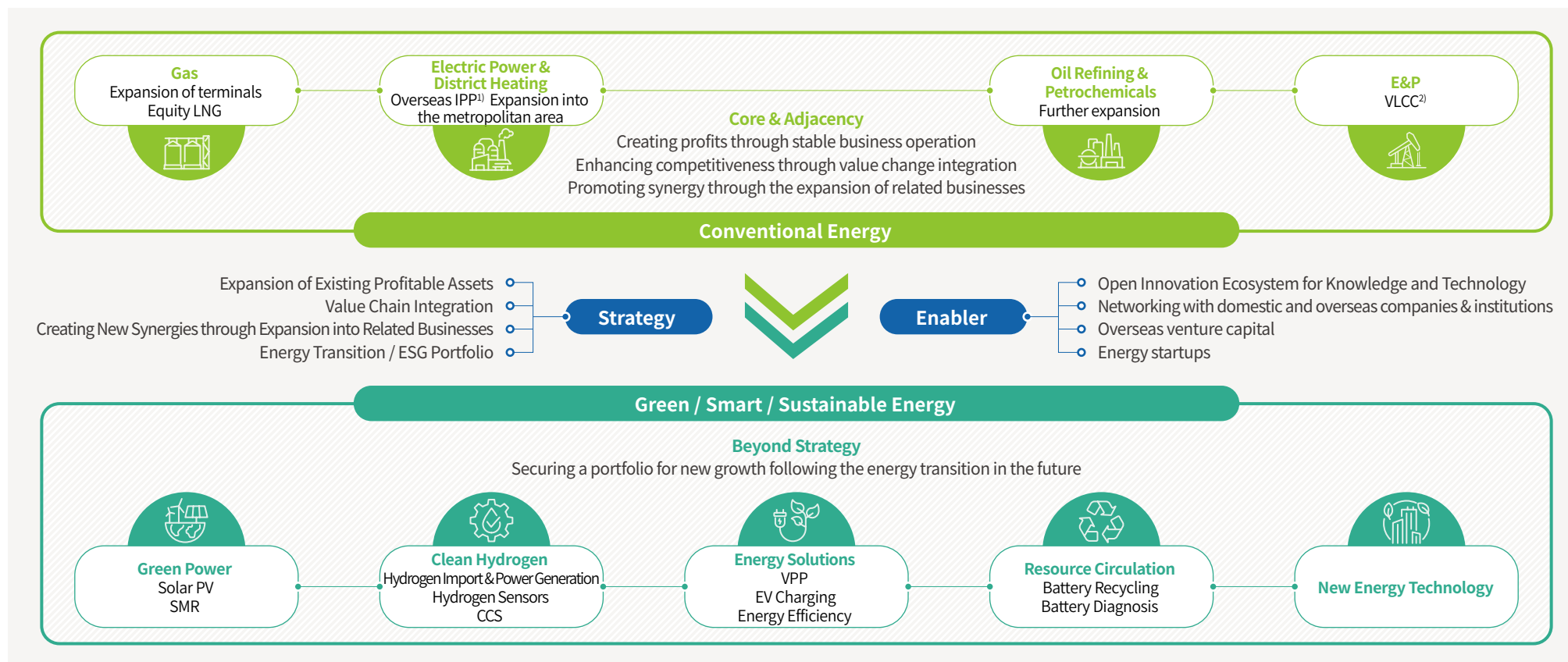
ESG MANAGEMENT

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MID- TO LONG-TERM STRATEGIC DIRECTION

ESG Management Strategy

GS Energy has established a mid- to long-term strategic roadmap for sustainable growth, and is carrying out tasks which are focused on the continuous innovation of its business portfolio, the reinforcement of its human capabilities, the promotion of ESG management, and digital transformation. Notably, since 2021 we have pursued four ESG strategies in earnest: expanding our green power generation portfolio, leading the energy solution market, establishing a resource circulation ecosystem, and leading the reorganization of infrastructure for the clean hydrogen economy. We aim to achieve future growth through these strategies by reinforcing our digital competencies, and promoting eco-friendly management.



1) Overseas IPP (Independent Power Plant): Overseas power plant project in the private sector

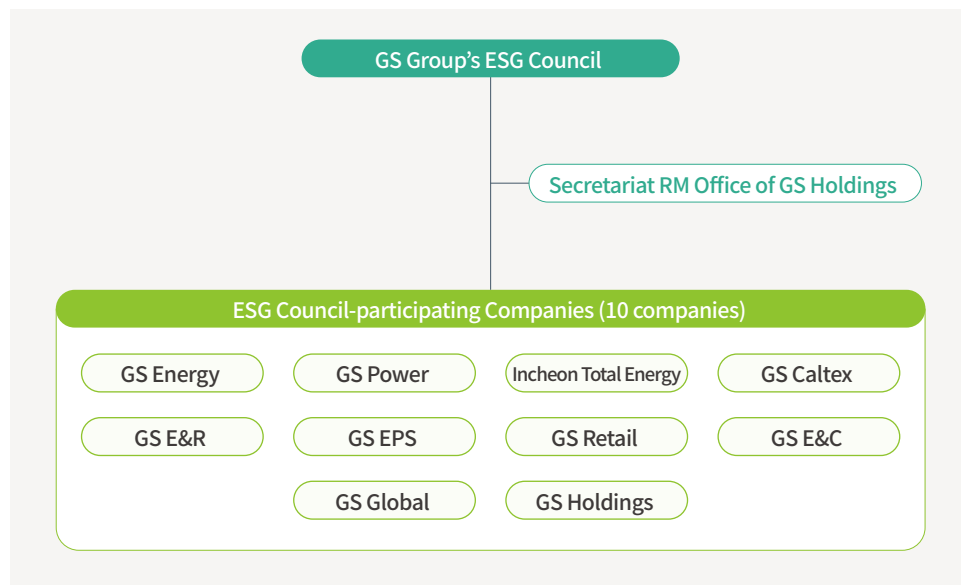
2) VLCC: Very large crude oil carrier

ESG GOVERNANCE

GS Group's ESG Council

GS Group operates its ESG Council of 10 major affiliates to respond effectively to social demand for ESG management. As the highest decision-making body, it discusses and deliberates on issues related to ESG strategies and implementation. The Council consists of SHE-responsible executives from 10 affiliates. Each of the subsidiaries have a secretariat and employees, who implement ESG management through discussions with each other. GS Energy participates in the ESG Council and reports on ESG issues in the power generation and energy industry, including to GS Power, Incheon Total Energy, and other major subsidiaries.

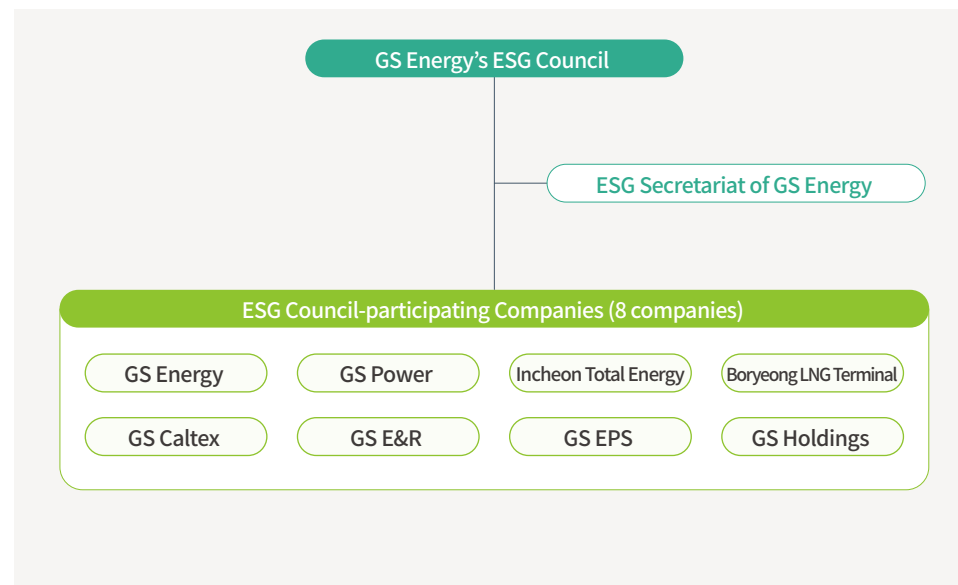
Organizational Chart of GS Group's ESG Council



GS Energy's ESG Council

We operate GS Energy's ESG Council to manage ESG risks and identify the results of our subsidiaries' ESG implementation. Since the second half of 2023, we have expanded the Council's participants to include power generation and energy affiliates to enhance their cooperation and ESG management synergies. In addition to GS Energy, four subsidiaries (GS Power, Incheon Total Energy, Boryeong LNG Terminal, and GS Caltex) and three affiliates (GS E&R, GS EPS, and GS Holdings) are participating in the Council. They share significant ESG trends related to power generation and energy industries and the ESG status of each subsidiary, and discuss response measures. Additionally, critical ESG issues discussed by the Council are reported to the CEO.

Organizational Chart of GS Energy's ESG Council



ESG POLICY

Responsible Investment Policy

We understand that environmental, social, and governance (ESG) factors can have a direct or indirect impact on us and our investments. As a result, we have developed a Responsible Investment Policy to ensure the incorporation of these factors into all processes and to integrate ESG into our existing approach. Responsible investment is defined as thoroughly considering ESG factors when making investment decisions. We are committed to complying with this policy to ensure the stable and long-term implementation of responsible investment practices.

Responsible Investment Principles

In forming a comprehensive policy for implementing responsible investment, we have established the following six principles. We have declared that we will observe these principles in all investment decision-making process.

1. We actively incorporate ESG factors in our investment analysis and decision-making processes.
2. We seek new investment opportunities from an ESG perspective, and contribute to the development of responsible investment.
3. We continuously communicate and cooperate with stakeholders to implement the responsible investment principles.
4. We continuously assess the ESG status of investment targets, and engage in activities to make a positive impact.
5. We continuously strive to improve the competence and expertise needed to implement responsible investment effectively.
6. We report on our responsible investment activities and their outcomes to transparently disclose the goal and status of responsible investment.

[Responsible Investment Policy](#)

Environmental Management Policy

We have developed and implemented an environmental management policy to promote sustainable management by conserving and enhancing the environment. This policy is applied to the business operations of GS Energy and its subsidiaries. We encourage our subsidiaries to adhere to the policy, without interfering with the independence of their management.

[Environmental Management Policy](#)

Charter of Human Rights

We recognize the importance of human rights, a universal value of humanity, and corporate social responsibility in the process of corporate management. We also work to ensure we respect the human rights of our stakeholders. We established the Charter of Human Rights to build a foundation for human rights management. Its scope of application encompasses our employees, including those of our subsidiaries. In the event that matters covered by the Charter of Human Rights conflict with local laws and regulations, the local laws and regulations are given priority. Our subsidiaries are encouraged to implement this Charter, without interfering with the independence of their management.

[Charter of Human Rights](#)

Code of Conduct for Partners

We have established a Code of Conduct for Partners to ensure that they embrace our sustainable management principles. We recommend that all partners, including our subsidiaries, voluntarily comply with this Code, regardless of their business location.

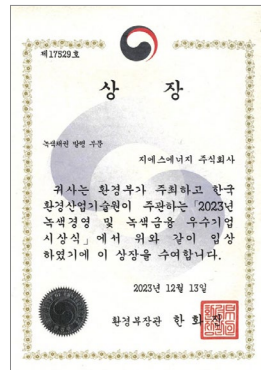
[Code of Conduct for Partners](#)

ESG POLICY

Green Bond Management System

We have created the Green Bond Management System to carry out the Environment (Green) Award Project. The goal is to address climate change and enhance our commitment to eco-friendly practices. This system follows the Korean Green Bond Guidelines, and outlines the permissible uses of funds based on four key elements of green bonds. As Korea's first private energy company, we are proud to have issued Korean Green Bonds. The funds raised are allocated to three K-Taxonomy Eligible Green Projects: waste recycling, construction and operation of zero-emission transportation infrastructure, and renewable energy generation. These initiatives have led to our recognition with an Excellent Green Bond Issuance Company (Minister of Environment Award) in 2023.

 Green Bond Management System



Sustainable Management Award

We won the Minister of Trade, Industry, and Energy Award in the Comprehensive ESG category of the Government Awards for Sustainable Management 2023, in recognition of our contribution to the spread and development of a culture of sustainable management.

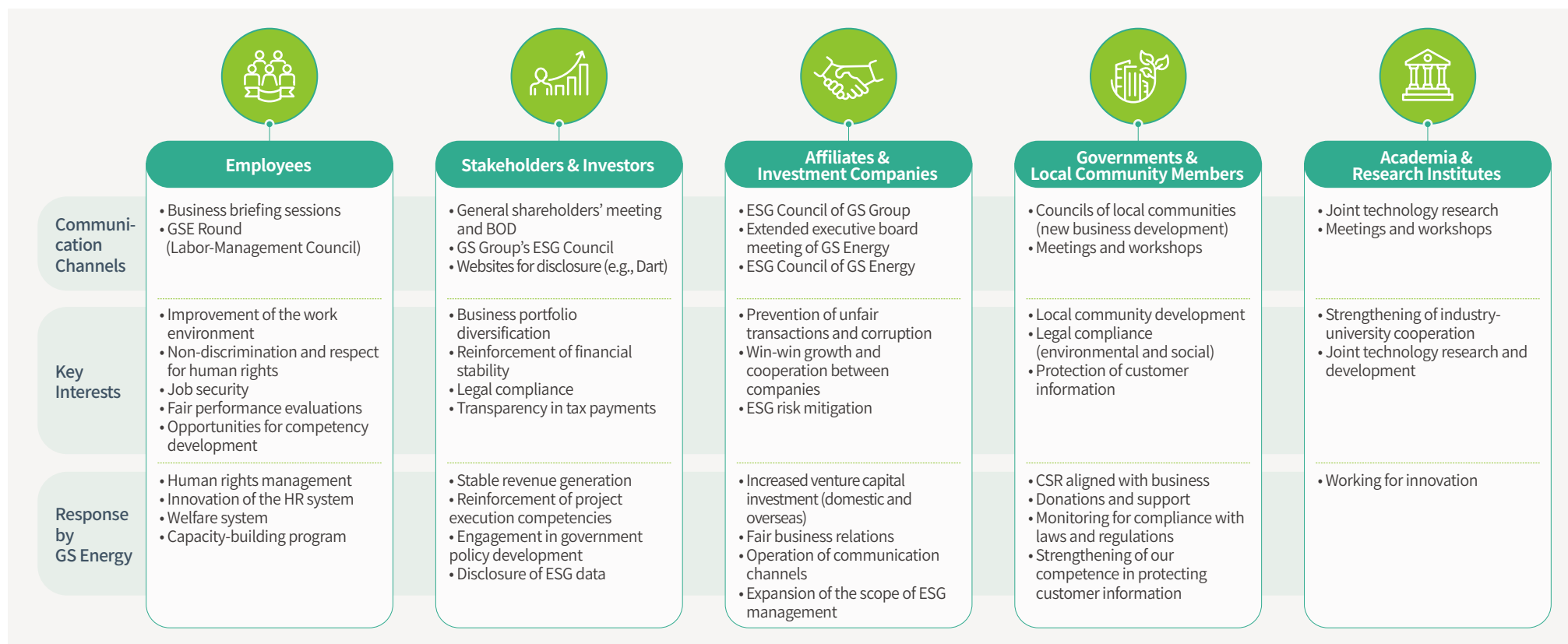


STAKEHOLDER ENGAGEMENT

Stakeholder Communication

We engage with both internal and external stakeholders to gather their feedback and incorporate it into our management practices, with the goal of promoting sustainable development. This process starts with identifying the various stakeholders related to our business operations or services, as well as those who have economic, environmental, or social interests in common with us. We categorize our stakeholders into employees, investors, and local communities based on internal guidelines, and communicate with them consistently and dependably to understand their expectations.

