

ON THE WAY
TO GREEN

Contents

Overview		SK Innovation GROWTH Strategy		Sustainable Management		ESG Policy & Performance		ESG Data	
Contents	02	GROWTH Overview	10	BOD Composition and Operation	63	Environmental	74	Environmental	127
CEO Message	03	Green Innovation	11	BOD Committees	66	Mitigation of Environmental Impact	75	Social	135
Business Overview	05	Road to Net Zero	19	ESG Management System	67	Protection of Biodiversity	81	Corporate Governance	146
Business Value Chain	06	Outstanding SHE Management	29	BOD Activities	68	Response to Climate Change	83	Financial Statements	148
Executive Management of the Subsidiaries	07	Winning the Trust	38	BOD and Executive Evaluation	70	Social	90	Appendix	
Self-Reflection	08	Together with Society	44			Human Rights Management	91	Materiality Assessment	151
		Happiness for All	53			Human Resources Management	94	Social Value Creation	154
						Happy Workplace	98	Stakeholder Engagement	156
						SHE Management	101	UNGC Communication on Progress	157
						Supply Chain ESG Management	103	UNGP Index	158
						Social Contribution	111	GRI Index	159
						Customer Satisfaction Management	117	TCFD Index	162
						Intellectual Property Management	118	TCFD Report	163
						Governance	119	SASB Index	169
						Ethical Management	120	Associations and Memberships	171
						Fair Competition	123	Independent Assurance Statement	172
						Risk Management	124	Independent Assurance Statement for GHG Emissions	174
								About This Report	176

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- 🏠 Cover
☰ Contents
↶ Go back
⏪ Previous page
⏩ Next page
- ➡ Learn more info.
⊕ Check details.
🔗 Related webpage

CEO Message

Dear Stakeholders of SK Innovation,

I would like to express my sincere gratitude to you for sending SK Innovation unwavering encouragement and support with confidence in our pursuit of “Carbon to Green” innovations at a time when uncertainties are still growing in the business environment saddled by the years-long pandemic and geopolitical issues.

SK Innovation commemorated its 60th anniversary in 2022. Having started out as a small company in a fishing village in Ulsan, SK Innovation has turned itself into the largest refiner in Korea but now, we are set to begin a new journey. By preemptively participating in global efforts for climate change response and migrating to a green portfolio, we are taking a leap forward toward a green energy and materials company to lead the future energy industry.

The business environment remains uncertain this year as demands slow amid the global economic recession while macroeconomic indicators, such as interest rates and FX rates, show increasing volatility. However, SK Innovation has a proven track record of resilience that has been shown throughout the past six decades when we wisely toiled over countless challenges and adversities and supplied the world with the power to move forward. For the next 60 years, we will be writing a new chapter of sustainable growth in SKI’s history book and that means we are committed to the following three imperatives:

SK Innovation

Vice Chairperson and CEO

Kim Juw

SK Innovation will be on a journey full of challenges and innovations and supply new energy sources by closely following market changes and stakeholders’ demands.

I would like to ask for your interest and support.

Thank you.



CEO Message



Accelerate a portfolio transition from Carbon to Green.

SK Innovation unveiled its financial story in 2021 by declaring a transition toward a green business portfolio. Devoted efforts have since followed to make it a reality, such as beefing up our portfolio, developing new businesses, and increasing R&D capabilities, and they coming to fruition with tangible and meaningful outcomes towards the “Carbon to Green” transition starting this year.

In the energy and chemical business, the company is taking bold steps to stay competitive through its green transformation, while at the same time, carbon reduction is always a critical item on our agenda. For instance, we secured feedstock and technologies for sustainable fuel production, embarked on energy solutions and mobility platforms drawing on our marketing competence in the refining business, and forayed into the carbon capture and storage business building upon our crude exploration prowess. We also started immersion cooling for data center servers using lube base oil, and we are constructing the Advanced Recycling Cluster in Ulsan, where the top three chemical plastic recycling technologies will be applied for the first time in the world.

In the battery and materials business, we have achieved an aggressive expansion in the short term, and we believe it is time now to optimize growth and profitability. Yet, our investments for sustaining future growth will continue, such as Next-Generation battery and materials technologies.

SK Innovation is on the constant lookout for new growth engines. With accumulated R&D capabilities, we are actively engaged in joint R&D or partnering with global tech companies, paving the way for the electrification and recycling businesses, such as small module reactors (SMR), hydrogen/ammonia, and gasification of solid waste.



Internalize ESG in our business philosophy.

SK Innovation will make ESG management, which will be pursued under the GROWTH strategy, an internal part of our business philosophy, to achieve sustainable growth and win the confidence of stakeholders. While taking aggressive steps to cut carbon emissions following our All Time Net Zero strategy, we will put in place ESG management systems tailored to the diverse environments at the ever-growing overseas business sites in the US, Europe, China, etc.

The progress we make in ESG management will be systematically managed and transparently disclosed through the digital ESG data platform developed by SK Innovation. This will allow us to respond preemptively responses to the demand from outside, maximize communication coverage of stakeholders, and gain consensus, thus winning the continuous support and trust of our stakeholders.



Strengthen the role of the BOD and build an advanced management system.

While pursuing a portfolio transition and internalizing ESG management, we also need to put in place the right management system to back up our quest for sustainable growth. The members of our board of directors have expertise and diversity exceeding global standards and the company is looking to make the BOD play a greater role in our business management. Moving forward, we will reinforce the role of the BOD so that it can supervise and check our decision-making on key issues with greater independence, professionalism, and diversity and SK Innovation continue to win the trust and support of our stakeholders.

Business Overview

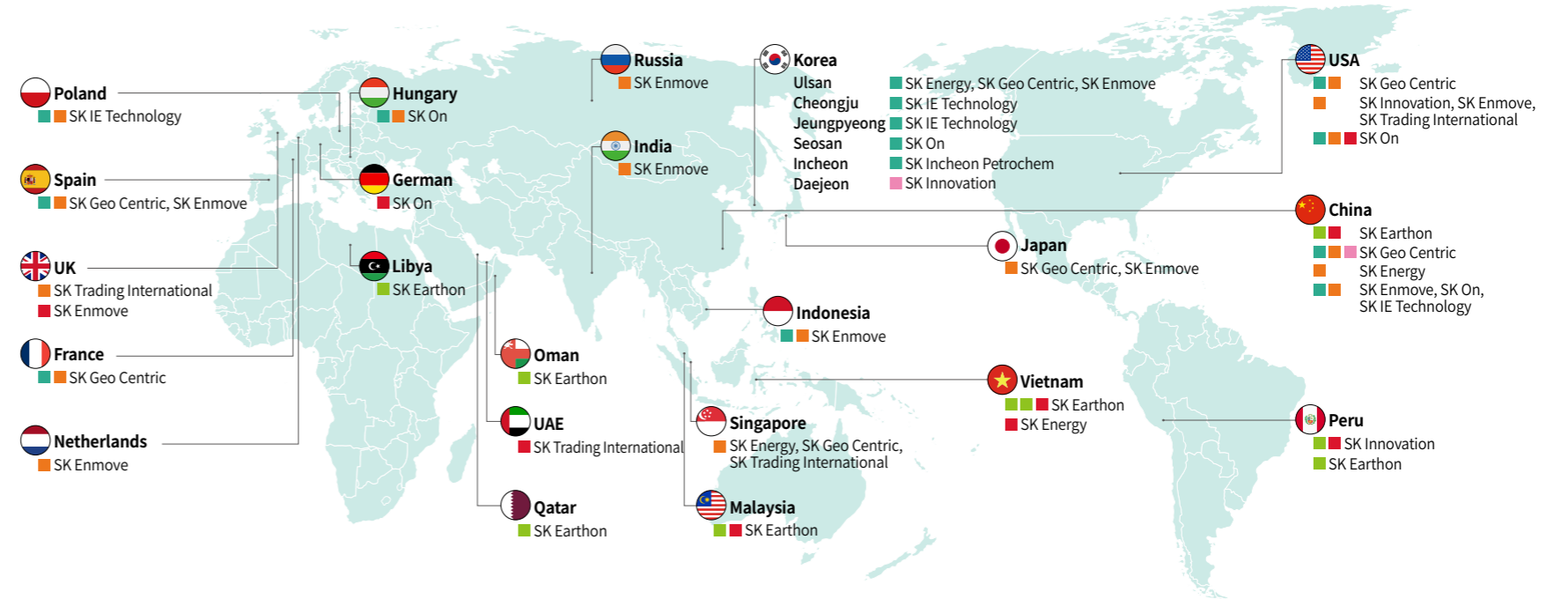
Company Profile

SK Innovation is a global supplier of green energy and materials, engaged in both the energy and chemical business and the battery and materials business. Our Carbon to Green strategy aims to turn the existing businesses greener and grow new businesses, such as small modular reactors (SMRs), ammonia-based fuel cell systems, solid waste gasification, into our green anchoring business. This approach will propel our endeavors for clean energy production aligned with electrification, building a recycling value chain, and adopting low-carbon energy based on net-zero technology, thereby letting us create a new portfolio of green businesses.

Company name	SK Innovation Co., Ltd.
Address	Seorin-dong SK Building, 26, Jongno, Jongno-gu, Seoul
Foundation date	October 13, 1962
Employees	9,390 people (in Korea)
Assets	KRW 67,218,924 million
Sales	KRW 78,056,939 million
Operating income	KRW 3,917,340 million

Global Network

The subsidiaries of SK Innovation are promoting their competitiveness by leading the domestic industry and consolidating their global presence, which is supported by their extensive networks spanning major countries around the world, including the US, China, Hungary, and Poland.



Mining concession (E&P)	SK Innovation (Production)	Peru
	SK Earthon (Production)	Vietnam, Libya
	SK Earthon (Exploration)	China, Vietnam, Malaysia
	SK Earthon(LNG)	Peru, Oman, Qatar
R&D	SK Innovation	Daejeon
	SK Geo Centric	China

Production sites	SK Energy	Ulsan
	SK Geo Centric	Ulsan, China, USA, Spain, France
	SK Enmove	Ulsan, China, Indonesia, Spain
	SK IE Technology	Cheongju, Jeungpyeong, China, Poland
	SK On	Seosan, Hungary, USA, China
	SK Incheon Petrochem	Incheon

Overseas companies	SK Innovation	USA
	SK Energy	China, Singapore
	SK Geo Centric	China, Singapore, Japan, USA, Spain, France
	SK Enmove	USA, China, India, Russia, Japan, Netherlands, Indonesia, Spain
	SK Trading International	Singapore, UK, USA
	SK On	USA, Hungary, China
	SK IE Technology	Poland, China

Overseas subsidiaries	SK Energy	Vietnam, Taiwan
	SK Enmove	UK
	SK Trading International	UAE
	SK Earthon	China, Vietnam
	SK On	USA, German

SK Innovation Subsidiaries

SK Innovation is creating a sustainable future with its eight subsidiaries.

SK Energy
(SKE)

SK Geo Centric
(SKGC)

SK On
(SKO)

SK Enmove
(SKEN)

SK IE Technology
(SKIET)

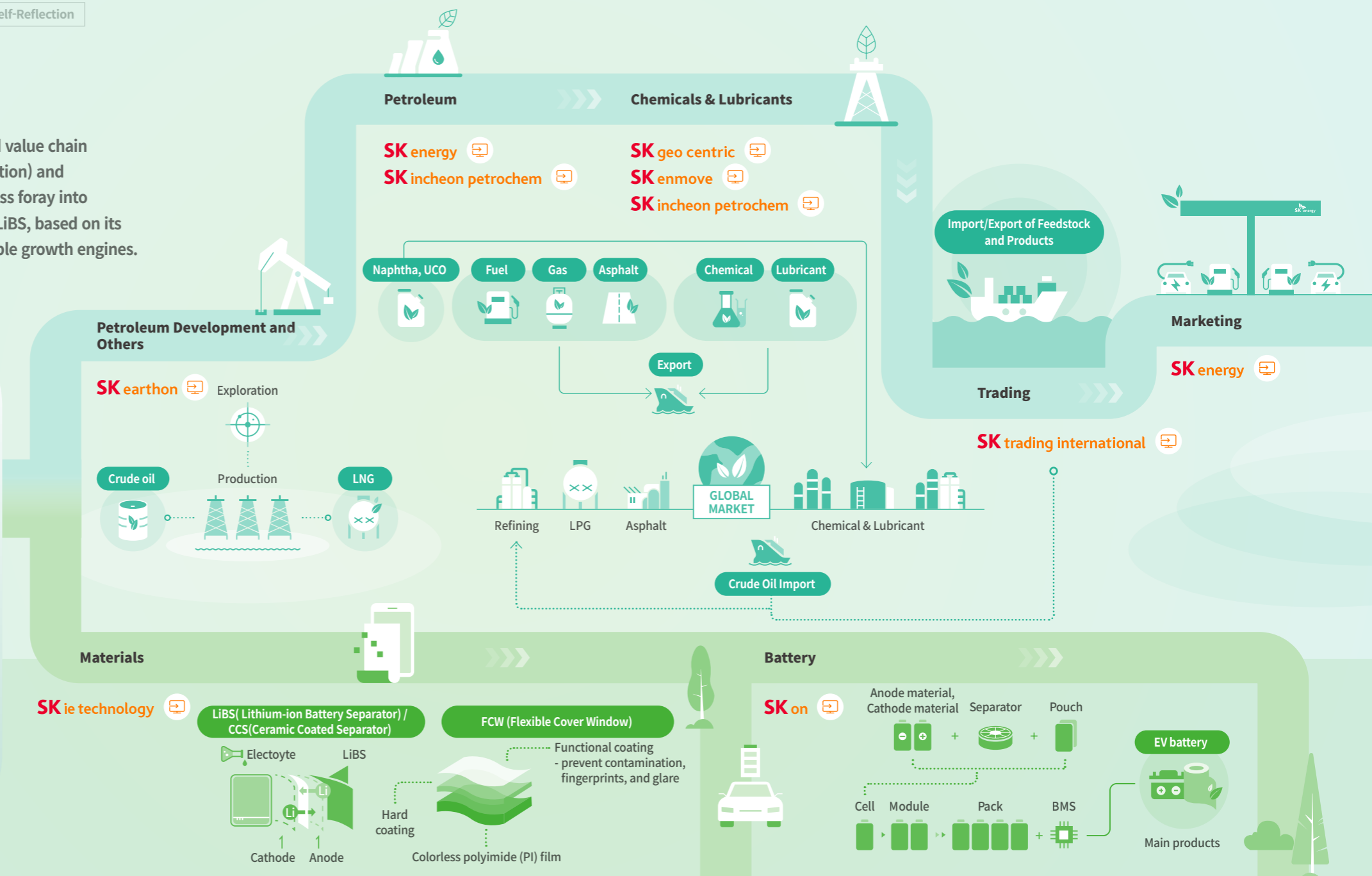
SK Trading International
(SKTI)

SK Incheon Petrochem
(SKIPC)

SK Earthon
(SKEO)

Business Value Chain

SK Innovation has established an integrated value chain spanning upstream(exploration and production) and downstream(sales) and is making a relentless foray into green businesses, such as EV batteries and LiBS, based on its excellence in technology to secure sustainable growth engines.



Executive Management of the

SUBSIDIARIES

Executive Management of the Subsidiaries

At the key subsidiaries of SK Innovation, the top management is spearheading new innovations and changes for ESG management with expertise and leadership.



SK energy

Cho Kyong-mok CEO

Career highlights

- Current) President & CEO, SK Energy
- Former) Vice President of Finance, SK Inc.
- Former) Senior Executive Managing Director of the Finance Team, SK Inc.
- Former) Executive Managing Director of Finance Team, SK Inc.
- Former) Executive Managing Director of Financial Management, SK telecom
- B.A. in Business Administration from Seoul National University

Term 2018.1 ~



SK geo centric

Kim Cheol-jung CEO

Career highlights

- Current) President & CEO, SK IE Technology
- Former) Non-executive director of SK IE Technology
- Former) Head of Portfolio Division, SK Innovation
- Former) Head of Management Planning Office, SK Innovatinn
- MBA from University of Washington
- B.A. in International Economics from Seoul National University

Term 2023.3 ~



SK on

Jee Dong-seob CEO

Career highlights

- Current) President & CEO, SK On
- Former) President & CEO, SK Enmove
- Former) Secretary General, SK SUPEX Council
- Former) Executive Vice President, Strategy and Planning, SK Telecom
- Former) Senior Vice President, Future Management, SK Telecom
- B.S in Physics from Seoul National University

Term 2021.10 ~

Choi Yun-seok CEO

Career highlights

- Current) President & CEO, SK Incheon Petrochem
- Former) Director of Production Division, SK Incheon Petrochem
- Former) Executive of Maintenance Office, SK Incheon Petrochem
- Former) Team Leader of Maintenance Management Team, SK Incheon Petrochem
- B.A. in Electrical Engineering from Hanyang University

Term 2019.12 ~



SK enmove

Na Kyung-soo CEO

Career highlights

- Current) President & CEO, SK Geo Centric
- Former) Head of Corporate Performance Management Office, SK Innovation
- Former) Head of Corporate Support Office, SK Innovation
- Former) Biz. Support Office of Energy & Chemical, SK Holdings
- Former) Strategy & Planning Team Leader, SK Energy
- B.A. in Economics from KOREA University

Term 2018.12 ~



SK ie technology

Oh Jong-hoon CEO

Career highlights

- Current) Representative of P&M CIC, SK Energy
- Former) Department Head of Energy B2C, SK Energy
- Former) Department Head of BM Innovation, SK Energy
- Former) Executive of Strategic Support Team, SK SUPEX Council
- Former) Portfolio General Manager of PM3 Division, SK Inc.
- B.A. in Law from Yonsei University

Term 2020.12 ~



SK trading international

Suh Sok-won CEO

Career highlights

- Current) President & CEO, SK Trading International
- Current) Representative of R&S CIC, SK Energy
- Former) Head of Optimization Division, SK innovation
- Former) Executive of Oil Price Team, SK SUPEX Council
- Former) Head of Optimization & Analytics Office, SK Innovation
- Former) Head of Oil Trading Business, SK Energy
- B.A. in Economics from Seoul National University

Term 2018.12 ~



SK incheon petrochem

Park Sang-kyu CEO

Career highlights

- Current) President and CEO of SK Enmove
- Former) President and CEO of SK Networks
- Former) President of Walkerhill Hotel, SK Networks
- Former) Head of Retail Marketing Division, SK Energy
- Former) Head of S-Movilion HQ, SK Networks
- Former) Planning Team Leader, Invested Companies Management Office, SK Inc.
- Former) Retail Strategy Team Leader, SK Inc.
- B.A. in Business Administration from Seoul National University

Term 2023.1 ~



SK earthon

Myeong Seong CEO

Career highlights

- Current) President & CEO, SK Earthon
- Former) Representative of E&P Business, SK Innovation
- Former) General Manager of Happiness Design Office, SK Innovation
- Former) General Manager of Management Culture Innovation, SK Innovation
- Former) Head of Bogota Branch, SK Innovation
- B.A. in Commerce and Trade from Pusan National University

Term 2021.10 ~



SK energy P&M CIC

Self-Reflection

Reduce safety accident risks to zero

SK Innovation had two major accidents in the Ulsan CLX in 2022: a fire during a toluene tank cleaning in April and an explosion during the maintenance of a polymer production facility in August. These accidents resulted in three deaths and seven people injured.

Right after the accidents, labor supervisors of the Ministry of Labor and Employment came to the scene and ordered the suspension of work. Measures were taken to prevent secondary damages, and they conducted on-site investigations for which the company cooperated in earnest. The top management and the on-site managers of the company held a press conference to offer their sincere apologies to the victims and their families and promised full support for their medical treatment while making sure no stones were left unturned to find out the cause of the accidents and develop resolutions.

Investigations are underway on these two accidents, and the company is fully cooperating.

What to do next

Establish a master plan for safety management and improve safety

SK Innovation feels a grave responsibility for these accidents and has been implementing comprehensive measures to improve safety across all production facilities.

Activities to improve safety include beefing up safety organizations and leaders' on-site safety inspections. We established a safety control group at each plant making sure thorough safety management in the fields. And leaders run on-site inspections in person to make sure there is production sites are safer than ever. Investments in safety enhancement were also expanded. In addition, the company established an advisory committee consisting of six external professionals from academia and relevant institutions as well as members from SK Innovation.

With the support from this committee, the company can assess its safety culture and systems from an objective perspective and is implementing various action plans to improve safety. Our efforts do not end here but we will make devoted efforts to prevent the recurrence of such accidents.

Enhance shareholder value and vitalize shareholder communication

The physical divisions of the battery business and the E&P business in 2021 served as an opportunity to shed light on the protection of shareholders' rights. SK Innovation shares its activities and mid-to long term action plans to protect the shareholders' rights in this report as a follow-up.

In July 2021, SK Innovation made a preliminary disclosure on its mid-to long term management strategies and investment plans, including its planned review of physical divisions, and held the SK Innovation Story Day event to present detailed information to its stakeholders. Information on these physical divisions was released through our homepage right after the decision of the BOD in August 2021, and the purpose and future plans of these physical divisions were communicated to our shareholders and investors through conference calls and proxy NDRs. We also made sure to hear the opinions of domestic and overseas institutional investors and individual shareholders including minor shareholders until the general meeting of shareholders through our official contact or IR Team by actively responding to individual shareholders' inquiries.

The company made earnest efforts, such as introducing electronic voting, to enhance shareholders' participation and voting in the general meeting of shareholders. After these efforts, the physical divisions were finally approved with 80.2% of the votes at the extraordinary general meeting of shareholders in September 2021 while minority shareholder rights following the Commercial Act, such as shareholder proposal right, were exercised.

What to do next

Hold the "Shareholders Communication" event and announce mid-to long term shareholder return policies

Moving forward, SK Innovation will transparently share its pending issues and challenges and continue to communicate with its shareholders, thus increasing both shareholder and corporate values built upon greater confidence.

As part of these efforts to vitalize shareholder communication, the company hosted the Shareholders Communication event right after the general meeting of shareholders in March 2023 and also held a communication session with the top management to share key issues of shareholders' interest. In addition, we unveiled our mid-to long term policies for shareholder return at the Shareholders Communication event to respond to shareholders' demands and the government policy relating to the physical divisions and also strived to ease shareholders' complaints since the physical divisions. Furthermore, the company announced its mid-to long term policies on shareholder return, including the mid-term direction for dividend payment and stock exchange between SK Innovation and SK On regarding SK On's IPO, and presented what best solutions we are preparing to enhance shareholder value.

SK Innovation will keep updating and communicating its shareholder return policy, which could be affected by external environments so that our shareholders can make their voices heard in the decision-making process.

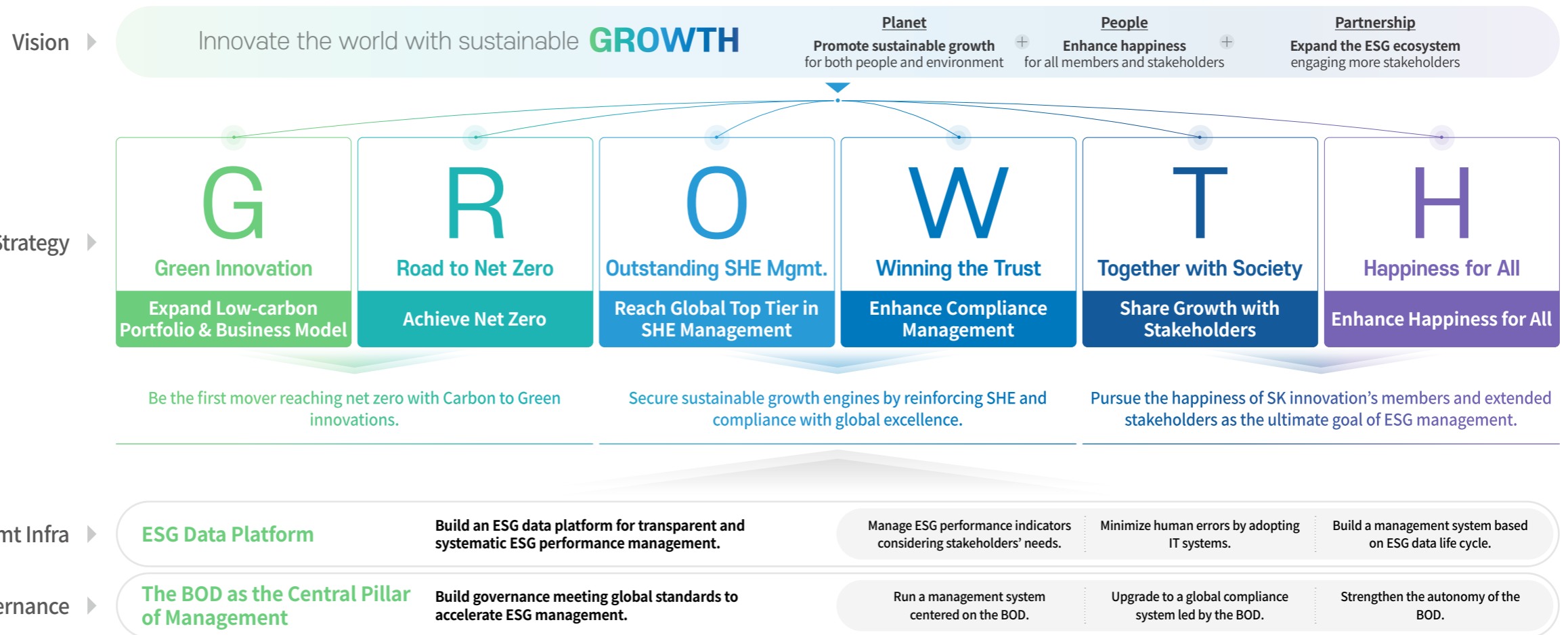
SK Innovation GROWTH Strategy

GROWTH Overview	10
Green Innovation	11
Road to Net Zero	19
Outstanding SHE Management	29
Winning the Trust	38
Together with Society	44
Happiness for All	53

GROWTH Overview

Execution of the GROWTH Strategy

SK Innovation has laid out a comprehensive framework for ESG management to make systematic and continuous improvements under the vision, “Innovate the World with Sustainable GROWTH”. This GROWTH strategy is our unique approach to ESG management enabling us to create tangible results and build consensus with our stakeholders. The Board of Directors plays an increasingly important role in ESG management for thorough execution and efficient performance management. The results of ESG management are systematically managed through the ESG data platform.





GREEN INNOVATION

Solidify SKI's identity as a Green Energy and Materials Company through Low-Carbon Businesses.

2022 Achievements

Increased ratio of green assets to the energy & chemical business through the innovation of the biz. portfolio



1.1 times

Social value (SV) creation by environmental products and services



KRW **499** billion

The world is witnessing a rapid paradigm shift to a decarbonized society. SK Innovation is one of the prime movers having readily prepared for these developments from early on. Embracing the Carbon to Green transition, the company will make a spurt in creating a low-carbon business portfolio and expanding green business models, thus increasing the shares of products and services creating environmental value. This way, we will continue to grow our corporate value as a global supplier of green energy and materials.

Expansion of the Green Portfolio

SK Innovation is looking to innovate its business portfolio by expanding the battery and materials business and upgrading the energy and chemical business. This is our approach committed to handling the external business environment preemptively, where a global energy transition is taking place towards a carbon-free economy, and to enhance corporate value by satisfying the stakeholders' expectations in the market.



2025 Targets

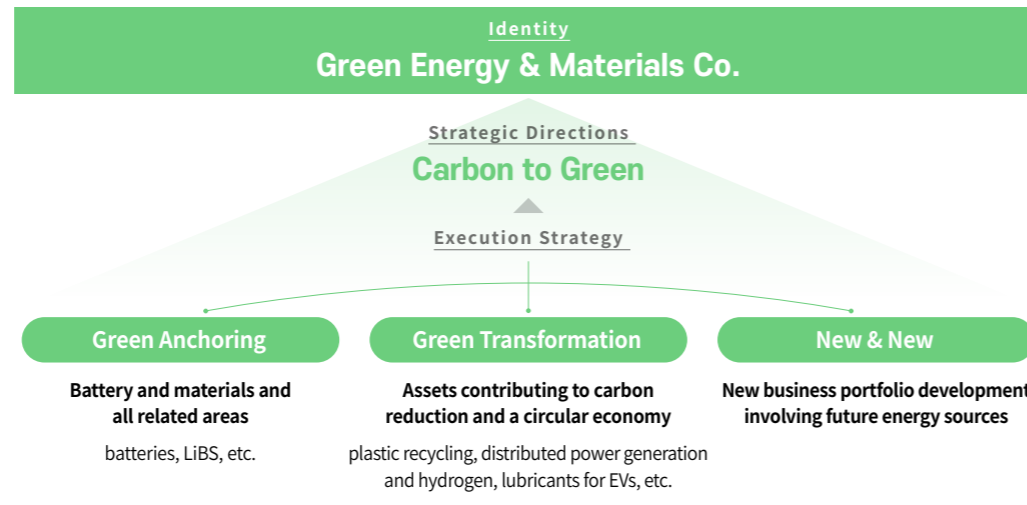
Double the ratio of green assets to energy & chemical assets through the innovation of the portfolio:

2 times

- Green assets: assets that contribute to cutting carbon emissions worldwide and promoting a circular economy and are used to supply sustainable energy
- Classification as green assets: Tangible/intangible assets and investment assets in the balance sheet are classified as green/carbon assets.

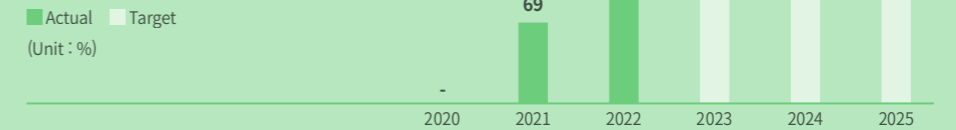
Strategies to Achieve Key Tasks (Mid-to Long Term)

“Carbon to Green” is a strategy SK Innovation pursues as a global supplier of green energy and materials, and we aim to increase the ratio of green assets to energy and chemical assets to 200% by 2025. To make it happen earlier, various initiatives are currently implemented: “Green Anchoring” to expand the battery and materials business worldwide, “Green Transformation” to create greater value through a green transition in the energy and chemical business, and “New & New Strategy” to secure and commercialize new green technologies.



Progress & Roadmap

Ratio of green assets to energy & chemical assets



Major Activities Planned for 2023

Our efforts to increase the ratio of green assets to energy and chemical assets will continue also in 2023 through the innovation of our business portfolio. In battery and materials, we will focus on profitability through qualitative growth, in addition to overseas investments in the US, Europe, and China. In energy and chemical, the Carbon to Green strategy will stay as the central pillar: Plastic recycling will kick off in earnest. We will construct infrastructure for the energy solution and mobility business utilizing our gas stations nationwide and attract more potential customers. We will also build capacity for the liquid-based heat management business. These activities will be accompanied by our continuous endeavors to redefine SK Innovation as the global supplier of green energy and materials with a diversified business portfolio: Develop specific business plans aligned with technologies invested in by SK Innovation, such as SMR, ammonia, etc., and secure capability to develop unique business models based on green technology.



In 2022, SK Innovation declared the Carbon to Green strategy to realize its financial story, following the future outlook and stakeholders' expectations. Under this strategy, we have created a range of strategic results in Green Anchoring and Green Transformation.

Activities and Achievements in 2022

Our Commitment



SK Innovation will create a "new green portfolio" by supplying clean energy for electrification and building a recycling value chain to expand business.

- the business strategy meeting at CES 2023

Vice Chairman Kim Jun, SK Innovation



Achievement 1 Green Anchoring

Battery and Materials Business

SK On has been continuously growing its battery business as a key driver of the green business portfolio the company targets to expand. SK On produces batteries for electric vehicles and energy storage systems (ESSs), and offers Battery as a Service (BaaS). Leveraging its unique technologies in high-energy density and high-performance batteries, the company supplies batteries across the globe including the US, Europe and China, while continuously expanding its production capacity. SK On secured annual battery production capacity of 77GWh at the end of 2022. It plans to secure production capacity of 220GWh by 2025 to keep up with customer demands. The company's order backlog is worth approximately KRW 290 trillion won as of the end-of 2022. By upgrading stability in supply and price competitiveness by the establishment of local production facilities as well as strategic partnerships with customers, SK On is securing a stable order volume, while consistently creating opportunities to win new orders. In addition, the company has proven the value and the growth potential of its battery business as a future business by successfully raising funds through green financing for three consecutive years.

SK IE Technology has developed a proprietary technology to produce lithium-ion battery separators, a key material for manufacturing EV batteries. With the construction of production plants in China and Europe,

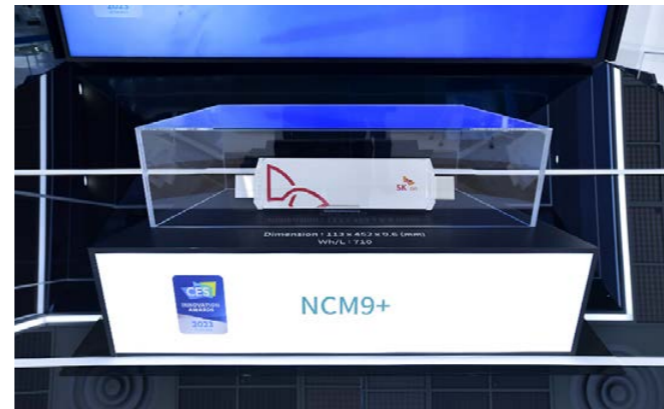
the company has turned itself into one of the top-tier companies in the industry with global production and supply systems. SK IE Technology is adding capacity to its production facilities not only in Korea and China but also in Śląskie, Poland to handle the growing demands. Plant #1 started up in Poland in September 2019 and plants #2 and #3 will come on stream by 2024. With these capacity additions, the company plans to expand its production capacity of lithium-ion battery separators from 1.53 billion m² in 2022 to 2.7 billion m² by 2024 and consolidate its market leadership. Furthermore, we will lead the supply of high-quality lithium-ion battery separators and pursue new, green materials businesses, thus becoming a green materials solution provider.

Sales of Green Businesses*

(Unit: KRW 1,000)

Category	2020	2021	2022
SKON	-	1,063,926,332	7,617,770,218
SKIET	469,309,226	603,767,421	585,798,633
Total	469,309,226	1,667,693,753	8,203,568,851

* Sales of the battery and materials business (SK On was established on October 1, 2021)



SK On developed the world's first NCM9+ battery with a nickel content higher than 90%

Achievement 2 Green Transformation

Plastic Recycling and High-Performance Materials Development

SK Geo Centric is setting the foundation for a recycling business and expanding the scale of its recycling materials business to become a global top-tier supplier of recycled materials. The company is working with several partner firms to construct an advanced recycling cluster (ARC) in Ulsan by 2025 and secured three leading technologies for advanced recycling such as pyrolysis, PET depolymerization, and high-purity polypropylene extraction. We also developed a post-treatment technology for pyrolysis oil.

We are looking to partner with waste collecting/sorting agencies to secure a stable supply of waste plastic for recycling and to build a closed loop together with domestic/overseas brands. In 2023, the company plans to start ARC EPC to internalize the three recycling technologies we have secured and kick off recycling projects, such as launching a global partnership with collecting/sorting firms, in earnest. In high-performance materials recognized for their environmental improvement effects, we are pushing to enter the Asian market by securing technology through a joint venture for EAA production with Weixing Chemical. SK Primacor Europe started the commercial operation of Ionomer #1 and adopted renewable naphtha to expand the production and sales of bio-products.

Advanced Recycling of Plastic

Advanced recycling uses pyrolysis, depolymerization, etc. to recycle waste plastic by chemical reactions, not mechanical methods, and is believed to have strong growth potential as a fundamental solution to waste plastic issues. As opposed to mechanical recycling (waste plastic is crushed, washed, and melted by machines), waste plastic recycled by CR offers as good quality as new plastic and can be repeatedly recycled.

Specific Technology Components

- Recycling of waste plastic (polypropylene)
- Raw materials and naphtha extraction from waste plastic through pyrolysis
- Depolymerization to turn waste plastic to basic raw materials

Low-Carbon Platform Business

SK Energy has strived to secure expertise and key technologies so that it can transform its business model into a low-carbon energy solution and mobility platform business and is currently focusing on laying a foundation for this business through the efficient improvement of policies, regulations, and systems. In 2022, the company successfully ran fuel cell demonstration projects at Pakmi/Gaenari gas stations and was able to induce an agreement on the improvement of government regulations. Starting in 2023, we are planning to conduct the fuel cell business at our gas stations in Seoul and the capital area, and idle lands owned by the government, and start to build low-carbon energy production hubs in earnest. We secured core technology for this low-carbon mobility business by investing in Atom Power, a US company with power semiconductor-based medium/slow EV charging solutions and will preemptively construct EV-charging infrastructure to expand service coverage.

Key investments in environmental technologies and businesses

OC	Investment	Period	Description	Amount	Expected benefits
SKI	Equity investment in Terra Power	'22	Equity investment in a Next-Generation SMR design company (Terra Power, US) in joint with SK Inc.	\$150M (\$250M including SK inc)	Secure business opportunities related to reliable carbon-free electricity
SKI	Equity investment in Amogy	'22-'23 (1H)	Equity investment in an ammonia fuel cell company (Amogy)	\$80M	Find and expand commercialization opportunities for direct-use ammonia
SKEN	Equity investment in GRC	'22	Equity investment in immersion cooling technology developer (GRC, US)	\$25M	Start thermal management business to execute financial story
SKE	Acquisition of Atom Power	'22	Acquisition of an energy solution provider (Atom Power, US) in joint with SK Inc.	\$78M (\$157M including SK inc.)	Enter the EV charging solution market in the US by acquiring Atom Power, an integrated HW & SW solution for EV charging.
SKI	Equity investment in Airrane	1H, '23	Equity investment in a CO ₂ separator membrane developer (Airrane, Korea)	TBA	Raise competitiveness in CCUS carbon reduction with joint technology development

Major investment plans in environmental technologies and businesses

(Unit: KRW 100 million)

Business and Investment	Investment			
	2023	2024	2025	2026
Secure technologies and develop businesses for supplying future energies (i.e. hydrogen, ammonia)	1,050	900	1,000	2,500
Promote a circular economy with investments in domestic waste gasification technology for bioenergy production	130	2,000	600	600
Secure technologies and develop businesses relating to carbon capture and storage	310	600	600	500

Investment in Immersion Cooling Technology

Investment in Immersion Cooling Technology In 2022, SK Enmove made an equity investment of \$25 million in GRC, a US company that has core technology and patents for the immersion cooling of servers at data centers. Immersion cooling refers to a technique of submerging data servers in a thermally conductive immersion cooling fluid, which consumes less electricity than air cooling and contributes to global efforts for carbon reduction. SK Enmove and GRC are collaborating to develop jointly an immersion cooling fluid and an immersion cooling system for data centers using high-quality lubricant and will make fast moves on their standardization and commercialization. This data center project will become a bridgehead from which SK Enmove will develop a future business using its premium lubricant as an immersion cooling fluid and become a liquid-based heat control solution provider. We are also considering starting an immersion cooling business for EV batteries as there is growing demands for better fire safety and performance of EV batteries amid the fast growth of the EV market. The company will also find other ways to expand its heat management business to deal with diverse shifts of paradigms and pick up the pace in the green.

Achievement 3 New & New

Future Energy Portfolio of SK Innovation

In pursuit of innovating its business portfolio, SK Innovation has been on a constant search for new business items. We chose “electrification” and “recycling” as the two focus areas of the future energy business, and have been making seed investments to secure technology prowess aligned with our portfolio development strategy. In August 2022, the company and SK Inc. made a joint investment of \$250 million in TerraPower, a US-based company with Next-Generation technology for small module reactors (SMR), expected to serve as carbon-free power suppliers. Also in June 2022, we made a preemptive move to build the foundation for the hydrogen and ammonia business and to occupy the end-use market, by investing \$30 million in Amogy, a US company with ammonia-based fuel cell technology. \$50 million was additionally invested in Amogy in March 2023 for the purpose of creating an ammonia ecosystem and strengthening strategic partnerships. In July 2022, we invested \$20 million in Fulcrum, a US company with waste-to-gas technology in a bid to enter the waste-to-energy market. In May 2023, the company made a joint equity investment with SK IE Technology in Airrane, a Korean company with membrane technologies to separate and capture CO₂, and we are currently developing Next-Generation separators with Airrane. Going forward, SK Innovation will strive to seize various business opportunities through seed investments in new, green technologies, while at the same time secure competitiveness in the existing businesses and building partnerships at a faster pace.



Learn more about [Expansion of the Green Portfolio](#).

Expansion of Environmental Products and Services Creating Social Value (SV)*

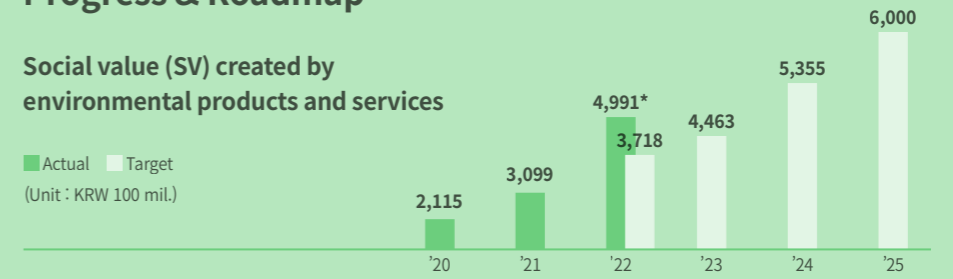
SK Innovation pursues both the qualitative and quantitative growth of products and services creating Social and environmental value and develops innovative solutions tailored to its financial story and stakeholders' demands.

* Based on the calculation system of the Center for Social value Enhancement Studies

Progress & Roadmap

Social value (SV) created by environmental products and services

Actual Target
(Unit : KRW 100 mil.)



* Exceeded the target (KRW 371.8 billion) for 2022



Strategies to Achieve Key Tasks (Mid-to Long Term)

In the mid- to long term, SK Innovation aims to create social value through its products and services at an annual growth rate of at least 20%, so that the total social value generated through its products and services will surpass KRW 600 billion by 2025, double the level seen in 2021. To this end, the company will introduce KPIs linked with green business models and social value creation and throw greater support for its subsidiaries to expand products and services with better environmental impacts. We will keep upgrading the existing solutions to increase the ratio of sales of those products and services. We will also push to build new green business models by developing and verifying formulas to calculate social value created by new solutions and aligning them with our financial story.

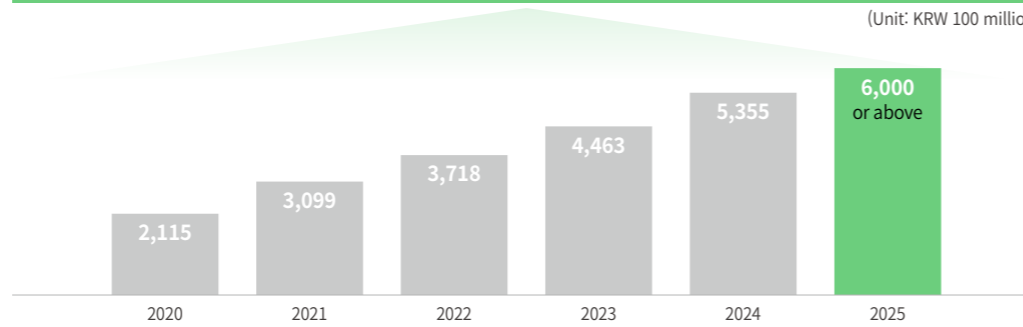
2025 Targets

Social value (SV) created by environmental products and services

KRW 600 billion or above

Yearly Execution Plan

(Unit: KRW 100 million)



Major Activities Planned for 2023

In 2023, SK Innovation is making a spurt to develop a new environmental business model aligned with its financial story, so that it can continue to expand its business portfolio focusing on products and services creating social and environmental value. Under the Carbon to Green strategy, the company will put priority on developing sustainable solutions aligned with carbon reduction and recycled products such as lubricant upcycling and plastic recycling, and will also increase sales.

Development of SV Calculation Formulas for New Products and Services

Develop formulas to calculate the environmental improvement effect of new products and services planned for commercialization ("i.e." upcycling lubricants and plastic recycling)



Upgrade of SV Calculation Formula

- Research and upgrade calculation methodologies (contribution rate, impact calculation methodology, etc.)
- Review calculation methods in collaboration with global partners such as Value Balancing Alliance (VBA) and Harvard Business School (HBS)

SK Innovation created a total of KRW 499 billion in social value through the quantitative growth of environmental products and services and the launch of innovative solutions meeting market demands.

Major Environmental Products and Services in 2022

Our Commitment



SK Innovation will continuously expand its business and product portfolios, including EV batteries, plastic recycling, and battery metal recycling, as part of our aggressive actions under the Carbon to Green strategy to achieve net zero.

- New Year Interview with SKInno News

Vice Chairman Kim Jun, SK Innovation



Social value calculation formulas for major products and services (p.155)

Achievement 1 Recyclable Asphalt

SK Energy develops and supplies recyclable asphalt that enables the simplified recycling process of asphalt concrete and better reliability control. Our supply of recyclable asphalt facilitates the recycling of aged asphalt in waste asphalt concrete (recycled aggregate) and contributes to raising the recycling rate of waste ascon, which currently remains low, in Korea. Asphalt recycling is a good way of saving resources (as it helps to reduce the demand for aggregate quarrying and asphalt production) and cutting waste generation.

KRW 6.1 billion in 2022

Achievement 2 High-Performance Packaging Materials

SK Geo Centric is making a spurt in developing 3R solutions (reduce, replace, and recycle) under its strategy to cut waste plastic and carbon to zero and is exploring ways to increase plastic recycling. We developed a high-performance single material as packing film, which is easier to recycle and hence helps to raise plastic recycling rates. We are also partnering with distributors to use lightweight packaging so that we can reduce waste and promote people's green lifestyle conducive to resource circulation.

KRW 2 billion in 2022

Achievement 3 Group III Lube Base Oil

SK Enmove redefines itself as a partner for energy efficiency and makes devoted efforts to expand its portfolio of products, services, and technologies for carbon reduction. Group III lube base oil that SK Enmove produces through advanced hydrocracking reaction is graded as premium lube base oil according to the American Petroleum Institute (API)'s classification standards. The high viscosity, low sulfur content, and outstanding fuel efficiency of its Group III lube base oil mean less energy consumption and carbon emission.

KRW 160.3 billion in 2022

<p>Major Environmental Products and Services by SK Innovation and Its Subsidiaries</p>	<p>SK energy</p> <p>Middle-temperature asphalt, Recycle asphalt</p>	<p>SK geo centric</p> <p>Blowing agent to replace HCFC, Lightweight materials for automobile, High-functionality packaging materials, Recycled plastic</p>	<p>SK enmove</p> <p>Group III lube base oil, Lube base oil for EVs</p>
	<p>SK incheon petrochem</p> <p>Upcycling of waste heat from processes</p>	<p>SK trading international</p> <p>Chartering high-efficiency vessels</p>	<p>SK on</p> <p>EV batteries</p>

Achievement 4 Upcycling of Waste Heat from Processes

SK Incheon Petrochem has built infrastructure to share with local communities, whereby waste heat from petrochemical production is turned into resources for heating and cooling services. Waste heat, once abandoned from production processes, is now recovered and used for supplying heating and cooling services sufficient to cover up to 40,000 households for one year through local supply networks. The company also partners with district energy suppliers on energy upcycling to reduce greenhouse gases and air pollutants.

KRW 3.1 billion in 2022

Best Practices in 2022

Recyclable Asphalt

The Korean government encourages asphalt concrete recycling to deal with an enormous amount of waste asphalt concrete generated from road repair and maintenance every year. Yet, asphalt concrete manufacturers, most of whom are small businesses, struggle to add the facilities, such as tanks, driers, and burners, required to control the quality of the asphalt recycling process. While the Ministry of Land, Infrastructure and Transport notified that the mandatory use of recycled asphalt concrete would be raised to 40% by 2016, the actual use of recycled asphalt concrete under government contracts for asphalt concrete remained only 21% as of 2021. SK Energy developed asphalt that made asphalt concrete recycling easier, so as to help ease these challenges facing asphalt concrete manufacturers and enable more convenient quality control and production. We also support them to acquire a government certificate on the quality of recycled asphalt concrete and contributed a fund to help them construct asphalt tanks exclusive to recycled asphalt concrete. As such, SK Energy strives to promote win-win cooperation with asphalt concrete manufacturers and create social value of waste asphalt concrete recycling and less environmental cost by decreasing the landfill of waste asphalt concrete.



SK Energy and Inseung A&T complete the construction of an asphalt tank exclusive to recycled asphalt concrete

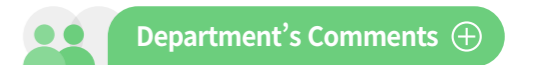


Advanced Recycling Cluster under Construction by SK Geo Centric

Key Tasks to Implement

Promote Plastic Recycling

SK Geo Centric adopted a strategy to cut waste plastic to zero and ultimately aims to ultimately recycle more waste plastic than actual production by increasing product manufacturing using recycled waste plastic. The company improved its plastic recycling business by introducing advanced pyrolysis technology and developing a post-treatment technology for pyrolysis. The company also works with many partners at home and abroad to construct a number of recycling plants, which includes the construction of the advanced recycling cluster (ARC) in Ulsan slated for start-up in 2025. The Ulsan ARC will be the world's first recycling cluster representing diverse chemicals-based technologies for plastic recycling, such as the largest pyrolysis plant in Asia. We are planning to expand waste plastic recycling to at least 2.5 million tons, equivalent to 100% of our plastic production in Korea and abroad, and increase the ratio of recyclable products to 100% by 2027. SK Geo Centric will make relentless moves for 3R solutions (reduce, replace, and recycle), thus creating an ecosystem for resource circulation and make continuous contributions to environmental protection, such as saving raw materials and cutting waste.



ESG SPECIAL PAGE

Deliver SKI's Commitment to Climate Change Response at CES

CES 2022, SK, Your Companion

At CES 2022, SK Innovation proposed “Companion: SK, Your companion on the journey toward a Net Zero future)” as a key message delivering its commitment toward net zero that the company will decrease 200 million tons of carbon or 1% of the global reduction target for 2030 (21 billion tons). SK's exhibition pavilion designed with a “green forest” concept, presented our activities and progress on carbon reduction as a journey through which visitors could experience what SK has done to clear up carbon.

SK Innovation declared 2022 as a starting year of internalizing Carbon to Green DNAs and showcased key performances on aggressive carbon reduction, such as EV batteries, separation membranes, plastic recycling, CCS, and green lubricants.

SK Innovation will continue constructive partnerships with its stakeholders to make the world carbon-free and have a positive influence.



Companion

SK, Your Companion on the Journey toward Net Zero Future

CES 2023, Together in Action

“Your companion on the journey toward Net Zero future” was our message delivered at CES 2022, and this year, SK Innovation proposed a new theme for CES 2023, “Moving toward a carbon-free future together” and reiterated its commitment to “actions” to cut carbon emissions through various innovative technologies.

Composed of four zones—Futuremarks, Together in Action, SK Around Every Corner, and Zero Arcade—the SK booth effectively demonstrated the continuous initiatives and efforts for SK and its partners to reach net zero and our commitment to triggering changes, with impactful directing and real products displayed. The Futuremark zone showed the dismal future that climate change may bring on with landmarks around the world submerged under water, thus making visitors take climate change seriously. The Together in Action zone expressed the intent of SK & Friends to lead the global movements to cut carbon by 1% worldwide. The SK Around Every Corner zone showcased SKI's innovative technologies leading carbon reduction in daily life with real product displays and eye-catching videos. And finally, the Zero Arcade zone encouraged visitors' participation. Our booth received rave reviews for conveying SKI's strong commitment and well-organized storytelling.

Action

Moving Toward a Carbon-Free Future Together

Interviews with 'Friends of Innovation' Biz Partners

SK's pavilion was a wonderful experience. There was a lot more to see than last year and it is a must-visit place for SK Innovation's customers and other visitors to the fair.

Will McKenna
Marketing Communications Director at Solid Power

Our partnership with SK Geo Centric and its experience and excellence will be a springboard for us to complete our Plastic Asia Project with success.

Bruno Guillon
Chief Commercial Office at Plastic Energy

SK Innovation presented its confidence in EV batteries and battery materials by displaying real products in the booth: SK On's SuperFast (SF) battery, which received the Best Innovation Award for the first time among Korean-made batteries, along with its NCM9+ battery, and SK IE Technology's LiBS (Lithium-ion Battery Separator), both of which won the Innovation Award. Also on display were SK IE Technology's flexible cover window (FCW) and SK Geo Centric's lightweight material, UD Tape, each of which won the Best Innovation Award and the Innovation Award, and also SK Enmove's EV fluid and immersion cooling technology. As such, our excellent technologies were introduced to potential customers and also highlighted our technology and vision for SMR and CCUS, which are hailed as green solutions.

SK Innovation will lead the way in creating a sustainable world by building upon its strong commitment and diverse achievements responding to climate change as demonstrated in CES 2023.





ROAD TO NET ZERO

The Tree of Life zone inside SK's Green Forest Pavilion at CES 2022

2022 Achievements

Scope 1 & 2 emissions of the energy and chemical biz. compared to 2019

14 % reduction



Scope 1 & 2 emissions of the battery and materials biz. compared to BAU

31 % reduction



Scope 3 emissions compared to 2019

12 % reduction



R&D investments

KRW **123.6** billion



SK Innovation will make aggressive investments and speed up technology development to facilitate low-carbon operations¹⁾ and slash its carbon emissions. The company will communicate its actual progress toward net zero, which of course includes specific carbon reduction data, with external stakeholders and make devoted efforts to reach net zero with sincere commitment and responsibility.

¹⁾ SK Innovation's optimal operation plan that maximizes profits and cuts carbon emissions, by factoring in carbon emission reduction as an objective function in the operational decision-making process of SK Innovation and its subsidiaries.

Reduction of Scope 1 & 2 Emissions

At SK Innovation, we take net zero as a critical opportunity to upgrade our competitiveness and to answer the call of our times. We reviewed all of IPCC’s scenarios suggesting various paths to a 1.5°C cut in temperature by 2050 and developed our Net Zero Roadmap, under which our portfolio is being transformed toward decarbonization. We will also innovate our business fundamentals under the Carbon to Green strategy, with the goal of reaching net zero in the energy and chemical business by 2050-α and in the battery and materials business by 2035, while financial values will not be compromised let alone environmental values in that process.



2025 Targets

Emissions of the energy and chemical biz. compared to 2019

25% reduction

Emissions of the battery and materials biz. compared to BAU

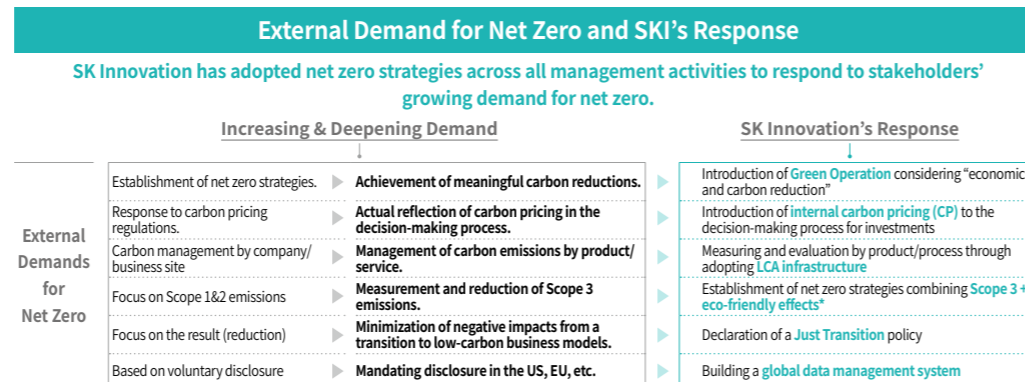
21% reduction*

* Weighted average of the reduction targets of SK On and SK IE Technology and can be subject to change depending on actual BAU emissions.

Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation has kicked off the “Net Zero Operations”, which is a two-track approach to reaching net zero in Scope 1 & 2 of its existing and new businesses. The company plans to reduce carbon emissions by 25% in the energy and chemical business, and by 21% in the battery and materials business by 2025 compared to that of 2019 baseline. This target will be backed up with diverse initiatives, such as improvement of process efficiency, introduction of low-carbon raw materials and operational optimizations, and application of carbon capture/storage/utilization technologies. Our battery and materials business will also cut its carbon emissions to net zero by tapping into renewable energy, higher process efficiency, and low-carbon fuels. Every month, we assess actual carbon reductions in Scope 1 & 2 and make sure to boost our practical actions toward net zero accordingly.

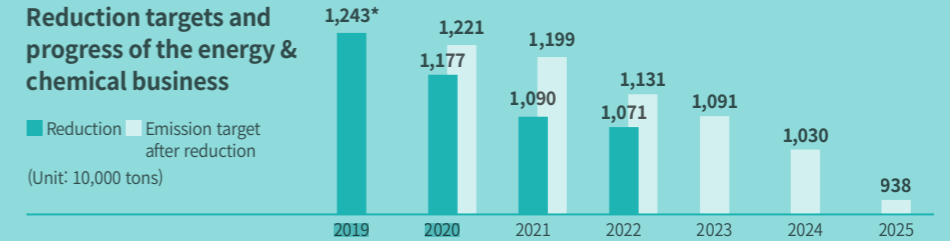
[Activities of the Green Management Initiative \(regular progress assessment, p.87\)](#) →



* Avoided emission: Contribution to the reduction of GHG emissions outside SK Innovation’s value chain through the expansion of eco-friendly and low-carbon businesses and products

Reduction History & Short-Term Targets

Reduction targets and progress of the energy & chemical business



* 2019 baseline: 12.43 million tons (Target and progress are the same.)

Major Activities Planned for 2023

With a strong commitment to carbon reduction, SK Innovation updates the Net Zero Roadmap every year and assesses companywide progress vs targets on a regular basis. The BOD particularly leads the monitoring of ESG-related issues and our actual progress on carbon reduction, thus helping the company create tangible impacts in the areas of ESG. Accepting external stakeholders’ demands, the company decided to specify annual reduction targets until 2030 and adopt diverse measures to reduce carbon emissions in Scope 2. The execution of the Net Zero Roadmap will be further accelerated by reflecting annual progress vs net zero in the KPIs of the CEO and major subsidiaries. With regards to the energy and chemical business, the company has been optimizing companywide efforts toward net zero by assessing economics with the assessment framework of the Net Zero Roadmap and adjusting priorities among the measures we use to curb carbon emissions accordingly. This assessment framework is elaborated further on page 86.

Tighten Progress Control of Reduction

- Estimate carbon to be added by new businesses, facility expansions, and tightening regulations, and maintain the existing reduction path by offsetting these estimates.



Specific Reduction Methods

- Diversify measures to reduce Scope 2 emissions until 2030, aligned with the disclosure of the mid-term reduction plan and the amount by respective measures from 2026 onward.
- Optimize the carbon reduction portfolio by considering diverse factors, including mid-to long term supply and demand outlook, costs, economics, and feasibility of respective measures, on top of reduction target reviews.

SK Innovation has mobilized diverse measures to reduce carbon emissions since it established the Net Zero Roadmap in 2021 and has reduced 1.72 million tons (Δ14%) in Scope 1 & 2 of the energy and chemical business, exceeding the reduction targets.

Activities and Achievements in 2022

Our Commitment



SK Innovation declared “All Time Net Zero” as its ambitious goal to achieve by 2062, its centennial anniversary, by addressing carbon emissions of the present and the future as well as its carbon footprint from the past six decades. It also means our commitment to passing a sustainable globe down to future generations.

There will be no limits in our quests for innovation. SK Innovation will reach “All Time Net Zero” and supply greater sources of power moving the world forward in the future.

- Declaration of “All Time Net Zero” on the 60th anniversary of SK Innovation

Vice Chairman Kim Jun, SK Innovation



Achievement 1 Introduction of Renewable Energy

SK Innovation is engaged in REC purchasing and Green Premium, a type of green tariff offered by KEPCO (the state-run electric utility) tenders and mobilizes diverse means to implement RE100, such as PPA, as part of its initiative to expand the use of renewable energy. In energy and chemicals, the company will assess its respective reduction measures in all aspects, including economics and feasibility, and develop diverse structural measures with R&D and technology investments, in addition to reviewing reduction targets for Scope 2. In battery and materials, we share our commitment to RE100 with all domestic and overseas business sites and lead the way in environmental management. SK On has adopted renewable energy in phases in its overseas business sites, starting in Hungary. SK IE Technology has made steady progress toward 100% renewable energy use by 2030 since it joined RE100 in 2021, and the ratio of renewable energy to electric power supply rose to 55% across all business sites worldwide in 2022. Moving forward, SK Innovation will closely assess the market environment and sourcing conditions of renewable energy in its respective business sites and establish/operate an optimized portfolio of renewable energy to secure its reliable supply.

Achievement 2 Higher Process Efficiency and Energy Efficiency

Our endeavors to cut greenhouse gas directly emitted from the production process are backed up by raising the operating efficiency of production facilities with heat exchange, process separation, change of drive source, and rotating machines. In the mid-to long term, the company will cut carbon emissions across all businesses at a faster pace through diverse measures, such as introducing advanced catalysts to cut fuel consumption and low-carbon steam from outside.

Achievement 3 Transition to Low-carbon Materials

By adopting DBL* Max in its decision-making process on business operation, we compare what difference we can make in carbon emissions by adjusting raw materials, operation quantity, mode, etc. This way, we pursue both economic and social value. The company seeks to curb carbon emissions early on from the production process by introducing low-carbon raw materials as a short-term measure and plans to create a more sustainable energy product portfolio in the mid-to long term, with such measures as adopting carbon-free fuels like ammonia.

* SK no longer ties itself to a single bottom line pursuing only financial performance but embraces a double bottom line focusing on both economic value (EV) and social value (SV) under its business philosophies.

Greenhouse Gas Reduction in 2022

- SK Innovation has explored diverse ways to slash carbon emissions, such as high process efficiency and change to low-carbon fuels and raw materials, since it made the Net Zero Roadmap in 2021. This has enabled us to cut carbon emissions in Scope 1 & 2 of the energy and chemical business by 1.72 million tons (Δ14%), surpassing the 2022 target of 1.12 million tons (Δ9% vs 2019).

Greenhouse Gas Reduction in 2022 (+)

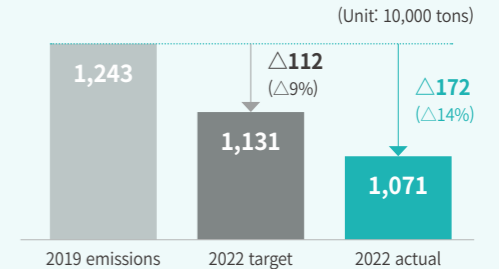
- We published the Net Zero Special Report in 2022 to share our commitment and progress toward net zero and will continue transparent communication with external stakeholders along the journey to reach net zero.

Achievement 4 CCS Technology and External Businesses

We strive to raise economics in carbon capture drawing on our experience in running the carbon capture process in the Ulsan CLX over the past ten years, while at the same time taking part in diverse government-led projects including one for the Donghae-1 gas field in the East Sea. Outside of Korea, the company also leads future technology development by joining the Shepherd CCS Project, a carbon capture-transport-storage project between Korea and Malaysia. In the mid-to long term, we plan to develop and expand the application of CCU technology to turn captured CO₂ into fuels or chemicals using renewable energy, thus curbing carbon emissions from our business sites and securing new, sustainable business models.



SK Energy and SK Earthon sign an MOU with Petronas, Malaysia for the Shepherd CCS Project.



Achievement 5 Internal Carbon Pricing

SK Innovation has been using internal carbon pricing in its decision-making process on investments since the second half of 2022 as we look to cut carbon emissions across all businesses dealing with future carbon price hikes and put in place a management mechanism reflecting carbon price changes. This new approach means the company reviews the economics of all investments from a holistic perspective, not only financial feasibility but also future carbon cost, and demonstrates our commitment to ESG management by making more aggressive moves to cut carbon through new businesses.

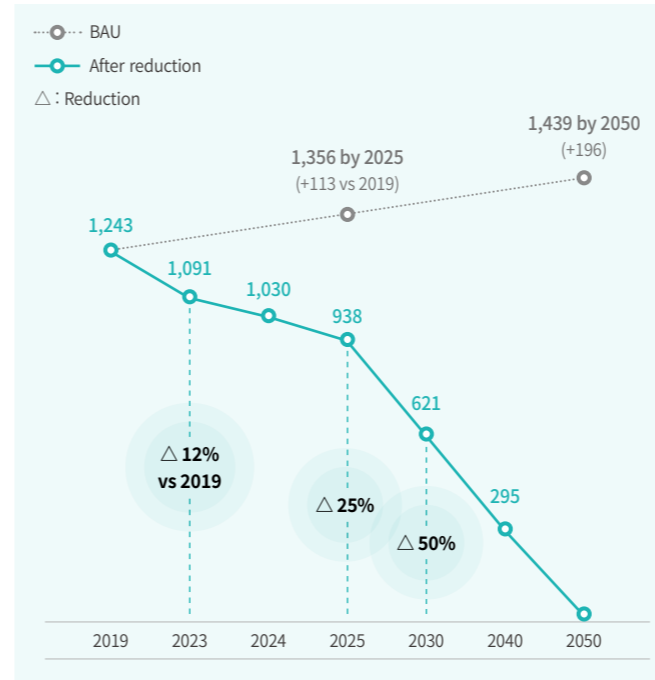
This way, the company revisits economics by factoring in a carbon-reducing investment as “value” and a carbon-emitting investment as “cost”, and internal carbon pricing is set by reflecting both future carbon price scenarios under the Paris Agreement and carbon price differentials among regions. As such, SK Innovation makes continuous efforts to refine and update the economics review framework under the Net Zero Roadmap so that it can optimize paths to net zero following its Carbon to Value strategy. Our internal carbon pricing is elaborated on page 88.

Achievement 6 Reduction Roadmap for Scope 1&2 Emissions

We aim to reach net zero in the energy and chemical business by 2050 and in the battery and materials business by 2035. Higher process efficiency and low-carbon fuels are among the main means pursued to cut carbon emissions in the energy and chemical business. We also actively decrease carbon emissions in the battery and materials business by adopting renewable energy and low-carbon technologies.

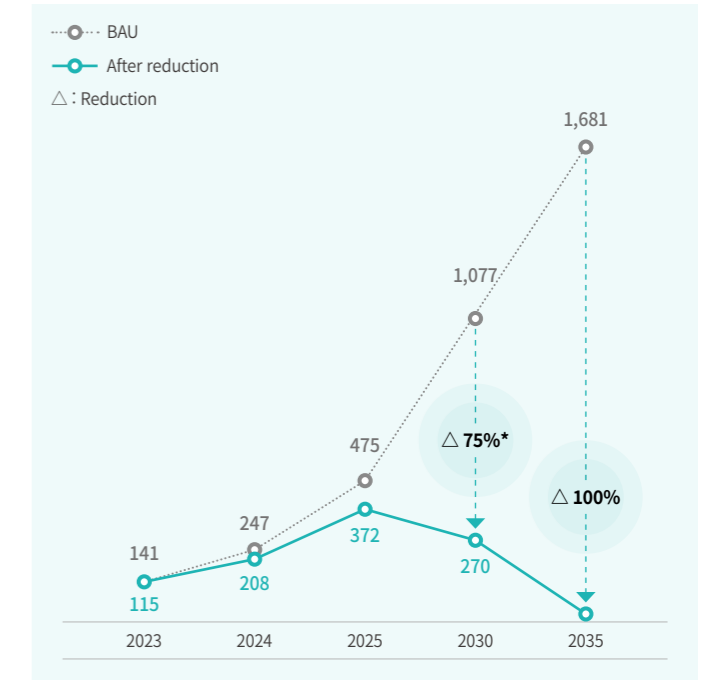
Reduction Pathway for the Energy and Chemical Business

(Unit: 10,000 tons)



Reduction Pathway for the Battery and Materials Business*

(Unit: 10,000 tons)



* Weighted average of the reduction targets of SK On and SK IE Technology and can be subject to change depending on actual BAU emissions.



Learn more about the reduction of Scope 1 & 2 emissions.

Reduction of Scope 3 Emissions

Carbon reduction in Scope 3 is not simply about meeting international efforts and targets to reach net zero but is a key part of our corporate strategy to adapting to structural changes in the economy and society triggered by climate change. SK Innovation pursues to migrate its business model shifting from carbon-intensive businesses to low-carbon ones and strives to cut carbon emissions across the value chain with the goal of making its business structure more sustainable.



2030 targets

Financial intensity of SK Innovation and its subsidiaries in 2030 compared to 2019

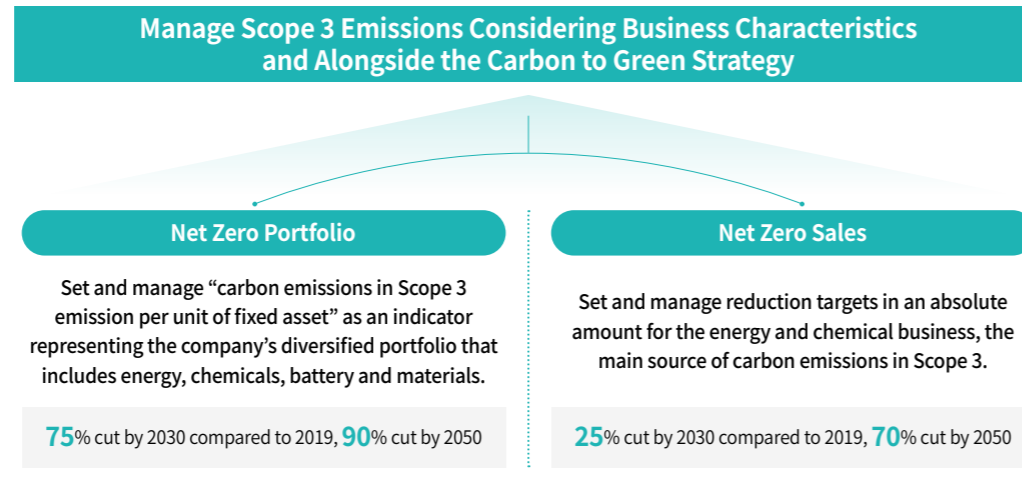
75% reduction

Absolute Scope 3 emissions of the energy and chemical biz. in 2030 compared to 2019

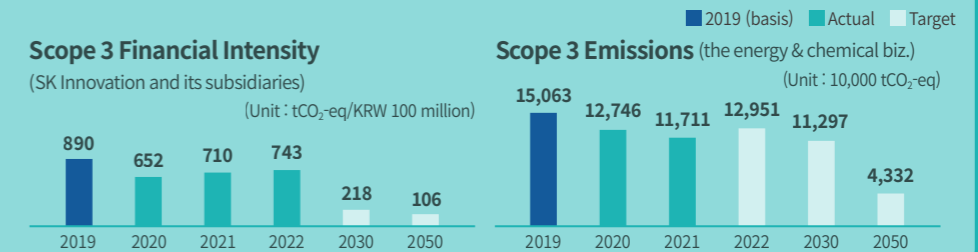
25% reduction

Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation established the carbon reduction roadmap for Scope 3 across the company and all subsidiaries in 2022 and plans to take sincere actions and continue to deliver results based on this roadmap, thus contributing to worldwide carbon reduction efforts. The company is taking a two-pronged approach to cutting Scope 3 emissions: “Net Zero Portfolio” focusing on the financial intensity and “Net Zero Sales” based on the absolute amount of Scope 3 emissions by the energy and chemical business.



Reduction History & Mid-to Long Term Targets



Major Activities Planned for 2023

Carbon measuring methods and progress monitoring on carbon reduction activities are two areas where we will make focused efforts to cut Scope 3 emissions. These will include disclosing Scope 3 carbon emissions with greater transparency and tightly controlling progress on actual carbon reduction.



SK Innovation established strategies and a roadmap to reduce Scope 3 emissions for the period of 2022 to 2050, and its subsidiaries have identified and implemented low-carbon business items accordingly. Plastic recycling through pyrolysis*, low-viscosity engine oil development, and carbon-offset crude oil import are among the major activities implemented in 2022.

*Pyrolysis cracks waste plastic with heat and extracts feedstock for petrochemicals, such as naphtha.

Activities and Achievements in 2022

Our Commitment



Net zero is key to our endeavors for ESG management to achieve sustainable growth and win the confidence of our stakeholders around the world.

SK Innovation will migrate to a green portfolio with low carbon intensity across Scope 1, 2, and 3, and put in place a system where net zero will always be a constant goal for all of us.

