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Environmental Management

Environmental Management Strategy

SK is upgrading its environmental management system in Biz Value Chain, focusing on the Green ICT 2040 strategy.
We will promote environmental management performance with the goal of reaching the global top tier level by 2025.

Vision Securing stakeholders' trust and pursuing happiness as an eco-friendly leader

Green ICT 2040

Promotion Tasks

Eco-friendly Management

Climate change (energy/greenhouse gas)

1	Net Zero 2040 (SBTi 1.5°C)	2	RE100 2040	3	Expanding Scope 3 Management

Resource circulation (waste/water resources)

4	Increasing resource efficiency

Eco-friendly Biz.

5	ICT-based Eco-Friendly New Biz Expansion	6	Supply Chain Engagement

Management Infrastructure / Stakeholder Communication

7	Upgrading Environmental Management System (ISO 14001)	8	Reinforcement of Information Disclosure (TCFD, CDP)

Management

- Since the establishment of its environmental policy and declaration of environmental management in 2021, SK Inc. has strengthened its commitment to eco-friendly decision-making, including the CEO's leadership in declaring Net Zero and joining the SBTi (Science Based Targets initiative)
- The CEO oversees the overall environmental management of the company through the corporate environmental management system (ISO 14001), conducting management reviews and receiving quarterly reports on environmental performance indicators
- At the corporate level, within the strategic planning department, the organization responsible for overall strategy, SK Inc. has operated optimal systems for implementing the Net Zero roadmap, expanding eco-friendly business, and managing performance. It has also set up a dedicated environmental department within the data center operation organization to effectively manage greenhouse gas reduction performance in alignment with corporate objectives
- The responsibility and authority of the responsible department, organizational unit executives, and personnel are designated to monitor public policies related to climate change and take necessary measures based on environmental management regulations

CEO

Strategic Planning Division

Company-wide Environmental Management [ESG Officer]
- Establishing/operating company-wide eco-friendly decision-making processes and performance management systems
- Disclosing environmental information

Cloud Division

Operation of Green Data Center [DC Safety/Green Promotion Team]
- Managing Daedeok/Pangyo Data Center's greenhouse gas reduction performances
  - Self-generating renewable energy, purchasing renewable energy, and promoting power efficiency at data centers
  - Conducting compliance assessment for greenhouse gas, energy, waste management and environmental areas

Response to Climate Change

Establishing Climate Change Response System

Participating in global greenhouse gas reduction initiatives and implementing challenging goals

• Joined Global RE100 Initiative Membership to Accelerate International Greenhouse Gas Reduction (December 2020)
• Established RE100 2040 roadmap and declared Net Zero 2040 (based on Scope 1 and 2) that meets the 1.5-degree Paris Climate Agreement standards, and publicly disclosed of greenhouse gas reduction results every year since 2021
• Signed up for Science-based Target Initiative (SBTi) for greater transparency in Net Zero goal management (Planned for September 2022 Commitment, 2024 near-term plan verification including scope 3)

Participated in environmental regulations like the emissions trading scheme (K-ETS) and suggested measures for policy improvement

• SK Inc. was incorporated into the carbon emission trading scheme (January 2022, notified by the Ministry of Environment) and fulfilled its obligation to report greenhouse gas emissions from a total of 16* workplaces during the third planning period (2021-2025)
  * 15 additional workplaces as of 2022 and one new in 2023
• Company-wide emission trading system management scheme (February 2022), actively managing internal and external reduction activities
• Participated in a policy meeting (hosted by the Ministry of Trade, Industry and Energy) to improve regulations related to the procurement of RE100 from 2021 and participated in eco-friendly policies and suggestions for policy improvement in Korea by supporting the CREF (registered as member companies in 2022)

Greenhouse Gas Reduction Management

Reinforcement of Scope 1, Scope 2 Management in alignment with RE100 2040·Net Zero 2040 Roadmap

