

FROM ASPIRATION TO ACTION

2023 KT&G SUSTAINABILITY DISCLOSURE
CLIMATE CHANGE



Overview

1. Report Overview

KT&G publishes the KT&G Report every year, which contains activities, achievements, and future plans for the company’s sustainable growth and social value creation, as a way of communicating extensively with stakeholders and listening to their opinions. This report is a preliminary report aimed at proactively sharing the status of sustainable management and enhancing communication with stakeholders regarding the IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures, established and published by the ISSB (International Sustainability Standards Board) of the IFRS (International Financial Reporting Standards) Foundation in June 2023. Moving ahead, we plan to transparently disclose major sustainability management issues, activities, and achievements through the KT&G Report.

2. Reporting Corporation and Scope

This report includes information on KT&G and some of its subsidiaries, including Korea Ginseng Corporation (KGC), which is a consolidated subsidiary of KT&G. In the future, KT&G plans to expand the scope of this report to include information on subsidiaries that are currently excluded. For the status of all consolidated subsidiaries, please refer to KT&G’s financial statement disclosures.

3. Reporting Standards

In this report, we have disclosed information on governance, strategy, risk management, and metrics and targets related to climate change response, among KT&G’s key sustainability management issues, by referring to the sustainability-related financial disclosure standards established and published by the ISSB.

4. Reporting Period

The reporting period for this report is from January 1, 2023 to December 31, 2023. However, for certain activities such as the status of the Board of Directors and the Sustainability Committee, information up to June 2024 has been included to provide timely updates.

5. Reporting Currency

The reporting currency in this report is the South Korean Won (KRW).

Cautionary Statement regarding Forward-looking Statements

This report contains not only information about the current or past activities and achievements of KT&G aimed at sustainable growth and social value creation, but also forecasts, prospects, and estimates about the future. Terms such as “prospect,” “expectation,” “estimate,” “anticipation,” “plan,” “goal,” “scheduled,” and similar expressions in this report denote these forward-looking statements. These are based on reasonable assumptions and expectations as of the date of this report’s preparation and involve known and unknown risks and uncertainties. Consequently, the actual outcomes of the forecasts, prospects, and estimates may differ from those originally predicted. While KT&G believes the expectations reflected in these forward-looking statements are reasonable, it cannot assure that these expectations will prove to be correct. Such statements are intended to assist stakeholders in understanding our approach, strategy, and initiatives regarding key ESG areas, and under no circumstances should this report be used as evidence of legal responsibility for investors’ outcomes.

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Contents



Previous page



Related page in this report



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KT&G Sustainability Disclosure

CLIMATE

GOVERNANCE

1. Decision-making Body

- (1) Decision-making Body and Responsibility Policy
- (2) Determining and Developing Competencies for Management/Supervision
- (3) Method and Frequency of Acquiring Information Related to Risks and Opportunities
- (4) Method of Considering Climate-related Risks and Opportunities in the Major Decision-making Process
- (5) Management/Supervision of Goal-Setting and Progress

2. Top Management

- (1) Delegation of Climate-related Management/Supervision Roles
- (2) Top Management's Use of Control and Procedure

STRATEGY

1. Climate-related Risks and Opportunities and Types

- (1) Estimating Risk and Opportunity Impact Based on Time Horizon
- (2) Time Horizon of Impact of Identified Risks and Opportunities
- (3) Connection between Strategic Decision-making Plan Periods

2. Business Model and Value Chain

- (1) Current and Anticipated Impact on the Business Models and Value Chain
- (2) Areas Where Risks and Opportunities are Concentrated

3. Strategy and Decision-making

- (1) Response to Risks and Opportunities, and Plan
- (2) Resource Procurement Plan
- (3) Quantitative and Qualitative Information on the Progress of Plans Disclosed in Past Reporting Periods

4. Financial Position and Financial Performance Impact

- (1) Carbon Pricing System's Impact on Financial Statements
- (2) Impact of Consumer Preference for Eco-friendly Low-carbon Products on Financial Statements

5. Climate Resilience

- (1) Implications of Company Assessment on Strategy and Business Model
- (2) Climate-related Scenario Analysis Method