- CEO's New Year Message for 2023

Vice Chairman Kim Jun, SK Innovation

Achievement 1 Plastic Recycling

SK Geo Centric is engaged in a variety of businesses recycling waste plastic into feedstock for petrochemicals and new plastic materials. Recycling waste plastic has the effect of cutting carbon emissions in Category 12 (end-of-life treatment) and Category 1 (purchased goods and services) of Scope 3. In this context, the company officially had its technology to recycle pyrolysis-refined oil into feedstock for petrochemicals as an external business methodology with the Ministry of Environment in 2022, which was the first of its kind in Korea. Recycling one ton of waste plastic through pyrolysis, not incineration, can help reduce approximately 2 tons of CO₂. The company is also pushing for a project to construct an Advanced Recycling Cluster (ARC) for Advanced recycling technologies, including pyrolysis, in Ulsan. SK Geo Centric plans to complete the ARC by 2025 in strategic alliance with Plastic Energy Co., a UK-based plastic pyrolysis firm and launch products upcycled from waste plastic.

Achievement 2 Carbon-offset Crude Oil Produced with DAC Technology

In 2022, SK Trading International entered into a contract to purchase 200,000 barrels/year of “carbon-offset” crude oil from Occidental Petroleum Corp. for five years from 2025. With the Direct Air Capture (DAC) technology, we can supply carbon-offset crude oil by injecting CO₂ directly captured from the air into an oil well and offsetting the equivalent amount of CO₂ emitted throughout the life cycle of crude oil from cradle to grave. Hence, carbon-offset crude oil is recognized as a superior alternative to the majority of carbon-offsetting crude oil whose carbon emissions are offset simply by carbon credits purchased from the market. SK Innovation plans to produce a wide range of products, including jet fuel, out of carbon-offset crude oil and, by doing so, expects to slash carbon emissions in Scope 3 by approximately 100,000 tons annually.

Scope 3 Emissions in 2022

		(Unit: 10,000 tCO ₂ -eq)									
		Company	Category 1	Category 3	Category 4	Category 5	Category 6	Category 7	Category 9	Category 11	Category 12
SK Innovation and subsidiaries 132.13 million tCO ₂ -eq	Energy & Chemical Biz. 129.5 million tCO ₂ -eq	SK Energy	1,233	17	81	2			26	8,734	12
		SK Geo Centric	102	7	3	1			7	4	399
		SK Enmove	94	1	2	<1	<1	<1	8	-	103
		SK Incheon Petrochem	340	4	20	<1			4	1,470	161
		SK Earthon	-	-	-	-			-	115	-
		Total	1,768	30	105	3			46	10,324	675
Battery & Materials Biz. 2.62 million tCO ₂ -eq	Company	Category 1	Category 3	Category 4	Category 5	Category 6	Category 7	Category 9	Category 11	Category 12	
		SK On	234	15	2	1			1	-	-
		SK IE Technology	2	4	<1	<1	<1	1	<1	-	<1
		Total	237	19	3	1			1	-	<1

* The sum of emissions is rounded off and could entail a difference in single digits.

* SK Geo Centric's Scope 3 emissions exclude the biogenic removal effects(63,000 tons).

* Emissions from Peruvian mining areas #88 and #56 owned by SK Innovation are added to SK Earthon, considering business relevance and operational control.

We will be on a constant lookout for opportunities to import carbon-offset crude oil by keeping our eyes on the market.

* Direct Air Capture is one of carbon capture & storage (CCS) technologies, which directly captures rarefied CO₂ (~0.04%) from the air.

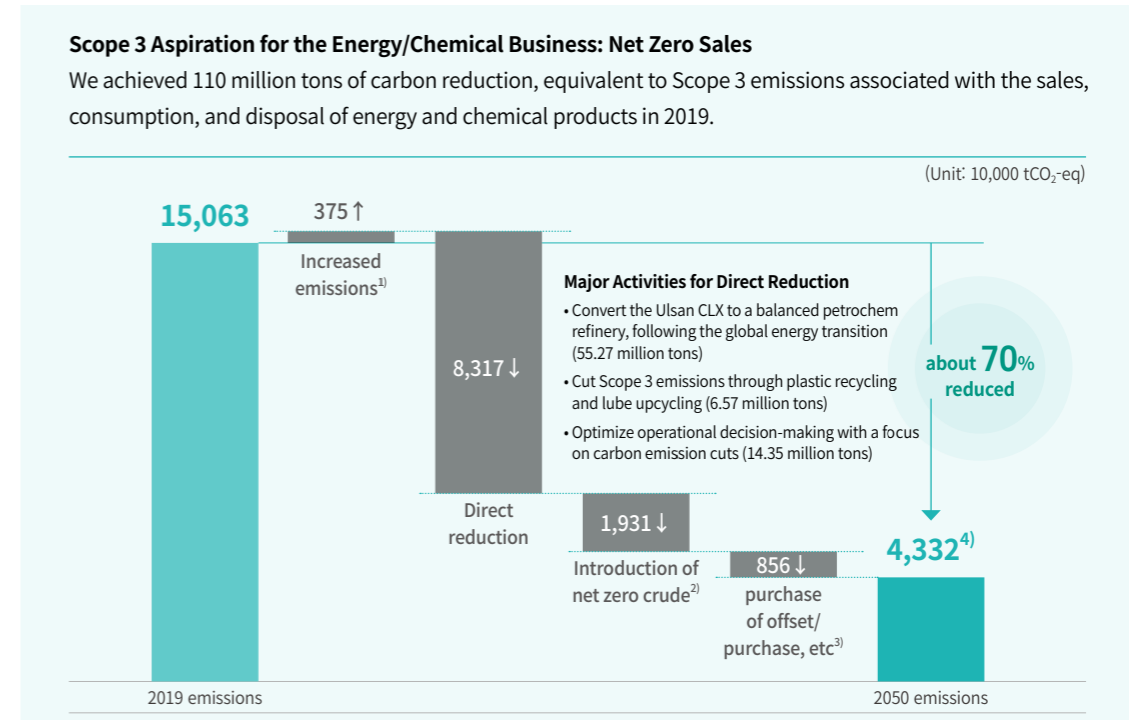
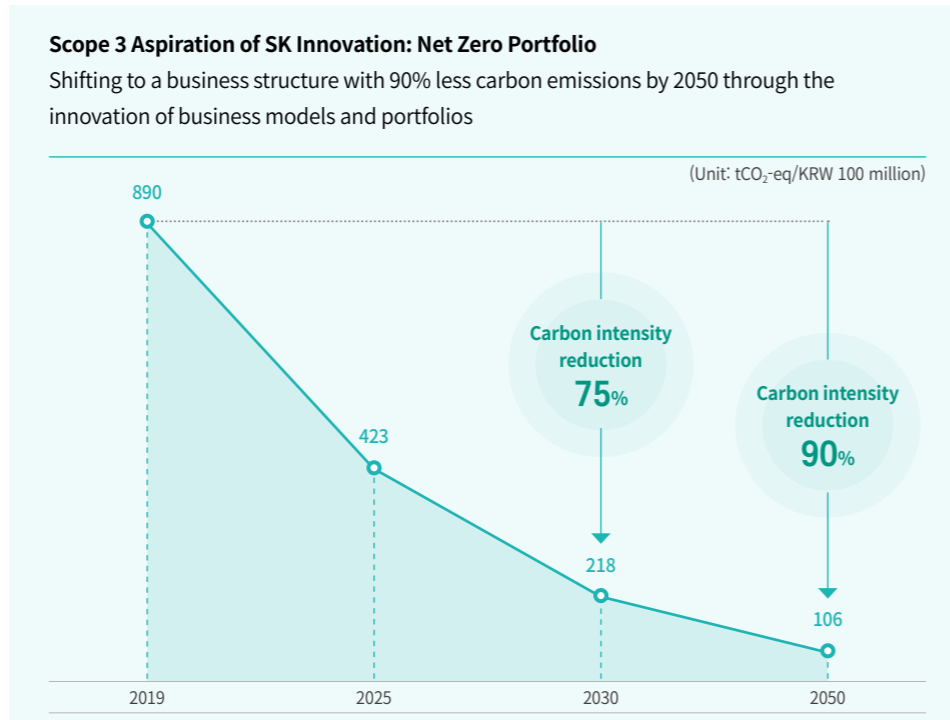
Achievement 3 Development of Low-Viscosity Engine Oil

SK Enmove supplies low-viscosity engine oil. This product has less viscosity than regular engine oil and offers excellent protection for the engine and higher fuel efficiency, thus being a good method of cutting carbon emissions. Carbon reduction effect associated with the low-Viscosity engine oil business can be measured by a methodology registered with the Ministry of Environment and, when registered as an external emission reduction potential, can be recognized as part of the company's official carbon reduction performance. As such, we will promote the use of low-viscosity engine oil and expect to contribute to reaching the country's carbon reduction target for the transportation sector.



Achievement 4 Reduction Roadmap for Scope 3 Emissions

SK Innovation adopted “financial intensity” as an indicator for measuring carbon reduction effects, which enables us to manage carbon reduction activities for Scope 3 in the energy and chemical business and the battery and materials business combined. Financial intensity refers to Scope 3 emission per unit of fixed asset and, keeping this in mind, the company will choose to increase assets mainly in the battery and materials businesses whose carbon intensities are lower, while all subsidiaries continue to cut carbon emission in Scope 3.



1) Scope 3 emissions slightly increased due to the increased production of SAF (sustainable aviation fuel), high-performance plastic, and premium lube base oil.
 2) Introduced feedstock and manufactured products whose carbon emissions associated with crude production, refining, and product use are offset in terms of LCA by adopting direct air capture, etc.
 3) Secured voluntary carbon emission credits through product certification and external projects.
 4) The remainder of emissions is rounded off and could entail a difference in single digits.



Department's Comments +

Learn more about Scope 3 emissions. →

Investments in Low-Carbon R&D

There are various environmental technologies, which are newly developed but lack maturity, and hence it is critical to develop competitive technologies to perfection and internalize them. SK Innovation focuses its efforts on discovering prospective technologies in partnerships with domestic and overseas universities, institutions, and companies and raising their perfection levels by combining them with its existing capabilities. At the same time, we strive to enhance our excellence in technology aligned with the expansion of our business portfolio.



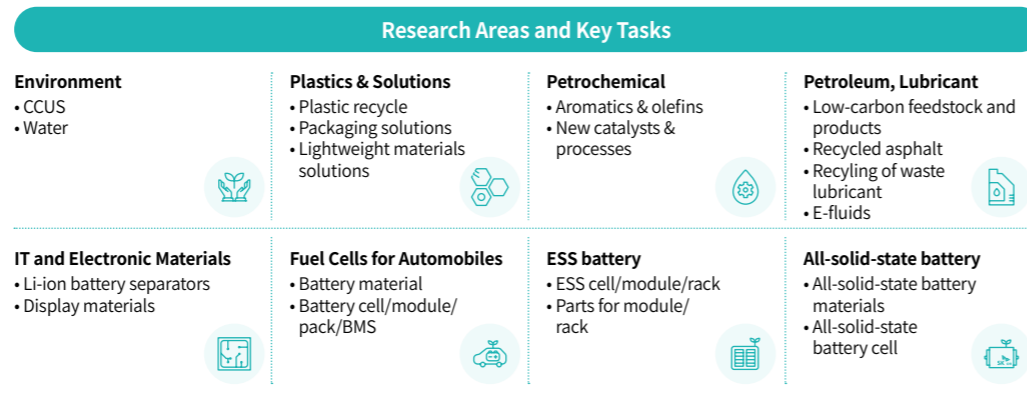
2025 Targets

Accumulated R&D investments

KRW 1.2 trillion

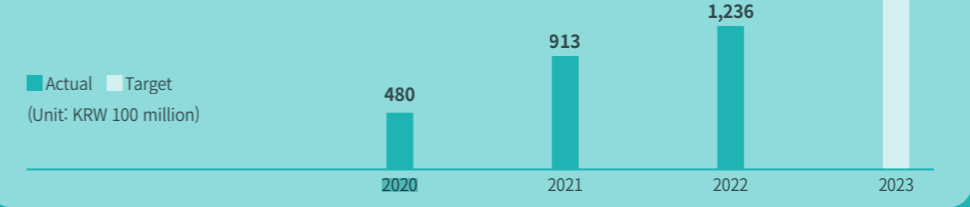
Strategies to Achieve Key Tasks (Mid-to Long Term)

The innovation of portfolio and business model for carbon reduction and resource circulation is an important determinant of corporate survival at a time when companies are pressed to deal with growing carbon costs worldwide, the transition to renewable energy, the spread of low-carbon vehicles, and higher recycling rates. This led SK Innovation to declare “Financial Story 2.0: Green Energy & Materials Co”. as our future direction. The company combines its accumulated internal capabilities with external resources to turn the existing businesses greener (Green Transformation) and take bold steps into new business areas (Green Anchoring), and enhances the impact of ESG management by tapping into its competence in life cycle assessment. SK Innovation will have invested KRW 1.2 trillion, in aggregated total, in low-carbon R&D activities between 2022 and 2025, to explore new business opportunities considering the market environment, such as the shift in the global energy mix, and continue to expand our business portfolio.



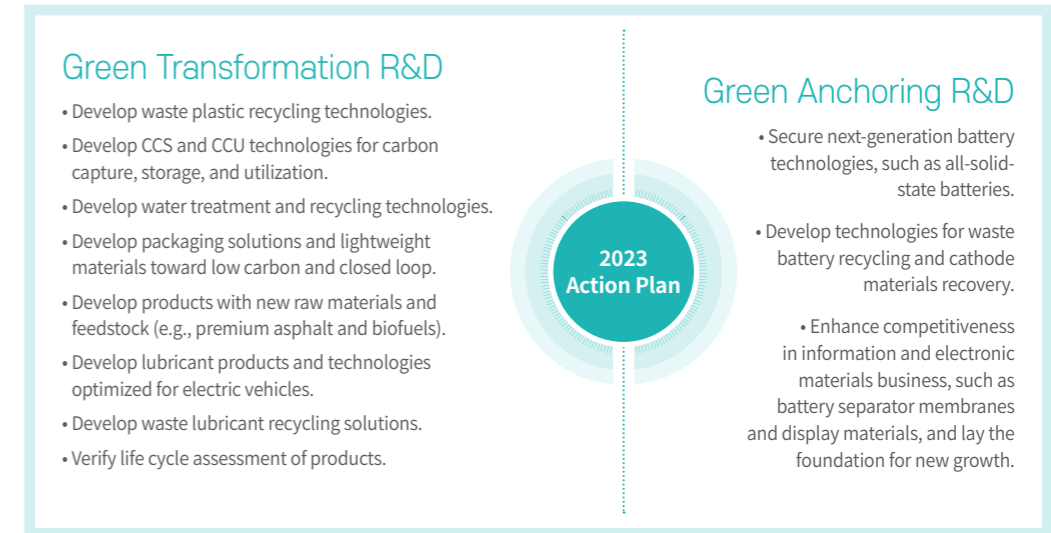
Progress & Roadmap

R&D investments in total



Major Activities Planned for 2023

Developing new technology is key to our Carbon to Green strategy. SK Innovation will mobilize its capabilities in promoting plastic chemical recycling, battery meter recycling, and upcycling waste lubricants for high quality lube base oil production. We will also tap into our accumulated capabilities to discover new growth pillars. SK Innovation is a global market leader of batteries and will pursue new materials and processes and R&D infrastructure to develop battery technology leading the industry with high energy density and reliability matched by no other.



SK Innovation is making investments in R&D for Green Anchoring and Green Transformation following its Carbon to Green strategy and made meaningful progress in R&D by developing technologies for next-generation batteries, and post-treatment of pyrolysis oil.

Activities and Achievements in 2022

Our Commitment



We will refine and upgrade technologies to make our existing businesses more sustainable, while at the same time address carbon issues and create a green portfolio through new approaches and perspectives.

SK Innovation will address carbon issues with the innovative technologies that we have secured by applying our capabilities from the past 60 years into new areas.

- Interview on the 60th anniversary of SK Innovation

Lee Seong-jun, Head of Institute of Environmental Science & Tec, SK Innovation



Achievement 1 Green Anchoring R&D

Development of Next-Generation Battery Technologies

Based on global partnerships, SK On is expanding the scope of its next-generation battery development and battery services, while enhancing its technological competitiveness through advancements in battery technology. All-solid-state batteries are hailed as innovative technology due to their use of solid electrolytes, in contrast to the liquid electrolytes found in lithium-ion batteries. They offer higher energy density, better stability, and more cost-saving benefits compared to their lithium-ion counterparts. More recently, SK On has been collaborating with Solid Power, a U.S. solid-state battery technology developer, to work on the development of solid-state battery cells. At CES 2023, they showcased a prototype of a solid-state battery using a silicon anode material and a high-nickel cathode material.



SK On won the Best Innovation Award for its SF battery (Super Fast Battery) at the CES 2023.

Growing Investments in R&D for Next-Generation Batteries

SK On is actively increasing its investments to strengthen its R&D infrastructure for Next-Generation batteries and more. Notably, a KRW 470 billion project is underway to enhance its battery research institute in Daejeon and establish a pilot plant for Next-Generation batteries, along with a global quality control center by 2025. Of particular significance, the pilot plant will feature a specially designed experimental environment dedicated to material development for all-solid-state batteries, along with pilot production lines aimed at securing mass production technology. The company aims to unveil prototypes by the latter half of 2024, with plans for commercialization by 2028. SK On is committed to diligent efforts in expanding its R&D infrastructure and enhancing its technological prowess.

Achievement 2 Green Transformation R&D

Post-Treatment Technology for Waste-Plastic-Based Pyrolysis Oil

SK Innovation has developed a post-treatment technology to run pyrolysis over waste plastics that are not feasible for mechanical recycling, such as contaminated packaging materials and multi-layered films, and reuse pyrolysis oil produced therefrom as petrochemical feedstock. The construction of a commercial plant to manufacture such pyrolysis oil is slated for completion in 2025. By drawing on our accumulated competence and knowhow in the refining and petrochemical businesses, we can effectively clear pyrolysis oil of impurities, such as nitrogen, chlorine, and heavy metals. After post-treatment, pyrolysis oil can be used as value-added feedstock for petrochemicals, solvents, premium refining products, and lubricants, or otherwise it would end up in low-quality fuel for industrial boilers due to impurities. SK Innovation leads the circular economy for plastic with innovative technologies.

New Catalyst Development for Electrochemical CO₂ Conversion

The company has developed an electrocatalyst that can convert CO₂, a main cause of global warming, into CO and has laid the foundation for its commercialization. These electrochemical technologies turn CO₂ into useful chemical intermediates such as CO using electricity and are regarded as new promising means to reduce greenhouse gases. Moving forward, SK Innovation plans to strengthen its core R&D capabilities involving catalysts, processes, and organic synthesis, and to secure large-scale electrochemical conversion systems through partnerships with professional institution.

Waste Lubricant Upcycling Technology

The institute has successfully developed a technology to upcycle waste lubricant into premium lube base oil (Group III YUBASE) for the first time in Korea by tapping into its vault of lube base oil catalyst and process technologies. The company will commercialize this upcycling technology and foray into overseas markets, pursuing social and economic value and creating a sustainable future.

Achievement 3 Accelerating Technology Innovation through Open Innovation

The “Open Innovation Post” was established in Silicon Valley in November 2022 to accelerate our innovations toward a green portfolio and we have since mapped out specific paths to promote partnerships with global companies and research institutions. Through the “Open Innovation Post”, we plan to run up-close tech sensing involving global technical experts and institutions in the industry so that we can detect and verify new green technologie faster and more precisely ahead of the competitions and secure new R&D competencies.

Department's Comments +

Learn more about Investments in Low-carbon R&D. >

ESG SPECIAL PAGE

All Time Net Zero Idea Contest

Background and Purpose

SK Innovation declared “All Time Net Zero” on its 60th anniversary in October 2022. This is our new vision to clear the carbon emissions we have left over the past 60 years as well as our current and future carbon emissions by the timeline set for 2062, which marks the company’s centennial anniversary. The company held an idea contest for All Time Net Zero, as a way to engage and induce our employees to explore practical methods to slash carbon emissions. A total of 127 valuable ideas were collected through this one-month-long competition.

These collected ideas went through two rounds of meticulous screening by an evaluation committee composed of internal and external professionals. 30 ideas were shortlisted in round 1, and 10 winners were chosen for grand, excellence, and special prizes in round 2. All of the winners received partial subsidies for purchasing electric vehicles.

Vice Chairman Kim Jun of SK Innovation attended the ceremony for encouragement.



Winners of All Time Net Zero Idea Contest

Major Achievements and Expected Benefits

SK Innovation encouraged its employees’ voluntary participation and raised their awareness of All Time Net Zero by holding an idea contest on the occasion of the 60th anniversary.

Among the winning ideas, those expected to enable cost-effective carbon reduction in the short term were selected to implement as official tasks this year and, by doing so, we expect to make tangible progress towards net zero with a substantial reduction of carbon emissions in the short term.

The company will further diversify activities to engage its employees, making more systematic and practical progress toward net zero.

Interview with the Winners



I believe we need to make concerted efforts to realize our grandiose vision of All Time Net Zero. The starting point of all that is the idea contest. I hope there will be more of these opportunities in the future, so the company can step closer to our vision.

PM Lee Jun-won Net Zero Office, SK Energy



The battery business is one of the major pillars of SK Innovation’s ESG management and it costs a lot of resources across the business site, which is why all members of the battery business find it critical to save resources. Our team’s idea was selected in the idea contest and is expected to be put into action for actual impact, fueling SK Innovation’s drive toward net zero.

PM Hwang Chang-mook Cell Standard Model Development Unit, SK On



While working on the Muffin Truck Manager app, I spent sleepless nights thinking about how to reduce carbon emissions from trucks. It seemed worth the effort now that I received the excellence prize. I hope to provide better services to our customers, hopefully helping to reduce carbon emissions.

PM Baik Ji-yon Solution & Platform Promotion Team, SK Energy



OUTSTANDING SHE MANAGEMENT

“Smart Robots” serve as safety watchdogs at the Ulsan CLX of SK Innovation.

2022 Achievements

Zero Waste to Landfill (ZWTL) certification

4 biz. sites certified



Sharing best practices for safety and accident cases

1 time or more/month



Employees' stress indicator

35 % reduction



Safety, health, and environment (SHE) are integral elements of sustainable management. SK Innovation makes strenuous efforts to enhance employees' physical and mental health by rolling out a range of health care programs. The safety of employees and contractors is one of our core values pursued across the company and we strive to put in place SHE management systems that meet global standards and minimize safety accidents to zero. We also endeavor to lead resource circulation through aggressive waste recycling at our business sites.

Recycling Waste from Business Sites

Minimizing waste generated from business operations is always on our agenda. SK Innovation does not stop at simply sorting recyclables for collection but also manages recycling rates in a bid to minimize incineration and landfill. SK Innovation will make further endeavors to raise waste recycling rates to keep pace with ever-tightening waste control and growing social awareness worldwide and lead the way in resource circulation.



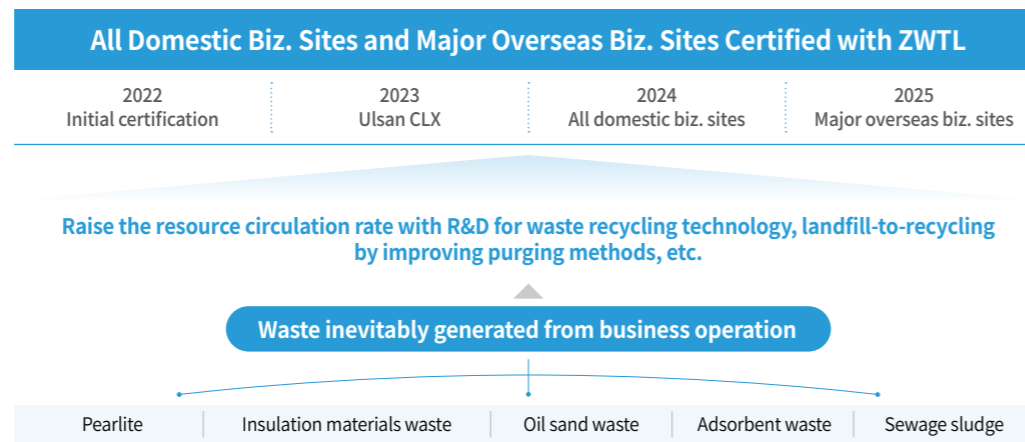
2025 Targets

Major overseas business sites certified with ZWTL

Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation aims to have all domestic business sites and major overseas sites obtain the zero waste to landfill (ZWTL) certification by 2025. Along with its global business expansion, the company plans to upgrade its waste management system to meet global standards and obtain objective verification of its progress. The ZWTL certification by UL Solutions, an international safety certification agency, awards four grades of certification based on waste recycling rates: Platinum (100%), Gold (99~95%), Silver (94~90%), and Certified (80~89%). We take the ZWTL certification as a means to reaffirm our commitment to increasing waste recycling and share our progress with outside stakeholders.

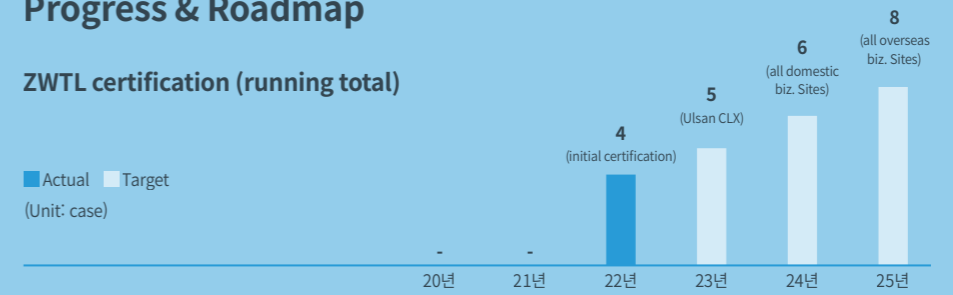
Targets to Improve Resource Circulation at SK Innovation



Progress & Roadmap

ZWTL certification (running total)

Actual Target
(Unit: case)



Major Activities Planned for 2023

This year, we plan to have more business sites certified with ZWTL. In Korea, four business sites will have their certifications renewed and SK Enmove (Ulsan) will make its first bid for certification. As for overseas business sites, we are checking on corporations ready to get certified and the certification process in respective regions. Our target for this year is to get at least one overseas business site certified, which we expect would serve as a cornerstone for encouraging other business sites to get the ZWTL certification. In selecting recycling agents, the company will upgrade the evaluation criteria to include social value, such as recycling technology and recycling rate and put a priority on what's best for the earth, not simply going after economics, in every decision we make.



SK Innovation makes strenuous efforts, such as upcycling, to minimize waste from business activities and expedite their recycling.

Activities and Achievements in 2022

Our Commitment



The global energy mix is rapidly shifting toward carbon-free or low-carbon energies amidst the international movement pursuing carbon neutrality to deal with the climate crisis. One of the key features of such a transition is a circular economy where we decrease waste to prevent pollution and efficiently use resources.

SK Innovation will pursue future growth by migrating to a portfolio centered on carbon-free and low-carbon energies and a circular economy based on its excellence in technology.

- Keynote speech at SK Innovation's Global Forum

Vice Chairman Kim Jun, SK Innovation



Achievement 1 Zero Waste To Landfill (ZWTL) Certification

Following the Carbon to Green strategy, SK Innovation sought the ZWTL certification for four domestic business sites, all of which were successfully certified in 2022. SK Energy and SK Geo Centric at the Ulsan CLX were rated as "Certified", and SK IE Technology (Jeungpyeong) and SK On (Seosan) were rated as "Gold" in recognition of their high recycling rates of 99% and 97% respectively. Meanwhile, SK Innovation will keep working to raise recycling rates with a commitment to promoting resource circulation, not simply for the sake of getting certified.

SK Energy



SK Geo Centric



Achievement 2 Upcycling Sewage Sludge to Cement

The Ulsan CLX generates approximately 7,000 tons of sewage sludge a year. Sewage sludge has mostly been incinerated or buried as its strong odor makes it inappropriate for recycling. To find ways to recycle sewage sludge, SK Innovation has worked with academia and research institutes and developed a solution that separates and removes organic substances, the main source of the odor, from sewage sludge. We completed pilot and demonstration tests and registered a patent last year. Currently, we are making facilities investments to apply the solution from 3Q, 2023, and plan to recycle the entire amount of sewage sludge, approximately 7,000 tons/year, for cement production.



The SBM Process Recycles Waste by 100%.

Achievement 3 Recycling Waste from Jet Fuel Production

The Ulsan CLX also recycles spent clay generated from jet fuel production. The solid bed merox (SBM) process filters raw kerosene to produce jet fuel and generates spent clay as waste. The company has improved treatment processes to recycle spent clay and hence is able to create both the social value of contributing to ESG management and the economic value of saving waste landfill expenses.

Department's Comments

Learn more about recycling waste from business sites.

Quest for Zero Safety Accidents

SK Innovation strives to realize an accident-free workplace in pursuit of its envisioned “lasting happiness for all employees and stakeholders” and win confidence as a trusted partner growing in harmony with local communities. To make it happen, the company chose SHE management as one of its top priorities and is committed to creating a safe and healthy society through ceaseless improvement and prevention efforts.



2025 Targets

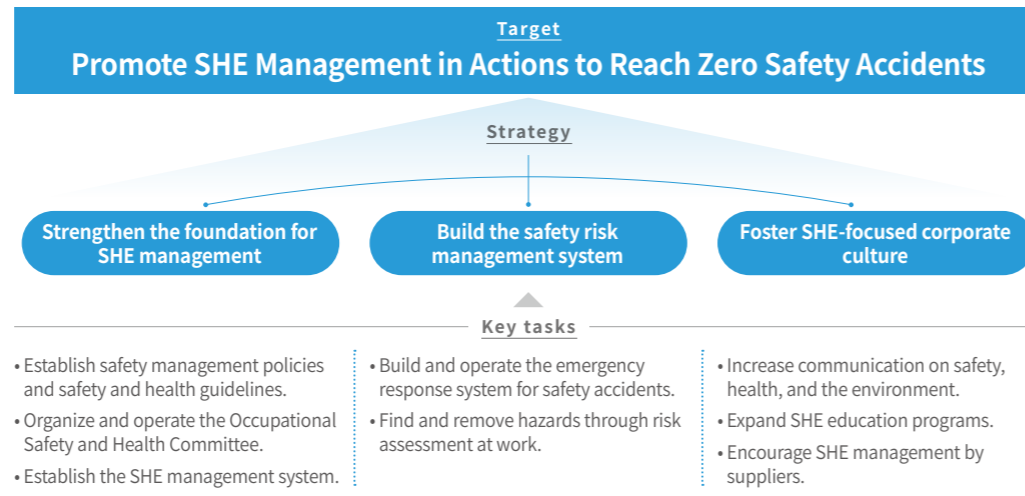
LTIR of domestic business sites

0.062 LTIR

* SK employees and suppliers at domestic business sites (per 200,000 working hours)

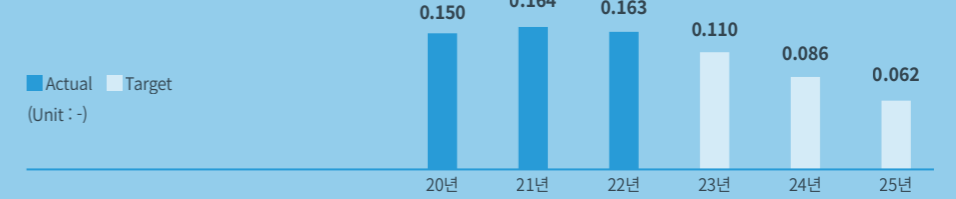
Strategies to Achieve Key Tasks (Mid-to Long Term)

Our mid-to long term target is to lower the lost time incident rate (LTIR) to 0.062 across the domestic business sites by 2025. LTIR is tied to the evaluation and compensation for the CEO and the CSO, as a way to secure momentum to keep actions going. The company will actively find and remove fundamental risks in work processes to lower safety accidents to global standards and will continue to develop education programs on SHE to build the capacity of its employees at the forefront of these efforts. Furthermore, we prepare measures to prevent the recurrence of accidents, receive external inspections, and follow up on internal inspection results. Any special safety issues are put on the agenda of the ESG Committee under the BOD (Board of Directors) to make sure strict management.



Progress & Roadmap

LTIR



Major Activities Planned for 2023

SK Innovation added progress in both LTIR targets and safety accident reduction targets to the SHE performance evaluation criteria for 2023, in a bid to make a substantial cut to the frequency of human injuries. Improvement measures were chosen last year by type of frequent accident (e.g., falls, burns, constriction) and are currently in progress. This year, the work risk assessment was improved to address “insufficient detection and elimination of risk factors” pointed out in our analysis as one of the major causes of accidents. The company also strives to build employees’ SHE capacity for more effective prevention of accidents. An excellent SHE training program is shared with the domestic business sites, and the company supports the development of a common SHE training program for overseas business sites. Going forward, we plan to tighten SHE performance management by upgrading the human injuries measuring process for overseas business sites.



At SK Innovation, the safety and health management system headed by the Chief Safety Officer (CSO) leads companywide efforts, including the subsidiaries, to prevent serious accidents and enhance legal compliance. Drawing on common SHE values shared across the company and independent safety and health management system in each subsidiary, we are making meaningful progress in safety and health management at each business site.

Our Commitment



Excellent SHE management and reliability are the backbones that enable the company to create profits while promptly responding to rapid market changes and to secure the potential sources of profits while minimizing costs.

We have made considerable improvement in SHE and reliability with diverse efforts and our quest for innovation will never stop till the company reaches global excellence.

- Interview on the 60th anniversary of SK Innovation

CEO Choi Yun-seok, SK Incheon Petrochem



Activities and Achievements in 2022

Achievement 1 Safety Risk Management

Finding Risks and Rectification

The Safety Committee is a companywide decision-making body that promotes "safety, technology, and trust", the core values of the Ulsan CLX, and meets once a month. The Committee pursues to improve our safety culture to global standards, fulfill corporate social responsibility by addressing various SHE issues and preventing serious accidents, and foster an environment where all employees can stay healthy and feel happy. The Safety Committee is supported by subcommittees conducting activities to improve safety and eradicate serious accidents.

Roles of the subcommittees under the Safety Committee

Jedaero ("do-it-right") Subcommittee	• Select and implement tasks to root out serious accidents, and conduct SHE inspections at work.
SHE Subcommittee	• Make preemptive and active responses to the Serious Accidents Punishment Act and various SHE-related laws.
Safety Culture Innovation Subcommittee	• Spread safety culture campaigns and codes of conduct to plants and provide guidelines.
Safety Control Performance Subcommittee	• Manage safety control performance in ways customized to the characteristics of respective plants and offices.

Risk Assessment on Business Sites

SK Innovation conducts risk assessments on all processes, facilities, tasks, projects, and chemicals at its business sites. In the assessment, we identify hazards and risk factors based on exposures to chemical and physical risks, impact on occupational health, etc., and implement measures to reduce them. At the Ulsan CLX, the records of all inspections and assessments, such as the risk assessment and the pre-commissioning safety inspection, are meticulously managed by Ocean-H (Optimized & Connected Enterprise Asset Network - Hub) introduced in 2021. A total of 713 work risk assessments were registered with Ocean-H last year. Material issues found by the risk assessment are put on the agenda of the management and the BOD(Board of Directors) for review and strategic management.

Achievement 2 Promotion of Culture of Safety and Health

Safety Talk

The Institute of Environmental Science & Technology holds Safety Talk to enhance employees' safety awareness of the prevention of irregular and atypical accidents as part of its continuous efforts to spread safety culture. Every month, we also conduct safety inspections to check on how Safety Talk is followed up with actions and operate the SHE Bulletin as a channel of communication helping our employees pick up safety-related knowledge with ease and efficiency.

Safety and Health Council with Suppliers

At SK Innovation, every business site operates a safety and health council led by the head of the business site and participated by suppliers following the Occupational Safety and Health Act. Every month, the members of the council gather to discuss the start time of work, emergency contact, evacuation from disaster risks, risk assessment, etc., and discussion results are documented. While complying with these legal requirements, the company makes further efforts to enhance suppliers' safety management, by holding safety culture workshops for suppliers, active use of the right to suspend work, and operating a task force to eliminate blind spots.

Safety Culture Innovation Week

The Ulsan CLX runs the "Safety Culture Innovation Week" twice a year to enhance employees' safety awareness and behaviors at work. The purpose of the safety week is consistently communicated with the employees through in-house broadcasting and local media and a range of events unfold, such as "the on-site risks detection challenge" and "safety pledge event" involving all employees, and "safety commitment by leaders". As such, the company is looking for ways to help employees understand and practice industrial safety by introducing programs they can participate in that are fun.

Safety and Health Training

The company provides safety and health training to leaders and SHE managers for 16 hours or more per year following the Occupational Safety and Health Act. Plant workers and office workers take at least six hours of safety and health education every quarter (24 hours a year), which exceeds the legal education requirement, and newly hired employees take at least eight hours of education pursuant to the law. Our training program consists of regular training for leaders, training for the newly hired, training for changed work activities, training before process maintenance, and training for suppliers. Special safety and health training (16 hours) is mandatory before proceeding with work that involves hazards or risks.



The Ulsan CLX held the safety culture workshop for suppliers.

Achievement 3 Prevention of Safety Accidents

Safety Control with Smart Robots

At the Ulsan CLX, we use smart robots in safety management to provide our employees with a safe workplace and ensure reliable facilities operation. Moving around the Ulsan CLX, these "Smart Robots" check the conditions of facilities, like temperatures and gas leaks, and prove particularly useful in measuring noise and vibration that is hard to sense by humans. We plan to upgrade the functions of smart robots to meet special purposes, such as initial containment of fire and 3D scanning of facilities. Currently, we use "robotic snakes" to inspect the inside of pipelines, which is quite hard to access by other means. Going forward, IT-based, digitalized devices will become an integral part of our safety control system to prevent safety accidents.

Emergency Response Drills

Each business site of SK Innovation prepares various emergency response scenarios by on-site organizations to enable organic and speedy response in real situations and repeats initial response drills with the disaster response organization on a regular basis. These drills include establishing and operating an emergency response HQ and an on-site command HQ led by the head of the business site and the plant head. We start the drills by watching the UCC (user created content) of each scenario beforehand in a bid to make the most of them. These drills enable us to maintain an organic response system where our employees and suppliers know their respective roles and responsibilities and closely collaborate in real disasters and thus minimize damage.

Emergency Response Drills in 2022

(Unit: case)

Category	No. of drills
Hazardous substance leak	71
Rescue for lifesaving	102
Fire and explosion	139
Total	314

Eradication of Serious Accidents

SK Innovation has carried out various activities to root out serious accidents, particularly at the refining and petrochemical business sites since 2019. In 2022, the company made investments to improve facilities exposed to fire or explosion risks by oil mist, assess the feasibility of early detection systems for fire and leaks, improve a leak prevention system for rotating machinery prone to fire, and follow the glass installation and inspection standards. We also established a framework for fast response to and containment of serious accidents and improved management standards and procedures. Among other efforts are frequent inspections on the execution of these activities, a task force to tighten the code of safety leadership behaviors, and various activities to internalize safety culture and engage our employees in action. These activities will continue this year and we will make our best efforts to prevent accidents and minimize damages, if ever.



"Smart robots" work as safety watchdogs at the Ulsan CLX of SK Innovation.



Inspection of the inside of pipelines at the Ulsan CLX of SK Innovation (robotic snake)

* This image is copyrighted by Sarcos.

Department's Comments

[Learn more about pursuing zero safety accidents.](#)

Promotion of Employees' Health

SK Innovation supports its employees' physical and mental health with various health care programs and, by monitoring the result, analyzes potential risks and upgrades the programs. The company also seeks to promote organizational health by running campaigns to tackle issues preemptively, education courses by business site, and counseling for grievances, thus fostering a sound organizational culture where our employees work with mutual respect.



2025 Targets

Coverage of physical and mental health care programs

Programs customized to domestic and overseas biz. sites

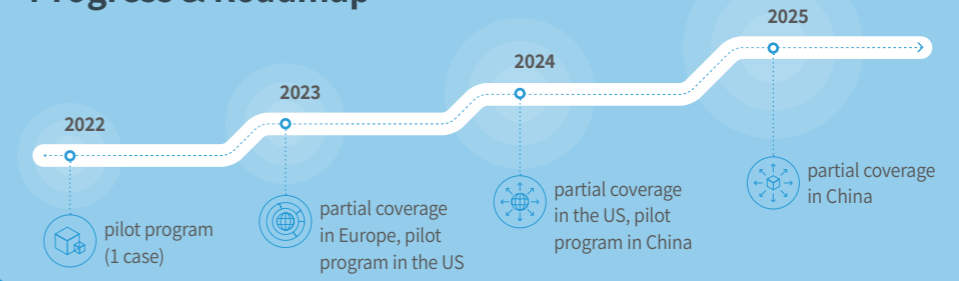
Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation strives to support the physical and mental health of all employees at domestic and overseas business sites and promote their happiness by providing health care systems and programs tailored to each business site. We will make devoted efforts to develop programs customized to the local culture and operation of each business site as well as relevant laws and regulations with a view to leading the efforts to create healthy organizational culture.

SK Innovation's Strategies to Make Employees Stay Healthy



Progress & Roadmap



Major Activities Planned for 2023

Along with overseas business expansion, SK Innovation has expanded mental health care programs to cover expats assigned to overseas business sites. Mental health care programs are provided to expats across all overseas business sites, including new business operations in the US (Georgia), China, Poland, and France. Expats' families also benefit from these programs, which help expats settle down with a new life outside the country. The company plans to increase coverage gradually to benefit local employees as well as expats, and expand these mental health care programs considering requirements by relevant laws and regulations and local culture.



SK Innovation has upgraded counseling and coaching programs to help its employees stay healthy and improve them by monitoring the results. The company has also increased programs for physical exercises so its employees can feel less stress and avoid occupational diseases.

Activities and Achievements in 2022

Achievement 1 Reinforcing Mental Health Care Programs

Hamonia Counseling and Coaching Center

In 2022, SK Innovation upgraded the Hamonia Counseling and Coaching Center to support employees' mental health care better employees' mental health care. While the existing counseling and coaching programs are kept intact, we introduced new programs to cover the overall life cycle of employees and reflect the management directions of the company. We also provided our employees more opportunities to use these programs and as a result of active mental health care support, as such, the stress indicators (SRI) of those employees who used the programs decreased to 35% on average.

Improvement of Programs

1 Health care for expats and their families	2 Increased coaching for HIPOs and leaders	3 Programs customized to employees' life cycle	4 Increased support for crises and prevention
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Emotional Care Programs for Overseas Employees

We provide emotional care programs tailored to overseas business sites. The counseling programs previously available to those in China and Hungary are now expanded to all overseas business sites. There are programs for expats and their children, respectively, so they can build closer unity and emotional stability within the family, and the company provides other active support for expats' mental health care.

Employees' Mental Health and Stress Level Management

SK Innovation strives to enhance its employees' mental health. We monitor various indicators relating to mental health and upgrade our support programs following the monitoring results.

Key Indicators to Monitor

Counseling service	Number of users: up 12% YOY Number of sessions: up 17% YOY
Mental health	Users' stress level fell 35% on average after counseling. (before: 82.8 → after: 54 points)
Emotional composure	Gaining emotional composure after counseling (4.6/5.0)
Work engagement	Work engagement after counseling (4.5/5.0)
Communication with co-workers	Support for communication workshops: up 637% YoY (organizational change, eased social distancing)

Achievement 2 Health Management Programs for Employees

Occupational Health Management

SK Innovation assesses the work environment of all plants twice a year following the Occupational Safety and Health Act. The purpose of the assessment is to protect the employees of the company and suppliers from hazardous factors and foster a pleasant work environment. Our target is to record "zero" incidents of exceeding legal exposure standards. Assessment results are all shared with the employees and the suppliers and we control hazards by making immediate fixes on facilities that violated the legal standards. Also a preemptive control, plant operators take special health checkups twice a year to determine if there are any impacts from exposure to hazardous factors at work.

Health Care Support

SK Innovation supports its employees to stay healthy by operating health clinics befitting the size of each business site. These health clinics run various health programs engaging employees, such as stress control and anti-smoking campaign. At the Ulsan CLX, an occupational health physician is stationed at the Occupational Health Center, which is an in-house clinic. Every year, the Center holds the Health Day event to provide consultations and health checkups and, based on the result, suggests advice to stay healthy. The health clinics and the Occupational Health Center are open to all employees, including contract workers.

Occupational Disease Management

Occupational diseases are ailments or physical injuries (e.g., musculoskeletal disorders) that workers can suffer from while handling or being exposed to hazardous factors such as chemicals in their work environment. SK Innovation seeks to prevent occupational diseases by running the "Golden Rules Campaign for Your Safety at Work" as it endeavors to internalize safety mindsets and behaviors in corporate culture. We also provide special health checkups for employees at each business site to find those with occupational diseases early and arrange fast treatments or proper follow-up medical care. Every year, we report the number of new cases (those whose conditions need monitoring or are suspected) to the BOD(Board of Directors), whereby occupational disease control becomes the management's responsibility, and long-term plans to address occupational diseases are prepared at a corporate level. Cerebral and cardiovascular diseases were added to the items for special health checkups in 2021 and data have since been compiled by the business site. We plan to prepare long-term measures to tackle occupational diseases by monitoring the data.



ESG SPECIAL PAGE

XR Safety Training Center for Supplier Employees at Ulsan CLX

Background and Purpose

The Ulsan CLX, which is SK Innovation's main business site pushing for migration to a smart factory, is home to supplier employees, up to 10,000 per year, who work together with our employees in the field. We embrace SK Group's business philosophies focusing on employees' happiness and also pursue stakeholders' happiness as a critical value we should be committed to. In that sense, supplier workers' safety is one of our top priorities.

SK Innovation sincerely complies with the Occupational Safety and Health Act and the Serious Accident Punishment Act fulfilling its responsibilities as a contractor and carrying out comprehensive safety enhancement activities, including consulting services by outside professionals and safety control upgrades for all production facilities. Furthermore, we operate the XR Safety Training Center adopting extended reality (XR), one of the key technologies for digital transformation, to enhance the safety mindset of everyone at the Ulsan CLX.

Interview with Users of the XR Safety Training Center

I think "safety" is a shortcut to shared growth and co-prosperity at the Ulsan CLX, home to both SK employees and suppliers. I will make my best efforts to ensure the XR Safety Training Center can help suppliers' workers stay safe and happy at SK as well as provide fun and joyful safety experiences. We will soon open the center also to SK members, so please wait with expectations. Everyone, stay safe also today!



PM Huh Jun-seok Facility Planning, SK Energy

Programs in Detail

The company opened the XR Safety Training Center for the employees of our small and medium-sized suppliers, not SK employees, for the first time in the industry. Employees at these suppliers are often denied access to safety education due to the lack of education systems and infrastructure. SK Innovation hopes to provide supplier employees with access to the right education they deserve and not to compromise on safety, which we believe is the very basic prerequisite to shared growth and co-prosperity. The training programs at the Center are designed to let trainees indirectly experience real-life situations, like falls, fires, explosions, electric shocks, and suffocation, that commonly occur at most petrochemical plants, including the Ulsan CLX. About 20 types of training content on human injuries are used in education and new training content is being developed, based on the actual accidents that occurred in the business site, to prevent the recurrence of similar accidents.

We maximize the effectiveness of safety education by letting trainees choose the kinds of programs and time they want out of curriculums. The Safety Training Center is located in the suppliers' administration and maintenance complex, where supplier workers are stationed, to enhance their access to and participation in training.

Major Achievements and Expectations

Most workers from our suppliers expressed high satisfaction with the training programs at the XR-based Safety Training Center. SK Innovation will throw full support to help the supplier workers get the right safety mindset through repeated training at the Safety Training Center and make all business sites free from physical injuries with zero LTIR. SK Innovation will develop various safety education programs for its supplier workers, in addition to the XR-based Safety Training Center. This way, we will create sustainable social value and further promote shared growth and co-prosperity with our stakeholders, including local communities.

The programs at the XR Safety Training Center are so much fun and engaging as the way they run is like playing games. At the toolbox meeting (TBM) before work, I have to explain things only verbally and feel sometimes limitations in delivering messages. But here, we can get hands-on experience of accidents and responses in the field. It makes me think hard about what I have to do to prevent and contain accidents. The center will be of great help in getting us a more active mindset for safety.



Lim Min-jun JCON



XR Safety Training Center for Suppliers



WINNING THE TRUST

SK Innovation operates well-established information security management systems meeting global standards and strengthens information leak prevention systems.

2022 Achievements

No. of corruption cases

0 cases



Rate of employees' completion of anti-corruption education program

95.5 %



Information security certifications (domestic, overseas)

8 retained and **2** in progress to obtain



Rate of employees' completion of anti-corruption education program

99.7 %



SK Innovation is committed to complying with anti-corruption regulations and strives to root out corruption risks to diminish socioeconomic losses and risks possibly arising from unethical practices. Furthermore, we, SK Innovation reinforce our management program of data security to protect our data preemptively against random cyberattacks and threats in this post-pandemic era, where telecommuting and automation of facilities are common.

Reduction of Corruption Risks to Zero

Business management based on anti-corruption compliance is one of SK Innovation’s core values pursued in business operations and is also one of the principles required by our stakeholders. From that perspective, SK Innovation is striving to fulfill our social responsibility as a corporate body and to maintain integrity in transactions with our business partners across the value chain. In particular, SK Innovation constantly pursues “Reduction of Corruption Risks to Zero” as one of the imperative goals to prevent socioeconomic losses and issues of defamation. SK Innovation strives to prevent the risk of corruption by fostering an ethical business culture encouraging self-compliance by the employees and sharing this culture with our interested parties.



2025 Targets

No. of corruption cases

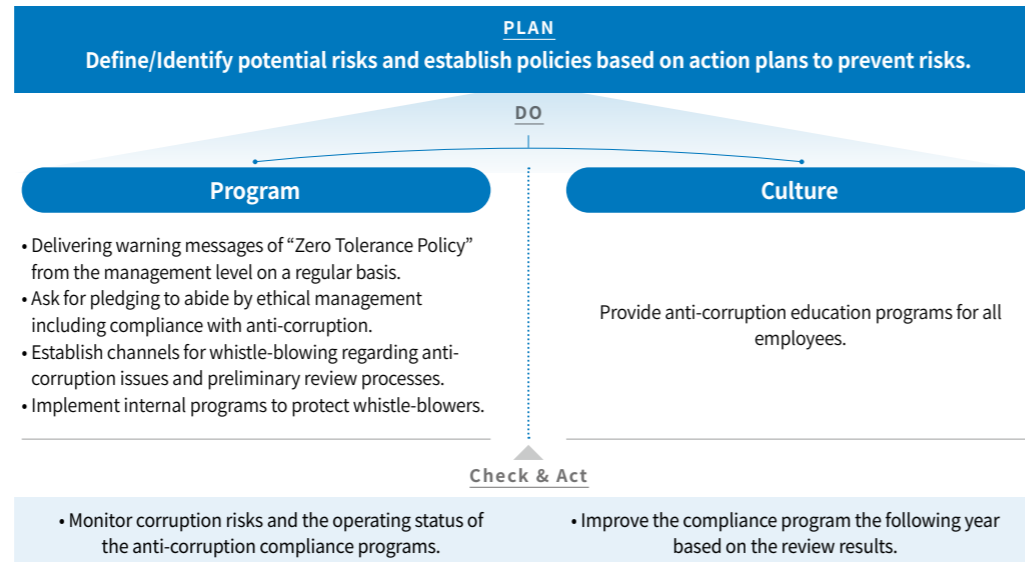
0 cases

Employees’ completion of anti-corruption education

100%

Strategies to Achieve Key Tasks (Mid-to Long Term)

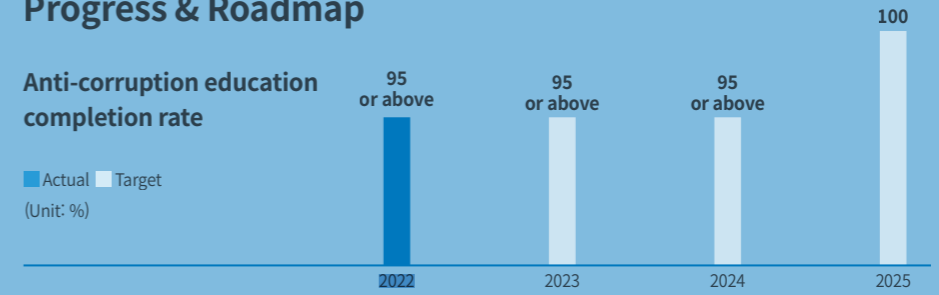
SK Innovation operates anti-corruption compliance programs based on a progressive-flow structure of “Plan-Do-Check-Act(PDCA)” to eliminate corruptive activities by removing risk elements, and also to build a cornerstone to establish an anti-corruption compliance system satisfying global standards by 2025.



Progress & Roadmap

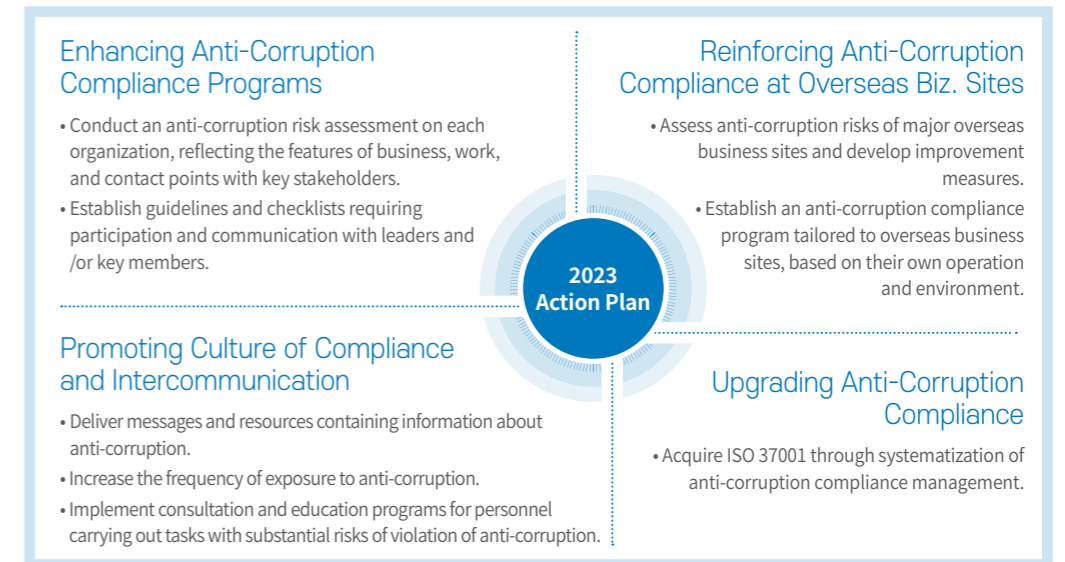
Anti-corruption education completion rate

Actual Target (Unit: %)



Major Activities Planned for 2023

SK Innovation plans to operate and make the advancement of anti-corruption compliance management by considering the features of each business site for internalizing such within our company. We, SK Innovation, will also utilize various channels for interactive communication to encourage employee participation and improve awareness.



SK Innovation endeavors to enact internal regulations, establish a platform for encouraging employees' spontaneous compliance, strengthen monitoring and controls, and improve employees' awareness, for the internalization of management based on anti-corruption compliance. As a result of such, we have achieved a 95% completion rate of education programs, and none of the activities associated with corruption appeared.

Our Commitment



Compliance-based management is one of SK Innovation's core values and guidelines, and it is recognized that all of our employees shall conduct business through fair and transparent work processes based on compliance with the strictest standards on each of their minds at all times.

The culture of compliance could be developed when each of the employees carries out business practices based on compliance. I, as the CEO, will do my best to practice self-compliance as well.

-CEO's message for compliance in 2022

Vice Chairman Kim Jun, SK Innovation



Activities and Achievements in 2022

Achievement 1 Establishment of Anti-Corruption Compliance Regulations

SK Innovation established anti-corruption compliance regulations to set up standards of management against corruption and to provide clear foundational standards of business practices for employees. Furthermore, we have established the "Guidelines on the Prohibition of Accepting Money and Valuables", the "Anti-Corruption Due Diligence Procedures for Business Partners", and the "Procedures for Donations and Sponsorships" in order to manage efficiently the risks identified in analyses performed through professional consultation and the company's self-assessment.

Achievement 2 Monitoring and Control

SK Innovation has provided guidance to its employees to report the event, when they have received or delivered goods with monetary value, to the Compliance Division and/or Audit Department to comply with the company's internal policy. Also, we have instituted checklists and a protocol for conducting due diligence to identify risks of corruption involved in transactions through agencies as well as an internal regulation to store evidential materials of donations to prevent their fraudulent use, such as bribery.

Achievement 3 Platform for Self-Practice

We developed the Compliance Platform to facilitate information sharing and communication based on the internal intranet to assist employees' self-compliance with anti-corruption. We are supporting our employees to access types of legal risks including corruption issues, regulations based on specific cases, internal policies, guidelines, and related FAQs via the Compliance Platform. Also, SK Innovation has embodied necessary processes such as a preliminary review prior to donations, and is currently operating a whistle-blowing system for promoting anti-corruption compliance.

Achievement 4 Improvement of Awareness and Spreading Culture of Compliance

SK Innovation delivered the CEO's messages calling for carrying out compliance management including anti-corruption. We have implemented anti-corruption education programs for employees at home and overseas and achieved a 95% completion rate as a result. Moreover, we also provided anti-corruption education programs to our business partners to share our principles of anti-corruption compliance.

Progress in Anti-Corruption Compliance Programs



Phased Targets for Anti-Corruption Compliance Programs

	2022	2023	2024	2025
System	<ul style="list-style-type: none"> Establishment of the Anti-Corruption Compliance Regulations and Specific Guidelines Establishment/dissemination of anti-corruption regulations for overseas business sites 	<ul style="list-style-type: none"> Executing corruption risk assessment on an organizational level Structuring a corruption-related risk management system specialized for each business site: enact guidelines and checklists for each organization 	<ul style="list-style-type: none"> Establishment of the anti-corruption compliance management system for overseas business sites: enact guidelines and checklists for each site 	<ul style="list-style-type: none"> Continued improvement to meet global standards and trends
Process	<ul style="list-style-type: none"> Introduction of procedures to report exchanging money, valuables, etc. Introduction of due diligence procedures for business partners Introduction of preliminary review and a monitoring process associated with donations 	<ul style="list-style-type: none"> Embodying autonomous working process via the Compliance Platform: process for reporting accepting goods with monetary value, preliminary review for donations 	<ul style="list-style-type: none"> Embodying autonomous working process via the Compliance Platform: managing records of organizational self-inspection 	<ul style="list-style-type: none"> Considering the introduction of procedures to control transactions involving substantial risks of corruption
Culture	<ul style="list-style-type: none"> Achieve 95% of completion of anti-corruption compliance education programs 	<ul style="list-style-type: none"> Achieving over 95% of completion of educational programs regarding anti-corruption Providing special anti-corruption education programs to organizations and employees carrying out tasks with substantial risks of violation of anti-corruption 	<ul style="list-style-type: none"> Achieve over 95% of completion of anti-corruption education programs Sharing the company's ethical business culture with business partners and stakeholders 	<ul style="list-style-type: none"> Achieving a 100% completion rate of anti-corruption education programs Sharing the company's ethical business culture via diverse channels

 **Department's Comments** 

Reinforcing Information Security Risk Management

SK Innovation has put in place an information security management system and strives for its effective operation in order to ensure business continuity. We also strive to foster a culture of information security by providing our employees with education programs.



2025 Targets

Information security and privacy protection indicators (domestic, overseas)

90% or above

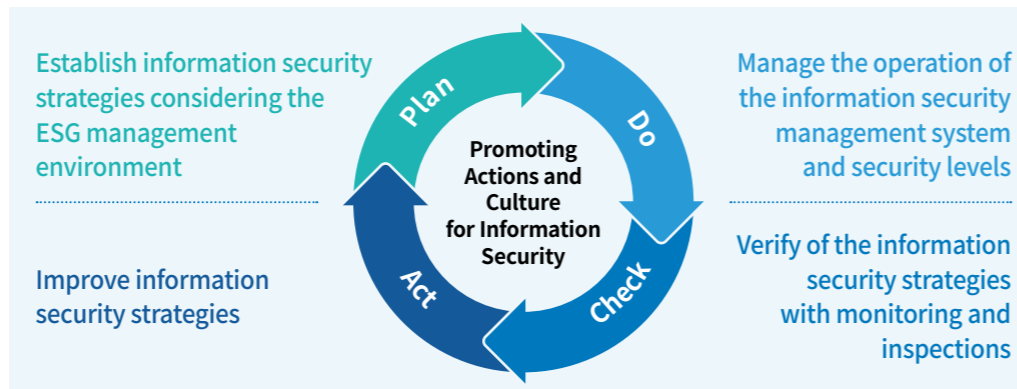
Employees' completion of education

100%

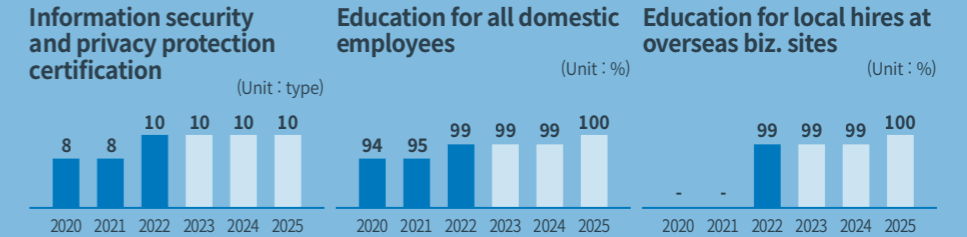
Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation obtained or acquired a relevant certification by satisfying “at least 90% of information security and privacy protection indicators at domestic and overseas sites” and continues to improve security by detecting security risks and maintaining the certification. Regular inspections are conducted to identify security risks and keep upgrading security control. The company will obtain overseas information security certification (ISO/IEC 27001) and privacy protection certification (ISO/IEC 27701) by ISO as a means to verify the information security and privacy protection management system and its operation. We also aim to reach 100% education completion rates by all employees in Korea and local hires in overseas business sites to reaffirm our commitment and foster a corporate culture centered on security, and continue these security activities to make our business activities more sustainable.

Information Protection Management System



Progress & Roadmap



Major Activities Planned for 2023

SK Innovation will reinforce its information security management system by maintaining relevant certifications as well as making security disclosures by subsidiary to prevent and minimize information security breaches. SK innovation will also will expand the education and engagement of employees further to promote the culture of information security.

Reinforcing Information Security Management Systems

- Maintaining domestic and international certifications in information security and privacy protection (10 types)
- Disclosure of information security status by subsidiary
- Increase information security investment budget
- Appointment of the Chief Information Security Officer (CISO) with expertise and independence at each subsidiary
- Establishment and revision of the regulations and procedures on information security and privacy protection.
- Development of security management indicators and conducting pilot assessment

Engaging Employees in Information Protection

- Over 99% completion rates of information security and privacy protection education programs: employees at domestic and overseas business sites
- Content development for information security and privacy protection education at overseas business sites
- Mock training against privacy breaches in external services
- Sending information security letters on a regular/ad-hoc basis

SK Innovation has taken diverse security measures to win the confidence of its stakeholders. As a result, the company acquired ten domestic and overseas certifications in information security and privacy protection, and achieved a 99% employee education completion rate.

Activities and Achievements in 2022

Achievement 1 Improvement of Organization and Decision-Making Process

SK Innovation added reward and disciplinary rules to its internal regulation on information protection as a means to reinforce its commitment. The company appointed the Chief Information Security Officer with independence and expertise pursuant to laws and disclosed the appointment through the Ministry of Science and ICT. The information security organization led by the CISO improved the decision-making process and the execution of decisions.

Achievement 2 Inspection and Monitoring to Reinforce Information Security

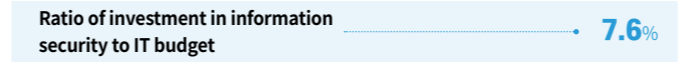
SK Innovation has main services inspected to address security risks and keeps them certified by external institutions, including the renewal of ISMS/ISMS-P (two types) and ISO 27001/27701 (eight types). SK Energy, whose crude oil refining management system was designated as key information communication infrastructure in 2022, had relevant facilities and systems examined for vulnerabilities so that it could make an improvement; thus, not only our subsidiaries but also 35 affiliates and overseas corporations strive to enhance information security control by running security checks on key management systems.

Achievement 3 Industrial Technology Protection

SK Innovation provides an education program to protect confidential information, workforce, and industrial technologies following relevant domestic laws. SK On's battery manufacturing technology has been designated as a national core technology due to its high technical and economic value. As a result, it is subject to strict security controls SK IE Technology reinforced its systems to prevent confidential information leaks by adopting a dedicated document encryption solution and keeping it under strict security control comparable to the one for core national technologies. The company also pays keen attention to protecting confidential trade secrets by running comprehensive security checks on its overseas business sites.

Achievement 4 Response to Information Breaches

SK Innovation invests 7.6% of its IT budget in reinforcing the response system to security breaches and transparently discloses investments in information security, including the ones by its subsidiaries whose disclosure is not mandatory. The stable operation of the response system enabled us to fend off approximately 300,000 attacks by malicious codes and ransomware in 2022 alone, and our information inflow and outflow detection system is in constant operation to detect abnormal behaviors. We conduct companywide drills to get our employees ready to deal with malicious emails along with suppliers and related organizations to respond fast to privacy breaches and minimize damage. The company is insured by privacy liability and cyber liability insurance to sincerely fulfill its responsibility to compensate stakeholders who may have been affected due to such breaches.



Achievement 5 Global Information Security Compliance

SK Innovation closely examines privacy laws in each country, managing privacy protection issues and ensuring its products and services do not violate local laws and regulations. For instance, we supported our business sites in Europe to run privacy impact assessments following the General Data Protection Regulation (GDPR), assisted compliance with three data-related laws in China (Network Security Law, Data Security Law, Personal Information Protection Law), analyzed the latest trends of the California Privacy Rights Act (CPRA) of the US, and checked progress on compliance with the Personal Data Protection Act (PDPA) in Singapore. As such, SK Innovation and its subsidiaries made sincere efforts to protect personal information and enhance compliance across its overseas business sites in 2022.

Achievement 6 Education to Enhance Awareness

SK Innovation provides education programs for its domestic and overseas business sites to encourage its employees to stay committed to information security. These include general education for all employees as well as specialized education for those handling confidential information and critical assets. All education courses were completed by 99% or more of the employees. Furthermore, the company has sent out quarterly letters to all employees so as to internalize information security in corporate culture.

Completion rates by education course +



Learn more about Reinforcing Information Security Risk Management →

ESG SPECIAL PAGE

Promoting Transparent Management with Information Security Disclosures by SK Innovation and Subsidiaries

Background and Purpose

There are increasing information security threats that have emerged with the advent of new technologies, such as AI, IoT, and smart factories. Cyberattacks (hacktivism) driven by political and social purposes are also on the rise, as seen in the US-China disputes and the Russia-Ukraine War. At this juncture, the protection of strategic national facilities and core national technologies is required as an essential capability of both companies and countries.

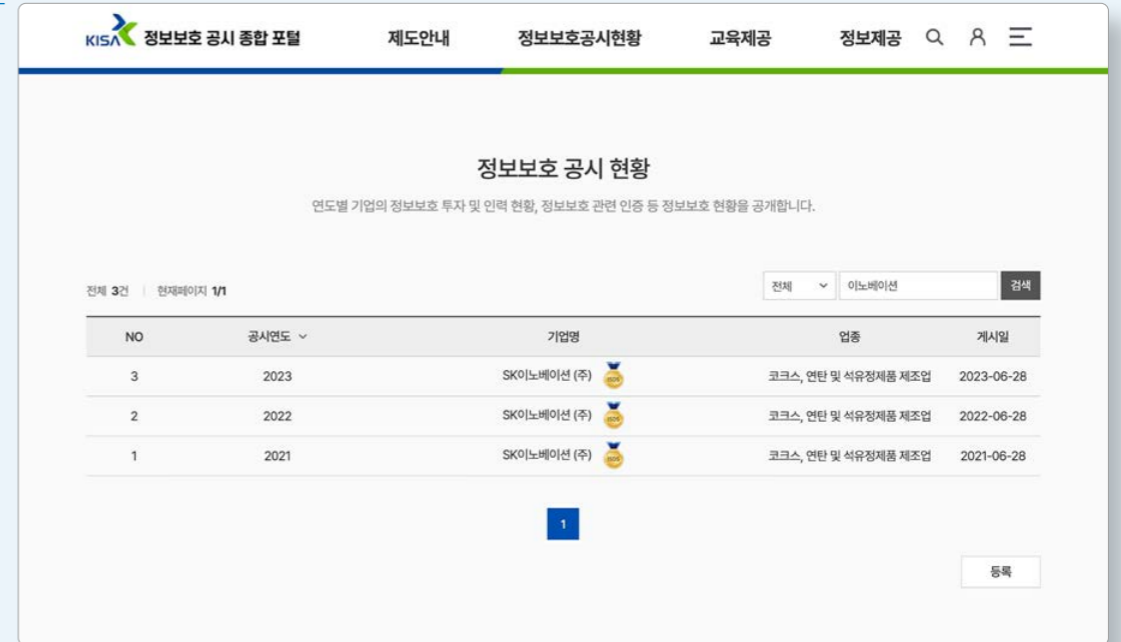
Accordingly, SK Innovation is making devoted efforts to achieve its key tasks, bringing the information security and privacy management index to 90% and security education completion rates to 100% by 2025. We also transparently disclose our information security activities meeting global standards. Through these disclosures, the company will respect shareholders' right to know and provide consumers with a wide range of choices, thereby winning the confidence of stakeholders.

Activities

While the amendment of the Information Protection Industry Act mandated public disclosure on information security starting in 2022, SK Innovation had prepared its first public disclosure in 2019, three years earlier, and had the ratio of its investment in information security to total IT budget verified by the Ministry of Science and ICT and Korea Internet & Security Agency. The company has since carried out various information security activities comparable to global standards with continuous investments, such as acquiring certifications and sharing information on cyber hacking with the public sector.

In 2021, before public disclosure on information security became mandatory, the company made a public disclosure of its security information activities, including those of its subsidiaries, for the first time in the energy industry. The company will keep earning the confidence of stakeholders by making transparent disclosures and information security activities.

Comprehensive Information Security Disclosure Portal, SK innovation's information security disclosure



Major Achievements and Expectations

SK Innovation currently makes public disclosures on information security efforts by nine companies (two mandatory; seven voluntary disclosures) and is committed to earning stakeholders' confidence by increasing investments and activities to protect information.

We are the first one in the energy industry that made a public disclosure on information security in 2021, and that included voluntary disclosures by our subsidiaries.

The company also shared its experiences of information security activities meeting global standards and of disclosures with partner companies to support. As a leader of voluntary disclosures on information security, we expect these efforts will serve to encourage social participation as well.

SK Innovation will lead the way in spreading the corporate culture of integrity and transparency, through continuous efforts for information security and public disclosure.



TOGETHER WITH SOCIETY

2022 Ulsan Forum

2022 Achievements

ESG due diligence on suppliers

50 %



Ratio of high-performing suppliers in in-depth ESG assessment

22 %



CSR programs by overseas business sites

13 overseas business sites join EnviRun



CSR programs in **8** countries

Cultivation of green startups

17 new startups



8 partnerships with SK subsidiaries (MOU or above)

SK Innovation has broadened the definition of its stakeholders and looks to enhance their happiness, sharing growth through various efforts. The company will build a sustainable supply chain based on stringent ESG management over suppliers and increase CSR programs to foster a business environment promoting co-prosperity with local communities. Furthermore, we will take the lead in creating a green ecosystem, discovering and collaborating with green technology startups to address ever-deteriorating environmental issues, such as climate change and waste plastic.

Reinforcing ESG Risk Management for Suppliers

SK Innovation seeks to build a sustainable supply chain to minimize the environmental impact of its purchased products and services and make positive contributions to society. We take it as the most critical part of our efforts to promote ESG management and are making relentless moves to detect, correct, and prevent ESG risks arising from our supply chain.