• 98% of total greenhouse gas emissions are due to power use (Scope 2), and data centers account for more than 90% of power use. As a result, the percentage of renewable energy conversion in data center power consumption has been set as a key indicator, and the percentage of conversion is increasing every year following to the RE100 roadmap
  - Considering self-generation as a top priority method of procuring renewable energy, the maximum operation of solar self-generation facilities on data center-available sites (0.9 GWh in 2022). Other 'green premium' (21.9 GWh in 2022) to increase the share of renewable energy power (approximately 3% in 2021, about 10% in 2022, and 16% in 2023)

• Power Purchase Agreement (PPA) is being considered to secure stable renewable energy in the long term. Considering uncertainties in the domestic renewable energy market, the government will secure optimal procurement measures based on economic analysis of renewable energy by means
• Setting power consumption as a key indicator for continuous energy efficiency in the data center, and manage annual power demand forecasts and efficiency performance (see TCFD report 3-year results and objectives)
• Implementing optimal operation of air conditioning facilities and investing in eco-friendly facilities through data center safety/environmental experts (see Green Data Center p.40) ⊞

Management Expansion and Establishing Scope 3 Reduction Goals

• In accordance with the GHG (Greenhouse Gas) Protocol Scope 3 guidelines, all applicable categories of emissions are calculated and third-party verification is carried out (6 in 2021 → 11 in 2022 / and detailed calculation methods by category are included in CDP disclosure details)
• Continuous improvement of management system for sophisticated calculation of Scope 3 emissions
  - Expanding coverage for calculating investment items (category 15)
  - Promoting supplier information data collection and upgrading purchase management system to calculate LCA-based emissions of purchased products (preparation for reflection on disclosure in 2024)
• Established Scope 3 reduction targets
  - Near-Term Target (Value Chain Engagement Target): Establishing supplier SBT of 50% or more of our purchased products, capital goods (category 1, 2) purchases by 2025 Long-Term Target: 90% reduction in Scope 3 total emissions in 2050

CASE **Environmentally friendly business vehicles (as of 2022)**

- Operating environmentally friendly (electric, hybrid) vehicles to reduce carbon emissions
- Supporting members' voluntary use of environmentally friendly vehicles by introducing charging infrastructure and exclusive parking areas in the office building

Total Number of Vehicles	Number of Environmentally Friendly Vehicles	Environmentally Friendly Vehicle Ratio
201 EA	**36** EA	**17.9** %

Resource Circulation

Waste Management to Improve Resource Efficiency

Zero Waste To Landfill (ZWTL)/World Resources Institute (WRI) international standards to manage waste recycling rates as indicators

- Most of them are household wastes due to the absence of manufacturing facilities. Some of the designated wastes generated irregularly are disposed of/reported according to legal procedures
- To reduce the amount of waste landfill, carrying out follow-up management targeted for both primary collection company and secondary/tertiary incineration and landfill service providers
- Minimizing household waste through member practice programs such as reducing disposable products and zero leftover
- Waste emission reduction performance: approximately 93.2% based on ZWTL

Water Resource Management to Improve Recycling Resource Circulation

- If it is not located in a water resource-sensitive area and there is no wastewater discharge facility, applied international standards to the water in the facility concerned and the water intake and managed the recycling rate as indicators, and disclosed performance (Disclosure of 3-year performance and target TCFD report)

Expanding Eco-friendly Business Activities

ICT-Based Eco-friendly New Biz. Expansion

- Continuously expanding ICT eco-friendly products/services (reducing air pollution, water pollution, energy, and greenhouse gases)
- Developing 'Carbon Reduction Certification and Transaction Platform (Centero)' in 2022, expanding the service area of 'ESG Management Platform (Click ESG)' and developing various digital solutions to help companies transition to Net Zero

Major Eco-friendly Products and Services

- Carbon Reduction Certification and Trading Platform Centero: An objective carbon credit issuance/trading platform to increase voluntary carbon market (VCM) reliability to help reduce greenhouse gas
- ESG Management Platform Click ESG: ESG Management Platform for ESG Management Diagnosis, Supply Chain ESG Management, ESG Performance Management Services, contributing to revitalizing the ESG management ecosystem
- Reducing resources by extending the life of facilities through PPdM (Proactive, Predictive, Maintenance): Analyzing vibration data to monitor and prevent abnormalities of rotating facilities, reducing resources by extending the life of rotating facilities
- Fresh food demand forecast analysis model AutoML: An analysis model for predicting demand for eco-friendly agricultural products using Accu. Fabric Suite
- Carbon Emission Management Platform LCA Platform: Helping carbon reduction by aggregating and forecasting carbon emissions during the process