RISK MANAGEMENT

1. Climate-related Risk and Opportunity Management Process (identify, assess, prioritize, and monitor)

- (1) Inputs and Parameters
- (2) Identification of Climate-related Risks and Opportunities
- (3) Climate-related Risk and Opportunity Assessment Method
- (4) Level of Priority of Climate-related Risks and Opportunities When Compared to Other Sustainability Risks
- (5) Monitoring of Climate-related Risks and Opportunities
- (6) Changes in the Risk Management Process

2. Integration with the Company-wide Risk Management System

METRICS AND TARGETS

1. Climate-related Metrics

- (1) Greenhouse Gas
- (2) Assets or Business Activities Vulnerable to Climate-related Transition Risks
- (3) Assets or Business Activities Vulnerable to Climate-related Physical Risks
- (4) Assets or Business Activities Aligned with Climate-related Opportunities
- (5) Capital Deployment
- (6) Internal Carbon Price
- (7) Compensation (Management)
- (8) Industry-based Metrics

2. Climate-related Targets

- (1) Information Related to Metrics Used to Set the Targets (Target Metric, Objective, Application Scope, etc.)
- (2) Method of Monitoring Progress towards the Target
- (3) Analysis of Performance against Target
- (4) Information on GHG Emissions Reduction Target

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

CLIMATE-RELATED FINANCIAL DISCLOSURE

· The reporting period of this report is based on Jan 1, 2023 to Dec 31, 2023. In case of some activities, including the status of the BOD and Sustainability Committee, information through June 2024 was reflected to provide timely information.

· In writing this report, KT&G uses judgments, estimates, and assumptions that impact the identification of sustainability-related risks and opportunities, evaluation, etc. This is based on KT&G’s reasonable assumptions, estimations, and expectations based on the report creation date, and thus accompanies known or unknown material risks and uncertainties. The actual results of predictions, forecasts, and estimates may be different from what was originally estimated in important matters. KT&G believes that the anticipations reflected in future forecast statements are reasonable but cannot guarantee that they are completely right. We ask for your understanding that this report cannot be used as evidence, etc. for legal responsibility in relation to investors’ investment results under any circumstances.

Governance

1. Decision-making Body

(1) Decision-making Body and Responsibility Policy

The Sustainability Committee¹⁾ under the BOD is a decision-making body in relation to sustainability, including climate change. It establishes execution strategies for sustainability management of KT&G and subsidiaries that are subject to consolidation and has the authority to manage/supervise approval and implementation of policies.

Before the establishment of the Sustainability Committee, the overall BOD reviewed the establishment of mid- to long-term environmental management strategies (April 2021). The Sustainability Committee under the BOD reviewed climate change scenario-based risks and opportunities in April 2023, and decided on mid- to long-term goals on responding to climate change at the Group level in August 2023. Through the Audit Committee, which consists only of independent directors, KT&G examines the status of company-wide risk management. The audit planning team, which is an independent organization under the Audit Committee, examined the status of ESG management implementation, including climate change issues, in 2022 and reported the results to the Audit Committee.

By doing so, we are striving to have ESG issues, including climate-related issues, be essentially reflected in KT&G’s establishment of strategies, governance, and overall corporate responsibility. Please refer to the “Metrics and Targets: (7) Compensation (Management)” for information on the compensation policy for top management, which is responsible for supervising climate-related risks and opportunities.

(A) Management/Supervision roles and mandates

Category	Sustainability Committee Operation Regulations	KT&G Environmental Management Policy
Scope of authority and responsibility	<p><u>Article 4 (Committee Authority)</u></p> <p>① Matters that shall be deliberated/decided by the Committee are as follows:</p> <ol style="list-style-type: none"> 1. Establish basic policies and strategies on sustainability management 2. Set mid- to long-term goals of sustainability management 	<p><u>Scope of responsibilities</u></p> <p>At KT&G, the Sustainability Committee, which is a board committee, reviews execution strategies in the environmental area and the direction of response to major issues, and manages and supervises execution outcomes.</p>

¹⁾ The name of the “ESG Committee” was changed to the “Sustainability Committee” as of December 7, 2023

(B) Management and supervision system of the BOD

To take responsible responses to climate change, KT&G established the Sustainability Committee under the BOD and strengthened its governance system. The Sustainability Committee supervises ESG and climate change-related issues and risks, reviews the company’s response strategies and policies, and monitors operational outcomes and progress. We are actually implementing climate change response strategies by operating the ESG Management Office within the Strategy Division and company-wide ESG taskforce. Each subsidiary runs an ESG Taskforce Council by company, thereby taking part in responding to climate change.