2025 Targets

ESG due diligence on suppliers

100%

Proportion of suppliers that acquire high score in in-depth ESG assessment

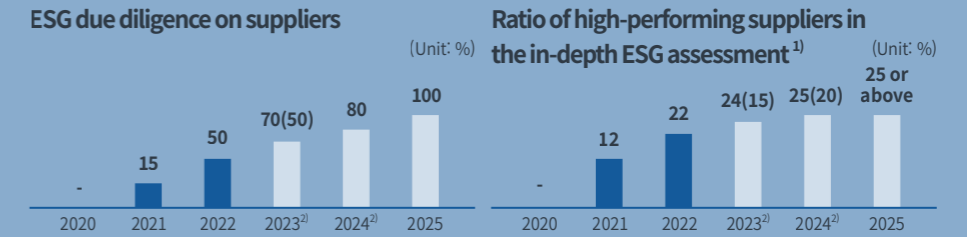
Over **25%**

Strategies to Achieve Key Tasks (Mid-to Long Term)

By 2025, the company aims to conduct ESG due diligence on 100% of its suppliers and to have at least 25% of its suppliers rated as high performers with in-depth assessments. To this end, we are upgrading the ESG risk management system for suppliers while at the same time seeking overall improvement of management processes. We also keep monitoring international trends, such as the corporate sustainability due diligence directive and Net Zero, and provide guidelines to suppliers for preemptive responses and further expand supplier ESG risk management from a global perspective.



Progress & Roadmap



1) "Leader" grade (ESG 1, 2) in the in-depth assessment 2) Revised targets for 2023-24 upward, based on the 2022 result

Major Activities Planned for 2023

Drawing on past experiences, the company will help its suppliers improve ESG management systems and provide them assistance customized to their assessment results. That way, we hope to contribute to ESG management and risk control by our suppliers.



Expand Targets of In-Depth ESG Risk Assessment and Due Diligence

- Conduct the in-depth ESG risk assessment also on high-risk suppliers which have potential ESG risks despite small, infrequent transactions with us, as well as key suppliers

Regular Support Customized to Assessment Results

- Provide regular education and consulting adapted to suppliers' assessment/due diligence results
- Increase the coverage of the existing programs (e.g., ESG education and consulting for new suppliers) and develop new programs

More Systematic ESG Risk Management

- Add the preliminary and regular assessments to the purchasing system for systematic ESG risk management of all suppliers
- Introduce additional methods to identify high-risk suppliers based on the preliminary and regular assessments

Awards and Support to Excellent ESG Suppliers

- Increase certifications, awards, and benefits to excellent ESG suppliers and introduce new programs

SK Innovation supports the ESG management of its suppliers. We assess the status of their ESG management and provide free education and consulting for improvement; as a result, our suppliers showed progress in ESG management compared with the year before.

Activities and Achievements in 2022

Our Commitment



SK Innovation will show its stakeholders and suppliers what it means to be a responsible corporation and will strive to build a sustainable supply chain.

- at the excellent ESG suppliers certification ceremony in 2022

Kim Yang-seob, Head of Finance Divisional Group



Achievement 1 Diagnosis and Assessment of Suppliers

Improvement of Preliminary and Regular ESG Assessment
SK Innovation improved procedures to ensure more systematic operation of the preliminary and regular ESG assessments in 2022. The purchasing system was modified to require new suppliers to sign their consent to the Supplier ESG Code of Conduct and to run the preliminary assessment with a self-checklist based on the ESG rating of the in-depth ESG assessment. Tier-1 suppliers with business contracts with us in the previous year can take regular assessments to examine and manage ESG risks. Starting in 2023, suppliers falling short of the threshold in the preliminary and regular assessments will be classified as high-risk suppliers and placed under the in-depth ESG assessment and due diligence.

Preliminary ESG Assessment

Category	Unit	2020	2021	2022
No. of newly registered suppliers	Company	269	338	461
Ratio of suppliers assessed	%	100	100	100

Result of Regular ESG Assessment in 2022

Assessment Factors	Suppliers assessed	
	No. of suppliers	High-risk suppliers (%)
Environment • Environment	Tier-1 Suppliers : 1,864	175 (9.39%)
Social ¹⁾ • Safety • Society • Ethics		
Governance • Economy • Management system		

1) No suppliers found to have violated freedom of association or hired child labor.

In-Depth ESG Assessment and Due Diligence

We have annual in-depth assessments and due diligence conducted by an third party ESG evaluations on core suppliers. In 2022, the company provided each supplier with customized support before the in-depth assessment helping to enhance their understanding of ESG and participation in the assessment. The company conducted in-depth assessments with 200 companies and increased the Due Diligence rate of suppliers from 19% to 50%. After the assessment, low-performing suppliers are demanded to submit improvement plans, and all of them handed in improvement plans in 2022.

In-Depth ESG Assessment Results in 2022

Category	Suppliers assessed	
	Suppliers	Result (%)
Assessment	200 key suppliers	• Leader: 44 (22%) • Average: 123 (61.5%) • Laggard: 33 (16.5%)
Due diligence	100 key suppliers (50% of suppliers subject to in-depth ESG assessment)	
Improvement plan	33 laggard suppliers	• 33 laggard suppliers (100%) ²⁾

2) Improvement plans submitted by 12 suppliers with insufficient regulations for human rights and labor

Improvement / Sanction after Assessment

A penalty is given to the suppliers that are found to have committed serious violations in the ESG risk assessment results or fail to respond to its request for correction. The level of penalty is determined by SK Innovation Sanctions Deliberation Committee is are transparently managed. We assure the legitimacy of the penalty procedures by giving suppliers chances to raise objections. In 2022, the company added criteria³⁾ for penalization to strengthen the management of suppliers' ESG risks and is working with its suppliers to address risk factors. Fifty-six suppliers received penalties following the supplier assessment in 2022.

3) Laggard suppliers that failed to submit an improvement or those rated as laggards for two years running in the in-depth ESG assessment are subject to penalties if they fall below the standard SHE grade in the regular supplier assessment: new regulation. New criteria for applying sanctions were added: 1) suppliers that were rated as laggards in the in-depth ESG assessment but failed to submit an improvement plan, 2) suppliers rated as laggards for two years in a row, and 3) suppliers that kept falling below the standard SHE grade in the regular supplier assessment

Risk Improvement by Suppliers in 2022

Category	Result
Ratio of high-risk suppliers submitting improvement plans	100% (required of all high-risk suppliers)
Ratio of the suppliers that showed improvement within 12 months after the submission of an improvement plan	81 (36%)
- Environment area and social area ⁴⁾	60 (27%)
- Governance area	21 (9%)

4) Risk improvements in human rights, health and safety, and compliance with the Industrial Safety and Health Act

Penalties on Suppliers in 2022

Category	Result
Total number of suppliers subject to sanctions ⁵⁾	56
- Warning	44
- Suspended transaction	12
(temporary suspension)	11
(permanent suspension)	1

5) No suppliers found to have violated freedom of association or hired child labor.

Achievement 2 Support to Improve Suppliers' ESG Performance

Education and Consulting Customized to Suppliers' Levels

We supported our suppliers with the ESG risk diagnosis and improvement measures. Based on the results of the previous year's evaluation, SK Innovation offered free education and advice customized to the ESG challenges they confront in order to promote their engagement. Consulting service was provided in two levels, standard and intensive, so that the suppliers can get the right support they need in ESG areas.

Consulting Services for 2022

Standard	Reviewing the evaluation results of the previous year and suggestions for improvement
Intensive	Management of environmental and social performance
	Innovating management to reach carbon neutrality
	Building an environmental management system
	Improvement of internal regulations
	Comprehensive diagnosis of HR and labor management
	On-site safety due diligence
	Safety and health management system
	Disclosure of ESG information
Ethics management and governance for SMEs	

Certification and Award for Excellent ESG Suppliers

SK Innovation certified and awarded suppliers with excellent ESG performance, based on the supplier ESG assessment in the previous year. In 2022, 25 suppliers were awarded an excellent ESG supplier certification and a voucher for ESG consulting.



SK Innovation certifies excellent ESG suppliers in 2022.

Department's Comments

Expansion of CSR Programs by Overseas Business Sites

SK Innovation is aggressively engaging overseas business sites in CSR activities to foster a culture of win-win growth with local communities. We plan to implement CSR programs customized to the situations in each country and the needs of local communities and improve them through continuous communication.



2025 Targets

Global expansion of CSR programs

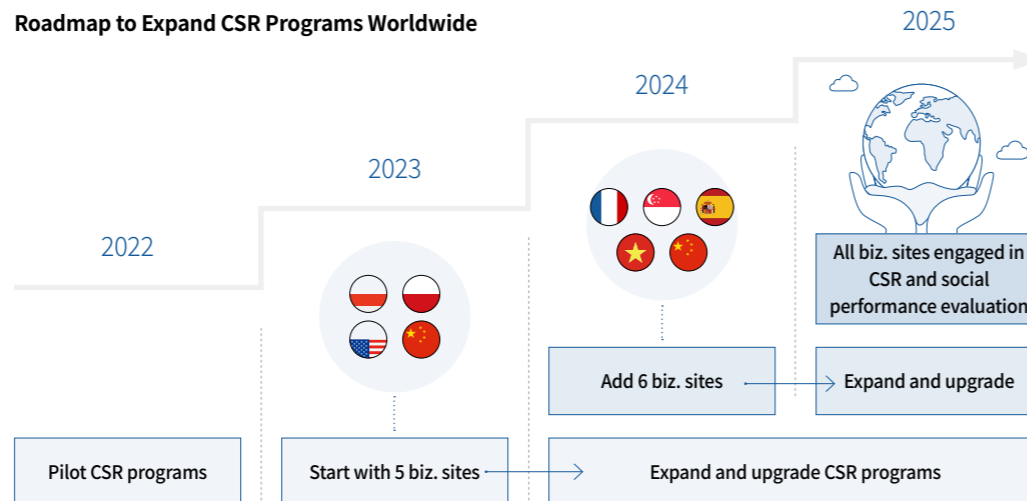
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overseas biz. sites to start CSR programs as regular activities

Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation plans to develop and implement sustainable CSR models for major overseas business sites by 2025. Drawing on our philosophies of social contribution, we will start with a cultural approach, implementing common programs (for the elderly, the disabled, and the environment) and inducing empathy and participation of all members, and gradually reflect the needs of local communities to define CSR identity by country and develop more customized CSR models.

Roadmap to Expand CSR Programs Worldwide



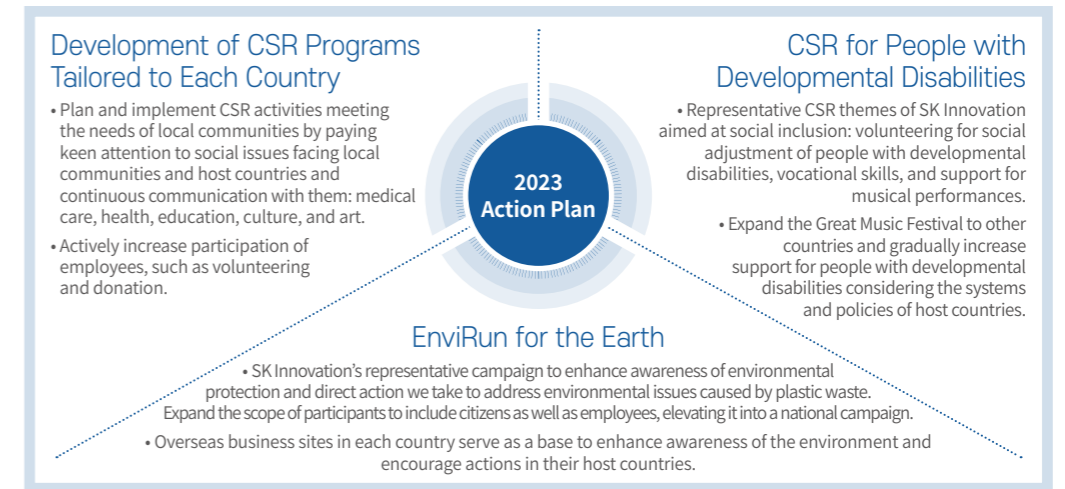
Progress & Roadmap

	Actual			Target		
	2020	2021	2022	2023	2024	2025
Promote the EnviRun for the Earth campaign	-	-	13 countries (17 sites)	14 countries (20 sites)	16 countries (28 sites)	All overseas biz. sites
Secure the foundation for overseas business sites to execute CSR programs	-	-	8 Site (pilot)	4 countries ¹⁾ (5 sites)	8 countries ²⁾ (11 sites)	All overseas biz. sites ³⁾

1) US (SKBA, SKGCA), China (SKBMC), Hungary (SKOH), Poland (SKBMP)
 2) China (Shanghai, Shenzhen), Vietnam, Spain, France, Singapore
 3) Key targets: 11 business sites. CSR activities will be gradually extended to engage all business sites with 10 or more employees.

Major Activities Planned for 2023

The EnviRun for the Earth (“Sanhaejinmi”), a CSR campaign for creating a sustainable environment will be expanded across all overseas business sites in 2023, and major new plants in the United States (Georgia), China (Changzhou), Hungary, and Poland will start their own CSR programs aimed at win-win growth with their local communities. The company will increase support for the elderly and people with developmental disabilities as well as the EnviRun for the Earth campaign to set a stable foundation for CSR activities, and play a more active role as a global corporate citizen to address issues facing local communities.



SK Innovation has carried out CSR programs worldwide to meet the needs of local communities, such as environmental protection and supporting people with developmental disabilities and has actively engaged our employees at domestic and overseas business sites in these programs, to promote management for co-prosperity.

Activities and Achievements in 2022

Our Commitment



SK Innovation has always been an early mover in ESG management. We should not be content with landing a green business portfolio but move even further to make ESG the essence of corporate culture. We need to have the right mindset to deal with society and the environment fairly, based on which to understand and perform what we should do as corporate citizens with sincerity and consistency. That is the very corporate culture we can be truly proud of.

Vice Chairman Kim Jun, SK Innovation



Achievement 1 EnviRun for the Earth Campaign (Sanhaejinmee)

EnviRun (Environment + Running) is our global CSR program to protect mountains and seas from waste plastic and create a truly beautiful Earth. This is an extended version of our domestic CSR program called “Sanhaejinmee” and was participated by over 7,000 employees and 270,000 citizens in 2022. In particular, about 500 employees at 17 overseas business sites in 13 countries joined EnviRun for the first time as a trial run, which set the foundation for us to expand domestic CSR programs overseas. SK Innovation looks to internalize EnviRun in its corporate culture and make it a global movement encouraging collective actions by people around the world.

Achievement 2 Mangrove Forests Restoration Project

SK Innovation has carried out mangrove forests restoration projects in Vietnam and Myanmar known for outstanding biodiversity since 2018 to respond to climate change and restore ecosystems. In 2022, the company restored 52 hectares of mangrove forests in Trà Vinh, Vietnam with the running total of restored forests at 188 hectares thus far. We are currently providing environmental education to 800 locals and students about the value of the environment and mangrove forests. We established a social enterprise, the first of its kind in Trà Vinh, Vietnam, and contributed to the local economy by hiring local youth.

1) According to research findings by IUCN and Cambridge University, the planet’s mangrove coverage has decreased by 7% in 2016 compared with what was seen 20 years back. The size of mangrove forests that can be recovered is estimated to be 800,000 hectares, with approximately 70 million tons of carbon reduction expected of their restoration.

Achievement 3 Great Music Festival (for People with Developmental Disabilities)

SK Innovation supports the rights and growth of people with developmental disabilities by operating a range of programs. Our employees are lending hands as volunteers, assisting them in programs, adjustment to social life, and on-site activities. There are also programs aimed at the vocational skills development of people with developmental disabilities.

Since 2017, SK Innovation has hosted the Great Music Festival (GMF), which boasts the largest scale among music festivals held for people with developmental disabilities in Korea. This annual concert supports people with developmental disabilities to seize opportunities to grow through music. We have cultivated 161 performing groups and over 17,000 performers through this event until 2022. The GMF Charity Night Gala is a concert that the winning teams of GMF present to diplomatic missions to Korea. In 2022, the concert took place in Busan, one of the host candidates of World EXPO, for diplomats and their families from 38 countries. In 2023, we are exploring ways to expand our musical support programs for people with developmental disabilities outside the country, such as in the United States and China, aligned with GMF.



SK Innovation carried out mangrove planting activities.

Achievement 4 Expansion of CSR Programs by Overseas Business Sites

In 2022, our employees at 17 overseas business sites in 13 countries participated in the EnviRun for the Earth campaign on a trial basis and the company is planning to expand the scope of this campaign across all business sites officially in 2023. At newly constructed major plants, we will run this campaign regularly and expand its scale by engaging and collaborating with the stakeholders of local communities. Eleven overseas business sites in eight countries, including the United States, China, Hungary, and Poland, conducted 25 programs to support the environment, the disabled, the elderly, culture, and education by reflecting the domestic situation of each country and also made donations for Ukrainian refugees and response to the COVID-19 pandemic. Particularly in Georgia (the US), Hungary, and Poland, we provide vocational skills training for local youth with a view to local recruitment.

We will analyze and upgrade these CSR programs in 2023, so they can secure sustainable CSR models, rather than running as pilot programs.

Achievement 5 Global Communication Coordinators

We launched the global communication coordinator program for overseas business sites in 2022. The main roles of these coordinators are communicating with local communities, empathy and engagement with employees, and developing and executing CSR programs meeting local demands. Currently, 30 coordinators are active in 28 business sites in 16 countries.



Department’s Comments +

Learn more about expanded CSR programs at overseas business sites.

Partnership for Green Ecosystem

It takes collective efforts and cooperation across society to resolve environmental pollution and make a transition to a clean society. Knowing that, SK Innovation is seeking to create a green ecosystem where it works with the government and various stakeholders to select and develop promising startups with green solutions as partners to address environmental issues together.



2025 Targets

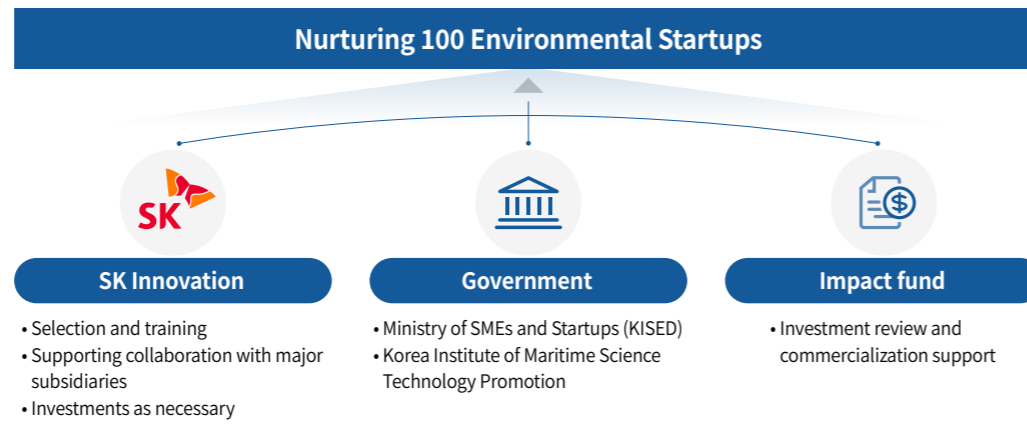
Nurturing environmental startups

100
startups in total

Strategies to Achieve Key Tasks (Mid-to Long Term)

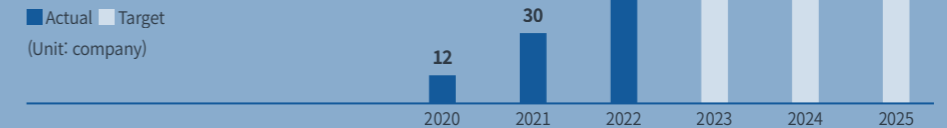
SK Innovation launched “EGG”, a project to support environmental startups, and discovered 20 promising startups in 2021. Ever since, we have supported around 20 startups every year and aim to bring the total number of startups we support to 100 by 2025. This will be done by securing a reliable pool of promising startups through long-term collaboration with the government and various partnerships with investment firms or our subsidiaries. The company will form at least three alliances for collaboration, like “EGG”, and expand existing low-carbon partnerships to other sectors of the environment. We will also establish policies to provide post-care to those startups we have nurtured and conduct continuous monitoring to build an efficient system to manage their performance.

Framework of the EGG Program



Progress & Roadmap

No. of green startups (running total)



Major Activities Planned for 2023

In 2023, we selected 16 environmental startups in the areas of biofuel, waste plastic recycling, safety inspection robots, etc. The company will provide them with a startup nurturing program that includes the Open Innovation session and training courses tailored to environmental startup lasting ten months. Furthermore, the company will add the preservation of marine ecosystems and biodiversity to the scope of the environmental agenda it intends to address and select startups to nurture in these new areas. We also plan to implement collaboration projects between our subsidiaries and startups, thus rendering opportunities for more startups to engage in our businesses.

Foray into New Areas of ESG

- Enter new areas related to ESG reflecting external stakeholders' demands (e.g., preservation of the marine ecosystem, biodiversity protection, green and smart agriculture).



Expansion of Partnership for Green Ecosystem

- Expand the pool of startups by partnering with the government and the private sector, in addition to existing partnerships, and lead the creation of an ecosystem for environmental startup.

SK Innovation has strived to create a robust ecosystem of environmental startups, operating the environmental venture scale-up program and supporting their participation in the Open Innovation session, which boiled down to tangible results: five MOUs and one product launch between SKI’s subsidiaries and startups.

Our Commitment



SK Innovation and its subsidiaries are strongly carrying forward “Carbon to Green” strategy to create its financial story. Nurturing environmental startups and a robust startup ecosystem would be key to addressing environmental issues.

- Business agreement signing ceremony with the Korea Institute of Startup & Entrepreneurship Development in 2022

CEO Cho Kyong-mok, SK Energy



Activities and Achievements in 2022

Achievement 1 Green Venture Scale-Up Program

EGG II Support for Green Startups

Following last year, SK Innovation proceeded with the second round of “EGG”, a project to foster a green ecosystem by nurturing startups in 2022. We provided competent and promising startups with systematic support, together developing low-carbon and resource-circulation collaboration models to create various environmental value, as well as advice on technologies and drawing investments, and measuring their social impact. In the second EGG, the company selected 15 environmental startups that scored high on business value, innovativeness, potential social impact, and potential synergy with our subsidiaries in environmental areas, including low carbon. We signed MOUs with five EGG startups to create tangible results through continuous collaboration and launched products made with their technologies in 2022. Moving forward, SK Innovation will remain a staunch supporter of environmental startups, helping them secure sustainable competitiveness and expediting the creation of a green ecosystem.

Achievement 2 Creating Value through Collaboration

Hue-Cycle Campaign by SK Geo Centric and Inobus

SK Geo Centric has put forward the “Hue(Rest)-Cycle Campaign” since 2022 in collaboration with a green startup, “Inobus”. This campaign aims to recycle waste plastic collected at expressway rest stops and

is supported by the Ministry of Environment, Korea Expressway Corporation, Jeju Samdasoo, and Korea Resource Circulation Service Agency. In this campaign, recycling robots manufactured by Inobus efficiently sort transparent PET bottles, which are good-quality resources for recycling, among recyclables.

SK Earthon and Enerzai to Adopt AI for CCS Business

Enerzai is an environmental startup with edge AI technology performing real-time data analysis right on various devices, such as drilling rigs, with no need for massive data transmission and processing through a separate server. SKEO signed an MOU with Enerzai for technology exchanges, joint R&D, and commercialization, to enhance both accuracy and efficiency in E&P activities.

Partnership with environmental startups in 2022

SKI subsidiary	Startup	Partnership
SKGC	Inobus	• Conduct the Hue(Rest)-Cycle Campaign using AI-based recycling robots that efficiently sort transparent PET bottles. (MOU signed)
SKE	60 Hertz	• Develop an energy management system to monitor EV charging status and progress by solar PV and fuel cells at energy superstations. (MOU signed)
SKEO	Enerzai	• Collaborate for diffusion and leakage monitoring after CO ₂ injection, the CCS business using image detection technology. (MOU signed)
SKIPC	LD Carbon	• Collaborate for supplying pyrolysis oil generated from waste tires dissolution (investment agreement underway)

Achievement 3 ESG Best Practice Contest

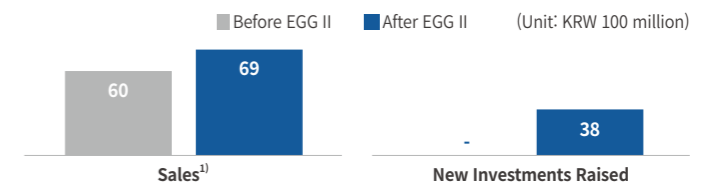
Contest for Maritime and Fisheries Startups Held in Partnership with KIMST

SK Innovation cultivates startups in the fields of maritime and fisheries to protect the marine ecosystem, considering that its

business sites located in coastal areas, such as Incheon and Ulsan, could have impacts on the local environment. In 2022, the company co-hosted a contest with Korea Institute for Maritime Science and Technology Promotion (KIMST) as a collaboration model between a large company and a public institution to discover the best practices of maritime and fisheries startups dealing with ESG issues and to address environmental and social problems together by supporting ESG management. SK Innovation held the Open Innovation seminar and provided education on the commercialization of carbon emission rights for the four winning startups in the contest. We also paired them up with our subsidiaries expected to have the highest synergy with them, throwing full support for their ESG management. We are planning to create diverse opportunities for collaboration with the winners going forward.

Sales of and Investments in 14 Startups in EGG II (Ten Months)

SK Innovation seeks to find fundamental and efficient solutions to various social issues by tapping into its capabilities, infrastructure, and partnership with startups. We will put our heads together with these startups to address social agenda, including creating quality jobs, economic growth, sustainable production and consumption, and low-carbon energy production and consumption, and will turn their social and environmental impacts into ESG indicators to manage and upgrade going forward.



1) Sales after participation in EGG were calculated for 10 months, equivalent to the duration of the EGG program.

Department's Comments +

Learn more about reinforced green ecosystem partnership. >

ESG SPECIAL PAGE

Partnership with Green Startup: SK Incheon Petrochem & LD Carbon

Background and Purpose

SK Innovation collaborates with the Ministry of SMEs and Startups and Korea Institute of Startup & Entrepreneurship Development to create an ecosystem for environmental venture businesses and operates EGG (SK Innovation’s green ventures scale-up program) where the company provides startup funds, shares its business infrastructure and operating know-how, and arranges investments. Following the Carbon to Green strategy that sets the key direction of our financial story, we focus on selecting startups with high potential for collaboration on carbon reduction and resource circulation and developing businesses between them and our subsidiaries. The company has maintained a partnership with LD Carbon since 2021 and it started a recycling business using pyrolysis for waste tires together with SK Incheon Petrochem. As such, SK Innovation will continue its support for promising environmental startup to foster an ecosystem for environmental venture firms and create more success stories, like LD Carbon, following our Carbon to Green strategy.

Investment Agreement Signed among SK Incheon Petrochem, LD Carbon, and KDB Bank

Major Achievements and Expectations

SK Incheon Petrochem entered into a partnership with LD Carbon, a promising environmental startup that nicely fits its corporate strategies. Consultations went successfully backed up by various support available under the EGG program.

Partnership with LD Carbon let SK Incheon Petrochem set a cornerstone for implementing the Carbon to Green strategy pursuing shared growth and mutual prosperity. The company will expand such partnerships going forward to reach net zero and sincerely fulfill its corporate social responsibility.



Interview with CEO Hwang Yong-gyeong, LD Carbon

Q
Would you briefly introduce LD Carbon?

Approximately 1 billion waste tires are generated every year and are causing social concerns as incineration, the most common way of scrapping waste tires, results in serious environmental pollution and economic losses totaling KRW 1.6 trillion a year. Mindful of their negative impacts, LD Carbon developed a pyrolysis technology for waste tires, produce pyrolysis oil and process pyrolysis residues into carbon black. It produces “green carbon oil (GCO)”, “green carbon black (GCB)”, and rubber power, iron core, PET/nylon, and hydrogen out of waste tires with its “waste-free” technologies for resource circulation. GCO, in particular, is manufactured by tire pyrolysis and has properties similar to those of petroleum. LD Carbon will work with SK Incheon Petrochem through open Innovation and GCO will be used as feedstock for petrochemicals with mitigated environmental impact in the near future.

Q
How did the consultation go with SK Innovation?

We are a startup with a lot of aspirations and have desperately needed chances to partner with large companies. However, seizing a commercialization opportunity with them was hard to come by. The EGG program enabled us to receive a government fund and work with a large company for open innovation. Furthermore, they actively supported connecting us with a subsidiary of SK Innovation, which is expected to have synergy with us. Thanks to all that, we found a strategic investor, SK Incheon Petrochem, and opportunities to grow together in partnership.

Q
What progress was made thus far and what is your next target?

After we joined the EGG program, we saw sales increase by 210%, hired 30 new employees, and attracted about KRW 58 billion of investment and funding. We received awards from the Ministry of SMEs and Startups and the Ministry of Environment and a presidential award. We also registered our technology as an external business methodology with the Carbon Emissions Certification Center of the Korea Chamber of Commerce and Industry and entered into a ten-year pyrolysis oil supply contract with SK Incheon Petrochem, which secured us a foundation for shared growth. Drawing on these achievements, we are currently constructing a waste tire resource circulation plant (EL:T 50,000 tons/year) at the Dangjin & Hapdeok General Industrial Complex. Once completed, it will be the first of its kind in Korea and the largest in Asia.

LD Carbon set recycling at least 25% of waste tires generated in the country as its short-term goal for resource circulation. LD Carbon will strive to contribute to Korea meeting net zero by cutting CO₂ emissions, at least 100,000 tons a year and will also realize a new model of resource circulation, thus sincerely fulfilling its social responsibility for humanity and the future.



HAPPINESS FOR ALL

The "Open House" event invited the employees' families to SK Innovation.

2022 Achievements

SKI Happiness Index

72.7 points



Upgrading and Promotion of Human Rights Management

Reinforced Human Rights Management

Human Rights Due Diligence on Overseas Staff



Employees' Completion Rate of Diversity & Inclusion Training

99 %



SK Group articulates in its management philosophies, SK Management System (SKMS), that employee happiness ultimately leads to the company's creation of social and economic values in a virtuous circle. It emphasizes the importance of employees, whom it defines as the main driver of happiness management at work. Employee happiness is of utmost importance at SK Innovation as well and we are making devoted efforts to increase employee satisfaction. We will prevent direct and indirect violations of human rights across the business value chain, enhance human rights management, and foster a mature corporate culture rich in diversity and inclusion.

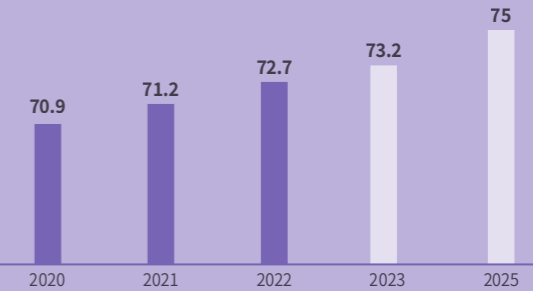
Maximizing Employee Happiness

SK Innovation has rolled out a range of programs to foster a happy workplace since 2019. Again in 2022, “Enhancing Employee Happiness” was one of the company’s key tasks and we implemented more engaging and diverse programs. Employee happiness will continue to be a key item on our corporate agenda moving forward.

Progress & Roadmap

SKI Happiness Index

Actual Target
(Unit: point)



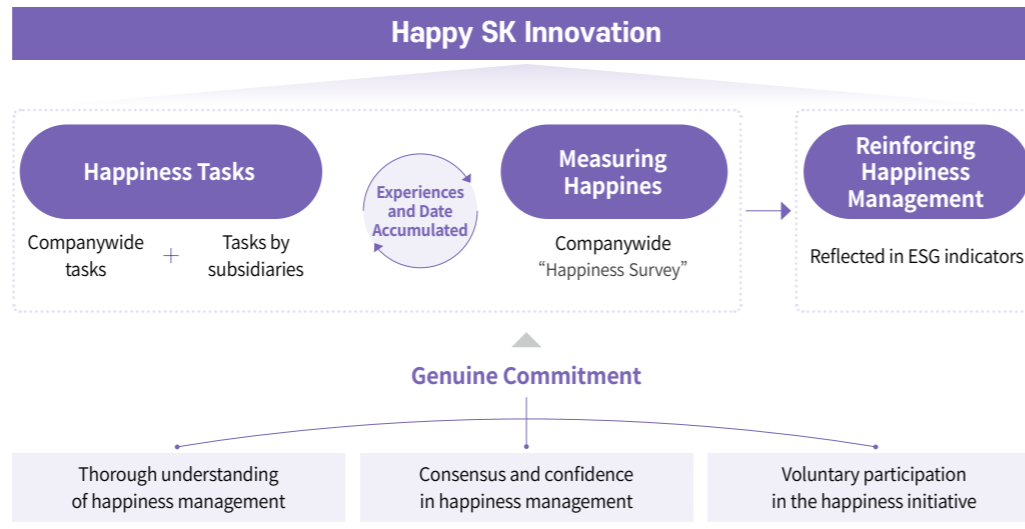
Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation set a mid-term target of reaching “75 points or above in the SKI Employee Happiness Index” by 2025. We will stay committed to engaging employees in happiness management at work as both the drivers of a happy workplace and the beneficiaries.

2025 Targets

SKI Happiness Index

75

 points or above

Major Activities Planned for 2023

In 2023, SK Innovation plans on a range of happiness programs satisfying employees’ needs, so that they can see and feel the pursuit of happiness being a part of our corporate culture and actually feel happier at work.



SK Innovation seeks to improve corporate systems and culture with employees’ participation, encouraging them to find paths to happiness with their own initiative. In 2022, we joined hands with our employees throughout the entire process from gauging employee happiness to identifying issues, and taking measures to address them.

Activities and Achievements in 2022

Our Commitment



There is no final destination in our quest for happiness. Rather, happiness is a value or a goal we should keep looking for. But at the same time, happiness is something we can enjoy on the way. Knowing that, we should treat one another with sincere minds and stay connected through communication

- at MBWA of SK Incheon Petrochem in April 2022

Vice Chairman Kim Jun,
SK Innovation



Achievement 1 Happiness Activities Led by Employees

Select and Implement Happiness Activities by Engaging Employees

Pursuing “Employee Happiness” as a corporate goal, we also believe “employees” should be the ones who steer the whole movement. That is why the company have rolled out programs to create a happy workplace with direct engagement of employees. In 2022, we held the “Happy Moments Exhibition” to let our employees share their happiest moments with colleagues. Gourmet Clan of employees operated as a companywide program and reaped meaningful improvement in the environment and food quality of cafeterias at major business sites. The Ulsan CLX operated Happy Space Clan for creating a happy community center and enhanced employee welfare. These activities are all geared up to promoting our commitment to a happy workplace, which we believe is a path also to the happiness of local communities and will ultimately let us make a positive influence on all stakeholders.

Happiness Activities by SK Innovation & Subsidiaries

While these happiness activities were carried out as companywide programs, like Clans, involving all subsidiaries in 2020~2021, the company chose to let each subsidiary take on respective happiness activities best fitting their own needs starting in 2022. A total of 29 happiness activities were drawn up based on the result of the Happiness Survey. These activities were implemented by respective subsidiaries and their effectiveness (e.g., employees’ awareness, empathy, and satisfaction) was measured, too. In 2023, we will continue this way with each subsidiary finding the most needed agenda for employees’ happiness and taking action.



“Gourmet Clan” aims to improve food quality at the cafeterias of major business sites.

Interview with Happy Space Clan of the Ulsan CLX

I have learned a lot about the construction of the Happy Community Center through the Clan over the past five months. Our official Clan activities end as of today, but I will still be a staunch supporter till the Center is completed.



Choi Jin-shik Happy Space Clan



How fast time flies. It’s been a great opportunity for me to share brilliant ideas with good people. The Happy Space Clan was an idea bank of all members at the Ulsan CLX. I am proud that I did contributed to the creation of the Happy Community Center.

Chang Hyun-seok Happy Space Clan

It’s been a long journey and we did a lot together. I want to thank the Buddy for helping to run Happy Space Clan so nicely.



Yoon Hye-rim Happy Space Clan



I regret missing some meetings with the Clan because I was busy with things to do in the office. I came running from my office also today. Still, I am excited about the Happy Community Center that we are creating with our own ideas.

Park Young-jun Happy Space Clan

Achievement 2 Systematic Management of Employee Happiness

SK Innovation measures employee happiness and discovers issues affecting their satisfaction through the “Happiness Survey” every year and over 60% of our employees participated in the survey in 2022. Employees are asked to score four areas--satisfaction with life, meaning of life, positive emotions, and negative emotions--and their satisfaction rate is calculated as an arithmetic average of the four. Then, key factors are shortlisted out of 16 factors stated in the questionnaire as examples affecting satisfaction and serve as the basis to explore what we can do more to create a happy workplace. In 2022, our employees’ happiness scored 72.7 points (on a scale of 0 to 100), up 1.5 points from the year before, and 81% of respondents said they were satisfied with the overall activities conducted under the company’s happiness initiative.

Achievement 3 Robust Employee Communication

A range of on/offline programs are under way to invigorate communication and collaboration among our employees. In particular, 285 change facilitators, called “iCON (innovation Communication ON)”, serve as a bridge for two-way communication among employees, leaders, and executives and help us pursue genuine communication led by employees. Our employees can share their opinions and discuss issues on “tongtong”, an online bulletin board. “kong” is a mobile app offering various content to assist employees do what they think is needed to make a happy workplace. Furthermore, there are sessions and channels of direct communication, where people from different business sites and job groups meet up and talk, as we believe more effective communication and collaboration result in better corporate performance. As social distancing was eased more recently, we resumed the “Happy Wander” program whereby our employees feel refreshed and happy through various fun activities with their families.



Diverse iCON programs promote communication among SK Innovation employees.

Department's Comments

[Learn more about the employee happiness initiative](#)

Human Rights Protection

SK Innovation and its subsidiaries have conducted human rights due diligence on overseas business sites to raise their human rights management to the level of domestic business sites. Companywide, we have put in place policies and procedures for human rights protection, and risk factors are screened with an ESG checklist and reviewed by the board of directors for systematic control. The company plans to expand human rights due diligence to more countries and establish global human rights protection policies and monitoring systems.



2025 Targets

Build human rights due diligence system on overseas sites and conduct LHC
(Lead · Help · Check)

Conduct periodic due diligence and increase preventive activities

Strategies to Achieve Key Tasks (Mid-to Long Term)

Human rights management and corporate responsibility are drawing greater attention than ever across the world. The company will keep pace with these global movements by promoting human rights protection and preparing human rights declarations and policies befitting respective business sites. We will conduct human rights due diligence as a regular control over both domestic and overseas business sites to upgrade and attain global excellence in human rights management.

Human Rights Management Framework at SK Innovation



* Respect for human rights, prohibition of forced labor, prohibition of child labor, minor workers, working hours, wages, prohibition of discrimination, freedom of association, workplace safety and environment, due diligence process on human rights protection

Progress & Roadmap



Major Activities Planned for 2023

SK Innovation is a global corporation with an extensive overseas business network. Considering its fast-growing global operations, the company plans to expand human rights management to overseas business sites in response to increasing demand from stakeholders in the global marketplace. We are preparing to publish the Human Rights Management Report in 2023 as a means to reaffirm our commitment to human rights and present what particular efforts we are making. Also, the CEO Human Rights Statement will deliver our commitment and affirm the unique policy approach we take to human rights protection.



At SK Innovation, each business site operates dedicated organizations and counseling centers to prevent direct and indirect human rights violations at work. The company carries out human rights due diligence following international standards, identifies loopholes and vulnerable employees, and takes corrective measures. We also publish the Human Rights Management Report as a means to communicate our commitment to outside stakeholders.

Activities and Achievements in 2022

Our Commitment



SK innovation affiliates aim to ensure employees' happiness. We pursue the happiness of our employees and stakeholders and seek long-term and sustainable happiness of the present and the future. We will strive to respect the human rights of our employees and all stakeholders involved in our business, to achieve our ultimate goal of happiness.

- from the CEO Human Rights Statement

Vice Chairman Kim Jun, SK Innovation



Achievement 1 Upgraded Public Disclosure on Human Rights Management

In 2022, SK Innovation published its first Human Rights Management Report in an effort to solidify human rights management and articulate its commitment to external stakeholders. This report followed the standards set by the UN Guiding Principles Reporting Framework and successfully communicated the efforts and progress made across the company and its subsidiaries. We also began human rights due diligence on local hires at overseas business sites, which we believe is an important step to take as a global corporation with an extensive overseas network.



The 2022 Human Rights Management Report of SK Innovation

Achievement 2 Due Diligence Following Global Guidelines

Our human rights due diligence, regular and ad-hoc, follows international guidelines and aims to ensure substantial protection for the employees of the company and its suppliers. During the due diligence, we identify risks through the human rights impact assessment, make corrections, and monitor progress to make a difference. In 2022, we conducted online self-check surveys to assess the impact on human rights and plan to expand the surveys to local hires at overseas business sites, so human rights risks that may arise in global operations can also be effectively addressed.

Business Sites Conducting the Online Self-check in 2022

Category	Unit	Result
Number of business sites	Site	109
Ratio of business sites	%	100

Achievement 3 Finding and Resolution of Human Rights Issues and Risks

After the human rights impact assessment, we find areas to improve, set targets, and take corrective actions. In the 2022 assessment, we found low-level risks in a few areas, such as respect for employees' basic human rights and working hour management, and took corrective actions. We also operate channels for monitoring and communicating human rights issues.

Human Rights Risks and Improvement Activities

Human Rights Risks	Improvement Activities
Employees Respect for basic human rights, working hours, discrimination, etc.	Human Rights Protection <ul style="list-style-type: none"> Develop and implement a global human rights survey as a pilot program Operate an online notice board for counseling and revise regulations on workplace bullying.
Suppliers Safety and health policies and monitoring, working hour targets and management, etc.	Mental Health Care <ul style="list-style-type: none"> Implement programs for expatriates and employees on long-term business trips Consider mental health care programs for employees at overseas business sites
	Enhancing Diversity and Inclusion <ul style="list-style-type: none"> Establish indicators for diversity and inclusion management and specific mid-to long term goals Establish and declare diversity and inclusion policies at overseas business sites

Achievement 4 Promotion of Human Rights Management

At SK Innovation, we believe human rights protection should be part of our mindsets and corporate culture and hence carry out various activities to internalize it in our DNA. Campaigns roll out periodically to prevent human rights violations, such as sexual harassment, and all employees take mandatory human rights education every year. In 2022, O'Peace kicked off as a program to prevent workplace bullying and foster a happy organization, followed by other new education programs on "diversity & inclusion" and "prevention of workplace bullying". We look to make the most of education by developing different human rights courses for different groups: leaders, site supervisors, new employees, trainees, etc.

Result of Human Rights Education (2022)



Department's Comments +

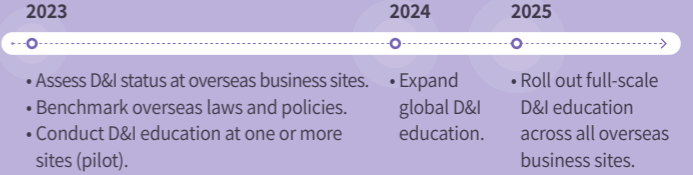
Learn more about human rights protection. [Link icon]

Enhancing Diversity and Inclusion

SK Innovation recognizes respect for employees' diversity and inclusion is a critical value to promote as its overseas operations expand fast across the world. The company, in that sense, strives to internalize diversity and inclusion in corporate culture and supports employees to adjust easily to their workplace wherever they are, in Korea or overseas.

Progress & Roadmap

Building and review of global education system to enhance D&I awareness



Review of joining global D&I indexes

Review assessment items to set up a D&I management system meeting global standards and self-diagnosis (e.g., Refinitiv D&I Index).



Strategies to Achieve Key Tasks (Mid-to Long Term)

SK Innovation will put in place a companywide system to enhance diversity and inclusion at the workplace, preparing policies and programs befitting a global corporation. We will look into current recognition and compensation systems, including evaluation and promotion, to make sure no one will discriminated against for any reason other than job performance. To solidify our advanced corporate culture further, we will also develop and monitor the indicators of diversity and inclusion.

2025 Targets

Establish diversity and inclusion policies meeting global standards.

Be included in global Indexes¹⁾ for diversity and inclusion

1) Specific targets will be set, such as Refinitiv diversity and inclusion index

Strategies to Enhance Diversity and Inclusion



Major Activities Planned for 2023

Our strenuous efforts to foster a workplace friendly to people with disabilities and women have earned us a reputation as a company where diversity and inclusion are respected as part of corporate culture. In 2023, we plan to go further from here and advance organizational culture to match our global standing by upgrading the existing education programs and developing new courses for overseas business sites to implement on a pilot basis.



SK Innovation and its subsidiaries have made strenuous efforts to promote diversity among employees and foster an inclusive work environment by hiring more people with disabilities and improving female workers' job security. In 2022, the company implemented companywide education courses specifically focused on diversity.

Activities and Achievements in 2022

Achievement 1 Enhancing Diversity and Inclusion at Overseas Business Sites

Expansion of Diversity and Inclusion Policy and Support

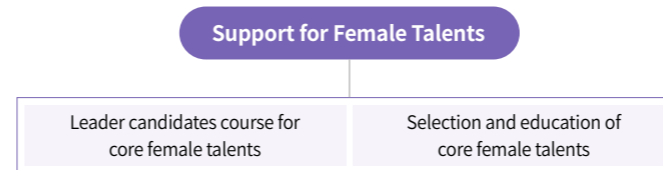
The company has worked on diversity and inclusion at overseas business sites, by setting policies reflecting each site's situation and newly establishing the "CD&IO" position dedicated to managing diversity and inclusion issues. Providing customized support is so important that we listen and respond to the needs of people of different races, ages, and classes by building communities that embrace diversity

Management of Diversity and Inclusion Risks

Human rights surveys that meet global standards are a preemptive move we take to control risks in connection with diversity and inclusion. Customized education will be provided to overseas business sites found to have risks, thereby internalizing diversity and inclusion in our corporate culture.

Achievement 2 Hiring and Development of Female Talents

SK Innovation and its subsidiaries have hired an increasing number of female workers to raise the gender ratio. As of 2022, we have 1,669 female employees, up 40% from 1,192 in 2021. We strive to foster a corporate culture friendly to female workers and prevent unfair practices discriminating against female talents. In 2022, the company selected key female talents and provided customized education courses, particularly the female leader candidates program to increase female leaders.



Achievement 3 Increased Hiring of the Underprivileged

Hiring of the Underprivileged (e.g., people with disabilities)

We take it seriously at SK Innovation and its subsidiaries that more job opportunities should be created for those who are marginalized in the job market. Applicants with disabilities or national merits can get preferential treatment in our recruitment or are offered exclusive job openings. In 2022, for instance, we opened job positions suitable to people with disabilities, such as teaching Korean and foreign languages, to help them seize opportunities to unleash their job competency and lead a stable career. As of 2022, we have 228 employees with disabilities, increased by 11% from 205 in 2021. Going forward, SK Innovation will continue supporting employees with disabilities to gain work experience and develop competency.

Standard Workplace for Disabled Workers

SK Innovation and its subsidiaries support the disabled to attain financial self-reliance and lead a stable life as members of society. In 2019, the company established three standard workplaces for disabled persons, as a subsidiary —“Happiness Kium (cultivation)”, “Happiness Didim (step-up)”, and “Happiness Moum (collection)”--and opened “Happiness Midum (trust)” in 2021. Employees with physical challenges or developmental disabilities undertake various duties in the canteen, cafe, car wash, and laundry here.

Workplace	Roles
Happiness Kium	• Manage canteens at the head office and cafes at the Institute of Environmental Science and Technology in Daejeon.
Happiness Didim	• Operate a steam car wash at the Institute of Environmental Science and Technology in Daejeon.
Happiness Moum	• Wash employees' uniforms at the Ulsan CLX.
Happiness Midum	• Manage canteens at the head office and a cafe at the Seosan complex, and assist in language education.



Workers with disabilities are taking a barista course at a cafe, “Happiness”, operated by “Happiness Kium”, a standard workplace for the disabled established as a SK Innovation subsidiary

Department's Comments

ESG SPECIAL PAGE

Setting Up Strategies for Social Story

Background and Purpose

Recently, "social issues" out of ESG have increasingly become the subject of keen interest among stakeholders. Global investors and raters believe social issues will have a decisive impact on the long-term financial performance and competitiveness of businesses and therefore call on them to deal with human rights and social issues with a strong sense of responsibility.

As seen in the supply chain due diligence law of Germany and the Corporate Sustainability Reporting Directive (CSRD) of the EU, governments sharing the same concerns, particularly in Europe, are making moves to mandate human rights due diligence and the disclosure of non-financial information. They enact specific laws and regulations that demand businesses screen human rights risks facing their stakeholders, including employees, and prepare remedies.

While accommodating the demands of stakeholders and the international community, SK Innovation and its subsidiaries have also reflected their own practical needs identified through employee surveys on social awareness when setting more realistic directions for its Social Story.

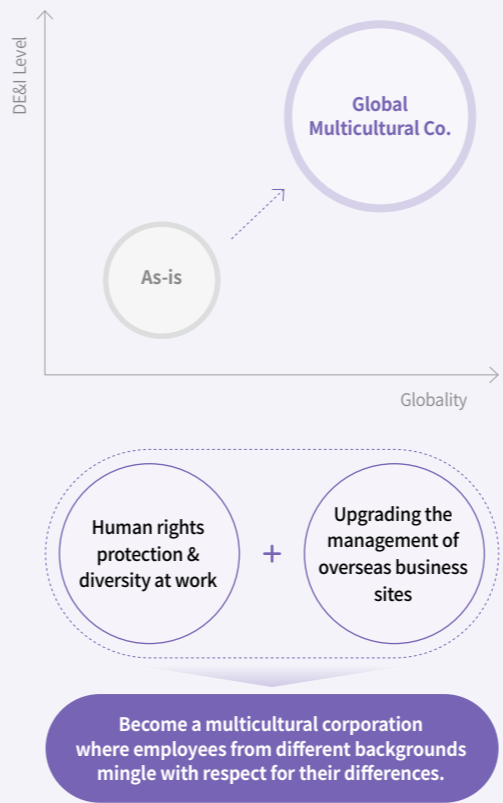
Overview

- Purpose:** Assess domestic/overseas employees' happiness, human rights, and awareness of diversity
- Period:** June 20~30, 2022.
- Participants:** 9,162 employees (8,618: domestic, 544: overseas)
 - Pilot implementation at three global sites (SKEI/SKBA/ SKOH)
- Response rate:** 60% (5,521 employees)
 - Domestic: 63% (5,388), Overseas: 24% (133)
- Questionnaire:** six categories of human rights and diversity (three each) added to the Happiness Survey
 - Scale: 1~10 points (1: not very much, 10: very much)
 - "Other" was added to the gender options for overseas employees.



Directions and Vision

SK Innovation and its subsidiaries will rigorously control social factors at their overseas business sites and envision becoming a multicultural corporation that embraces diverse stakeholders with DE&I policies.

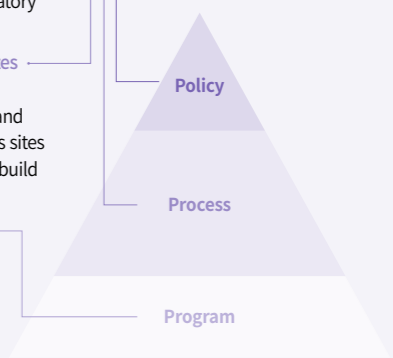


Priority Tasks

SK Innovation aspires to write the social story of a "Multicultural Corporation Embracing Diverse Stakeholders" and came up with key tasks focusing on policies, programs, and processes to achieve the vision.

SK Innovation is scheduled to publish the Human Rights Management Report delivering its unique approach to human rights management meeting global standards in the first half of 2023 and will roll out human rights due diligence to overseas business sites in phases. Furthermore, our efforts to enhance awareness of and protect human rights and diversity at work will be continued with the preparation of concerned policies and programs.

- Human rights and diversity policies for overseas business sites**
 - Establish principles for managing "Social" factors and specific codes of conduct applicable to all overseas business sites.
- Integrated response system for human rights risks for social factors management**
 - Identify potential human rights risks and establish materiality evaluation and management systems
- Social data management system**
 - Establish a system to collect data on all overseas employees and effectively deliver the mandatory disclosure of non-financial information.
- Capacity-building of overseas business sites for social factors management**
 - Establish processes for spotting in advance and addressing social issues at overseas business sites and prepare systems to support the sites to build capacities on their own.
- Programs for human rights and diversity**
 - Operate programs for promoting human rights and diversity by overseas business sites and employees (e.g., education programs, in-house communities for diversity)












Sustainable Management

BOD Composition and Operation	63
BOD Committees	66
ESG Management System	67
BOD Activities	68
BOD and Executive Evaluation	70

BOD Composition and Operation

The Board of Directors

With a view to accelerating ESG management, SK Innovation announced its commitment to “responsible management led by the board of directors” in 2021 to advance governance and bolster the actual authority and role of the BOD. Since then, the company has appointed competent directors by adhering to the principles of independence, expertise, and diversity. Currently, the BOD of SK Innovation consists of eight members with independent directors Kim Joo-yeon and Lee Bok-hee having joined since the regular general meeting of shareholders in March 2023: one executive director, one non-executive director, and six independent directors.

	<p>Park Jin-hei Independent Director(M), BOD Chairperson</p> <p>Term of Office 2022.3~2025.3 (first appointment: 2022.3)</p> <p>BOD Committees Audit and Corporate Compliance Committee, HR Evaluation and Remuneration Committee</p> <p>Career highlights +</p>		<p>Kim Joo-yeon Independent Director(F)</p> <p>Term of Office 2023.3~2026.3 (first appointment: 2023.3)</p> <p>BOD Committees HR Evaluation and Remuneration Committee, Future Strategic Planning Committee (Chairperson)</p> <p>Career highlights +</p>		<p>Choi Woo-seok Independent Director(M)</p> <p>Term of Office 2021.3~2024.3 (first appointment: 2018.3)</p> <p>BOD Committees Audit and Corporate Compliance Committee (representative member), Future Strategic Planning Committee</p> <p>Career highlights +</p>
<p>Kim Jun Executive Director(M), CEO</p> <p>Term of Office 2023.3~2026.3 (first appointment: 2017.3)</p> <p>BOD Committees Future Strategic Planning Committee, ESG Committee</p> <p>Career highlights +</p>					<p>Kim Tae-jin Independent Director(F)</p> <p>Term of Office 2022.3~2025.3 (first appointment: 2022.3)</p> <p>BOD Committees Audit and Corporate Compliance Committee, ESG Committee(Chairperson)</p> <p>Career highlights +</p>
	<p>Kim Jung-gwan Independent Director(M)</p> <p>Term of Office 2021.3~2024.3 (first appointment: 2018.3)</p> <p>BOD Committees HR Evaluation and Remuneration Committee (Chairperson), ESG Committee</p> <p>Career highlights +</p>	<p>Lee Bok-hee Independent Director(F)</p> <p>Term of Office 2023.3~2026.3 (first appointment: 2023.3)</p> <p>BOD Committees Future Strategic Planning Committee, ESG Committee</p> <p>Career highlights +</p>		<p>Jang Dong-hyun Non-executive Director(M)</p> <p>Term of Office 2022.3~2025.3 (first appointment: 2022.3)</p> <p>BOD Committees HR Evaluation and Remuneration Committee, Future Strategic Planning Committee</p> <p>Career highlights +</p>	

BOD Composition and Operation

Ratio of Independent Directors

75%

Ratio of Female Directors

37.5% of Directors
50% of Independent Directors

Composition

Principles of Independence, Expertise, and Diversity

The (former) CEOs of global companies joined the board as successors to Independent Director Kim Jong-hoon whose term expired at the regular general meeting of shareholders in March 2023: Independent Director Kim Joo-yeon has previously served as Vice Chairperson of Korea & Japan operations of Oral Care & Grooming at Proctor & Gamble and Independent Director Lee Bok-hee is currently the CEO of Rohm and Haas Electronic Materials CMP Korea. With their participation, the number of independent directors increased from five to six and the diversity on the board was also enhanced as the number of female directors rose from one to three (the ratio of female directors: 14.3%→37.5%). The proportion of females among independent directors is currently 50%.

SK Innovation Board of Directors Independence Guidelines

The board of directors operates independently from the management and controlling shareholders. The board pursues to fill 75% of the seats with independent directors to make sure it maintains independence and fairly supervises the decision-making process. The chairperson of the board of directors is appointed as an independent director or the independent directors are represented through the Lead Director system, and the 'Independent Directors Council' is formed and operated in which all independent directors participate to improve management supervision and support functions of independent directors. The independence of director candidates and incumbent directors is verified following the criteria set forth in the Commercial Act and the Monopoly Regulation and Fair Trade Act: as follows

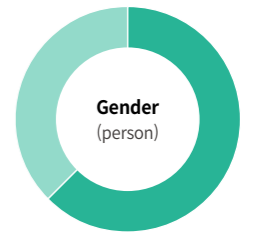
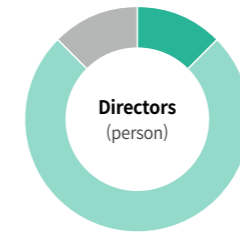
- directors, executive officers, and employees currently engaged in the business of the company, or directors, auditors, executive officers, and employees who have been engaged in the business of the company within the last two years
- the largest shareholder or their spouse and lineal ascendants and descendants
- if the largest shareholder is a corporation, its directors, auditors, executive officers, or employees
- spouses and lineal ascendants and descendants of directors, auditors, and executive officers
- directors, auditors, executive officers, and employees of the parent company or subsidiary
- directors, auditors, executive officers, and employees of a company with interests such as business relationships
- directors, auditors, executive officers, and employees of other companies in which the company's directors, executive officers and employees are directors and executive officers

SK Innovation Board of Directors Diversity Guidelines

Diversity is a key feature of the board of directors that makes rational and balanced decisions. The board of directors maintains at least a 50% ratio of females among independent directors and, at the same time, pursues board diversity also in nationality, race, religion, and ethnicity. Competency is another aspect of diversity we focus on to make sure the board can work with extensive, balanced competencies, such as green business, portfolio management, investment, global networking, and ESG, thereby expediting ESG management and supporting our "Financial Story".

Gender	Experience and background	Others
promote equality opportunities	bring in directors who can make decisions with holistic insights (e.g., experience at an international board of directors), give no favoritism for certain backgrounds.	consider nationality, race, religion, ethnicity, and others to promote diversity

Ratios of BOD Members (2023)



Board Skill Matrix

Skill	Leadership	Industry	Finance & Accounting	Finance/Risk	Legal	M&A	Global Competence	ESG
Park Jin-hei	●		●	●		●	●	
Kim Jung-gwan	●	●					●	●
Kim Joo-yeon	●						●	●
Kim Jun	●	●	●	●		●		
Kim Tae-jin				●	●			●
Lee Bok-hee	●	●					●	
Jang Dong-hyun	●	●	●	●		●		
Choi Woo-seok			●	●				

BOD Composition and Operation

Appointment of Independent Directors

The qualifications of independent directors are determined by the board of directors following Article 26 of the Articles of Incorporation and candidates are recommended and verified by the HR Evaluation and Remuneration Committee. None of the incumbent board members have been convicted of embezzlement, breach of trust, or unfair trade practices before.

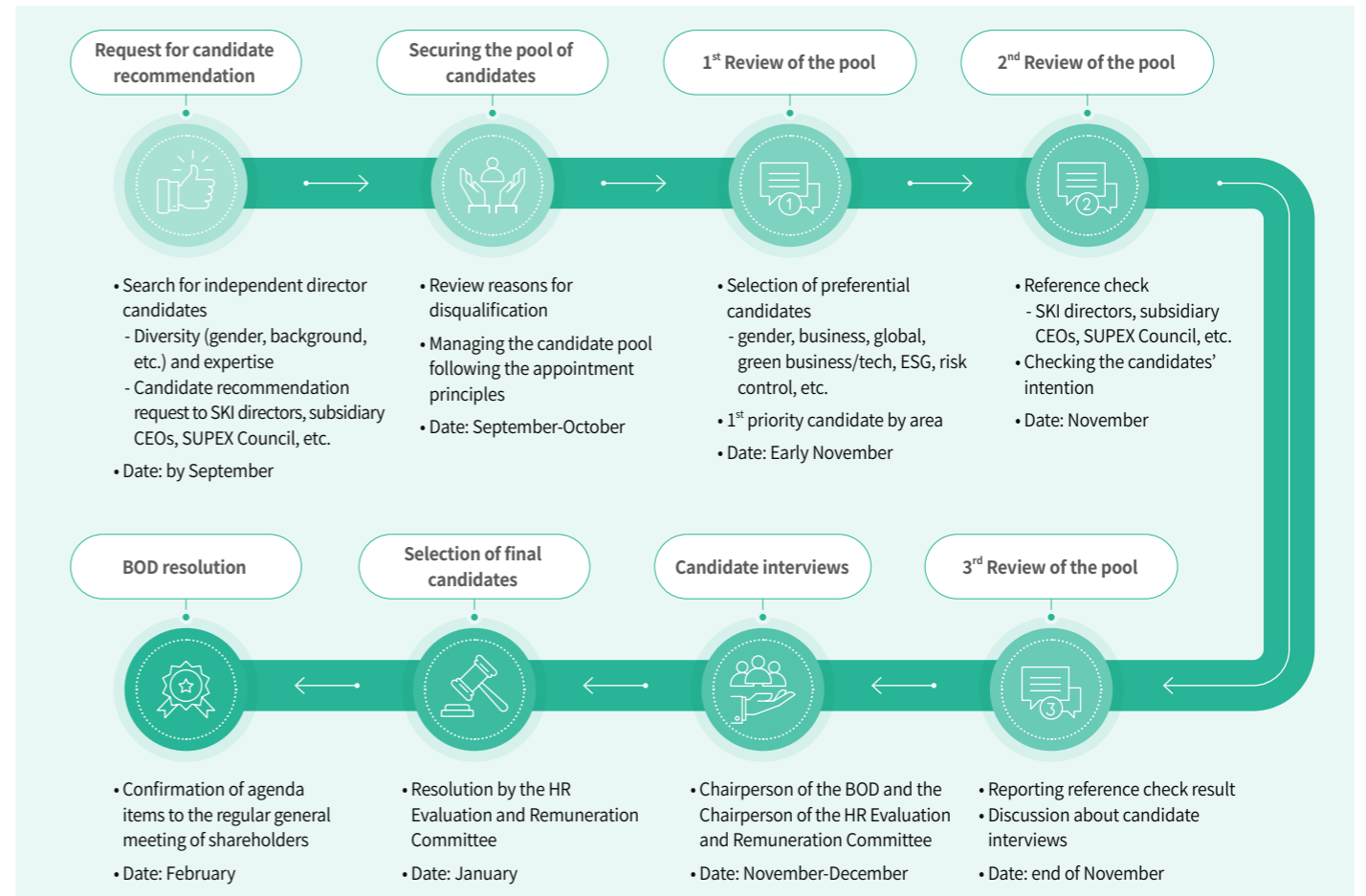
We examine any transactions between the candidates and the company or its subsidiaries, and any other major interests before finalizing independent director candidates. We do so by reviewing the checklists filled out by the candidates and taking assurance from a third-party institution to ensure objective screening. Interviews with the candidates are also an essential step to check on information that only the candidates know before the final list of candidates is confirmed.

Preventing the Conflicts of Interests

Screening of candidates' interests with the company or its subsidiaries begins as early as we create a pool of independent director candidates led by the HR Evaluation and Remuneration Committee, and we assure the independence and fairness of the candidates by disqualifying those with interests. Furthermore, we collect a confirmation statement of qualification from the nominated candidates themselves.

Recommendation of Independent Director Candidates

We manage a pool of preferential candidates by relevant areas, such as career experiences in the energy industry, to bring in talents who have the expertise we need in the BOD's decision-making process. Candidates nominated after reference checks and qualification reviews are recommended to the general meeting of shareholders and appointed with a resolution.



BOD Committees

Number of finance/ accounting experts

increased to **2** persons

Composition and Operation

The board of directors is assisted by the Audit and Corporate Compliance Committee, the HR Evaluation and Remuneration Committee, the Future Strategic Planning Committee, and the ESG Committee that operate following internal regulations. These BOD committees run preliminary, in-depth reviews on major agenda items of the board, so it can make more informed deliberation and decisions on the agenda. The activities of the committees, including meetings and reviews, are reported to the BOD. We appoint the chairpersons of the committees among independent directors only and fill a majority of the committee seats with independent directors to ensure independence and transparency in committee operation.

The Audit and Corporate Compliance Committee

Agenda, attendance, and voting results +

The Audit and Corporate Compliance Committee consists of independent directors only. Currently, two finance & accounting professionals are among the committee members as Director Park Jin-hei was appointed as auditor this year. The committee serves as a companywide control tower of compliance & business risks and, in addition to auditing, it assumes growing responsibilities for monitoring and managing issues, such as fair competition, anti-corruption, employment/labor/human rights, intellectual property rights, information protection, industrial security, and SHE. The Audit and Corporate Compliance Committee leads the overall auditing process at SK Innovation. The Audit Office is placed under the direct control of the Audit Committee and reports internal audit results, etc. to the committee, which reserves the right to motion the appointment of the head of the Audit Office and to evaluate his/her performance. The Audit and Corporate Compliance Committee has put in place a global compliance management system in partnership with a global law firm, engages in active communication with external auditors, and holds quarterly and ad-hoc meetings to discuss issues.

The ESG Committee

Agenda, attendance, and voting results +

The ESG Committee sets the direction of ESG strategies and keeps track of the progress. The committee deliberates on important issues proposed to the BOD agenda, such as safety and health, human rights, and supply chain ESG, and associated risks, and the BOD makes decisions drawing on its feedback. Monitoring the CEO's performance in ESG management is also the committee's responsibility.

The HR Evaluation and Remuneration Committee

Agenda, attendance, and voting results +

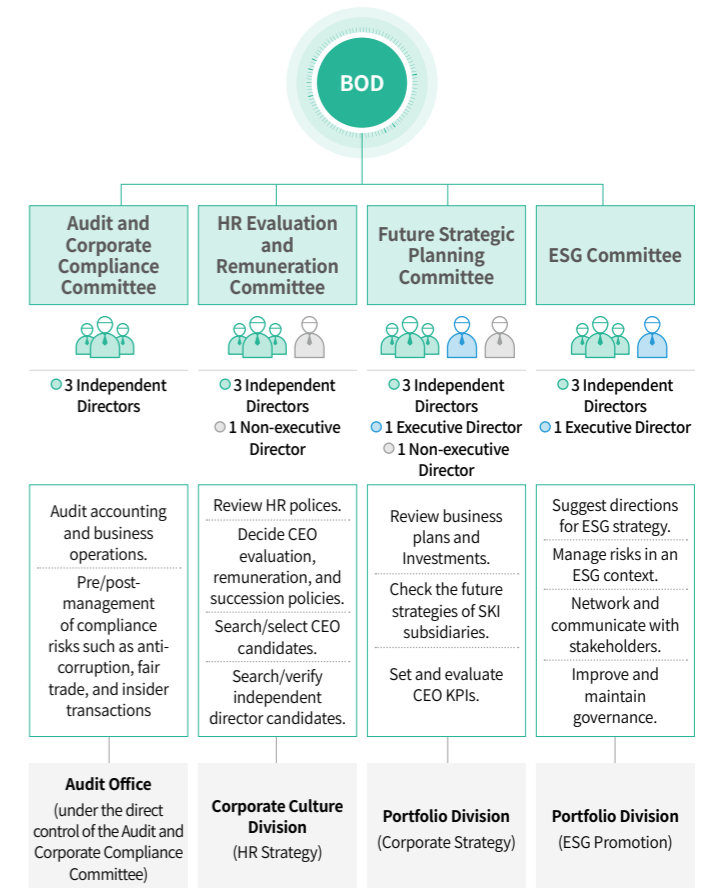
The HR Evaluation and Remuneration Committee is composed of only independent directors and a non-executive director representing major shareholders to assure independent operation, and the company is considering seating the committee only with independent directors in the mid-to long term. The BOD and this committee establish policies on the CEO's performance evaluation and determine remuneration standards and amount based on the evaluation results. They also make decisions on the re-appointment of the CEO and the screening, cultivation, and final selection of CEO candidates. The role of nominating independent director candidates was transferred to the HR Evaluation and Remuneration Committee in 2021. It leads now the entire nomination process of independent directors, by securing a pool of talented candidates and operating a fair and transparent system to recommend candidates.

The Future Strategic Planning Committee

Agenda, attendance, and voting results +

The main responsibility of the Future Strategic Planning Committee is to review the company's mid-to long term strategies, annual business plans, the CEO's KPIs, and major investment plans. Under the company's initiative to migrate to a new, green portfolio, we find it imperative to secure more extensive expertise, which is why the committee operates with five directors, the most among the BOD Committees: 2 independent directors (former C-suit executives), 1 financial & accounting expert, 1 executive director, and 1 non-executive director.

Composition and Roles of the Committees



ESG Management System

Governance in ESG Evaluation

Maintain **A+** in KCGS evaluation

Establishing ESG Management System

Reinforced ESG Management by the BOD

The ESG Development Office is a dedicated ESG organization, playing a critical role for ESG management and supporting ESG strategies of SK Innovation and its eight subsidiaries. The ESG Development Office establishes comprehensive strategies encompassing all ESG areas affected by SK Innovation and its subsidiaries, and collaborates with the ESG organizations of the eight subsidiaries to accelerate and support their strategy execution. It manages key issues and risks in the environment, social, and governance, and assists the ESG Committee as a secretary providing necessary information and supporting decision-making. At SK Innovation, teams proposing an agenda item to the board have to fill out an ESG checklist to screen ESG risks in advance. The ESG Development Office reviews these checklists and delivers detailed information to the BOD and the ESG Committee, thus supporting deliberations on agenda items from the perspective of ESG. In 2022, the ESG Development Office performed various tasks that helped lay the foundation for ESG management across the company. A case in point is the Net Zero Roadmap established to present reduction targets for Scope 1, 2, and 3 emissions and the company’s commitment to carbon neutrality as a leader of corporate ESG management in Asia. Moreover, it established and implemented the “GROWTH” strategy for systematic ESG management. These activities have consistently earned excellent recognition from Korea Institute for Corporate Governance and Sustainability and the rating by Morgan Stanley Capital International (MSCI) has improved to A.

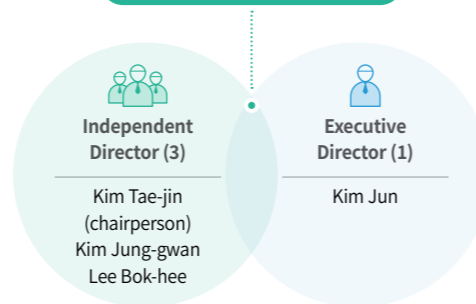
Operation of the ESG Committee

In the ESG Committee, three independent directors and one executive director lead, help, and check our activities and performances in each area of ESG to support the overall decision-making process. All agenda items must go through ESG risk screening by the ESG Committee before deliberations at the BOD. They actively communicate with external stakeholders.

Responsibilities of the ESG Committee

- Review ESG strategies, and manage and oversee the implementation of key tasks by participating in ESG-related lectures, discussions, and meetings with major investors.
- Supervise risk management from an ESG perspective.
- Check final performances vs. annual targets and find areas to improve.
- Publish reports to expand ESG information disclosure.
- Network and communicate with ESG-related key stakeholders
- Improve and maintain governance (e.g., the BOD system, operating structure, and process)

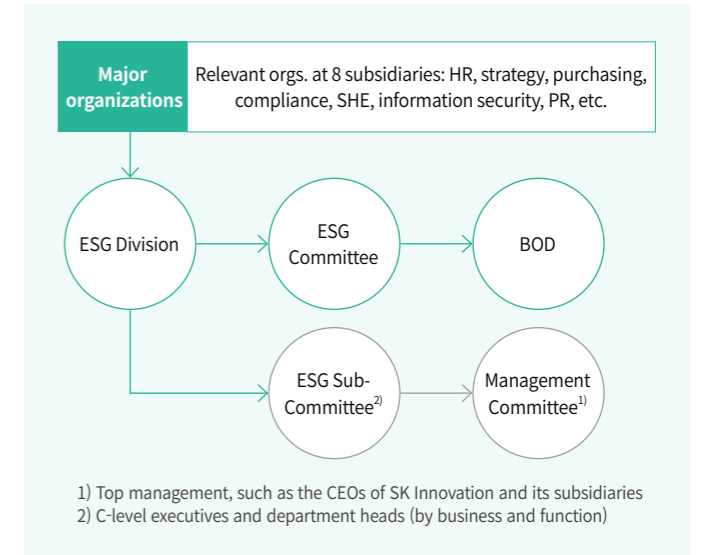
Committee Members



ESG Evaluation Grade

KCGS (G)	A	A+	A+
MSCI (ESG)	BBB	A	A
	2020	2021	2022

ESG Management System



Major Agenda Items of the ESG Committee (2022) | All items proposed to the BOD agenda shall go through ESG risk screening beforehand, following Article 8, Clause 3 of the Bylaws of the Board of Directors. The Audit and Corporate Compliance Committee examines the company’s management of both financial and non-financial risks (e.g., fair competition, anti-corruption, employment/labor/human rights, IPR, information security, industrial security, and SHE) and makes public disclosures every year.