Stakeholders and Key Communication Channels



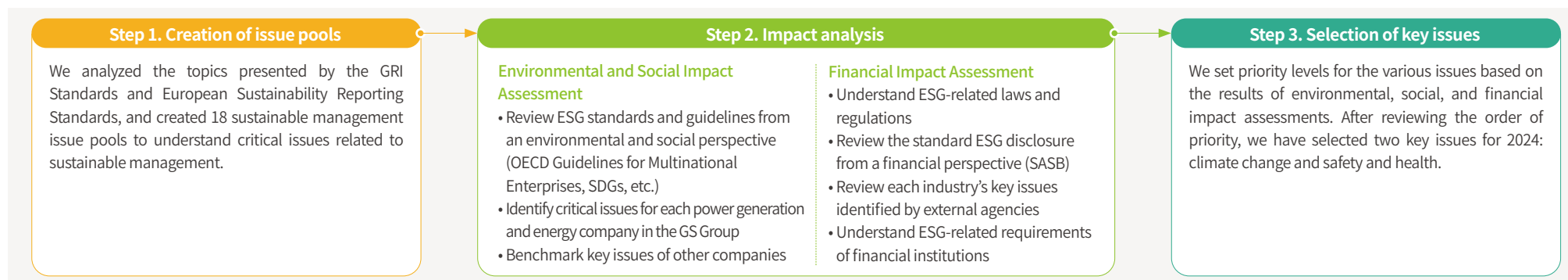
ESG MATERIALITY

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MATERIALITY ASSESSMENT

Double Materiality Assessment Process

We have conducted materiality assessments to identify sustainable management information that stakeholders should know. We selected key issues through a quantitative analysis and priority review on the impacts of each financial, environmental, and social issue.



Key Issues

Issue	Impact Type		Major Impact	Disclosure Standard & Initiatives			Compared to Previous Year ²⁾	PP.
	Positive/Negative	Current/Potential		GRI	SASB ¹⁾	SDGs		
Climate change	Positive	Current	• Expand opportunities for new eco-friendly businesses based on the stronger GHG emissions regulations and increasing demand for renewable energy in the market	GRI: 305	IF-EU-110a		No change	34-41
	Negative	Potential	• Worsened funding conditions due to changes in the capital market, such as the increase in challenges related to achieving carbon neutrality by key external stakeholders (e.g., financial institutions)					
Safety and health	Positive	Current	• Establish safety and health management system, improve the level of safety culture awareness among employees, and minimize the occurrence of industrial accidents • Prevent legal risks by complying with laws and regulations related to safety and health, such as the Serious Disaster Punishment Act	GRI: 403	IF-EU-320a		New	42-48
	Negative	Potential	• Decreased productivity and manpower when an industrial accident caused by poor safety and health management system • Potential for legal liabilities and reputational risks due to violations of safety and health-related laws and regulations					

1) SASB Electric utilities and power generators

2) Changes in key issues compared to the previous year

MATERIALITY 1. | CLIMATE CHANGE

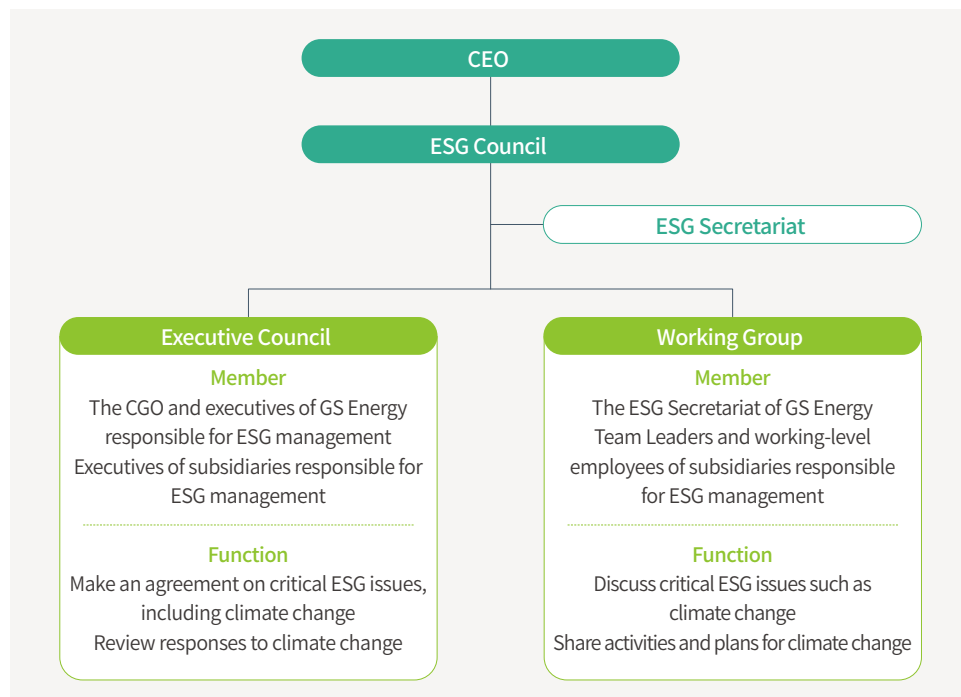
Governance

Monitoring and Supervision of Climate Risk and Opportunity

At GS Energy, the CEO, as the highest decision-maker, is responsible for addressing key issues related to managing climate change-related risks and opportunities. The CEO also oversees management activities related to climate change, and reviews the appropriateness of response activities. In addition, GS Energy has an ESG Council, which consists of major subsidiaries¹⁾ and is led by the ESG Secretariat to support the CEO. The ESG Council is divided into the Working Group and the Executive Council, and the subsidiaries share their climate change responses in the Council. This allows for a comprehensive review of the climate change responses of the subsidiaries, and key issues identified in the Council are reported to the CEO.

1) GS Power, Incheon Total Energy, Boryeong LNG Terminal, GS Caltex

Governance System



Issues reported to the CEO

Category	Key Issue	Date
1 st	<ul style="list-style-type: none"> Developing ESG investment standards to review risks related to climate change before an investment Establishing a foundation for integrated management of subsidiaries' ESG data, such as GHG emissions 	April 2023
2 nd	<ul style="list-style-type: none"> Requests for global disclosure related to the response to climate change and the regulation trends Activities and plans of major subsidiaries related to climate change 	August 2023

ESG Council Log

Category	Key Issue	Date
1 st	Sharing ESG management activity plans to respond to climate change	April 2023
2 nd	Reviewing the result of the review of the applicability of GHG emissions reduction technology	April 2023
3 rd	Sharing a plan to establish a carbon neutral strategy and implementation roadmap for subsidiaries	July 2023
4 th	Reviewing the installation of renewable energy (solar power) facilities of subsidiaries	October 2023

MATERIALITY 1. | CLIMATE CHANGE

Strategy

Identification of risks and opportunities related to climate change

We review policy changes and industry trends related to climate change to identify risk and opportunity factors expected to impact our businesses. The risks are divided into conversion and physical risks. The identified risk and opportunity factors are as follows.

Factor	Type	Business Area	Risks and Opportunities Related to Climate		Impact Period ¹⁾
Conversion risk	Policy & Regulation	Common	T1	Increased financial burden of investment in reduction facilities due to the expansion of greenhouse gas-related policies and regulations, both domestically and internationally	Mid- & long-term
		Electric power	T2	Strengthened competition for new LNG combined heat and power generation projects due to the government's tightening of permit standards for district energy businesses	Mid-term
			T3	Increased shortage of emission allowances and rising purchase costs due to the enhancement of the Nationally Determined Contributions (NDC) and the expansion of the paid allocation of emission permits	Long-term
		Gas	T4	Heightened legal risks related to direct natural gas import businesses due to the introduction of methane emission reduction regulations by the EU and other global entities	Long-term
			T5	Decreased demand and reduced terminal utilization due to the decline in gas-fired power generation as a result of government policies	Long-term
	Technology	Electric power	T6	Increased investment costs, including R&D expenditure, to secure greenhouse gas reduction technologies applicable to gas-fired power plants	Long-term
	Market	Common	T7	Worsening conditions for raising business funds due to the expansion of green finance and financial institutions' push for Net Zero	Mid- & long-term
	Reputation	Common	T8	Increased potential for greenwashing issues, such as lawsuits, due to heightened activities of climate change-related NGOs	Mid-term
		Gas	T9	Strengthened demands from external stakeholders to ensure the environmental sustainability of gas businesses, leading to increased exposure to reputational risks	Long-term
Physical risk	Acute	Common	P1	Risk of business interruptions (revenue loss) and asset damage due to natural disasters such as typhoons and floods	Long-term
	Chronic	Gas	P2	Risk of business interruptions (revenue loss) and asset damage for facilities located near the coast due to rising sea levels	Long-term
Opportunity	Policy & Regulation	Electric power	O1	Increased opportunities for overseas reduction projects due to the enhancement of NDC and the increase in international obligations to make carbon reductions	Long-term
			O2	Increased new business opportunities in the power sector following the enforcement of the Special Act on the Activation of Distributed Energy to promote energy transition	Long-term
			O3	Increased new business opportunities related to the supply and generation of clean hydrogen following the introduction of the tender system for general and clean hydrogen power generation	Mid-term
		Gas	O4	Increased demand for LNG bunkering due to the strengthening of greenhouse gas emission regulations for ships by the International Maritime Organization (IMO)	Long-term
			O5	Short to mid-term increase (or maintenance) in demand as natural gas is recognized as a bridge fuel and contributes to system stability	Short- & Mid-term

1) Short-term is within a year, mid-term is more than a year but within five years, long-term is more than five years

MATERIALITY 1. | CLIMATE CHANGE

Strategy

Action Plan for Risks and Opportunities Related to Climate

We explore methods to respond to identified conversion and physical risks and opportunities related to climate change. This enables us to minimize the direct and indirect risks caused by climate change, and we will make the most of the related business opportunities.

Major Risks and Opportunities Related to Climate			GS Energy's Response Plan
Policy, Regulatory, and Market Demand Changes	T5	Decreased demand and reduced terminal utilization due to the decline in gas-fired power generation as a result of government policies	<ul style="list-style-type: none"> • Explore additional ways to utilize terminals, such as assessing demands for natural gas, which is used as a material for hydrogen production in Korea (Gray Hydrogen – LNG-based) • Secure sources for importing clean hydrogen and ammonia and explore opportunities to participate in biddings • Explore new business opportunities in LNG bunkering • Explore investment opportunities in gas assets for producing low-carbon LNG
	O3	Increased new business opportunities related to the supply and generation of clean hydrogen	
	O4	Increased demand for LNG bunkering driven by the strengthening of the IMO's greenhouse gas emission regulations on ships	
	O5	Short to mid-term increase (or maintenance) in demand for natural gas as a bridge fuel during the energy transition	
Increasing Stakeholder Awareness and Demand Levels	T7	Worsening conditions for securing business financing due to financial institutions' push for Net Zero	<ul style="list-style-type: none"> • Review the establishment of a company-wide climate change response plan based on financial institutions' requirements • Evaluate the introduction of eco-friendly LNG, such as low-carbon LNG blended with biogas • Strengthen internal management systems for greenwashing risks
	T8	Heightened risk of greenwashing issues, including litigation, due to the increasing activities of climate change-related NGOs	
	T9	Strengthened demands from external stakeholders to ensure the environmental sustainability of gas businesses, leading to heightened exposure to reputational risks	
Exposure to Physical Damage	P1	Risk of business interruptions and asset damage due to natural disasters such as typhoons and floods	<ul style="list-style-type: none"> • Establish and implement climate adaptation measures following an assessment of physical risks
	P2	Risk of business interruptions and asset damage for facilities located near the coast due to rising sea levels	

MATERIALITY 1. | CLIMATE CHANGE

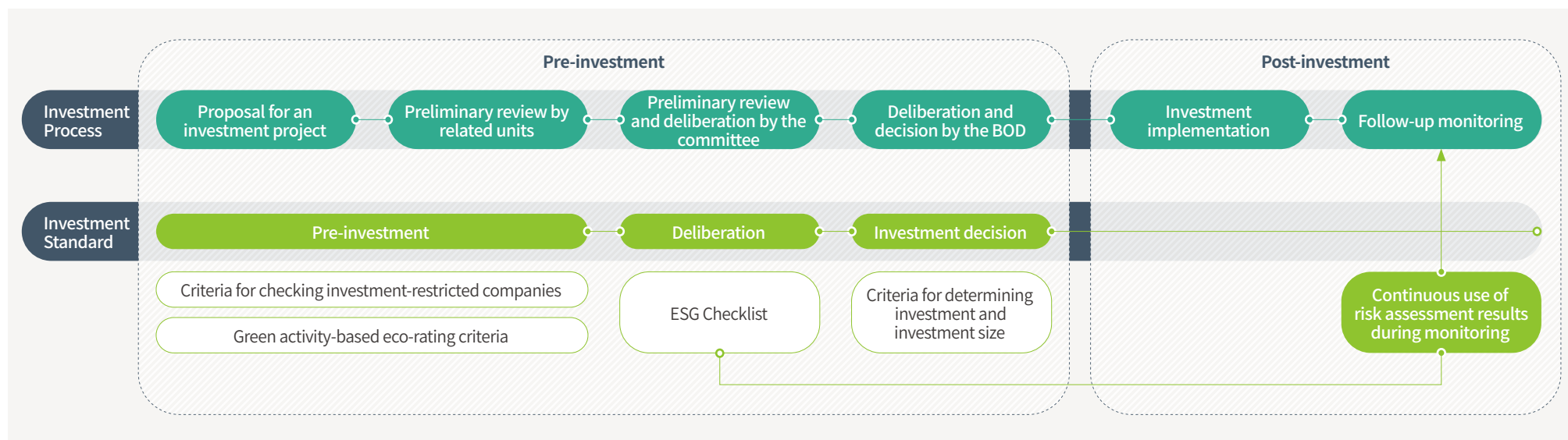
Risk Management

Establishing a Climate-related Risk Assessment System

We recognize that ESG-related risk factors can directly and indirectly affect our future financial status and performance, so we actively consider the ESG risk level of investee companies when starting new businesses. We established an ESG risk assessment system for prospective investees in the investment review and deliberation process. This assessment is conducted in two stages: pre- and post-investment. In the pre-investment step, relevant organizations check the ESG investment restriction and eco-friendliness criteria after the investment proposal. During the preliminary review and decision-making process, the Investment Deliberation Committee reviews the result of the risk assessment of an investee based on the ESG checklist.¹⁾ Based on the result, the Board of Directors makes a final decision on the investment and its size. After the investment, we conduct follow-up monitoring to improve investees' ESG management and mitigate their risks.

1) Confirm whether the company has an organization to respond to climate change, and how much it reduced GHG emissions and the use of energy in the past

Investment Review and Deliberation Process



MATERIALITY 1. | CLIMATE CHANGE

Risk Management

Recovery of Unutilized Energy



Recovering unutilized energy and recycling it for district heating services is expected to create synergies both by cutting heat production costs, and by securing carbon credits (with the implementation of carbon neutrality policies). GS Power has been actively developing technologies to efficiently harness unutilized energy, and currently owns seven patents in this field. The company has also concluded agreements with the local governments of Bucheon and Anyang, where district heating is provided, to use unutilized energy from urban infrastructure. In addition, GS Power offers technology consulting services for the recovery and supply of unutilized energy, and is participating in a national R&D project, which aims to explore next-generation energy supply solutions for cities.