(C) Composition of the Sustainability Committee (as of April 2024)

Category	Name	Position	Director appointment date ¹⁾	Gender
Independent Director	Lee, Jee-hee	Chairperson	Mar. 30, 2022	Female
Independent Director	Shon, Dong-hwan	Member	Mar. 29, 2024	Male
Executive Director	Bang, Kyung-man	Member	Mar. 20, 2021	Male

¹⁾ Served as an executive director from the following day of the 34th annual general meeting (Mar 19, 2021) to the 37th annual general meeting (Mar 28, 2024). He was appointed as the new CEO at the 37th annual general meeting (Mar 28, 2024).

(D) Criteria for convening the Sustainability Committee

Category	Content
Operation cycle	At least twice a year (the chairperson convenes the Committee whenever necessary based on the chairperson’s authority or the working-level organization directly introduces agenda)

KT&G SUSTAINABILITY DISCLOSURE - [CLIMATE]

(2) Determining and Developing Competencies for Management/Supervision

KT&G determines that it has the appropriate competencies necessary to supervise strategies that are aimed at responding to climate-related risks and opportunities based on an understanding of environmental management and leadership as well as sufficient understanding of climate-related international community demands and laws/regulations related to energy/GHG. As a process to determine whether these criteria are met, we use the "KT&G Board Skills Matrix," which is a BOD evaluation matrix, when choosing a new director candidate. Of the eight evaluation indexes of BSM, sustainability skill is defined as "helping the company achieve sustainable growth and contributing to the management and supervision of ESG-related risks and opportunities." By reflecting this in director candidate evaluation, we are judging whether a director has appropriate sustainability management-related experience and expertise.

(A) KT&G Board Skills Matrix

Independent director Lee, Jee-hee is a consumer goods industry expert who accumulated diverse experiences at international organizations and groups related to sustainability management, including the Women Corporate Directors (2022-2023). She has been a member of the Sustainability Committee since 2022 and has been the chairperson since May 2024. Executive Director Bang, Kyung-man established the ESG Committee within the BOD at the time he served as the Chief of Strategy Division (2020-2022). By creating and operating an organization dedicated to ESG under direct control of the Chief of Strategy Division, he directed ESG management and managed and supervised risks and opportunities related to sustainability, including climate change.

Experiences & Expertise	Shon, Kwan-soo	Kim, Myung-chul	Koh, Yun-sung	Lee, Jee-hee	Kwak, Sang-wook	Shon, Dong-hwan	Bang, Kyung-man (CEO)
Senior Executive Leadership (6/7)	●	●		●	●	●	●
Manufacturing/Supply chain (1/7)	●						
Finance/Accounting (3/7)		●	●				●
Risk Management (3/7)	●	●					●
Global Business (4/7)	●	●		●			●
Sustainability (2/7)				●			●
Consumer Industries (3/7)	●			●			●
Legal Regulatory (3/7)			●		●	●	
Tenure	Mar. 30, '22 - '25 AGM	Mar. 29, '23 - '26 AGM	Mar. 29, '23 - '26 AGM	Mar. 30, '22 - '25 AGM	Mar. 29, '24 - '27 AGM	Mar. 29, '24 - '27 AGM	Mar. 29, '24 - '27 AGM
Independence (86%)	●	●	●	●	●	●	
Committee	Governance, Management, Audit	Evaluation and Compensation, Audit	Evaluation and Compensation, Audit	Governance, Sustainability	Governance, Audit	Evaluation and Compensation, Sustainability	Management, Sustainability
Gender (Female ratio: 14%)	Male	Male	Male	Female	Male	Male	Male

(B) Measures to strengthen competencies

To improve directors' management/supervision competencies KT&G provides relevant training. We determine the level at which competencies were strengthened by performing a BOD evaluation every year. Director Lee, Jee-hee, who is the chairperson of the Sustainability Committee, is taking relevant courses at Seoul National University to strengthen her competencies in responding to ESG issues, including climate change.