Agenda items of the ESG Committee. (+)

The regulation on non-financial risk review by the BOD. (+)

ESG checklists. (+)

BOD Activities

Activities of the BOD

The SK Innovation Board of Directors holds regular meetings on a monthly basis in principle and the directors are provided with the agenda and backup materials in advance—five days before the BOD meeting and two days before the committee meetings—to allow for sufficient time to review the agenda items. The committees are convened two weeks prior to the BOD meeting to make sure the items on the agenda are thoroughly looked into and the feedback of the committee members is duly reflected in the BOD agenda. We have a fast-track procedure for urgent agenda items that need quick decision-making, such as requests from investment or transaction partners. These items skip the preliminary review by concerned committees with the approval of the BOD chairperson and go straight to the “Independent Directors Council” for discussion and then are tabled to the BOD agenda for more efficient decision-making. Furthermore, the members of the BOD visit major business sites, domestic and overseas, of the company and hold BOD meetings there to make decisions based on deeper understanding and expertise on concerned businesses. By checking on the real situations of the sites and listening to employees’ voices through these visits, the board members pick up substantial expertise in our business.

The attendance rate of the BOD and its committees should be 95% or above according to our internal principle. In 2022, the average attendance rate of the directors was 98% and that of independent directors was 99%, which indicates all board members have sincerely fulfilled their duties.

Major Agenda Items for BOD Resolution

BOD resolutions in 2022 (+)

Directors’ attendance in 2022 (+)

BOD resolutions in 2023 (+)

Directors’ attendance in 2023 (+)

Attendance

(Unit: %)

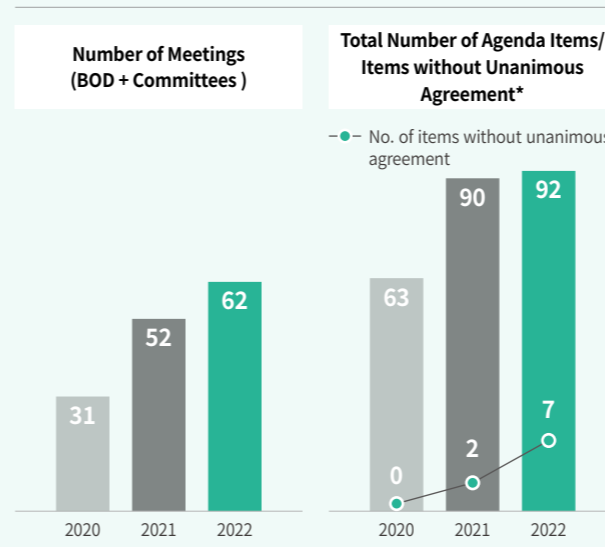
Year	2020	2021	2022
BOD	99	95	98

BOD and Committee Meetings in 2022

(Unit: meeting, item)

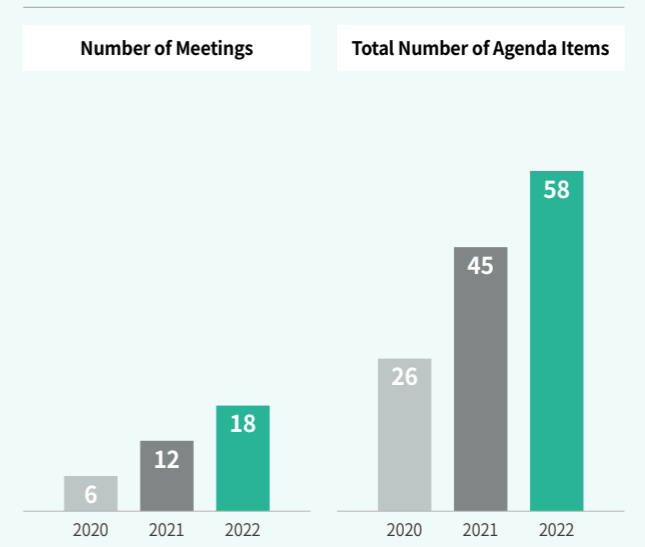
Committee	Meetings	Agenda items
BOD	14	92
Audit and Corporate Compliance Committee	18	58
HR Evaluation and Remuneration Committee	12	19
Future Strategic Planning Committee	9	17
ESG Committee	9	24

The Board of Directors



* Rejection/suspension/amended approval/partial objection

Audit and Corporate Compliance Committee



BOD Activities

Capacity-building and Communication

Education of Independent Director and Auditors

SK Innovation prepares regular education programs to support independent directors to harness expertise. The key theme of 2022 education was “advanced corporate governance” and 85% of independent directors attended the training sessions on average. We actively utilized programs provided by external institutions, such as the Audit Committee Forum and accounting firms, to support the directors in performing duties.

Education of Independent Director and Auditors (+)

The Independent Director Council

The Independent Directors Council under the BOD is composed of independent directors only. It gathers opinions among independent directors, discusses the BOD’s operation methods, and shares major management issues.

Agenda items (+)



The 2nd workshop of the Independent Directors Council in 2023



Communication with Stakeholders

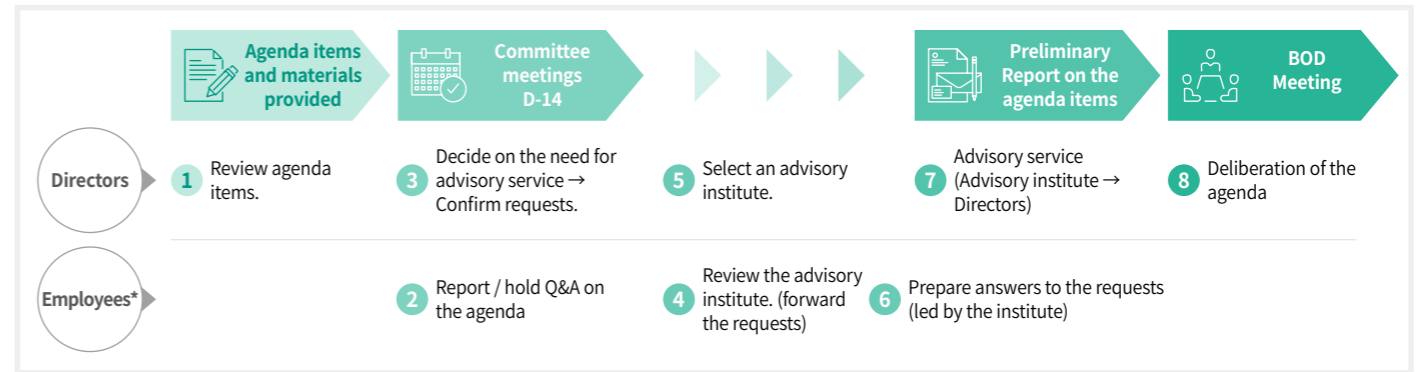
The chairperson of the BOD serves the role of a communicator with stakeholders and shares with various stakeholders, including investors, matters about the company’s ESG management, the BOD-led management, governance innovation efforts by the BOD and the company, etc. with a focus on our Financial Story.

Stakeholder Communication Status (2022) (+)

Access to Information and Advisory Service by Professionals

SK Innovation operates the Board Total Solution System through which directors can attend the board and committee meetings via video links, check on backup materials of agenda items, access information on the company’s business management, and vote on meeting schedules. This system particularly supports the BOD to “lead the company’s management” by letting directors access information on the history of previous BODs’ decisions and key agenda items, such as investments and finance, anytime and anywhere. Following Article 10, Clause 2 of the Regulation on the Board of Directors, directors may seek advice from external professionals as necessary at the expense of the company.

Advisory Service Process



* BOD secretariat, committee secretariats, organizations related to agenda items

CASE The BOD Enhances Shareholder Value

The board of directors decided on dividend payment at the end of 2022 at a dividend payout ratio of 30% which complied with our mid-term dividend policy, and to distribute them in the form of property dividends out of treasury shares to minimize the impact on the company’s financial structure. We wanted to enhance shareholder confidence by providing shareholders with a fair return now that the company made record-high performance in 2022 and delivering on our announced dividend policy. In case SK On considers an IPO, we are going to explore ways to increase our mid-to long term corporate value, such as making reinvestments for the growth of the company and paying special dividends for shareholder returns.



The 16th Regular General Meeting of Shareholders

BOD Evaluation and Executive Evaluation


Evaluation of the BOD and remuneration

Evaluation of the BOD Activities


Following Article 15, Clause 1 of the Bylaws of the Board of Directors, the BOD evaluates its activities and all directors on an annual basis and the evaluation results are used to improve corporate governance and the capacity-building of the BOD following our Governance Story. In 2022, we added objectivity to the BOD evaluation by following the system upgraded in the previous year (with corporate valuation linked with stock prices, governance evaluation by external raters, etc. added to the evaluation items) and earned stakeholders' due recognition on our evaluation results. The evaluation goes in two ways: 1) self-review of all directors about the overall activities of the BOD and 2) peer review among the directors themselves. The results of the evaluation are reported to the BOD every year. After the BOD evaluation in 2022, we found two main issues that needed improvements. First, the BOD needed to have more in-depth discussions when drawing up mid-to long term strategies. Second, backup materials should be provided to directors earlier for agenda items that need more thorough reviews. We used the BOD evaluation as means to check weaknesses, produce solutions, and make the BOD effectively perform as the central pillar of corporate management. We will keep upgrading the evaluation system, for instance, by adding a new evaluation platform in 2023. The evaluation results, measured in quantitative scores, are used as the basis for remuneration of independent directors, which is aimed to align the remuneration policy for independent directors with the long-term interest of our shareholders.



Self-review by the BOD
4.7 or above on a 5.0 scale
(5 year average: 4.6 points) **50%**



Corporate Value (quantitative evaluation)
Target stock price by year **25%**



External Rating of Governance (quantitative evaluation)
Highest in Korea, A+ or above **25%**

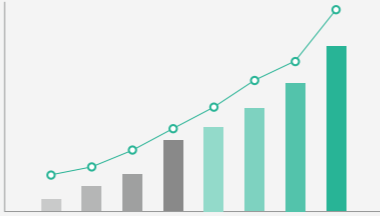
(1) Self-review of the BOD Activities

In the self-review, all members on the board score 24 evaluation items in five categories on a scale of 0 to 5. The average score in 2022 was 4.71, up 0.37 points from the previous year.

Evaluation Items	
Category	Description
Composition	Size, independence, and expertise
Role	Establishing and implementing Financial Story, increasing corporate value, risk control, etc.
Responsibility	ESG management, supervision of management results
Operation	Frequency of BOD meetings, provision of sufficient information, education, the Independent Directors Council
Committee	Composition, member assignment and roles

(2) Evaluation of Corporate Value

On corporate valuation, the performance of the BOD was measured against the target stock price which was set for the end of 2022 reflecting the corporate valuation target following our Financial Story, average return on global PEF, etc.



(3) External Rating of Governance

The external rating of corporate governance refers to our rating in the "governance" category under the ESG evaluation by the Korea Institute of Corporate Governance and Sustainability. SK Innovation was rated A+ in 2022.

2020
A

2021
A+

2022
A+

Evaluation Results

Summing up the self-review about the BOD's operations, corporate valuation, and external ratings of governance, the total score of the BOD evaluation was 70 on a scale of 0 to 100 in 2022.

[2022 BOD Evaluation Results \(+\)](#)

[2022 Audit Committee Evaluation Results \(+\)](#)

Evaluation of Each Director

Directors also run peer reviews on three key attributes: leadership, understanding, and sincerity. On each attribute, one is rated as either "Excellent, Good, or Need Development", and receives comments on his/her strengths and weaknesses. The BOD secretariat provides directors with quantitative data to back up fair and objective evaluation of each director, including attendance at the BOD meetings, the number of agenda items proposed, attendance at the BOD education sessions, and the number of communication with stakeholders. After the evaluation is done and the results are confirmed, each director receives feedback, which process is led by the BOD chairperson.

Self-evaluation Items on BOD Activities

Category	Description
Leadership	Role and competency of the chairperson, collaboration with other directors and executives (listening, recognition, etc.)
Understanding	Understanding of the company, the industry, and agenda materials
Sincerity	Active participation in the BOD (discussion, suggestion, etc.)

Remuneration for Independent Director

Independent directors' remuneration package consists of basic pay, performance pay, stock grant, and job position pay (stock). Directors' remunerations are linked with the evaluation results of the BOD's performance and independent directors get paid, in part, by stock to enhance their commitment to raising corporate value (They cannot sell the stocks in three years).

BOD Evaluation and Executive Evaluation

Reflecting ESG Management in the CEO KPIs

ESG-related KPIs: Setting, Evaluation, and Remuneration

The entire process from KPIs setting to evaluation and remuneration is determined by the BOD's resolutions. The Future Strategic Planning Committee runs a preliminary review of the CEO's KPIs and the BOD finalizes them based on the committee's feedback. The CEO's progress on the KPIs is subject to interim evaluation midway through the year and tentative evaluation at the year's end. The CEO's performance in KPIs, once confirmed, is reviewed by the HR Evaluation and Remuneration Committee and the BOD conducts a final evaluation and determines the CEO's remuneration.

CEO KPI Progress



The CEO KPIs for 2022

In 2022, up to 20% of the CEO's KPIs were ESG-related tasks. The HR Evaluation and Remuneration Committee and the BOD evaluated the CEO's ESG performances and set his bonus amount based on the result.

The CEO KPIs for 2023

In 2023, the BOD filled the CEO's KPIs with ESG-related tasks for up to 20%, particularly key ESG tasks of SK Innovation and its subsidiaries such as the Net Zero Roadmap, 2023 key tasks to be completed following the GROWTH strategy¹⁾, and happiness management, with an intent to encourage the CEO to actively manage non-financial factors critical to corporate growth and stay committed to ESG management.

¹⁾ All members of the management are making constant efforts to satisfy the 2025 targets for ESG tasks under the GROWTH strategy: green R&D, safety and environment, compliance, supplier ESG management, etc.

The CEO KPIs 2023

Category	Task	Target	Score
Finance & strategy	Net Zero Roadmap	Reduce carbon by 1.78 million tons	△10~10
	Key tasks under the GROWTH strategy	Achieve all tasks planned for 2023	△7~7
	Happiness management	Surpass the target set by the Happiness Survey	△3~3

The CEO's remuneration*

* The CEO's remuneration package is linked to the result of performance evaluation, which is done in two categories: the CEO's performance on KPIs and impact on sustainability. The CEO's impact on sustainability is broken down into entrepreneurship, response to business risks, trust-building with stakeholders, and succession planning, and is scored by three grades: Excellent > Good > Need Development

Category	Description
Salary	Annual salary paid for work
Bonus (**)	Money or other valuables paid at a certain time or condition, other than salary
Stock option	Proceeds from exercising stock options
Others	Other income than normal salary
Severance pay	Income paid upon retirement
Others	Income unrelated to work (welfare benefits, etc.)

The CEO KPIs 2022

Category	Task	Score
Finance & strategy	Net Zero Roadmap	10
	Key tasks under the GROWTH strategy	±5
	Ethical management	±2.5
Happiness management	±2.5	

ESG-related Tasks, Targets, and Progress 2022

Category	Task	Target	Progress	Score
Finance & strategy	Net Zero Roadmap	Carbon reduction: 1.33 million tons vs. basis	Carbon reduction: 2.09 million tons vs. basis	10
	Key tasks under the GROWTH strategy	All tasks for the GROWTH strategy completed	13 tasks completed ("Safety accident zero" task : failed)	+3.75
	Ethical management	Higher rating on ethical management and minimum compliance issues	Some improvement in evaluation grade	+1.23
Happiness management	Happiness Survey targets surpassed			0

** The CEO's bonus was paid in part by stocks (which cannot be sold in three years or longer) to enhance commitment to raising corporate value.

ESG SPECIAL PAGE

New Independent Directors Add Diversity and Expertise to the BOD of SK Innovation.

Accommodating the demands of various stakeholders and global ESG trends, two female independent directors were elected and joined the SK Innovation BOD at the regular general meeting of shareholders in March 2023. They have earned leadership, global management skills, and expertise in ESG and industries through long years of service as the CEOs of global companies and we expect them to be a valuable addition to our BOD contributing to Financial Story. The appointments of the two female directors enhanced the independence and diversity of the BOD, with the ratio of independent directors increasing to 75% and that of female directors to 37.5% (50% among independent directors).

When joining SK Innovation, I was very much impressed by the fact that the company has secured diversity with over 30% of its BOD members and 50% of independent directors being female.



Director Kim Joo-yeon

I have worked for Procter & Gamble where my job was marketing various products and managing business administration and it particularly involved understanding what consumers want and supplying products and services satisfying their needs. P&G's business, given its nature, directly deals with end users and one of its key strategies is embracing diversity and inclusion. At P&G's board of directors and the management of P&G Korea, 50% or more members are females. P&G applies this strategy of diversity and inclusion also to its business partners and local communities.

When joining SK Innovation, I was very much impressed by the fact that the company has secured diversity with over 30% of its BOD members and 50% of independent directors being female. This means SK Innovation is nicely keeping up with global trends, far exceeding the legal requirement of the Financial Investment Services and Capital Markets Act that stipulates the BOD shall not consist of a single gender. The company has set a foundation to make key business decisions from more objective and rational perspectives.

There are many research findings that diversity in corporate governance is not simply about breaking the "glass ceiling" but it does improve the BOD's decision-making and supervision of the management, thus contributing to governance itself. The US and Europe are tightening legal requirements, mandating a certain quota of female directors on the BOD. SK Innovation is already a prime mover in this trend, spearheading the improvement of corporate governance.



I have been with global chemical manufacturers, such as DuPont, for over 30 years and have worked in a range of fields from engineering to production, quality control, R&D, and sales. That's why I could rather easily adjust myself to my new role at SK Innovation as I am from an industry with much similarity. SK Innovation is a representative energy and chemical company of Korea and has played a key role in the conventional carbon industry for over six decades. SK Innovation is pushing forward with the Carbon to Green strategy, not relishing its past glory, and I expect it will assume a major role in the green industry, such as future energy and recycling. Drawing on my past experiences with the chemical industry and technologies, I will make devoted efforts to support SK Innovation's growth into a global leader in the energy, chemical, and green industries.

I know all too well that without SHE (safety, health, and environment) management our excellence in technology and the endeavors we make cannot come to the recognitions and results we deserve. Therefore, I am committed to supporting SK Innovation with its efforts to put in place and abide by the world's leading principles for SHE management.



Director Lee Bok-hee



Without SHE (safety, health, and the environment) management, our excellence in technology and the endeavors we make cannot come to the recognitions and results we deserve.

ESG Policy & Performance

Environmental	74
Social	90
Governance	119

ESG Policy & Performance

Environmental

Mitigation of Environmental Impact	75
Protection of Biodiversity	81
Response to Climate Change	83

Mitigation of Environmental Impact

SHE (safety, health, environment) Management

Following its business philosophy of “continuous happiness of employees and stakeholders”, SK Innovation is committed to fostering an accident-free workplace and pursuing carbon reduction and resource circulation in management, thus winning confidence from and growing in harmony with society. Safety, health, and environment (SHE) are one of our top priorities, for which we comply with internal regulations more rigorous than laws and global standards. By transparently sharing our SHE performances with external stakeholders, we lead our domestic and overseas peers and industry by example. We are applying SHE management system throughout our business with the following principles:

SHE Management Directions in Detail

Safety & Health

- Take initiative to create a safe and healthy society through continuous improvement and preventive activities for the safety of people and facilities.
- Lead the improvement of safety and health in society by fostering a mature safety culture and developing innovative safety technologies.

Environment

- Preserve the global environment by cutting greenhouse gas emissions and minimizing pollutants.
- Innovate future energy by creating new value for the environment through technology development and business operations for carbon reduction and resource circulation.



Vice Chairperson Kim Jun on a Training Video for Environmental Management

Environmental Education

SK Innovation seeks to encourage employees’ engagement in its response to climate change and more vigilant awareness of environmental issues by providing education programs. Diverse, customized courses are provided to help the employees understand current environmental issues and trends.

Environmental education in 2022 (+)

Environmental Education Outcome and Contents in 2022

Course	Trainees	Training hours	Content
Environment literacy	15,841	7,525h	Professionals in different sectors share their views about net zero: what net zero means, its impact on future industries (e.g., green energy, mobility), and what is to be done to respond.
CEO’s special lecture (Green Biz)	1,044	486h	The CEOs of SKI subsidiaries engaged in green business explain the importance of green business and their specific strategies.
Clean Earth	7,975	10,105h	Issues caused by carbon emissions and global warming, and major environmental initiatives to respond to them (e.g., energy transition, RE100)

Environmental Management Policy

Production Activities and Business Facilities

SK Innovation and its subsidiaries chose environmental management as one of top priorities and have strived to erase our footprint on the environment by cutting back on GHG emissions and pollutants across production activities and business facilities. At SK Innovation, the entire process from target setting to planning, execution, and improvement is monitored and controlled by the environmental management system.

Waste Management

SK Innovation minimizes and efficiently disposes of waste generated from production processes by following internal standards for waste storage, transportation, and treatment. At production sites, employees estimate annual amounts of waste generation, make reduction plans based on the previous year’s records and keep track of actual waste generation by month. We have internal management standards specific to the type of waste and strictly monitor waste disposal contractors for proper waste treatment.

Development of New Products and Services

When manufacturing new chemical products, we submit a chemical substance verification statement to Korea Chemicals Management Association according to the Chemical Substances Control Act. Before manufacturing or importing chemical substances, we request for their registration to the Ministry of Environment according to the Act on Registration and Evaluation of Chemicals and receive hazard and risk assessment. In accordance with the Greenhouse Gas(GHG) standards, we provide customers with material safety data sheet(MSDS), and a warning sign to ensure that the chemicals are safely used and disposed.

Product Distribution and Logistics

SK Innovation focuses on seamless Logistics management of areas ranging from in-house facilities to suppliers to ensure the storage and transportation of our products do not entail environmental impacts. Logistics operation is periodically inspected following internal standards for managing air, water, waste, soil, sea, and greenhouse gases. We also provide our suppliers with SHE information and education helping to build their capacity.

Mitigation of Environmental Impact

Suppliers, Service Providers, Contractors

SK Innovation conducts SHE assessment based on its internal standards whenever construction or service vendors are registered on its purchasing system. We assess vendors on a set of items: SHE management and system, SHE education, SHE regulations and procedures, accident management and emergency response, safety and health activities, compliance and follow-up management, and the number of industrial accidents. Suppliers which have been suspended from transactions with us for more than one year due to SHE issues should take the SHE assessment around the time the suspension is lifted to prove that it is qualified. SK Innovation selects construction and service vendors after the evaluation of their submitted SHE plans which include SHE assurance and inspection plans, SHE organization and manpower, occupational safety and health budgeting, and preliminary work evaluation. Selected suppliers are required to hand in a SHE management plan, with which the company proceeds with SHE management across the supply chain.

Engineering and Maintenance

During a regular maintenance, SHE comes first in every decision we make at work and is never compromised by delivery schedules or costs. SHE departments at business sites prepare a safety management plan as well as an environmental management plan to dispose of waste generated from the maintenance, on both of which the site supervisors and suppliers are educated, and their compliance is monitored periodically throughout the maintenance.

New Projects

On mid-to-large projects, SK Innovation conducts systematic SHE management necessary for the EPC phase. We identify targets of SHE screening and stakeholders at the outset and, if the project is sizable enough, assign a SHE manager who prepares a SHE management plan and education programs. Once the project rolls out, the company works with suppliers through SHE meetings, risk assessment, work permit issuance, and environmental management, and carries out regular site inspections. Upon completion of the project, the SHE evaluation sheets of suppliers are prepared and included in the final report on investment.

Due Diligence and M&As

On M&As, SK Innovation and its subsidiaries conduct SHE due diligence to discover potential risks that fail to meet SHE laws and regulations and the standards of the petroleum and chemical industries. Costs that might arise from unidentified SHE risks are reflected in corporate valuation or the terms and conditions of a contract. SHE due diligence goes in three stages: feasibility evaluation, pre-DD, and full-DD.

Joint Ventures and 3rd-party Producers

When running a review on a new investment, SK Innovation and its subsidiaries look into major SHE issues and regulations affecting the investment and grade candidate companies according to the level of SHE risks. We classify SHE risks into a 1-5 range considering their impacts on the company in proportion to our participation in management and risks associated with the nature of its business. We assess potential risks and prepare a SHE management system specific to each risk level and keep monitoring progress on SHE management.

Response to Law/Regulation/Policy

SK Innovation has a system for making organized responses to government policies. There are chief coordinators who work across SKI and all subsidiaries and are assigned to respective fields of SHE, including greenhouse gases, air, chemicals, and safety & health. Their job is to monitor the enactment and amendment of concerned laws and notify regulatory risks to affected business sites helping them be prepared in advance. Each of these coordinators play a pivotal role in our response to laws and are responsible for assisting the company with strategic response. They work with industry peers and persuade the government to rationalize regulations through consultations, and at the same time they keep monitoring challenges business sites face in legal compliance and support with follow-up actions, such as initiatives for regulatory reforms. Starting in 2023, the company will upgrade its response to government policies by letting the managers of policy response departments share tasks associated with the same laws and promoting close collaboration.

Energy Management

SK Innovation manages its energy consumption by setting energy saving targets. We measure energy consumption at each business site and get the data assured by a third party to secure data credibility. The Ulsan CLX, in particular, improved data accuracy by using OASIS, a Next-Generation production data system, in measuring energy consumption amount which forms the basis of gauging greenhouse gas emissions, and thus manages its energy use with greater efficiency.

Energy Consumption

SK IE Technology actively pushes for an energy-saving initiative. In 2022 we slashed power consumption by 975,150kW through waste heat recovery from facilities and adopting high-efficiency lighting. This year, the company plans on recycling 5,000 tons of steam per year through facility modification and saving energy costs of approximately KRW 440 million.

Mitigation of Environmental Impact

Air Quality Management

Air Pollutants Management

SK Innovation is increasing investments in the installation of air pollutants mitigation facilities and changing fuels for combustion facilities as part of its continued endeavors to cut back on air pollutants emissions.

Total Air Pollution Load Management System

SK Innovation encourages the business sites which are newly affected by the tightened regulation on Total Air Pollution Load Management System to lead the way in legal compliance and contribute to air quality improvement. Affected business sites are allocated an annual emission quota for the 1st phase (2020~2024) during which time they are demanded to gradually slash emissions. The company has successfully fulfilled the duty of total load management thus far and is gearing up to cut emissions far more than what the law requires. The Ulsan CLX, to this end, has mapped out investments of KRW 300 billion planned through 2024. Our investment schemes include boilers modification, installation of pre-treatment facilities and fuel supply lines for introducing clean fuels to boilers. We also install scrubbers or ultra-low NOx burners to reduce nitrogen oxides (NOx). Urea solution spraying devices are added to processes with high NOx emissions. Vent gas capturing facilities are under construction to reduce fine dust and we are also rebuilding LDARs to manage HAPs. SK Innovation will continue on with such endeavors to directly reduce the amount of fine dust and indirectly reduce greenhouse gas emissions.

Fulfilling the Agreement to Cut Air Pollutants

Back in 2018, the Ulsan CLX entered into a voluntary agreement with the Ulsan municipality, the Office of Environment, and 30 corporations in the hope of improving air quality in Ulsan and protecting the health of citizens. Until expiration in 2022, this agreement had brought about fruitful results with nitrogen oxides decreased by 44%, sulfur oxides by 83%, and fine dust by 45% compared to what was measured in 2019. SK Innovation is aware of the importance of concerted efforts to keep citizens healthy and hence Continue voluntary efforts to clean up the atmospheric environment even after the expiration of the agreement.

Reducing Air Pollutant Emission


The Ulsan CLX and SK Incheon Petrochem seek to minimize hazardous fugitive emissions from process valves, flanges, and pumps. We run inspections at least once a year at sources whose emissions hover around 1 million points/year and gradually add tele-monitoring system (TMS) to smokestacks every year to Reinforce measurement management. We are also making investments step-by-step to install oil vapor treatment facilities at oil storage tanks to cope with tightening regulations. Regenerative thermal oxidizers (RTO) were installed at odor-emitting facilities such as waste water treatment plants to capture and treat the Odor, to keep it from reaching nearby houses, and Odor monitors are installed and operated along the boundaries of our business sites. SK IE Technology has scaled up the application of absorbers (air pollution prevention facility) and upgraded their functions, which brought on a dramatic reduction of air pollutants from 28 tons in 2020 to 6 tons in 2022.

Water Quality Management

Water Resource Management

SK Innovation's business sites get water supply mainly from Daecheong Dam, Daeam Dam, and Asan Bay, but at the same time we keep looking for various methods to reuse water as we know the importance of a stable water supply to production processes and saving water resources. We reuse some of the discharged water for firefighting or landscaping and, when found appropriate in property analysis, retreat and recycle discharge water as industrial water, thus slashing both water usage and waste water discharge.

The Ulsan CLX is currently developing water purification methods to reuse discharged water for more diverse purposes and SK On introduced a new facility to recycle cooling water from cooling towers by 100% in the Seosan Plant.

Current status of wastewater management 

Reducing Water Pollutants Discharge

SK Innovation operates high-efficiency biological wastewater treatment facilities embedded with a tele-monitoring system and has wastewater discharged from each business site under strict control by applying more rigorous internal standards than requirements by relevant laws, such as the Clean Air Conservation Act. This way, we hope to minimize our impact on water quality in nearby rivers and streams. Wastewater containing pollutants from production processes goes through adsorption towers or fiber filters for safe disposal. Furthermore, we developed wet air oxidation (WAO) facilities to treat high-concentration wastewater to manage the discharge and concentration of wastewater under strict internal standards.

Mitigation of Environmental Impact

Pollutants Management Targets

Business site	Air Quality				Water Quality			
	Pollutant	Unit	Legal permit	Target	Standard	Unit	Legal permit	Target
SK Energy	NOx	ppm	155	95	TOC		50	30
	SOx	ppm	166	100	BOD		80	50
	Dust	mg/Sm ³	30	20	SS		80	50
SK Geo Centric	NOx	ppm	155	95	TOC		320	195
	SOx	ppm	166	100	BOD		600	360
	Dust	mg/Sm ³	30	20	SS		400	240
SK Enmove	NOx	ppm	180	110	TOC		25	15
	SOx	ppm	100	60	BOD		10	5
	Dust	mg/Sm ³	30	20	SS		10	5
SK Incheon petrochemical	NOx	ppm	130	80	TOC		75	45
	SOx	ppm	120	75	BOD	ppm	120	75
	Dust	mg/Sm ³	15	10	SS		120	75
SK On	NOx	ppm	60	50	TOC		165	100
	SOx	ppm	140	85	BOD		230	140
	Dust	mg/Sm ³	15	10	SS		150	90
SK IE Technology	NOx	ppm	200	120	TOC		110	70
	SOx	ppm	-	5	BOD		230	140
	Dust	mg/Sm ³	30	20	SS		180	110
SK Innovation	NOx	ppm	60	50	TOC		75	45
	SOx	ppm	70	45	BOD		120	75
	Dust	mg/Sm ³	30	20	SS		120	75

IT-based Smart Technology for Environmental Management

Introduction of Smart Technologies and Systems to Optimize Decision Making on Environmental Management

SK Energy, SK Enmove, and SK Geo Centric have adopted a real-time analysis and forecast system (How to work intelling WMC) to #1 water management centers as part of the smart environmental management system. SK Incheon Petrochem uses "Vision AI" developed by SK C&C as a microbial image analysis tool in wastewater treatment plants and anaerobic digestion tanks, and is planning to introduce S/W by Neurocle, an image analysis company, to run analyses on diverse microbes with greater accuracy.

Chemical Substance Management

Introduction and Handling of Chemical Substances

The Occupational Safety and Health Act mandates companies to submit material safety data sheets (MSDS) of their products and semi-finished products to the government and obtain approvals by 2026. SK Innovation has already registered hazards information and safety guidelines on its chemical products with the e-MSDS system and provides them to its customers along with MSDS. The Ulsan CLX has managed chemical substances database with a computerized system since 2022 for more reliable and systematic control. As such, all members of SK Innovation are taking every single way possible to keep chemical substances under thorough management.

Risk Assessment on Chemical Substances

When introducing new chemical substances or modifying existing ones, we conduct risk assessments on the handling and use of the concerned chemicals. This way, we intend to identify the potential risk factors to eliminate or manage them, thus preventing chemical accidents and protecting our employees.

Safety Control for Facilities Producing Hazardous Chemicals

In compliance with the Chemical Substances Control Act, we put in place devices that immediately detect leaks from acid and alkali chemicals storage facilities and prevent chemical accidents. KRW 5 billion was invested in the installation of these detectors at 145 business sites nationwide, with which the company has tightened its control to prevent and manage chemical accidents as well as promoted legal compliance. The Jeungpyeong Plant of SK IE Technology introduced leak detectors for hazardous chemicals (dichloromethane, N, N-dimethylacetamide, etc.) and invested approximately KRW 800 million in adding prevention facilities in 2022.

Mitigation of Environmental Impact

Direction of Chemicals Management

Fulfilling social and legal responsibilities is important to SK Innovation and its subsidiaries when we manage chemical substances. That is why we have systems and procedures dedicated to chemicals management and support employees handling chemicals with their right to know about hazards and risks associated with their jobs. The handling process of chemicals is backed up with measures to ensure safety and health to prevent chemical accidents and protect our employees and local residents.

Introduction of Chemical Substances

Hi-CHEMS is an integrated management system of chemical substances, which was developed by SK Innovation and its subsidiaries for the purpose of screening hazards and risks associated with the chemical substances we plan to introduce. Hi-CHEMS is regularly updated and linked to the chemicals purchasing system and the e-MSDS system, so no chemicals are missed out in screening, even the slightest amount, and material safety data sheets (MSDS) are registered and informed to our employees.

Chemical Substances Production

The company assures facilities go through strict repair and maintenance to root out any single possibility that a chemical leak from a manufacturing or handling process might lead to a fire or explosion. We use advanced inspection methods, such as leak detection and report (LDAR) and risk-based inspection (RBI), to scrutinize leak-prone piping joints and operating parts of facilities. Pipes are graded by the level of risks and those at the bottom come under strict management. Our employees can easily access the e-MSDS system to get informed of hazards and risks associated with chemicals they use, and take safety education programs provided by the company and Hazardous Chemical Substance Safety Education Institute every year.

Transportation and Sales

SK Innovation and its subsidiaries have developed procedures, which comply with legal standards, to help drivers and customers safely transport and receive chemical products purchased from us. While obligatorily providing customers with MSDS, we also run a system to confirm they did receive MSDS and are aware of hazards associated with their purchased products. Updated MSDS is automatically forwarded to customers in real time.

Waste Management

Direction of Waste Management

The company abides by internal regulations for managing the generation, storage, transportation, discharge, and treatment of industrial waste to minimize waste generation and dispose of waste in legitimate and efficient manners. In particular, we manage the amount of waste generation with a waste management system of our own development. Waste is disposed of by qualified agents through recycling, incineration, landfill, etc. The amounts of discharged waste and waste forwarded to the disposal agents are kept in records by type of waste in the Allbaro system. We estimate annual amounts of waste generation and prepare reduction plans by considering the records of the previous year and monitor monthly progress. All waste are kept airtight to contain odor and air pollutant during transportation and storage.

Environmental Impact Assessment

Environmental Impact Assessment on Products

At SK Innovation, we define a product lifecycle as the entire process spanning from raw material mining to disposal, and quantify resource inputs and discharges across the lifecycle divided into three stages: pre-production, production, and post-production. This way, we systematically measure the potential impact they may have on the environment. For instance, we ran assessments on lithium-ion batteries for xEV following ISO 14040 and ISO 14044 and shared the results with OEM customers.

Environmental Impact Assessment on Business Sites

When setting targets for environmental management, we first look into the sources of material impacts by running environmental impact assessments to survey, forecast, and evaluate what impact a given business operation would have on the environment and then prepare solutions accordingly. Any activities and assets responsible for all or part of environmental impacts, including normal, abnormal, or emergency situations, are subject to assessment. We also analyze materials balance in manufacturing processes and utility and other business operations to estimate material inputs, utility consumption, and discharged materials, and identify factors to control in terms of resource use, pollutant, and waste discharge. According to the analysis results, we make an environmental impact assessment table and register material factors with the environmental impact ledger, which is referred to when environmental improvement plans are prepared and executed. The environmental impact assessment is conducted along with facility additions at our business sites or legal amendments that require changes in discharge or prevention facilities. Furthermore, the company makes it a rule to conduct the environmental impact assessment at each business site on a regular basis.

Mitigation of Environmental Impact

Oil Spill Prevention and Management

Soil Contamination Survey

At SK Innovation, each business site has an environmental management department, which regularly measures and examines soil contamination every two years according to relevant regulations and cleans up pollution. We hire independent expert agencies to assess soil pollution and specialized agencies to restore contaminated soil. The result of clean-up is then verified by an inspection institution. The company has also entered into a voluntary agreement with the Ministry of Environment to preserve soil quality and takes aggressive efforts to prevent and manage soil contamination.

Reinforcing of Response Drills to Oil Leaks

A range of activities are underway at SK Innovation to prevent soil contamination caused by oil spills. The Ulsan CLX began a KRW 6 billion project in 2022 to install shut-off valves and oil detectors at all final outlets of facilities and prevent oil spills. Until this project is completed through 2023, we will reinforce on-site patrols and immediately deploy vacuum cars and control vehicles should there be an oil spill. Among other measures are installing disaster prevention equipment at major locations and emergency block-off steel plates in rainwater channels and providing on-site training on how to contain disasters. We will continue to upgrade our readiness against accidents at each business site by preparing an emergency response scenario by facility and practicing emergency drills.

Emergency Drills to Prevent Marine Pollution

SK Innovation has specific scenarios in place for prompt response to marine pollution such as oil spills. We conduct emergency response drills according to the scenarios and inspect the readiness of prevention equipment every month. Joint response drills with the Self-Defense & Prevention Team, which is composed of the private and public sectors, take place every six months.

Regular Monitoring of Marine Facilities

The company runs facility inspections periodically following internal work standards and procedures in a bid to prevent marine pollution accidents and marine pollution prevention managers are assigned to each marine facility to manage and supervise the prevention of accidents around the clock. As a result of these efforts, there have been no accidents causing marine pollution so far and we always stay alert to the risks of marine pollution, exercising emergency response drills.



SK Innovation wins an award for the energy and utility sector at the CDP Response to Climate Change & Water Management Excellence Awards.

Environmental Audit

Environmental Management System (ISO 14001) Certifications

The Jeungpyeong Plant of SK IE Technology acquired the ISO14001 certification in September 2022, with which all domestic business sites of SK Innovation and its subsidiaries are now certified with ISO14001. Particularly we focused on having our overseas operations certified last year and SK On and SK IE Technology successfully had all their overseas sites certified with ISO14001.

ISO 14001 certifications of SKI and subsidiaries (+)

Environmental Management Reinforced by Audits

Through periodic environmental audits, SK Innovation examines its compliance with internal regulations on environmental management, work procedures, and relevant laws. We also check corrective actions taken to follow up on previous audit findings and improvement plans by business sites. Those business sites certified with ISO 14001 receive internal inspections every year on their compliance with relevant laws and follow-up measures pursuant to the certification standards, and have the feasibility of their system operations verified through the post-audits by the certifier. In particular, SK Innovation's subsidiaries (SKBMP, SKBMC, SKBA, SKOH, SKBM, SKOJ) had major overseas business sites certified with ISO 14001 for the first time in 2022 and plan to conduct self-audits every year, starting from 2023.

Results of environmental audits (+)

Protection of Biodiversity

Biodiversity Preservation Policy

Policy Directions for Evaluation and Monitoring

At SK Innovation, we recognize biodiversity as one of the essential building blocks for sustainable growth and are doing whatever we can to make sure our business operations do not affect biodiversity. Our business sites located in World Heritage Sites and IUCN-protected areas (I-IV) strictly abide by local laws and regulations and, when necessary, actively cooperate with expert groups and institutions.

Biodiversity preservation policy +

Monitoring of Biodiversity

In Korea, our business sites are situated in the areas where the impact of business operations on biodiversity could be kept to a minimum. Still, we run environmental impact assessments to monitor the status and value of biodiversity and protect the ecosystem and natural environment around the business sites. As of 2022, there were no accidents at our facilities that could have material impacts on biodiversity in nearby areas and we will make further efforts to preserve biodiversity near us.



SK Innovation's Exposure to Biodiversity Risks

Biodiversity Preservation Activities

Forest Restoration at Wildfire-ravaged Areas (2022 ~ 2023)

SK Innovation supported in earnest the restoration of forests destroyed by wildfire. In September 2022, we signed a forest restoration agreement with the Ulsan municipality and the Ulju county office and cultivated the "SK & Ulsan Forest of Happiness". 2022 marked the 60th anniversary of SK Innovation but we scaled down celebration events and instead saved KRW 1 billion to spend on forestation. We planted a total of 180,000 wild cherry trees in a 60-hectare forest in Ulju county, where 519 hectares of forest had been destroyed by wildfires in 2020.

Mangrove Forest Restoration Project (2018 ~ present)

Since 2018, SK Innovation has been engaged in mangrove forest restoration in the Greater Mekong Subregion, such as Vietnam and Myanmar, to respond to climate change and preserve biodiversity

In 2019, we established a social enterprise in Tra Vinh, Vietnam and hired local youth to lead a mangrove forest restoration project. More recently we are engaging various global companies, such as shipping companies, in restoration projects. In 2022, we planted 160,000 mangroves to restore a 52-hectare habitat which brought the total areas of restoration to 188 hectares. These efforts are estimated to have the effect of decreasing 6,000 tons of CO₂ emissions.¹⁾ In 2023, we plan to restore 38 hectares of area. While the size of the target area was a bit reduced, we will choose to plant the kinds of trees that have greater effects of cutting carbons. Participating in mangrove forest restoration projects in other countries than Vietnam is under active consideration, too.

1) SKI developed a methodology for measuring the carbon reduction effect of mangrove forest restoration and registered it with the SK Carbon Reduction Certification Center in December 2021.



"SK & Ulsan Happiness Forest" project to restore forests and mountains in Ulsan, where SKI's main business site is located



New employees of SK Innovation and its subsidiaries planted trees at a mountain in Ungchon-myeon, Ulju county in 2023.



Volunteers from the Ulsan CLX planted mangrove in Tra Vinh, Vietnam.

Protection of Biodiversity

EnviRun Campaign

EnviRun (Environment + Running) is a representative green campaign by SK Innovation, aimed at preserving rivers and marine ecosystems around our business sites in Korea and overseas. We collect waste plastic and litter to keep them from flowing into the sea and engage diverse stakeholders near our business sites, such as local communities, in environmental preservation and enhance their awareness.

Campaign Highlights in 2022

- SK Innovation signed an MOU with Korea Coast Guard, KoROAD, and Korea Volunteer Center to engage the public in the EnviRun campaign.
- SK Innovation conducted the EnviRun campaign with the public & private sectors in Ulsan (Ulsan Maritime Police, Ulsan Volunteer Center, Ulsan Female Volunteers Association)
- SK Sugar Gliders, their fans, and citizens jointly participated in the EnviRun campaign in Anyang Stream and Mokgam Stream.
- SK Innovation partnered with Jeju UTD FC and Chinese associations in Jeju island to conduct the EnviRun campaign on the island.
- SK On's plant in Hungary and KÖSZ (volunteer group in Komarom) ran the campaign in the Danube River area
- SK Earthon's branch office in Lima, Peru conducted the campaign on the Barranco Beach.
- SK IE Technology's subsidiary in Changzhou, China partnered with suppliers to run the campaign.
- SK Geo Centric conducted the campaign on Freeport Surfside Beach, US.

※ 1The EnviRun campaign was expanded to 13 countries.



Members of SK Innovation and its subsidiaries joined the EnviRun Campaign from all over the world.

Response to Climate Change

Climate Change Response Framework & Climate Risk Management Model

Climate Change Response Framework

SK Innovation established the “Climate Change Response Framework” in 2022 for systematic control of factors posing both risks and opportunities in association with climate change and has since upgraded the framework. At the outset, the company created a pool of 26 factors by drawing on documents of global initiatives and international organizations, characteristics of our business, urgency and materiality. We also had in-depth interviews with 14 relevant organizations in the company and its subsidiaries and collected advice from professionals. Then, we developed evaluation criteria and methods with which to assess and manage the potential occurrence and financial/strategic impact of those factors (e.g., policy, technology, market, reputation, and physical factors).

In the Q1 assessment of 2023, two new factors were added to the existing pool of 26 factors: “fossil fuel price hikes and energy supply issues triggered by the Russia-Ukraine war” and “the US and the EU’s increased green subsidies”. These two factors have a grave impact on our global operations now that we are pushing for a transition to a green business portfolio contributing to carbon reduction and sustainable energy supply.

The energy supply issues, in particular, may benefit our existing business for the short haul but pose a risk in the mid-to long term. At the same time, they would offer new opportunities to us given our quest for a green transformation since the world now has more incentive to fast migrate to low-carbon energy resources and promote energy security. As such, we will continue preemptive planning by thorough preparations for factors posing both a risk and an opportunity.

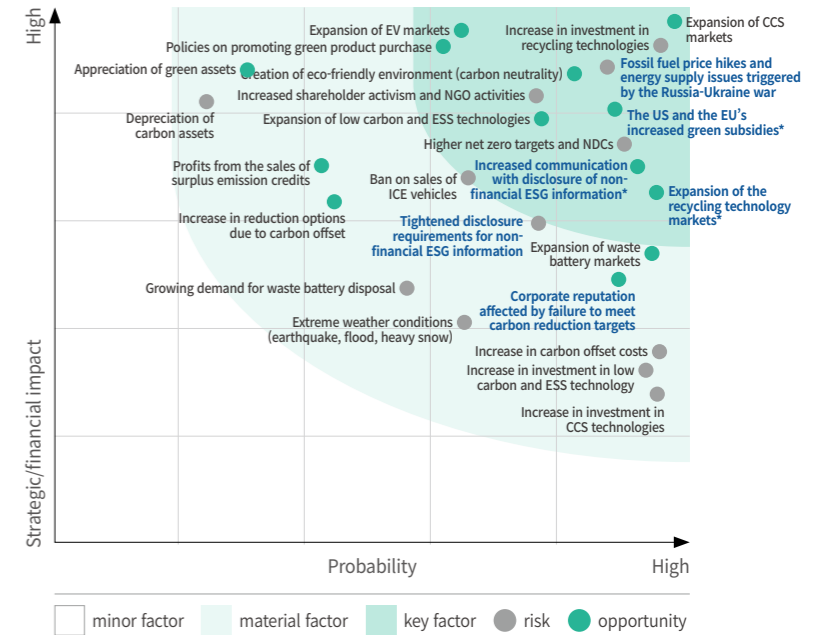
Among the existing issues in the pool, “reputation” was newly classified as a key factor associated with “tightened disclosure requirement for non-financial ESG information” since we are witnessing increasing demands for companies’ disclosure of non-financial, ESG information and transparent communication with stakeholders about progress and current status on their response to climate change. Besides, “expansion of the recycling technology markets” is found to have a greater impact as increasing demands for recycling technology offer us opportunities to commercialize diverse technologies for raw materials production and treatment (e.g., pyrolysis to recycle waste into raw materials, materials, and products).

Risk and opportunity evaluation methodology (+)

No.	Category	Risk and Opportunity Factors
1	Policy	Carbon tax and emission rights prices in host countries
2		Higher 2050 net zero targets and 2030 NDCs
3		Carbon border tax (EU, etc.)
4		Regulations on methane emissions (e.g., methane pledge)
5		Ban on ICE vehicles and regulation on the ZEV ratio
6		Plastic tax in EU
7		IMO 2020 and MEPC’s policies
8		Expansion of voluntary carbon market s

No.	Category	Risk and Opportunity Factors
9	Policy	Systematic operation of carbon offset
10		The US and the EU’s increased green subsidies (new)
11	Technology	Commercialization of CCS technologies
12		Low-carbon technologies such as biofuels
13		Expansion of the recycling technology markets
14	Market	Increase in investment in CCS technologies
15		Increase in demand for low carbon and ESS technologies
16		Changes in energy mix due to renewable power generation policy, etc.

Assessment of Risk and Opportunity Factors Caused by Climate Change



* Newly added in 2023

No.	Category	Risk and Opportunity Factors
17	Market	Depreciation of carbon assets
18		Growing demand for waste battery disposal
19	Market	Fossil fuel price hikes and energy supply issues triggered by the Russia-Ukraine war (new)
20		Increased shareholder activism and NGO activities
21	Reputation	Tightened disclosure requirements for non-financial ESG information
22	Physical	Corporate reputation affected by failure to meet carbon reduction targets
23-24		Acute climate change (typhoon, fog, earthquake, flood, heavy snow, etc.)
25-28		Chronic climate change (heat wave, drought, abnormal temperature, rise in average temperature, etc.)

Response to Climate Change

Assessment

Analysis of Asset Loss Risks due to Increasing Physical Climate Risks | We used S&P Global's Climamomics® hazard modeling to get quantifiable estimates on financial impact of physical risk factors associated with acute and chronic environmental changes and hence readily prepare for potential risks among the aforementioned 26 risk and opportunity factors.

Scope of Target | We applied 4 IPCC RCP scenarios to a total of 60 major domestic and overseas business sites and physical assets of six subsidiaries (SKE, SKGC, SKEN, SKIPC, SKO, and SKIET) and analyzed what physical risks are forecast. Our primary focus was on RCP 8.5 which entails the most serious physical risks as the global temperature is assumed to rise by more than 4°C due to failed control in greenhouse gas reduction and also on RCP 4.5 forecasting the global temperature will go up by 1.7~3.2°C.

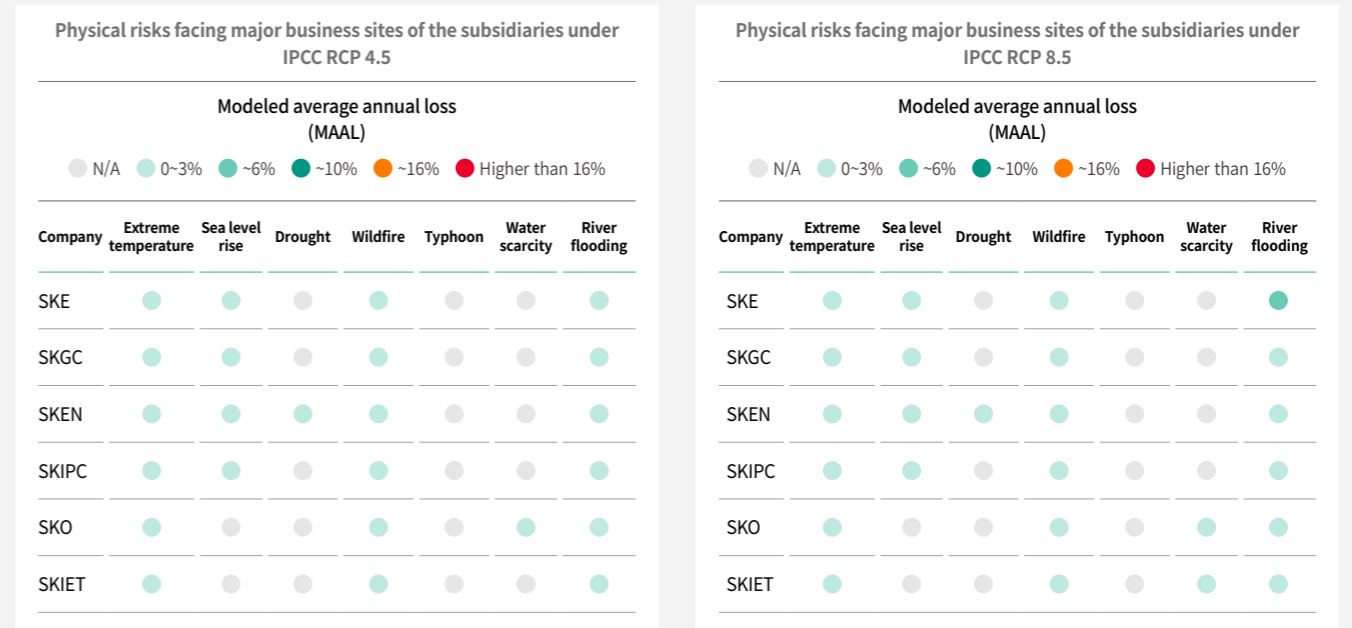
[Applied climate scenarios in details](#) (+)

Analysis Method | Based on risks associated with climate change, socio-economic data, and econometric models, we estimated asset value lost to seven major climate risks (temperature rise, coastal flooding, drought, wildfire, tropical cyclone, water stress, and river flooding) and the loss rate by a 10-year period until 2100.

[Analysis methodologies](#) (+)

[Top seven climate risks](#) (+)

Physical Risks Analysis before 2030 (2022~2029)



* Modeled average annual loss (MAAL): Ratio of loss to the current asset value
 * N/A: There are no sources of the concerned risk factor. Or, the business sites are not located in coastal areas or are not reflected in the analysis model due to limited data.

- Under both RCP 4.5 (The global temperature rises 1.5°C or above between 2022~2029) and RCP 8.5 (The global temperature rises 4°C or above), the asset loss rates of the business sites (Korea/Japan/Indonesia/US/Europe) of SK Innovation's subsidiaries are estimated to be lower than the material risk levels.
- * Material risk levels: The asset loss rate is 16% or higher on the annual average (S&P Global rating "Red").
- In the case of SK Innovation's business sites, the asset loss rates caused by the seven risk factors are estimated to be less than 1% until 2030, meaning that increasing physical risks associated with climate change will have an insignificant impact on the company.
- River flooding (0.8%) and abnormal temperature (0.7%) are expected to have the most impacts across SK Innovation subsidiaries' business sites and production plants, while tropical cyclones will have the least influence. Therefore, those subsidiaries whose major oil refineries are situated close to the coast may come under relatively more impacts by river flooding, sea level rise, and abnormal temperatures, but the absolute level of risk is not likely to be significant until 2030.

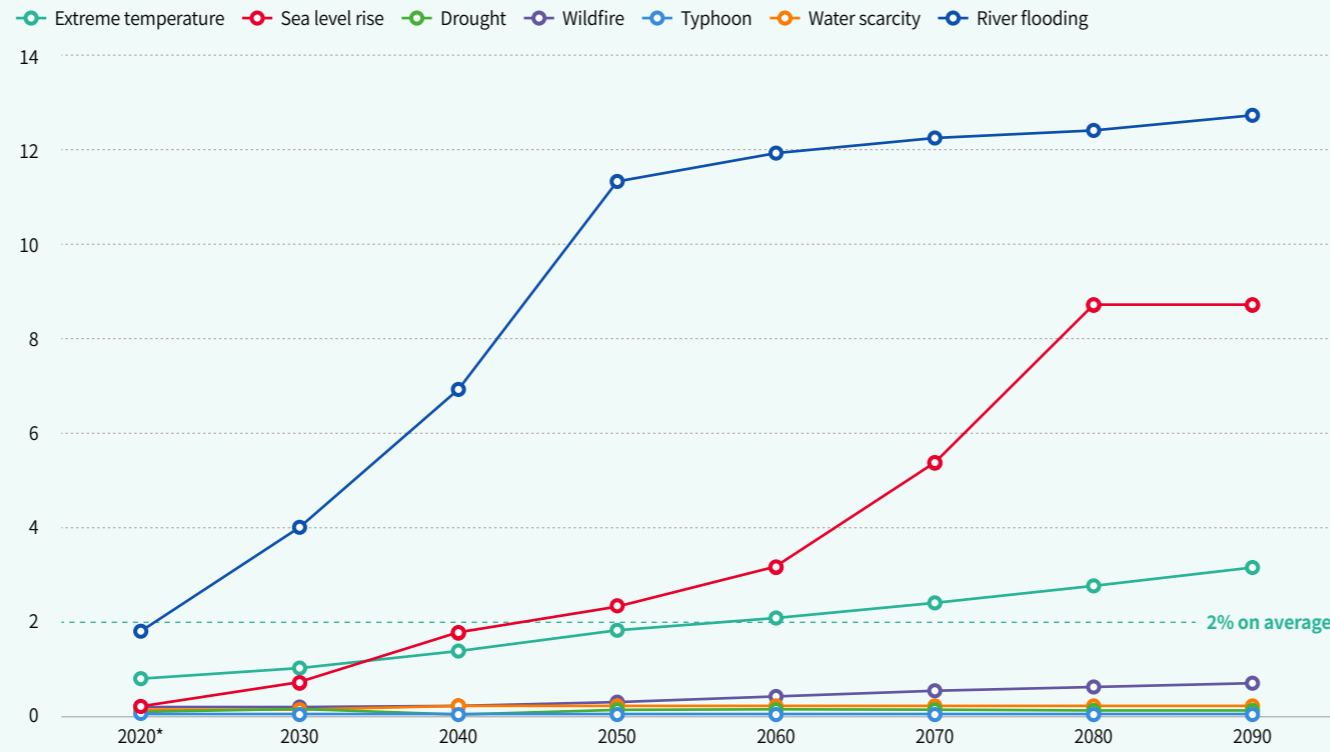
Response to Climate Change

Asset Loss Risks Caused by Physical Climate Risks

SK Innovation analyzed the risk of asset loss caused by climate change for a period from 2022 to 2100 following RCP 8.5 (Global temperature rises 4°C or above) and found out river flooding and sea level rise could be two major long-term risks. We will keep them under monitoring and include a management system for these factors in our subsidiaries' business management plans.

Physical Climate Risks and Impacts on SKI and its Subsidiaries between 2022 and 2100

Annual Average of the Asset Loss Rates under RCP 8.5 (% of total assets)



* 2020 refers to a period from 2020 to 2029.

- Even under RCP 8.5 (Global temperature rises 4°C or above), the asset loss rates due to the seven risk factors associated with climate change are forecast to be lower than the material risk level of 16%.
- However, under RCP 8.5, asset loss risks could significantly increase due to river flooding from 2030, and then due to both river flooding and sea level rise from 2060.
- An increase in the risks associated with river flooding is attributable to the following factor: A “100-year flood” event had a 1% chance of occurring in any given year during the baseline period (1950-1999) but its likelihood is forecast to increase to 1.7%~91.7% between 2030 and 2040, and then up to 100% until 2050.
- * Under RCP 8.5, some areas of Korea would witness a dramatic increase in a 100-year flood caused by river overflows to once a year from 2040.
- The asset loss rate due to extreme temperature is likely to reach 3.2% between 2060 and 2100, higher than the average asset loss rate (2%) across all factors, while no material changes are forecast with the other factors (drought, wildfires, typhoons, and water scarcity) after 2030.

SK Innovation will keep monitoring these risk factors, particularly river flooding and sea level rise, which could pose long-term risks to our business, and will establish a process to reflect monitoring results in the business continuity management plan of each subsidiary.

Response to Climate Change

Climate Change Risk Management

Development of Climate Change Risk Management Model

SK Innovation has developed a climate risks management model in joint with the Financial Supervisory Service and Ewha Womans University as part of the efforts to build the Framework to Respond to Climate Change. Using this model, we estimated the range of financial impact of each risk scenario by year until 2050.

According to the Framework for Response to Climate Change, 16 out of 26 identified risk factors were found to require an assessment of their financial impact. In particular, 8 out of the 16 needed an assessment associated with external scenarios. We, therefore, came up with a set of scenarios to measure the financial impacts of “carbon credit price”, “changes in paid quotas”, “changes in REC prices”, and “chronic environmental changes”.

The climate change risk management model is designed to measure financial impacts by pairing up any of ① five scenarios of emission permit price, ② three scenarios of paid quotas, and ③ three scenarios of REC price with the remaining carbon emissions estimated under our Scope 1, 2 Net Zero Roadmap and the scenarios suggested by eight international initiatives such as NGFS and IEA. The annual carbon reduction costs calculated with this model provide a basis on which to measure what financial impact the climate risk factors will have on SK Innovation and its subsidiaries in real-time.

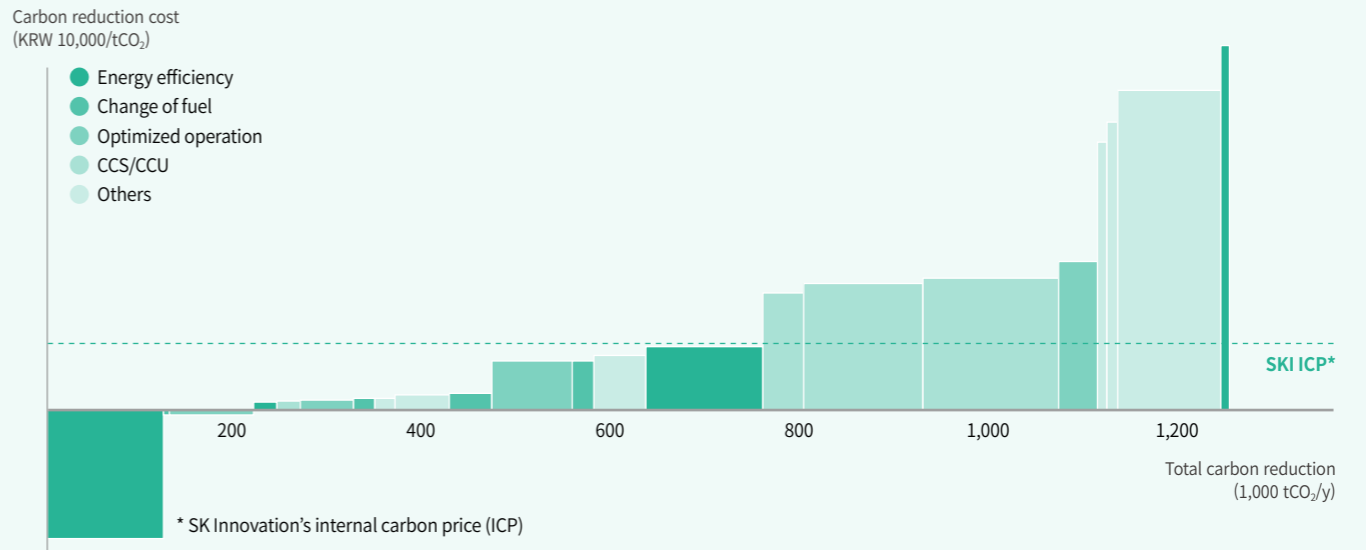
The company upgrades this model to find a sustainable path to reach net zero and plans to expand its application. Rather than a static analysis that we have used to measure financial impacts under given scenarios, we are going to adopt a dynamic analysis whereby we set priorities on ways to reach net zero under diverse scenarios and come up with an optimized path, so that we can reach net zero in the most effective manners.

Net Zero Roadmap of the Energy & Chemical Business: Financial Feasibility Evaluation Framework

SK Innovation has established a framework to assess the economic feasibility of the Net Zero Roadmap considering carbon emissions from the energy and chemical business and economic opportunities and costs associated with activities to reduce the emissions. This framework factors in not only the costs for implementing the Net Zero Roadmap, such as investments and variable costs but also economic benefits, including revenue from selling surplus emission rights and less utility consumption by efficiency improvement.

In this way, we assess the economics of the Net Zero Roadmap and set priorities on carbon reduction measures by considering net cost per carbon reduction unit in Scope 1 and 2. The economics assessment will be repeated on a regular basis with priorities among measures being rearranged accordingly. We will begin with reduction measures that assure economics first and then explore ways to cut costs in the long term for those measures that are difficult to secure economics.

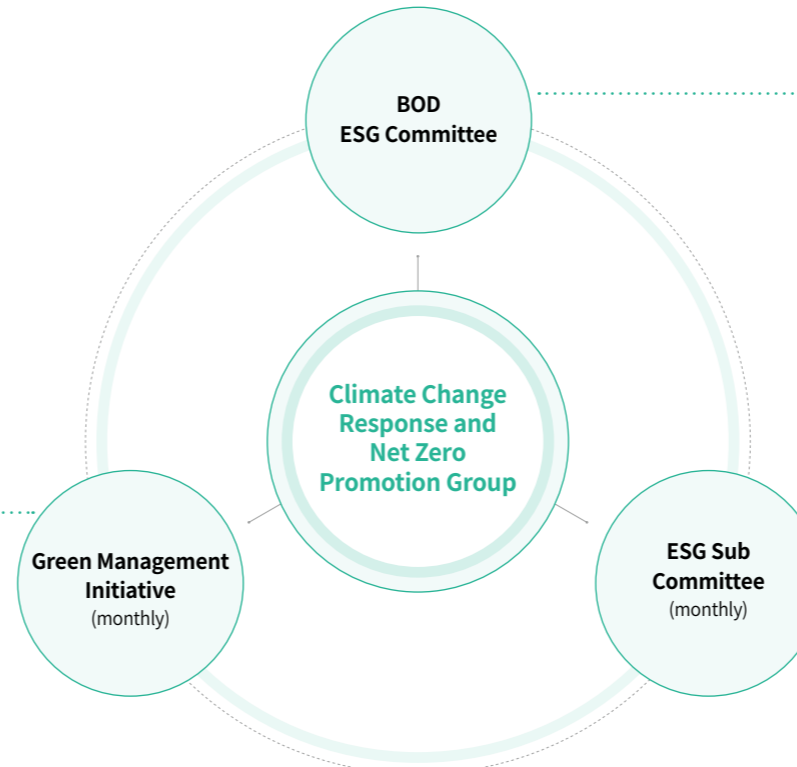
Financial Feasibility Evaluation on Paths to Net Zero (157 measures)



Response to Climate Change

Climate Change Response and Net Zero Promotion Group

The ESG Committee of the BOD, the Green Management Initiative, and the ESG Sub-committee cooperate at the Climate Change Response and Net Zero Promotion Group, where they meet periodically to discuss major issues and counter-strategies. With these activities, we add momentum to putting our climate change strategies into action and reap tangible results.



Control Tower of ESG Management

Check company-wide ESG strategies, including net zero, and results, and conduct preliminary screening of ESG risks on major BOD agenda items

(led by ESG chairperson: independent director)

The ESG Committee examines the company's progress on the Net Zero Roadmap and company-wide response to ESG risks, and screens BOD agenda items for any negative impacts through mandatory ESG assessment.

Net Zero Council among SKI and Subsidiaries

Discuss and examine strategies focusing on Net Zero, actual carbon reduction, and response to climate change

(led by the head of SK Innovation Digital Transformation Division)

SK Innovation operates a consultation body where the net zero-related organizations of all subsidiaries meet to discuss issues specific to net zero and climate change and take tangible actions. The Green Management Initiative meets once a month to assess whether each subsidiary has met its monthly carbon reduction target, discuss improvement measures, and propose/discuss issues relating to net zero and climate change that require strategic, collective intelligence.

(Attended by about 50 people: SKI employees responsible for Optimization & Analytics Office, ESG Development Office, and SHE, and subsidiary employees in charge of net zero/optimal operation)

Integrated ESG Council among SKI and Subsidiaries

Implement key ESG strategies, achieve results, and decide ways to create synergy among the subsidiaries

(led by the head of SK Innovation's Portfolio Division)

Under the Management Committee in which the CEOs of SK Innovation and all subsidiaries participate is the ESG Sub-committee responsible for issues in the E/S/G areas as part of ESG management. The ESG Sub-committee composed of about 20 C-Level senior executives meets once a month and holds ad-hoc meetings to check progress on the company's efforts for net zero and explore solutions to various ESG issues, thereby helping to upgrade our readiness against ESG risks.

(Attended by 18 people: SKI's Head of ESG Development Office, Head of Value Creation Center, Head of SHE Division, Head of Procurement Office, Head of Optimization & Analytics Office, Head of Compliance Office, Head of IR, Head of Information Security Office, Head of HRD, and subsidiaries' executives responsible for each of the ESG areas)

Response to Climate Change

Internal Carbon Price Setting and Revised Investment Review Process

As a way of accelerating its drive toward net zero, SK Innovation has improved the internal investment review procedures by applying internal carbon prices to the financial feasibility evaluation of proposed investment items. All strategic investment proposals submitted to the Investment Committee are evaluated also on their impact on Scope 1 and 2 emissions as well as the economics of their GHG emissions, and priorities among investment proposals are adjusted according to such comprehensive evaluation results. We will set and utilize reasonable internal carbon prices to not only make tangible progress on the Net Zero Roadmap but also invest in new low-carbon businesses.

Directions for Internal Carbon Pricing

The internal carbon prices are set in two categories (short-term ICP and mid-to long term ICP) by factoring in diverse factors such as future carbon price forecast scenarios limiting global temperature rise to 1.5°C, ICPs of domestic and foreign companies, and carbon credit prices by region.

(Unit: \$/tCO₂e)

Region	2025	2027	2030	2040
Korea	40	60		
US	65	80	120	200
EU	95	105		

Application of Internal Carbon Prices

- CAPEX items expected to affect Scope 1 and 2 emissions, among those submitted to the Investment Committee
- Total strategic investments + important ordinary investments

(※ Internal carbon prices is adjusted annually through consultations among relevant organizations based on comprehensive reviews of carbon reduction in the previous year, reduction target for next year, and major factors affecting carbon prices)

Investment Review Process



* EV-oriented NPV/IRR evaluation → comprehensive NPV/IRR evaluation with SK Innovation's internal carbon price applied.

Policies for Just Transition

Policy Directions to Support Just Transition

SK Innovation supports the Paris Agreement to limit the increase in global average temperature to 2°C compared to pre-industrial levels and keep it below 1.5°C.

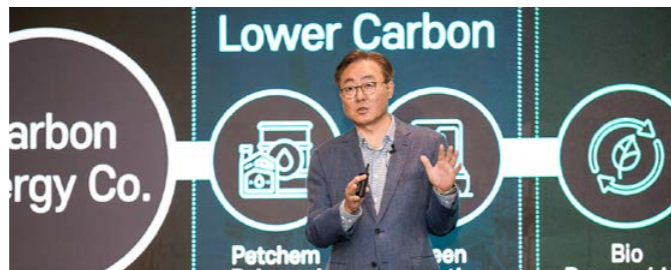
We agree that corporations need to make active efforts to fulfill social and environmental responsibilities and recognize that fairness is a critical value to promote in our transition to a low-carbon economy and the way its outcomes are shared. Accordingly, we are joining climate actions by creating quality jobs following the principles of “Just Transition” of the Paris Agreement.

In preparing policies to support Just Transition, we will make sure our stakeholders can adapt to and participate in the processes associated with reaching net zero by 2050 and innovating our business models and portfolio following the Carbon to Green strategy, while at the same time reflecting feedback from our stakeholders. Fulfilling our social and environmental responsibilities based on consensus and cooperation will serve as a driving force behind sustainable growth of SK Innovation. Stakeholders affected by the innovation of our business models are defined as ① employees, ② suppliers, ③ local communities, and ④ customers and the scope of stakeholders is expanding along the growth of our overseas operations. We are going to expand support programs customized to promoting ESG ecosystem to meet the demands of our stakeholders by enhancing internal and external communication so that our extended stakeholders can understand the goal and path of our Carbon to Green innovations. More specifically, we will assure our business innovations can offer opportunities to employees by supporting our domestic and overseas employees with career development and job rotation, and develop and reinforce training programs for them. We will also strive to make Just Transition based on transparent communication between management and employees.

Response to Climate Change

In addition to improving suppliers' readiness to implement ESG management, we will support them to build capacities to manage ESG risks by providing training and consultation on areas of weakness. Going forward, we will expand partnerships with local communities for an environmental ecosystem by supporting and cultivating green ventures and startups. Furthermore, we will continue to support agents and distributors that hope to change energy sources by building facilities and transferring know-how to help them generate revenues in the low-carbon energy business. With that, SK Innovation will strive to earn stakeholders' trust and confidence in our quests for net zero and Carbon to Green innovations. The leadership of SK Innovation will reach out and directly communicate with stakeholders about what we do and how much progress we made in Just Transition, thus preparing a carbon-neutral future based on consensus and cooperation.

The CEO's remarks about Just Transition policies +



Vice Chairperson Kim Jun presents SK Innovation's green portfolio and business model innovation.



SK Innovation holds the global forum for "All Time Net Zero".