Incheon Total Energy is committed to continuously exploring, investing in, and operating new, external sources of heat in order to recover and recycle unutilized energy that would otherwise be just released into the air. Through these activities, the company has decreased in LNG usage by 38,360 tons and GHG emissions by 77,000tCO₂eq in 2023.

Installation of Equipment to Improve Energy Efficiency (Heat Pumps)



A heat pump is a device that recovers low-temperature energy to provide medium or high-temperature heat, and the technology is emerging as a method of reducing carbon emissions around the world. In November 2010, GS Power installed heat pumps in its combined heat and power plants in Anyang and Bucheon, the first installation of such devices in Korea. These heat pumps utilize the cooling water from the power plants as a heat source for the evaporators, allowing them to produce 9 Gcal/h (equivalent to supplying 7,000 households). In addition, GS Power has successfully developed and commercialized a new technology for recovering unutilized heat and recycling it for district heating by using a medium-temperature water absorption heat pump, the first of its kind in the world.

Eco-friendly and Low-carbon Product Certification



The Korea Environmental Product Declaration label quantitatively provides the environmental impact of all processes of raw material collection, production, transportation, distribution, use, and disposal of products and services. By providing environmental impact information to consumers, this system potentially encourages continuous environmental improvement led by the market. Incheon Total Energy acquired The Korea Environmental Product Declaration label in August 2023 in recognition of the excellent energy production efficiency and the carbon dioxide reduction effect of its LNG combined heat and power plant. The company is expected to prove the value of its district heating by satisfying the need to use eco-friendly products while reducing GHG emissions.

MATERIALITY 1. | CLIMATE CHANGE

Risk Management

GHG Emissions and Energy Use Management



Since being designated as a business entity eligible for the allocation of emission permits in 2015, GS Power has submitted an annual GHG emissions report to the Ministry of Environment after it has been verified by an external verification agency, along with the corresponding emission permits. GS Power prepares for the verification process by creating an emissions calculation plan through an external agency every year to improve the accuracy of its GHG emissions calculation and systematize the measurement of activity data and parameters. In addition, the company has established a GHG inventory to monitor and manage the direct and indirect GHG emissions corresponding to scope 1 and 2 emissions.



Incheon Total Energy is fulfilling its obligation to reduce GHG emissions under the Framework Act on Low Carbon, Green Growth, and the Act on the Allocation and Trading of Greenhouse Gas Emission Permits. The company has implemented mid- to long-term plans to reduce carbon emissions, which include strengthening energy efficiency through the installation of energy-efficient power generation facilities. Additionally, Incheon Total Energy has secured sufficient carbon credits by applying and upgrading BM coefficients for the rational allocation of carbon credits while maximizing its profits by trading surplus carbon credits based on continuous monitoring of revisions to relevant laws and market trends. In this way, Incheon Total Energy is responding efficiently to the emissions trading system.

Response to Climate Change Risks



Shin Pyeongtaek Power has reduced its exposure to the risks created by the emissions trading system through timely implementation and compliance with government policies. The company has also enhanced data reliability by conducting internal reviews of GHG inventory tools and data through a unified monitoring, reporting, and verification (MRV) system. It has measured energy consumption, conducted regular facility examinations, and received audits from external institutions. Furthermore, the company has reduced emissions by about 20,000 tons through operational improvements in power generation facilities, such as by optimizing the supply method of steam and the operational order of gas and steam turbines. Shin Pyeongtaek Power has also proactively increased emissions allowances for 2024 and 2025 by carrying forward allowances in line with stronger Nationally Determined Contributions (NDC). Additionally, the company has minimized NOx emissions to contribute to decreasing fine dust by optimizing the SCR operation of an emergency ultrafine dust reduction measure.



As part of its efforts to address climate change risks, Dongducheon Dream Power has actively reduced energy consumption by avoiding the unnecessary operation of rotating equipment (e.g., high voltage motors, auxiliary boilers) during the installation of a fan motor inverter in its cooling tower, as well as during startup and shutdown processes. The company plans to carry out various activities to reduce carbon emissions in order to contribute to the government's goal of achieving carbon neutrality by 2050.

MATERIALITY 1. | CLIMATE CHANGE

Risk Management



CHEONGNA ENERGY

Instead of using fossil fuels, Cheongna Energy recycles energy from waste heat, such as the waste heat from power plant smokestacks, waste-burning heat from resource recovery facilities, and waste steam heat from fuel cells, which it uses to provide district cooling and heating services. In this way, the company contributes not only to reducing national energy costs but also to improving air quality. Cheongna Energy Resource is also involved in GHG reduction activities. For example, since 2016, it has obtained 5,500tCO₂eq of external project-based carbon offset credits annually for the effective reduction of fossil fuel consumption it achieved by supplying the waste-burning heat from resource recovery facilities to district heating and cooling.

HAEZOOM

Haezoom is focused on expanding the supply of renewables through various solar PV and power services, and has directly installed and is managing more than 10,000 renewable power generation facilities, including solar power plants. Recently, the company conducted over 100 RE100 consultations based on “HaezoomR,” the first RE100 platform in Korea, to assist large domestic and global companies in implementing RE100, thereby helping them to have a positive influence on the environment. Furthermore, through CSR activities such as “Hope Haezoom” and the energy sharing project, Haezoom supports those who are energy-disadvantaged by installing solar PV facilities and covering electricity bills, and also by donating solar lanterns to Africa for each solar power plant installation, through which the company is exerting a good influence on the environment.



MATERIALITY 1. | CLIMATE CHANGE

Metrics and Targets

Climate Change-related Indicators and Targets

We track the scope 1 and 2 emissions of GS Energy and its dependent, common, and relational enterprises as indicators of our response to climate change. We will set mid- to long-term greenhouse gas (GHG) emissions targets to evaluate our progress in addressing climate change. These targets will be established by taking into account the degree of commercialization of reduction technologies, anticipated investment costs, and funding sources.

GHG Emissions (GS Energy and Dependent Enterprises)

※ The total GHG emissions differ from the sum of Scope 1 and Scope 2 emissions (scope 1 and scope 2 emissions are rounded when calculating the total emissions).

Category	Unit	GS Energy (Separate)			Dependent Enterprises ¹⁾			Total Emissions		
		2021	2022	2023	2021 ²⁾	2022	2023	2021	2022	2023
Scope 1 Emissions	tCO ₂ eq	95	78	70	2,553,285	3,337,989	2,926,648	2,553,380	3,338,067	2,926,718
Scope 2 Emissions	tCO ₂ eq	154	213	220	27,478	23,806	29,010	27,632	24,019	29,230
Total	tCO ₂ eq	249	291	291	2,580,763	3,361,795	2,955,653	2,581,012	3,362,086	2,955,944

1) Reporting Scope: For 2001 and 2002, GS Power and Incheon Total Energy are included. Starting from 2023, With Incheon Energy and GS CHARGEV are also included.

2) GHG emissions total for GS Power has been corrected due to a reporting error.

GHG Emissions¹⁾ (Common and Relational Enterprises, As of 2023)

Category	Unit	Common Enterprises ²⁾	Relational Enterprises ³⁾	Total Emissions
Scope 1 Emissions	tCO ₂ eq	3,608,356	915,143	4,523,499
Scope 2 Emissions	tCO ₂ eq	804,909	44,704	849,613
Total	tCO ₂ eq	4,413,258	959,847	5,373,105

1) Calculated using the equity share approach (equity share as of December 31, 2023)

2) Reporting Scope: Boryeong LNG Terminal and GS Caltex (separate entity basis)

3) Reporting Scope: Shin Pyeongtaek Power, Dongducheon Dream Power, and Lotte GS Chemical

※ Next year's sustainability report and all that follow will disclose comparative information.

GHG Emissions¹⁾ (Per Business Sector, As of 2023)

Category	Unit	Power District Heating	Gas	Oil & Chemical	EV Charging
Scope 1 Emissions	tCO ₂ eq	3,841,791	1,021	3,607,335	0.3
Scope 2 Emissions	tCO ₂ eq	31,245	25,817	821,507	54.2
Total	tCO ₂ eq	3,873,031	26,838	4,428,835	54.5

1) Reporting Scope: Power and district heating (GS Power, Incheon Total Energy, With Incheon Energy, Shin Pyeongtaek Power, Dongducheon Dream Power), gas (Boryeong LNG Terminal), oil and chemical (GS Caltex, Lotte GS Chemical), EV charging (GS CHARGEV)

※ Next year's sustainability report and all that follow will disclose comparative information.

MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (GS Power)

Safety and Health Management Policy

GS Power prioritizes safety and health as a core management value, and has established a safety and health management policy to manage safety and health for all employees. The company will strive to prevent industrial accidents by continuously performing safety and health management activities to ensure that all employees can work in a safe and pleasant work environment.

01

The company shall do its best to create a safe and healthy working environment by establishing and operating a safety and health management system that is preventive and rooted in self-discipline, placing the safety and health of employees and all workers for its partners as its top priority based on human respect in all management activities.

02

The company fulfills its responsibilities and obligations in the area of safety and health, actively provides organizational, manpower, and budget support, in addition to other resources, to ensure compliance with safety and health regulations and internal rules, and strives to prevent industrial accidents through eliminating harmful and hazardous factors, and strengthening accident prevention capabilities.

03

The company regularly assesses and improves the effectiveness of its safety and health management system based on communication and participation with all employees, ensuring that it is effectively established and executed, and strives to promote a culture of voluntary observance of safety through these efforts.

04

The company forms partnerships with stakeholders, including cooperating companies, by providing them with safety and health-related information, facilitating training, support, inspections, improvements, and other processes to encourage their participation in creating a mutually beneficial and cooperative relationship.

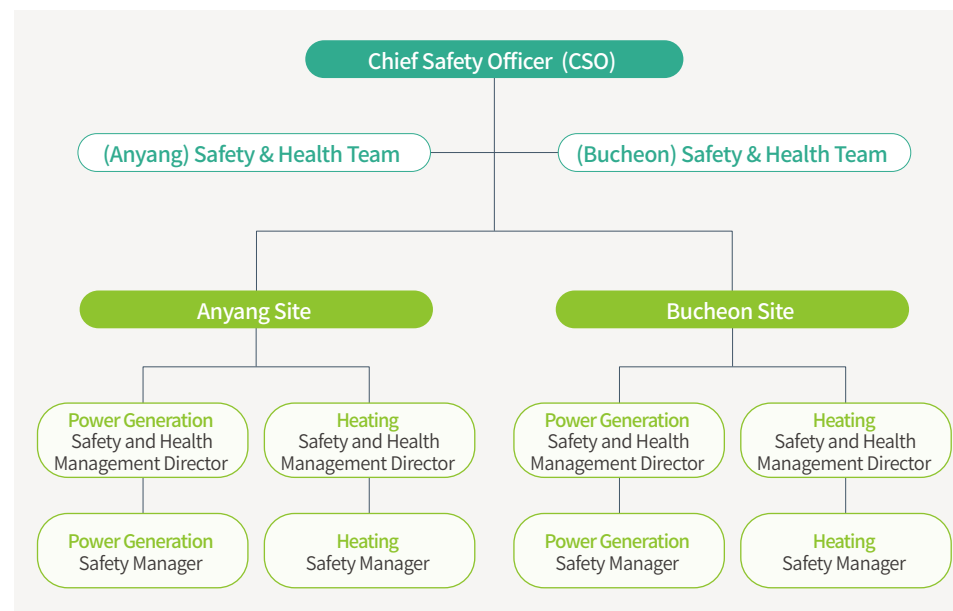
05

All workers understand and practice the safety and health management policy, actively participate in identifying potential hazards to achieve safety and health improvements, and diligently adhere to safety rules and regulations, with the goal of maintaining accident-free workplaces.

Safety and Health Management Organization

GS Power has appointed a Chief Safety Officer (CSO) to strengthen its safety and health management system. The CSO is responsible for establishing and implementing company-wide safety and health policies. Under the CSO, each business site has an organization dedicated to safety and health. The organizations strengthen their expertise in safety management, systematically manage safety and health, and continuously improve safety.

Safety and Health Organizational Chart



MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (GS Power)

Process Safety Management

To ensure compliance with the Industrial Safety and Health Act, GS Power thoroughly manages process management to prevent accidents such as leaks of hazardous materials, fires, and explosions caused by hazardous equipment. The company regularly updates process safety data while inspecting the adequacy and effectiveness of the safety management system through an annual internal audit. In addition, GS Power operates a process safety management (PSM) TF to identify potential risk factors and prepare preventive measures. These systematic activities enable the company to secure the safety of employees and the local communities in which we operate. GS Power will continue to provide regular education and training for all employees to enhance their safety awareness and create a safe and reliable workplace.

Process Safety Data

Updating and practical use of process safety data

Process Risk Assessment

Periodic hazard assessments conducted through worker participation

Safe Operation Guides

Utilizing and complying with operators' safe operation guides

Facility Inspection, Testing, and Maintenance

Regular inspections and maintenance based on equipment risk classification

Safe Work Permit

Establishment of safety plans and compliance with procedures for hazardous tasks

Contractor Safety Management

Implementation and evaluation of contractor safety management

Worker Training

Development and management of worker PSM training plans

Pre-startup Check

Conducting pre-startup checks on facilities and addressing any deficiencies

Changing Elements Management

Managing and monitoring changes made according to the inspection results

Internal Audit

Selection of internal audit team and objective audits followed by corrective actions

Process Incident Investigation

Investigation of process incidents, including near-miss incidents, and development of preventive measures

Emergency Response

Development of emergency response plans based on quantitative incident scenarios and regular training

Safety Patrol by External Experts

GS Power carried out safety patrol activities in cooperation with external experts during the planned preventive maintenance periods to improve safety management at the Anyang and Bucheon Offices and maintain accident-free workplaces. In addition, external institutions regularly manage safety while assigning an auditor to identify and address risk factors. Responsible employees attend educational seminars on safety patrol results to make continuous improvements.

Specialized Institutions' Safety Education

To increase the effectiveness of safety education for employees, GS Power receives quarterly online safety and health education from the Korea Industrial Safety Association. This online education encourages employees to participate in activities to address safety problems. The company also has introduced professional curriculums of external safety-specialized institutions to increase safety management at the workplace through specialized safety education.

STOP System

GS Power operates the Safety Training Observation Program (STOP), which all employees and suppliers participate in. This system gives employees the authority to stop work when a risk factor is identified. The company holds the STOP Operation Committee to update information and identify matters that should be corrected. It also selects cases of potential risk identification and excellent STOP cards, creating an environment in which all employees actively participate in the STOP system.

Special Safety Inspection for Important Dangerous Works

GS Power conducts safety and health education to manage the safety of suppliers' employees on site. This effort creates a more stable work environment for these personnel, who are relatively vulnerable to safety accidents. In 2023, the company conducted 124 and 128 safety and health classes before hazardous works at the Anyang and Bucheon power plants, respectively. In addition, GS Power performs a special safety inspection in the event of facility overhauls or long-term construction to enable external safety experts and employees responsible for safety and health to inspect the field.

MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (GS Power)

Health Checkup and Aftercare Programs

GS Power provides an annual comprehensive health check-up for all employees age 35 and over at designated hospitals in each region to promote sustainable health management. Employees can transfer their job duties, participate in health challenges, receive follow-up tests, manage their health data, or receive counseling services. The health challenges aim to improve their body composition and InBody scores. Employees can also monitor their health conditions through follow-up tests.

Counseling Services

Through a psychological support program, GS Power helps employees focus on maintaining their mental health at work. The company operates a personal counseling program in cooperation with external organizations to help employees resolve various concerns, such as depression, job stress, and family issues.

Health Management

GS Power conducts monthly on-site visits by nurses from contracted health management organizations to check and manage the health of individuals under observation and employees with health concerns. In addition, the company conducts health management inspections and provides in-depth consultations through quarterly visits by contracted doctors. To further support employee health management, a health manager is designated for each business site, and automated external defibrillators have been installed to prepare for emergency situations.