Supply Chain Engagement

Encouraging Greenhouse Gas Reduction on Upstream and Promoting Supplier Engagement Activities

- Sending an official letter to major suppliers* calling for participation in greenhouse gas reduction in the supply chain (establishing science-based greenhouse gas reduction targets (SBTi), LCA information, and climate risk response measures)
  * SK Inc.'s Scope 3 Category 1 and 2 (purchase, capital goods) HW/NW equipment supplier with more than 70% greenhouse gas emissions
- Requiring data for supplier greenhouse gas reduction management (direct receipt of data based on questionnaires such as greenhouse gas emissions, SBTi subscription/plan, certification information for eco-friendly products), diagnosing supplier management level, and improving eco-friendly purchasing process

Internalization and Communication of Environmental Management

Advancement of Environmental Management System ——— `+ Environmental Policy`

Establishment and operation of environmental management system (ISO 14001)

- Minimizing internal/external environmental risks, carrying out environmental management activities based on ISO 14001 (acquired in June 2021), and disclosing environmental policies internally/externally
- Driving continuous improvements in management infrastructure: Zero Nonconformity, Improvements Based on 'Opportunity for Improvement' Findings (12 in 2021 and 4 in 2022)
- Operating the Environmental Management Portal as a employee communication channel for environmental management

　*Hi-SK → ESG Management → Environmental/Safety and Health Portal

Company-wide environmental objectives and data-driven performance monitoring

- Establishing environmental goals and tasks based on analysis of internal and external stakeholder needs each year. Aligning with enterprise/organizational KPIs to fulfill the challenge
- ESG Management System Monitoring/Performance Measurement of Greenhouse Gas, Energy, Waste, Water by Environmental Indicators through Social Value Management System (SVMS)

Environmental Management Policy

1. As a leading environmentally-friendly ICT company, we will take the lead in addressing climate change by promoting energy conservation, reducing greenhouse gas emissions, and expanding environmentally-friendly business practices.
2. We will establish environmental objectives for the continuous development of our environmental management system and strive to improve our environmental performance.
3. We will comply with international environmental agreements and domestic regulations, as well as adhere to agreements reached with stakeholders.
4. We will communicate this policy to all members of our organization and foster awareness of environmental pollution prevention and conservation among them.
5. We will disclose environmental information to external stakeholders and actively participate in local community environmental conservation activities.

Integrated Environmental Risk Management

Environmental compliance assessment, environmental impact assessment, and environmental risk assessment based on ISO 14001 and integrated risk management in conjunction with annual regular implementation and enterprise management processes
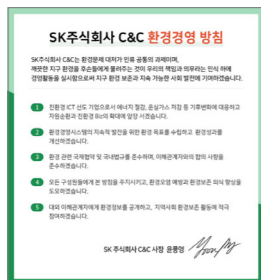
- Environmental compliance assessment: Zero level of environmental accidents and legality risk through periodic compliance assessment of the law enforcement organization (pre-review and timely implementation of new applicable laws such as the 2022 emission trading system, eco-friendly car purchase law, and environmental information disclosure)
- Environmental Impact Assessment: SK does not own mandatory environmental impact facilities. However, we annually assess environmental impact on various environmental aspects of business activities and facility operations (in 2022, PUE* management by data center in conjunction with enterprise goals).