Date	Trainee	Content
Apr. 09, 2024 - Nov. 26, 2024	Lee, Jee-hee	Seoul National University ESG Management Executive Leadership Program

(3) Method and Frequency of Acquiring Information Related to Risks and Opportunities

The Sustainability Committee receives mainly from the ESG Management Office in the Strategy Division information that is required to manage/supervise climate-related risks and opportunities. When a Sustainability Committee meeting is held, the ESG Management Office provides reports and various materials beforehand so that committee members can sufficiently understand agenda content and make decisions. The Sustainability Committee can receive outside expert advice, if needed, with company funds.

(A) Method and frequency of reporting to the decision-making body

KT&G reports agenda on climate-related risks and opportunities to the BOD or Sustainability Committee in accordance with the Board of Directors Regulations. Matters decided on by the Committee are notified to each director within three days from the resolution date.

Target	Sustainability Committee	BOD
Main agent	Head of ESG Management Office	Chairperson of the BOD Committee
Frequency and timing	<ul style="list-style-type: none"> At least twice a year When a Sustainability Committee meeting is held, each member expresses his/her opinion and makes a resolution on discussed agenda 	<ul style="list-style-type: none"> At least twice a year Make a notice to each director rather than the Committee within three days from the Sustainability Committee resolution date
Main content	Agenda related to sustainability, including climate-related risks and opportunities	Deliberation/resolution results of agenda related to sustainability, including climate-related risks and opportunities

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(B) Major status on acquisition of relevant information during the reporting period

Date	Agenda content	Relevant information
Jan. 13, 2023	2023 ESG management implementation plan	<ul style="list-style-type: none"> Global ESG trends and outlook, including climate crisis response disclosures Disclosure of information related to reducing carbon emissions and shareholder engagement trends in relation to climate change response strategies Status of internal execution system activities in relation to climate change response, and quantitative performance of climate-related indexes 2023 climate-related goals and key execution plan
	Plan to advance climate change response disclosures	<ul style="list-style-type: none"> Global disclosure changes, such as disclosure of information related to climate change response and compliance with regulations Company's progress with responding to climate change Climate change scenario-based risk evaluation results and future direction of advancement
Aug. 03, 2023	ESG materiality assessment and establishment of mid- to long-term ESG goals of the Group (draft)	<ul style="list-style-type: none"> 2023 materiality assessment plan and results (identify material issues including climate change) Establish the Group's mid- to long-term climate change response goals (GHG reduction rate, renewable energy usage rate) Major global initiatives related to responding to climate change
	Establishment of an ESG policy (draft)	<ul style="list-style-type: none"> Major policy content related to climate change response that is in line with global standards
May 09, 2024	2024 ESG management implementation plan (draft)	<ul style="list-style-type: none"> Global ESG trends, including the climate crisis and financial impact disclosures Major performance in 2023, including progress with implementing the Group's ESG goals (including climate change response) 2024 climate-related goals and key execution plan, including advancement of net-zero strategy 2024 materiality assessment plan and results (identify material issues including climate change)

(4) Method of Considering Climate-related Risks and Opportunities in the Major Decision-making Process

(A) How climate-related risks and opportunities are considered

Monitoring of climate-related risks and opportunities of KT&G and its subsidiaries that are subject to consolidation takes place through regular holding of the Sustainability Committee. The BOD deliberates/decides on matters that accompany large-scale facility investments, etc.