Work Environment Measurement

GS Power conducts work environment measurements biannually at Korea Workers' Compensation & Welfare Service Incheon Hospital in Bucheon and Anyang Sam Hospital in Anyang. The results of the 2023 work environment measurements indicated that all hazardous factors, such as noise, acids and alkalis, metals, and dust, were maintained below the exposure standards. Despite meeting the exposure standards, GS Power recognizes that diseases may still occur depending on the physical requirements and working conditions of each worker. To address this, the company has placed warning signs and provided earplugs in noisy areas, routinely inspects the controlled wind speed of local exhaust devices, and has implemented management guidelines for chemical agent handling areas. These measures aim to create safer workplaces for workers.

Safety and Health Management (Incheon Total Energy)

Safety, Environment, and Health Management Policy

Incheon Total Energy has established a safety, environment, and health management policy to realize sustainable management and social values in accordance with goals and principles that prioritize safety, the environment, and health.

01

We build and operate organizations based on safety, the environment, and health to enhance our capabilities and provide greater value to our customers and stakeholders.

02

We prioritize safety and health as key elements of our management strategy and comply with all applicable laws, regulations, and other requirements to lead the way in establishing a proactive and self-regulating safety culture.

03

We build safe business sites by proactively identifying and continuously addressing potential hazards and risks using risk assessments.

04

We practice eco-friendly management by strengthening environmental management in our business sites and actively pursuing activities to reduce environmental pollutants.

05

We communicate our safety, environment, and health management policies to all stakeholders, and work together to implement these policies through activities.

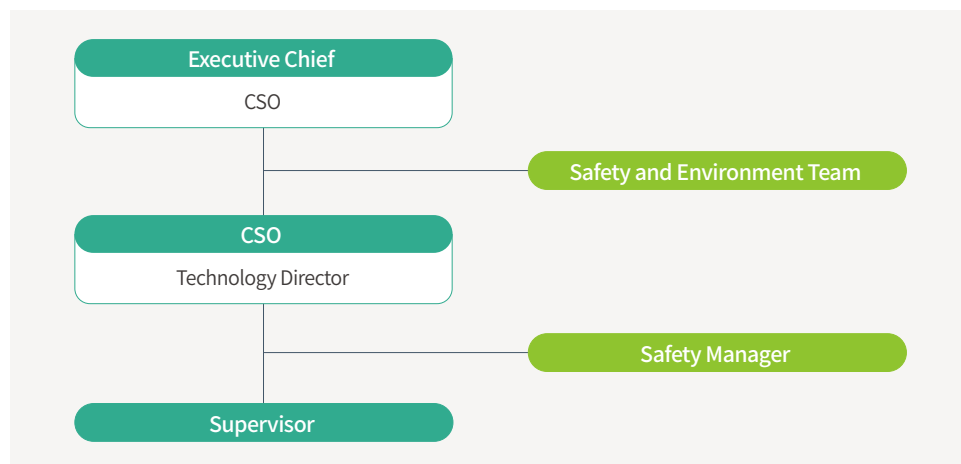
MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (Incheon Total Energy)

Safety and Health Management

Incheon Total Energy has appointed the Chief Safety Officer (CSO) to respond to the Serious Disaster Punishment Act and strengthen safety and health management. In addition, it created the Safety and Environment Team under the CSO. The company establishes safety and health targets and regularly inspects them for thorough and continuous management.

Safety and Health Organizational Chart



Process Safety Management

To prevent accidents that may cause harm to workers in workplaces or areas near business sites, such as hazardous material leaks, fires, and explosions from hazardous facilities, Incheon Total Energy systematically manages process safety according to the Industrial Safety and Health Act. The company regularly updates process safety data, conducts process safety assessments, manages the safety of suppliers, and performs an annual internal audit.

Safety Accident Prevention

Incheon Total Energy does its utmost to improve safety awareness and prevent accidents through process safety management (PSM), the potential risk and near-miss accident discovery system, and monthly safety inspection day. In addition, it inspects areas with potential for accidents on its business sites. As well, to promote shared growth, the company conducts safety and health education and on-site inspections and organizes the Safety and Health Council meetings in partnership with suppliers. Incheon Total Energy supports suppliers from various perspectives in improving their safety management while conducting safety and health education and supporting risk assessments.

Category	Description	Cycle
Safety Inspection Day	<ul style="list-style-type: none">• Safety and health education• On-site inspection• Suppliers' Safety and Health Council	Monthly
Emergency Response Training	<ul style="list-style-type: none">• Emergency scenario drills• Emergency external institution contact information• Study of the private fire brigade's roles and action	Annually
Joint Safety Inspection Special Safety Inspection	<ul style="list-style-type: none">• Facility stability and field safety inspection	Quarterly As needed

Safety Education for Employees

Incheon Total Energy conducts quarterly online safety education by the Korea Industrial Safety Association. In addition, the company has designated the 4th of every month as Safety Inspection Day, on which safety and PSM education are conducted. On this day, Incheon Total Energy provides safety and health information for each season to its employees, improving the effectiveness of education. This information includes the professional curriculum of external safety institutions, to enhance the level of safety management.

MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (Incheon Total Energy)

Health Education for Employees

Incheon Total Energy is committed to eliminating harm to workers caused by hazardous substances in our business sites. We conduct an annual assessment of the work environment through Nasaret International Hospital. Based on the results of this assessment, measures are applied, such as providing personal protective equipment (PPE), improving the work environment, and facilitating job transitions. The 2023 assessment found that the required standards were being met for noise, acids, alkali, metals, and dust.

Health Education Log

Date	Topic	Note	Date	Topic	Note
January 2023	Stretches for office workers	Group education and online distribution of education materials	July 2023	VDT syndrome	Group education and online distribution of education materials
February 2023	Diabetes		August 2023	Back pain	
March 2023	Insomnia		September 2023	Shoulder-arm-neck syndrome	
April 2023	Fine dust		October 2023	Clean and safe workplace	
May 2023	Sunstroke, heatstroke		November 2023	Cardiovascular and cerebrovascular diseases	
June 2023	Job stress		December 2023	Winter safety and health management	



Employee Health Management

Incheon Total Energy conducts annual health checkups and special checkups. Nurses from health management agencies visit the site every month to assess the health of individuals under observation and those with health concerns. Based on the diagnosis, employees can either change their roles or receive personal protective equipment. The company also carries out health management inspections and arranges in-depth consultations through semi-annual visits by doctors. In addition, to prepare for emergencies, Incheon Total Energy has automated external defibrillators on hand. To prevent occupational diseases, the company conducts an annual risk assessment for cardiovascular and cerebrovascular diseases, as well as a musculoskeletal test every three years.

Health Checkup and Counselling Programs for Employees

Incheon Total Energy's employees undergo annual health checkups at hospitals in Incheon. Employees with health issues receive monthly consultations, guidance, and education.

Work Environment Measurement

Incheon Total Energy is committed to eliminating the harm to workers caused by hazardous substances in our business sites. We conduct an annual assessment of the work environment through Nasaret International Hospital. Based on the assessment results, we take measures such as providing PPE, improving the work environment, and facilitating job transitions. The 2023 assessment results indicate that the required standards were being met for noise, acids, alkali, metals, and dust.

Safety Education and Inspection for Suppliers

In Incheon Total Energy, members of the Safety and Environment Team are responsible for providing safety and health education to manage the safety of suppliers' workers. In addition, the designated personnel conduct on-site inspections with suppliers' workers every month. The CSO and the supervisor also inspect the field every week.

MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (With Incheon Energy)

Safety and Health Management Policy

Incheon Energy has announced a safety, environment, and health policy that prioritizes the safety and health of its employees. It has also established and operated a safety management system in line with the policy. According to the system, the employees and suppliers on the site implement a consistent safety and health policy.

Safety and Health Management Organization

With Incheon Energy manages safety on-site through safety supervisors and employees in charge of safety from each business team and the Safety and Environment Team, which manages and supports safety at the company level. Although the Industrial Safety and Health Act does not require the business sites to appoint a safety manager, the company has proactively appointed a safety manager and created a dedicated organization to ensure the systematic practice of safety management to become a zero-accident workplace.

Safety and Health Management System

To make a zero-accident workplace, With Incheon Energy is leading safety and health management for all employees and suppliers through the planning, inspection, evaluation, and improvement process. In addition, the annual safety and health plan is reported to the CEO. The plan covers safety and health policies, targets, health management for all employees, including suppliers, and preventive management of hazardous and dangerous substances. Going a step further, With Incheon Energy has formed the safety and health council to perform regular safety and health management activities for suppliers' employees.

Safety Accident Prevention

With Incheon Energy works to make a zero-accident workplace by performing regular safety and health activities based on the systematic safety and health system. The company has designated the 4th of every month as Safety Inspection Day, on which all employees and suppliers receive safety education and inspect facility safety. It also conducts safety inspections for excessive power usage cases such as winter, rainy season, spring thaw, holidays, and special disaster situations such as earthquakes and typhoons. As well, With Incheon Energy receives a regular inspection by Incheon City and the Central Regional Labor Office to continuously strengthen safety and improve the reliability of the business sites.

Activity	Description	Note
Safety Inspection Day	Raise employees' safety awareness and conduct safety inspections of vulnerable facilities	4 th of every month
Field Inspection Activity	Supervisor (each Team Leader)	Weekly
	Safety Manager	Weekly
Firefighting Activity	Inspect the operation and conduct comprehensive precision inspections	Annually (respectively)
	Inspect the external condition	Monthly
	Conduct fire safety education	Annually
Gas Facility Inspection	Conduct regular inspections by an authorized inspection agency	Annually
	Conduct user facility inspections by Samchully ENG	Annually (respectively)
Safety- and Health-focused Period	Hold an industrial safety- and health-focused period	July
	Hold a fire caution period	November
Safety Inspection	Safety valve	Annually
	Heat-using equipment (heat exchanger and pressure vessel)	Biennially
	Main boiler (performance inspection and inspection during opening or use)	Annually
	PLB (performance inspection and inspection during opening or use)	Annually (respectively)
	Cranes, hoists, and pressure vessels	Biennially
	Regular inspection of electrical facilities for business use by KESCO	Biennially
Seasonal Safety Inspection	Spring thaw	March
	Rainy season	July - September
	Winter	December - February
Vulnerable Period Safety Inspection	Lunar New Year's holiday	February
	Chuseok holiday	September

MATERIALITY 2. | HEALTH & SAFETY

Safety and Health Management (With Incheon Energy)

Process Safety Management

Incheon Energy operates a process safety management (PSM) system to enhance workplace safety. The company frequently performs safety inspections and internal assessments to eliminate potential risks in the workplace. Additionally, it provides regular training for PSM-responsible workers with the help of an external PSM consulting company. Thanks to these efforts, Incheon Energy was able to maintain a grade of 'S' at the implementation evaluation by the Ministry of Employment and Labor.

Safety and Health Education

With Incheon Energy conducts regular safety training and education to firmly establish a workplace safety culture and ensure its employees respond to emergencies immediately. In addition, the company has advanced emergency training by adding safety education for each case, so that it can promptly respond to various emergency scenarios.

Education	Duration	Frequency	Note
Education for Supervisors	16 hours	Annually	
Regular Safety Education for Workers	12 hours	Semiannually	All workers excluding office workers
	6 hours	Semiannually	Office workers
Safety Education for New Hires	8 hours	Before the work	New hires
Safety Education for Work Changes	2 hours	Before the work	
Special Safety Education: Hazardous and Dangerous Substances	16 hours	Annually	Workers exposed to hazardous conditions
Safety Education on the Safety Inspection Day	1 hours	Monthly	
Safety and Health Education by an External Institution	Frequently	Frequently	Professional safety education
Safety Seminar	1 hours	Monthly	
PSM Report Education	1 hours	Monthly	Monthly Training on the 12 Key Action Plans

Health Education for Employees

With Incheon Energy conducts monthly health education customized for each season and environment. The company uses various educational materials, such as videos, to cover various scenarios.

Health Checkup and Counselling Programs for Employees

Incheon Energy offers annual health checkups for its employees at designated hospitals. In addition, the company provides biennial health checkups for employees' spouses over 40 years of age. Incheon Energy has implemented an Employee Assistance Program (EAP) to support employees dealing with job-related stress, depression, personal issues, and family problems. The program includes a counseling session and two additional sessions for counselling services, a TCI test, and a stress test. Employees have the option to schedule a session using a dedicated app, which also provides access to stress management, meditation, and other helpful resources.

Work Environment Measurement

With Incheon Energy commissions Jian Health and Environment Research Institution to assess the work environment twice a year. The results of this assessment are announced on the company's bulletin board. The company also collects the opinions of field workers and does its utmost to create an improved workplace environment. To create a safe work environment for workers in the field, it inspects the controlled wind speed of local exhaust devices, implements management guidelines, and provides respirators and wearing guidelines.

ESG PERFORMANCE

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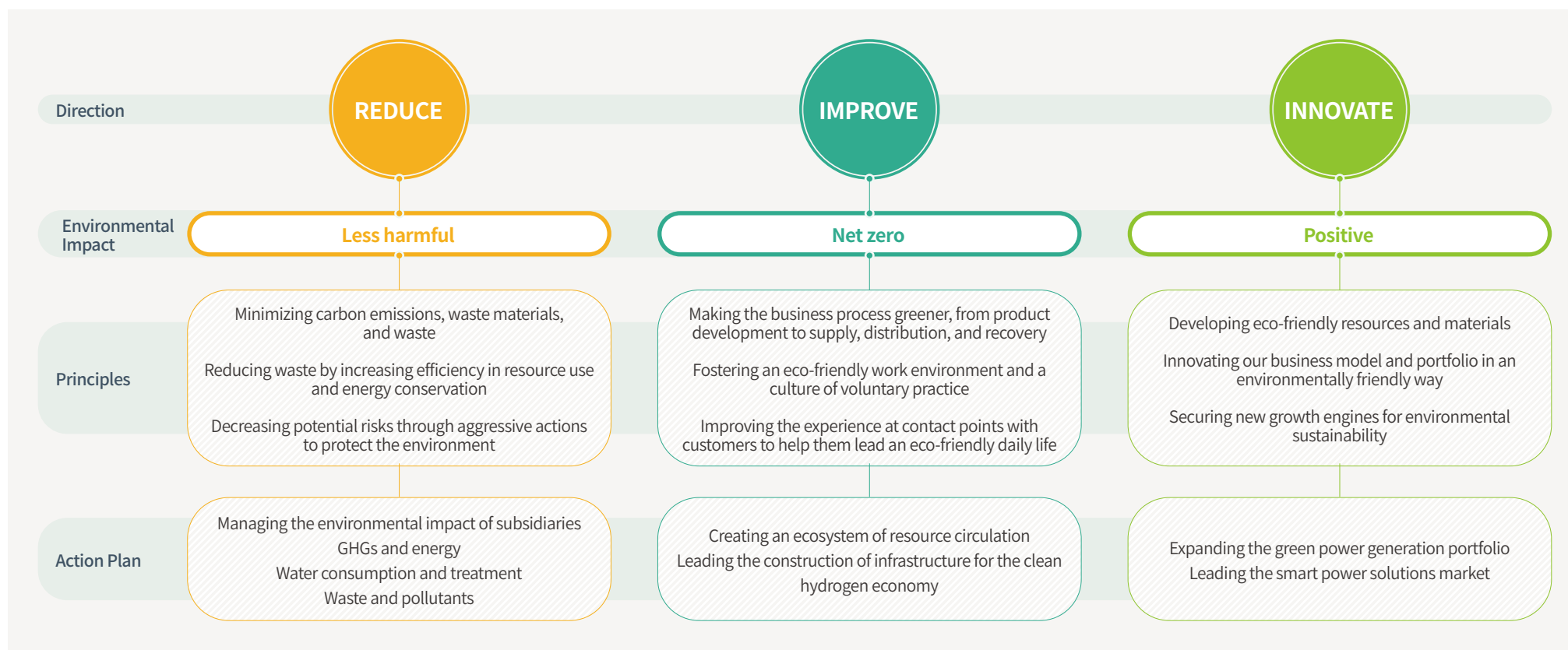
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ENVIRONMENTAL MANAGEMENT SYSTEM

GS Energy's Environmental Management System

GS Energy aims to actively engage in a transition to low-carbon and eco-friendly operations, in response to the growing social demand for companies to address climate change and minimize their environmental impact. We have established specific mid- to long-term action plans in line with GS Group's direction for environmental impact management and the promotion of environmental management, with a focus on the "BEYOND strategy." As well, GS Energy monitors the environmental impact of its major subsidiaries, such as GS Power and Incheon Total Energy, to fulfill its environmental responsibility as a holding company.