How to Support Just Transition

Employees

Retraining and Job Relocation | As part of the Self-Career Design program in connection with our transition to green operations, SK Innovation introduced the mySUNI Green College program in 2020. As of Q1, 2023, the number of employees who have participated in the program reached 8,416 or 80% of 8,842 employees of SK Innovation and its subsidiaries.

O! Jobs is a companywide platform for transferring employees within and among SK Innovation and its subsidiaries, and its fair and transparent operation supports employees to develop careers and transfer from the energy and chemical business to the battery and material business. In 2022, about 80% of applicants for job relocation were transferred through O! Jobs and 3% of them moved from the energy and chemical business to the battery and material business. SK Innovation respects employees' intent for job transfers and will provide them with more opportunities to develop careers as they wish.

Communication | We held a total of nine town hall meetings and the "Managing by Walking Around (MBWA)" events by the Chairperson and the CEO for employees in the energy and chemical business in 2022, as part of our initiative to boost discussions about the Carbon to Green strategy.

Suppliers

SK Innovation conducts ESG risk assessments on suppliers and support high-risk suppliers with risk management. We also cultivate excellent suppliers (rated "Leader" in ESG risk assessment) and provide training and consulting to improve areas of weakness. We also tap into the mutual growth fund and support small- and medium-sized suppliers with a transition to green business models and technological innovation.

Local Communities

We discover and support green ventures and startups by participating in "EGG", a pilot project organized by the Ministry of SMEs and Startups, in order to build a strong partnership with local communities and foster an environmental ecosystem together. In 2022, we chose "strengthening green ecosystem partnership" as a key task under the GROWTH strategy and set the goal of supporting 100 ventures and startups, in a running total, in the low-carbon and environmental sectors by 2025.

Customers

SK Innovation has identified customers who are directly affected by its business models, such as oil distributors and gas station operators, to help them prepare for a transition to green business in time. We throw full support to those who are willing to join the transition to green energy so they can create a low-carbon workplace, and our very first step was the "Energy Super Stations" project whereby we have installed solar and fuel cell-based power generation facilities and EV chargers at agents and gas stations in cooperation with the Ministry of Industry, the Seoul Metropolitan Government and the National Fire Agency since 2020.

ESG Policy & Performance

Social

Human Rights Management	91
Human Resources Management	94
Happy Workplace	98
SHE Management	101
Supply Chain ESG Management	103
Social Contribution	111
Customer Satisfaction Management	117
Intellectual Property Management	118

Human Rights Management

Human Rights Policies

SK Innovation Human Rights Declaration

SK Innovation and its subsidiaries are dedicated to ensuring the well-being of all stakeholders and are committed to upholding the principles of human rights protection throughout our business operations, thereby ensuring that no human rights violations occur. We place great importance on fulfilling our social responsibilities and obligations as responsible corporate citizens. To achieve this, we have joined the UNGC, a sustainability management initiative, and actively support the ten principles in four areas of human rights, labor, environment, and anti-corruption. Additionally, we adhere to global Codes of Conduct such as those established by the ILO and UNGP. We have systematically established well-defined policies on human rights protection, Safety · Health · Environment (SHE), and ethics codes. Regular performance evaluations and continuous improvement initiatives are conducted to effectively implement each policy. We have established clear principles and details in our basic human rights declaration, which have been publicly disclosed. We remain dedicated to doing our utmost to foster a happy workplace for all through diverse activities and educational endeavors.

Declaration of Basic Human Rights

1. We shall respect all our stakeholders' dignity and value as humans in order to achieve sustainable happiness.
2. We shall maintain a good work environment on the basis of good morale, so that all our employees can pursue happiness.
3. We shall support and respect the human rights protection and labor standards of labor-related international organizations, and shall not discriminate on the basis of any grounds including gender, race, nationality, religion, or age.
4. We shall comply with our human rights policies and the labor laws of the relevant country or region where we have work sites. We affirm that this policy is the basic duty of all suppliers and business partners having business relations with SK innovation.
5. We shall designate a department in charge of human rights management and regularly conduct human rights education for all employees including the CEO.

Human Rights Management Policies

To ensure the prevention of both direct and indirect human rights violations throughout our entire business value chain, SK Innovation and its subsidiaries have established and strictly adhere to comprehensive Safety · Health · Environment (SHE) policies, recruitment standards, ethics codes, supplier codes of conduct, and purchasing ethics codes. Since October 2007, we have been proud members of the United Nations Global Compact (UNGC), a global sustainability management initiative, and we wholeheartedly endorse and support the 10 principles outlined in the areas of human rights, labor, environment, and anti-corruption. Furthermore, we place great importance on honoring global codes of conduct, such as those set forth by the International Labor Organization (ILO) and the United Nations Guiding Principles on Business and Human Rights (UNGPR).

UNGC Six Guiding Principles on Human Rights and Labor

Human Rights

- Principle 1.** Business should support and respect the protection of internationally proclaimed human rights;
- Principle 2.** Make sure that they are not complicit in human right abuses.

Labor

- Principle 1.** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 2.** the elimination of all forms of forced and compulsory labor;
- Principle 3.** the effective abolition of child labor; and
- Principle 4.** the elimination of discrimination in respect of employment and occupation.

Expanding Human Rights Management

We have experienced rapid global business expansion in recent years. With increasing global recognition of the importance of corporate social responsibility in relation to protecting human rights within global supply chains, we are continuously expanding the scope of human rights management to encompass our global operations. We have meticulously developed customized human rights due diligence questionnaires for each country and region, taking into careful consideration the local laws and cultural contexts of our global operations. To date, no major human rights violations have been confirmed at any of our global worksites. However, we remain fully committed to proactively managing human rights risks across all our global operations through ongoing efforts, such as conducting human rights due diligence and operating mental health support programs tailored to our global worksites.



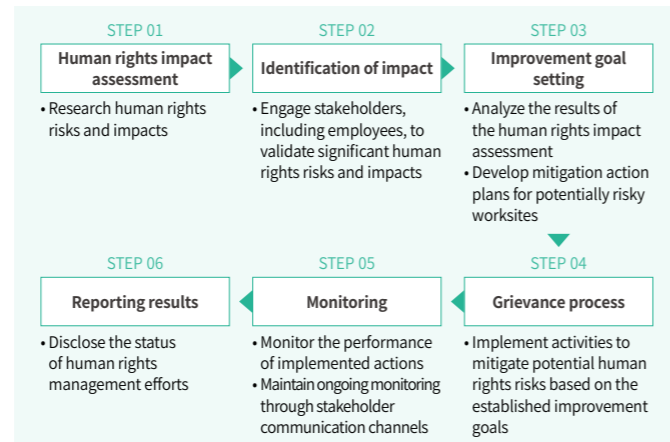
Employees of SK Innovation, Peru Lima Branch

Human Rights Management

Human Rights Risk Management System

SK Innovation and its subsidiaries conduct both regular and ongoing human rights due diligence in strict accordance with international guidelines to safeguard the actual human rights of our employees and suppliers, and we faithfully report the outcomes to our stakeholders. The human rights due diligence process encompasses several steps: 1) human rights impact assessment, 2) identifying impact, 3) establishing improvement measures, 4) implementing improvement activities, 5) monitoring progress, and 6) disclosing relevant information to stakeholders in that order. Through this process, we continuously manage human rights impacts that may arise at each of our worksites while ensuring open communication with our stakeholders. Furthermore, starting from 2022, we have extended the scope of human rights due diligence beyond domestic employees and suppliers to encompass locally hired employees at our global worksites. In 2022, we successfully conducted human rights due diligence for all our global employees in Shanghai, China, and Singapore. We are currently preparing to carry out human rights due diligence for locally hired employees in Hungary in 2023.

Human Rights Risk Management Process



Human Rights Impact Assessment

We are committed to conduct company-wide human rights impact assessments, guided by our basic human rights declaration. The company has developed a self-analysis checklist based on internal management indicators and global guidelines pertaining to working environment, working conditions, and human resource management and carry out an online survey to all employees annually. Additionally, we conduct human rights due diligence for our key partners engaged in business with SK Innovation and encourage all partners to conduct their own human rights due diligence. For our global worksites, we customized human rights impact assessment questions to specific countries and regions, taking into account local laws, cultural contexts. Furthermore, we place special emphasis on vulnerable human rights groups, guided by the recommendations outlined in global guidelines.

HRM Report P.14 | Human Rights Impact Assessment

Overview of Human Rights Impact Assessment

Types	Regular assessment	Ongoing assessment
Frequency	Once a year	When a major risk factor arises
Organizer	SK Innovation Corporate Culture Division and third verification agencies	
Self-analysis	<ul style="list-style-type: none"> Conduct online self-analysis for all employees based on the checklist The checklist consists of a set of 20-30 questions that are regularly added to and refined 	
Site inspection	On-site check on risk factors (one-on-one interviews with employees), On-site due diligence at suppliers' business sites and sampling surveys for suppliers	
Potentially vulnerable groups (ILO guidelines)	① Female employees ② children ③ Refugees ④ Ethnic minorities ⑤ Indigenous persons and immigrants ⑥ employees with disabilities	

Identifying Impact and Establishing Improvements

Screening and managing potential human rights issues through human rights impact assessments are one of our responsibilities. We determine risk levels by assessing both direct and indirect human rights risks associated with our business activities, as well as the frequency and severity of each risk. Upon assessing the risk level, we implement physical controls following appropriate procedures and conduct regular compliance checks, typically on an annual or biannual basis. Furthermore, upon identifying impacts through human rights risk assessments, we establish improvement goals for high-risk human rights issues and develop risk mitigation action plans specifically tailored to at-risk worksites.

Human Rights Risk Categorization Criteria

Risk assessment based on "Frequency" × "Significance"

Significance	① Insignificant	② Significant	③ Critical
Frequency	① Insignificant (less than twice a year)	② Average (less than 6 times a year)	③ Frequent (more than 10 times a year)

	(1, 3)	(1, 3)	(3, 3)	Significance ↑
	(1, 2)	(2, 2)	(3, 2)	
	(1, 1)	(2, 1)	(3, 1)	
	Frequency →			

	Low	Medium	High
	<ul style="list-style-type: none"> Insignificant violations raised by internal or external persons or groups 	<ul style="list-style-type: none"> Human rights of stakeholders have been violated by work and value chains, affecting stakeholders in the work area (or primary and secondary value chains) 	<ul style="list-style-type: none"> Human rights risks that affect a large part of the workplace or stakeholders (Most stakeholders are affected.) Significant conflict with the vulnerable people, hard to immediately relieve through the measures at the workplace

Human Rights Management

Preventing and Prohibiting Sexual Harassment in the Workplace

Sexual Harassment Prohibition Policy

SK Innovation and its subsidiaries strictly prohibit sexual harassment in any form. This includes actions where an employer, supervisor, or employee exploits their position of authority to sexually humiliate or disgust another worker through sexual comments, demands, or any other behavior related to work. It also encompasses situations where a worker faces disadvantages for refusing to comply with such comments or demands, or where benefits are offered conditionally on compliance.

HRM Report P.24 | Sexual Harassment Prevention and Prohibition Policy

Workplace Harassment Prohibition Policy

Maintaining a workplace free from harassment is our commitment. We strictly prohibit “workplace harassment”, which refers to any conduct by an executive (employer) or employee (worker) that utilizes their position or relationship within the workplace to inflict physical or mental distress on another worker or create an inappropriate work environment. This policy applies not only to SK Innovation employees but also extends to employees of our suppliers and business partners, ensuring all forms of workplace harassment against employees is prohibited.

HRM Report P.24 | Harassment Prevention and Prohibition Policy

Prevention Education on Sexual Harassment and Workplace Harassment

We conduct mandatory online training on sexual harassment and workplace harassment prevention for all employees once a year. To address different occupational levels, including organizational leaders, on-site supervisors, new employees, and trainees, we tailor our education programs accordingly. Furthermore, we reinforce the importance of prevention by regularly distributing sexual harassment and workplace harassment prevention education materials, encouraging the active engagement and participation of all employees.

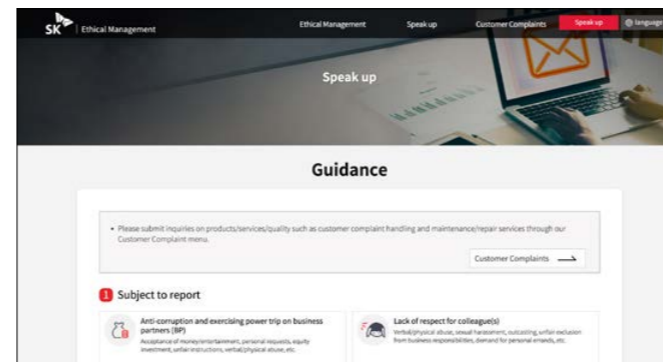
Operating a Human Rights Reporting Channel

Monitoring and Stakeholder Communication

SK Innovation and its subsidiaries are committed to maintaining continuous human rights management through the operation of online and offline communication channels. We actively engage with stakeholders, including employees, suppliers, and customers, to monitor and assess human rights risks on an ongoing basis. To ensure transparency, we openly disclose the status of our potential human rights risk management efforts by publishing the results of our human rights impact assessments on our website and reports annually.

Key Stakeholder Communication Channels

Stakeholder	Key Communication Channel
Employees	Dedicated website for reporting unethical conduct, intranet, Harmonia Counseling and Coaching Center
Customers	Dedicated website for reporting unethical conduct, customer call center, website of SK Innovation’s subsidiaries
Local Community	Dedicated website for reporting unethical conduct, local group meetings, local community committees
Suppliers	Dedicated website for reporting unethical conduct, regular meetings of suppliers, supplier CEO meetings

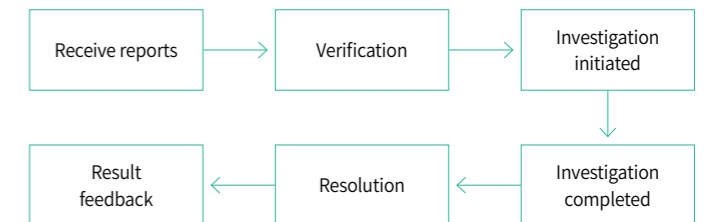


SK Innovation, Ethical Management Website (<https://ethics.sk.co.kr/>)

Human Rights Grievance Counseling Center

To fulfill our commitment, we operate in-house grievance counseling centers, which serve as essential resources for managing the well-being of our employees and handling reports of sexual harassment and workplace harassment. When reports of human rights violations, such as sexual harassment or workplace harassment, are received, an investigation committee comprising in-house lawyers is formed to thoroughly investigate the facts. Throughout this process, we prioritize the protection of victims, offering measures such as granting leave and providing psychological counseling to minimize their distress. Perpetrators found guilty as a result of the investigation face strict disciplinary actions, including severe consequences such as termination of employment.

Process for Human Rights Complaints



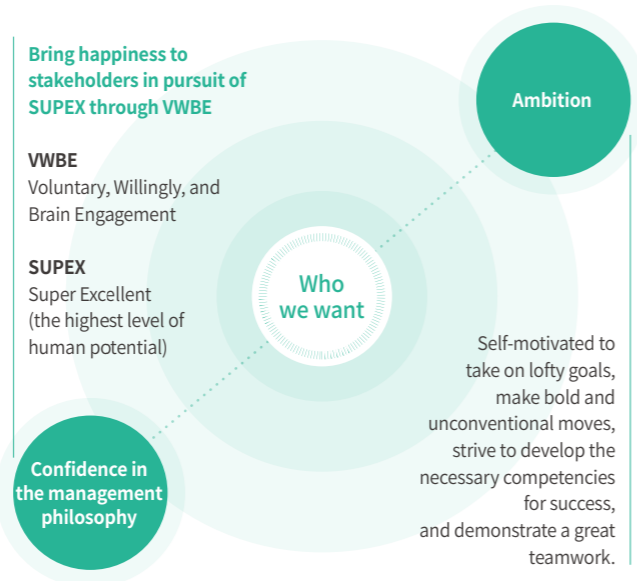
Human Resources Management

Human Resource Development Policies and Systems

Human Resource Development Policy

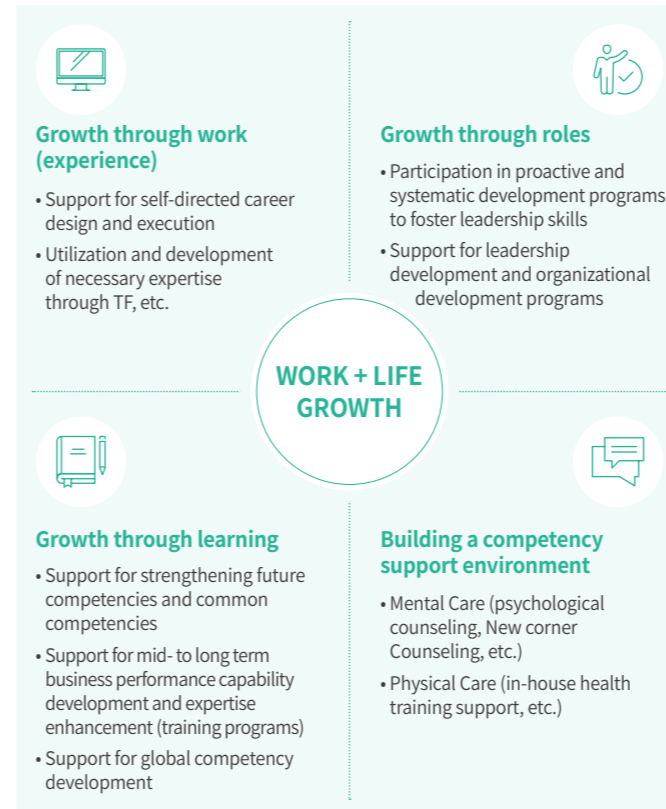
SK Innovation and its subsidiaries are continually enhancing talent development policies to bolster the execution of the Financial Story. We have formulated a comprehensive talent development strategy and system that aligns with evolving business needs and have set specific goals for employee competency development. To ensure the attainment of these competency development objectives, we have devised detailed implementation plans and are committed to designing and implementing tailored employee training programs. Our aim is not only to enhance the engagement and satisfaction of employees but also to drive significant mid- and long-term outcomes, such as improved return on investment (ROI) in human resource development and increased productivity per employee.

Who We Want



Employee Development Support System

We, at SK Innovation, prioritize fostering the self-directed growth and development of our employees' competencies. To achieve this, we provide development support systems that encompass growth through work, growth through roles, and growth through learning. We aim to cultivate an environment that facilitates the flourishing of these competencies.



Directions for Human Resource Development

Career Mobility and Career Management

SK Innovation and its subsidiaries established Individual Development Plans (IDPs) that enable employees to design and execute their self-directed career paths. Through regular coaching and interviews between organizational leaders and employees, we provide motivation and feedback, ensuring that employees can continuously set goals and remain engaged in their work. Furthermore, We operate an internal mobility system, referred to as the Job Market, which supports employees' growth and career advancement through self-directed career design and mobility opportunities.

Key Talent Development for Business Model innovation and Performance Enhancement

Securing the next generation of innovative leaders who will drive change and spearhead in the future is a crucial task for the company. We actively recruit and nurture key talents while establishing and managing a talent pool to foster their growth. Additionally, we provide specialized training programs that focus on enhancing core competencies such as leadership, potential assessment, design competency development, and professional skills to key talents.

Furthermore, in our pursuit of enhancing the competitiveness of our rapidly expanding global business, we are intensifying efforts to recruit local talents and establishing a growth system to reinforce our technological and R&D capabilities. We have expanded job expertise training to include employees at global sites, enabling us to strengthen the knowledge and proficiency of emerging talents in new green business production technologies like batteries and materials.

Human Resources Management

Strengthening Future Capabilities

In today's technology-driven business landscape, SK Innovation is committed to empowering employees to enhance their core knowledge in AI and digital transformation (DT) and their ability to effectively leverage information (AI/DT Literacy).

We provide foundational learning resources to ensure AI/DT literacy across all employees, while fostering Citizen Data Scientists (CDS) through on-the-job knowledge and data analysis skills development, thereby cultivating experts capable of driving DT innovation initiatives. In addition, we implement project-based learning and collaborate with industry and academia to execute DT tasks, enabling the practical application of acquired knowledge to drive tangible performance outcomes. Additionally, we facilitate the development of a DT culture through various initiatives, including the creation of diverse DT learning resources, distribution of learning materials, and active participation in the Data Scientist (DS) Forum of SK Innovation subsidiaries and the SK Group ICT Tech Summit.

Enhancing Global Business Capabilities for New Business

We have implemented a job competency system and conducted targeted training programs to strengthen capabilities of our global engineers in new business areas. We have developed online video training materials covering areas such as production, quality, IT, security, and SHE, and utilized an online training platform to enable efficient training at global worksites. In addition, the company has introduced a "Continuous Improvement Program", encouraging members of our global worksites to actively engage in on-site innovative activities to enhance the competitiveness of our production sites. To foster a truly global workforce, we provide language, intercultural, and leadership competency courses to enhance globality of our employees working overseas.

Human Resource Development Program

Long-term Training Program

SK Innovation and its subsidiaries have implemented long-term training programs aimed at developing the capabilities required for executing mid- to long term future business initiatives and supporting the growth aspirations of our employees. By diversifying training methods to allow employees to combine study and work on-duty as well as off-duty, we are expanding growth opportunities for talented employees with high learning and capacity development needs. Currently, we actively participate in various prestigious training programs, including MBA and vocational degrees at leading global and domestic universities, as well as specialized research institutes. Additionally, we are dedicated to nurturing core talents who will play a pivotal role in driving the company's Financial Story forward for long-term success through global experiences and knowledge exchange.

Customized Growth Support

At the start of each year, we provide personalized growth support for employees by facilitating the establishment of IDPs through interviews and coaching sessions between organizational leaders and employees. These IDPs serve as the foundation for individual competency development and training initiatives, with the outcomes being evaluated in the year-end competency assessment, which aims to foster the continuous development and growth of our employees. To enhance job expertise, we offer support for expenses related to acquiring official certifications. We have designed specific curricula for different job categories, including engineers, researchers, and technical trainees, and provide training programs that employees can voluntarily participate in based on their IDPs. Furthermore, we actively support onboarding processes for new and experienced employees, which include common mandatory training, mentoring programs, and group

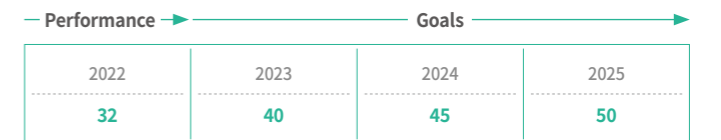
counseling sessions, to facilitate a smooth transition and integration into the company. For leaders, we assess their leadership capabilities and provide individual coaching sessions through expert guidance and leadership development workshops, tailored to their specific needs and based on the assessment results. Our aim is to continuously support the growth and enhancement of leadership skills among our leaders.

Job Competency Development Program

We recommend a minimum of 200 hours of learning per year (10% of working hours) for each individual. To support this, we actively leverage mySUNI, the SK group's learning platform. mySUNI offers a wide range of online and offline learning materials across various fields, including AI/DT, Future Semiconductor, Green, BM Design, innovation Design, SV, Global, Happiness, and Management. By allowing employees to personalize their learning focus areas, mySUNI caters to individual competency development needs. For knowledge required in specific tasks, we facilitate knowledge sharing and internalization through in-house lectures and peer learning within the company. Moreover, to enhance the capabilities of technical employees, we combine theoretical and on-the-job training courses for junior employees, while conducting regular on-the-job theory courses, such as SHE training and work standard refreshment, for all technical employees to ensure process safety.

Self-directed Learning Performance and Goals

(mySUNI learning hours per person)



Human Resources Management

Knowledge Internalization

SK Innovation identifies and appoints in-house experts in key areas that can significantly contribute to the organization's performance, leveraging their individual capabilities for the benefit of the company. The selection criteria for in-house experts include factors such as patents and certifications, CEO awards, doctorates in relevant fields, and publication records. These experts play a crucial role in fostering a culture of learning and knowledge sharing within the organization. Utilizing their knowledge and experience, these experts regularly conduct both online and offline in-house lectures. To ensure widespread access to these valuable resources, the lectures are uploaded to mySUNI, the SK group's learning platform. By making these lectures available on the platform, we enable employees across the organization to benefit from the shared knowledge and promote continuous learning.

Reinforcing Support for Female Talent Development

SK Innovation and its subsidiaries are committed to fostering a female-friendly corporate culture, actively working to prevent any unfair practices that female employees may encounter. We are dedicated to creating a workplace that is conducive to female workers by enhancing policies and systems related to women, expanding our recruitment efforts to attract more female talent, providing support for their professional development, and cultivating a female-friendly work environment where women can thrive. For our female key talents, we provide training programs focused on developing their leadership capabilities, ensuring their stable growth within the company.

Key Performance

- 2019**
 - Ulsan CLS Workshop for female engineers
 - Established SKI global core talent courses
- 2020 ~ 2022**
 - Key talent leadership programs
 - Trained selected core talent employees

Activities Addressing Issues of Female Employees by Position

Category	Attract Female Employees	Minimize Career Interruption	Promote Leadership Development
HR system	<ul style="list-style-type: none"> HR monitoring for fair recruitment against female candidates by each recruitment stage 	<ul style="list-style-type: none"> Excluding employees on leave for more than 6 months from evaluation 	<ul style="list-style-type: none"> Selecting high potential female talents
Nurture female talents		<ul style="list-style-type: none"> Providing female leadership group workshops Fostering female engineers at Ulsan Complex 	<ul style="list-style-type: none"> Providing group training programs on female project leader candidates
Work-family balance	<ul style="list-style-type: none"> Automatic parental leave transition systems Expanding workplace daycare Promoting flexible work systems 		

Measuring Effectiveness of HRD Programs

We conduct post-satisfaction surveys on human resource development programs to measure their effectiveness and use them to supplement content and develop future programs.

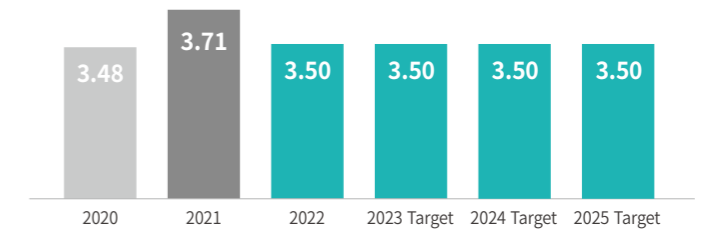
HRD Program Satisfaction ————— Average **4.53** (out of 5)

Recruitment and Evaluation

Transparent Recruitment

Our recruitment process is guided by systematic and transparent principles and procedures. We ensure objectivity by conducting document evaluations and written test screenings independently, often in collaboration with external specialized organizations. To eliminate biases related to factors such as education or gender, we have implemented blind screening practices and provided pre-interviewer training. Moreover, in our commitment to diversity and inclusion, we give additional consideration to individuals with disabilities and veterans by awarding extra points in the selection process. Furthermore, we have established a separate recruitment process dedicated to individuals with disabilities.

Employment Rate and Targets for People With Disabilities at SK Innovation



Job Expos and Job Fairs

In light of the relaxation of COVID-19 social distancing measures, SK Innovation and its subsidiaries have been proactively engaging in job expos and fairs held at universities, academic institutions, government agencies, and employment organizations since the second half of 2022. These events serve as valuable platforms for direct interaction and communication with attendees, allowing us to share comprehensive information about our business areas, research fields, and employee benefits. We also provide insights into the recruitment process, offering guidance to job seekers and addressing their inquiries to facilitate their career development.

Human Resources Management

Dedicated Website for Recruitment Information

In 2022, SK Innovation and its subsidiaries developed of a dedicated recruitment website, which has been operational since February 2023. The purpose of this website is to provide job applicants with a user-friendly platform to conveniently apply for positions and access a wide range of company-related information, including details about our business areas, available jobs, and employee benefits.

Fair Evaluation

For fair performance evaluation, SK Innovation and its subsidiaries utilize a performance management system that assists individuals in setting career-based, role-specific, and expectation-aligned goals throughout the year. The progress and outcomes of goal achievement are regularly reviewed through timely and continuous feedback from leaders and colleagues. To ensure systematic management, employees' competencies, qualities, and achievements are accumulated as data.

Our evaluation system is designed to support personal growth, and as a form of feedback, evaluation results are shared with employees after undergoing a rigorous review and auditing process to enhance acceptance rates. Employees have the opportunity to raise objections through a petition system if they disagree with the results. Furthermore, we operate a differential compensation system that incorporates evaluation outcomes for development, compensation, and position assignments. This comprehensive approach considers not only individual performance but also short- and long-term goals related to corporate sustainability. Factors unrelated to an individual's capabilities and performance, such as gender, age, and education, are strictly excluded from the compensation decision-making process. Additionally, We provide separate financial incentives to employees with 10, 20, and 30 years of service to recognize and encourage long-term commitment to the organization.



SK Innovation, Celebrating 100 days of employment for new employees

Happy Workplace

Happy Workplace Principles and Policies

Creating a Happy Workplace through Human-centered Management

SK Innovation is dedicated to fostering a happy workplace for its employees, guided by a human-centered management philosophy. We actively engage employees in the “journey towards happiness” by creating an enabling environment and encouraging their voluntary participation. To achieve this, we have implemented innovative systems to enhance corporate culture and improve employee welfare, while regularly measuring employee happiness through surveys. Our goal is to cultivate a joyful and happy organizational culture and extend that happiness to our stakeholders.

Corporate Culture innovation

Establishing Effective Online and Offline Communication Channels

Promoting seamless communication and collaboration among employees through a range of online and offline channels are one of our commitments. A team of 285 change facilitators, known as “iCONs”(innovation Communication ON), has been selected to serve as bridges between leaders, employees, and management, fostering two-way communication and authentic employee-centered dialogue. Despite the challenges posed by the COVID-19 pandemic, we have leveraged online platforms, such as the internal bulletin board “tongtong”, to facilitate open discussions and suggestions. Additionally, the mobile app “kong” has been introduced, offering various happiness-related content to help employees discover and cultivate happiness.

To enhance direct communication, town hall meetings provide a platform for timely CEO-employee interactions on management matters, while informal programs bring together employees from different business sites and positions. As social distancing measures have eased, we have reinstated the Happy Wander program, which allows employees and their families to participate and enjoy together.

Online and Offline Communication Channels

Category	Communication Channels	Description
Online	tongtong	An online bulletin board that enables employees to engage in real-time discussions by posting idea suggestions, inquiries, and updates about the company.
	Mobile app “kong”	“kong” supports employees to enhance their happiness through various functions and content. From daily data recording and challenge participation to free online boards, the app supports employees in finding and nurturing their own happiness.
Offline	iCON	Internal communication messengers and Change Facilitators who play a vital role in conveying employee opinions and ideas for change to leaders, fostering understanding on management issues through frequent communication.
	Happy Wander	Programs that aim to promote employee and family happiness. These programs encompass engaging lectures, exhibitions, and experiential activities, providing opportunities for employees and their families to experience refreshment and happiness in their daily lives.

Employee Welfare and Benefits

Creating a Work Environment for Healthy Work-Life Balance

SK Innovation and its subsidiaries strive to create a flexible work environment that enables employees to achieve their best performance while maintaining a healthy work-life balance. We provide employees with the freedom to choose their work schedules and offer a smart work program that assists them in managing their working hours effectively. To ensure compliance with legal working hour limits, we conduct monthly checks and implement a “PC-Off” system to prevent unnecessary overtime after business hours. Furthermore, we prioritize employee satisfaction by including working hours in our annual employee survey, aiming for a response rate of over 70%. To support work-life balance, we have implemented a telecommuting system, allowing employees to save an average of 1.7 hours of commuting time per day. This saved time can be utilized flexibly for personal pursuits or to enhance family connections. To facilitate seamless telecommuting, we have established and supported infrastructure such as video conferencing and work sharing systems. We have implemented the “O! Leave” program, a comprehensive leave initiative that enables employees to take up to a month off in a 10-year rotational cycle, alongside their long-service reward leave. This program is designed to promote a sustainable work-life balance for our employees over the long term.

Happy Workplace

Welfare and Benefits

We have implemented a vacation reporting system to ensure employees have the freedom to utilize their vacation time effectively. We actively encourage the use of Big Breaks and sandwich vacations to support employees in taking sufficient rest and rejuvenation. Furthermore, we offer a range of welfare programs designed to promote a healthy work-life balance. These include housing loan support, workplace daycare facilities, and assistance for hobbies and leisure activities.

Category	Description
Financial Support	SK Happy Card, Support for personal pensions
Healthcare	Regular medical checkups, Support for medical expenses (including spouse and children)
Housing Support	Housing loans (purchase, rent), dormitory or housing expenses for relocation
Family and Parental Leave	Congratulatory and condolence leave and money, maternity and parental leave, daycare, educational expenses for children
Hobbies and Leisure Programs	Resorts, condominiums, fitness centers, and in-house club activities
Others	Rewards for long service

Mental Health Support Program

SK Innovation operates Harmonia Counseling and Coaching Centers at multiple locations, including headquarters, Daejeon Institute of Technology, and Ulsan CLX. These centers are staffed with a professional counselor at each location who work in collaboration with external experts to provide specialized psychological counseling services. These services encompass areas such as work-related stress, interpersonal relationships, and personal growth. Additionally, customized coaching programs are offered to support various aspects of employee development, including new employee onboarding and career progression. To address the diverse needs of employees at different stages of their lives, we have

implemented tailored programs such as special lectures for the MZ generation and children’s vacation programs. These initiatives aim to enhance understanding within families and promote a sense of family unity. Furthermore, we prioritize the well-being of high-risk employees by providing support for trauma and crisis situations.

Moving forward, we will monitor mental health indicators based on program usage performance in order to identify and address potential risks proactively. Our commitment to the overall well-being and growth of both individual members and the organization as a whole is reflected in the implementation of group programs, including workshops to improve teamwork and trainings to foster happiness.

Harmonia Programs in 2023

Category	No. of Participants	No. of Sessions
Counseling and Coaching	740	2,963
Teamwork Building & Small Group Programs	1,410	118
Happy Workplace Campaign	All employees	5
Prevention Training on Sexual Harassment and Workplace Bullying	All employees	1

Maternity Support System

To ensure a work-life balance for our female employees, we provide a minimum of one month and a maximum of three months of pre-natal leave for members in their first trimester or nearing childbirth. Pre-natal leave can be combined with maternity leave in the second half of pregnancy, allowing for a maximum maternity leave duration of 90 days. Moreover, when applying for maternity leave, an automatic one-year parental leave is granted to assist employees reduce the burden of childcare. To further support working mothers, we provide dedicated breastfeeding rooms and women’s restrooms. Our commitment to promoting work-life balance ensures a supportive environment for our employees.

Retirement Support Programs and Pension

SK Innovation and its subsidiaries operate retiree support programs and a happy pension system to ensure a stable and happy retirement for employees. Through retiree support programs, we offer personalized counseling and assistance in areas of individual interest, including entrepreneurship education, reemployment linkage, and financial consulting. Our happy pension system is designed to promote a happy retirement by matching employees’ monthly contributions and company support on a 1:1 basis into a defined contribution retirement account. Additionally, we contribute a portion of the management performance fee at the beginning of each year to further enhance the reliability of our employees’ retirement funds so that our employees can effectively manage their retirement and enjoy a stable and joyful post-employment phase.

Employee Satisfaction Survey

To assess employee happiness and identify key factors that contribute to their well-being, SK Innovation conducts an annual Happiness Survey. In 2022, the survey had a participation rate of over 60% among all employees. Happiness is measured based on four areas: life satisfaction, life meaning, positive emotions, and negative emotions, with scores averaged arithmetically. In 2022, the Happiness Score was 72.7 out of 100, indicating a 1.5-point increase compared to the previous year. The survey also helps us identify key happiness factors, which we use to select and refine initiatives aimed at promoting employee happiness. When asked about their satisfaction with the company’s overall happiness-promoting activities, more than 81% of employees responded positively. (2021 positive response rate 78% ➔ 2022 positive response rate 81%).



Happiness Survey Results

Category	Unit	2020	2021	2022
SKI Happiness Point	Points	70.9	71.2	72.7

Happy Workplace

Labor-Management Relations

Key Principles of Labor Union Collective Bargaining Agreements

In adherence to the principles outlined in the Constitution and the Labor Relations Act, SK Innovation maintains a collaborative relationship with labor unions, respecting the rights of both management and labor. Our aim is to establish normal labor-management relations, ensuring equal working conditions and safeguarding the human rights of union members. We regularly cooperate to enhance the social and economic well-being of our union members. At SK Innovation and its subsidiaries, a union member is a person who is an employee of the company and is eligible to join a union, and union membership is a voluntary choice for employees, and they are free to join or leave a union based on their personal preferences. The biennial collective bargaining agreement applies to all union members. To facilitate constructive dialogue and cooperation between labor and management, we convene quarterly labor-management council meetings. These sessions provide a platform to discuss shared concerns such as employee welfare, grievance resolution, and safety management. Additionally, we foster open communication through various channels, including management briefings, business plan sharing, and union meetings. The main policies are centered around cultivating a healthy labor-management culture and they are as follows.

1 The Company and the Union are committed to fulfilling corporate social responsibilities and contributing to social development, enabling all employees to work with a sense of reward and pride, and to become a company trusted by the public.

2 Both the Company and the Union shall uphold the Agreement in good faith. The Union is recognized as the representative organization for negotiating and concluding collective agreements on behalf of all members. The collective agreement applies to the Company, the Union, and all members.

3 The Company guarantees the freedom of union activities for its members. It will not interfere with legitimate union operations and will not discriminate against any member based on their participation in union activities.

4 When enacting, revising, or abolishing employment rules, the Company will listen to the opinions of the Union. In cases where working conditions may be negatively affected, the Company will obtain prior consent from the Union.

5 The scope of collective bargaining includes the following areas:
a. Union activities
b. Wages and working conditions
c. Occupational safety and health
d. Welfare benefits
e. Employment security
f. Other matters subject to collective bargaining

6 Labor-Management Council

The Company and the Union establish and operate a labor-management council to enhance productivity, advance the common interests of labor and management, and foster industrial peace. The council focuses on the following areas: a) Productivity improvement and fair performance distribution b) Resolving grievances of union members c) Enhancing safety, health, and the overall working environment, and promoting the well-being of members d) Enhancing the personnel and labor management system e) Discussing matters related to the welfare of union members.

Working Conditions

Wages

SK Innovation and its subsidiaries pay basic salaries, statutory allowances, and bonuses as salaries, with basic salaries determined based on employees' job performance, length of service, and work performance. In addition, employee wages are strictly complied with the minimum levels stipulated by labor relations laws in each country or region. The company engages in annual wage negotiations with labor unions, and wage increases are aligned with the prevailing domestic inflation rate.

Working Hours

We adhere to the regulations regarding regular working hours and overtime, in accordance with the labor relations laws of each country or region (52 hours per week in Korea). Furthermore, we ensure that employees receive appropriate compensation for any overtime worked, as mandated by the labor relations laws of each country or region.

Paid Leave

SK Innovation and its subsidiaries fully comply with the labor standards laws of each country, and strive to increase productivity and efficiency of work by providing employees with sufficient rest.

Policy on Employee Paid Leave

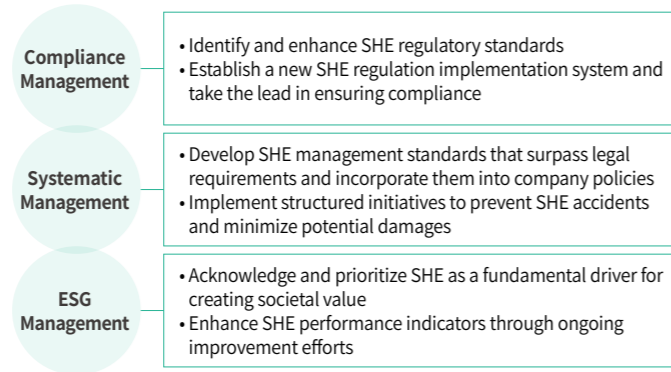
Safety, Health, and Environmental Management

SHE Management Policies and Systems

SHE Management Direction

SK Innovation is making various efforts to develop ESG management practices that goes beyond mere SHE compliance and systematic system operation to create SHE value as a social responsibility.

SK Innovation's SHE Management Principles



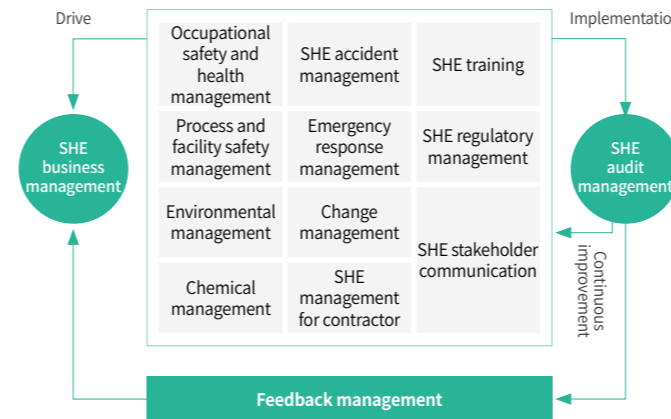
SHE Management Directions Centered on CSO

In 2022, SK Innovation appointed Chief Safety Officers (CSO) across all of our companies in response to growing societal expectations for the prevention of major accidents. The CSO assumes overall responsibility for overseeing and managing safety and health matters within the organization. With equal status to the CEO, the CSO plays a pivotal role in establishing and executing the company's safety and health management system. Leveraging their expertise in their respective fields, the CSOs drive a systematic and practical approach to achieve zero accidents. Through active promotion of carbon reduction and resource recycling management, the CSOs will play a significant role in contributing to the well-being of employees and stakeholders, fostering a culture of sustainable happiness.

SHE Management System

To ensure the systematic implementation of SHE management at a global level, SK Innovation has established a SHE management system that is applied across all business sites. Through a thorough analysis of leading global companies' safety management practices, we identified 13 essential operational elements. These elements have been incorporated into the company's regulations and subordinate procedures to ensure their effective implementation. To enhance the execution of the system, regular SHE audits are conducted under the leadership of the CEO. These audits serve to assess compliance with laws and regulations, identify areas for improvement, and address any gaps in implementation, establishing a continuous PDCA (Plan-Do-Check-Action) cycle. In line with our commitment to excellence, SK On's Seosan site and select overseas sites have obtained ISO45001 certification for their Safety and Health Management System, while the remaining sites are actively preparing to obtain this certification.

SHE Management System Framework



SHE Management for contractor

Through close collaboration with its contractor, SK Innovation strives to prevent and minimize SHE accidents. Contractor are integrated into our SHE management system and are expected to adhere to our stringent SHE standards and procedures. They are also responsible for establishing their own SHE plans and ensuring accurate implementation. To ensure compliance and continuous improvement, the SHE departments at each business site conduct regular evaluations of contractor SHE management practices and implementation levels.

Listening to contractor Opinions

SK Innovation actively engages with contractor to listen to their opinions on safety and health matters by operating both periodic council meetings and regular channels. We gather input from employees, both in-house and outsourced contractor, and thoroughly review each case. At Daedeok Institute of Technology, an ongoing suggestion system called SHE Talktalk and monthly partner safety and health councils are in place. The headquarters utilizes online platforms (e-secretariat) and a dedicated Helpdesk for feedback, while also conducting quarterly workplace visits and SHE meetings to directly listen to opinions. In Incheon IPC, in addition to the council meetings and regular channels, the company launched the "Tracker" campaign in 2022 to specifically address safety and health concerns, resulting in 360 valuable suggestions. Moreover, SKIET received over 200 suggestions through its behavior-based safety program, which operates independently from the council and always-on channels. In total, 2,037 suggestions were received in 2022, and every suggestion is carefully reviewed and acknowledged.

Safety, Health, and Environmental Management

Safety and Health Management System

Safety and Health Guidelines

Establishing safe and healthy workplace operations is the highest priority of SK Innovation and its subsidiaries. We consider them essential components of effective company management. We demonstrate our unwavering dedication to safety and health management through the annual endorsement of the CEOs of SK Innovation and its subsidiaries, underscoring the significance of these principles to our employees and stakeholders. Our comprehensive approach to ensuring the well-being of our employees and safeguarding company assets includes implementing vital safety measures such as installing necessary safety facilities, providing personal protective equipment, conducting regular safety meetings, inspections, and training programs, and organizing safety emphasis periods.

Establishing Occupational Safety and Health Committee

To address and resolve issues pertaining to occupational safety, work environment, and health, the company has established the Occupational Safety and Health Committee. This committee comprises an equal number of representatives from both labor and management, including employee representatives and workplace representatives, with a membership of 10 individuals or fewer each. The committee convenes regular quarterly meetings to discuss and make decisions on key matters. The key deliberations and resolutions of the Occupational Safety and Health Committee are as follows.

Deliberations and Resolutions

1. The establishment of an industrial accident prevention plan
2. The creation and modification of safety and health management regulations
3. Safety and health education programs for workers
4. The inspection and improvement of the work environment, including environmental measurements
5. Health management, including medical examinations for workers
6. Investigations into the causes of major accidents and formulation of preventive measures
7. The recording and maintenance of statistics on industrial accidents
8. Verification of eligibility for the purchase of safety devices and protective equipment related to safety and health

Safety and Healthy Environment Communication

SK Innovation and its subsidiaries ensure that employees receive relevant information and training regarding workplace hazards in their native language or in a language they can understand. This includes comprehensive training on various hazards such as mechanical, electrical, chemical, fire, and physical hazards. Safety and health information is prominently displayed throughout the facilities and easily accessible to employees. Furthermore, we emphasize the importance of continuous safety awareness by providing regular training sessions for all employees before work commences.

Emergency Response Management

SK Innovation and its subsidiaries operate an emergency response system to identify and respond swiftly to various scenarios (fire explosions, leaks and spills, typhoons, heavy rains, earthquakes, and power outages) in advance. To ensure rapid communication and response, we establish dedicated emergency response organizations at each business site. Additionally, we strive to mitigate the spread of accidents at an initial stage through the prompt deployment of safety measures tailored to the specific characteristics of each process. Furthermore, we have categorized emergency responses into five grades, taking into consideration the extent of potential damages and the likelihood of escalation. To enhance preparedness for higher-level emergencies, we conduct joint emergency response drills annually across all business sites in preparation for escalation to grades 1 and 2 scenarios.

Emergency Response Management System

SK Innovation has established and operates a emergency response management system to effectively address internal emergencies, including fires, explosions, oil leaks, and chemical accidents, as well as potential natural disasters like typhoons, heavy rains, and earthquakes to safeguard the well-being of individuals, protect the environment, and minimize property damage. We have categorized emergencies into five grades, taking into account the potential scale of damage and the likelihood of escalation. In the case of grades 1 and 2 emergencies, we have established procedures that ensure seamless collaboration between the headquarters and affected business sites. These emergency response procedures are aligned with company-wide management regulations and tailored to the specific characteristics of each business site. We make sure all employees are well-versed and fully internalize these procedures through continuous training. Furthermore, at each business site, we establish and operate dedicated emergency response organizations and disaster prevention centers to ensure swift dissemination of information and prompt response in the event of an emergency.



For the first time in Korea, SK Innovation has implemented a “high-capacity fire extinguisher” to swiftly extinguish fires in the large tanks within the crude oil storage area of Ulsan Complex.

Supply Chain ESG Management

Supply Chain Management Policy

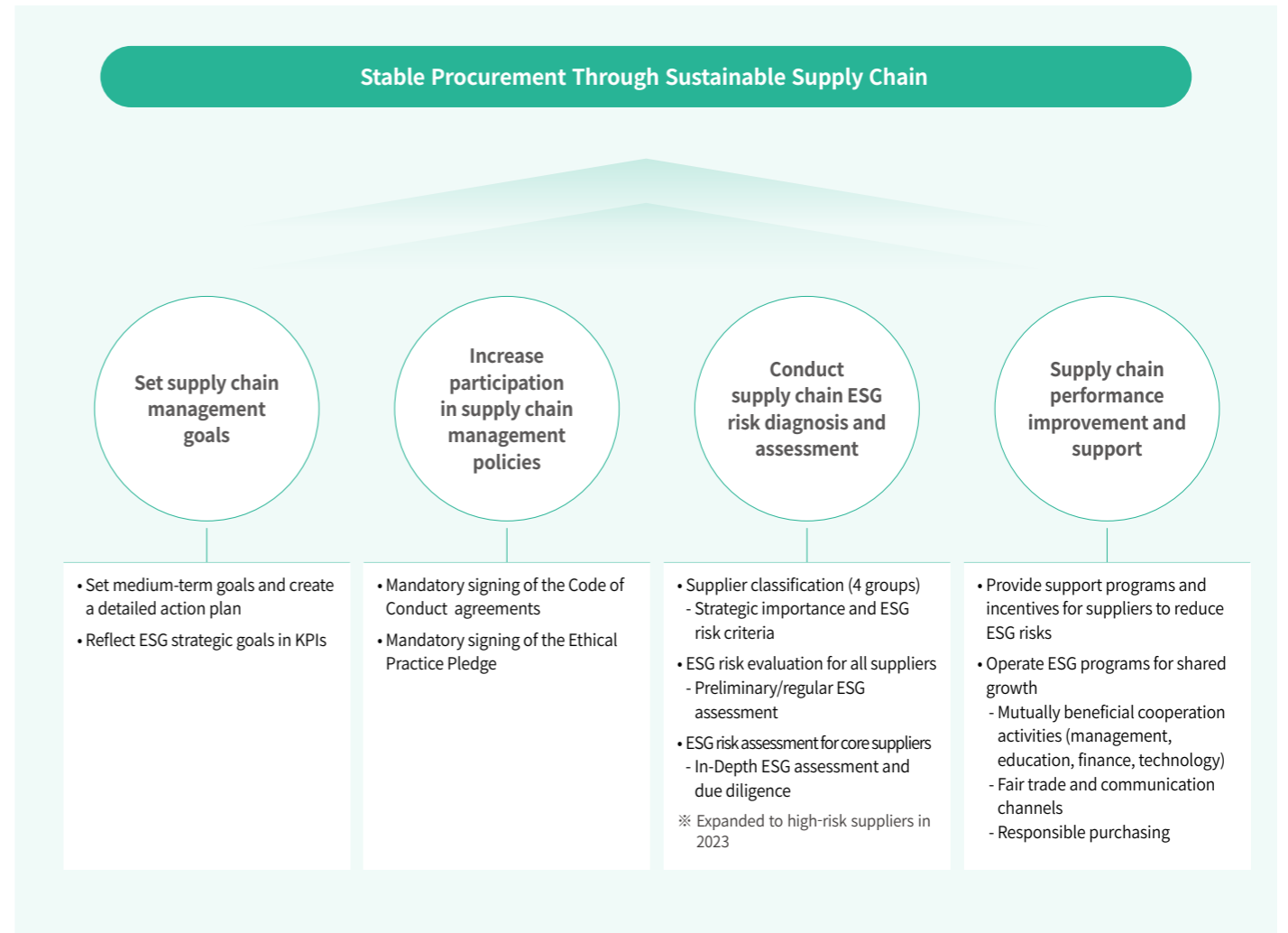
Supply Chain Management Direction

SK Innovation is dedicated to achieving stable procurement through enhanced sustainable supply chain management. In 2020, we revamped our system from an ESG perspective, focusing on execution and tangible outcomes. In 2022, we achieved a 100% compliance agreement rate with the Code of Conduct for domestic suppliers. We collected consent to the Code of Conduct also from a group of selected overseas suppliers as a pilot basis before further expansion of the consent requirement to all overseas suppliers. The Ethical Practice Pledge, introduced in 2021, continues to strengthen ethical practices in procurement. Suppliers must sign their consent to the Supplier ESG Code of Conduct and the Ethical Practice Pledge as well as the General Terms and Conditions to contract with SK Innovation, and those who do not submit their consents are not eligible for contracting. In 2022, we further strengthened supplier ESG management by restructuring risk assessment, improving purchasing systems, and introducing certification for excellent ESG suppliers. We also offer tailored training and consulting based on the evaluation result of the previous year.

Key Supply Chain Management Policies

Category	Description
Code of Ethical Purchase	<ul style="list-style-type: none"> Principles of fair and transparent trade Compliance with laws and international agreements (Declaration of Human Rights, UNGC, etc.) Reporting violations and protecting whistleblower
Code of Conduct	<ul style="list-style-type: none"> Human rights and labor, safety and health, environmentally friendly workplace management, compliance with business ethics, prohibition of conflict minerals, and management system
Bid Assessment Guide	<ul style="list-style-type: none"> Principles for selecting suppliers, bidding process, detailed guidelines, etc.
General Principles of Purchasing within the Purchasing Management Regulations	<ul style="list-style-type: none"> Corporate social responsibilities including shared growth, labor, human rights, anticorruption, and environmental protection

Supply Chain Management System



Supply Chain ESG Management

Supplier Classification System

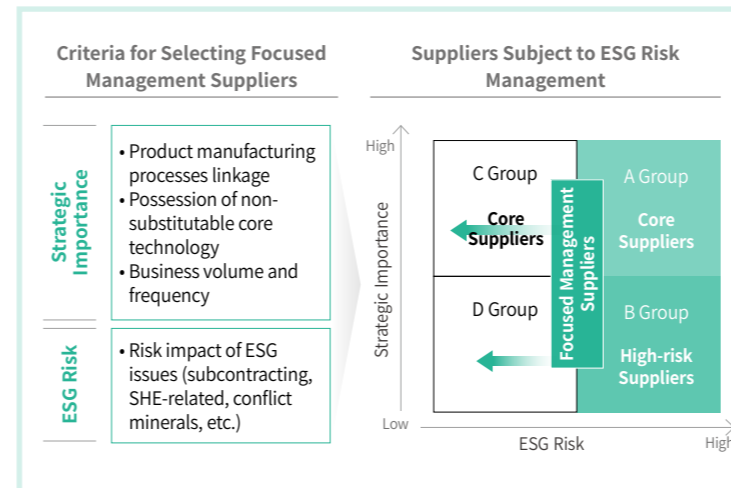
Since 2020, SK Innovation has categorized suppliers with a history of business transactions into four groups based on their strategic importance and ESG risks, and intensively managed those categorized as core suppliers. In 2022, we restructured the supplier selection process, shifting from considering the past three years of business transactions to focusing on the previous year. This adjustment takes into account the distribution of suppliers across various business sites and transaction characteristics, such as transaction cycle and size, to accommodate our business expansion. With that, we selected core suppliers that need to be placed under intensive management and provided them with customized education and consulting to help address issues they faced in each of the E/S/G areas. Furthermore, we threw active support to improve their ESG management, such as conducting in-depth ESG risk assessments and due diligence.

In 2023, we plan to partially reform the supplier classification system based on the ESG management performance of suppliers over the past two years. Suppliers with a high level of strategic importance and ESG risks were classified as core suppliers and underwent in-depth assessment, due diligence, and consulting support during the in-depth ESG assessment in 2021 and 2022. In 2023, suppliers that scored highly and were selected as ESG excellent suppliers in the previous year's in-depth assessment will be classified as core suppliers with high strategic importance and low ESG risk (C Group) as their ESG risk has decreased. At the same time, suppliers with low business volume and frequency but high ESG risk will be classified as high-risk suppliers (B Group). These high-risk suppliers will undergo in-depth assessment and due diligence alongside the core suppliers (A Group) already subject to such assessment, after being categorized along with A Group as focused management suppliers. Through this approach, we aim to expand the targets of ESG risk management to include high-risk suppliers as well as core suppliers. By reducing the number of high-risk suppliers while nurturing more suppliers to achieve excellent ESG performance, we will establish a management system capable of effectively addressing potential ESG risks.

2023 Supply Chain Classification System (draft)

Category	Target
Tier 1 suppliers	• Suppliers with direct transactions (previous year's orders)
Core suppliers	• Suppliers with high strategic importance and ESG risk
Suppliers with high-score	• Suppliers with a Leader rating (1, 2) at in-depth ESG assessment
Suppliers with high risk	• Suppliers with a Laggard rating (5, 6, 7) at in-depth ESG assessment
	• Suppliers that failed to pass the standard score in the preliminary/regular ESG assessment
Tier 2 suppliers	• Ulsan CLX, SKIPC Partners who failed to pass the SHE standard in the regular comprehensive evaluation
	• Consideration of other ESG risk characteristics of SK Innovation such as handling of conflict minerals and hazardous chemicals
Tier 2 suppliers	• Intermediate contractors of tier 1 suppliers with transactions exceeding a specific purchase amount

Criteria for Selecting Focused Management Suppliers in 2023 (Draft)



Suppliers in 2022

Category	No. of Suppliers (Unit: company)	Percentage of purchases (Unit: %)
Tier 1 ¹⁾	Total Suppliers	1,864
	Core Suppliers ²⁾	262
Tier 2 ³⁾	288	100

1) Suppliers with contracts in the previous year

2) Suppliers categorized in 2022 as having high strategic importance and ESG risk

3) Intermediate contractors of tier 1 suppliers with transactions exceeding a specific purchase amount

Total Cost of Orders

Category	Unit	2020	2021	2022
Total cost of orders	KRW 100 million	28,971	49,992	43,640
Amount purchased from local suppliers ⁴⁾	KRW 100 million	18,054	16,854	24,708
Proportion of purchases from local suppliers	%	62	34	57

4) Korean companies

Total Cost of Orders by Items in 2022

Category	Cost of Orders (Unit: KRW 100 million)	Proportion (Unit: %)
Raw and subsidiary materials	22,616	52
Construction services	16,256	37
Machine & equipment	4,769	11

Supply Chain ESG Management

Supply Chain Management Goals

Integrating ESG Strategic Goals into KPIs

Since 2018, SK Innovation has integrated supply chain ESG management into the key performance indicators (KPIs) of the departments responsible for supply chain management. In 2022, we prioritized the enhancement of supplier ESG management as a key indicator and set specific tasks to attain targets related to supplier due diligence rates and the percentage of high-scoring suppliers. Through meticulous and systematic implementation, we successfully achieved these targets.

To further strengthen the execution of supply chain management, we have plans to establish a dedicated supply chain management department within the procurement department in 2023. This strategic move will enhance coordination and enable a more focused operation of supply chain management that were previously divided within the procurement department.

2022 ESG KPI

Key Indicators	Targets	Specific Tasks
Reinforcing supplier ESG management	Supplier risk due diligence rate of 50% or more	<ul style="list-style-type: none"> Carry out in-depth ESG risk assessment and due diligence Support ESG education and customized consulting Establish certification/award systems for suppliers with excellent ESG performance
	20% or more of suppliers scoring high on the supplier ESG assessment	<ul style="list-style-type: none"> Upgrade ESG management system of suppliers Strengthen internal and external communication of ESG management achievements of SK Innovation-affiliated suppliers

Supply Chain Management Goals and Performance

In 2022, SK Innovation introduced customized ESG education and consulting programs for suppliers based on the outcomes of the previous year's in-depth ESG assessment in an aim to assist suppliers in addressing ESG risk issues effectively. At the same time, we revamped the evaluation method for the preliminary and regular ESG assessments and upgraded our procurement system to establish a comprehensive supplier ESG risk management system. Looking ahead to 2023, we have outlined plans to implement an enhanced ESG preliminary and regular assessment process. Suppliers that fall short of the established threshold in the preliminary and regular assessments will be classified as high-risk suppliers and subjected to in-depth assessment and due diligence.

2022 Supply Chain Management Achievements and 2023 Goals

	2022 Achievements	2023 Targets
Supplier ESG Risk Due Diligence Ratio	Performed due diligence on 50% of the suppliers that participated in the in-depth ESG assessment	Performed due diligence on 70% of the suppliers that participated in the in-depth ESG evaluation
Percentage of suppliers scoring high on the supplier ESG in-depth evaluation	Ensured 22% of the suppliers who participated in the in-depth ESG assessment obtain high score	Ensure 24% of the suppliers who participated in the in-depth ESG assessment obtain high score
ESG evaluation system for suppliers	Revamped pre- and regular assessment and enhanced purchasing system	Additional screening of high-risk suppliers through pre- and regular assessment
ESG Support for Suppliers	Implemented support programs	Expand the types of support programs
Evaluation of shared growth index	Achieved the highest rating	Targeting the highest rating
New supplier development	461 new suppliers were added	Find 300 or more new suppliers

Supply Chain ESG Management

Supply Chain ESG Risk Assessment and Management

Assessment Criteria for Suppliers

SK Innovation evaluates ESG risks that may arise from suppliers, including environment, safety and health, human rights, labor, ethics, and governance.

The evaluation criteria include the supplier’s Code of Conduct, Purchasing Code of Ethics, and Ethical Practice Pledge, and the main evaluation indicators are as follows.

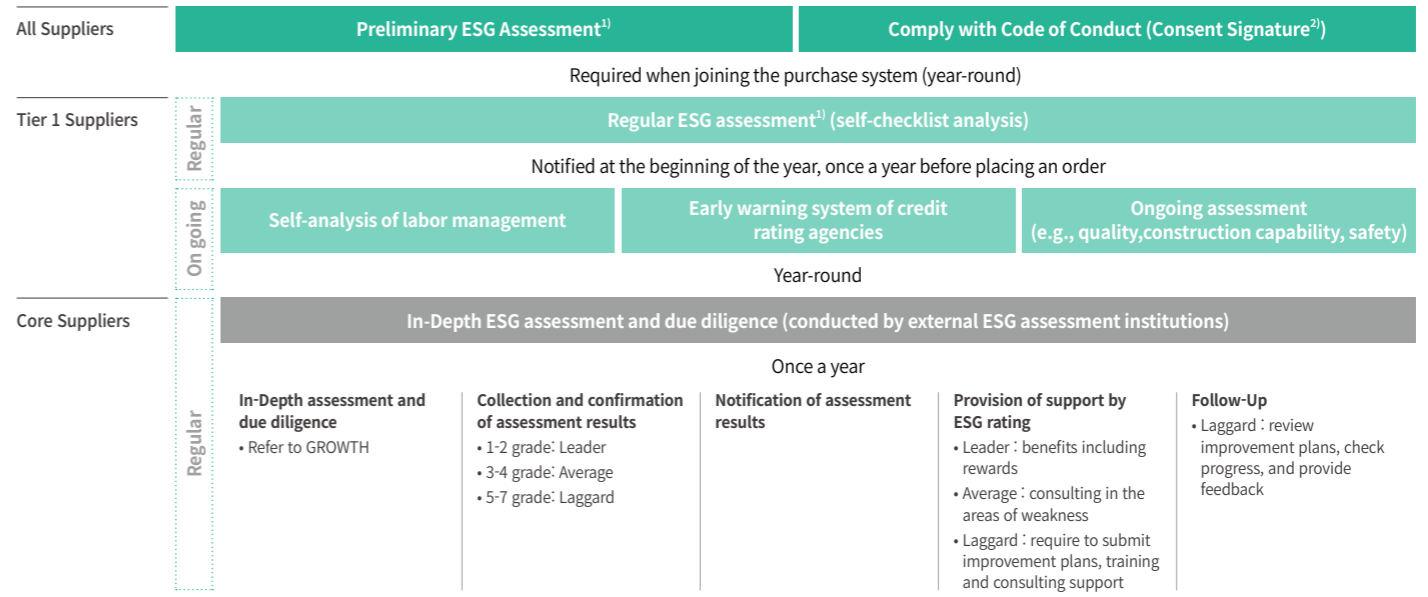
ESG Risk Factors of Suppliers

Category	Classification	ESG Risk Factors
Environment	Environmental management	Environmental management practices
	Eco-friendly opportunities	Environmentally responsible products
	Climate change response	Greenhouse gas emissions, energy consumption
	Pollution prevention and waste	Waste management, hazardous materials management, air pollutants
	Natural capital	Soil, noise and vibration, odor, raw materials, water protection
Social	Social goals	Social goals management
	Human capital	Data protection, human rights, health and safety, and labor
	Product/Customer	Conflict Minerals
	Suppliers	Supplier management, fair trade
	Local community	Social responsibility
Governance	Corporate governance	Information disclosure, management system, audit
	Corporate activities	Ethical management

Supplier Assessment and Management Process

SK Innovation has established and operates an assessment and management process for systematic ESG risk management for all suppliers. For new suppliers, we conduct the preliminary ESG assessment when they join our purchase system, and for Tier 1 suppliers with order history from the previous year, we conduct the regular ESG assessment once a year. In 2022, we improved the preliminary and regular ESG assessments method and the purchasing system so that we can manage the assessment results in a database by year, and we are implementing the reorganized pre- and regular assessment from 2023. In addition, we are conducting the in-depth ESG assessment and due diligence by external ESG assessment institutions for core suppliers, and establishing and operating ESG risk improvement plans based on the assessment results by dividing them into grades to help suppliers improve their actual ESG management level. Suppliers with high scores are certified as SK Innovation’s excellent ESG suppliers and granted various benefits, while those with lower scores are classified as high-risk suppliers and required to submit their own improvement plans, and are included in the next year’s ESG consulting and in-depth assessment as well as due diligence to actively support ESG risk improvement and check for improvement.

Sustainable Supplier Management Process



1) Suppliers that fail to reach the threshold in the preliminary/regular ESG assessments are classified as high-risk suppliers and undergo in-depth ESG assessment and due diligence for the year.
 2) Without consent signature, contract will not be proceeded

Supply Chain ESG Management

Green procurement

Promoting Green Product Purchase¹⁾

SK Innovation is at the forefront of promoting the purchase of green products to combat resource waste, environmental pollution, and contribute to greenhouse gas reduction. In 2022, we redefined and enhanced the concept of green purchasing by broadening the scope and expanding the range of target items. Additionally, through the restructuring of the outsourcing purchasing system, we have established a comprehensive database of over 6,000 green products. This initiative aims to actively promote green purchasing by encouraging the procurement of certified green products for general materials and improving the process to prioritize the purchase of substitutable items. We have been consistently striving to procure alternative raw materials and actively recycle waste to minimize the use of harmful substances in the production of petroleum and chemical products.

Looking ahead to 2023, we have ambitious plans to advance green purchasing initiatives. This includes setting medium-term goals for expanding our green procurement efforts and fostering communication channels for employees to engage in these practices.

1) Activities to purchase items that have a lower environmental impact, such as pollution, greenhouse gas emissions, and resource waste.

Status of Eco-friendly Purchasing

(Unit: KRW 100 million, based on newly established standards in 2022)

Category	2020	2021	2022
Amount of eco-certified product purchase ²⁾	71.7	56.4	66.4
Amount of eco-friendly product purchase ³⁾	70.7	84.3	107.9
Amount of other indirect product purchase ⁴⁾	12.5	17.6	25.0
Total	154.9	158.3	199.3

2) Eco-friendly products listed by the KEITI, MOE

3) Eco-friendly products such as energy-efficient/saving mark products and materials that reduce harmful substances

4) Other indirect purchases such as recycling

Shared Growth

Shared Growth Programs

SK Innovation remains committed to fostering shared growth programs across diverse fields, including management, finance, education, and technology, with the aim of growing and developing together. Since 2022, we have expanded our support programs to enhance suppliers' ESG management practices. These initiatives encompass customized ESG consulting services aimed at bolstering their ESG capabilities, as well as the establishment of an interest support program for excellent ESG suppliers. Our focus in 2023 will be to extend our support to key second-tier suppliers, broadening the reach of our efforts to improve ESG capabilities along the entire value chain. Specifically, SK Geo Centric has established a dedicated organization committed to shared growth initiatives. As a testament to the success of these efforts, SK Geo Centric received the highest rating in the Shared Growth Index assessment conducted by the Korea Commission for Corporate Partnership in 2022.

Shared Growth ESG Program (+)

Shared Growth ESG Programs

Category	Contents
ESG consulting support	Providing consulting programs to improve vulnerabilities based on ESG assessment results
Management support	Providing management support programs for social enterprises, supplier recruitment, and the battery business
Financial support	Financial support, including direct funding, the Shared Growth Fund, and the Happiness Sharing Fund for suppliers
Interest support	Introducing and operating a loan interest support program for excellent ESG suppliers (expected to be in operation by 2023)
Educational support	Providing educational support programs such as ESG strategy sharing, SK Shared Growth Academy, The Growth Mobile Academy, etc.
Technological support	Providing technical support programs such as joint technology development, technology infrastructure sharing, technical training
Shared Growth Payment system	Providing a system for suppliers and business partners to receive cash on the payment date and to cash out payments early with lower financing costs based on the creditworthiness of the purchasing company

Shared Growth Support Goals

(Cumulative, Non-Duplicated)

Category	2023	2024	2025
No. of suppliers with ESG consulting	140	150	160
No. of suppliers with interest support ⁵⁾	70	75	80

5) Includes Shared Growth Fund and interest support programs

Achievements of Shared Growth ESG Programs in 2022 and 2023 Goals

Category	Achievements and Goals
2022 Achievements	Received the highest rating on the Shared Growth Index
	Shared Growth Fund support A total of KRW 57.414 billion in support for 55 companies • Launched Shared Growth Payment System
	Expanded Shared Growth Support programs • SK Shared Growth Online Academy • CEO seminar on shared growth with suppliers (offline seminar, twice a year)
2023 Goals	• Maintaining the highest rating on the Shared Growth Index • Expanding Support for Shared Growth Funds • Expanding our Shared Growth Support Program



SK Innovation Ulsan Complex, delivering the Happiness Sharing Fund to ensure the safety and well-being of suppliers.

Supply Chain ESG Management

Fair Trade Practices

SK Innovation prioritizes fair trade practices with suppliers and maintains transparency by establishing processes and disclosing the guiding principles. Our purchasing system ensures consistent and transparent management of all orders and contracts, with supplier selection conducted according to predetermined methods and processes outlined in our bid assessment guide. For subcontractors, we adopt the standard subcontract agreement recommended by the Korea Fair Trade Commission (KFTC) and uphold the principles of fair trade by signing fair and transparent trade agreements with all suppliers. To uphold fair trade principles, we have implemented various systems. In 2020, we introduced a technical data cooperation system to support suppliers in commercializing new technologies and safeguard their intellectual property rights. This system operates under the supervision of the Global Compliance Division, ensuring transparent processes when consulting with suppliers on technical data-related matters. Additionally, we have established the Internal Review Committee for Shared Growth to oversee supplier deregistration and subcontracting agreements. We have further strengthened supplier management through a two-step review process chaired by the CFO.

4 Action Agendas for Fair Trade

- 1 Rules for contract signing
- 2 Rules for selecting and operating suppliers
- 3 Rules for issuing and preserving documents related to subcontracting
- 4 Rules for establishing and operating an internal review committee

Enhancing Communication With Suppliers

SK Innovation places great importance on fostering effective communication with suppliers, and to facilitate this, we regularly organize seminars aimed at enhancing collaboration and understanding. In the first half of 2022, we invited 20 excellent ESG suppliers to enhance intimacy on ESG management with our suppliers. In the latter half of the year, we hosted the Ulsan CLX Shared Growth CEO Seminar, where we shared our dedication to shared growth and provided valuable business insights on sustainable business practices to over 60 companies.

To ensure ethical management, we conduct surveys, including those addressing abuse of dominant position, for our domestic suppliers and business partners. In addition, we conduct on-site interviews with select suppliers. To facilitate reporting of unethical practices, such as unfair acts or unreasonable practices, we utilize various channels, including the SK group's integrated online reporting platform, email, phone, fax, and mail. Upon receiving reports, we promptly investigate the facts, take proactive measures, provide responses and follow-ups, and prioritize the protection and management of the informant's company and identity information. If the report results in increased profits or reduced losses for the company, we appropriately compensate the informant based on predefined standards.

A prime example of our commitment to enhancing supplier communication is SK Innovation's subsidiary, SK On. SK On has established a shared growth council centered around outstanding suppliers and organized subcommittees within the council to discuss measures for shared growth. We maintain fair and transparent partnerships with suppliers by actively supporting the council's operations and facilitating communication channels. SK On acts as the secretary for the council, ensuring its smooth functioning and enabling suppliers to engage in effective communication.

Supplier-related Reports and Actions

Category		2020	2021	2022
Communication with suppliers	Reports	9	9	10
	Consultations	7	3	5
	Complaints and others	0	0	1
	Total	16	12	16
Actions taken	Investigation by the audit office	7	8	2
	Related departments forwarding, others	9	4	14
	Total	16	12	16



SK Innovation, Ulsan CLX Shared Growth and ESG CEO Seminar

Supply Chain ESG Management

Responsible Sourcing

Establishing and Implementing the Responsible Sourcing Guideline

SK Innovation places significant emphasis on the management of risks associated with human rights violations and environmental degradation that may arise during the procurement of crucial raw materials for electric vehicle batteries. We are committed to responsible purchasing practices.

To this end, we explicitly prohibit the use of conflict minerals within our Code of Conduct, which is shared with all suppliers through our purchasing system. Furthermore, we have developed the “SK Responsible Sourcing Guidelines” based on the OECD Supply Chain Due Diligence Guidance. Importantly, we have obtained agreements from our core suppliers to adhere to the guidelines’ provisions.