　* PUE: Power Usage Effectiveness, the total power consumption of the data center divided by the power consumption of the IT equipment, represents the energy efficiency of the data center

- Environmental safety accident risk is monitored in conjunction with the safety and health system (ISO 45001), and environmental accidents are integrated into the company's SHE accident management system to manage them
- Environmental risk assessment: Identifying unique risks through analysis of internal and external environmental issues and stakeholder needs every year, assessing the adequacy of countermeasures, and establishing measures to minimize residual risk at high risk
- Further identifying mid- to long-term risks due to climate factors through climate scenario analysis according to TCFD recommendations, and introducing the Enterprise Risk Management System (ISO 31000) from 2023 to enhance the integrated management level of environmental risks in the enterprise management process

ISO14001Certificate　　Environmental Management Policy　　Environmental Management Portal

Spreading Eco-friendly Practice Culture

Internalization of Employees Environmental Information Disclosure

- Environmental training (RE 100, Net Zero, ESG Basic, etc.) for employees, distribution of environmental management practice guides, selection of environmental management agents by sector, and ISO 14001 training

Key Environmental Education Implementation Details for 2022

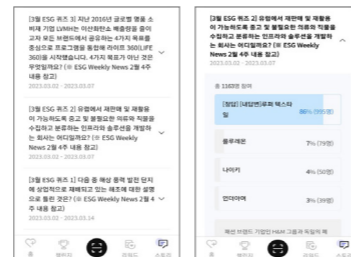| Training	Target	Participation Time/Capacity	Training Method	Date	Main Content
What is Net Zero?	All company employee	873 hours/ 1,379 people	Online Traning	22.1.1~ 22.12.31	Understanding Net Zero and Environmental Management
ISO 14001/45001 Internal auditor training	Environmental safety and health agents by sector	124 hours/ 22 people	1-day lecture by professional consultants (BSI KOREA)	22.3.21	Environmental/health ISO requirements, procedures, risks and environmental impact assessments, etc.
ISO 14001/45001 Internal auditor	Environmental safety and health agents by sector	72 hours/ 9 people	1-day lecture by professional consultants (BSI KOREA)	22.4.1	Environmental/health ISO requirements, procedures, risks and environmental impact assessments, etc.

- To assess the improvement level of environmental awareness in line with our Net Zero initiatives, we are enhancing the 'Culture Survey' ESG perception section by adding questions related to our Net Zero environmental goals and strategies starting from 2022. This addition aims to better manage improvement levels and strengthen communication regarding our Net Zero objectives and strategies. We will actively promote and elevate ESG awareness among our members through measures such as ESG reports and the ESG portal (scheduled to launch in May 2023), aligning with our commitment to achieving Net Zero targets.

Employees Campaign for Greenhouse Gas Reduction Activities

- Eco-friendly mobile app. SV (Social Value) Point is provided as an incentive for employees to participate in eco-friendly practices such as 'using stairway/ healthy walking, zero leftover food, using mugs/tumblers, etc.' (1,828 SK Inc. employees contributed to 153 tCO_2eq reduction through 352,782 cases of participation in 2022)
- Through the Hangarae App, event is held to raise awareness of the contribution of greenhouse gas reduction by activity item and carbon neutrality. Providing educational video data
- Hangarae began in July 2020 with the engagement activities of SK Inc. In order to spread an eco-friendly practice culture, a cumulative 61 companies, institutions, and schools were applied as of 2022, and 28,000 people participated in activities (see carbon emission reduction of 1,510 tCO_2eq, details p.113) +

Hangarae ESG Quiz Event notice

Hangarae ESG Quiz

Strengthening Environmental Information Disclosure

TCFD Disclosure   + TCFD Report

- Operating management systems in compliance with the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations
- Expanding its coverage of its IT service business to include the investment sector in 2022. Providing scenario design and analysis in consideration of the characteristics of the business and investment sectors in 2023
- Implementing/continuously monitoring the mitigation planning in relation to the Net Zero 2040 Roadmap, Greenhouse Gas Reduction Implementation Strategy, and intensifying strategy resilience according to 1.5°C Climate Change Scenario

CDP Climate Change Disclosure

- Setting challenging reduction targets and implementing transparent disclosure required by the Carbon Disclosure Project (CDP) and execution of public disclosure
- Acquiring a CDP Climate Change Leadership rating (A-) for 2021 and 2022 consecutive years, Winning the CDP Climate Change Korea Awards (Carbon Management Sector Honors) (Jan. 2022)
- Every year, specifically updating the role of the board and management in responding to climate change and the performance of greenhouse gas reduction under the Net Zero 2040 roadmap