ENVIRONMENTAL IMPACT MANAGEMENT

GS Energy's Environmental Impact Management

Revitalization of the Use of Reusable Cups

We are embracing a culture of practicing ESG to transition to an eco-friendly office. Our movement to reduce the use of disposable cups is led by Trash Busters, a social venture that rents, collects, and washes reusable cups. We will continue to pursue eco-friendly management through various measures to minimize our negative environmental impacts and create a more sustainable society.



Transition to Eco-friendly Cars

We have replaced our corporate cars with eco-friendly vehicles to reduce GHG emissions and air pollutants. This fulfills our corporate social responsibility and contributes to creating a sustainable future. By 2022, we had replaced six vehicles with EVs, and by 2023, had replaced eight corporate cars with EVs.



Initiative for Biodiversity Protection

Recognizing the importance of biodiversity conservation, we joined the Biz N Biodiversity Platform (BNBP). The BNBP was founded in 2016 with the aim of improving the capability of companies to respond to biodiversity issues. As part of this initiative, we have participated in meetings with government agencies and other companies. In addition to these efforts, we are exploring measures to protect biodiversity, and cooperating with many stakeholders in this area.



ENVIRONMENTAL IMPACT MANAGEMENT

GS Energy's Environmental Impact Management

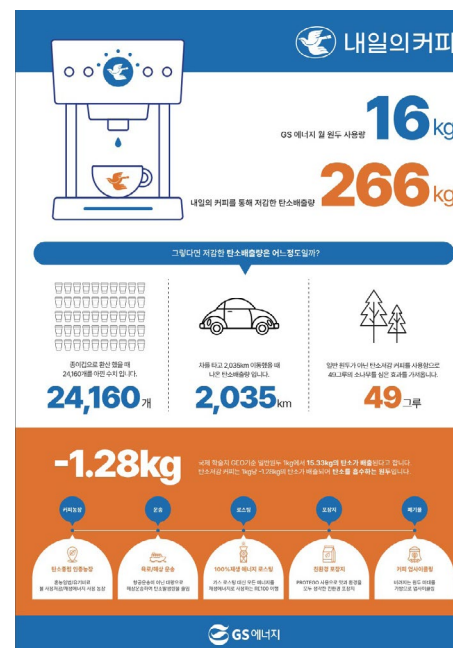
Carbon Neutral Stairs Board

We have installed boards next to the stairs at our headquarters that display the number of steps people take and the corresponding carbon reduction. The boards are located on the 36th and 37th floors, and sensors measure the cumulative number of steps taken on the stairs. Based on our calculations, the elevator in our headquarters generates 4g of carbon emissions when it moves up one floor. By taking the stairs instead, the employee takes about 21 steps, achieving a 4g carbon emissions reduction while supporting their health.



Low Carbon Coffee Beans

We have replaced some of the coffee beans used at the office with low-carbon beans from Naeil Coffee, a start-up that supplies low-carbon coffee beans grown using organic fertilizers. Naeil Coffee also upcycles used coffee sacks into bags. Thanks to these approaches, the coffee beans it sells use less carbon in their production than regular coffee beans. We quantify and post the reduction in carbon emissions achieved by consuming low-carbon coffee beans. In 2023, we used 32 kg of low-carbon beans, resulting in a carbon emissions reduction of 532kg. This is equivalent to saving 48,320 paper cups, or the carbon absorbed by 98 30-year pine trees.



ENVIRONMENTAL IMPACT MANAGEMENT

Environmental Impact Management by our Subsidiaries

Water Resources



A combined heat and power plant produces and supplies both electric power and heat. It utilizes an HRSG (heat recovery steam generator) to convert water into steam, which is then used to generate electricity. A portion of the steam is also used for heating purposes through heat exchange. This type of system requires a significant amount of water. GS Power's combined heat and power plants are situated inland, leading to over 90% water usage for cooling purposes. Water consumption fluctuates considerably depending on the amount of power generated, particularly during the summer months. For this reason, GS Power aims to minimize water use and reduce water pollutant emissions by minimizing wastewater discharge. In addition, the company collects and recycles wastewater with good water quality.



Incheon Total Energy operates wastewater treatment facilities to protect water resources and reduce water use and wastewater. The company also utilizes Reusing water to recycle water resources and minimize water use. In 2023, Incheon Total Energy recycled 8,356 tons of Reusing water, achieving a water recycling rate of 17%.

Waste



GS Power transparently manages waste using the Allbaro System operated by the Korea Environment Corporation. Each business site in Anyang and Bucheon has designated waste managers who monitor all processes to manage waste. In addition, the company has explored and introduced measures to save resources and maximize the recycling rate. The waste is legitimately processed by external processing companies.



The entire process of waste management, from waste generation to storage, transportation, and final treatment, is managed digitally or using RFID¹⁾ through the waste information service of the Allbaro System operated by Korea Environment Corporation. Incheon Total Energy strives to minimize the amount of general waste, designated waste, and construction waste generated from its business sites at the source, and classifies waste by type and characteristics to maximize waste reuse and recycling. Designated waste and recyclable waste adsorbents are sent to specialized companies for recycling and reuse.

1) RFID: A technology for identifying objects or persons using RF (radio frequency)

ENVIRONMENTAL IMPACT MANAGEMENT

Environmental Impact Management by our Subsidiaries

Water Pollutants



GS Power treats wastewater from its business sites using physical and chemical processes at on-site wastewater treatment facilities. The wastewater undergoes a process of neutralization, coagulation, sedimentation, filtration, and absorption before the purified water is released to nearby sewage treatment plants. To ensure high standards, the company conducts regular environmental audits to manage wastewater quality, and applies internal standards that are stricter than the legal requirements. For example, in managing suspended solids, GS Power enforces an internal standard that is 50% stricter than what the law mandates.



Wastewater from Incheon Total Energy's business sites undergoes physical and chemical processes at its wastewater treatment plant before being discharged to a sewage treatment facility in Songdo, Incheon. Incheon Total Energy efficiently manages wastewater quality through regular measurements and continuous monitoring. The concentrations of water pollutants in its discharged wastewater are kept below 10% of the legal limit.

Air Pollutants



To reduce air pollutant emissions and respond to air pollution regulations effectively, GS Power has installed and operated optimized air pollution prevention equipment such as NOx burners and selective catalytic reduction (SCR). In addition to these continuous efforts to reduce NOx, the company monitors air pollutants 24/7 utilizing the automatic chimney monitoring system. Its data is immediately sent to the air pollutant management system to improve transparency. GS Power is complying with its internal air pollutant emission standards, which are stricter than what the law mandates.



Incheon Total Energy uses LNG, a clean fuel, to manage and reduce air pollutants, and operates facilities optimized to reduce air pollutants such as NOx. Its TMS (tele-monitoring system) monitors air pollutant emissions 24/7 and sends real-time data to the Korea Environment Corporation, ensuring transparency in environmental data management. Additionally, the company has preemptively installed air pollution prevention equipment using new technologies (DI SCR, oxidized steel dust collector) to keep air pollutant emissions below the requirements specified in the integrated environmental permit. In 2023 in particular, the company achieved an average NOx emission level of 6 ppm, which was lower than the integrated environmental permit of 8 ppm and about 48% of its emissions quota. In addition, Incheon Total Energy entered into the Blue Sky Agreement with Incheon Metropolitan City and a voluntary agreement to reduce fine dust as part of its endeavors to decrease fine dust in the local community and minimize environmental impacts.

ENVIRONMENTAL IMPACT MANAGEMENT

Environmental Impact Management by our Subsidiaries

CASE: Incheon Total Energy's High-efficiency Wide Temperature Range SCR Catalyst

Natural gas power generation emits fewer air pollutants than coal power generation, and its operation and shutdown are flexible, making it a generation method that can respond to the demand for electricity quickly. However, most natural gas power plants are located near urban areas, so the large amount of carbon monoxide, nitrogen dioxide, and unburned hydrocarbons generated during the initial operation can affect the health of local residents. Accordingly, natural gas power plants adopt selective catalytic reduction (SCR) to reduce hazardous substances, but the catalyst's efficiency decreases at low temperatures.

To solve this problem, Incheon Total Energy signed a demonstration agreement for low-temperature catalyst technology with the Korea Institute of Energy Research and Geumhwa C&E, and conducted a study to verify the performance and applicability of the catalyst on the natural gas used in power generation. It was found that by applying the new high-efficiency wide temperature range catalyst developed by the Korea Institute of Energy Research, the removal rate of high-concentration NOx improved from 30% to 70%. The removal performance was over 90% in the normal temperature range. Based on the result, Incheon Total Energy will soon replace its catalysts with the new high-efficiency catalysts, monitor their operation, and expand the scope of replacements.

Additionally, Incheon Total Energy was recognized for its contribution to preventing pollution in the local community, such as through SCR low-temperature catalyst research, pilot tests, and unused energy utilization, with the Special Award in the Environmental Enterprise category, presented at the 29th Incheon Environmental Awards hosted by Incheon Ilbo.

Chemical Substances



GS Power has made significant efforts to minimize and manage its use of chemical substances by optimizing its operations. As a result, the government allowed the closure of its hazardous chemical substance business in 2019. Despite being recognized as not emitting hazardous chemical substances, GS Power actively supports small and medium-sized enterprises (SMEs) by imparting chemical safety management skills through the SME chemical safety community agreement. In addition, GS Power consistently participates in national crisis drills to ensure the high trust of residents in the operation of its combined heat and power plant in the metropolitan area.



Incheon Total Energy has lowered the concentrations of hazardous chemical substances used and generated at its business sites in order to protect its employees. Its business sites are subject to PSM¹⁾, and for this reason, it manages chemical substances efficiently through regular MSDS²⁾ updates.

- 1) PSM (process safety management system): Companies submit a process safety report for evaluation in order to prevent serious industrial accidents caused by the leakage of hazardous substances, fires, explosions, etc.
- 2) MSDS (material safety data sheet): A table containing the data necessary for the safe use and management of chemical substances



EMPLOYEES

Organizational Culture

Culture & Communication

We listen to the voices of our employees, and have built a strong community based on the One Team spirit.

Ground Rule

Every quarter, a representative from each team is selected to establish a specific code of conduct, including work methods, rules, and agenda, in order to bring about changes in the way the team works and foster a proactive organizational culture.

Tailored Workshop Design and Operational Support

Professional facilitators design and support workshops tailored to the needs of GS Energy, its subsidiaries, and portfolio companies, using various tools and insights aligned with the organization's agenda.

Discussion with Management

We hold regular company-wide business briefings each year to share performance updates and directions for growth, and have open discussions on various topics with the CEO and the heads of divisions.

Midday Talk

About ten members, including the CEO, gather monthly to communicate on various subjects, such as sports, food, art, cooking, travel, and music, understanding each others' interests and networking together.

GSE Round (Labor-Management Council)

The GSE Round is a labor-management council of GS Energy in which management communicates and build consensus with employee representatives on various issues, including management status, the work environment, and system improvements. As such, the GSE Round contributes to fostering healthy development and communication within the company.

Employee Assistance Program (EAP)

We have implemented an EAP (employee assistance program) to proactively manage the mental and physical stress experienced by employees in the rapidly changing business environment, protect their human rights from an ESG perspective, and effectively address and resolve various issues within the organization in a timely manner. The EAP consists of profiling and analysis based on workplace-specific assessments, as well as 1:1 coaching and counseling.

Reader's Club

We support e-book subscriptions to enable employees to acquire knowledge in various fields, share insights, and grow together.

Employees' Club

We support our employees in pursuing their diverse interests and hobbies within the company to facilitate networking. Club activities, which were temporarily suspended due to the COVID-19 pandemic, resumed in 2023.

EMPLOYEES

Education System

On-Boarding

Our on-boarding program ensures that new employees feel like they are part of the company from the day one of their employment. Prior to their first day (D-Day), a “Welcome Survey” is conducted to gather information such as preferred IT devices and email addresses in order to ensure a smooth start on the first day. On D-Day, we celebrate the arrival of new employees and their joining the company. All new employees participate in various programs with an assigned “buddy” in order to familiarize themselves with the company’s spaces, systems, and networks. Eventually, they themselves become buddies and assist future new employees. In this way, we instill a sense of pride in the company

Job Training

Given the diverse and evolving business portfolio, we allocate a budget to each department to support necessary job-specific learning. We offer a basic energy course every year, and allow employees to attend freely as needed.

Job Rank-based Education

We operate a “reverse mentoring program” that matches executives with new employees. The program helps executives understand the perspectives of the younger generation and improve communication with them, while helping new employees gain insights into the company and build a network. We also provide various educational content tailored to specific roles, career paths, and the latest trends through irregular education programs offered based on years of service.

Wednesday Lecture

Every Wednesday, we hold lectures on various topics such as business, humanities, digital transformation, work styles, investment, and mental health to share useful information, knowledge, and experience with our employees.

Degree Program Support

We select employees to participate in degree programs at outstanding universities in Korea and abroad to enhance their professional expertise and network.

E-Learning, Foreign Language Learning, and Learning CoP Support

Considering the significance of our global business, we provide support for foreign language learning through various channels, including online, by phone, video, face-to-face, and individual learning. For E-learning, unrestricted access to the courses is offered. In addition, voluntarily formed learning CoPs (communities of practice) receive diverse support for their learning. Typically, around 10 learning CoPs are set up each year.

Education for GS Group Companies

In line with the digital transformation, training courses on data and DX (digital transformation) are provided to employees with learning needs, and various issues and solutions are identified through hackathons. Catalysts and facilitators are nurtured through training programs by 52g, an open innovation group of GS Group. Through these, we discover problems in the field, come up with diverse projects, and develop and implement solutions.

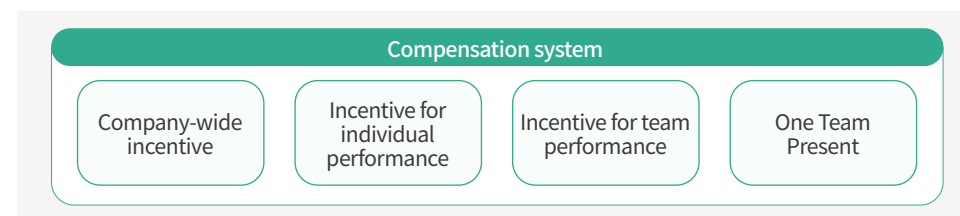
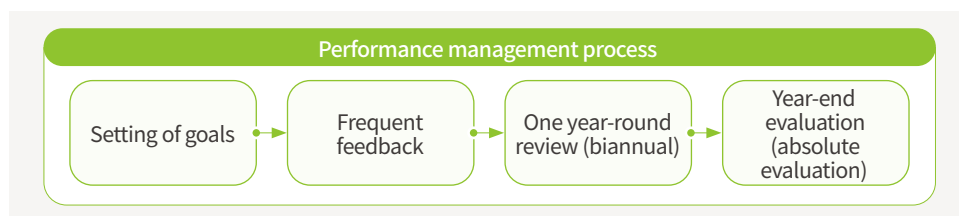
EMPLOYEES

Performance Evaluations and Compensation

We aim to ensure that the growth of the organization and our team members go hand in hand, enabling them to experience various roles and enhance their practical expertise and influence. Performance management is conducted through continuous, multi-faceted, and observation-based absolute evaluations rather than relative evaluations of annual goals.