The contents of these guidelines are effectively integrated into our Code of Conduct, and we actively promote cooperation with suppliers by establishing procedures for their consent.



SK Innovation joins the “RMI (Responsible Minerals Initiative)” to ethically source minerals required for battery production.

Active Participation Through Global Initiatives

By joining the Global Battery Alliance (GBA) and endorsing its 10 Principles for Building a Sustainable Battery Value Chain, SK Innovation has made a significant commitment to sustainability. These principles encompass vital areas such as promoting circular economy practices through battery recycling, increasing adoption of renewable energy, prohibiting child and forced labor, fostering responsible trade, and adhering to anti-corruption practices. To seize new growth opportunities, we go beyond mere support and actively promotes the Battery-as-a-Service (BaaS) platform based on the battery life cycle.

Additionally, we have joined the Responsible Minerals Initiative (RMI) to enhance the credibility of third-party verification within our supply chain. Through our membership in RMI, we have established a network that connects suppliers (mining companies) and users (material manufacturers, cell makers, finished carmakers, etc.). We will continue to systematically develop risk management strategies for various minerals.



SK On signed a strategic long-term supply agreement for lithium with Chile's SQM.

Supply Chain Management for Responsible Sourcing

SK Innovation is fully committed to effective supply chain management to ensure responsible sourcing practices aligning with the OECD Supply Chain Due Diligence Guidelines. We consistently enhance our procedures to manage supply chain risks, with a particular focus on core raw materials such as nickel and lithium. Integrating responsible supply chain management into our regular assessments of battery suppliers, we expand the scope of risk management within our supply chain. We communicate with our suppliers in a variety of ways to build consensus and raise awareness of the importance of supply chain management. Additionally, we establish long-term supply contracts with raw material companies that adhere to responsible procurement principles, ensuring stable and responsible supplies. Recognizing the growing significance of risk management in the procurement process of key raw materials for electric vehicle batteries, we are dedicated to upgrading our supply chain management system continually. This involves ongoing reviews of risk management procedures within the supply chain and active participation in external initiatives related to responsible sourcing.



SK On signed an MOU with Australian Global Lithium Resources to strengthen the supply chain for battery raw material.

Supply Chain ESG Management

Supply Chain ESG Management Guidelines

Purchasing General Principles

SK Innovation has established general principles for purchasing to minimize risks that may arise in the purchasing process and to operate the purchasing process in a rational manner.

[General Principles of Purchasing](#) (+)

Transparency Principle

To enhance fairness and transparency in the purchasing process, SK Innovation has established and complies with the “Bid Evaluation Guide”, which serves as a principle for the competitive bidding purchasing process. Furthermore, when purchasing through methods other than competitive bidding, we remain committed to fostering a sound business ecosystem by actively working towards creating a level playing field by providing objective criteria and materials.

Comply with applicable laws and perform CSR

When conducting purchasing management, SK Innovation complies with relevant laws and regulations, including tax laws, fair trade laws, and Korean International Financial Reporting Standards (K-IFRS). We also operate our purchasing process by comprehensively considering corporate social responsibility, including shared growth with suppliers, labor, human rights, anti-corruption, and the environment.

Procurement Code of Ethics

SK Innovation is dedicated to strengthening our purchasing competitiveness by securing a stable supply chain and realizes sustainable supply chain management through a systematic approach to manage and monitor potential risks in our supply chain. Our core suppliers are carefully categorized and managed, taking into account factors such as transaction Volume, substitutability, possession of core technologies, and the potential risks associated with non-financial factors. We have established the Procurement Code of Ethics as well as a code of conduct to build a transparent and equitable trading environment.

[Principles of the Purchasing Code of Ethics](#) (+)

Code of Conduct

SK Innovation’s Code of Conduct, referred to as the “Code”, serves as a clear communication platform to express our ethical expectations from suppliers. We emphasize the importance of upholding human rights for employees, establishing a safe work environment, and fulfilling environmental responsibilities. Recognizing the need for adaptability, we reserve the right to make reasonable changes to the Code as required. Any modifications will be promptly communicated to suppliers in advance through our purchasing system. To ensure compliance with the Code, SK Innovation, along with its subsidiaries or external auditors appointed by SK Innovation, may conduct on-site visits to suppliers’ business locations. These visits are intended to evaluate adherence to the Code’s principles and may involve requesting necessary improvements where identified.

Code of Conduct

<p>Human Rights and Labor</p> <ul style="list-style-type: none"> • Voluntary Work (No Forced Labor) • Prohibition of child labor and management of young workers • Non-discrimination • Working hours compliance • Wages and benefits • Humane treatment • Freedom of association 	<p>Safety and Health</p> <ul style="list-style-type: none"> • Occupational safety • Emergency preparedness • Prevention of occupational accidents and diseases • Management of hazards in the workplace • Facility Safety • Cafeteria and dormitory management • Safety and health education
<p>Eco-friendly workplace management</p> <ul style="list-style-type: none"> • Compliance with Environmental Laws • Prevention of environmental pollution and reduction of resource and energy use • Greenhouse gas management and information disclosure • Chemicals Management • Waste Management • Air pollution management 	<p>Compliance with business ethics</p> <ul style="list-style-type: none"> • Transparent management and prohibition of unfair profits • Information Disclosure • Protection of intellectual property rights • Compliance with fair and transparent trade • Identity Protection and Non-Retaliation • Protection of Personal Data
<p>Prohibition of Conflict Minerals</p> <ul style="list-style-type: none"> • Responsible Minerals Policy • 3TG Supply Chain Due Diligence • Disclosure of 3TG mineral origin, smelter and refinery information 	<p>Management System</p> <ul style="list-style-type: none"> • Demonstrate commitment to compliance • Clarify management responsibilities • Recognize and monitor relevant laws, regulations and customer requirements • Goal management, and performance evaluation and compensation • Operation of employee education and training programs, etc.

[HRM Report P.31~32 | Supplier Code of Conduct](#) ↗

Social Contribution

Social Contribution Strategies and Systems

Social Contribution Strategies

SK Innovation continuously creates social value in addition to economic value to become a company that creates and shares sustainable happiness. We actively engage and build trusting relationships with stakeholders through open communication with local communities. We are committed to realize social innovation by actively addressing the pressing environmental issues, social polarization, and various problems in the community and striving to find fundamental solutions to these challenges.

Social Contribution Systems

SK Innovation has developed three core strategies for social contribution, which form the bedrock of our pursuit of sustainable happiness:

Social innovation: We actively support the socioeconomic ecosystem by promoting innovative approaches to address pressing social issues.

Green innovation: We are committed to taking decisive action for a sustainable environment, encompassing initiatives that combat climate change and preserve biodiversity.

Happy innovation: With the participation of our employees and labor-management partnerships, we strive to address community challenges and foster shared prosperity.

SK Innovation and its eight subsidiaries are engaged in social contribution activities across eight regions¹⁾, which include key locations such as production plants and research centers based on the core strategies of social contribution.

1) Seoul, Ulsan, Incheon, Seosan, Jeungpyeong, Daejeon, Jeju, Gwangmyeong
 2) Happinnovation is a blend of our core value, Happiness, and our company name, innovation, meaning we innovate happiness
 3) Sanhaejinme: A representative flogging campaign to protect the mountains (san) and seas (hae) to realize the true (jin) beauty (mi) of the planet by actively taking action against waste plastics.

SK Innovation Social Contribution Systems

Happinnovation ²⁾ Creating Sustainable Happiness			
Key Strategies	Social Innovation Promoting a socioeconomic ecosystem	Green Innovation Sustainable environment	Happy Innovation Shared growth with local communities
Directions	Promoting a socioeconomic ecosystem	Addressing global environmental issues	Actively building a social safety net
Key Programs	<ul style="list-style-type: none"> Identify and support socioeconomic enterprises Expand partnerships with social enterprises 	<ul style="list-style-type: none"> Mangrove Forest Restoration Project Environmental campaigns and resource recycling Local environmental preservation activities 	<ul style="list-style-type: none"> 1% Happiness Sharing Fund Build a social safety net for local communities Business-linked social value creation
UN SDGs			
2022 Goals	<ul style="list-style-type: none"> Discover and support new companies: 15 companies Establish a systematic fostering and support platform 	<ul style="list-style-type: none"> Mangrove restoration: 52 ha <ul style="list-style-type: none"> Expansion of external organization & corporate projects Expand the Sanhaejinmi³⁾ plogging <ul style="list-style-type: none"> Expand participation to 200,000 citizens Expand participation of global business sites 	<ul style="list-style-type: none"> Happiness Sharing Fund: KRW 3 billion Volunteers: 7,920 participants, 23,760 hours Expand support for local communities and the socially disadvantaged Expand social safety net programs <ul style="list-style-type: none"> Hunger relief, blood donation
2022 Achievements	<ul style="list-style-type: none"> Fostered and supported socioeconomic companies: 44 companies 	<ul style="list-style-type: none"> Mangrove restoration: 52 ha, 161,896 trees planted in the Mekong region Promoted and manualized carbon absorption measurement pilot project Expanded Manglub's mangrove reforestation business with global shipping/logistics companies, etc Registered best practices in the Biz N Biodiversity Platform (BNBP) and presented at the National Assembly Climate Forum Environmental Awareness Training in Vietnam: 837 people Nation-wide Sanhaejinmi plogging campaign <ul style="list-style-type: none"> Participation: 270,000 people Global Business Sites: 17 events in 13 countries 	<ul style="list-style-type: none"> Happiness Sharing Fund: KRW 3.5 billion (cumulative KRW 15.2 billion) Volunteers <ul style="list-style-type: none"> - 7,688 participants (87% of employees) - 21,659 hours - SV Creation: KRW 249 million Supported local communities and the socially vulnerable: <ul style="list-style-type: none"> - 1,921 seniors living alone - 590 people with developmental disabilities Expanded social safety net support <ul style="list-style-type: none"> - On-tact Meal Sharing program : 100 undernourished seniors - 594 undernourished children - 161 people donated blood through On-tact Meal Sharing Program
2023 Goals	<ul style="list-style-type: none"> Support for Life Cycle Assessment (LCA) evaluation and certification (2 companies) 	<ul style="list-style-type: none"> Mangrove Forest Restoration <ul style="list-style-type: none"> - Mangrove planting: 38 ha (Reduction in planned area due to application of tree species favorable for carbon reduction) - Environmental awareness training in Vietnam: 800 people Promote Sanhaejinmi plogging <ul style="list-style-type: none"> - Public participation: 300,000 - Expand participation of global business sites 	<ul style="list-style-type: none"> Happiness Sharing Fund: KRW 3.5 billion Volunteers: 9,000 participants, 27,000 hours Expand support for local communities and the socially disadvantaged Reinforcing social safety nets (hunger relief, blood donation)

Social Contribution

Communication with Local Community and Stakeholders

Local Community and Stakeholder Communication Channels

SK Innovation has made significant efforts to enhance communication with stakeholders to share awareness of local community and environmental issues. We have established dedicated communication channels such as communities and coalitions for each stakeholder group, enabling us to share our business plans, execution strategies, and performance evaluations while collecting valuable feedback and opinions.

Due to the COVID-19 pandemic, our offline activities have been reduced. However, we have adapted by shifting our focus to non-face-to-face methods such as online platforms. This has allowed us to maintain ongoing communication with local residents, organizations, and companies to continue our commitment to protecting the local environment through initiatives like the Sanhajnmi plogging. Looking ahead to 2023, we are determined to expand our active communication with stakeholders further and extend support to socially disadvantaged groups and foster shared growth with our suppliers through the utilization of the Happiness Sharing Fund.



Key strategy	Expert advise	Communication with stakeholders
Promoting a socioeconomic ecosystem	Nurturing social enterprises: Impact Square, MYSC(My Social Company)	Social enterprise community ¹⁾
Sustainable environment	<ul style="list-style-type: none"> Biodiversity : United Way Worldwide, BNPB (Biz N Biodiversity Platform) Carbon reduction : Ecodyne., DNV 	<ul style="list-style-type: none"> BNBP Advisory Committee participation Communication with relevant organizations: MangLub, a local social enterprise in Vietnam Joint cooperation: Korea Volunteer Center, KoRoad, Korea Coast Guard, etc.
Shared growth with local community	<ul style="list-style-type: none"> Operations and Evaluation Advisory Board - Social Welfare Foundation: Project Review, Evaluation - Able Welfare Foundation: Project judging committee - Great Music Festival : Preliminary and final competition judges 	<ul style="list-style-type: none"> SK Innovation Labor-Management Council Meetings with welfare organizations: Social welfare organizations for seniors living alone (27 organizations) and developmental disabilities (33 organizations) Local neighborhood associations (Ulsan, Incheon) Ulsan Forum (74 members from government, organizations, companies, academia, media, and citizens) Partners : - Support Center for Seniors Living Alone, Korea Foundation for Persons with Disabilities, Heart to Heart Foundation, Korea Childhood Leukemia Foundation, Able Welfare Foundation, UWW, etc.

1) A coalition composed of representatives of social enterprises supported by SK Innovation

Ulsan Forum

The Ulsan Forum was launched in 2022 to bring together various stakeholders with an aim to explore solutions to create a sustainable community. Through the “Community Social Value” agenda, the Ulsan Forum discussed solutions to the youth brain drain and shared the need for public-private partnerships. In addition, the “Green Growth of Local Industries” agenda enhanced understanding of carbon neutrality and focused on the direction of change for local companies. The significance of the Ulsan Forum is that it recognized the need for stakeholder cooperation on local issues and sought solutions to key issues from various perspectives. The Forum was joined by 764 participants online and offline, including key actors from 74 different areas, including governments, organizations, businesses, academia, media, citizens, and SK employees, and 92% of participants expressed satisfaction with the Forum. In 2023, the Forum plans to expand its outreach to include even more stakeholders to cover discourse and solutions to community and environmental issues, and to create a place for communication for sustainable development.



Discussing various social issues of Ulsan through the Ulsan Forum

Social Contribution

Social innovation: Promoting a Socioeconomic Ecosystem

SK Innovation is committed to focus on creating a socioeconomic ecosystem to address various social issues. In line with the company’s “Carbon to Green” strategy, we support social enterprises and social ventures with environmental technologies, and pursue shared growth by expanding environmental cooperation projects in connection with our business. “Egg”, an environmental startup scale-up program, is a support platform where we discover and nurture representative social ventures, and many companies actively participate every year.

Social Economic Ecosystem Support Roadmap (+)

Fostering Social Enterprises and Social Ventures

To achieve “All Time Net Zero”, SK Innovation is transforming our business structure. In line with this, our strategy for fostering social enterprises and social ventures has shifted from supporting self-reliance to approaching practical environmental issues through partnerships based on environmental technologies. We are expanding our cooperation to create a business-based socioeconomic ecosystem in which each business division participates.

2022 SK Innovation-Social ventures Partnership Achievements (+)

Social Contribution Through Infrastructure and Competency Sharing

Strengthening Corporate Competitiveness through Infrastructure and Competency Sharing

Despite having high entrepreneurship, social enterprises or social ventures often lack sufficient business experience and have structural vulnerabilities. SK innovation shares our capabilities and infrastructure to help them strengthen management capabilities and become more competitive.

By actively promoting networks like social enterprise communities, we create information sharing and technical cooperation. From 2023, we will support social enterprises’ environmental impact assessment (s-LCA) by utilizing our capabilities to help them proactively respond to environmental policies and regulations and enhance their market competitiveness.

Market Connection and Support for Pilot Projects

We utilize our internal and external network to support social enterprises and social ventures in their market expansion and pilot projects. We also provide our business sites as test beds to help them utilize the data and experiences gained in their marketing and to attract investment. We prioritize products purchased from social enterprises and social ventures.

Technology and Product Support

SK Innovation supports the research and development of products and technologies by investing in or providing funds to suppliers, thereby helping suppliers to commercialize their products.

Public Relations and Marketing Support

SK innovation offers PR and marketing support to social enterprises and social ventures by sharing our communication channels to ensure that customers are well-informed about key management activities such as external activities, investment attraction, and new product development, enhancing their brand recognition and creating new sales opportunities.

Connecting Businesses

We promote business connections to drive the growth of social enterprises and social ventures. In line with our “Carbon to Green” strategy, with focus on low-carbon energy and green businesses, we continuously identify and support social enterprises and social ventures with green products and technologies, creating opportunities for new business model development. Through our efforts, we strive to generate both environmental value and an exemplary model of shared growth.

Pro Bono and SE Consultant

SK innovation has established a pro bono program to provide support to the management of social enterprises and social ventures. Leveraging experience and expertise of our employees, we serve as management partners in key areas like management analysis, improvements, new product development, and quality enhancement. In 2021, we introduced the SE Consultant System, extending management consulting support to social enterprises and social ventures through retired executives. In 2022, we worked with a social enterprise Usisan, providing management consulting and a product portfolio analysis, and improve its overall competitiveness and expanding sales.

SV Community

SK innovation runs the SV Community, a platform dedicated to identifying the education and support needs for social enterprises and social ventures. Through information sharing using SNS as well as offline meetings, we engage with them to understand their needs and incorporate them into our support strategies. The SV Community serves as a forum for information exchange and product collaboration among participating companies, creating synergies.

Social Contribution

Green innovation: Sustainable Environment

SK Innovation is committed to creating a sustainable environment, and we actively undertake responsible actions through our “Green Balance 2030” strategy. In this regard, we consistently implement and support projects and campaigns such as taking actions to address climate change and recycling waste plastic resources.

Mangrove Forest Restoration Project in Mekong Region (Plant for the Planet)

With the aim of achieving carbon neutrality and preserving biodiversity, SK Innovation actively promotes mangrove restoration in the Mekong region, spanning Vietnam and Myanmar. Mangroves are critical in mitigating climate change and supporting diverse ecosystems, yet more than 50% of the global mangrove area has already been lost due to unsustainable development and logging. Since the launch of our project in 2018, we have successfully restored 188 hectares of mangrove forests by 2022. To address environmental challenges and generate local employment opportunities, we established a social enterprise called Manglub in Trà Vinh Province, Vietnam. Through this, we undertake a range of initiatives, including establishing nurseries for endangered mangrove species, engaging local residents in reforestation projects, and providing environmental education to the community. Furthermore, our efforts are bolstered by the Vietnam Social Value Alliance¹⁾, a collaboration involving public, private, and academic entities. This alliance facilitates a cooperative system that contributes to the restoration of mangrove forests and the overall development of the local economy.

1) An organization launched by SK Innovation bringing together the will of government agencies, educational institutions, media organizations, non-profit organizations, and corporations to leverage the resources, capabilities, and networks of participating organizations.

Goals for Mangrove Forest Restoration Project in Mekong Region (+)

Environmental Education for Local Residents in Vietnam

SK Innovation actively conducts environmental education programs to raise awareness about the importance of preserving mangrove forests among the Vietnamese people, local residents, and students in Trà Vinh Province. Collaborating with local schools, we have developed and implemented a dedicated curriculum focused on mangrove forests. Additionally, we organized a storytelling contest centered around the Rhizophora Apiculate tree and supported the winning students in becoming mangrove ambassadors. Also, we launched an online challenge that encouraged local residents to communicate the significance of mangrove forests and promote green lifestyles that contribute to the preservation of these ecosystems. Moreover, we created a virtual reality online video aimed at educating young people, children, and urban residents across Vietnam about the importance of mangrove forests. As of 2022, we have conducted various environmental education programs for 837 people in Trà Vinh.

Achievements of Environmental Education for Local Residents in Vietnam and 2023 Goals (+)

Environmental Protection in Local Community

SK Innovation actively collaborates with local governments and residents’ associations to conduct environmental cleanup activities, prioritizing areas near our business sites. Throughout 2022, we engaged in various volunteer initiatives, including Sanhaejinmi Plogging, alongside our employees at our Ulsan and Incheon plants. These efforts aim to preserve the local environment and foster stronger partnerships with community members.

2022 Environmental Protection in Local Community Achievement (+)

SK Ulsan Forest of Happiness

In 2020, Ulju-gun experienced a devastating forest fire that resulted in the loss of 519 hectares of forest, equivalent to 727 soccer fields. As part of the 60th-anniversary celebration in 2022, SK Innovation made a donation of KRW 1 billion to support the restoration of forests in Ulju-gun, Ulsan, where Ulsan CLX is located. From March 2022 to March 2023, we diligently planted 180,000 forest trees across 60 hectares of land. More than 250 employees actively participated in volunteer tree planting activities. The reforested area has been named “SK Ulsan Forest of Happiness” to symbolize our dedication to sharing and nurturing happiness within the local community. Moving forward, we are committed to continuing our efforts in the coming years. This includes conducting follow-up management and monitoring to ensure the healthy growth of the trees and safeguarding the forest.

Sanhaejinmi Plogging Campaign

To protect the mountains (san) and seas (hae) to realize the true (jin) beauty (mi) of the planet, the company actively promotes employee awareness of environmental protection through volunteer activities. Our Ulsan and Incheon sites, along with Jeju United FC and SK Sugar Gliders, collaborate with local governments and resident associations to conduct the Sanhaejinmi Plogging Campaigns in their respective regions. These initiatives not only contribute to environmental preservation but also foster stronger community cooperation. Furthermore, we have formed business agreements with the Korea Volunteer Center, KoRoad, and Korea Coast Guard, transforming the campaign into a nationwide effort. As a result, more than 270,000 citizens across the country participated, collectively collecting an impressive 1,195 tons of trash. Through interviews with campaign participants, we observed positive changes in behavior, including a reduction in the use of disposable products and a decrease in indiscriminate trash dumping. Additionally, there is an increased inclination to engage in activities related to environmental protection.

Social Contribution

Happy innovation: Shared Growth with Local Communities

Happy innovation is a collaborative initiative between labor and management aimed at fulfilling our role as a responsible corporate citizen through social contribution activities. We are actively engaged in various programs that address the challenges faced by seniors as we enter an aging society. Additionally, we are dedicated to supporting the social integration and care of the developmentally disabled population while also strengthening the social safety net within local communities.

2022 Happy innovation Achievements and 2023 Goals (+)

Building Social Safety Net

SK Innovation is dedicated to constructing a robust social safety net to tackle diverse societal challenges. In 2022, we launched the “On-Tact Life Sharing Project” to address the national blood supply crisis by organizing blood donation campaigns across our nationwide business sites. Furthermore, during COVID, through the “On-Tact One Meal Sharing Project”, we provided support to both small businesses in local communities and vulnerable individuals who were unable to access meals.

2022 Social Safety Net Achievements (+)

1% Happiness Sharing Fund

As a proactive approach to address social issues and uphold social values, SK Innovation employees contribute 1% of their basic salary to establish the 1% Happiness Sharing Fund. To foster shared growth with suppliers, the company provides matching grants equivalent to the employee donations. By 2022, the cumulative amount raised through employee donations reached KRW 15.2 billion, while the company’s matching grant totaled KRW 29.2 billion. These funds have been effectively utilized for welfare projects spanning various domains such as children, youth, the elderly, individuals with disabilities, and the environment. The initiatives have encompassed both national-level endeavors and projects within local communities near Ulsan, Incheon, and the company’s headquarters.

2022 Happy Sharing Achievements (+)

SK 1004 Volunteer Group

Established in 2004, the SK 1004 Volunteer Group has been actively involved in voluntary endeavors. With 73 teams across the nation as of 2022, we focus on projects like aiding senior citizens living alone (Sharing Happiness, Carrying on Love), supporting children with developmental disabilities (Happy Dream-i), and our eco-conscious Sanhaejinmi Plogging Campaign. We engage in diverse volunteer activities tailored to each local community at our business sites. We value face-to-face volunteering over mere financial support or volunteer efforts. Despite COVID-19 limiting in-person activities, we persist in assisting those in need. This volunteerism has become a core SK innovation cultural trait, earning local communities’ trust through sincere service.

2022 SK 1004 Volunteer Group Achievements (+)

Career Jump-Up Class: Supporting Independence for Individuals with Developmental Disabilities

Since 2018, SK innovation has actively promoted the “Career Jump-Up Class” to empower individuals with developmental disabilities, enabling their entry into the workforce and fostering independence. The program offers specialized job training, aligns with diverse company requirements, and facilitates connections with interested companies. In 2022, training in fields such as barista, wheel master, and orchestra contributed to the independence of 44 individuals.

Support Project for Prosthetic Limbs for the Individuals with Disabilities

SK Innovation is undertaking a project aimed at assisting individuals with physical disabilities resulting from accidents to acquire or repair prosthetic limbs, enabling them to lead their daily. In 2022, we extended our support to an additional five civilian amputees who had been victims of landmines and were not receiving state assistance. This brings the total number of amputees receiving our support to 22, empowering them to embrace a fresh start and embark on a path towards a new life.

Great Music Festival (GMF)

Since 2017, the Great Music Festival for Individuals with developmental disabilities (GMF) has been an annual event in Korea, functioning as the nation’s largest music festival for showcasing talents and fostering connections among individuals with developmental disabilities. The GMF supports their musical pursuits and honors exceptional performers with awards like the Minister of Culture, Sports, and Tourism Award. The festival has produced 161 performing groups and featured over 1,700 remarkable artists.

In 2022, the 6th GMF returned to an offline format, engaging 600 attendees and 10,000 online viewers, promoting “Communication” and contributing positively to disability awareness through diverse performances. They have performed at events such as the “Great Melody in the Forest” concert for foreign diplomats in Korea, the “2022 Charity Night Gala”, the commemorative concert for the late Major Shim Jung-min, and the year-end “Nadaum Music Studio” concert.

Social Contribution

Expanding Social Value Through Business Connection

SK Innovation is dedicated to maximizing the impact of our social contribution by generating social value in connection with businesses, one of our competitive edges. For instance, we conduct environmental campaigns that leverage our waste plastic recycling business, and we bolster the social safety net function by leveraging our nationwide network of gas stations. By utilizing our infrastructure, technology, and services, we strive to create more social value.

Neighborhood Emergency Centers at Gas Stations

SK energy operates neighborhood emergency centers using gas station infrastructure to serve as initial emergency centers until 119 emergency teams arrive. Equipped with AEDs and first aid kits, these centers train on-site employees in first aid and CPR. Currently, 247 personnel have completed E.F.R. training, including 133 from SK gas stations and 114 from suppliers. Additionally, we have trained 13 first aid instructors. In 2022, we provided additional first aid training to 121 SK gas station directors, ensuring a reliable and responsive system. Furthermore, through a partnership with the National Fire Agency, we conducted first aid training for 124 SK gas station workers and 140 SK energy employees. We plan to expand neighborhood emergency centers to 156 gas stations and a nationwide network encompassing 3,200 SK gas stations and LPG charging stations, NeTruck Houses. This initiative enhances community safety net and sustains education, aid, and talent donation.

NeTruck House for Truck Drivers

Recognizing the challenging conditions for truck drivers, SK energy operates “NeTruck House” rest areas at major ports and logistics centers nationwide to enhance their welfare and mitigate accident risks. With 23 current locations and plans to expand to 40 by 2030, NeTruck House has already generated around KRW 12.3 billion in social value by preventing accidents, improving working conditions, and reducing parking costs. To further enhance environmental sustainability, alongside social value creation, we’re transitioning NeTruck House into low-carbon energy stations, incorporating solar power and hydrogen fueling facilities.

2022 NeTruck House Achievements 

“Silent Taxi” to Expand Employment of the Hearing Impaired

SK energy partners with the social enterprise ‘CO:ACTUS’ to support the “Silent Taxi” program, aiming to improve the employment and income prospects of the hearing-impaired community. This initiative aims to empower the hearing impaired by assisting them in obtaining taxi driving qualifications and securing employment in corporate taxi services. We provide monthly incentives of 50,000 OK Cashback points to CO:ACTUS and corporate taxi operators for each hearing-impaired driver they hire. Additionally, SK energy collaborates with CO:ACTUS on “Silent Mobility”, a transportation platform business for deaf drivers, and offers fuel cost support through our LPG charging stations. We are committed to expanding these initiatives to generate social value by increasing job opportunities for the hearing impaired.

2022 Silent Tax Achievements 

Supporting the Elderly Living Alone with Profits from the 60th Anniversary Pop-up Store

As part of the 60th-anniversary celebrations in October 2022, SK energy introduced a pop-up store named “SK Ju Yu So”, aimed at contributing to local communities. The profits from the store were donated to a local senior center. SK energy distributed essential heating supplies and grocery kits to 260 seniors living alone, ensuring their warmth and well-being throughout the winter season.



Members of SK Energy's Retail division deliver electric blankets and grocery kits to the senior citizens living alone

Supporting Energy for the Vulnerable in Local Community

SK energy has donated KRW 15 billion to the Korea Energy Foundation to support vulnerable groups, including single-parent families, seniors living alone, individuals with disabilities, and child-headed households. This donation addresses the challenges they face due to rising city gas expenses, especially during the cold season. The funds are utilized for energy efficiency improvement projects, aimed at enhancing the energy usage environment for the vulnerable, as well as supporting social welfare facilities. SK energy remains committed to building and expanding the community's energy safety net.

Customer Satisfaction Management

Customer Satisfaction Management Strategy and System

Customer Satisfaction Management Strategy and System Direction

SK innovation prioritizes customer happiness at the core of our management approach, delivering high-quality products, distinct services, and various CS initiatives. We integrate diverse customer feedback from online and offline channels, swiftly addressing complaints and improvement requests. Through ongoing customer value innovation, we aim to thrive alongside our customers.

VOC Management Activities

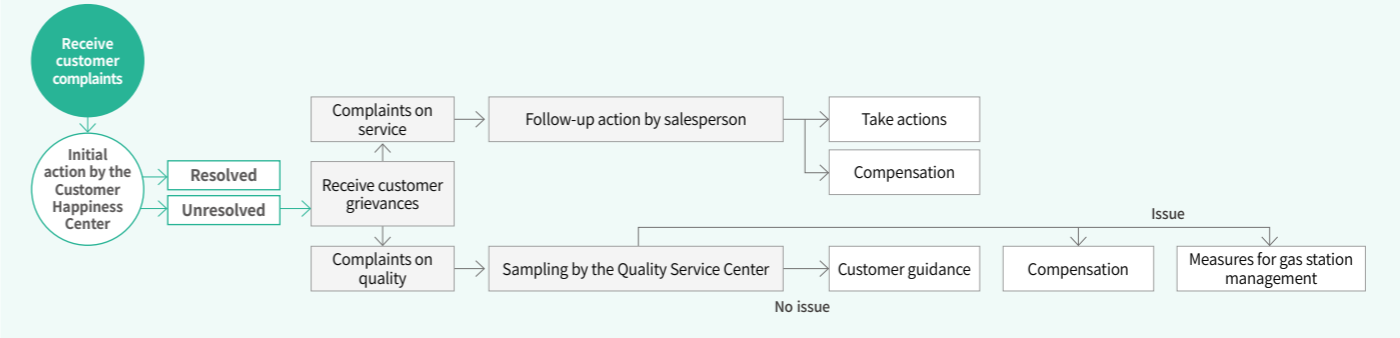
Customer Happiness Center

SK energy's Customer Happiness Center addresses customer inquiries and issues received via phone and email, emphasizing swift and accurate resolution. Operating the Customer Care System (CCS), we connect grievance processes with responsible individuals, enabling practical feedback. Monthly, we aggregate and summarize customer inquiries and grievances by type, sharing insights with the marketing team to analyze main needs and grievances, leading to improvement plans.

Customer Happiness Center VOC Status

Category		2020	2021	2022
No. of VOCs received and handled by category	Inquiries/Suggestions	57,435	67,872	56,779
	Complaints	1,066	1,573	1,405
Total		58,501	69,445	58,184

Customer Complaints Process



Product Quality Management

Producing High Quality Petroleum Products

SK energy produces petroleum products at Ulsan CLX, an ISO9001-certified facility, adhering to enhanced production standards beyond legal requirements. Rigorous quality checks are conducted at the factory and during transportation and storage to maintain product quality until they reach gas stations, the final customer touchpoint.

Regular Quality Check

SK energy conducts monthly quality checks on approximately 1,000 gas stations to ensure customers' confidence in using SK station products. Qualified inspectors visit the selected stations to collect samples for analysis, determine trade normalization and the purchase of external supplies. The results play a crucial role in our trade normalization program. We utilize the findings to provide ongoing care and consulting to gas stations that engage in external purchases, guiding them towards improvement.

Product Quality Management Process (+)

Counterfeit Petroleum Product Prevention Campaign

SK energy takes proactive measures to prevent customers using our gas stations from falling victim to counterfeit petroleum products. These counterfeits often involve adulterated kerosene and diesel, exploiting tax differences between the fuels for profit, particularly during periods of higher oil prices. The Korea Petroleum Quality & Distribution Authority (K-Petro) leads the efforts to combat counterfeit products in Korea. K-Petro conducts field inspections based on weekly supply and demand reports submitted by individual gas stations. Any abnormalities, such as sudden fluctuations, prompt investigations. It also collaborates with the police to investigate customer complaints or reports of illicit activities. SK energy actively participates in K-Petro's initiatives to stabilize the petroleum products distribution market and collaborates with SK subsidiaries to provide gas station information through the popular T Map navigation service.

Intellectual Property Management

Intellectual Property Management

Intellectual Property Management Direction

To safeguard our core technologies and enhance our competitive edge in the market, SK Innovation is committed to fortifying our patent portfolio. Our existing patents encompass a wide range of areas, including petroleum, lubricants, petrochemicals, polymers, green energy, batteries, and new materials. We maintain a continuous focus on bolstering our patent applications to protect the research and development outcomes utilized in our flagship products and core technologies. In line with our strategic objective of “Carbon to Green”, we are particularly dedicated to securing and strengthening our patent portfolio in various green technology domains.

Green Tech. Key Technology

Waste Plastic Recycling

Pyrolysis Oil Production Technology
Manufacturing technologies to overcome pyrolysis oil characteristics into high-value aviation fuel or solvents

Technologies to Reduce Pyrolysis Oil Impurities
Technologies to remove impurities (Cl, N, S) in the process of developing products utilizing pyrolysis oil

Secondary Batteries

Thermal Propagation Prevention Technologies
Technologies that prevent the transfer of heat or flame from the cell/module where the event occurred to adjacent cells/modules

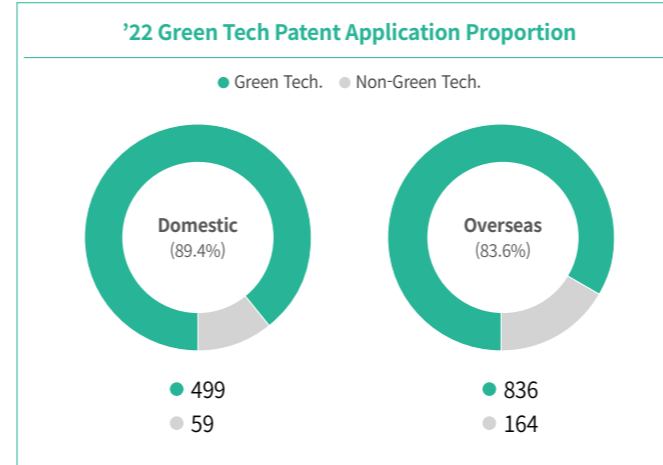
CTP(Cell to Pack) Technology
Technologies that simplify the structure of modules and packs to optimize pack manufacturing efficiency and improve the energy density of packs

Biodegradable Polymers

PBAT Polymer Production Technologies
Technology to produce biodegradable polymers with high viscosity and low acid value through improved condensation processes

Intellectual Property Achievements

(Unit: case)



Reward System for Employee Inventions

SK Innovation places great emphasis on encouraging employee invention activities and safeguarding research and development achievements by continuously strengthening our reward system. To align with the revised Invention Promotion Act and enhance employee motivation to propose innovative inventions, we have revised our rules for employee invention rewards. This revision aims to create and strengthen the reward framework by incorporating the following rules:

Category	Key revisions
Application/Registration Rewards	New reward tiers to recognize outstanding inventions
Implementation/Disposition/Special Rewards	Improvement of reward methods and procedures

Shared Growth through Technology Transfer

Creating Social Value through Technical Support to SMEs

SK Innovation actively engages in technology sharing initiatives organized by the Ministry of Trade, Industry, and Energy, with the aim of creating social value (SV). As part of these efforts, we transfer our patented technologies, which are currently not utilized by SK Innovation, to small and medium-sized enterprises (SMEs) at no cost. By doing so, we seek to promote the broader public benefits of technology and foster a culture of mutually beneficial growth between large and small companies.

Category	2022 Performance
Transferred technologies	6 technologies <ul style="list-style-type: none"> Exhaust Gas Purification Catalyst Technology (Equipment Companies) Microbial fermentation green bio technology (food ingredient company) Light tube utilization technology (camping goods company)
Transferred companies	6 companies <ul style="list-style-type: none"> Microbial fermentation liquid utilization technology (food processing company) Impurity removal/treatment technology (biofuel manufacturing companies) Impurity treatment/purification technology (environmental equipment manufacturers)



2023 January, Technology Sharing Event with KIAT and MOTIE

ESG Policy & Performance

Governance

Ethical Management	120
Fair Competition	123
Risk Management	124

Ethical Management

Ethical Management Policy and System

Ethical Management Policy

Guided by SK Management System (SKMS), SK Innovation has established a comprehensive Code of Ethics based on proper conduct and value judgments for our employees. The company provides specific practice guidelines for decision-making. All SK Innovation employees, including contract and dispatched workers at both domestic and international business sites, as well as affiliated investment firms, are obligated to adhere to this ethical standard. We also encourage business partners with stakes in investment firms or contractual relationships to comply with our Code of Ethics. Employees can find clarification and answers on the dedicated Ethical Management website's FAQ and individual responses.

Establishment of Anti-corruption Policies Complying with International Guidelines

We, SK Innovation, and our affiliates implement management based on anti-corruption compliance, with the Code of Ethics and internal guidelines suggesting compliance with international conventions and domestic regulations. In 2022, we have enacted our internal anti-corruption policies, including the "Anti-Corruption Compliance Regulations", the "Guidelines on the Prohibition of Accepting Money and Valuables", the "Anti-Corruption Due Diligence Procedures for Business Partners", and the "Procedures for Donations and Sponsorships" in order to enhance our ethical practice of management based on anti-corruption compliance regulations. Furthermore, we have newly established and currently operating user-friendly Compliance Platform to expand the scope of access regarding inquiries and resources of anti-corruption issues, which ultimately supports employees' self-compliance with anti-corruption regulations.

[Anti-corruption Policies](#) 

SK Innovation also provides continuous education programs to its own employees for recommending sufficient consultation with Compliance/Ethics Management Division prior to making any progress on an issue that might possibly be related to any issues of anti-corruption, and discouraging decision-making based on arbitrary interpretations of such regulations.

Ethical Management System

In 2021, as part of reinforcing board-centered management, SK Innovation established the Audit Office under the direct purview of the Audit and Corporate Compliance Committee of the BOD. This arrangement ensures the office's independence and grants the Audit and Corporate Compliance Committee the authority to appoint a Chief Audit Executive responsible for overseeing audits and ethical management. The Audit Office proactively adapt to environmental changes, including ESG management enhancements, to minimize ethical management risks. It conducts internal audits of business activities and is integral to establishing, operating, and enhancing the "Ethical Management System", with an aim to foster a company-wide ethical management culture.

Code of Ethics and Guidelines

Our employees adhere to the Code of Ethics as a framework for decision-making and actions in potential ethical conflict situations during work. Furthermore, to promote a clear understanding and practical application, we have established the Ethics Guidelines. These guidelines are published on our official websites.

[Code of Ethics](#) 

Promoting Ethical Management in the Supply Chain

To gauge awareness and perception of our ethical management practices, we conduct ethical management surveys among domestic suppliers and business partners. This helps us anticipate and prevent potential risks during business transactions. Through these surveys, we communicate ethical management principles such as gift and entertainment prohibition, conflict of interest prevention, and mutual respect. We provide information about our reporting system and available channels for reporting ethical concerns or violations.

Mid-term Plan for Ethical Management

To adapt proactively to the dynamic business environment, including overseas expansion, we established the "Mid-term Plan for Ethical Management" in 2021. This plan serves as our ethical management roadmap, regularly updated to incorporate emerging trends and infrastructure improvements. To effectively execute the plan, tailored ethical management activity plans are developed and implemented annually for various stakeholders, such as employees, business partners, and overseas sites.

In 2022, we introduced the Global Ethics Management System (GEMS), an IT infrastructure supporting online ethics management education and practice pledges for overseas employees. This was extended as a pilot initiative for business partners in 2023, while the plan envisions gradual expansion of ethics management practices to encompass all overseas employees and key business partners by 2025.

Ethical Management

Audit, Monitoring, and Reporting Systems

Audit and Monitoring of Ethical Management

To support the Risk Management activities of the Board of Directors (Audit and Corporate Compliance Committee) and management, SK Innovation Audit Office conducts Risk-Based Audits covering the company’s management activities, subsidiaries, domestic/overseas investment companies, and key functions. Each year, we update the audit population and establish audit plans based on changing business environments. The final audit targets are confirmed through reports to the Audit and Corporate Compliance Committee. Starting in 2023, a comprehensive three-year monitoring process will cover all SK Innovation subsidiaries and key functions, enhancing our risk assessment system. Following the annual audit plan, the division comprehensively inspects the efficiency and effectiveness of the risk management system operation, hidden risk that impedes the achievement of management goal and internal control items from perspective of the entity level.

1) As of 2022, audits were conducted for all targeted management sites (2 sites), and for all targeted functional sites (9 sites).

No. of Cases Consulted or Reported by Stakeholders in 2022

(Unit: case)

Category	Report	Consultation	Complaint	Total
Customers	0	1	27	28
Business partners	7	4	1	12
Employees	21	7	0	28
Others	36	60	9	105
Total	64	72	37	173

Ethical Consultation and Reporting System

SK Innovation offers a variety of channels, such as dedicated online platforms, email, phone, and KakaoTalk, to enable stakeholders like employees, business partners, and customers to freely consult or report on ethical management matters. Most of these channels operate 24/7. For our overseas stakeholders, we’ve established ethical management consultation and reporting platforms in eight languages. We’ve also integrated ethical management banners on both domestic and overseas websites and work systems to enhance convenience and accessibility. We handle consultations and reports transparently and fairly, following the “Ethical Consultation and Reporting Procedure”. Our “Informant Protection System” ensures the confidentiality of consultants, reporters, investigation cooperators, and the contents of consultations or reports, preventing any potential disadvantages. Team members annually pledge confidentiality, and they provide regular updates on report statuses and investigation outcomes to the Audit and Corporate Compliance Committee (weekly/monthly).

Ethical Consultation and Reporting System policies (+)

Ethical Management Reporting Channel

Division in charge	SK Innovation Audit Office
Website	https://ethics.sk.co.kr
Email	skinnovation.ethics@sk.com
Kakao Talk	Search for “SK Innovation Ethical Management” (Anonymous Chat)
Phone	080-020-6262
Fax	080-020-6262
Postal Mail	SK Innovation Co., Ltd, Audit Office, Ethics Management Division, SK Building, 26 Jong-ro, Jongno-gu, Seoul, Korea

Results of Ethical Management Audits and Monitoring

In 2022, we received a total of 173 ethics consultations and reports. Out of these, 134 cases were processed after excluding dismissals and unverifiable cases. Customer complaints are directed to relevant departments, with the Audit Office overseeing the handling outcomes. For ethics consultations, responses are coordinated with relevant departments. The Audit Office directly verifies reports, leading to the identification of 23 ethical management violations out of 41 investigated cases in 2022. Appropriate personnel actions were taken based on related regulations and resolutions from the HR Evaluation and Remuneration Committee.

Status of Consultations and Reports on Ethical Management

(Unit: case)

2020	2021	2022
94	157	173

No. of Cases Consulted or Reported by Response Type

(Unit: case)

Investigated (audited)	Transferred to relevant departments	Others (unverifiable, rejected)	Total
41	93	39	173

Disciplinary Actions for Ethical Violations in 2022

(Unit: case)

Reasons for disciplinary action	No. of disciplinary cases	Measures take
Sexual harassment	1	1 suspension of work
Non-compliance with the Code of Ethics	8	1 dismissal, 1 suspension of duties, 4 suspensions of work, 2 reprimands
Violation of SHE policies	6	2 suspensions of work, 4 reprimands
Negligence of job	6	1 dismissal, 2 pay reduction, 3 reprimands
Embezzlement of company assets	2	2 suspensions of work
Total	23	

Ethical Management

Promoting and internalizing Ethical Management

Ethical Compliance Training

SK Innovation conducts ethical education for all employees, including contract and dispatched workers, at both domestic and global sites. In 2022, we delivered online training tailored to each site, using real-life ethical management cases. Post-training, employees pledged to uphold ethical management practices. For sites with increased ethical risks based on audit and reporting outcomes, customized, job-specific training was conducted by our ethical management leaders. In 2023, we're expanding our efforts to entrench the ethical management culture within the company. This includes extending ethical education not only to regular employees but also to part-time and contract workers, ensuring comprehensive coverage across our workforce.

Ethical Culture Training in 2022

Category		No. of Participants (Unit: person)	Training hour (Unit: hour)
Ethical Culture Training	In-person/virtual training	1,373	1,373
	Online training	8,364	6,970
Training	Training hours per employee	9,040	0.92

Survey on Ethical Management Practice

Annually, we conduct a survey to gauge the awareness level on ethical management practices and identify potential areas of vulnerability. In 2022, the survey achieved a participation rate of 65%. The results are reported to the Audit and Corporate Compliance Committee and the respective CEOs of each subsidiary to address vulnerabilities and implement measures to enhance ethical management. Also, the results are used to shape and refine our ethical management activities for the following year.

Workshop for Ethical Management Practice

We annually organize ethical management practice workshops, aiming to empower employees by enhancing their ethical decision-making and execution abilities through in-depth discussions on ethical dilemmas and potential risk scenarios in work. In 2022, the workshops were held for each 183 183 divisions. The discussion topics included audit cases, areas identified as vulnerable in the survey on ethical management practice

Promoting Communication for Ethical Management

SK Innovation ensures transparent communication and engagement with internal and external stakeholders on ethical management. We operate communication channels such as counseling centers and an ethical management website, allowing us to disclose our ethical norms, guidelines, and receive consultations/reports on unethical behavior. Additionally, for effective internal communication, we run an ethical management webpage on our intranet, sharing updates on ethical issues and information on disciplinary cases involving unethical conduct. These platforms serve as crucial resources for stakeholders to understand and communicate about our ethical practices.

Raising Ethical Awareness at Global Business Sites

As our global business sites continue to expand, efforts are in place to elevate ethical management awareness among overseas employees. Activities encompass sharing ethical guidelines, practice instructions, and consultation/report procedures in local languages pertinent to each site, and ethical education content is translated into local languages. Especially, in particular, 2022 witnessed the development and establishment of the Global Ethics Management System (GEMS) for overseas subsidiaries/branches, catering to global staff. By using GEMS in the latter half of 2022, certain overseas entities underwent new online ethical management education and pledged their commitment to ethical practices. In the coming year, a wider scope of global staff will experience an expansion of ethical management education, building on the success of GEMS implementation.

Ethical Management Compliance and Employee Evaluation and Compensation

To ensure ethical compliance, we link our principles to employee evaluations and compensation. Assessment criteria, such as stakeholder happiness (for management professionals) and professional ethics (for technical and office workers), gauge ethical management adherence. These evaluations impact annual compensation, promotions, and more. We handle breaches according to established guidelines, utilizing audit reports on unethical conduct for appropriate action. Authorized personnel follow regulations to propose disciplinary actions and convene committees as needed. Disciplinary measures, ranging from reprimands to dismissal, are determined through committee deliberation and adhere to HR regulations.

Offline and Online Ethical Management Training for Suppliers

We actively support ethical management adoption and enhancement among our core suppliers. In 2022, we held offline training sessions for 99 major suppliers, focusing on our ethical management system and sharing violation cases. Starting in 2023, we introduced online training using GEMS for selected suppliers as a pilot program, with plans to further expand the initiative to more partners.

Encouraging Sound Transaction Culture

SK innovation actively runs the "No Gifts for Holidays and Promotions" campaign, including external stakeholders like suppliers, to prevent unfair dealings. We strictly prohibit political donations or sponsorships using company assets, following the Korean Political Funds Act and our ethical guidelines. If a supplier faces sanctions for unethical behavior, we adapt a company-wide Code of Ethical Practice.

Fair Competition

Strengthening Fair Competition Compliance

Fair Competition Compliance System

To foster fair competition and increase transparency in transactions., SK Innovation has implemented a Compliance Program (CP). Detailed management guidelines have been established for the eight key components of the CP. SK Innovation and its subsidiaries, including SK Energy, SK Geo Centric, SK Enmove, SK IE Technology, and SK On, have appointed a Chief Compliance Officer (CCO) responsible for overseeing and managing the CP. The CCO develops the implementation plan for the CP and ensures its effective execution. Furthermore, the CCO reports on the performance and future plans of the CP to the Board of Directors on an annual basis.

Reinforcing the Fair Competition Monitoring System


SK Innovation has established a pre-business consultation system to review and provide guidance on all matters that could potentially violate the antitrust and competition law, including transactions between subsidiaries. To further strengthen our compliance efforts, we have established a compliance working group and a compliance management committee for sharing updates on the implementation of our Compliance Program (CP), discussing any issues or concerns, and identifying areas for improvement. In order to assess risks of infringement of antitrust and competition law and raise employee awareness, we conducted a comprehensive “Fair Competition Risk Survey” across all business divisions. This survey helps us identify potential risks and gauge the level of employee awareness. Additionally, we conduct internal inspections and provide specialized training three times a year to business divisions that may have a higher risk of violating laws and regulations. To enhance transparency and accuracy in subcontracting transactions, we conduct regular reviews of the overall status of these transactions. We also prioritize internal disclosure training to ensure that all relevant departments understand their roles and responsibilities in the disclosure process, thereby establishing clear work processes and fostering a culture of transparency.

Expressing the CEO’s Will to Comply and Promoting Internalization Activities

We are dedicated to fostering a culture of voluntary compliance among all employees, from new employees to the CEO. Each year, our CEO delivers a message emphasizing the importance of compliance to the entire organization. To reaffirm their commitment, all employees participate in a compliance pledge. Furthermore, we regularly send out relevant information through various channels such as letters and short messages to actively support employees in upholding fair competition practices throughout their work.

Improving CP Operations

Following an analysis of the Compliance Program’s (CP) effectiveness conducted by an external law firm in 2021, SK Innovation identified areas for improvement in CP operations for 2022. As a result, the company released an updated version of the 2022 Fair Competition Guidebook, revised internal guidelines regarding the handling of competitor information, and incorporated these changes into special training sessions. Internal regulations and policies related to the overall status of CP operations were also enhanced, including the distribution of guidelines for participating in bids.

Identification of major risks related to unfair trade or unfair competition and implementation of management activities 

Responding to External Regulations

SK Innovation actively collaborated with the Korea Fair Trade Commission’s written survey on subcontracting and agency transactions the establishment of standard contracts for petroleum distribution by providing the requested materials, surveys, and opinions. In addition, we conducted a thorough review of SK Energy’s agency transactions to enhance our internal management system. We also conducted annual assessments to ensure adherence to the Agency Act for new business partners of SK Innovation and its subsidiaries.

Promoting a Culture of Fair Competition Compliance

Providing Fair Competition Training

SK Innovation carries out internal fair-trade education to ensure that employees have a strong understanding of the relevant laws and regulations they must comply with in their roles. By enhancing employees’ awareness and knowledge of compliance, we aim to promote a culture of actual compliance throughout the company. For all employees, we offer an online course of fair competition that focuses on the key areas of the antitrust and competition law that all employees of SK Innovation and its subsidiaries should be familiar with. In addition to the general course, we provide specialized online training for employees responsible for subcontracting transactions. This training delves into specific areas such as the provision of technical data under the Subcontracting Act and the prohibition of misappropriation. Furthermore, we conduct internal inspections by business divisions to assess compliance levels and identify areas for improvement. Based on the results of these inspections, we develop segmented and systematic employee training programs.

2022 Fair Competition Training

Category	Training	Participants
March	Online Fair Competition training for newly transferred employees	Newly transferred employees
	Special training on U.S. Military bid rigging	Employees of SK Energy business-related divisions
May	Training on the KFTC disclosure	Employees in charge of the disclosure and management of SK Innovation’s subsidiaries and sub-subsidiaries.
June	Online Fair Competition training for newly transferred employees	Newly transferred employees
	Special training for SK Energy inspection	Employees of SK Energy business-related divisions
July	Online Fair Competition training for newly transferred employees	Newly transferred employees
September	Advanced training on fair competition related to subcontracting (technology misappropriation)	Employees of SK Geo Centric
	Special Subcontracting Law training for newly affiliated companies	CEO and Executives of ONEPOL
October	General fair competition course for SK Innovation and its subsidiaries	All employees of SK Innovation and its subsidiaries
	Special training for SK IE Technology inspection	Special training for SK IE Technology inspection
November	Special training for SK Enmove inspection	Employees of SK Enmove business-related divisions
December	Special training for SK Geo Centric inspection	Employees of SK Geo Centric business-related divisions

Risk Management

Risk Management System

Risk Management Direction

To ensure the stability and sustainability of our business, SK Innovation proactively identifies and manages economic, social, and environmental risks.

We classify risks into four main categories: financial, industrial, compliance, and ESG risks. Each risk category is further broken down into specific risk factors, which are handled by the relevant divisions on a case-by-case basis. Our divisions engage in activities such as data collection, risk evaluation, impact and sensitivity matrix analysis. By doing so, we identify key issues and establish countermeasures to strategically manage risks. Regular reporting to management and effective communication and collaboration among divisions are vital aspects of our risk management approach. The Future Strategy Committee, ESG Committee, and Audit and Corporate Compliance Committee, which consist of members of the Board of Directors, actively discuss and oversee key risks.

Establishing Tax Strategy

SK Innovation and its subsidiaries prioritize the diligent fulfillment of tax filing and payment obligations in compliance with laws and regulations. We recognize the importance of assessing and managing potential tax risks associated with our business operations. To uphold these values, we have developed a comprehensive tax strategy and strictly follow it.

[Tax Strategy Detail](#) (+)

Risk Management System by Categories

SK Innovation proactively addresses and manages risks by conducting optimized analysis and implementing continuous monitoring. Financial risks, such as fluctuations in oil prices and exchange rates, can have an immediate impact on business performance. To mitigate these risks, SK Innovation and its subsidiaries analyze short-term directions and mid-to long term trends using various economic indicators. We effectively manage these risks through strategies such as currency hedging and diversification of crude oil sources. Furthermore, we actively monitor industrial and operational risks by staying informed about relevant laws, policy trends, and the opinions of key stakeholders. We ensure that all employees are aware of major industry trends and equipped to prevent risks through regular communication via newsletters and the intranet.

Compliance risks are thoroughly discussed and reported within various risk management groups at SK Innovation, and any reported issues are carefully examined at the top management level. In order to effectively manage SHE risks, which have become increasingly important, the Board of Directors appoints a dedicated Chief Safety Officer (CSO) who is responsible for overseeing and managing all aspects related to the company's safety and health. In 2021, a specialized safety and health group was established under the CSO's leadership to ensure more efficient management. Significant SHE risks identified through preliminary reviews conducted by our worksites and SHE divisions are reported to key executives, including the CSO, as well as the Board of Directors, for further discussion and evaluation. To ensure systematic management of ESG risks, we have implemented a comprehensive process that requires all worksites to identify risks using an ESG checklist, followed by an assessment of the impact of these identified risks by the ESG lead division since the second half of 2021. The identified ESG risks are then discussed at the ESG Committee, which operates under the Board of Directors, to develop proactive response plans. The ESG Sub-Committee, consisting of C-level executives and heads of business and functional divisions, takes responsibility for addressing regular agenda items related to ESG risks. This sub-committee conducts regular meetings on a monthly basis, as well as occasional meetings, to discuss and manage risk-related issues. Major topics discussed at the ESG Sub-Committee are strategically managed through a process of reporting and discussion to the Operating Committee, which comprises top executives of the company.



Risk Category				
Financial Risk <ul style="list-style-type: none"> • Environmental pollution • Resource consumption • Taxation • Credit 	Business Risk <ul style="list-style-type: none"> • Environmental pollution • Resource consumption • National and regional affairs • Policies and regulations • Competitor trends 	Compliance Risk <ul style="list-style-type: none"> • Ethics • Compliance 	SHE Risk <ul style="list-style-type: none"> • Safety • Health • Environment 	ESG Risk <ul style="list-style-type: none"> • Environmental pollution • Resource consumption • Human Rights • Supply chain • Data protection • Safety and health • Governance

Risk Management

ESG Management by Subsidiary Type

1 Assets of KRW 1 trillion or more
ESG management performance is measured and monitored at the same level as SK Innovation

2 Assets less than KRW 1 trillion
ESG management level Alaysia, industry characteristics and growth levels are considered when gradually expand the scope of their ESG management.

Risk Management

SK Innovation is committed to fostering a strong risk management culture throughout the organization, ensuring that all employees understand the significance of risk management and are prepared to handle risk situations proactively. We conduct regular trainings and seminars focused on financial, industry, compliance, and ESG risks to enhance employees' ability to effectively respond to various risks. Furthermore, we integrate risk management into the key performance indicators (KPIs) for both employees and management in every division so that it can be applied to the evaluation and compensation of employees according to their management level.

Subsidiary ESG Management

We adopt different ESG management policies for the subsidiaries based on the asset size. For key subsidiaries, SK Innovation's CEO and the head of the Portfolio Division serve as chairpersons of the BODs and monitor financial risks and ESG performance through each subsidiary's BODs. Each subsidiary is assigned ESG-related KPIs, and improvement performance is monitored. The ESG Committee reviews the monitoring results and discusses initiatives. Also, a roadmap for responding to the global ESG disclosure mandate has been established and is being implemented for financially related subsidiaries. The EU and U.S. Securities and Exchange Commission plan to enact sustainability reporting regulations, and the Korean Financial Services Commission is expected to release detailed standards for domestic ESG disclosure in 2023. In line with global disclosure guidelines and timelines, we actively prepare to establish a regional disclosure framework in 2023. In 2024, we will enhance the ESG disclosure system through analysis of industry-specific standards, and by 2026, we aim to disclose EU entities subject to mandatory disclosure.

1) SK Energy, SK Geo Centric, SK Enmove, SK Incheon petrochem, SK Trading International, SK IE Technology, SK On, SK Earthon

Identifying and Managing Potential Risks

Category	Emerging Risk	
	Risk Impact	Mitigation Action
Change in Energy Mix	The need to address the climate crisis has expanded the focus of the energy industry to encompass the entire socio-economic structural transformation. The global policy shift is expected to result in a significant decrease in the demand for conventional energy sources like coal and oil. This trend is exemplified by the United Arab Emirates (UAE), an oil-rich nation in the Middle East, which has committed to achieving net-zero emissions by 2050 through the adoption of renewable energy sources like solar and nuclear power.	SK Innovation has been proactively examining the future energy mix and its impact on our business structure, preparing ourselves to respond effectively. Aligned with our Carbon to Green strategy, we are dedicated to enhancing and innovating our overall business models, including batteries and materials. Our primary goal is to establish ourselves as the global leader in the battery business, with cumulative orders reaching an impressive 1,600 GWh by 2022. Furthermore, we aim to solidify our position as the world's top battery separator (LiBS) provider by continually expanding our production facilities.
	Leading international organizations are also anticipating a substantial decline in oil demand within the transportation sector due to advancements in fuel efficiency, the rise of alternative fuels such as biofuels and natural gas, and the emergence of electric and hydrogen-powered vehicles. Furthermore, in the industrial and power generation sectors, conventional oil demand is projected to be gradually replaced by nuclear power, natural gas, and renewable energy sources.	For our existing energy and chemical businesses, we plan to transform the challenges we face into opportunities by adjusting the output of our oil and gas business in line with the evolving energy mix. In addition, we will explore new ventures such as CCUS and repurpose existing gas stations into low-carbon energy production bases, focusing on electricity and hydrogen. In the chemicals business, we are committed to increase production by expanding the use of waste plastic recycling technologies. As for the lubricants sector, we will enhance our offering with lubricant products for electric vehicles and venture into new areas such as data center cooling technology.
	The declining demand for conventional oil across all sectors poses a potential risk for SK Innovation's existing petrochemical and energy businesses, necessitating a strategic response.	To further diversify our low-carbon oriented portfolio, the company is actively exploring business opportunities in various fields, including zero-carbon energy and recycling.
Transition to a Circular Economy	The excessive use of plastics and the improper disposal of plastic waste have led to environmental pollution and poses significant challenges for the global ecosystem, including humans, as well as land and marine flora and fauna.	SK Innovation recognizes the need to address waste issues such as waste plastics and waste batteries, and is making various efforts to transition from a linear economy to a circular economy, where the process of procurement, production, consumption, and disposal of resources is repeated.
	As the demand for batteries continues to rise, it is crucial to develop proper post-use disposal methods. Without effective measures in place, batteries, too, will contribute to negative environmental and social impacts as waste in the future.	Firstly, we are making efforts to build a circular economy ecosystem for plastics by actively investing in securing indigenous waste plastic recycling technologies, such as pyrolysis oil solvent extraction, centered on our subsidiary SK Geo Centric. SK Geo Centric is also planning to build a cluster to recycle 200,000 tons of waste plastics at its site in Ulsan.
	In recent years, there has been a growing recognition of the gravity of the waste issue, prompting efforts to transition towards a circular economy system. These trends represent potential risks to SK Innovation's existing petrochemical and energy businesses, and we recognize the need to proactively establish systematic countermeasures to address them.	In the future, we will establish a circular economy ecosystem that encompasses the entire waste value chain and systematically respond to potential risks by innovating our business model.

ESG Data

Environmental	127
Social	135
Corporate Governance	146
Financial Statements	148

Environment

Energy Use

Energy Consumption

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Total energy consumption ¹⁾	MWh	49,236,583.06	44,227,430.39	44,916,262.92	70,747.68	18,929,514.47	14,923,632	461,917.90	1,538,696.34	8,671,861.20	318,934.96	562.02	396.35	
Total non-renewable energy consumption	MWh	49,236,436.06	44,227,300.85	44,524,109.99	70,747.68	18,537,515.05	14,923,632.00	461,917.90	1,538,696.34	8,671,707.69	318,934.96	562.02	396.35	
Energy consumption by category ²⁾	Fuel ³⁾	MWh	38,295,557.01	34,284,573.13	34,536,965.07	37,360.15	14,960,721.23	11,102,148.46	162,317.48	589,320.93	7,504,671.91	180,128.08	174.06	122.75
	Electricity	MWh	4,332,234.05	4,210,723.03	3,816,427.42	33,387.54	1,571,421.04	875,668.82	299,600.41	96,262.91	800,618.28	138,806.88	387.95	273.6
	Steam	MWh	6,608,645	5,732,004.69	6,170,717.50	0	2,005,372.78	2,945,814.72	0	853,112.50	366,417.50	0	0	0
Total renewable energy consumption	MWh	147	180,129.54	530,958.49	0	391,999.42	0	0	0	153.51	138,805.56	0	0	
Electricity consumption from renewable energy sources (PPA, Self-generation, etc) ⁴⁾	MWh	147	180,129.54	530,804.98	0	391,999.42	0	0	0	0	138,805.56	0	0	
Renewable energy use rate ⁵⁾	%	0	0.41	1.18	0	2.07	0	0	0	0	43.52	0	0	
Renewable energy consumption by procurement method	Green Pricing System	MWh	0	180,000	138,805.56	0	0	0	0	0	138,805.56	0	0	
	REC	MWh	0	0	391,999.42	0	391,999.42	0	0	0	0	0	0	
	Others ⁶⁾	MWh	147	129.54	153.51	0	0	0	0	153.51	0	0	0	
Non-renewable energy sales	Steam	MWh	5,470,725.06	5,767,084.90	6,205,565.23	0	5,633,946.34	419,909.89	0	151,709	0	0	0	

1) Total energy consumption = Total non-renewable energy consumption + Total renewable energy consumption - green pricing (domestic)

2) Disclosure of annual energy usage based on the greenhouse gas emissions report

3) Data recalculated due to the adjustment of the conversion factor for fuel consumption (TJ→MWh)

4) Electricity consumption from renewable energy sources = Amount of purchased REC (Renewable Energy Certificates) + Korea's Green Pricing Scheme + others (e.g. Solar power)

5) Renewable energy use rate = Total renewable energy consumption ÷ Total energy consumption × 100

6) Others: Self-generation (solar power, wind power, etc.), VCM, etc.

Energy Intensity

Category	Unit	2022								
		SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Total energy consumption intensity ¹⁾	GJ/KRW billion	229.40	1,513.21	4,237.95	454.27	980.06	4,017.51	3,381.72	0.08	18.05

1) Total energy consumption intensity = Total energy consumption ÷ Revenue in separate financial statements of each company

Power Consumption

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Total power consumption ¹⁾	MWh	4,332,381.05	4,210,852.57	4,208,426.84	33,387.54	1,963,420.46	875,668.82	299,600.41	96,262.91	800,618.28	138,806.88	387.95	273.6

1) Total power consumption = Electricity consumption from non-renewable sources + Electricity consumption from renewable sources - green pricing (domestic)

Environment

Greenhouse Gas Emissions

Scope 1 & 2 Emissions

Category	Unit	2020	2021	2022 ¹⁾										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Direct/indirect energy consumption	Total direct/indirect GHG emissions (Scope 1 + Scope 2)	tCO ₂ eq	12,095,213	11,210,482	11,143,010	22,245	6,847,471	2,541,588	167,295	187,115	1,280,663	96,633	0	0
	Scope1 (Total direct emissions)	tCO ₂ eq	9,704,231.99	9,008,825.08	9,116,618.51	6,908.16	6,071,984.12	1,958,221.30	29,656.52	105,418.75	911,563.89	32,865.77	0	0
	Scope2 (Total indirect emissions)	tCO ₂ eq	2,390,989.08	2,201,669.32	2,026,405.67	15,338.59	775,493.84	583,367.73	137,639.61	81,697.17	369,099.39	63,769.35	0	0

1) The greenhouse gas report provides two types of emissions, which are “baseline emissions for the submission of emission rights” and “reference emissions for future allocation”. The 2022 greenhouse gas emissions are reported based on the “baseline emissions for the submission of emission rights”.

Scope 1 & 2 Emission Intensity

Category	Unit	2022								
		SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Total direct/indirect GHG emissions intensity ¹⁾	tCO ₂ eq/KRW billion	11.21	136.04	182.63	21.96	29.98	142.83	164.96	-	-

1) Greenhouse gas emissions intensity = Total greenhouse gas emissions ÷ Revenue in separate financial statements of each company

Scope 3 Emissions

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Scope 3 (Total of other indirect emissions)	10 thousand tCO ₂ eq	12,781.62	11,834.70	13,213.47	0.20	10,106.54	522.16	255.47	208.46	1,998.55	6.60	0.03	115.47

* There may be minor differences in the aggregated emissions due to rounding.

* SK Geo Centric’s Scope 3 emissions exclude the biogenic removal effect (63,000 tons).

* Regarding Peru’s Block 88 and Block 56, which are owned by SK Innovation, the emissions are calculated under SK Earthon’s account, taking into consideration the business relevance and operational rights.