We ensure fairness and competitiveness in compensation based on the size of the role, and recognize and reward diverse contributions. We set individual goals that are aligned with the organization's goals, and help our employees to continuously grow through ongoing feedback from their superiors and colleagues. We manage performance through feedback on job accomplishments and biannual reviews. At the end of the year, an absolute evaluation is conducted based on objective performance, individual achievement compared to expectations, and peer reviews.

The results of evaluations are utilized as indicators for nurturing and feedback, and with the exception of evaluations for some high performers are generally decoupled from compensation. For promotions, candidates undergo comprehensive evaluations that include performance compared to their expected roles and peer reviews. There are no restrictions on promotions, except that a minimum of two years of tenure is required for each job position. From the perspective of collaboration, we provide various incentives and compensation at the organizational level. In addition to company-wide bonuses, we offer incentives such as performance bonuses for individuals and teams, and the One Team presents to express mutual appreciation for collaboration.



EMPLOYEES

Welfare Benefits

Flexitime System

Under our flexitime system, employees can set their own working hours on a monthly basis within the legal working hour limit.

Financial Support for Retirees

Retirement pensions are accumulated with compound interest under two pension plans: DB (defined benefit) or DC (defined contribution). GS Energy also supports IRPs (individual retirement pensions) by offering matching grants. We introduced a DC payment system for bonuses at the end of 2021 to relieve the tax burden on our employees.

Congratulations on Long-term Service and Retirement

Congratulatory money and vacation time are offered as a token of appreciation to employees with long years of service or who have reached retirement age. Notably, we guarantee retirement leave to provide support for employees as they prepare for their life after retirement, while also expressing gratitude for their years of service.

Selective Welfare System

We operate a welfare mall and a welfare points system that allows employees to choose from various benefits for self-development, leisure activities, health care, and more.

Support for Leisure Activities

Our employees can enjoy membership prices at resorts and condominiums nationwide throughout the year, and access to winter and summer resorts is offered free of charge (some resorts excluded) to support the leisure of employees.

Health Care Support

With the aim of improving the health of its employees, as well as their spouses and children, GS Energy pays a certain amount of the medical expenses of its employees in order to reduce their financial burden and ensure a stable livelihood. Furthermore, our employees are covered by collective medical insurance, and comprehensive medical examinations are provided to them and their spouses as a proactive health care measure.

Support for Living

We provide low-interest loans to our employees to support their financial stability and promote employee welfare. Additionally, we operate an in-house daycare center near the GS Tower and offer financial assistance for our employees' children's college tuition and admission, from elementary school to university.

Support for Family Events and Funerals

GS Energy provides support for the family events and funerals of its employees to share in their joys and sorrows.

Human Rights Education

Human Rights Education

We conduct human rights education for all employees. Disability awareness training and workplace bullying and sexual harassment prevention training are conducted online and offline at least once a year. Beyond this, additional workplace bullying and sexual harassment prevention training is separately conducted for employees in managerial positions to enhance their understanding of the relevant laws and organizational management. Furthermore, we share the “Guidelines to Prevent Workplace Bullying” through our groupware, ensuring that employees know the procedures and standards for preventing and handling incidents.

Grievance Handling Process

We operate a two-track process to handle grievances, including both grievances reported directly through the hotline and grievances reported to the grievance handling committee, which is composed of employees. In addition to these official channels, employees can also report grievances through small-group meetings with the CEO, the GSE Round, or via e-mail, phone call, or written communication. Once a grievance is reported, an investigation is promptly launched to ensure a swift resolution. Any violations that cannot be resolved through the grievance handling committee are forwarded to the personnel committee or discipline committee and resolved according to our internal regulations. Sexual harassment and workplace bullying incidents are handled with confidentiality according to strict processes and policies, taking into account the gravity of each case. In addition, we proactively diagnose our employees' mindset through the EAP (Employee Assistance Program), and offer various coaching and counseling services to help them maintain a healthy mindset and grow together with the company.

INFORMATION PROTECTION

GS Energy's Information Security Management System

Information Protection Management System

We operate an information security management system in accordance with our internal regulations, conduct annual inspections of information protection, and implement appropriate improvement measures.

Information Protection Organization



Information Protection Education for Employees

We provide courses on information security, including privacy protection, to new hires and the employees of our suppliers once per year.

Pledge of Information Protection

We require all employees to sign a pledge to comply with our information protection regulations during their work.

1. I will uphold the confidentiality of the business information, technical information, management information, and trade secrets of the company and any other information of economic value, and will not use such information for any purposes other than performing my duties.
2. To protect confidential information, I will not bring in outside equipment or software without the approval of the company.
3. To protect confidential information, I hereby give the Information Security Department consent to gather and search information of the company.
4. Upon retirement, I will return the originals and copies of all confidential information I have managed to the company, along with my ID card.
5. I will not illegally bring any information managed as confidential by a third party into the company. I will not leak the confidential information of third parties for which the company has an obligation to maintain confidentiality, nor use such information for purposes other than performing my duties.
6. I will comply with all regulations and work instructions related to the information security of the company.

Technical Safeguards

We rigorously manage information security by blocking all penetration paths for external service provision other than the DMZ¹⁾ through a firewall. The DMZ is controlled by a specialized information protection agency. Using a firewall, GS Energy thoroughly manages information protection by blocking all external access except to the DMZ range. The DMZ is monitored by a specialized information protection company that oversees the internal data leaving GS Energy.

1) DMZ (Demilitarized Zone): A zone in which access between the internal network and the external network is restricted to protect internal resources when services are provided to the outside.

INFORMATION PROTECTION

Subsidiary's Information Protection Management (GS CHARGEV)

GS CHARGEV, one of our subsidiaries, provides an app service for EV charging and manages the information of multiple customers. Given the unique nature of the company, prioritizing information protection is crucial for sustainable management. As a result, specific information protection activities for GS CHARGEV are outlined below:

Information Security Organization

GS CHARGEV has appointed a Chief Privacy Officer (CPO) and a manager in charge of information security to handle complaints regarding the processing of personal information and provide remedies for any damages. In addition, the privacy management department promptly handles all inquiries related to personal information protection.

Personal Information Protection System

GS CHARGEV provides its employees with the minimum necessary authority for work and manages system access through logs and passwords. In addition, the company blocks illegal access to the personal information processing system using a firewall. Antivirus software and regular updates are used to prevent malware. Critical personal information such as passwords and credit card numbers are encrypted before being saved, transmitted, or received. When disposing of personal information, the company uses methods of destruction that will prevent its recovery, such as incineration, shredding, punching, and overwriting.

Management of Partner Company's Information Protection

GS CHARGEV has systematically established two separate management pages: one for CHARGEV employees and the other for partner companies. This is done to separate access from outside of the company and limit access to personal information. To protect information from internal access, GS CHARGEV allows both internal and external access only through the limited VPN network. Internal parties and external partner companies are required to sign a confidentiality agreement related to information protection to prevent the leakage of core technologies and information.

Information Protection Education

GS CHARGEV conducts annual personal information protection education for its employees. Those who handle customers' personal information are required to sign a personal information protection pledge and receive personal information protection education at least twice a year to ensure that our customers' information is managed safely.

Invasion Response Procedure

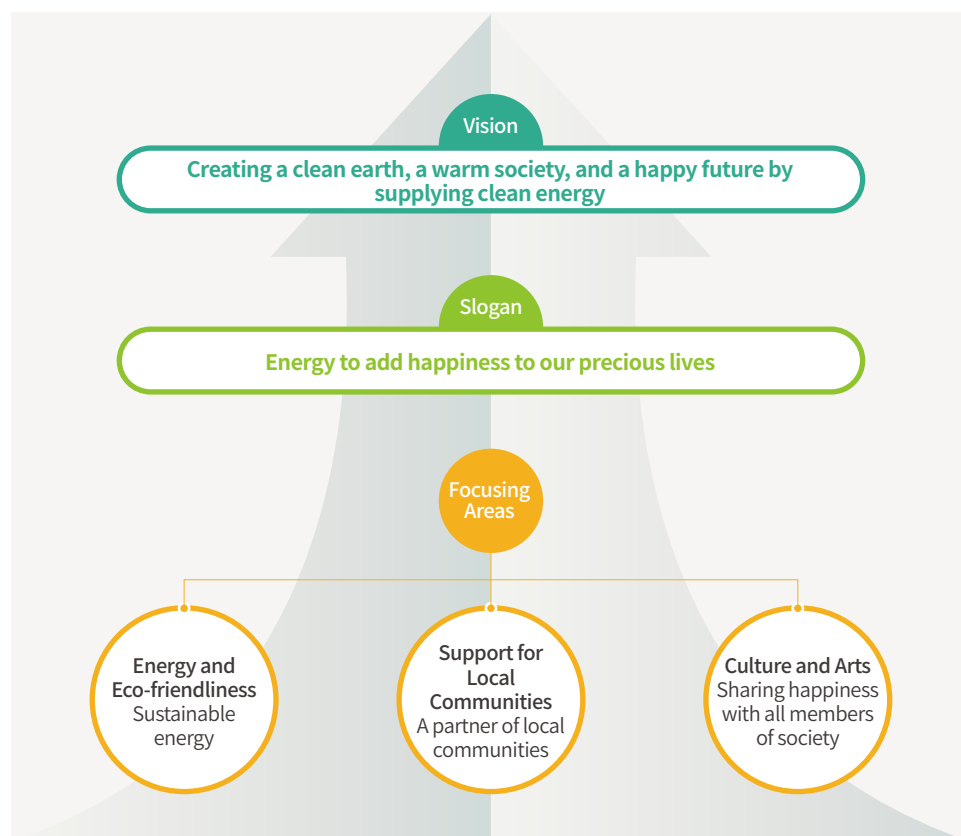
GS CHARGEV established a cyber invasion prevention procedure through a web application firewall (WAF). Furthermore, it is building a 24/7 invasion monitoring system.



LOCAL COMMUNITY

CRS Promotion System

CSR System



Charity Activities

As a socially responsible corporate citizen fulfilling the CSR vision of GS Group, we are committed to contributing to the development of local communities through sharing and volunteering based on our capabilities and resources. We contributed KRW 408.2 million in 2023, and will continue our donations and sponsorship to grow in harmony with the local communities in which we operate.

Total Donations

 KRW **408.2** million

Donations in 2023

Donation & Sponsorship Recipients	Amount (KRW)
National Assembly Forum on Climate Change	30 million
Seoul Council on Social Welfare (Green Step Challenge)	20 million
Seoul Council on Social Welfare (Sseusaem)	10 million
Habitat for Humanity Korea 815 Run	8.15 million
Donation to wildfire victims in Gangneung-si	300 million
National Museum of Modern and Contemporary Art, Korea	20 million
Friends of National Museum of Korea	10 million
The Seoul Forum for International Affairs	10 million

LOCAL COMMUNITY

Major CSR Activities

Support for Local Communities

Habitat for Humanity Korea 815 Run

The “2023 Virtual 815 Run” is a campaign to promote the significance of Korea’s Liberation Day, express gratitude for independence activists, and convey the positive message, “It will be all right, Korea!” Funds raised through this campaign are used to support home improvements for the descendants of independence activists.



Donation to Wildfire Victims in Gangneung-si

We donated funds through the Community Chest of Korea to support the victims of the devastating wildfires in Gangneung-si, South Korea. We comforted the affected residents and helped them return to their normal lives as soon as possible.

Climate & Energy

National Assembly Forum on Climate Change

This forum provides a venue for healthy discussions among various stakeholders on climate change issues, raises public awareness of climate change across society, and seeks solutions at the national level. By sponsoring this forum, we are contributing to the climate change response as it strives to build an eco-friendly environment for society.



Supporting Energy-vulnerable Communities

We held a climate action campaign called the “Green Step Challenge,” which aimed for a total of 20 million steps by employees within a month, along with a fundraising program that collected points through PET bottle recycling. Both the Green Step Challenge and the PET bottle recycling program exceeded their target step count and fundraising goals. The donations raised through these initiatives were delivered to the Seoul Council on Social Welfare. We used these funds to support energy costs, including heating, electricity, and water, for energy-vulnerable households in Seoul, helping to alleviate the economic burden on families who are in the blind spots of energy welfare.



Culture and Arts

National Museum of Modern and Contemporary Art

We are expanding the base of art and culture while also supporting exhibitions and artists to help the National Museum of Modern and Contemporary Art establish itself as a cultural symbol of Korea.

Friends of the National Museum of Korea

We are carrying out various museum sponsorship projects, including academic research, education, artifact acquisition, donations and exhibitions, to widely promote and carefully preserve the history and culture of Korea. In addition, we are involved in diverse support activities such as social education programs for citizens and exchange activities with domestic and foreign museum support groups.

GOVERNANCE

Board of Directors

Role of the BOD

The BOD (board of directors) supports management through responsible governance and demands corrections of problems with management standards, procedures, or methods, when necessary, to ensure reasonable management activities. The BOD makes resolutions on agenda items delegated by the general meeting of shareholders and important matters related to the basic management policies and business operations of the company, and supervises the work performance of the directors and management.

BOD Composition

To secure the independence of the BOD, all directors are elected at the general meeting of shareholders from among candidates who meet the qualifications specified in the relevant laws and regulations. Furthermore, to ensure the diversity of the BOD, there is no discrimination based on gender in the election of directors. As of March 2024, the BOD consisted of an executive director (the CEO) and four non-executive directors, and the chairperson of the BOD is elected based on his or her experience and expertise in the energy business.

Board of Directors' Members

Position	Name	Gender	Term of Office	Expertise	Key Positions
Executive Director (CEO)	Huh Yong-soo	Male	March 14, 2025	Management	CEO of GS Energy Former CEO GS EPS
Non-executive Director	Huh Jun-hong	Male	March 21, 2026	Management	CEO of Samyang Tongsang Former Vice President of GS Caltex
	Hong Soon-ki	Male	March 25, 2027	Finance	CEO of GS Holdings Former CFO of GS Holdings
	Huh Se-hong	Male	March 14, 2025	Management	CEO of GS Caltex Former GS Global
	Jung Chan-soo	Male	March 14, 2025	Management	CEO of GS EPS Former CEO of GS E&R

Transparency of the BOD

Directors are appointed by a resolution of the shareholders at the general meeting of shareholders in accordance with Article 382 of the Commercial Act. Internal directors are appointed from among candidates recommended by the BOD. The term of office for directors is three years, and they are eligible for re-appointment by the general meeting of shareholders after the expiry of their term.

BOD Operation

We operate the BOD in accordance with the BOD operation regulations. The chairperson of the BOD can convene BOD meetings and set the date, and all directors should be notified of a BOD meeting in writing or verbally at least 12 hours in advance. BOD meetings may also be held when agreed upon by all directors, in which case the aforementioned procedure does not apply. In 2023, a total of 12 BOD meetings were held to discuss 44 agenda items, with an attendance rate of 98.3%.

BOD Performance Evaluation and Compensation

The BOD establishes the remuneration policy for key executives in line with the interests of shareholders and the long-term interest of the company, and transparently discloses its details. The activities of the executive director within the BOD are evaluated based on objective and comprehensive criteria, including quantitative indicators, leadership, core competencies, and other contributions to the company.

BOD Remuneration

Position	Number of Persons	Unit	Total Remuneration	Average Remuneration per Person
Registered Director	1	KRW million	2,133	2,133

GOVERNANCE

Audit System

Internal Audits

To ensure ethical management across the company, we have implemented a code of ethics and a comprehensive code of conduct that all employees are required to follow. In addition, we have established reporting channels for ethical management violations and a grievance handling process. Furthermore, employees are expected to demonstrate their commitment to compliance by signing a Voluntary Compliance Pledge. These proactive compliance measures help us effectively mitigate ethical and compliance risks.

Training for Auditors

Date	Training Institute	Main Content
October 10, 2023	KEHRD	• Accounting for ICFR
August 18, 2022	Samil PWC Accountings	<ul style="list-style-type: none"> • The internal accounting control system and the role of auditors • The supervision of subsidiaries and the assessment of the internal accounting control system based on the consolidated method • Fraud investigation and reporting obligation of auditors
April 30, 2022	Online Edu (Online Education Platform)	<ul style="list-style-type: none"> • Components and principles of the internal accounting control system • Practical guidelines for the internal accounting control system
June 30, 2021	Korea Listed Companies Association	• The internal accounting control system and the role of auditors

External Audits

We maintain the fairness and transparency of our accounting information through regular audits conducted by an independent external auditor. Our external auditor and the Internal Audit Team regularly communicate regarding the audit plan, independence, and external audit results. In 2023, our audit received a grade of "adequate," and no issues were identified in the audit results.

Audit Opinion

Year	Auditor	Audit Opinion	Note
2023	Deloitte Anjin	Adequate	N/A
2022	Deloitte Anjin	Adequate	N/A
2021	KPMG Samjong Accounting	Adequate	N/A

Audit Expenses

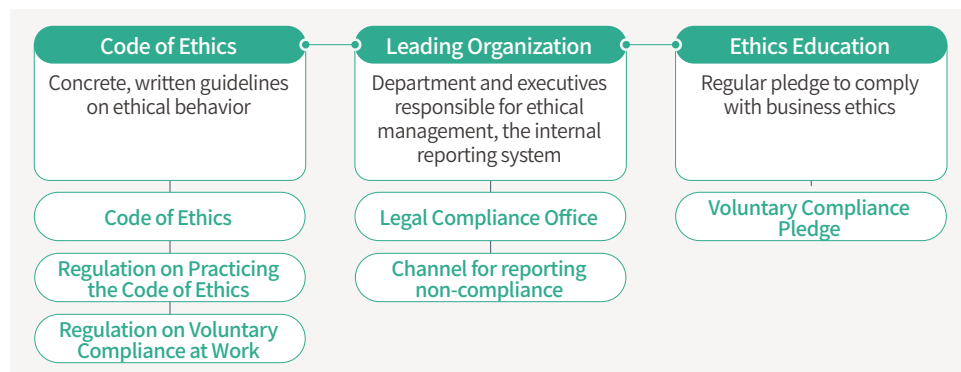
Year	Auditor	Unit	Total Remuneration
2023	Deloitte Anjin	KRW million	340
2022	Deloitte Anjin		290
2021	KPMG Samjong Accounting		255

RISK MANAGEMENT

Ethics and Compliance Risks

Compliance and Ethical Management System

To ensure ethical management across the company, we have implemented a code of ethics and a comprehensive code of conduct that all employees are required to follow. In addition, we have established reporting channels for ethical management violations and a grievance handling process. Furthermore, employees are expected to sign a Voluntary Compliance Pledge to demonstrate their commitment to compliance. These proactive compliance measures help us effectively mitigate ethical and compliance risks.



Direct Reporting Channel

We operate direct reporting channels (e-mail, telephone) through which our stakeholders, including employees, customers, and suppliers, can report corruption, such as employee misconduct or unfair transactions with suppliers.

Grievance Handling Channel

GS Energy also operates a grievance handling channel, through which anyone who has fallen victim to a human rights violation or discovered a risk of such may make a report. Human rights violations such as workplace harassment or sexual harassment can be reported via a direct telephone line.

Whistleblower Protection

Upon receiving a report of non-compliance or a grievance, the department in charge takes responsibility for protecting the whistleblower from any potential disadvantages and ensures confidentiality.

Code of Ethics Commitment

GS Energy collects a pledge of voluntary compliance from all executives and employees to promote a corporate culture of ethics and compliance. By signing the pledge, members of GS Energy promise to comply with and take responsibility for corporate regulations, the Code of Ethics, and fair trade laws in the course of performing their duties.

Code of Ethics

Chapter 1. Management for Customer Satisfaction

We recognize that customers form the foundation for the profits and growth of the Company and provide the genuine value customers want, thereby realizing customer satisfaction.

Chapter 2. Coexistence and Co-prosperity with Suppliers

We build mutual trust and cooperative relationships with our suppliers through transparent and fair transactions.

Chapter 3. Respect for Employees and Compliance with Basic Ethics

The company and its employees fulfill their obligations for mutual growth and development based on trust and respect.

Chapter 4. Protection of Shareholders' Interests

We protect the interests of shareholders through efficient and transparent management activities so that shareholders can invest in the company with confidence.

Chapter 5. Contributions to the Country and Society

As a corporate citizen, we comply with government policies and laws and fulfill our social responsibilities.

Chapter 6. Environmental, Health, and Safety Management

We strive to protect the environment and pursue an accident-free workplace.

RISK MANAGEMENT

Financial Risks

Financial Risk Management System

We define liquidity risk, credit rating risk, financial market fluctuation risk, and internal control risk as financial risks. We review and implement a variety of measures that are optimized for coping with these financial risks.

Management of Liquidity Risk

To manage liquidity risk, we maintain stable liquidity management by thoroughly forecasting the balance of funds while holding cash reserves above an appropriate level and securing credit lines. In addition, we spread out the maturity dates of our funds to reduce liquidity risks. In the event of a financial crisis caused by market fluctuations, we make efforts that include reviewing various financing schemes and diversifying the borrowing portfolio to minimize refinancing risk. Recently, we have monitored the financial market's reaction to changes in the ESG environment to analyze the impact of the government and financial institutions' ESG regulations and initiatives on financing.

Management of Credit Rating Risk

We strive to maintain a stable credit rating to secure the confidence of our investors and customers. To this end, we include the mid-to long-term financial ratio verification in the top management's decision-making process during the deliberation and approval of business and investment plans. We also analyze the impacts of financial market changes, our targets, and various environments on the changes in our borrowings to systematically manage an adequate financial ratio and maintain a sound capital structure.

Management of Financial Market Fluctuation Risk

To promptly respond to the risks caused by market fluctuations, such as interest rates and exchange rates, we continuously monitor key financial indicators. By analyzing the cause of their fluctuation thoroughly and forecasting their future directions, we select optimal measures that minimize impacts on our financial statements and business plans. In terms of interest fluctuation risks, we eliminate cash flow risk by appropriately adjusting the proportion of borrowings or purchasing derivative products. On the other hand, we manage exchange rates using an appropriate hedging method after analyzing our FX position.

Management of Internal Control Risk

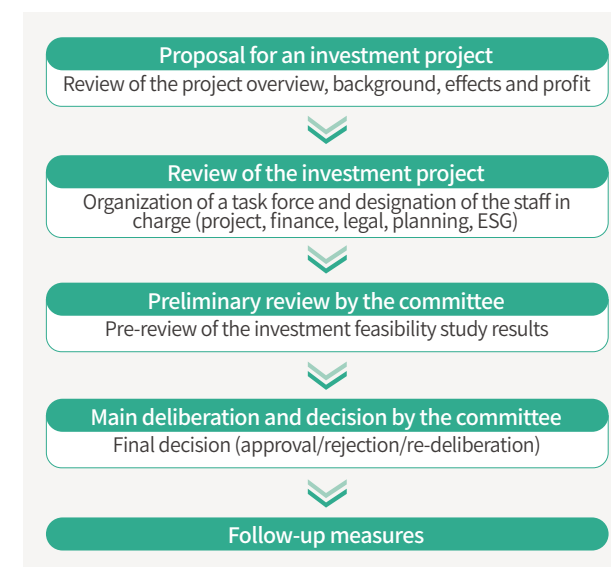
We operate the internal accounting control system in compliance with the relevant laws, and promote transparency and reliability across our financial reporting processes, from the calculation to the disclosure of financial information. In addition, we ensure the reliability of financial information by adopting a reasonable and consistent internal accounting control system. We also provide objective information for investors' decision-making. Thanks to the effectiveness of our internal controls by auditors, it was evaluated that our internal control measures are effective in the fiscal year of 2023.

Investment Risks

Investment Risk Management System

We operate the Investment Deliberation Committee to manage investment risks. The Investment Deliberation Committee reviews the economic feasibility of investment projects and their alignment with the directions of the company's investment portfolio, and examines the feasibility of financing schemes and the risks associated with investment structures. To cope with the rapidly changing business environment and the volatility of different industries, we mandate the committee's approval for any investment or disposal of assets worth KRW 5 billion or more to minimize financial risks.

Investment Deliberation Process



APPENDIX

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ESG DATA

Environment

GHG Emissions

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021 ¹⁾	2022	2023	2021 ²⁾	2022	2023	2021	2022	2023	2023	2023
Scope 1 Emissions	tCO ₂ eq	95	78	70	2,174,033	2,967,293	2,534,649	379,252	370,696	371,576	20,423	0.3
Scope 2 Emissions		154	213	220	24,403	20,662	21,536	3,076	3,144	4,404	3,015	54.2
Total Emissions (Scope 1+2)		249	291	291	2,198,436	2,987,955	2,556,180	382,327	373,840	375,980	23,438	54.5

1, 2) The data has been corrected due to a data entry errors

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023

** The total GHG emissions differ from the sum of Scope 1 and Scope 2 emissions (scope 1 and scope 2 emissions are rounded when calculating the total emissions).

Energy

Category	Unit	GS Energy ¹⁾			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021 ²⁾	2022	2023	2023	2023
Direct Energy Consumption	TJ	2	1	1	41,536	57,822	49,173	7,514	7,344	7,362	403	0.01
Indirect Energy Consumption		3	4	5	509	540	623	65	152	188	81	1.13
Total Consumption (Direct+Indirect)		5	6	6	42,045	58,362	49,794	7,578	7,496	7,550	483	1.14

1) The data for 2021 and 2022 has been revised due to changes in energy conversion factors.

2) The data has been adjusted in accordance with internal management standards.

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

** The total energy consumption differs from the sum of direct and indirect energy consumption (each direct and indirect consumption is rounded when calculating the total consumption).

ESG DATA

Environment

Water

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
Water Use ¹⁾	ton	0	0	0	2,822,163	3,192,119	2,746,955	58,454	45,576	40,208	34,893	0
Water Intake ²⁾	ton	5,718	4,610	4,708	3,086,619	3,445,866	2,999,427	82,213	63,927	54,214	55,705	844
Water Discharge	ton	5,718	4,610	4,708	266,616	244,293	252,472	23,759	18,351	18,241	18,245	844
Water Recycled	ton	-	-	-	392,173	501,615	441,369	7,829	10,931	8,356	0	-

1, 2) The data has been revised due to changes in the data collection standard.

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

Waste

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022 ¹⁾	2023	2023	2023
General Waste	ton	-	-	41	714	997	1,003	18	14	9	0	-
Designated Waste	ton	-	-	0	20	28	21	24	1	1	1	-
Total (General+Designated)	ton	-	-	41	734	1,025	1,025	42	14	10	1	-
Waste Recycled	ton	-	-	15	331	582	700	27	4	5	0	-
Waste Recycling Rate	%	-	-	36.6	45.1	56.8	68.3	64.3	28.6	50.0	0.0	-

1) The data has been revised due to changes in the internal management standards.

* Data for GS Energy and With Incheon Energy has been collected and reported starting from 2023. Data for GS CHARGEV is expected to be reported in the future.

** Due to rounding calculations, there may be a discrepancy between the sum of individual emissions and the total emissions value

ESG DATA

Environment

Air Pollutant Emissions

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
NOx	ton	-	-	-	680	589	430	67	60	69	6	-
SOx	ton	-	-	-	4	0	0	0	0	0	0	-
Dust	ton	-	-	-	18	0	0	0	0	0	0	-

* Data for With Incheon Energy has been collected and reported starting from 2023.

** GS Energy and GS CHARGEV do not operate pollutant-emitting facilities.

Water Pollutant Emissions

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021 ¹⁾	2022	2023	2021	2022	2023	2023	2023
COD	ton	-	-	-	1.05	0.80	-	0.10	0.04	-	-	-
TOC		-	-	-	-	-	0.36	-	-	0.06	0.03	-
SS		-	-	-	0.33	0.57	0.07	0.01	0.02	0.01	0.00	-

1) Data has been revised due to changes in the internal management standards.

* Data for With Incheon Energy has been collected and reported starting from 2023.

** GS Energy and GS CHARGEV do not operate pollutant-emitting facilities.

*** From 2023 onwards, TOC emissions are reported instead of COD emissions.

Violation of Environmental Laws

Category	Unit	GS Energy	GS Power	Incheon Total Energy	With Incheon Energy	GS CHARGEV
		2023	2023	2023	2023	2023
Number of Violations	Cases	0	0	0	0	0
Fines for Violations	KRW 10,000	0	0	0	0	0

ESG DATA

Social

Employees

Category	Unit	GS Energy ¹⁾			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
Total Number of Employees		160	192	196	300	305	320	85	87	91	48	99
Executives		1	1	1	2	2	2	2	2	2	4	1
Employees		159	191	195	298	303	318	83	85	89	44	98
Male	Persons	124	144	151	270	273	289	76	77	80	40	66
Female		35	47	44	28	30	29	7	8	9	4	32
Full-time		149	183	188	298	296	314	78	80	83	46	95
Contract		11	9	8	2	9	6	7	7	8	0	4
Persons with Disabilities ²⁾		1	1	1	8	7	7	2	2	4	1	1
Persons of National Merit		4	4	4	10	10	8	5	5	5	0	0

1) Data has been revised due to changes in the internal management standards.

2) Based on the reported number (Korea Employment Agency for Persons with Disabilities)

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

Diversity of Employees

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021 ¹⁾	2022 ²⁾	2023	2021	2022	2023	2021	2022	2023	2023	2023
Ratio of Females to All Employees	%	22.0	24.6	22.6	9.4	9.9	9.1	8.4	9.4	10.1	8.3	32.7
Ratio of Females in Managerial Positions		6.1	8.3	7.0	6.5	6.7	6.5	8.3	8.3	7.1	0.0	0.0

1, 2) Data has been revised due to changes in the internal management standards.

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

** Managerial Positions – GS Power: Head of Division, Head of Department, Team Leader (excluding executives) / Incheon Total Energy: Team Leader or above

ESG DATA

Social

New Hires

Category	Unit	GS Energy ¹⁾			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
Number of New Hires		25	54	18	20	32	31	5	4	12	3	45
Gender	Male	16	36	15	18	26	28	5	3	9	3	18
	Female	9	18	3	2	6	3	0	1	3	0	27
Age	Under 30	9	12	2	15	21	25	4	4	5	0	13
	30 - 50	17	37	15	5	9	6	0	0	6	0	29
	Above 50	1	5	2	0	2	0	1	0	1	3	4

1) Data in 2021 and 2022 has been revised due to changes in the internal management standards. This adjustment aligns with the annual end-of-year business report standards. Specifically, the revised calculations exclude employees on the headquarters payroll, registered executives, consultants, and personnel from seconded or affiliated agencies.