Environment

Water withdrawal

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Total water withdrawal	Ton	44,665,820.93	43,131,729.64	43,315,489.12	270,924.85	31,689,801.75	7,352,451.75	514,917.16	1,142,813.44	1,722,308	611,412.20	6,368.62	4,491.35	
Water withdrawal by category	Municipal water withdrawal ¹⁾	Ton	44,665,164.93	43,127,305.64	43,313,277.12	270,924.85	31,687,589.75	7,352,451.75	514,917.16	1,142,813.44	1,722,308	611,412.20	6,368.62	4,491.35
	Groundwater (freshwater) withdrawal	Ton	656	4,424	2,212	-	2,212	-	-	-	-	-	-	-
	Water withdrawal from other sources including rainwater	Ton	-	-	-	-	-	-	-	-	-	-	-	-

1) Data including the amount of industrial water usage

Water consumption

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Water consumption ¹⁾	Ton	44,665,820.93	63,539,432.49	67,856,530.22	270,924.85	40,609,166.16	16,173,299.75	514,917.16	1,985,737.44	7,538,439	753,185.89	6,368.62	4,491.35
Total water recycled ²⁾	Ton	-	20,407,702.85	22,064,795.72	-	10,759,085.03	5,698,725	-	114,783	5,350,429	141,773.69	-	-

1) Total water consumption = total water withdrawal + total recycled water

2) Measurement of recycled water started from 2021

Water discharge

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Total water discharge	Ton	16,101,746.38	14,845,161.64	14,090,687.72	32,046.15	8,623,964.08	3,584,805	18,002.49	352,521	1,431,530	47,819	-	-	
Treatment by category	Wastewater treatment (sewage treatment plant)	Ton	5,361,997.80	5,280,368.60	4,983,274.07	31,899.07	2,348,684	1,106,879	17,457	-	1,431,530	46,825	-	-
	Wastewater treatment (seawater)	Ton	10,736,415	9,558,780.40	9,102,491	-	6,272,044	2,477,926	-	352,521	-	-	-	-
	Wastewater treatment (third party)	Ton	3,333.58	6,012.64	4,922.65	147.08	3,236.08	-	545.49	-	-	994	-	-

Water pollutant emissions

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
TOC	Ton	184.43	111.57	94.16	0.04	66.07	19.84	0.10	1.35	6.59	0.17	-	-
BOD	Ton	106.81	60.79	31.26	0.03	23.96	4.04	0.01	0.18	2.98	0.06	-	-
TN	Ton	129.15	91.84	94.91	0.07	71.16	16.34	0.24	0.18	6.87	0.05	-	-

Environment

Water pollutant emissions concentration

Category	Unit	2022									
		SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI ¹⁾	SKEO ¹⁾	
TOC concentration ²⁾	Business site	ppm	1.40	23.80	5.46	5.70	6.45	4.60	3.67	-	-
	Legal limit	ppm	75	50	320	165	25	75	110	-	-
BOD concentration	Business site	ppm	0.90	9.65	1.14	0.80	0.90	2.08	2.46	-	-
	Legal limit	ppm	120	10	600	230	-	80	230	-	-
SS concentration	Business site	ppm	1.20	18.45	2.46	0.80	0.50	4.30	4.30	-	-
	Legal limit	ppm	120	10	400	150	-	80	180	-	-

1) SK Trading International (SKTI) and SK Earthon (SKEO) do not discharge water pollutants as they do not have separate production and manufacturing sites

2) Transition of organic substance measurement index according to the amendment of the "Enforcement Rules of the Water Environment Conservation Act" (COD → TOC), TOC-based disclosure from 2022

Waste generated

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Total waste	Ton	114,912.45	118,191.57	110,697.75	841.08	68,504.07	13,388.31	13,620.40	1,521.53	6,695.16	6,119.21	4.68	3.30
Waste processed by method	Self-disposal (landfilled)	Ton	-	-	-	-	-	-	-	-	-	-	-
	Consignment disposal (incineration/landfill)	Ton	19,009.54	19,429.83	21,726.63	494.04	14,086.55	2,310.99	985.15	262.98	3,465.71	121.21	-
	Consignment disposal (recycling)	Ton	95,901.55	98,761.18	88,962.70	343.38	54,416.10	11,076.83	12,635.20	1,257.79	3,229.45	5,996.85	4.17
Waste recycling rate ¹⁾	%	83.46	83.56	80.37	40.83	79.43	82.74	92.77	82.67	48.24	98	89.04	89.04
Waste processed by category	Ordinary waste	Ton	70,702.97	61,715.73	50,364.53	547.88	25,060.83	4,346.44	10,324.66	1,159.33	4,664.76	4,260.16	0.29
	Designated waste ²⁾	Ton	44,208.48	56,475.81	60,332.81	293.20	43,443.24	9,041.88	3,295.74	362.21	2,030.40	1,858.64	4.40

1) Waste recycling rate = Consignment disposal (recycling) ÷ total waste processed × 100

2) Updated due to errors in classification of waste by method in data 2021

Air pollutant emissions

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
NOx emissions	Ton	4,971.84	8,755.34	7,194.47	4.67	4,378.20	2,218.72	7.62	129.53	443.15	12.58	-	-
SOx emissions	Ton	1,703	352.19	304.71	-	245.45	41.21	1.26	-	16.79	-	-	-
VOC emissions	Ton	672.39	769.79	888.85	-	104.71	658.69	-	0.20	41.25	84	-	-
Dust emissions	Ton	107.08	36.17	279.05	0.14	228.38	35.95	10.28	1.19	1.59	1.52	-	-

Environment

Air pollutant concentration

Category	Unit	2022									
		SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
NOx concentration	Business site	ppm	26.91	41.14	46.07	14.7	39.89	23.70	25.11	-	-
	Legal limit	ppm	40	60	155	60	180	130	200	-	-
SOx concentration	Business site	ppm	0.03	17.05	25.89	0.68	-	3.76	-	-	-
	Legal limit	ppm	200	70	166	140	108	120	-	-	-
Dust concentration	Business site	mg/Sm ³	1.48	5.44	2.13	4.69	2.50	1.82	0.64	-	-
	Legal limit	mg/Sm ³	30	30	30	15	30	15	30	-	-

Harmful chemical

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Harmful chemicals emissions	Ton	287.45	251.87	298.96	-	18.82	189.71	0.03	0.02	6.38	84	-	-

Soil pollutant emissions

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Number of soil contaminants spills	Case	-	-	-	-	-	-	-	-	-	-	-	-

Violation of environmental regulations

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Monetary sanctions	Case	1	-	3	-	1	-	-	-	-	2	-	-
	KRW 100 million	3	-	2.80	-	0.80	-	-	-	-	2	-	-
Number of fines over \$10,000	Case	-	-	-	-	-	-	-	-	-	-	-	-
	KRW 100 million	-	-	-	-	-	-	-	-	-	-	-	-
Environmental liabilities	KRW 100 million	-	-	-	-	-	-	-	-	-	-	-	-
Environmental lawsuits	Case	-	-	-	-	-	-	-	-	-	-	-	-
Non-monetary sanctions	Case	3	4	5	-	1	4	-	-	-	-	-	-

Environment

E&P Production¹⁾

Crude Oil Production

Category	Block	Unit	2015	2016	2017	2018	2019	2020	2021	2022
Peru	88	Mbbl	3,310	3,234	3,144	2,988	3,050	3,138	3,182	3,182
	56	Mbbl	2,043	2,144	1,899	1,580	1,628	1,474	1,466	1,014
	8	Mbbl	277	159	207	208	183	53	0	0
Vietnam	15-1	Mbbl	2,096	1,725	1,541	1,190	1,193	1,109	1,085	1,135
Yemen	LNG	Mbbl	0	0	0	0	0	0	0	0
Libya	NC-174	Mbbl	36	0	71	48	79	26	94	49
USA	Nemaha	Mbbl	0	0	0	0	675	376	43	0
	Plymouth	Mbbl	1,153	388	308	224	177	138	17	0
	Permian	Mbbl	105	81	57	42	34	30	4	0
Total		Mbbl	9,020	7,731	7,227	6,280	7,019	6,344	5,891	5,380

Gas Production

Category	Block	Unit	2015	2016	2017	2018	2019	2020	2021	2022
Peru	88	Mmcf	41,139	46,753	42,324	43,090	45,164	38,732	43,545	49,428
	56	Mmcf	26,552	31,302	27,322	23,468	24,940	24,177	15,078	19,859
	8	Mmcf	0	0	0	0	0	0	0	0
Vietnam	15-1	Mmcf	2,955	2,748	2,280	2,131	1,341	1,669	1,685	2,422
Yemen	LNG	Mmcf	5,627	0	0	0	0	0	0	0
Libya	NC-174	Mmcf	0	0	0	0	0	0	0	0
USA	Nemaha	Mmcf	0	0	0	0	3,510	2,484	396	0
	Plymouth	Mmcf	8,485	3,970	3,183	2,696	2,255	2,061	278	0
	Permian	Mmcf	263	216	197	151	144	131	21	0
Total		Mmcf	85,021	84,989	75,306	71,536	77,354	69,254	61,003	71,709

1) Based on the data on reserves from 2015 to 2020, based on aggregate production from 2021 to 2022

Environment

E&P Sales

Crude Oil Sales

Category	Block	Unit	2015	2016	2017	2018	2019	2020	2021	2022
Peru	88	Mbbl	3,526	3,304	3,164	2,961	3,053	3,258	3,182	3,571
	56	Mbbl	2,432	2,745	2,537	2,425	2,658	2,447	1,957	2,325
	8	Mbbl	243	133	178	172	146	51	0	0
Vietnam	15-1	Mbbl	2,263	1,571	1,486	1,199	1,227	1,090	1,109	1,125
Yemen	LNG	Mbbl	0	0	0	0	0	0	0	0
Libya	NC-174	Mbbl	0	0	104	52	0	110	162	78
Peru	PLNG	Mbbl	0	0	0	0	0	0	0	0
	Nemaha	Mbbl	0	0	0	299	624	369	40	0
	Plymouth	Mbbl	686	388	308	224	178	146	17	0
USA	Permian	Mbbl	97	76	57	44	35	29	0	0
	Total	Mbbl	9,247	8,217	7,834	7,376	7,921	7,500	6,467	7,099

Gas Sales¹⁾

Category	Block	Unit	2015	2016	2017	2018	2019	2020	2021	2022
Peru	88	Mmcf	42,112	44,855	43,513	40,092	43,044	35,221	45,472	47,318
	56	Mmcf	33,319	36,706	35,572	32,108	34,341	33,386	25,971	30,842
	8	Mmcf	-	-	-	-	-	-	-	-
Vietnam	15-1	Mmcf	2,642	2,709	2,211	1,999	966	1,347	1,247	2,320
Yemen	LNG	Mmcf	4,865	-	-	-	-	-	-	-
Libya	NC-174	Mmcf	-	-	-	-	-	-	-	-
Peru	PLNG	Mmcf	-	-	-	-	-	-	-	-
	Nemaha	Mmcf	-	-	-	1,292	2,756	3,315	405	-
	Plymouth	Mmcf	5,048	3,969	3,216	2,696	2,292	2,082	267	-
USA	Permian	Mmcf	262	217	197	161	142	129	-1	-
	Total	Mmcf	88,248	88,457	84,709	78,347	83,542	75,480	73,362	80,480

1) Coefficients for the conversion of gas sales volume: Vietnam/USA 6.00 Mmcf/Mbbl, Peru 5.63 Mmcf/Mbbl

Social

Employees

Employee status (Korea)¹⁾

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Total number of employees	No. of people	Person	7,124	7,709	9,390	1,493	2,594	1,232	2,768	282	618	255	89	59
	Permanent positions	Person	6,730	7,328	8,993	1,421	2,537	1,188	2,625	251	587	245	81	58
By contract type	%	%	94.47	95.06	95.77	95.18	97.80	96.43	94.83	89.01	94.98	96.08	91.01	98.31
	Temporary positions	Person	394	381	397	72	57	44	143	31	31	10	8	1
By gender	%	%	5.53	4.94	4.23	4.82	2.20	3.57	5.17	10.99	5.02	3.92	8.99	1.69
	Male	Person	6,161	6,392	7,716	1,023	2,370	1,126	2,115	209	584	198	49	42
By gender	%	%	86.48	82.92	82.17	68.52	91.36	91.40	76.41	74.11	94.50	77.65	55.06	71.19
	Female	Person	963	1,317	1,674	470	224	106	653	73	34	57	40	17
By gender	%	%	13.52	17.08	17.83	31.48	8.64	8.60	23.59	25.89	5.50	22.35	44.94	28.81
	Male	Person	401	450	585	104	143	67	189	17	25	27	8	5
Managerial positions	%	%	94.35	92.59	91.98	81.89	97.95	95.71	93.56	89.47	100	90	80	71.43
	Female	Person	24	36	51	23	3	3	13	2	-	3	2	2
By gender	%	%	5.65	7.41	8.02	18.11	2.05	4.29	6.44	10.53	-	10	20	28.57
	Male	Person	133	136	174	51	32	15	49	7	5	11	1	3
Executives	%	%	95.68	96.45	95.08	91.07	96.97	100	94.23	100	100	100	100	100
	Female	Person	6	5	9	5	1	-	3	-	-	-	-	-
By age	%	%	4.32	3.55	4.92	8.93	3.03	-	5.77	-	-	-	-	-
	Under 30	Person	1,017	1,228	1,896	184	340	191	1,025	61	43	26	19	7
By age	%	%	14.28	15.93	20.19	12.32	13.11	15.50	37.03	21.63	6.96	10.20	21.35	11.86
	30-50	Person	3,635	3,926	4,827	1,054	908	469	1,675	121	282	212	61	45
By age	%	%	51.02	50.93	51.41	70.60	35	38.07	60.51	42.91	45.63	83.14	68.54	76.27
	Over 50	Person	2,472	2,555	2,667	255	1,346	572	68	100	293	17	9	7
By age	%	%	34.70	33.14	28.40	17.08	51.89	46.43	2.46	35.46	47.41	6.67	10.11	11.86

1) Some of the disclosed data for 2020-2021 have been revised due to changes in the criteria for counting the number of employees

Social

Employees

Employee status (Global)¹⁾²⁾

Category	Unit	Unit	2022										
			Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Europe	Total number of employees	No. of employees	Person	3,615	-	-	196	2,917	44	-	453	5	-
	By gender	Male	Person	2,255	-	-	135	1,801	28	-	289	2	-
		Female	Person	1,356	-	-	59	1,115	16	-	163	3	-
			%	37.51	-	-	30.10	38.22	36.36	-	35.98	60.00	-
		Executive	Male	Person	4	-	-	2	1	-	-	1	-
	Female		Person	-	-	-	-	-	-	-	-	-	-
			%	-	-	-	-	-	-	-	-	-	-
	By age		Under 30	Person	981	-	-	14	838	4	-	125	-
		30 - 50	Person	2,094	-	-	130	1,637	30	-	293	4	-
			%	57.93	-	-	66.33	56.12	68.18	-	64.68	80.00	-
		Over 50	Person	540	-	-	52	442	10	-	35	1	-
			%	14.94	-	-	26.53	15.15	22.73	-	7.73	20.00	-
Americas		Total number of employees	No. of employees	Person	3,341	19	-	52	3,234	26	-	-	9
	By gender	Male	Person	2,113	11	-	29	2,055	12	-	-	5	1
		Female	Person	63.33	57.89	-	55.77	63.64	46.15	-	-	55.56	100.00
			%	36.67	42.11	-	44.23	36.36	53.85	-	-	44.44	-
		Executive	Male	Person	3	-	-	-	3	-	-	-	-
	Female		Person	-	-	-	-	-	-	-	-	-	-
			%	-	-	-	-	-	-	-	-	-	-
	By age		Under 30	Person	1,149	2	-	10	1,136	1	-	-	-
		30 - 50	Person	34.39	10.53	-	19.23	35.13	3.85	-	-	-	-
			%	15.32	12	-	31	1,459	22	-	-	8	-
		Over 50	Person	45.85	63.16	-	59.62	45.11	84.62	-	-	88.89	-
			%	660	5	-	11	639	3	-	-	1	1
%		19.75	26.32	-	21.15	19.76	11.54	-	-	11.11	100.00		
Asia	Total number of employees	No. of employees	Person	3,982	1	30	233	3,014	157	-	343	90	114
	By gender	Male	Person	3,023	1	18	117	2,349	117	-	295	44	82
		Female	Person	75.97	100.00	60.00	50.21	78.00	74.52	-	86.01	48.89	71.93
			%	948	-	11	113	663	40	-	47	43	31
		Executive	Male	Person	23.81	-	36.67	48.50	22.00	25.48	-	13.70	47.78
	Female		Person	10	-	1	2	2	-	-	1	3	1
			%	90.91	-	100.00	66.67	100.00	-	-	100.00	100.00	100.00
	By age		Under 30	Person	1	-	-	1	-	-	-	-	-
		%	9.09	-	-	33.33	-	-	-	-	-	-	-
	By age	Under 30	Person	1,281	-	7	43	1,028	3	-	189	7	4
		30 - 50	Person	32.17	-	23.33	18.45	34.11	1.91	-	55.10	7.78	3.51
			%	2,603	1	16	163	1,975	138	-	152	64	94
Over 50		Person	65.37	100.00	53.33	69.96	65.53	87.90	-	44.31	71.11	82.46	
		%	98	-	7	27	11	16	-	2	19	16	
%		2.46	-	23.33	11.59	0.36	10.19	-	0.58	21.11	14.04		

1) "Global" refers to countries excluding Korea

2) SK innovation and its subsidiaries began measuring the composition of global employees from 2022

Social

Employment of Socially Disadvantaged Individuals

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Individuals with disabilities	Person	252	293	335	57	97	43	95	10	21	9	3	-
	%	3.48	3.71	3.50	3.76	3.71	3.43	3.33	3.51	3.37	3.53	3.19	-
Veterans	Person	295	265	296	33	119	73	16	11	35	5	2	2
	%	2	3	3.1	2.2	4.6	5.9	0.6	4.0	5.6	1.9	2.2	3.4

New hires (Korea)

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
By age	Under 30	Person	355	461	913	76	145	16	638	7	20	4	7	-
	30 - 50	Person	211	451	1,081	184	118	43	656	26	10	22	12	10
	Over 50	Person	16	25	35	2	4	11	8	3	6	1	-	-
By gender	Male	Person	469	660	1,484	160	207	50	979	21	32	21	7	7
	Female	Person	113	277	545	102	60	20	323	15	4	6	12	3

New hires (Global)¹⁾

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Europe	By age	Under 30	Person	669	-	-	3	613	-	-	53	-	-
		30 - 50	Person	974	-	-	13	902	4	-	54	1	-
		Over 50	Person	206	-	-	2	199	1	-	4	-	-
	By gender	Male	Person	1,224	-	-	10	1,139	-	-	75	-	-
		Female	Person	625	-	-	8	575	5	-	36	1	-
	Americas	By age	Under 30	Person	1,605	1	-	5	1,598	1	-	-	-
30 - 50			Person	1,572	1	-	5	1,562	3	-	-	1	-
Over 50			Person	630	1	-	2	627	-	-	-	-	-
By gender		Male	Person	2,251	3	-	5	2,242	1	-	-	-	-
		Female	Person	1,556	-	-	7	1,545	3	-	-	1	-
Asia		By age	Under 30	Person	1,418	-	2	27	1,270	1	-	112	4
	30 - 50		Person	1,486	-	1	13	1,335	11	-	53	23	50
	Over 50		Person	9	-	-	-	1	1	-	-	1	6
	By gender	Male	Person	2,363	-	2	16	2,128	9	-	152	15	41
		Female	Person	550	-	1	24	478	4	-	13	13	17

1) SK Innovation and its subsidiaries began measuring the number of global hires from 2022

Social

Retirement/Turnover (Korea)

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
No. of retirees by employment type	Permanent positions	Person	158	259	268	57	71	40	74	7	7	3	8	1
	Temporary positions (excluding dispatched workers)	Person	90	99	93	22	6	2	37	6	17	3	-	-
No. of retirees by age	Under 30	Person	66	83	85	19	7	1	52	4	1	1	-	-
	30 - 50	Person	81	136	138	51	10	5	54	3	2	4	8	1
	Over 50	Person	101	139	138	9	60	36	5	6	21	1	-	-
No. of retirees by gender	Male	Person	202	285	297	52	76	40	86	7	24	4	7	1
	Female	Person	46	73	64	27	1	2	25	6	-	2	1	-
No. of retirees by retirement type	Voluntary	Person	109	209	204	62	18	8	95	1	8	3	8	1
	Involuntary	Person	139	149	157	17	59	34	16	12	16	3	-	-
Total turnover rate (both permanent and temporary positions)	%	3.48	4.64	3.84	5.29	2.97	3.41	4.01	4.61	3.88	2.35	8.99	1.69	
Voluntary turnover rate (both permanent and temporary positions) ¹⁾	%	1.53	2.71	2.17	4.15	0.69	0.65	3.43	0.35	1.29	1.18	8.99	1.69	

1) Retirement rates based on voluntary resignations of employees, excluding terminations and other involuntary retirements.

Retirement/Turnover (Global)¹⁾

Category	Unit	2022										
		Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
No. of retiree by region	Europe	Person	1,178	-	-	14	1,085	9	-	70	-	-
	Americas	Person	1,742	4	-	22	1,713	3	-	-	-	-
	Asia	Person	1,769	-	5	30	1,580	16	-	97	14	27
Turnover rate by region	Europe	%	32.59	-	-	7.14	37.20	20.45	-	15.45	-	-
	Americas	%	52.14	21.05	-	42.31	52.97	11.54	-	-	-	-
	Asia	%	44.42	-	16.67	12.88	52.42	10.19	-	28.28	15.56	23.68

1) The SK Innovation and its subsidiaries started measuring global retirement and employee turnover rates from 2022

Average tenure

Category	Unit	2020	2021	2022									
				Average	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Average tenure	Year	16.37	15.41	13.14	11.79	20.69	19.30	3.58	14.26	19.00	7.00	13.29	11.29

Social

Employee Remuneration

Category	Unit	2022										
		Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Average remuneration of entire employees	KRW million	80.47	87.76	84.00	81.00	74.26	81.00	80.00	79.00	80.00	91.20	
Gender wage gap by position ¹⁾	PM	%	23.00	23.81	33.00	29.00	9.18	35.00	36.00	78.00	30.00	14.75
	PL	%	4.00	4.52	3.00	14.00	4.07	1.00	100.00	90.21	3.00	6.15
	Executives ²⁾	%	6.00	22.36	13.25	-	18.00	-	-	-	-	-
Gap between the annual compensation for the highest paid individual and the median annual compensation among all employees	KRW million	191	78	78	153	84	39	27.59	38	30	53.3	

1) Marked as “-” for subsidiaries that do not have female executives

2) Gender wage gap = (Average monthly wage for male employees - Average monthly wage for female employees) ÷ Average monthly wage for male employees × 100

Parental leave

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Total number of employees entitled to parental leave	Male	Person	1,387	1,457	1,885	326	316	188	715	31	148	117	20	24
	Female	Person	307	306	335	128	57	31	70	12	10	8	12	7
Total number of employees that took parental leave	Male	Person	6	20	27	6	4	3	12	1	1	-	-	-
	Female	Person	31	46	62	31	8	4	15	3	-	-	-	1
Total number of employees who returned to work after taking parental leave	Male	Person	7	11	24	3	2	7	10	-	1	1	-	-
	Female	Person	29	27	56	25	13	8	7	2	-	-	-	1
Total number of employees who were still employed for 12 months or more after returning to work from parental leave	Male	Person	3	-	11	-	1	6	3	-	1	-	-	-
	Female	Person	16	2	16	5	5	2	2	2	-	-	-	1
Return to work rate from parental leave	Male	%	83.33	88.89	64.29	50.00	100	100	100	-	100	-	-	-
	Female	%	86.49	100	76.36	80.65	100	100	100	100	-	-	-	100
Retention rate of employees that took parental leave	Male	%	83.33	77.78	60.00	-	100	66.67	100	-	100	-	-	-
	Female	%	88.89	85.71	72.50	82.61	57.14	20.00	100	100	-	-	100	100

Social

Collective bargainings¹⁾

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
No. of people eligible for Union membership	Person	4,437	4,957	5,413	346	1,763	972	1,512	174	498	83	48	17
	%	66	69	58	23	68	79	55	64	80	32	52	29
Number of employees participating in labor union	Person	2,945	2,998	3,045	137	1,477	814	61	95	447	14	0	0
Ratio of employees participating in labor union	%	39.40	37	32.37	8.78	55.98	65.22	2.19	32.87	71.63	5.38	0	0
Collective bargaining rate	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1) Based on the domestic business sites

Training¹⁾

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Total training hours	Hour	442,040	299,564	374,813	78,717	83,226	33,176	121,067	9,194	21,793	19,134	3,389	5,117
Training hours per employee	Hour	60.28	38.43	38.63	52.90	32.50	26.20	40.50	32.70	35.20	63.00	30.00	64.00
Training hours per employee by gender	Male	58.07	35.20	36.93	53.90	31.10	25.50	38.60	31.50	34.30	65.00	33.80	66.30
	Female	75.77	57.70	46.86	50.70	46.50	33.50	47.30	38.40	50.10	55.00	23.00	55.80
Total training expense	KRW 100 million	237.57	219.47	274.44	84.22	55.02	17.79	81.29	8.96	8.44	10.68	3.78	4.26
Training expense per employee	KRW million	3.24	2.82	2.83	5.70	2.10	1.40	2.70	3.20	1.40	3.50	3.30	5.30

1) Disclosed data for 2020 has been revised due to changes in the counting criteria

Employee Engagement

Category	Unit	2020	2021	2022
Total	Score	81	80	80
Gender	Male	82	81	82
	Female	75	72	72
Data coverage	%	100	100	100

Social

Ethical management

Ethics training

Category	Unit	2020	2021	2022
Ethics training hours	Hour	4,037	5,458	6,969
Completion rate of ethics training	%	-	-	100

Ethics management report/consultation/complaint/violation

Category	Unit	2020	2021	2022										
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO	
Ethical management report and consultation	Customers	Report	Case	-	-	-	-	-	-	-	-	-	-	-
		Consultation	Case	-	4	1	-	1	-	-	-	-	-	-
		Complaint	Case	23	21	27	-	27	-	-	-	-	-	-
	Business partners	Report	Case	9	9	7	-	4	1	1	-	1	-	-
		Consultation	Case	7	3	4	-	2	-	2	-	-	-	-
		Complaint	Case	-	-	1	-	1	-	-	-	-	-	-
	Employees	Report	Case	4	19	21	2	2	2	13	-	2	-	-
		Consultation	Case	5	6	7	3	-	-	4	-	-	-	-
		Complaint	Case	-	-	-	-	-	-	-	-	-	-	-
Others	Report	Case	12	26	36	4	10	-	13	5	1	2	-	
	Consultation	Case	34	69	60	14	18	5	10	5	2	3	1	
	Complaint	Case	-	-	9	3	2	-	-	-	-	4	-	
Handling ethical reporting	Investigation (audit)	Case	14	38	41	5	9	1	16	5	3	1	0	
	Transferred to relevant divisions	Case	43	61	93	6	50	7	22	0	1	5	1	
	Others (unverifiable, reject)	Case	37	58	39	15	8	0	5	5	2	3	0	
Status of disciplinary action for breach	Sexual harassment	Case	2	1	1	-	-	-	1	-	-	-	-	
	Others	Case	29	32	22	1	8	-	9	2	2	-	-	

Social

Customers

Customer Satisfaction¹⁾

Category			2020	2021	2022
Customer satisfaction	KSCI	KMA Consulting	Ranked 1st	Ranked 1st (11 years in a row)	Ranked 1st (12 years in a row)
Brand	K-BPI	KMA Consulting	1Ranked 1st	Ranked 1st (23 years in a row)	Rank 1st (16 years in a row in the gas station category, 24 years in a row in the gasoline category)
	NBCI	Korea Productive Center	Ranked 1st	Ranked 1st(18 years in a row)	Rank 1st (19 years in a row)
	KS-PBI	Korea Standards Association	Ranked 1st	Ranked 1st(10 years in a row) ²⁾	Ranked 2nd

1) SK Energy only 2) Data updated due to data errors in previous year's reports

Quality Management

Category		Unit	2020	2021	2022
Customer complaints handling	No. of cases received	Case	1,066	1,573	1,405
	Completion rate	%	100	100	100
Quality check	Gas station quality check	Number of times	11,548	11,362	10,593
Protecting corporate data and customer privacy	Corporate and customer data leakage	Case	0	0	0

Suppliers

Supplier Indicators

Category		Unit	2020	2021	2022
Purchase from suppliers	Cost of goods purchased from suppliers ¹⁾	KRW 100 million	28,971	49,992	43,640
	Purchase from local suppliers	KRW 100 million	18,054	16,854	24,708
Supplier ESG risk management		%	62	34	57
	Number of suppliers which received ESG Risk Assessment	No.	2,692	2,632	1,864
	Number of suppliers which received In-Depth ESG Risk Assessment	No.	-	204	200
	ESG due diligence of suppliers ²⁾	%	-	15	50
	Number of suppliers which took improvement actions	No.	64	42	33
	%	27	21	17	

1) Calculated based on the total orders (Raw materials + Construction services + Equipment) 2) Ratio of suppliers undergoing due diligence among suppliers received In-Depth ESG Risk Assessment

Purchases by Item

Category		Unit	Equipment & machinery	Construction services	Raw materials
2022 purchases by items	Amount of purchases	KRW 100 million	4,769	16,256	22,616
	Purchase ratio	%	11	37	52

Social

Process Safety

Category	Unit	2020	2021	2022									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Unplanned Capacity Loss (UCL) ¹⁾	%	0.22	0.06	0.25	-	0.43	1.57	-	0.002	-	-	-	-
Process incident rates (Tier 1) ²⁾	No. of cases per million working hours	0.06	0.19	-	-	-	-	-	-	-	-	-	-

1) Unplanned Capacity Loss

2) SKE, SKGC, SKL, SKIPC only

Industry safety training

Category	Unit	2020	2021	2022 ¹⁾									
				Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Industry safety training hours	Hour	63,737	148,173	128,605	18,198	20,002	7,262	64,110	1,168	14,084	3,781	-	-
Industry safety training hours per person	Hour	12.90	27.99	20.87	28.30	9.90	7.50	38.40	8.90	22.70	36.71	-	-

1) SK Trading International, SK Earthon do not have production and manufacturing sites

SHE Certifications

Category	ISO 9001	ISO 14001	ISO 45001	IATF 16949
SKE	2023.11.30	2023.11.8		
SKGC	2023.11.30	2023.6.12		
SKIPC	2023.11.30	2023.11.8		
SKEN	2023.6.3	2024.6.17		2024.6.9 ¹⁾
SKIET	2023.12.28	2025.9.1 2024.6.28 ²⁾ 2026.1.1 ³⁾	2026.1.1 ³⁾	2023.12.28
SKO	2024.6.7	2024.12.23	2025.12.23	2024.6.7

1) Validity period of certification for the Lubricant business division

2) For production facilities in China

3) For production facilities in Poland

Social

Human Rights

Human rights training

Category	Unit	2022									
		Total	SKI	SKE	SKGC	SKON	SKEN	SKIPC	SKIET	SKTI	SKEO
Completion rate of diversity & inclusion training	%	99.20	99.93	99.92	99.92	97.48	100	100	100	100	100

Local Community

Social contribution

Category	Unit	2020	2021	2022	
Social contribution activities	Social contribution expenditure	KRW 100 million	181.92	579.42	434.81
	By category				
	Cash contributions	KRW 100 million	158.30	545.67	401.59
	In-kind contributions	KRW 100 million	0.60	0.70	0.49
	Monetary value of employees' volunteer activity	KRW 100 million	3.92	3.69	2.49
	Business expenses for social contribution activities	KRW 100 million	19.10	29.37	30.24
Local community investment ratio	%	10	9	12	

Volunteer Group

Category	Unit	2020	2021	2022	
Volunteer activities	No. of volunteer activities	Case	4,751	10,216	10,429
	Hours of volunteer activities	Hour	14,099	20,930	21,188
	No. of volunteer teams	Team	57	61	74
	No. of participants	Person	6,301	7,229	7,682

Social

Major Donations

2020		2021		2022	
Beneficiary organization	Program	Beneficiary organization	Program	Beneficiary organization	Program
CSES	Business fund	KOFOA	Shared Growth Fund, innovation phase 2 project fund	KOFOA	Shared Growth Fund, innovation phase 2 project fund
Chey Institute for Advanced Studies	Business fund	CSES	Business fund	Community Chest of Korea	2023 Year-end charity donations, Kimchi sharing, etc.
The Korea Foundation of Advanced Studies	Business fund	The Happiness Foundation	Business fund	CSES	Business fund
The Happiness Foundation	Business fund	Chey Institute for Advanced Studies	Business fund	The Korea Foundation of Advanced Studies	Business fund
Community Chest of Korea	Hope 2020, year-end charity donations	The Korea Foundation of Advanced Studies	Business fund	The Happiness Foundation	Business fund
Yeonsei University Social innovation Center	Nurturing talent in social innovation area	Yeonsei University	Higher education innovation project	Korea Federation of Volunteer Centers	Business fund
KOFOA	Support for Industrial 4.0 innovation	Dream Sharing	Vietnam mangrove planting project	Dream Sharing	Vietnam mangrove planting project
KOGAS	Equipment supply	Community Chest of Korea	Hope 2022, year-end charity donations	Forest for Life	Forest restoration following wildfires in Ulsan and Ulju
Korea Microcredit Joyful Union	Fund for environmental enterprises	Ivancsaert Kozalapitvany, Gyermekinkert Alapitvany, Ivancsai Nagycsaladosok Egyesulete	Ivancha NPO Support in Hungary	Korea Society of Arts and Cultural Management	Sponsorship for academic events
Pro-Synergy	Operation of Yacheywasi, a Social Enterprise in Peru	Pro-Synergy	Business fund	U.S. Jackson School System	Scholarship
The World Economic Forum	Annual membership fee	the Zagłębie Palace of Culture	Sponsorship for Michał Spisak International Festival in Poland	Ulsan University	Scholarship
Ulsan University	Scholarship	Ulsan University	Scholarship	Incheon Seogu Cultural Foundation	Business fund
Suppliers	Joint worker's welfare fund	Human-aid	Special Exhibition for Artists with Developmental Disabilities 2022	Ivancsaert Kozalapitvany, Gyermekinkert Alapitvany, Ivancsai Nagycsaladosok Egyesulete	Ivancha NPO Support in Hungary
Happy Dosirak Cioop	Providing Dosirak (lunchbox) to poor families	Good People Int'l	Repairing local children's centers	Guide Star Korea	Promote transparency in public organizations
Iran, Peru, Daegu-Gyeongbuk area	COVID-19 Emergency Relief	Korea Federation of Volunteer Centers	Year-end kimchi and briquette donation	Korea China Economy & Culture Education Association	Cooperation with environmental volunteering

Corporate Governance

Stock Ownership

Category	Shareholder	No. of shares owned	Shareholding ratio(%)	Note
Shareholders with 5% stake or above	SK Corp	31,223,509	33.77	Largest shareholder
	National Pension Service	8,008,589	8.66	-
Employees' stock ownership association	-	-	-	-

Basic Information on Largest Shareholders

Shareholder Name	No. of investors	CEO (Representative member)		Business executor (association member)		Largest shareholder (largest investor)	
		Name	Stake(%)	Name	Stake(%)	Name	Stake(%)
SK Corp	199,999	Choi Tae Won	17.50	-	-	Choi Tae Won	17.50
		Jang Dong-hyun	0.01	-	-	-	-
		Park Sung Ha	0.00	-	-	-	-

Voting Rights

Type	Type of Stock	No. of Shares	Note
Total number of shares issued (A)	Common stock	92,465,564	-
	Preferred stock	1,248,426	-
Number of shares without voting rights (B)	Common stock	8,246,029	Article 369, Paragraph 2 of the Commercial Law
	Preferred stock	1,248,426	-
Number of shares exempted from voting rights by the articles of incorporation (C)	Common stock	-	-
	Preferred stock	-	-
Number of shares exempted from voting rights by other laws (D)	Common stock	-	-
	Preferred stock	-	-
Number of shares for which voting rights were reinstated (E)	Common stock	-	-
	Preferred stock	-	-
Number of shares with voting rights (F=A-B-C-D+E)	Common stock	84,219,535	-
	Preferred stock	-	-

Governance Indicator

Category	Unit	2020	2021	2022		
Board of Directors	Total	Person	8	7	7	
	Composition	Executive directors	Person	2	1	1
		Independent directors	Person	5	5	5
		Non-Executive Directors	Person	1	1	1
		Female directors	Person	1	1	1
	Attendance rate	Total	%	99	95	98
		Executive directors	%	100	88	100
		Independent directors	%	99	96	99
		Non-Executive Directors	%	100	94	91
	Number of board meetings held		-	13	16	14
Agenda		-	63	89	92	
Committees under BOD ¹⁾	Audit and Corporate Compliance Committee	No. of meetings	-	6	12	18
		Agenda	-	26	45	58
	HR Evaluation and Remuneration Committee	No. of meetings	-	N/A	6	12
		Agenda	-	N/A	9	19
	Future Strategic Planning Committee	No. of meetings	-	N/A	4	9
		Agenda	-	N/A	9	17
	ESG Committee	No. of meetings	-	N/A	4	9
		Agenda	-	N/A	12	24
	Recommendation and Nomination Committee	No. of meetings	-	2	2	-
		Agenda	-	2	3	-
Strategic-Risk Management Committee	No. of meetings	-	5	2	-	
	Agenda	-	8	4	-	
Human Resource Committee	No. of meetings	-	2	3	-	
	Agenda	-	8	5	-	
Transparent Management Committee	No. of meetings	-	3	3	-	
	Agenda	-	6	6	-	

- 1) To strengthen the actual authority and role of the board, the SKI BOD Committees were reorganized into 4 (four) committees: Audit and Corporate Compliance Committee, HR Evaluation and remuneration Committee, Future Strategic Planning Committee, and ESG Committee.
- Recommendation and Nomination Committee : Independent director candidate recommendation function was transferred to the HR Evaluation and remuneration Committee and abolished.
 - Future Strategic Planning Committee : ex Strategic-Risk Management Committee
 - HR Evaluation and remuneration Committee : ex Human Resource Committee
 - ESG Committee : newly established
 - Transparent Management Committee : Internal transaction supervision function was transferred to the Audit and Corporate Compliance Committee and abolished.

Corporate Governance

Attendance Rate¹⁾

Category	Name	Appointment Date ²⁾	Attendance Rate(%)	Total Number of Attendance	Total Number of Meetings
Chairperson and independent director	Kim Jung-gwan	2018.3	92.86	13	14
	Kim Jong-hoon	2017.3	100	14	14
	Kim Jun	2016.3	100	3	3
	Kim Tae-jin	2022.3	100	11	11
	Park Jin-hei	2022.3	100	11	11
	Choi Woo-seok	2018.3	100	14	14
	Ha Yun-kyung	2016.3	100	3	3
	CEO	Kim Jun	2017.3	100	14
Non-executive director	Yoo Jung-jun	2016.3	50	2	4
	Jang Dong-hyun	2022.3	90.91	10	11

1) Board Attendance Rate from January 2022 to December 2022

2) Changes in Board Composition: Resignation of Directors Kim Jun and Ha Yun-kyung, Appointment of Directors Park Jin-hei and Jang Dong-hyun (effective from March 31, 2022), and Resignation of Director Yoo Jung-jun (effective from April 27, 2022)

Tax Indicator

Category	Unit	2020	2021	2022	Note
Earnings before tax	KRW million	-3,027,281	891,871	2,860,190	Income Statement
Nominal tax paid	KRW million	-628,120	373,705	965,011	Income Statement
Nominal tax rate	%	20.7	41.9	33.7	
Effective tax paid	KRW million	190,372	262,263	738,780	Corporate tax paid
Effective tax rate	%	-6.3	29.4	25.8	
Nominal tax amount vs. effective tax amount	KRW million	-818,492	111,442	226,231	
Difference in reversion period	KRW million	-1,020,601	-23,067	61,680	
Permanent difference	KRW million	-22,046	-18,924	-57,616	
Tax amount exemption and reduction difference	KRW million	54,942	11,894	46,139	
Changes deferred tax without feasibility	KRW million	-108,359	483,282	-30,910	
Other differences	KRW million	277,572	-341,743	206,938	

Corporate Tax Payment

Category	No. of employees (person)	2022				
		Revenue (KRW 100 million)	Earnings before tax (KRW 100 million)	Income tax payable (KRW 100 million)	Tax expense (KRW 100 million)	
By country	Korea	9,752	1,054,965	34,710	3,804	9,950
	Netherlands	13	11,819	85	9	12
	USA	3,396	109,224	-4,938	5	36
	Spain	61	13,782	591	15	88
	Singapore	84	381,847	1,456	145	154
	UK	6	53,730	9	-	8
	Indonesia	-	-	-	-	-
	Japan	16	6,495	30	7	12
	China	792	50,451	2,463	287	579
	Russia	20	1,596	244	-	51
	Other (consolidated adjustments)	4,212	23,324	-2,265	62	233
	Total	18,352	1,707,233	32,385	4,334	11,123
	By region	Korea	9,752	1,054,965	34,710	3,804
Asia		947	438,793	3,968	439	744
Europe		4,240	99,172	-1,896	74	219
Other		3,413	114,303	-4,397	17	210
Total		18,352	1,707,233	32,385	4,334	11,123

Contributions for Membership Associations and Groups

Category	Unit	2020	2021	2022		
Contributions for membership associations and groups ¹⁾	Total annual contributions	KRW million	2,895	2,926	3,049	
	Major groups	Korea Petroleum Association	KRW million	1,503	1,450	1,455
		Korea Chamber of Commerce and Industry (Ulsan)	KRW million	287	285	283
		Korea Petrochemical Industry Association	KRW million	56	87	165
		Korea Oil Association	KRW million	40	80	80
		Korea Chamber of Commerce and Industry (Seoul)	KRW million	143	138	126
		Korea Chemical Industry Council	KRW million	20	20	113
		Korea Oil Station Association	KRW million	65	70	105
	Other groups	KRW million	633	627	448	

1) Updated 2020-2021 disclosure data, including omitted contributions

Financial Statements

Consolidated Financial Statement

(Unit : KRW 1,000)

Category	2020	2021	2022
Assets			
Total Current Assets	13,295,062,788	21,481,684,513	31,966,675,885
Cash and cash equivalents	2,940,661,256	3,423,827,161	9,479,086,529
Short-term financial instruments	1,970,641,924	3,987,479,437	1,460,282,743
Trade accounts receivable	2,506,203,681	4,248,696,216	6,278,785,828
Long-term investment securities	231,991		1,000,000
Short-term loans	53,555,795	35,636,077	45,701,461
Other accounts receivable	413,696,779	771,460,266	1,567,501,837
Accrued income	2,125,108	2,193,693	4,928,236
Advance payments	525,962,007	908,577,419	734,766,773
Prepaid expenses	54,281,908	65,032,409	102,685,899
Current tax assets	8,198,069	19,125,313	16,234,283
Guarantee deposits	118,408,824	107,964,528	244,023,027
Derivative financial assets	60,025,134	37,363,511	173,741,332
Inventories	3,878,354,885	7,849,111,066	11,857,700,217
Assets classified as held for sale	751,142,937	6,777,434	
Other current assets	11,572,490	18,439,983	237,720
Total Non-current Assets	25,203,083,318	28,063,257,557	35,252,248,392
Long-term financial instruments	4,384,276	27,827,577	11,496,646
Long-term trade accounts and notes receivable			2,426
Long-term investment securities	301,334,947	377,609,979	501,334,948
Investments in associates and jointly controlled entities	3,865,503,746	4,284,107,642	4,771,715,351
Long-term loans	126,507,286	136,760,559	134,737,636
Long-term other accounts receivable	10,572,285	92,096,708	57,684,316
Tangible assets	17,878,169,500	19,337,482,473	25,110,563,647
Right-of-use assets	1,112,437,782	1,423,799,095	1,467,936,581
Goodwill and Intangible assets	1,223,880,958	1,906,923,779	2,077,677,363
Investment properties	135,713,700	135,439,187	134,718,265
Long-term guarantee deposits	98,581,646	154,572,382	150,265,386
Derivative financial assets	13,628,851	103,313,059	98,727,006
Defined benefit assets			70,879,850
Deferred income tax assets	416,922,618	61,725,779	601,597,758
Other non-current assets	15,445,723	21,599,338	62,911,213
Total Assets	38,498,146,106	49,544,942,070	67,218,924,277

(Unit : KRW 1,000)

Category	2020	2021	2022
Liability			
Total Current Liabilities	11,014,841,497	14,512,449,137	27,557,209,671
Short-term borrowings	1,530,278,833	864,051,500	7,558,575,696
Trade accounts payable	2,764,353,466	5,661,202,871	9,146,440,056
Other accounts payable	2,015,222,011	2,540,071,419	2,753,244,829
Accrued expenses	1,949,348,862	2,531,338,705	2,010,504,551
Advance received	264,410,004	184,494,809	192,875,315
Withholdings	643,012,156	587,850,708	496,061,307
Current tax liabilities	57,750,354	266,021,187	428,770,418
Current portion of long-term debt	1,476,031,539	1,548,336,224	4,491,968,303
Current lease obligations	232,768,357	282,432,356	347,317,162
Current leasehold deposits received	8,699,034	3,635,660	4,436,454
Current derivative financial liabilities	25,552,425	21,250,917	36,370,486
Liabilities for sale	35,750,968		
Current financial guarantee liabilities			321,074
Other current liabilities	11,663,488	21,762,781	90,324,020
Total Non-current Liabilities	12,024,839,526	15,411,796,569	16,419,403,224
Bonds payable and long-term borrowings	10,630,423,397	13,411,825,137	13,403,701,628
Lease obligations	882,417,539	1,353,293,787	1,366,659,656
Other accounts payable	11,772,206	33,757,552	34,067,448
Retirement benefit obligation	96,327,896	60,906,756	31,023,762
Long-term provisions	130,311,683	179,259,069	313,173,755
Leasehold deposits received	11,965,225	23,830,030	23,064,299
Non-current derivative financial liabilities	26,826,382	6,045,137	144,580,448
Financial guarantee liabilities	1,790,423	1,137,296	
Deferred income tax liabilities	200,067,275	311,129,305	920,889,476
Other non-current liabilities	32,937,500	30,612,500	182,242,752
Total Liabilities	23,039,681,023	29,924,245,706	43,976,612,895
Equity			
Equity Attributable to the owners of the Company	14,539,976,348	17,310,855,156	19,651,626,210
Capital stock	468,569,950	468,569,950	468,569,950
Other paid-in capita	4,309,708,450	6,142,340,987	6,875,167,789
Retained earnings	9,891,253,221	10,198,716,000	11,579,657,924
Other capital components	-129,555,273	501,228,219	728,230,547
Non-controlling interests	918,488,735	2,309,841,208	3,590,685,172
Total Equity	15,458,465,083	19,620,696,364	23,242,311,382
Total Liabilities and Equity	38,498,146,106	49,544,942,070	67,218,924,277

Financial Statements

Consolidated Statements of Comprehensive Income

(Unit : KRW 1,000)

Category	2020	2021	2022
Sales	34,549,940,259	46,853,415,718	78,056,939,448
Cost of sales	34,877,510,546	42,672,121,506	71,029,732,813
Gross profit	-327,570,287	4,181,294,212	7,027,206,635
Selling and administrative Expenses	2,092,716,085	2,439,621,642	3,109,865,846
Operating income	-2,420,286,372	1,741,672,570	3,917,340,789
Financial income	3,838,481,926	2,281,608,005	7,097,499,573
Finance costs	4,035,818,663	3,023,101,536	8,107,091,953
Gain related to investments in associates and jointly controlled entities, net	-28,563,253	436,789,535	2,282,670
Other non-operating income	107,761,343	627,374,977	187,155,011
Other non-operating expenses	220,011,372	1,245,877,297	236,995,813
Income from Continuing Operation before Income Tax Expense	-2,758,436,391	818,466,254	2,860,190,277
Income Tax Expense	-598,182,819	373,704,789	965,011,150
Income from Continuing Operations	-2,160,253,572	444,761,465	1,895,179,127
Income from Discontinued Operations	13,514,971	43,748,419	
Consolidated net income	-2,146,738,601	488,509,884	1,895,179,127
Attributable to Owners of the Company	-2,172,768,809	292,091,517	1,569,022,663
Attributable to Non-controlling interests	26,030,208	196,418,367	326,156,464
Other Comprehensive Income	-310,433,469	668,268,858	170,742,372
Items not reclassified subsequently to profit or loss	-12,816,972	55,834,236	-108,575,709
Remeasurement of defined benefit plan	3,605,754	14,614,562	7,666,941
Net change in fair value of financial assets measured at FVTOCI	-18,073,373	20,599,397	-53,102,471
Net gain (loss) on translation of foreign operations	1,650,647	20,620,277	-63,140,179
Items reclassified subsequently to profit or loss	-297,616,497	612,434,622	279,318,081
Net change in fair value of financial assets measured at FVTOCI	225,303	-192,844	
Equity adjustments of investments in associates and jointly controlled entities	-81,436,526	340,816,996	75,850,005
Net gain (loss) on translation of foreign operations	-187,159,321	241,894,816	97,484,508
Net change on valuation of derivative financial instruments	-29,245,953	29,915,654	105,983,568
Total Comprehensive Income	-2,457,172,070	1,156,778,742	2,065,921,499
Attributable to Owners of the Company	-2,484,858,850	938,246,271	1,803,434,735
Attributable to Non-controlling interests	27,686,780	218,532,471	262,486,764
Earnings Per Share			
Basic earnings per share (unit: KRW)	-25,729	3,491	18,511
Basic earnings per share of preferred stocks (unit: KRW)	-25,729	3,541	18,561
Basic earnings per share from continuing operations (unit: KRW)	-25,889	2,968	18,511
Basic earnings per share of preferred stocks from continuing operations (unit: KRW)	-25,889	3,018	18,561
Earnings per diluted common share (unit: KRW)	-25,729	3,490	18,510
Income from continuing operations per diluted common share (unit: KRW)	-25,889	2,967	18,510

Business Performance

Distribution of Economic Value

Category	Unit	2020	2021	2022		
Economic	R&D	KRW 100 million	2,536	3,633	4,177	
	Corporation	Acquisition of tangible assets	KRW 100 million	37,631	31,752	67,765
	Shareholders and investors	Dividend payout	KRW million	-	195,596	499,198
Social	Employees	Total employee payroll	KRW 100 million	12,378	18,767	23,045
	Suppliers	Purchase amount	KRW 100 million	28,971	-	24,708
	Local communities	Investment for social contribution	KRW 100 million	181.92	579.42	434.81
	Government	Corporate tax payment	KRW 100 million	1,904	2,622	7,388

Performance of Products and Services Creating Social Value¹⁾

Category	Unit	2020	2021	2022
SV generated from products and services in the environmental and social domain (total amount)	KRW 100 million	2,115	3,099	5,438
GHG reduction through low-carbon products	KRW 100 million	532	627	779
Amount of GHG reduction through low-carbon products	Ton	510,098	589,890	718,124

1) The company's social performance of products and services is objectively and conservatively calculated based on the methodology of CSES.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Appendix

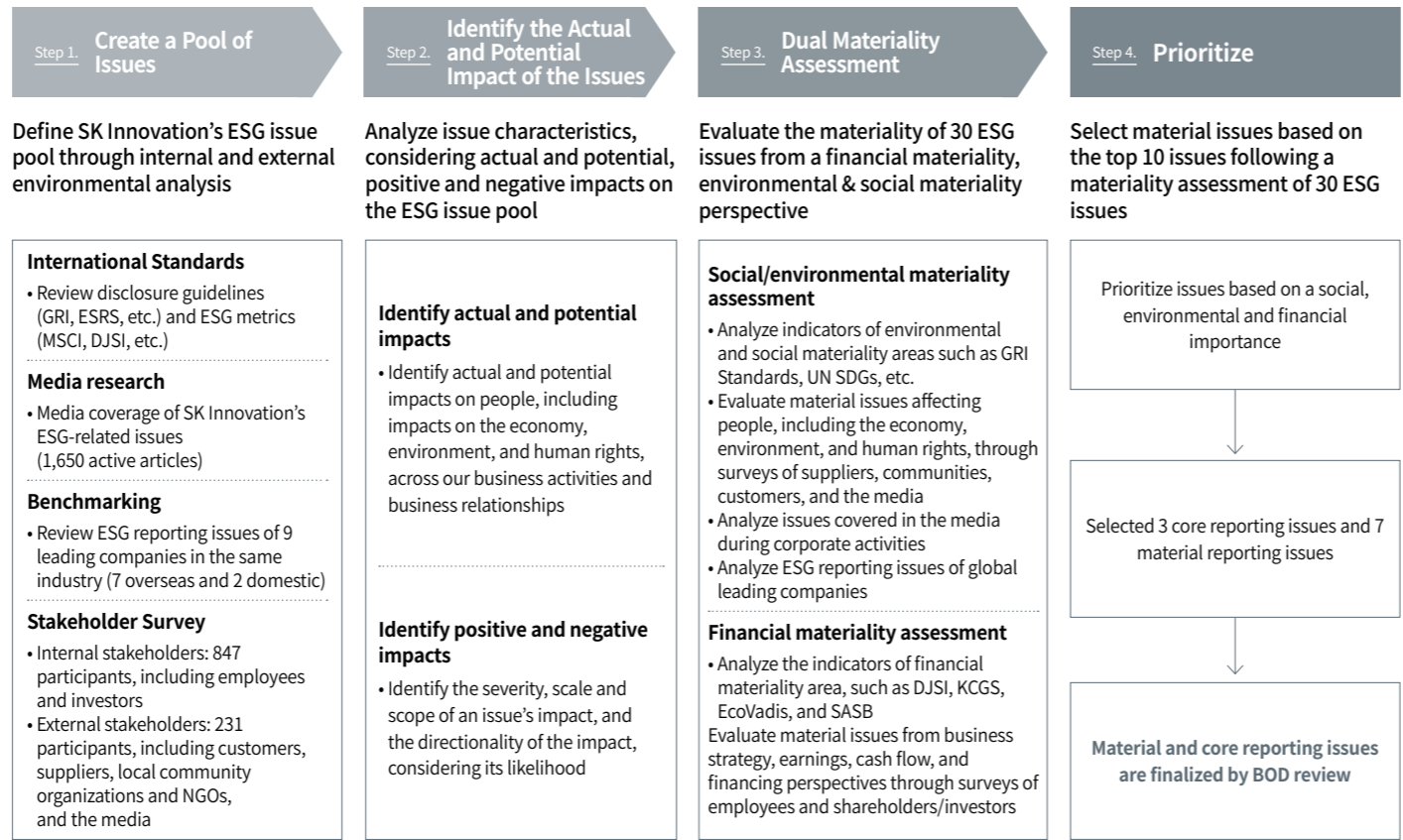
Materiality Assessment	151	TCFD Report	163
Social Value Creation	154	SASB Index	169
Stakeholder Engagement	156	Associations and Memberships	171
UNGC Communication on Progress	157	Independent Assurance Statement	172
UNGP Index	158	Independent Assurance Statement for GHG Emissions	174
GRI Index	159	About This Report	176
TCFD Index	162		

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Materiality Assessment

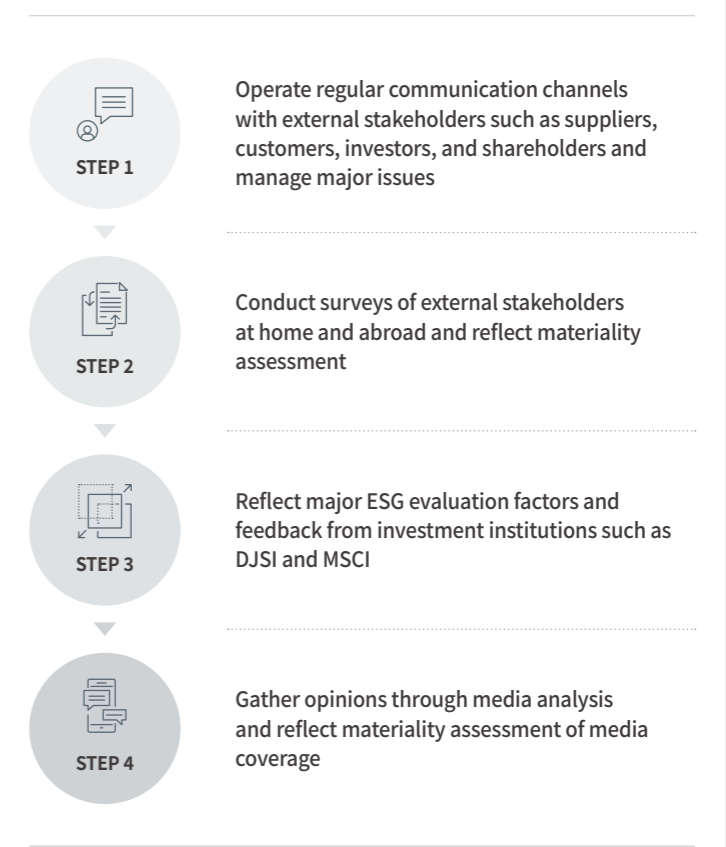
Materiality Assessment Process

SK Innovation conducted a materiality assessment using the GRI Standards' principles for selecting reporting topics to identify key issues that may impact our overall sustainability. This assessment involved internal and external environmental analyses, including examination of international standards, benchmarking of leading companies, and media research. The findings formed a pool of issues, which were then subjected to a dual materiality assessment considering both social and environmental impacts, as well as financial and business impacts for each issue. As a result, three core reporting issues and ten material reporting issues were chosen. With this report, SK Innovation aims to transparently disclose our activities and performance related to these reporting issues to stakeholders, enhancing communication and engagement with them.



Reinforcing External Stakeholder Engagement

To ensure the inclusion of external stakeholders' perspectives in the materiality assessment process, SK Innovation actively manages issues raised through key communication channels. We also incorporate the needs of external stakeholders into the assessment by including stakeholder surveys, feedback from rating agencies, and analysis of media exposure articles step by step in the materiality assessment process.



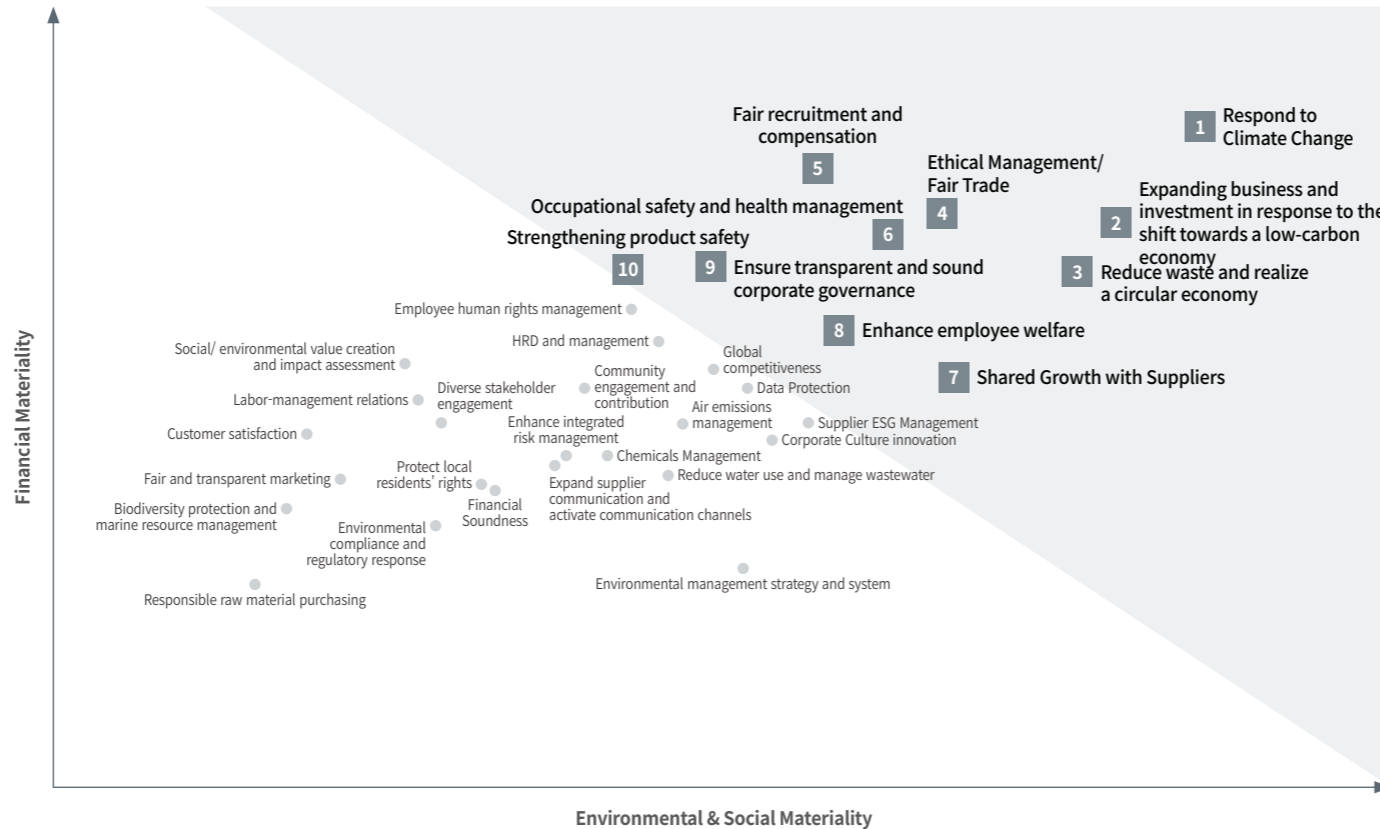
Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Materiality Assessment

Materiality Assessment Results

Based on the dual materiality assessment, we have identified three core reporting issues and seven material reporting issues, which are fully disclosed in our ESG Report. Each material issue is strategically managed in alignment with SK Innovation’s ESG strategy, known as the “GROWTH” strategy. The selection of material issues undergoes a thorough review and approval process by the Board of Directors. We maintain regular monitoring of material issues and ensure that response tasks are managed effectively through the ESG Committee. Our commitment to enhancing ESG management and improving execution is reflected in the systematic management of these material issues.

Double Materiality Matrix



GRI Sector Standards Index Status +

Ranking	Issues	Double Materiality		Reporting page
		Financial Impact	Environmental & Social Impact	
1	Respond to Climate Change	●	●	19~24, 80~88
2	Expanding business and investment in response to the shift towards a low-carbon economy	●	●	11~17
3	Reduce waste and realize a circular economy	◐	●	29~30
4	Ethical Management/Fair Trade	●	●	38~39, 119~122
5	Fair recruitment and compensation	●	◐	53~59, 93~99
6	Occupational safety and health management	●	◐	31~33, 100~101
7	Shared Growth with Suppliers	◐	●	44~46, 102~109
8	Enhance employee welfare	◐	◐	53~59, 93~99
9	Ensure transparent and sound corporate governance	◐	◐	62~70
10	Strengthening product safety	◐	◐	31~33, 116

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Materiality Assessment

Materiality Assessment Results

SK Innovation has conducted an analysis of the impacts arising from our business operations and management activities on stakeholders. As a result, we have identified climate change response, expansion of business and investment in response to the shift towards a low-carbon economy, waste reduction, and realization of a circular economy as our top priority issues. These issues are systematically managed in alignment with our ESG strategy, the “GROWTH” strategy. We continuously monitor key developments related to these issues and strive to enhance our response strategies. To effectively manage performance, we have established management indicators for each issue. Furthermore, these indicators are reflected in the CEO’s key performance indicators (KPIs) to improve performance.

No	Material Issues	Impact/cause of issue and external stakeholder materiality			External stakeholder materiality indicators			Material issues				Materiality indicators				
		Value Chain	Scope	External stakeholder/ impact assessment areas	External stakeholder relevance and importance	Measuring indicators	Impact Assessment	Impact indicators	Material risk or opportunity	Business case	Business impact	Business strategy	Goals/ indicators	Target year	Progress (Disclosure of progress of goals/indicators)	Executive compensation
1	Respond to Climate Change	Business sites, supply chain, products and services	100%	Environment, customer/end user	• Environmental impacts, including greenhouse gas emissions, caused by the operations of the company, subsidiaries, supply chain	Scope 1, 2, and 3 GHG reductions	Social cost incursion/ avoidance	Social cost reduction through reduced carbon emissions	• Additional costs due to energy transition to address climate change, energy efficiency, etc. • Identify and promote new business areas to respond to climate change	• Increased demand for corporate action to address climate change • Some countries are actively pursuing carbon reduction initiatives such as carbon taxes and carbon border adjustment taxes	• In addition to the direct threats to business from climate change, increased costs from carbon taxes, carbon border adjustment taxes, etc. could reduce profitability	• Renewable power adoption and process efficiency improvements • Switch to low-carbon fuels • Set internal carbon pricing and change investment review processes • Continuous expansion of low-carbon R&D, etc.	GHG Scope 1, Scope 2, Net Zero	2050	• Scope 1 & 2 emissions reductions • Scope 3 emissions reductions • Net Zero Special Report	• Reflect CEO KPIs - Net Zero Roadmap • Achieve GROWTH initiative KPIs (GHG reduction from 2019)
2	Expanding business and investment in response to the shift towards a low-carbon economy	Products and services	100%	Environment, customer/end user	• Material issues for customers who consume our products and services, such as energy, chemicals, batteries, materials, etc. • Positive impacts on customers and communities through green business practices	Ratio of green assets to energy and chemical assets	Social cost incursion/ avoidance	Social Value creation by expanding environmental improvement projects and investments	• Increase in direct and indirect costs caused by business transformation • Expand business and increase corporate value by building a green portfolio	• Increased demand for environmentally responsible activities and products driven by increased attention to addressing climate change • Increased customer awareness of eco-friendly products • Increased social interest in low-carbon business	• Increased direct and indirect investments to stabilize the transition of existing businesses to green businesses • Business sustainability by expanding Green Biz	• Promote battery and materials business • Promote plastic recycling and develop high-performance/eco-friendly materials • Promote low-carbon energy oriented platform business • Investment in liquid cooling technology, etc.	600 billion in SV from environmental product and service performance	2025	• Expand green portfolio • Expand environmental products and services that create SV	• Reflect CEO KPIs - Achieve GROWTH initiative KPIs (Ratio of green assets to energy and chemical assets)
3	Reduce waste and realize a circular economy	Business sites, products and services	100%	Environment, customer/end user	• Direct and indirect environmental impacts on local communities caused by waste generated in the production of products • Increased social costs due to waste disposal • Promote exemplary practices through the realization of a circular economy and spread positive impacts across industries	Number of ZWTL-certified sites	Social cost incursion/ avoidance	Social cost reduction of waste disposal by increasing waste recycling rate	• Additional investment costs for recycling waste generated in the production process • Maximize resource utilization by recycling waste generated in the production process	• Demand to manage not only the discharge of recyclable waste but also the actual recycling rate of discharged recyclables • Minimize waste incineration and disposal in landfills	• Create additional social value by utilizing waste generated in the production process	• Zero waste to landfill (ZWTL) certification • Commercialization of wastewater treatment cement • Recycle waste generated in the production of aviation fuel	ZWTL certified at 8 sites	2025	• Recycling Workplace Waste • Waste Management	• Reflect CEO KPIs - Achieve GROWTH initiative KPIs (cumulative No. of ZWTL certifications)

Materiality Assessment	Social Value Creation	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement	Independent Assurance Statement for GHG Emissions			About This Report			

Social Value Creation

Social Value Metrics & Performance

Social Value Metrics System

Social Value Metrics | Since 2018, SK innovation has annually disclosed SV performance measured in monetary terms. In 2022, our SV performance reached a 3-year peak, totaling KRW 2,510.6 billion (KRW 3,038.3 billion including new measurements). This remarkable achievement was driven by expanded electric vehicle battery and materials businesses, successful Net Zero initiatives, and increased sales of sustainable solutions. Our 2022 SV measurement encompassed global operations.

SK Group DBL Management Philosophy



Social Value Measurement Metrics

SK innovation's social value metrics encompass indirect economic contributions, environmental performance, and social impact. We are creating a distinct methodology for measuring governance performance as a separate metric. Validated by SK group's Center for Social Value Enhancement Studies (CSES), these metrics are objectively evaluated. In pursuit of transparency, we will start sharing these measurements to gather stakeholder feedback and improve our measurement methods.

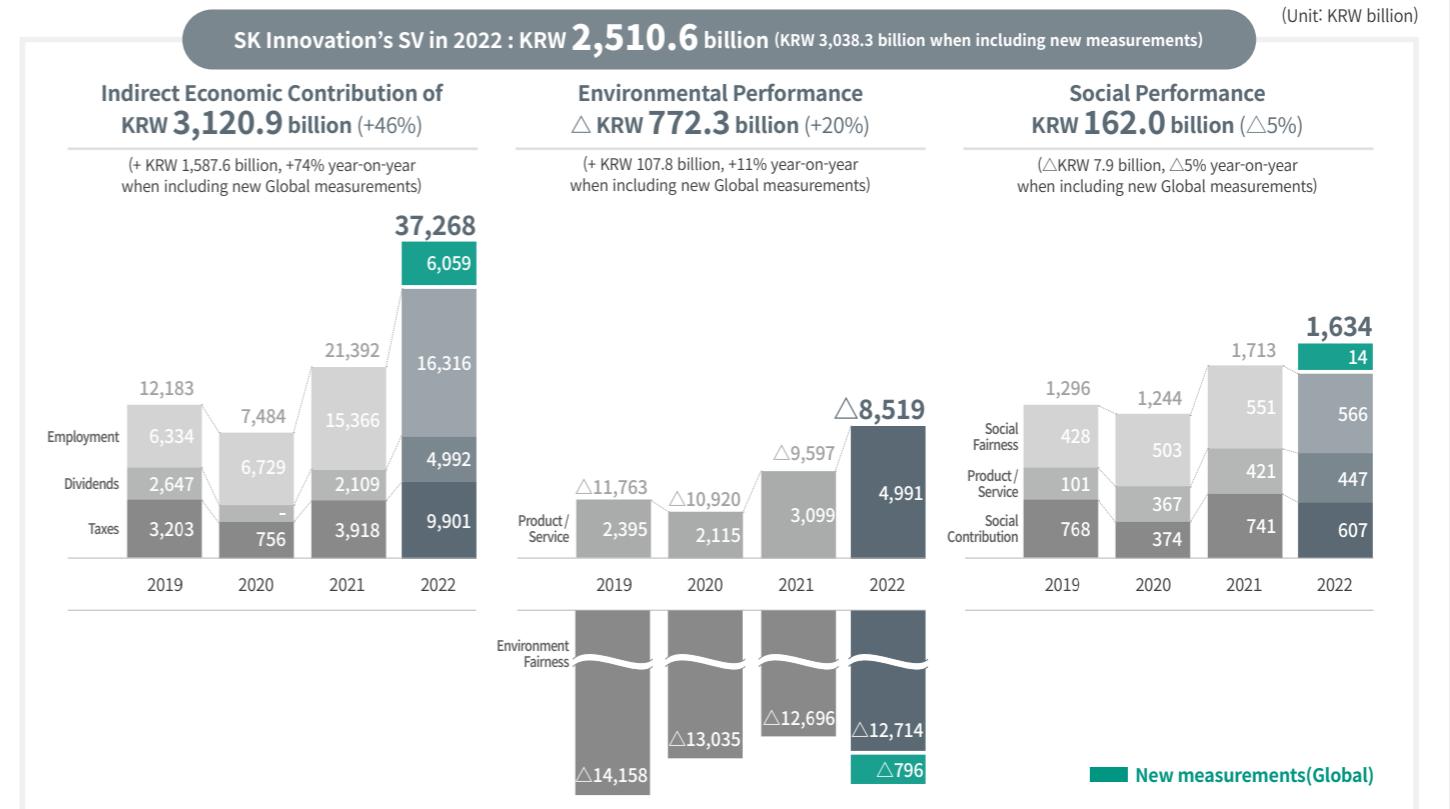
SK Innovation Social Value Measurement Area

Indirect Contribution to the Economy Indirect contribution to the economy through business activities Employment Total employee wages for the year Dividends Total amount of dividends for the year Taxes Corporate, national, and local taxes for the year	Environmental Performance Social value created through the development, production, and sale of products Environmental Process Environmental impact of production process Environmental Products and Services Reduction of environmental pollution or resource savings through the sale of products and services	Social Performance Social value we provide to our employees, suppliers, and communities by selling products that improve quality of life Social Fairness Improving labor environment and shared growth Social Products and Services Selling products that improve the quality of life Social Contribution Donations, community programs, etc.
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Social Value Creation in 2022

Since 2018, SK Innovation has consistently disclosed our social value (SV) performance measured in monetary terms. In 2022, our SV performance reached its highest level in the past three years, with a total value of KRW 2,510.6 billion (KRW 3,038.3 billion when including new measurements). This outstanding performance was primarily driven by various factors, including the expansion of our electric vehicle battery and materials businesses, the successful implementation of Net Zero initiatives resulting in significant carbon reduction, and increased sales volume of sustainable solutions. Previously, only domestic business sites were measured, but in 2022, we included global business sites in the scope of SV performance measurement.










SK Innovation's Social Value Performance Trend



Materiality Assessment	Social Value Creation	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement	Independent Assurance Statement for GHG Emissions			About This Report			

Social Value Creation

Social Value Metric Formulas for Major Products and Services

Product/Service	Function	Formula: (Market Baseline - Own SV Baseline) × Proxy × Sales
Premium asphalt 	Reduce GHG/air pollution compared to conventional process (slaked lime process) by pre-mixing additives	<ul style="list-style-type: none"> [GHG reduction] = (General product CO₂ emissions - Our product CO₂ emissions) × Social cost of Carbon × Sales volume [Air pollution reduction] = (General product air pollutant emissions - Our product air pollutant emissions) × Eco-cost such as SO_x/NO_x/PM × Sales volume
Asphalt for recycle 	Reduce new aggregate/asphalt resources and social costs of landfills by increasing waste aggregate recycling rates	<ul style="list-style-type: none"> [Resources reduction] = (Asphalt resources saved for recycling - Conventional asphalt resources saved) × New aggregate mining cost (or new asphalt price) × Recycling asphalt sales volume [Waste reduction] = (Recycling asphalt waste aggregate recycling rate - Regular asphalt waste aggregate recycling rate) × Waste Eco-cost × Recycling asphalt sales volume
HCFC alternative blowing agents 	Reduce air pollution with low ozone depletion potential (ODP) and global warming potential (GWP) blowing agents	<ul style="list-style-type: none"> [Air pollution reduction] = (Air pollution emission factor for building insulation foam - Cyclopentane air pollution emission factor) × HCFC Eco-cost × Sales volume of foams
Toxic (Toluene) alternative solvents 	Reduce contaminants in non-toxic solvents (Clean7)	<ul style="list-style-type: none"> [Water pollution reduction] = (Legal limit toluene content - Clean7 toluene content) × Toluene Eco-cost × Sales volume
Vehicle lightweighting materials 	Improve fuel efficiency and reduce greenhouse gases by reducing material use with high-strength plastics	<ul style="list-style-type: none"> [GHG reduction] = (GHG reduction of our automotive materials - GHG reduction of market average automotive materials) × Social cost of Carbon × Sales volume [Energy Savings] = (Fuel savings from own vehicle materials - Fuel savings from market average vehicle materials) × Composite fuel cost × Sales volume
Advanced lubricants 	Reduce energy and greenhouse gas emissions with improved fuel efficiency of advanced (Gr-III) base oils	<ul style="list-style-type: none"> [GHG reduction] = (Advanced lubricant fuel efficiency improvement - Average fuel efficiency improvement) × Social cost of Carbon × Lubricant sales volume × Contribution [Energy savings] = (advanced lubricant fuel efficiency improvement - average fuel efficiency improvement) × Fuel cost by type × Lubricant sales volume × Contribution
District heating from process heat sources 	Reduce greenhouse gas/air pollution by providing heat for residential complexes from factory waste heat	<ul style="list-style-type: none"> [GHG/air pollution reduction] = Social cost of Carbon (or Eco-cost) × Incheon total Energy Supply calorific value
Extend life of functional asphalt 	Reduce social costs by extending the life of asphalt (reduced travel time/maintenance costs, etc. during maintenance)	<ul style="list-style-type: none"> [Enhance public benefit] = (Conventional asphalt lifecycle cost - Functional asphalt lifecycle cost) × Functional asphalt sales volume
NeTruck House 	Contribute to reduce traffic accidents, resolve parking shortages, and improve welfare by ensuring rest for truck drivers for shared growth	<ul style="list-style-type: none"> [Prevention of drowsy driving accidents] = Social cost of traffic accidents × Annual number of NeTruck House users [Parking space cost savings] = Parking space cost savings × Annual NeTruck House users [Leisure and recreation benefits] = Willingness to pay for service × Annual NeTruck House users

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement	Independent Assurance Statement for GHG Emissions	About This Report					

Stakeholder Engagement

Stakeholder Engagement

Identifying the Needs of Stakeholders

Customers, employees, shareholders, investors, local communities, and suppliers are SK Innovation’s key stakeholders. We measure both the social value expected by these stakeholders and the social value provided by the company.

To manage these measurements, we maintain a separate account called the “SV Account”. Starting in 2021, we expanded our social value measurement efforts to encompass all key stakeholders of SK Innovation subsidiaries, going beyond the previously defined key stakeholders. In 2022, we renamed the SV Account to the Stakeholder Account, reflecting the broader scope of measurement that now includes all stakeholders of SK Innovation and its subsidiaries.

The progress of the Stakeholder Account is reported to top management, and relevant issues are discussed within the ESG Sub-Committee, a C-level committee.






Process of Identifying Stakeholders’ Needs



Stakeholder Communication

SK Innovation has established a range of communication channels to actively engage with stakeholders and understand their needs to reflect them in our management activities. We value the opinions and perspectives of our stakeholders, especially in the process of selecting ESG management priorities. Their input is directly reflected in our strategies and tasks. We disclose the material issues that are of significance to our stakeholders through our sustainability report.





Stakeholder Communication Channels and Areas of Interest

Stakeholder	Major Communication Channels	Areas of Interest
 Customers	<ul style="list-style-type: none"> • Customer Happiness Center (Call Center) • Enclean.com • Year-long meetings and events • Website (SK Innovation) • Blogs (SK Innovation, SK Energy) • Facebook (SK Innovation, SK Energy, SK Enmove) 	<ul style="list-style-type: none"> • Value creation for shared growth • New technologies for sustainable growth • Fair evaluation and compensation • Prevention of unfair practice • Communication with suppliers and support for competency development
 Employees	<ul style="list-style-type: none"> • Intranet (e.g. tong tong) • In-house broadcast (GBS) and company newsletters • iCON (in-house messenger, Change Facilitator) • CEO-employee communication (CEO Commitment) and meetings • Harmonia (Counseling and coaching center to support mental health and enhance competency) • Youtube Live 	<ul style="list-style-type: none"> • Corporate values • Value creation for shared growth • Fundamental product innovation • New technologies for sustainable growth • Business model and portfolio innovation • Work-life balance
 Shareholders and Investors	<ul style="list-style-type: none"> • Shareholder meetings, earning reports • Domestic and overseas Non-Deal Roadshow (NDR) and conferences • One-on-one meeting, e-mail, phone consultation • Disclosure 	<ul style="list-style-type: none"> • Shareholder-friendly and transparent management centered on BOD • New technologies for sustainable growth • Internal and external risk management • Communication with stakeholders
 Local Community	<ul style="list-style-type: none"> • Meetings with local organizations at each business location • Participate in neighborhood councils near business sites • Participate in safety councils hosted by district police stations • Participate in local welfare facility and management committees 	<ul style="list-style-type: none"> • Communication with suppliers and support for competency development • Corporate values • Communication with stakeholders • Unfair practice • Pollutants and emissions
 Suppliers	<ul style="list-style-type: none"> • Regular meetings with suppliers • Supplier CEO seminars (Ulsan, Seoul) • Regular meetings for logistics/machine/equipment inspection • I-step System(technology exchange and joint development) • Ethical management survey 	<ul style="list-style-type: none"> • Value creation for shared growth • New technologies for sustainable growth • Growth support through shared infrastructure • Communication with suppliers and support for competency development

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement	Independent Assurance Statement for GHG Emissions		About This Report				

UNGC Communication on Progress

SK Innovation supports the vision of the UN Global Compact (UNGC) and actively participates in various UNGC activities. In addition, SK Innovation faithfully adheres to the 10 principles of human rights, labor, environment, and anti-corruption through our policies and activities.

Category	SK Innovation's Policies and Activities		
Human rights 	Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	SK Innovation, in alignment with the UNGC, actively supports global codes of conduct such as the ILO and UNGP. We have established and adhere to the principles and details outlined in the Basic Declaration of Human Rights. We are committed to eliminate human rights violations by preventing any kinds of discrimination, child and forced labor, sexual harassment, and bullying in the workplace while supporting the freedom of association and collective bargaining as well as the creation of a safe working environment. To address employee grievances, we have established a dedicated process that utilizes various communication channels. Additionally, we provide regular human rights education to enhance employee awareness and understanding of human rights principles. Furthermore, we conduct due diligence on our employees and suppliers to keep track of our impact on human rights and make continuous improvements to our corporate policies and systems.
	Principle 2	make sure that businesses are not complicit in human right abuses	
	Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	
Labor 	Principle 4	the elimination of all forms of forced and compulsory labor;	
	Principle 5	the effective abolition of child labor; and	
	Principle 6	the elimination of discrimination in respect of employment and occupation	
Environment 	Principle 7	Businesses should support a precautionary approach to environmental challenges;	SK Innovation recognizes environmental management as a critical aspect of our business activities. We not only establish and adhere to our own environmental standards, which are more stringent than legal requirements, but also proactively work to minimize our environmental impact throughout our entire business processes. Our efforts are focused on reducing emissions of air and water pollutants, hazardous chemicals, and waste. We take measures to prevent soil and marine pollution, while implementing various initiatives to curtail energy consumption and lower greenhouse gas emissions. To actively contribute to carbon neutrality, we are dedicated to expanding our carbon reduction and resource recycling-related portfolio. This includes the development of carbon reduction and resource recycling-related technologies and products, as well as innovations in future energy solutions.
	Principle 8	undertake initiatives to promote greater environmental responsibility; and	
	Principle 9	encourage the development and diffusion of environmentally friendly technologies.	
Anti-corruption 	Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	Building on SKMS, SK group's management system, SK Innovation has implemented a set of ethical norms and practice guidelines for all employees. We are committed to preventing unethical behavior and fostering a culture of ethical management throughout the company by providing employees with channels for ethics consultation and reporting, and ethics education. In addition, we promote fair competition and transparency through the introduction of the Fair-Trade Compliance Program (CP).

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions		About This Report			

UNGP Index

The UN Guiding Principle Reporting Framework is a global guideline for companies disclosing their human rights performance. SK Innovation proactively engages in activities to promote and protect human rights of shareholders. The relevant information is well incorporated in our ESG report, guided by UNGP Reporting Framework. Additionally, we fulfill our responsibility by producing additional human rights management reports in compliance with the UNGP Reporting Framework.

[2023 HRM Report](#)

Guidelines	Reporting Principle	Description	Page
1 Governance of respect for human rights	A1 Policy commitment	Public disclosure of commitment to respect human rights	p.91
	A2 Embedding respect for human rights	Embedding respect for human rights	p.91
2 Defining a focus of reporting	B1 Statement of Salient Issues	Key human rights issues related to business activities	p.92
	B2 Determination of salient issues	Selection of salient human rights issues	p.58, 92
	B3 Choice of focal geographies	Selection of regions and areas where salient human rights issues arise	p.51
	B4 Additional severe impacts	Potential human rights issues other than salient human rights issues	p.58, 92
3 Managing salient human rights issues	C1 Specific Policies	Detailed policies for salient human rights issues	p.93
	C2 Stakeholder Engagement	Stakeholder Participation by salient human rights issues	p.93
	C3 Assessing Impacts	Continuous identification of salient human rights issues	p.92
	C4 Integrating Findings and Taking Action	Reflection of salient human rights issues in decision-making processes and activities	p.92
	C5 Tracking Performance	Effectiveness of activities to address salient human rights issues	-
	C6 Remediation	Follow-up support activities for victims of human rights violations	p.93

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

GRI Reporting Standards (+)

GRI Index

General disclosures

GRI	Disclosure	Reporting Page	Sector REF#	Explanation	Omission
GRI 2: General Disclosure 2021	2-1 Organizational details	5-6			
	2-2 Entities included in the organization's sustainability reporting	176			
	2-3 Reporting period, frequency, and contact point	176			
	2-4 Restatements of information	-		Revised data is annotated below the relevant data.	
	2-5 External assurance	172			
	2-6 Activities, value chain and other business relationships	6			
	2-7 Employees	134			
	2-8 Workers who are not employees	-		We disclose information about workers who are not our employees through a portal designed for disclosing different employment types.	
	2-9 Governance structure and composition	63			
	2-10 Nomination and selection of the highest governance body	64-65			
	2-11 Chair of the highest governance body	63-64			
	2-12 Role of the highest governance body in overseeing the management of impacts	66-67			
	2-13 Delegation of responsibility for managing impacts	66-67			
	2-14 Role of the highest governance body in sustainability reporting	67			
	2-15 Conflicts of interest	65			
	2-16 Communication of critical concerns	68, 124-125			
	2-17 Collective knowledge of the highest governance body	63-64			
	2-18 Evaluation of the performance of the highest governance body	70-71			
	2-19 Remuneration policies	70-71			
	2-20 Process to determine remuneration	70-71			
	2-21 Annual total compensation ratio	138			
	2-22 Statement on sustainable development strategy	3			
	2-23 Policy commitments	57-58, 91-93			
	2-24 Embedding policy commitments	57-58, 91-93			
	2-25 Processes to remediate negative impacts	124-125			
	2-26 Mechanisms seeking advice and raising concerns	101, 108, 121			
	2-27 Compliance with laws and regulations	131, Business report 579			
	2-28 Membership associations	171			
	2-29 Approach to stakeholder engagement	156			
	2-30 Collective bargaining agreements	100			

Material Topic & Topic Standards

GRI	Disclosure	Reporting Page	Sector REF#	Explanation	Omission
GRI 3: Material Topics 2021	3-1 Guidance to determine material topics	151			
	3-2 Disclosures on material topics	176			
Material Topic 1	Respond to Climate Change				
GRI 3: Material Topics 2021	3-3 Material Topic Management	20, 23, 77	11.1.1 / 11.3.1		
GRI 302: Energy	302-1 Energy consumption within the organization	127	11.1.2		
	302-2 Energy consumption outside of the organization	25	11.1.3		
	302-3 Energy intensity	127	11.1.4		
GRI 305: Emissions	305-1 Direct (Scope 1) GHG emissions	128	11.1.5		
	305-2 Energy indirect (Scope 2) GHG emissions	128	11.1.6		
	305-3 Other indirect (Scope3) GHG emissions	128	11.1.7		
	305-4 GHG emissions intensity	128	11.1.8		
	305-7 Nitrogen oxides(NOx), sulfur oxides (Sox), and other significant air emissions	130	11.3.2		
Material Topic 2	Expanding business and investment in response to the shift towards a low-carbon economy				
GRI 3: Material Topics 2021	3-3 Material Topic Management	83-89	11.2.1		
GRI 201: Economic Performance	201-2 Financial implications and other risks and opportunities due to climate change	83-89	11.2.2		
GRI 305: Emissions	305-5 Reduction of GHG emissions	20-25	11.2.3		
Material Topic 3	Reduce Waste and Realize a Circular Economy				
GRI 3: Material Topics 2021	3-3 Material Topic Management	30-31, 75, 79	11.5.1 / 11.8.1		
GRI 306: Waste (2020)	306-1 Waste generation and significant waste-related impacts	30-31, 75, 79	11.5.2		
	306-2 Management of significant waste-related impacts	30-31, 75, 79	11.5.3		
	306-3 Waste generated (Total waste volume, composition, and data information)	130	11.5.4		
	306-4 Waste diverted from disposal (Total amount of waste recycled)	130	11.5.5		
	306-5 Waste directed to disposal	130	11.5.6		
GRI 306: Effluents and Waste (2016)	306-3 Significant spills	80	11.8.2		
Material Topic 4	Ethical Management/Fair Competition				
GRI 3: Material Topics 2021	3-3 Material Topic Management	120, 39-40	11.19.1 / 11.20.1		

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

GRI Index

Material Topic & Topic Standards

GRI	Disclosure	Reporting Page	Sector REF#	Explanation	Omission
GRI 205: Anti-corruption	205-1 Operations assessed for risks related to corruption	121, 123	11.20.2		
	205-2 Communication and training about anti-corruption policies and procedures	120, 122, 140	11.20.3		
	205-3 Confirmed incidents of corruption and actions taken	121	11.20.4		
GRI 206: Anti-competitive Behavior	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Business report 580	11.19.2		
Material Topic 5 Fair Recruitment and Compensation					
GRI 3: Material Topics 2021	3-3 Material Topic Management	59-60	11.11.1		
GRI 202: Market Presence	202-2 Proportion of senior management hired from the local community	-	11.11.2	Five executive-level senior management personnel from overseas (2 from SKGC, 2 from SKON, 1 from SKTI).	
GRI 401: Employment	401-3 Parental leave	138	11.11.3		
GRI 404: Training and Education	404-1 Average hours of training per year per employee	139	11.11.4		
GRI 405: Diversity and Equal Opportunity	405-1 Diversity of governance bodies and employees	64, 134	11.11.5		
	405-2 Ratio of basis salary and remuneration of women to men	138	11.11.6		
GRI 406: Non-discrimination	406-1 Incidents of discrimination and corrective actions taken	121	11.11.7		
Material Topic 6 Occupational Safety and Health Management					
GRI 3: Material Topics 2021	3-3 Material Topic Management	32-34	11.9.1 / 11.3.1		
	403-1 Occupational health and safety management system	32, 101	11.9.3		
	403-2 Hazard identification, risk assessment, and incident investigation	33	11.9.4		
	403-3 Occupational health services	35-36	11.9.5		
	403-4 Worker participation, consultation, and communication on occupational health and safety	33-34, 102	11.9.6		
GRI 403: Occupational Health and Safety	403-5 Worker training on occupational health and safety	34, 102	11.9.7		
	403-6 Promotion of worker health	35-36	11.9.8		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	34, 101	11.9.9		
	403-8 Workers covered by an occupational health and safety management system	101	11.9.10		
	403-9 Work-related injuries	142	11.9.11		
	403-10 Work-related ill health	142	11.3.3		
GRI 416: Customer Health and Safety	416-1 Assessment of the health and safety impacts of product and service categories	117	11.3.3		

GRI	Disclosure	Reporting Page	Sector REF#	Explanation	Omission
Material Topic 7 Shared Growth with Suppliers					
GRI 3: Material Topics 2021	3-3 Material Topic Management	46, 103	11.12.1		
GRI 409: Force and Compulsory Labor	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	46	11.12.2		
GRI 414: Supplier Social Assessment	414-1 New suppliers that were screened using social criteria	46	11.12.3		
Material Topic 8 Enhance Employee Welfare					
GRI 3: Material Topics 2021	3-3 Material Topic Management	54, 98-99	11.10.1		
	401-1 New employee hires and employee turnover	136-137	11.10.2		
GRI 401: Employment	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	98-99	11.10.3		
	401-3 Parental leave	138	11.10.4		
GRI 402: Labor-Management Relations	402-1 Minimum notice periods regarding operational changes	100	11.10.5		
GRI 404: Training and Education	404-1 Average hours of training per year per employee	139	11.10.6		
	404-2 Programs for upgrading employee skills and transition assistance programs	95, 99	11.10.7		
GRI 414: Supplier Social Assessment	414-1 New suppliers that were screened using social criteria	46	11.10.8		
	414-2 Negative Social impacts in the supply chain and actions taken	46	11.10.9		
Material Topic 9 Ensure Transparent and Sound Corporate Governance					
Non-GRI	-	-	-	No applicable GRI Topic Standards	
Material Topic 10 Strengthening Product Safety					
Non-GRI	-	-	-	No applicable GRI Topic Standards	

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

GRI Index

Topics in the applicable GRI Sector Standards determined as not material

Topic	Reasons	Omission
11.4 Biodiversity	SK Innovation acknowledges the importance of preserving biodiversity for achieving sustainable development and is committed to conducting ecosystem conservation activities across all our business sites. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.6 Water and effluents	SK Innovation and its subsidiaries are actively involved in drilling activities, and exploration and development of mineral reserve through subsidiaries such as SK Earthon, while diligently managing the impact on water resources in the Oil & Gas sector. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.13 Freedom of association and collective bargaining	SK Innovation and its subsidiaries uphold and promote the protection of human rights and labor standards, aligning with international labor-related organizations such as the UNGC and ILO in accordance with our Code of Ethics and Human Rights Management Policy. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.14 Economic impacts	SK Innovation and its subsidiaries utilize social value measurements to report the financial value of business impacts through own methodologies. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.15 Local communities	SK Innovation and its subsidiaries run social contribution programs at each of global business sites, and establish councils for each project and local business sites. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.16 Land and resource rights	SK Innovation and its subsidiaries proactively identify and address key factors that could potentially have a negative impact on the environment when establishing environmental targets for business sites. To date, there have been no cases of environmental impacts leading to displacement.	Not applicable
11.17 Rights of indigenous peoples	SK Innovation and its subsidiaries have not been involved in any incidents of violating indigenous peoples' rights in relation to business activities.	Not applicable
11.18 Conflict and security	Since 2022, SK Innovation and its subsidiaries have made human rights training mandatory for security personnel and contractors. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.21 Payments to governments	SK Innovation and its subsidiaries strictly comply with the requirements of relevant laws, including taxation and reporting of audit results. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable
11.22 Public policy	SK Innovation affiliates comply with the prohibition requirements related to political contributions under the Political Funds Act and other applicable laws. Although this topic was not determined as a material issue, the company reports relevant topic standards in the Other GRI index.	Not applicable

Other GRI Index

GRI	Disclosure	Reporting Page	Sector REF#	Explanation
GRI 201: Economic Performance	201-1 Direct economic value generated and distributed	148~149	11.14.2	
	201-4 Financial assistance received from government	Business report 101	11.21.3	In the business report, we disclose the status of government subsidies received in the "Consolidated statement of cash flows".
GRI 203: Indirect Economic Impacts	203-1 Infrastructure investments and services supported	111~116	11.14.4	
	203-2 Significant indirect economic impacts	15~16, 154~155	11.14.5	
GRI 204: Procurement Practices	204-1 Proportion of spending on local suppliers	141	11.14.6	
	207-1 Approach to tax	124	11.21.4	
	207-2 Tax governance, control, and risk management	124	11.21.5	
GRI 207: Tax	207-3 Stakeholder engagement and management of concerns related to tax	124	11.21.6	
	207-4 Country-by-country reporting	147	11.21.7	
GRI 302: Energy	302-4 Reduction of energy consumption	76	-	
	303-1 Interactions with water as a shared resource	77, 80	11.6.2	
GRI 303: Water and Effluents	303-2 Management of water discharge-related impacts	77	11.6.3	
	303-3 Water withdrawal	129	11.6.4	
	303-4 Water discharge	129	11.6.5	
	303-5 Water consumption	129	11.6.6	
GRI 304: Biodiversity	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	81	11.4.2	
	304-3 Habitats protected or restored	81	11.4.4	
GRI 308: Supplier Environmental Assessment	308-1 New suppliers that were screened using environmental criteria	46	-	
	308-2 Negative environmental impacts in the supply chain and actions taken	46	-	
GRI 407: Freedom of Association and Collective Bargaining	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	46, 92	11.13.2	
GRI 408: Child Labor	408-1 Operations and suppliers at significant risk for incidents of child labor	46, 92	-	
GRI 410: Security Practices	410-1 Security personnel trained in human rights policies or procedures	144	11.18.2	Starting from 2022, we have made it mandatory to undergo human rights education for security personnel and external security contractors.
GRI 413: Public policy	413-1 Operations with local community engagement, impact assessments, and development programs	49, 112	11.15.2	
GRI 415: Public policy	415-1 Political contributions	145	11.22.2	In accordance with SK Innovation's ethical guidelines, we strictly prohibit using company assets, budgets, etc., for political donations or sponsorships for political purposes, and we comply with regulations related to political funds.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Index

SK Innovation is dedicated to developing a portfolio and business model that prioritizes low-carbon solutions, aiming to effectively address the urgent global climate crisis. This report serves as a means to transparently and consistently communicate our actions and accomplishments in combating climate change, aligning with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). By providing high-quality information, we seek to engage our stakeholders and foster enhanced communication initiatives.

TCFD Recommendations	Disclosures	CDP Linkage	Reporting Page
Governance	a) Describe the board's oversight of climate-related risks and opportunities	C1.1a, C1.1b, C1.2a	p.67, 87
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	C 1.1a, C 1.1b, C 1.2a, C 1.3	p.87
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	C 2.1, C 2.2a, C 2.3a, C 2.4a	p.83
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.		p.84
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	C2.3, C2.3a, C2.4, C2.4a, C3.1, C3.2, C3.3, C3.4	p.20~25, 85
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	C 2.1, C 2.2a, C.2.3a	p.86
	b) Describe the organization's processes for managing climate-related risks.	C 1.1a, C1.1b, C1.2a	p.88
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	C 1.1a, C 1.1b, C 1.2a	p.88
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	C 4.1a, C 4.1b, C 4.2, C 4.3c, C 4.5a, C 5.1a, C 5.2, C 5.3,	p.128
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	C6.1, C6.3, C6.5	p.128
	(c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	C4.1a, C4.1b	p.20, 23

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Report

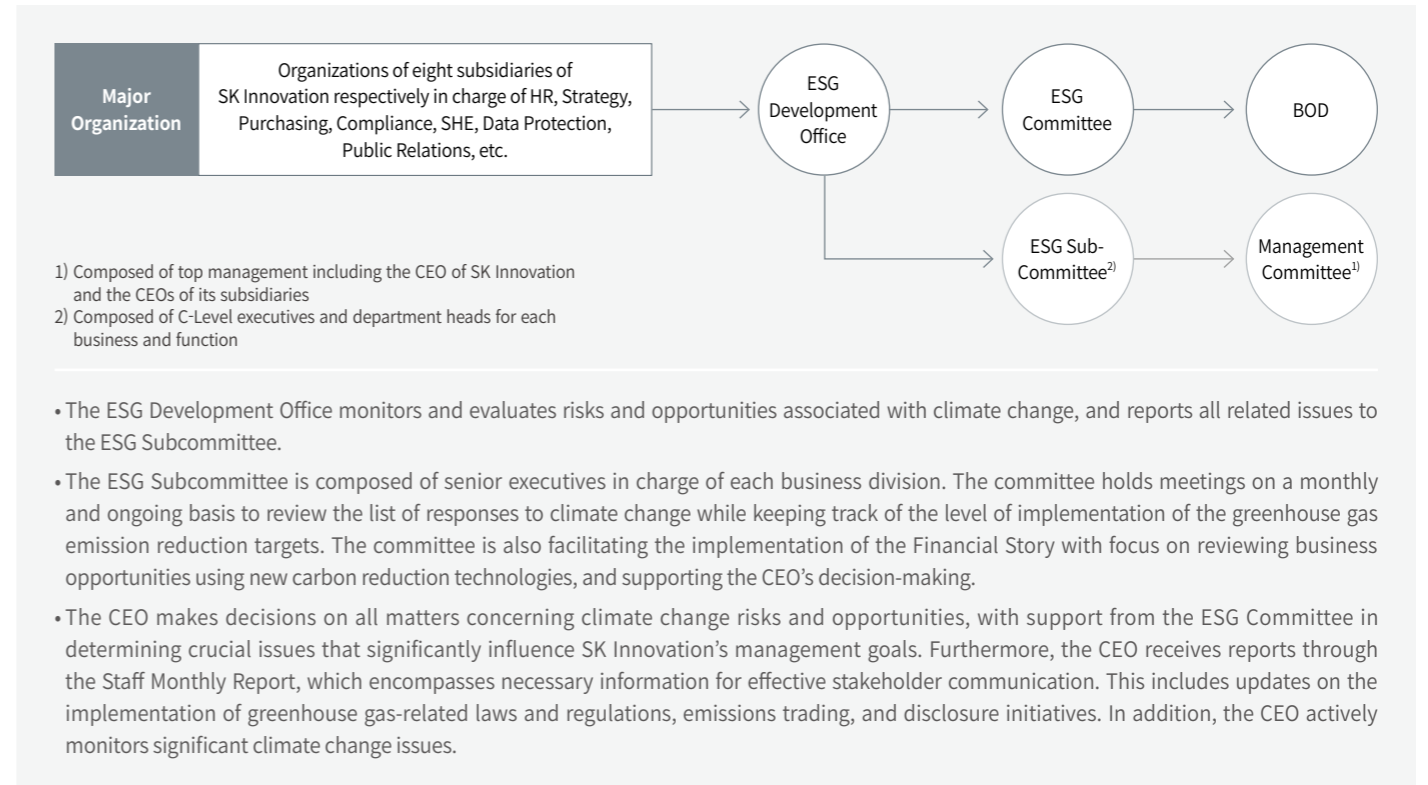
Governance

a. Describe the Board’s Oversight of Climate-Related Risks and Opportunities

The ESG Committee, consisting of the CEO and three independent directors, takes responsibility for overseeing climate change risks and opportunities. Through regular monthly meetings, the ESG Committee establishes company-wide ESG goals for the medium and long term, as well as identifies key areas that require attention. The ESG Committee performs comprehensive assessments of ESG-related risks and opportunities, including those associated with climate change. The selection of these ESG-related risks is based on the charters/bylaws set forth by both the ESG Committee and the Board of Directors. Subsequent discussions take place to address these identified risks and opportunities in a systematic manner. Furthermore, the ESG Committee continuously monitors the implementation and performance of specific action plans associated with the company’s ESG projects, engaging in discussions to enhance their effectiveness. To ensure the integration of ESG considerations, including climate change, into Board decision-making processes, SK Innovation has established a mandatory procedure whereby all ESG-related matters are reviewed during Board meetings. This procedure involves completing an ESG checklist for agenda items pertaining to new business investments and the formulation of medium- to long-term strategies. The appropriateness of agenda items is assessed based on their ESG impacts, specifically by completing an ESG checklist. Moreover, the ESG Committee serves as the focal point for engaging with stakeholders on significant ESG matters, such as the publication of the ESG Report and Net Zero Special Report, the development of low-carbon oriented portfolios, and the advancement of a circular economy.

b. Describe Management’s Role in Assessing and Managing Climate-Related Risks and Opportunities

The CEO of SK Innovation takes the lead in driving the transformation of the company’s business portfolio and pursuing a net-zero in accordance with the Carbon to Green strategy. The CEO’s performance is reflected in the CEO KPIs to enhance the execution of the strategy and ensure accountability. SK Innovation’s management system for assessing and managing ESG-related risks and opportunities, including those associated with climate change, revolves around several key entities: the ESG Development Office, ESG Sub-committee, ESG Committee, and the CEO.



Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Report

Strategy

a. Describe the Climate-Related Risks and Opportunities the Organization Has Identified Over the Short, Medium, and Long Term

Identifying Risks and Opportunities

SK Innovation is dedicated to the systematic management of climate change risks and opportunities, and as part of this commitment, we have been consistently improving our “Climate Change Response Framework” established in 2022. In line with this effort, we have recently conducted in-depth interviews with 14 relevant organizations and sought expert consultations to update our issue pool, which now comprises 28 climate change risk and opportunity factors.

* For more information on the process of identifying climate change risks and opportunity factors, please refer to the ESG Report p.83-p.89.

Evaluating Risks and Opportunities

SK Innovation has conducted a thorough assessment of climate change-specific global initiatives, such as TCFD and CDP, and as a result, we have developed evaluation criteria and methodologies to measure the financial and strategic impact, as well as the likelihood of occurrence by climate change risks and opportunities factors.

* For more information on the process of identifying climate change risks and opportunity factors, please refer to the ESG Report p.83-p.89.

Key Risks and Opportunities in Relations to Climate Change

As a result of the assessment we identified key risk factors, such as “strengthening ESG non-financial information disclosure obligations” and “increasing fossil fuel prices and energy supply issues arising from the Russia-Ukraine war”. Furthermore, key opportunity factors were identified, such as the “expansion of U.S./EU green subsidies” and the “expansion of stakeholder communication due to non-financial information disclosure obligations”.

Mid/Long Term Risks and Opportunities in Relations to Climate Change

Looking ahead, we have identified new key risks, namely the “Increasing demand for waste battery disposal”, “Increasing investment costs for CCS technology”, “Decreasing value of carbon business assets”, and “Increasing energy costs driven by RE100”. Additionally, the risk ‘Increasing investment costs for recycling technology’ has been adjusted to a material risk. On the other hand, new key opportunity factors have been identified, including the “Increasing corporate value by achieving reduction targets” and “Expanding reduction options with carbon offsets”.

Current Risk Factors

Key

- Strengthening of mandatory disclosures on non-financial ESG information
- Rising fossil fuel prices and energy supply issues driven by the Russia-Ukraine war
- Increased shareholder activism
- Ban on sales of ICE vehicles

Material

- Increase in carbon offset costs
- Increase in investment in low-carbon/ESS technologies
- Increase in investment in CCS technologies
- Decrease in carbon assets
- Growing demand for waste battery disposal
- Earthquake, flood, heavy snow, etc.

Current Opportunity Factors

Key

- Expansion of US/EU Green subsidy
- Expansion of CCS markets
- Creation of eco-friendly environment (e.g. carbon neutrality)
- Expansion of low-carbon/ESS technology markets
- Increase in communication due to mandatory disclosure requirements related to non-financial ESG information
- Expansion of EV markets
- Policies promoting low-carbon product purchase

Material

- Expansion of recycling technology markets
- Increase in corporate value by achieving reduction targets
- Increase in value of green assets
- Profit from the sale of surplus emission allowances
- Increase in reduction options due to carbon offset

Future Risk Factors

Key

- Increase in Shareholder Activism and NGO engagement
- Higher carbon neutrality-NDC
- Ban on sales of ICE vehicles
- Growing demand for waste battery disposal
- Increase in investment in CCS technologies
- Depreciation of carbon assets
- Rising energy costs due to RE100, etc.
- Tightening of ESG non-financial information disclosure requirements

Material

- Increase in investment in recycling technologies
- Acute extreme weather events (earthquakes, floods, heavy snow, etc.)
- Reputational risk due to underachievement of reduction targets
- Increase in carbon border tax

Future Opportunity Factor

Key

- Expansion of EV markets
- Expansion of CCS markets
- Policies promoting low-carbon product purchase
- Expansion of waste battery markets
- Increase in corporate value by achieving reduction targets
- Expansion of low carbon technology markets
- Expansion of energy storage technologies markets
- Increase in reduction options due to carbon offset
- Increase in communication due to mandatory disclosure requirements related to non-financial ESG information

Material

- Creation of eco-friendly environment (e.g. carbon neutrality)
- Appreciation of green assets
- Expansion of recycling technology markets

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Report

b, c. Describe the Impact of Climate-Related Risks and Opportunities On the Organization’s Businesses, Strategy, and Financial Planning

The Impact of Climate Change-Related Risks and Opportunities in the Present

Impact of Climate Change-Related Risks and Opportunities in the Future

Policies & Regulations

The first material risk pertaining to policy and regulation is the “Net-zero and NDC upward revisions”. This risk arises from the global carbon neutrality goal and the anticipated upward revisions of national NDCs. As a result, the price of carbon credits and the paid allocation ratio are expected to increase. SK Innovation actively participates in the Korean Emissions Trading System (K-ETS), which mandates the purchase of credits or reduction of emissions if the emission allowance is exceeded. In 2019, SK Innovation’s energy and chemicals business emitted 12.43 million tons of carbon. Without proactive carbon reduction efforts, the company is likely to face financial burdens due to the rising cost of purchasing emission allowances and an increased paid allocation ratio resulting from the NDC adjustments. Utilizing a climate risk management model, projections indicate emission liabilities ranging from KRW 32 billion to 46 billion in 2025, KRW 37 billion to 110 billion in 2030, KRW 77 billion to 400 billion in 2040, and KRW 100 billion to 1 trillion in 2050. With the aim of minimizing financial losses associated with excess emissions, SK Innovation has proactively identified the potential financial burden through the climate risk management model. Consequently, the company has established the Scope 1 and 2 Net Zero Roadmap, which sets stricter reduction targets than the granted emission quota.

Based on the anticipated remaining emissions resulting from the implementation of our Net Zero Roadmap, we have conducted financial impact calculations for various emissions price and paid quota scenarios. The analysis shows that the surplus emission allowances could generate sales revenue ranging from approximately KRW 80 billion to KRW 180 billion in 2030, and KRW 52 billion to KRW 140 billion in 2040. Additionally, we estimated the cost of emissions from the paid allocation to be approximately KRW 18 billion to KRW 35 billion in 2030, KRW 12 billion to KRW 32 billion in 2040, and zero in 2050 when we achieve net zero. To determine the optimal path to net zero, we will utilize the climate risk management model, considering factors such as the economic feasibility of investment options and the pace of technological advancements.

The second key risk factor related to policy and regulation is the “Ban on the sale of internal combustion engines”. This trend is gaining momentum, particularly in Europe, with the United Kingdom planning to ban the sale of internal combustion engine and hybrid vehicles from 2035. Moreover, the United States has decided to strengthen standards of the corporate average fuel economy system, which regulates the average fuel efficiency of vehicles produced by automobile companies. Aligned with these international trends, the Korean government’s efforts to promote the adoption of electric vehicles are expected to drive an increased demand for electric vehicle batteries. SK Innovation sees this as a significant opportunity and intends to capitalize on the growing market for electric vehicles by expanding our battery and materials business.

Technology

The key risk factor related to technology is the “Increase in investment costs for recycling technology”, while the material risk factor is the “Increase in investment costs for new technologies such as CCS and energy storage”. SK Innovation remains committed to transitioning to a low-carbon business under our Carbon to Green strategy, which involves continuous investments in the development of new technologies. In 2021 alone, we invested approximately KRW 360 billion in R&D, aiming to expand our green business in response to changing external dynamics. The cumulative R&D investment between 2022 and 2025 is expected to reach approximately KRW 1.2 trillion. While these increased technology investment costs may pose financial burdens, they also present an opportunity for the company, particularly in expanding related technology markets like energy storage.

We are actively developing our own post-processing technology for pyrolysis oil derived from waste plastics, achieving significant progress in waste plastic recycling technology, including the successful test introduction of pyrolysis oil into processes at the CLX Ulsan. Additionally, we have collaborated with domestic and international packaging companies to launch packaging products that are more recyclable. In the battery business, catering to electric vehicles and energy storage systems (ESS), we are expanding our production capacity, supported by our unique high energy density and high-power output technologies, to meet the demand for batteries in various regions worldwide, including the U.S., Europe, and China. Moving forward, SK Innovation will persist in investing in the development of new technologies, leveraging our technological edge to expand our range of low-carbon products and services.

Market

The key market-related opportunity factor identified is the “Policies promoting eco-friendly product purchase”. SK Innovation has dedicated significant efforts to developing technology for the recovery of cathode materials from waste batteries over the years. In 2021, we successfully completed a pilot plant, showcasing the advancement and commercial viability of our proprietary technology.

In the asphalt business, a major emitter of greenhouse gases, we have introduced products that actively contribute to reducing carbon emissions during both asphalt concrete production and construction. These products are designed to lower temperatures and enable the recycling of waste asphalt. Furthermore, we will continue to develop various products and services, such as high-quality lubricants, and increase the proportion of sales of green products and services.

Reputation

The key risk factor concerning reputation is the “expanding shareholder activism and NGO activities”, while the material risk factor is the “strengthening of mandatory disclosures on non-financial ESG information”. As climate change becomes increasingly pressing, various stakeholders, including governments, investors, and customers, are placing greater emphasis on fulfilling our environmental responsibilities. Failure to meet these expectations, including the risk of greenwashing, can lead to investment withdrawals, customer defections, and even legal repercussions.

To address this, SK Innovation actively communicates our genuine commitment to the Net Zero goal to both internal and external stakeholders through various channels, such as the ESG Report and the Net Zero Special Report. Notably, the company has reviewed the progress made in achieving Net Zero for Scope 1 and 2 emissions in 2022, restructured the Scope 3 emission reduction target and implementation plan, and transparently disclosed the relevant information.

Moving forward, SK Innovation will proactively provide stakeholders with information regarding the diverse activities undertaken to attain our Net Zero goal. By doing so, we aim to transform the risk associated with increased obligations for non-financial information disclosure into an opportunity for enhanced communication with external stakeholders.

Physical impacts

The key risk factor associated with physical impacts is the potential losses incurred from “Acute weather events such as typhoons, floods, etc”. These events not only directly damage our business sites and properties but also create supply chain disruptions.

Of particular concern is our reliance on shipping for the import and export of crude oil and other products. During acute weather events like typhoons, fog, or windstorms, there is a risk of delays in ship docking, resulting in additional docking fees. Additionally, increased insurance premiums to cover damage relief due to extreme weather events are also anticipated. To assess the potential impacts of future extreme weather events under various climate scenarios, such as RCP 2.5, 4.5, 6.0, and 8.0, we have collaborated with external climate change researchers. Through this collaboration, we have identified the possibility of incurring additional dockage fees due to windstorms and additional costs stemming from facility losses caused by other acute weather events.

To proactively address the financial burden associated with acute weather events, we are committed to recognizing and responding to these risks. Furthermore, we are integrating climate change considerations into our emergency response management system to minimize potential damages resulting from physical impacts.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Report

b, c. Describe the Impact of Climate-Related Risks and Opportunities On the Organization’s Businesses, Strategy, and Financial Planning

The Impact of Climate Change-Related Risks and Opportunities in the Present

Impact of Climate Change-Related Risks and Opportunities in the Future

Policies & Regulations

We anticipate that the Net Zero and NDC upward revisions, as well as the ban on the sale of internal combustion engines, will remain key risk factors for our business in the medium to long term. As previously described, we are taking proactive measures to identify and address the potential financial and strategic impacts of these regulations. By adhering to our Net Zero Roadmap, we aim to minimize their impact.

Moreover, we anticipate the expansion of carbon reduction options due to the growing carbon offset market and institutional reforms, presenting a new key opportunity. Engaging in the carbon market voluntarily not only provides an economic avenue for carbon reduction but also fosters increased consumer preference and awareness. Considering this, SK Innovation is exploring the use of publicly recognized carbon offsets as a viable option to achieve net zero.

Technology

The cost of investing in new technologies like CCS is expected to persist as a key risk in the medium to long term. However, there are also significant opportunities in expanding markets for low-carbon technologies and energy storage. As mentioned earlier, while upfront costs associated with new technologies can be financially burdensome, they can also present opportunities for gaining a technological advantage and capturing new market segments

Market

We expect that “Increasing energy procurement costs caused by RE100, etc”. will emerge as a key risk factor in the medium to long term. The government’s active push to transition from fossil fuels to renewable energy sources is driving the surge in demand for renewable energy from companies. Consequently, our procurement costs for renewable energy are expected to rise. As SK Innovation considers expanding the use of renewable energy as a means to reduce carbon emissions, an increase in the purchase price of renewable energy could significantly impact our financials by elevating operating costs. To address these concerns, we have applied three scenarios—status quo, moderate increase, and steep increase—to our climate risk management model. This proactive approach allows us to identify the additional costs we may incur in procuring renewable energy. Moving forward, we will leverage this model to determine the optimal path toward achieving net-zero, considering the economics of various reduction options. Another key future risk identified is the “Change in the value of carbon assets”. To effectively respond to fluctuations in carbon asset values and utilize on ‘green asset value appreciation’, which has been identified as a key opportunity factor, we are exploring new business areas, such as eco-friendly energy supply. Additionally, we are actively expanding our green portfolio to support the implementation of our Carbon to Green strategy. By 2025, our goal is to double the proportion of green assets relative to energy and chemical assets.

Reputation

“Increasing shareholder activism” is anticipated to be a key risk factor in the mid-to long term future. Additionally, “Strengthening of mandatory disclosures on non-financial ESG information” has been identified as a new key risk. As previously mentioned, we remain committed to closely monitoring the potential for customer withdrawals and divestments linked to climate change concerns. To address these risks, we will earnestly communicate our climate change-related plans and performance to both internal and external stakeholders.

Physical impacts

SK Innovation is taking proactive measures to identify the potential impacts of future extreme weather events on the company under various climate scenarios such as, RCP 2.5, 4.5, 6.0, and 8.0. We recognize that acute extreme weather events can pose significant risks to our operations in the medium to long term. In response, we are committed to proactively acknowledging and addressing the financial burdens that may arise from these physical impacts. Moreover, we are integrating climate change considerations into our company-wide emergency response management system to effectively mitigate the damage caused by acute physical impact factors.

Additionally, we are closely monitoring the potential impacts of chronic environmental changes, such as sea-level rise, on our business and supply chain to minimize potential disruptions damage.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

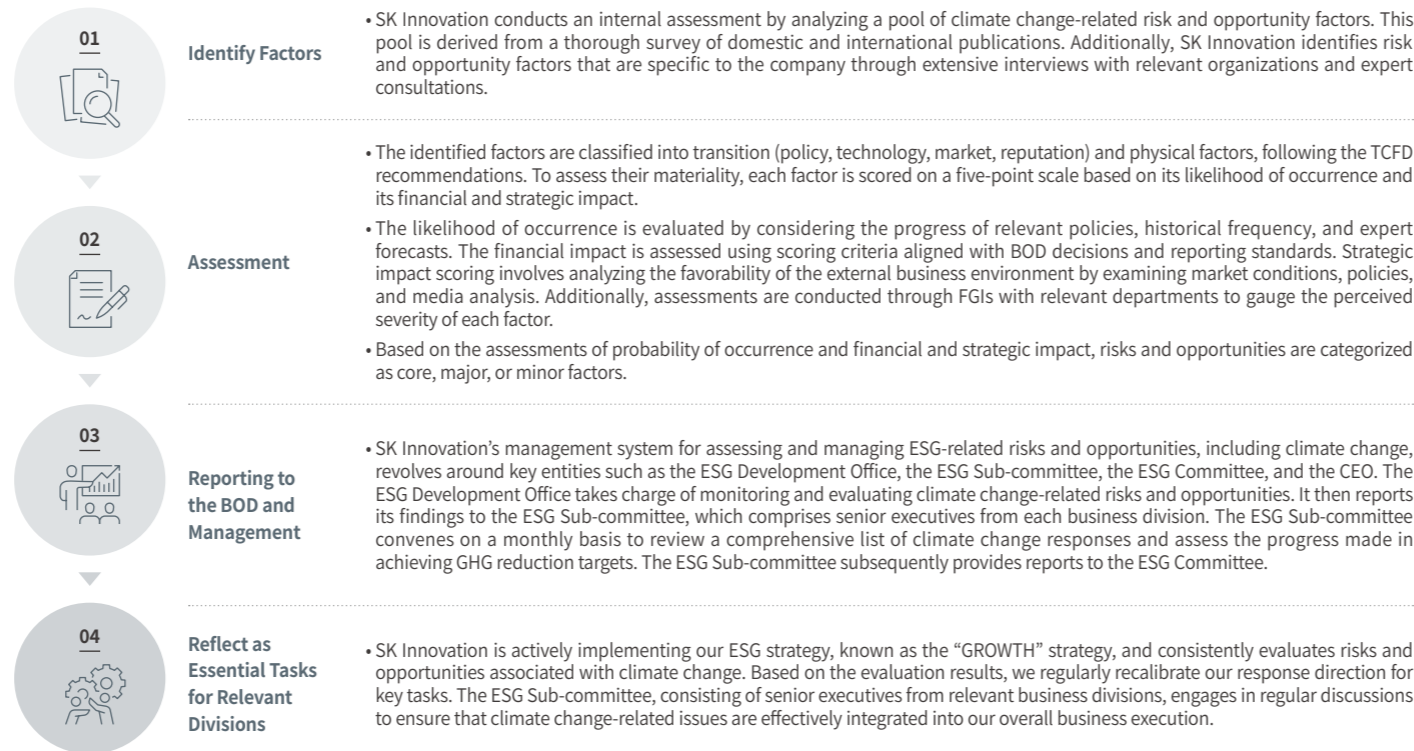
TCFD Report

Risk Management

a. Describe the Organization’s Processes for Identifying and Assessing Climate-Related Risks

Following the Climate Change Framework, SK Innovation conducts a comprehensive analysis that encompasses policies and regulations, management strategies and performance, industry best practices, and media insights. This analysis aims to identify the potential impact of climate change risks and opportunities on the company in the short, medium, and long term.

The process of identification and assessment follows a structured approach, including “Identification of climate change-related risk and opportunity factors” → “Implementation of risk and opportunity assessment” → “Regular reporting to the Board of Directors (BOD) and management” → “Integration of identified risks and opportunities into essential tasks for relevant divisions”.



b. Describe the Organization’s Processes for Managing Climate-Related Risks

Since the second half of 2021, SK Innovation has established and implemented a systematic process to manage ESG risks, including climate change. This process requires all business divisions to identify risks using an ESG checklist and have the ESG development personnel evaluate the impact of the identified risks. Risks identified through this process are addressed through proactive response plans, which are discussed at the ESG Committee under BOD. The ESG Sub-Committee, consisting of C-level executives and heads of each business and functional division, takes responsibility for discussing and managing regular agenda items related to risk. The committee convenes on a monthly basis or as required to address risk-related matters. Major issues discussed at the ESG Sub-Committee are strategically managed through a process of final reporting and discussion with the Operating Committee, which comprises top executives. This ensures that risk issues are comprehensively addressed and strategically managed throughout the organization.

c. Describe How Processes for Identifying, Assessing, and Managing Climate-Related Risks Are Integrated Into the Organization’s Overall Risk Management

Key climate change-related risk factors identified through the Framework on Climate Change are reported to the ESG Sub Committee, which evaluates the materiality of the factors and reports to the CEO and the ESG Committee established under the Board of Directors on a monthly basis. In particular, matters that require top management level decision-making are reported to the ESG Committee for resolution.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

TCFD Report

Metrics and Targets

a. Disclose the Metrics Used by the Organization to Assess Climate-Related Risks and Opportunities in Line With Its Strategy and Risk Management Process

SK Innovation takes a systematic approach to manage quantitative indicators related to achieving net zero, including scope 1, 2, and 3 GHG emissions, GHG intensity, and energy usage. Additionally, the company monitors the level of change as a quantitative indicator, specifically the ratio of low-carbon assets to energy and chemical assets, to drive asset structure innovation aligned with our Carbon to Green strategy.

Additionally, SK Innovation utilizes an internal carbon price to comprehensively analyze and respond to greenhouse gas regulations, internal strategies, and management judgments. This internal carbon price is also utilized in assessing low-carbon investments, stress testing of investments, and the social value of carbon emission reduction activities.

Furthermore, 10% of the CEO's Key Performance Indicators (KPIs) at SK Innovation are dedicated to the establishment and execution of the Net Zero Roadmap, an integral part of the strategic task in achieving the Financial Story. The assessment results of these KPIs significantly influence the determination of the CEO's remuneration.

b. Disclose Scope 1, Scope 2, and, if Appropriate, Scope 3 Greenhouse Gas (GHG Emissions, and the Related Risks

SK Innovation maintains a commitment to transparency and accountability by annually disclosing our greenhouse gas emissions over the past three years through the ESG Performance Report. To ensure objectivity and transparency, the emissions data in the report undergoes verification by a third-party. According to the Ministry of Environment's GHG report for 2022, our verified emissions data for the respective scopes are as follows: Scope 1 emissions amounted to 9,116,619 tCO₂eq, Scope 2 emissions totaled 2,026,337 tCO₂eq, Scope 3 emissions were 132,134,684 tCO₂eq as verified by Lloyd's Register.

GHG Emissions for the Last 3 Years

Category	Unit	2020	2021	2022
Total direct emissions (Scope 1)	tCO ₂ eq	9,704,232	9,008,825	9,116,619
Total indirect emissions (Scope 2)	tCO ₂ eq	2,390,989	2,201,669	2,026,337
Total other indirect emissions (Scope 3)	tCO ₂ eq	127,816,235	118,347,000	132,134,684

c. Describe the Targets Used by the Organization to Manage Climate-Related Risks and Opportunities and Performance Against Targets

In 2022, SK Innovation has updated the Scope 1 and 2 Net Zero Roadmap and established short-, medium-, and long-term Scope 3 reduction targets.

1) Scope 1 & 2 | The company is actively driving the "Net Zero Operations" initiative, which sets ambitious targets to achieve Net Zero Scope 1 & 2 emissions. Specifically, our goal is to reach Net Zero Scope 1 & 2 emissions in the energy and chemicals business by 2050 and in the battery and materials business by 2035. These targets exceed both the global Paris Climate Agreement and Korea's national GHG reduction targets, which call for a 45% and 24.4% reduction in emissions by 2030, respectively, compared to the baseline year. To enhance the efficiency of our Net Zero journey, we have established medium-term carbon emission reduction targets by differentiating between our existing businesses and new growth businesses, recognizing the varying growth rates. In the short term, our aim is to achieve a 25% reduction in absolute terms from the 2019 baseline in the energy and chemicals business by 2025. Additionally, in the battery and materials business, our target is a 21%* reduction compared to BAU projections by 2025.

* Weighted average of SK On and SK IE Technology's individual reduction rate targets, subject to change based on actual BAU emissions.

2) Scope 3 | The company is actively advancing the "Net Zero Portfolio" initiative, which centers around achieving a remarkable 90% reduction in Scope 3 emissions based on our integrated Financial Intensity by 2050. Furthermore, through our "Net Zero Sales" effort, we aim to achieve a substantial 70% reduction in Scope 3 emissions in absolute terms by 2050, primarily in the energy and chemicals businesses. This is equivalent to Category 11 (use of products) and Category 12 (disposal of products) emissions, which represent the largest portion of our Scope 3 emissions. Looking at the medium-term goals, our target is to achieve a 75% reduction in Scope 3 emissions in terms of Financial Intensity by 2030 compared to the baseline year of 2019. Moreover, in response to stakeholder feedback and their request for a Scope 3 reduction target in absolute volume, we have established an additional goal to reduce Scope 3 emissions by 25% in absolute volume by 2030 compared to 2019. This target predominantly focuses on emissions within the energy and chemicals businesses.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

SASB Index

SK Innovation discloses indicators for the Oil & gas - Refining & Marketing business area of Extractives & Minerals Processing in accordance with the SASB Industry Standards. We are committed to continuously communicate with our stakeholders by transparently disclosing our efforts and performance related to industry issues as required by the SASB.

Category	SASB Code	Metrics	Unit	2020	2021	2022	Note		
Sustainability Disclosure Topics & Accounting Metrics									
Greenhouse Gas Emissions	em-rm-110a.1	Scope 1 Emissions	Metric tons(t) CO ₂ eq	9,704,232	9,008,825	9,116,619			
	em-rm-110a.2	Short- and long-term strategies and plans for managing Scope 1 emissions, emissions reduction targets, and performance analysis	Emission allowances within emission limits	%	100	100	100		
Air Quality	em-rm-120a.1	Air pollutant emissions	NOx (excluding N ₂ O)	Metric tons(t)	4,972	8,755	7,194		
			SOx	Metric tons(t)	1,703	352	305		
			Particulate matter (PM10)	Metric tons(t)	107	36	279		
			H ₂ S	Metric tons(t)	8.39	4.41	N/A		
			VOCs	Metric tons(t)	672	770	889		
	em-rm-120a.2	No. of refineries located in or near densely populated areas	EA	2	2	2			
Water Management	em-rm-140a.1	Total water withdrawn	Metric tons(t)	43,283,742	43,141,063	43,315,489			
		Recycling rate	%	N/A	N/A	N/A			
		Water usage in areas with a “high” or “very high” water stress index	Case	0	0	0			
	em-rm-140a.2	No. of water quality permit, standard, or regulation violations	Case	1	0	0	All legal restrictions such as administrative measures and fines included		
Hazardous Materials Management	em-rm-150a.1	Hazardous waste	Generated amount	Metric tons(t)	70,703	61,716	50,365		
			Recycling rate	%	83	84	80		
	em-rm-150a.2	No. of underground storage tanks (USTs)	No. of UST leaks requiring cleanup	Case	0	0	0	There are no raw material/product tanks in the workplace, only tanks in self-service gas stations	
			Percentage of UST related incidents at regions with UST financial assurance funds	%	N/A	N/A	N/A	Not applicable to domestic UST Financial Assurance Funds	
Workforce Health & Safety	em-rm-320a.1	TRIR	Full-time employees	Ration	0.17	0.17	0.19	Based on 200,000 man-hours	
			Contract employees	Ration	0.35	0.40	0.41		
		Fatality rate	Full-time employees	Ration	0	0	0		
			Contract employees	Ration	0	0	3.0		
		Near miss frequency rate	Full-time employees	Ration	N/A	N/A	N/A		Goals for disclosure after 2023
			Contract employees	Ration	N/A	N/A	N/A		
	em-rm-320a.2	Management system description for adopting a safety culture	-				ESG Report p.32~34, p.101~102		

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

SASB Index








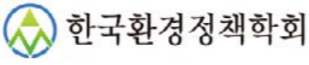







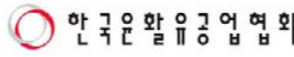


Category	SASB Code	Metrics	Unit	2020	2021	2022	Note	
Product Specifications & Clean Fuel Blends	em-rm-410a.1	Renewable Volume Obligation (RVO) ¹⁾ achievement rate	Renewable fuel production	%	100	100	100	Based on Conventional Biofuel (FAME) blend ratio only for domestic ULSD products
			Percentage of fuel through the purchase of Renewable Identification Numbers (RINs)	%	N/A	N/A	N/A	Not applicable to domestic market
	em-rm-410a.2	Markets for advanced biofuels and related infrastructure	Total addressable market	₩	N/A	N/A	N/A	No domestic market, and international market size projections vary by institution
			Total addressable share	%	0	0	0	No production and equipment of Addressable Bio-fuel
Pricing Integrity & Transparency	em-rm-520a.1	Total amount of monetary losses as a result of legal proceedings associated with price fixing or price manipulation	USD	0	0	0		
Management of the Legal & Regulatory Environment	em-rm-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	-				ESG Report p.124~125	
Critical Incident Risk Management	em-rm-540a.1	Process Safety Event (PSE) rates	Greatest consequence (Tier 1)	Ration	0.06	0.19	0	Based on 1,000,000 man-hours
			Lesser Consequence (Tier 2)	Ration	0.12	0.12	0.08	
	em-rm-540a.2	Challenges to Safety Systems indicator rate (Tier 3)	Ration	N/A	N/A	N/A		
	em-rm-540a.3	Discussion of measuring discipline and management system performance through Tier 4 metrics	-				ESG Report p.101~102	
Activity Metrics								
Refining throughput of crude oil and other feedstocks	em-rm-000.a	Refining throughput of crude oil and other feedstocks ²⁾	Barrels of oil equivalent (BOE)	323,100,000	267,789,890	321,262,932		
Refining Operating Capacity	em-rm-000.b	Refining operating capacity	Million barrels per calendar day (MBPD)	1.19	1.19	1.19		

1) Renewable Volume Obligation: A system that requires a certain percentage of renewable energy fuels to be blended with fossil fuels to reduce greenhouse gases.
 2) Total volume of crude oil and other feedstocks processed in the refinery system during the reporting period.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Associations and Memberships

As a company committed to taking responsibility for our social and environmental impacts, SK Innovation actively engages in initiatives and collaborations within our promoted business areas, along with our subsidiaries. This proactive involvement allows us to stay abreast of industry trends and foster collaboration with diverse stakeholders. By 2023, we aim to identify and participate in new initiatives related to carbon neutrality and green business, effectively expressing our commitment and strengthening our execution. Additionally, we plan to join relevant global initiatives and partnerships to enhance our engagement in key social issues, aligned with the GROWTH strategy implementation system, and address environmental aspects linked to our business areas. In 2022, we became a member of the Asian Venture Philanthropy Network (AVPN), which comprises prominent impact investors and social innovation organizations in Asia. Looking ahead, we are considering joining a global initiative focused on diversity and inclusion, such as the Refinitiv D&I 100, by 2025.

 SK innovation SK Innovation Membership in Major Associations and Organizations	UN Global Compact  United Nations Global Compact	World Energy Council Korea Committee  WORLD ENERGY COUNCIL	Global Battery Alliance  GLOBAL BATTERY ALLIANCE BATTERIES POWERING SUSTAINABLE DEVELOPMENT	Responsible Minerals Initiative  RESPONSIBLE MINERALS INITIATIVE	Asian Venture Philanthropy Network  avpn Asian Venture Philanthropy Network
Korea Business Council for Sustainable Development  KBCSD 지속가능발전기업협의회	Seoul Chamber of Commerce and Industry  한국환경정책학회	The Korean Society for Marine Environment & Energy  한국해양환경-에너지학회 The Korean Society for Marine Environment & Energy	Korea Fire Safety Association  FSA 한국소방안전협회 KOREA FIRE SAFETY ASSOCIATION	Korea Environmental Policy and Administration Society  서울상공회의소	Ulsan Chamber of Commerce and Industry  울산상공회의소
Korea Petroleum Association  대한석유협회 Korea Petroleum Association	Korea Petrochemical Industry Association  KPIA 한국석유화학협회 Korea Petrochemical Industry Association	Korea Oil Association  KOA 한국석유유통협회 KOREA OIL ASSOCIATION	Korea Lubricating Oil Industries Association  한국윤활유공업협회	Korea Battery Industry Association  KBIA 한국전지산업협회 Korea Battery Industry Association	Korean Institute of Hazardous Materials  KIHM

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Independent Assurance Statement

To: The Stakeholders of SK Innovation Co., Ltd

Introduction and Objectives of Work

BSI Group Korea (hereinafter “the Assurer”) was requested to verify 2022 SK Innovation ESG Report (hereinafter “the Report”). This assurance statement applies only to the relevant information included in the scope of the assurance. SK Innovation is solely responsible for all information and assertion contained in the Report. The responsibility of the Assurer is to provide SK Innovation Management with independent assurance statement based on its expert opinions by applying the verification methodology for the specified assurance scope. It is also to provide the information to all stakeholders of SK Innovation.

Standards and Levels

This assurance was based on the AA1000AS (Assurance Standard) v3 (2020) Assurance Standard and confirmed that the Report was prepared in accordance with the GRI Standards, the international standards guidelines of sustainability reports. In accordance with the AA1000 AS, the assurance level was Moderate Level, and conducted against Type 1 to confirm compliance with the four principles of the AA1000 AP (AccountAbility Principles) 2018 and the Type 2 assurance that verified the quality and reliability of the information disclosed in the report. Type 2 was limitedly verified against the topic standards below, based on the data and information provided by the reporting organization.

- GRI Topic standards: 302-1, 305-1, 305-2, 305-3, 305-7, 306-3, 306-5, 403-5, 403-8, 403-9

Scope

The scope of assurance applied to the Report is as follows;

- Report contents during the period from January 1st to December 31st 2022 included in the report, some data included 2023
- Major assesstion included in the report, such as sustainability management policies and strategies, goals, projects, and performance, and the report contents related to material issues determined as a result of materiality assessment
- Appropriateness and consistency of processes and systems for data collection, analysis and review

The following contents were not included in the scope of assurance.

- Financial information in Appendix
- Index items related to other international standards and initiatives other than the GRI
- Other related additional information such as the website, business annual report

Methodology

As a part of its independent assurance, the Assurer has used the methodology developed for relevant evidence collection in order to comply with the verification criteria and to reduce errors in reporting. The Assurer has performed the following activities;

- Review of the system for sustainability management strategy process and implementation
- Review of materiality issue analysis process and prioritization by reviewing materiality issue analysis process and verifying the results
- Review of the evidence to support the material issues through interviews with senior managers with responsibility for them
- Verification of data generation, collection and reporting for each performance index

Limitation

The Assurer performed limited verification for a limited period based on the data provided by the reporting organization. It implies that no significant errors were found during the verification process, and that there are limitations related to the inevitable risks that may exist. The Assurer does not provide assurance for possible future impacts that cannot be predicted or verified during the verification process and any additional aspects related thereto.

Assurance Opinion

On the basis of our methodology and the activities described above, it is our opinion that

- The information and data included in the Report are accurate and reliable and the Assurer cannot point out any substantial aspects of material with mistake or misstatement.
- The report is prepared in accordance with the GRI Standards. (Reporting in accordance with the GRI standards)
- The assurance opinions on the four principles presented in the AA1000 AP (2018) are as follows.

AA1000 AP (2018)

Inclusivity: Stakeholder Engagement and Opinion

SK Innovation defined customers, employees, shareholders/ investors, local communities and suppliers as key stakeholders groups, and operated communication channels for each stakeholder group for engagement. SK Innovation reflected key issues drawn through stakeholder channels in sustainability management decisions and disclosed the process in the Report.

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Independent Assurance Statement

Materiality: Identification and reporting of material sustainability topics

SK Innovation established the strategy related to sustainability management and established the process to derive reporting issues. SK Innovation identified financial and social/environmental impacts and derived 3 priority issues and 7 material issues based on the analysis of media research, benchmarking global advanced companies in its field, and analysis of major global initiatives related to sustainability, based on the material topic of the industry specified in the GRI 11 Oil & Gas industry sector standard.

Responsiveness: Responding to material sustainability topics and related impacts

SK Innovation established the management process for material issues determined by the materiality assessment, implemented a response plan for each issue to appropriately respond to the derived material issue that reflects the expectations of stakeholders. SK Innovation disclosed the process including policy, indicator, activity and response performance on key reporting issues in the Report.

Impact: Impact of an organization’s activities and material sustainability topics on the organization and stakeholders

SK Innovation established the process to identify and evaluate the impact on organizations and stakeholders related to material issues. SK Innovation used impacts, risk and opportunity factor analysis results for material issues to make decisions to develop response strategies for each issue, and disclosed the process in the Report. Among the material topic as defined in the GRI 11 Oil & Gas industry sector standard, the reason for topic that has not been identified as a reporting issue, SK Innovation separately reported the relevant topic standards in the other GRI index.

Key areas for ongoing development

SK Innovation leads the sustainability management system by transparently disclosing major sustainability performance and data such as environment and social through the operation of the data platform and major social value (SV) according to the method of SK Group. It may be helpful to advance the sustainability management system by specifying and disclosing sustainability performance indicators such as environment and society that take into account the characteristics of overseas workplaces within the scope of reporting.

Statement of independence and competence

The Assurer is an independent professional institution that specializes in quality, health, safety, social and environmental management with almost 120 years history in providing independent assurance services. No member of the assurance team has a business relationship with SK Innovation. The Assurer has conducted this verification independently, and there has been no conflict of interest. All assurers who participated in the assurance have qualifications as an AA1000AS assurer, have a lot of assurance experience, and have in-depth understanding of the BSI Group’s assurance standard methodology.

Evaluation against GRI ‘In Accordance’ Criteria

The Assurer confirmed that the Report was prepared in accordance with the GRI Standards and the disclosures related to the following Universal Standards and Topic Standards Indicators based on the data provided by SK Innovation. The sector standard GRI 11 Oil & gas was applied, and the Assurer confirmed that there are no errors in the claim that the content related to the GRI 11 Oil & Gas Sector Standards in accordance with the requirements.

[Universal Standards]

2-1 to 2-5 (The organization and its reporting practices), 2-6 to 2-8 (Activities and workers), 2-9 to 2-21 (Governance), 2-22 to 2-28 (Strategy, policies and practices), 2-29 to 2-30 (Stakeholder engagement), 3-1 to 3-3 (Material Topics Disclosures)

[Sector Standards, GRI 11 Oil & Gas]

11.1 (GHG emissions), 11.2 (Climate adaptation, resilience, and transition), 11.3 (Air emissions), 11.5 (Waste), 11.7 (Closure and rehabilitation), 11.8 (Asset integrity and critical incident management), 11.9 (Occupational health and safety), 11.10 (Employment practices), 11.11 (Non-discrimination and equal opportunity), 11.12 (Forced labor and modern slavery), 11.19 (Anti-competitive behavior), 11.20 (Anti-corruption)

[Topic Standards]

201-1~2, 201-4, 202-2, 203-1~2, 204-1, 205-1~3, 206-1, 207-1~4, 302-1~4, 303-1~5, 304-3, 305-1~5, 305-7, 306-1~5, 308-1~2, 401-1~3, 402-1, 403-1~10, 404-1~2, 405-1~2, 406-1, 407-1, 408-1, 409-1, 410-1, 413-1, 414-1~2, 415-1, 416-1



29th June 2023

S. H. Lim / BSI Group Korea,
Managing Director

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement	Independent Assurance Statement for GHG Emissions		About This Report				

Independent Assurance Statement for GHG Emissions



Assurance Scope

This assurance statement has been prepared at the request of SK Innovation Co., Ltd. Lloyd’s Register Quality Assurance (LRQA) received an assurance request from SK Innovation Co., Ltd. (hereinafter referred to as “SK Innovation”) for the 2022 Greenhouse Gas Report (hereinafter referred to as the “Report”).

The Report includes Scope 3, 4, and 5 indirect greenhouse gas emissions categories.

The geographic boundary of SK Innovation includes domestic and international subsidiaries, affiliated companies, and joint ventures listed in the attached document. The major activities of the organization involve the manufacturing of petrochemical products, lithium-ion separators, and electric vehicle batteries, and greenhouse gas emissions are integrated using the equity share approach.

Management Responsibility

The responsibility for compliance with ISO 14064-1:2018, related claims, report preparation, effective internal management of data and information lies with the management of SK Innovation. The responsibility of Lloyd’s Register Quality Assurance is limited to the assurance of the Report as stipulated in the agreement with SK Innovation.

Ultimately, the Report is approved by SK Innovation and is under the responsibility of SK Innovation.

LRQA’s Assurance Approach

LRQA’s assurance was conducted at a limited level of assurance to verify whether the greenhouse gas data in the Report complies with the “ISO14064-1:2018 Greenhouse Gases - Part 1: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals” and in accordance with the “ISO14064-3:2019 Greenhouse Gases - Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions”.

To reach the assurance conclusion, the assurance activities were conducted through sampling, including the following activities:

- Visiting SK Innovation headquarters to review the management and processes related to greenhouse gas emissions data and records.
- Conducting interviews with responsible employees involved in the management of greenhouse gas emissions data and records.
- Verifying the greenhouse gas emissions data and records for the year 2022 at the aggregated level.

Assurance Level and Materiality

Based on the contract, assurance for Scope 3, 4, and 5 was conducted at a limited level of assurance and with a significance criterion of 5%. The assurance opinion expressed in this assurance statement is derived accordingly.

Opinion by Lloyd’s Register Quality Assurance

Based on the assurance conducted using the approach of Lloyd’s Register Quality Assurance, no evidence was found to suggest that the greenhouse gas emissions for Scope 3, 4, and 5, summarized in Table 1 below, are inaccurately represented in terms of materiality. No evidence was found to suggest that the Report does not comply with ISO 14064-1:2018.

Qualifications and Independence of Lloyd’s Register Quality Assurance

Lloyd’s Register Quality Assurance has implemented and maintained a comprehensive management system that satisfies the requirements of ISO 14065 “Greenhouse Gases - Requirements for Greenhouse Gas Validation and Verification Bodies” and ISO/IEC 17021 “Conformity Assessment - Requirements for Bodies Providing Audit and Certification of Management Systems”, and complies with the requirements of International Standard on Quality Control 1 (ISQC 1) and the International Ethics Standards Board for Accountants (IESBA) Code of Ethics.

Lloyd’s Register Quality Assurance ensures the appointment of suitably qualified assurance assessors based on qualifications, training, and experience. To ensure that the applied approach is strictly adhered to and transparent, the results of all assurance assessments are internally reviewed by management.

Date: 2023. 5. 25.

Lim Byung Kil

Lead Assessor
On behalf of Lloyd’s Register Quality Assurance (LRQA)

30 T Tower 2F, Sowol-ro 2-gil, Jung-gu, Seoul,
Republic of Korea

LRQA Reference No: SEO00001020



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Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

Independent Assurance Statement for GHG Emissions



Summary of SK Innovation 2022 GHG Report

Scope of GHG Emissions Reporting	Tonnes CO ₂ e
Scope 3 - Indirect GHG emissions from transportation	
• Upstream transportation - transportation of purchased products	1,079,656
• Business travel - business travel of all employees	3,921
• Employee commuting - commuting of all employees	19,363
• Downstream transportation - transportation of products sold	470,049
Scope 4 - Indirect GHG emissions from products used by the organization	
• Purchased products and services - production of purchased key raw materials	20,050,022
• Fuel and energy-related activities - upstream emissions of purchased fuel and electricity	484,765
• Waste generated in operations - disposal of waste generated in operations	41,705
Scope 5 - Indirect GHG emissions related to the organization's use of the product	
• Use of the sold product - combustion of the sold fuel	103,239,356
• End-of-life treatment of sold products - treatment of sold petrochemicals and lithium ion separators	6,745,847

Notes:

- In agreement with SK Innovation, this verification excludes the verification of Scope 1 and Scope 2 emissions.
- The Scope 1 and Scope 2 emissions of SK Innovation for the same period were verified by the Korean Standards Association in accordance with the Guidance on Reporting and Verification of Emissions for the GHG Emissions Trading Program.

List of Subsidiaries, Affiliates, and Joint Ventures Included in Organizational Boundaries

NO	Subsidiaries, Affiliates, and Joint Ventures	NO	Subsidiaries, Affiliates, and Joint Ventures
1	SK Innovation Co., Ltd.	25	SK Enmove Russia LLC.
2	Daehan Oil Pipeline Corporation	26	Yubase Manufacturing Asia Co.,Ltd.
3	Asia Bitumen Trading Pte. Ltd.	27	SK IE Technology Co., Ltd.
4	Shandong SK Hightech Oil Co., Ltd.	28	SK Hi-tech Battery Materials (Jiang su) Co., Ltd.
5	SK Asphalt (Shanghai) Co., Ltd.	29	SK Hi-tech Battery Materials Poland Sp. Zo.o.
6	SK Energy Co., Ltd.	30	SK Incheon Petrochem Co., Ltd.
7	Netruck Co., Ltd.	31	SK On Co., Ltd
8	Zhejiang SK Energy Paoying Group Co., Ltd.	32	Beijing BESK Technology Co., Ltd.
9	Ningbo SK Performance Rubber Co., Ltd.	33	Huizhou EVE United Energy Co., Ltd.
10	SABIC SK Nexlene Company Pte. Ltd.	34	Mobile Energy Battery America, LLC.
11	SK Functional Polymer, S.A.S	35	SK On (Jiangsu) Co., Ltd.
12	SK Primacor Americas LLC.	36	SK Battery America, Inc.
13	SK Primacor Europe, S.L.U.	37	SK On Hungary Kft.
14	SK Saran Americas LLC.	38	SK Battery Manufacturing Kft.
15	SK Geo Centric Co., Ltd.	39	SK Mobile Energy Co., Ltd.
16	Ulsan Aromatics Co., Ltd.	40	SK On (Yancheng) Co., Ltd.
17	SK Enmove Co., Ltd.	41	Yancheng Yandu District M Energy Consulting Limited Company
18	Iberian Lube Base Oils Company, S.A.	42	BlueOval SK, LLC.
19	PT. Patra SK	43	SK Earthon Co., Ltd.
20	SK Enmove (Tianjin) Co., Ltd.	44	Block 15-1, Vietnam
21	SK Enmove India Pvt. Ltd.	45	Block 88, Peru
22	SK Enmove Americas, Inc.	46	Block 56, Peru
23	SK Enmove Europe B.V.	47	SK Trading International Co., Ltd.
24	SK Enmove Japan Co., Ltd.		

Materiality Assessment	Social Value Creatio	Stakeholder Engagement	UNGC	UNGP Index	GRI Index	TCFD Index	TCFD Report	SASB Index
Associations and Memberships	Independent Assurance Statement		Independent Assurance Statement for GHG Emissions			About This Report		

About This Report

Introduction

SK Innovation has published its annual ESG report since 2005 to transparently share its activities and progress on sustainable management and communicate with its stakeholders. Our latest ESG report was published in July 2022. Moving forward, this report will continue to serve as a means for the company to gather valuable feedback from our stakeholders and reflect them in our business operations.

Reporting Principles

This report follows the Global Reporting Initiative (GRI) Standards which are international reporting guidelines for sustainable management and key issues most relevant to our industry were selected and covered in this report following the GRI Sector Standard for Oil and Gas, as well as the SASB (Sustainability Accounting Standards Board) Oil & Gas Sector. We also comply with recommendations from the TCFD (Task Force on Climate-Related Financial Disclosures) and reflect the 10 Principles of UNGC, the UN SDGs, and other indicators to support global sustainability initiatives.

Reporting Period

This report covers the fiscal year 2022 (January 1 – December 31, 2022) and includes some of the data for the first half of 2023 ensuring the timely provision of material data. Some performances are presented for the past three years to help our readers understand annual trends at a glance.

Reporting Scope

The financial data in this report agrees with the consolidated financial statements under Korean International Financial Reporting Standards (K-IFRS). The non-financial data covers the headquarters in Seoul, production plants in Jeungpyeong, Cheongju, Seosan, Ulsan, and Incheon, and the Institute of Environmental Science & Technology in Daejeon, major subsidiaries and sub-subsidiaries of the overseas subsidiaries of SK Innovation and its major subsidiaries, SK Energy, SK Geo Centric, SK Enmove, SK Incheon Petrochem, SK Trading International, SK Earthon, SK On, and SK IE Technology (hereinafter referred to as “SK Innovation’s subsidiaries”). This data covers 99% of sales of SK Innovation and its wholly owned subsidiaries (except for SK mobile energy and SK battery systems). Some quantitative environmental performance indicators are based on major domestic business sites, excluding overseas subsidiaries, and the detailed scope of the data is specified by separate notes. Any variance in the reporting scope or change in reported data also comes with separate notes.

Reliability

This report (including TCFD and SASB) was published after careful review by the ESG Committee under the Board of Directors of SK Innovation. Data reliability is assured by our verification process following the four principles of AA1000AS (2008) (inclusivity, materiality, impact, and responsiveness) from the British Standards Institution (BSI), an independent assurer.

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