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

Training

Category	Unit	GS Energy			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
Total Number of Trainees	Persons	168	199	208	294	288	244	85	87	91	125	99
Total Training Hours	Hours	4,238	6,500	8,690	10,908	13,431	11,661	5,428	4,515	3,256	487	1,151
Average Training Hours per Person	Hours/person	25.0	33.0	42.0	37.1	46.6	47.8	63.9	51.9	35.8	3.9	11.6
Total Training Costs	KRW million	276	399	845	183	201	128	47	105	141	6	5
Average Training Cost per Person	KRW million/person	1.6	2.0	4.1	0.6	0.7	0.5	0.6	1.2	1.5	0.1	0.1

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

ESG DATA

Social

Retirement Pension System

Category	Unit	GS Energy ¹⁾			GS Power			Incheon Total Energy			With Incheon Energy	GS CHARGEV
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2023	2023
Total Retirement Pension Management Amount		49,438	61,322	63,764	36,470	44,064	51,124	6,139	7,997	7,784	2,595	1,696
Type	DB (Defined Benefit)	KRW million	48,955	60,713	25,998	30,691	26,834	6,005	7,840	7,459	2,006	1,546
	DC (Defined Contribution)		47	95	2,659	3,768	3,868	35	53	74	76.6	150
	Company Grants to IRP		436	514	755	882	928	99	104	251	0	0

1) Data has been revised due to changes in the internal management standards.

* Data for With Incheon Energy and GS CHARGEV has been collected and reported starting from 2023.

ESG DATA

Social

Turnover¹⁾

Classification	Unit	GS Energy		
		2021	2022	2023
Total turnover	Persons	13	15	11
Gender	Male	Persons	10	8
	Female	Persons	3	7
Total turnover rate	%	8.8	8.2	5.9
Voluntary turnover rate	%	7.4	6.6	4.3

1) Data has been revised due to changes in the internal management standards.

Information Security Education

Classification	Unit	GS Energy		
		2021	2022	2023
Number of trainees	Persons	169	200	208
Training hours	Hours	169	200	208

Data Leakage, Theft, and Loss

Classification	Unit	GS Energy		
		2021	2022	2023
Personal data	Cases	0	0	0
Corporate data	Cases	0	0	0

Governance

Violations of Ethical Management

Classification	Unit	GS Energy		
		2021	2022	2023
Violation of the Code of Ethics	Cases	0	0	0
Violation of fair-trade-related laws and regulations	Cases	0	0	0

GRI CONTENT INDEX

General Disclosures

Area	Indicator	Page	Note
GRI 2: General Disclosures 2021	2-1 Organization details	6-7	
	2-2 Entities included in the organization's sustainability reporting	2	
	2-3 Reporting period, frequency and contact point	2	
	2-4 Restatements of information	70, 73-74	
	2-5 External assurance	80	
	2-6 Activities, value chain and other business relationships	8-25	
	2-7 Employees	72	
	2-8 Workers who are not employees	-	Refer to the Business Report
	2-9 Governance structure and composition	64	
	2-10 Nomination and selection of the highest governance body	64	
	2-11 Chair of the highest governance body	64	
	2-12 Role of the highest governance body in overseeing the management of impacts	28	
	2-13 Delegation of responsibility for managing impacts	64	
	2-14 Role of the highest governance body in sustainability reporting	28, 64	
	2-15 Conflicts of interest	64	
	2-16 Communication of critical concerns	28, 31, 34, 64	
	2-17 Collective knowledge of the highest governance body	28	
	2-18 Evaluation of the performance of the highest governance body	64	
	2-19 Remuneration policies	64	
	2-20 Process to determine remuneration	64	

Area	Indicator	Page	Note
GRI 2: General Disclosures 2021	2-21 Annual total compensation ratio	-	Refer to the Business Report
	2-22 Statement on sustainable development strategy	5	
	2-23 Policy commitments	29, 66	
	2-24 Embedding policy commitments	59, 66	
	2-25 Processes to remediate negative impacts	59, 66	
	2-26 Mechanisms for seeking advice and raising concerns	59, 66	
	2-27 Compliance with laws and regulations	66	
	2-28 Membership associations	79	
	2-29 Approach to stakeholder engagement	31	
	2-30 Collective bargaining agreements	-	Operated by the Labor-Management Council

Statement of use

GS Energy reports its sustainable management performance according to the GRI standard for the period from January 1, 2023, to December 31, 2023.

GRI 1 used

GRI 1: Foundation 2021

Applicable GRI Sector Standards

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GRI CONTENT INDEX

Material Topics

Area	Indicator	Page	Note
GRI 3: Material Topics	3-1 Process to determine material topics	33	
	3-2 List of material topics	33	
Material Topic #1. Climate Change			
GRI 3: Material Topics	3-3 Management of material topics	33, 34~41	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	41, 69	
	305-2 Energy indirect (Scope 2) GHG emissions	41, 69	
	305-3 Other indirect (Scope 3) GHG emissions	-	Not managed data
	305-4 GHG emissions intensity	-	Disclosed next year
	305-5 Reduction of GHG emissions	38-41	
	305-6 Emissions of ozone-depleting substances (ODS)		Not used
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	54-55, 71	
Material Topic #2. Health & Safety			
GRI 3: Material Topics	3-3 Management of material topics	33, 42-48	
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	42, 44-45, 47	
	403-2 Hazard identification, risk assessment, and incident investigation	43-48	
	403-3 Occupational health services	43-48	
	403-4 Worker participation, consultation, and communication on occupational health and safety	43-48	
	403-5 Worker training on occupational health and safety	43-48	
	403-6 Promotion of worker health	44, 46, 48	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	43-48	
	403-8 Workers covered by an occupational health and safety management system	42, 44-45, 47	
	403-9 Work-related injuries	-	Not managed data
	403-10 Work-related ill health	-	Not managed data

Other Topics

Area	Indicator	Page	Note
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	35-36	
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	62-63	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	-	GS Energy does not have business sites besides the headquarters as a holding company.
	205-2 Communication and training about anti-corruption policies and procedures	66	
	205-3 Confirmed incidents of corruption and actions taken	75	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	75	
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	53, 70	
	303-2 Management of water discharge-related impacts	53, 70	
	303-3 Water withdrawal	70	
	303-4 Water discharge	70	
	303-5 Water consumption	70	
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	53	
	306-2 Management of significant waste-related impacts	53, 70	
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	306-4 Waste diverted from disposal	53, 70	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	73, 75	
	401-3 Parental leave	-	
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	73	
	404-2 Programs for upgrading employee skills and transition assistance programs	57	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	64, 72	
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	62-63	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	75	

SASB INDEX

Electric Utilities & Power Generators

Topic	Code	Accounting Metric	Page	Note
Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.1	(1) Global Scope 1 emissions, (2) percentage covered under emissions-limiting regulations, and (3) percentage covered under emissions-reporting regulations	41, 69	
	IF-EU-110a.2	GHG emissions associated with power deliveries	41, 69	
	IF-EU-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets.	38-41	
Air Quality	IF-EU-120a.1	Emissions of (1) nitrogen oxide (NOx), (2) sulfur dioxide (SOx), (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); the percentage of each emission in or near densely populated areas	54-55, 71	No lead and mercury emissions
Water Management	IF-EU-140a.1	(1) Total water withdrawn, and (2) total water consumed; water withdrawal/consumption and their respective ratios in regions with high or extremely high water stress	70	
	IF-EU-140a.2	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards and regulations.	71	
	IF-EU-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks.	53	
Coal Ash Management	IF-EU-150a.1	Coal combustion residuals (CCPs) generated, percentage recycled	N/A	Lack of coal power in the business portfolio
	IF-EU-150a.3	Description of CCPs management policies and procedures for active and inactive operations	N/A	
Energy Affordability	IF-EU-240a.1	Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers	N/A	Due to the characteristics of the domestic electricity market, Korea Electric Power Corporation (KEPCO) holds a monopoly
	IF-EU-240a.3	(1) Number of residential customer gas disconnections for non-payment, (2) percentage reconnected within 30 days	N/A	
	IF-EU-240a.4	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	N/A	
Workforce Health and Safety	IF-EU-320a.1	(1) Total recordable incident rate (TRIR) of (a) full-time and (b) contract employees, (2) fatality rate, and (3) near miss frequency rate (NMFR)	-	To be announced
End Use Efficiency & Demand	IF-EU-420a.2	Percentage of electric load served by smart grid technology	-	0%
	IF-EU-420a.3	Customer electricity savings from efficiency measures	N/A	Due to the characteristics of the domestic electricity market, Korea Electric Power Corporation (KEPCO) holds a monopoly
Nuclear Safety & Emergency Management	IF-EU-540a.1	Total number of nuclear power units, broken down by the latest independent evaluation results	N/A	Absence of nuclear power generation in the business portfolio
	IF-EU-540a.2	Description of efforts to manage nuclear safety and emergency preparedness	N/A	
Grid Resiliency	IF-EU-550a.1	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	N/A	Due to the characteristics of the domestic electricity market, Korea Electric Power Corporation (KEPCO) holds a monopoly
	IF-EU-550a.2	(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days	N/A	

MEMBERSHIP IN ASSOCIATIONS & ORGANIZATIONS

Classification	Organization	Position	Joined in
Energy in General	National Assembly Forum on Climate Change	Co-representative	2014
	Korea Business Council for Sustainable Development (KBCSD)	Committee member	2016
	Energy Future Forum	BOD member	2014
	Energy Alliance	BOD member	2021
	International Greenhouse Gas Reducing Industry Association	Regular member	2023
	Korea REDD Plus Association	General member	2022
E&P/Gas	Energy and Mineral Resources Development Association	Vice President	2008 (GSC)
	Korea Gas Union	Vice President	2008 (GSC)
	Private LNG Industry Association	Co-representative	2021
Electric power/district heating	Independent Power Producer Association	Special member	2014
Hydrogen	H2KOREA	Associate member	2021
	K-CCUS Association	General member	2022
	Clean Ammonia Council	General member	2021
Business community/others	Korea Chamber of Commerce and Industry	EX officio member	2017
	Seoul Forum for International Affairs	Regular member	2019

INDEPENDENT ASSURANCE STATEMENT

GS Energy 지속가능경영보고서 2023 독자 귀중

서문

한국경영인증원(KMR)은 GS Energy 지속가능경영 보고서 2023 (이하 “보고서”)의 제3자 검증을 요청 받았습니다. 보고서 작성과 정보에 대한 책임은 GS Energy 경영자에게 있으며, 본 한국경영인증원의 책임은 계약 및 합의된 업무를 준수하고 검증 의견서를 발급하는 데 있습니다.

검증 범위 및 기준

GS Energy는 보고서에서 지속가능성과 관련한 조직의 성과와 활동에 대해 기술하고 있습니다. 검증팀은 국제적 검증 기준인 AA1000AS v3 및 KMR 검증 기준인 SRV1000을 적용하였으며, Type 1 방법 및 Moderate 수준의 보증 형태로 검증을 수행하였습니다. 즉, 검증팀은 AA1000AP(2018)에서 제시하는 포괄성(Inclusivity), 중요성(Materiality), 대응성(Responsiveness) 및 영향성(Impact) 원칙의 준수여부와 보고서에 기재된 하기 GRI 지표에 대한 데이터와 정보의 신뢰성 및 품질을 평가하였습니다. 이때 중요성 기준은 검증팀의 전문가적 판단(Professional Judgment)이 적용되었습니다.

GRI Standards 2021의 보고 요구사항 만족 여부에 대한 확인이 검증 범위에 포함되었으며, 중대성 평가 절차를 통해 도출된 중요주제의 세부지표는 다음과 같음을 확인 하였습니다.

- GRI Standards 2021 보고 원칙
- 공통 표준(Universal Standards)
- 특정주제 표준(Topic Specific Standards)
 - GRI 305: 배출(Emissions)
 - GRI 403: 산업안전보건Cases(Occupational Health and Safety)

보고서의 보고경계 중 조직 외부 즉, GS Energy의 협력사, 계약자 등에 대한 데이터와 정보는 검증범위에서 제외되었습니다.

검증방법

한국경영인증원 검증팀은 합의된 검증 범위에 대해 상기 기술된 검증기준에 따라 검증 하기 위해 아래와 같이 검증을 진행했습니다.

- 보고서에 담긴 내용에 대한 전반적인 검토
- 중대성 평가 방법 및 결과 검토
- 지속가능경영 전략 및 성과정보 시스템, 프로세스 평가
- 보고서 작성에 대해 책임 있는 담당자와의 인터뷰
- 보고서 성과정보에 대한 신뢰성 평가, 데이터샘플링
- 금융감독원 전자공시시스템 등 독립적인 외부 출처 및 공공 데이터베이스를 기반으로 한 정보의 신뢰성 평가

제한사항 및 극복방안

검증은 GS Energy에서 제공한 데이터 및 정보가 완전하고 충분하다는 가정을 기반으로 실시되었습니다. 데이터 검증은 GS Energy에서 수집한 데이터에 대한 질의 및 분석, 제한된 형태의 표본추출방식을 통해 한정된 범위에서 실시되었습니다. 이를 극복하기 위해 전자공시시스템, 국가온실가스 종합관리시스템 등 독립적인 외부 출처 및 공공 데이터베이스를 참고하여 정보의 품질 및 신뢰성을 확인하였습니다.

검증결과 및 의견

검증팀은 문서검토 및 인터뷰 등의 결과를 토대로 GS Energy와 보고서 수정에 대해 여러 차례 논의하였으며, 수정 및 개선권고 사항 반영을 확인하기 위해 보고서의 최종판을 검토하였습니다. 검증결과, GS Energy의 보고서는 GRI Standards 2021의 보고방식에 따라 작성되었으며, AA1000AP(2018)에서 제시하고 있는 원칙 준수와 관련하여 부적절한 부분을 발견할 수 없었습니다. 원칙에 대한 본 검증팀의 의견은 다음과 같습니다.

포괄성 원칙

GS Energy는 이해관계자에 대한 조직의 책임에 대해 공약하고 이를 실천하기 위해 다양한 형태와 수준의 이해관계자 커뮤니케이션 채널을 개발하여 운영하고 있습니다. 검증팀은 이 과정에서 누락된 주요 이해관계자 그룹을 발견할 수 없었으며, 그들의 견해 및 기대 사항이 적절한 조직의 전략에 반영되도록 노력하고 있음을 확인하였습니다.

중요성 원칙

GS Energy는 조직의 지속가능성 성과에 미치는 주요 이슈들의 중요성을 고유의 평가 프로세스를 통해 결정하고 있으며, 검증팀은 이 프로세스에서 누락된 중요한 이슈를 발견하지 못하였습니다.

대응성 원칙

GS Energy는 도출된 주요 이슈의 우선순위를 정하여 활동성과 대응사례 그리고 향후 계획을 포괄적이고 가능한 균형 잡힌 방식으로 보고하고 있으며, 검증팀은 GS Energy의 대응 활동들이 보고서에 부적절하게 기재되었다는 증거를 발견하지 못하였습니다.

영향성 원칙

GS Energy는 중대성 평가를 통해 파악된 주요 주제들의 직간접적인 영향을 파악하여 모니터링하고 있으며 가능한 범위 내에서 해당 영향을 정량화된 형태로 보고하고 있음을 확인하였습니다.

적격성 및 독립성

한국경영인증원은 ISO/IEC 17021:2015(경영시스템의 심사 및 인증을 제공하는 기관에 대한 요구사항)에 따라 문서화된 방침과 절차를 포함한 포괄적인 품질관리시스템을 유지하고 있습니다. 검증팀은 지속가능성 전문가들로 구성되어 있으며, 제3자 검증 서비스를 제공하는 업무 이외에 GS Energy의 사업활동에 영리를 목적으로 하는 어떠한 이해관계도 맺지 않은 독립성을 유지하고 있습니다.

2024.08 대한민국, 서울



대표이사 