(B) Major agenda that considered the climate-related risk and opportunity aspect during the reporting period

Category	Date	Approval status	Major agenda content	Considerations for climate-related risks and opportunities
BOD	Jan. 18, 2023	Approval	Approval for investment in KT&G's Kazakhstan Manufacturing Cooperation (draft)	Establish production execution systems, such as the Manufacturing Execution System (MES), and energy management system
	Mar. 16, 2023	Report	Change the budget for the new printing factory construction project	(Build an ESG infrastructure) Establish photovoltaic power generation, secure water augmentation facility, and apply an energy management system, etc. to realize the environmental management vision
Sustainability Committee	Apr. 13, 2023	Report	2023 ESG management implementation plan	Company-wide ESG management implementation plan, action plan to respond to climate disclosures and alleviate/adapt to climate change, outcome
		Report	Plan to advance climate change response disclosures	Setting of KT&G's climate change scenario, results of scenario-based risk evaluation, and future advancement task
	Aug. 03, 2023	Approval	ESG materiality assessment and establishment of mid- to long-term Group ESG goals (draft)	Establish Group-level mid- to long-term climate change response goals (GHG reduction rate, renewable energy usage rate)
		Approval	Establishment of an ESG policy (draft)	Discuss major climate change response policies that are in line with global standards
	May 09, 2024	Approval	2024 ESG management implementation plan (draft)	Company-wide ESG management implementation plan, action plan to respond to climate disclosures and alleviate/adapt to climate change, outcome



KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(5) Management/Supervision of Goal-Setting and Progress

Through the Sustainability Committee, KT&G manages and supervises the setting of goals to respond to climate-related risks and opportunities and the progress. In August 2023, the Sustainability Committee reviewed and decided on Group-level mid- to long-term goals based on Science Based Targets initiative (SBTi) guidelines. Please refer to “Metrics and Targets: [2. Climate-related Targets](#)” to find detailed information about each target. In addition, the Sustainability Committee manages progress and performance through regular monitoring of the established goals.

To clarify the top management’s responsibilities regarding climate change response, KT&G connects sustainability performance that includes climate-related response with executive director’s compensation based on KT&G’s Executive Director’s Compensation Policy. Based on the results of evaluating the top management’s performance through the Evaluation and Compensation Committee, which is a board committee, we reflect in the executive director’s bonus the level of performance compared to the pre-established goals every year.

(A) Results of managing/supervising goal-setting and progress

Category	Date	Content
Manage/supervise progress	Apr. 13, 2023	• Performance in reducing the Group’s GHG emissions in 2022 compared to 2020, status of achieving renewable energy goals, etc.
Goal-setting	Aug. 03, 2023	• Group’s climate change response goal for Year 2030 - GHG reduction rate from 2020: 42% - Renewable energy usage rate: 80% • Achieve the Group’s Scope 1, 2, and 3 net-zero by 2050 ¹⁾
Manage/supervise progress	May 09, 2024	• Performance in reducing the Group’s GHG emissions in 2023 compared to 2020, status of achieving renewable energy goals, etc.
Goal-setting	May 09, 2024	• Achieve the Group’s Scope 1, 2, and 3 net-zero by 2045

¹⁾ The target year was changed from 2050 to 2045 on May 9, 2024

(B) Compensation regulations and target

The KT&G executive director’s compensation (short-term and long-term incentives) is determined based on comprehensive evaluation results that include the outcomes of advancing ESG management and practicing ESG management. This compensation system provides strong motivation to the executive director to achieve ESG goals, which include responding to climate change. In April 2024, we raised the ESG index weight from 5% to 10% when setting short-term management goals for the executive director. In particular, an index on reducing GHG emissions to implement the Group’s low-carbon transition strategy was more directly reflected in long-term management goals, thus reorganizing the compensation system so that actual climate change response outcomes can be generated. In addition, the short-term management goals reflect major global ESG evaluation organizations’ evaluation results, including the Carbon Disclosure Project (CDP), to enhance the ability to execute climate change response that meets global standards.

Furthermore, KT&G operates a stock compensation system linked with performance for the top management, including the executive director, and executives. Some of the incentives are paid in stocks. The value of the top management’s compensation changes according to the stock price at the time of stock payment. In case of long-term incentives for the executive director, we apply a method of stock payment on the condition of restricted transfer, through which a certain settlement of a right period is assigned and a three-year deferred payment method is applied so that shareholder value and the compensation system are connected from a long-term perspective.

This approach encourages the top management, including the executive director, to more actively implement management policies that enhance the company’s mid-to long-term value by strengthening response to climate change and sustainability issues and performs the role of enhancing their commitment towards responsible management. In addition, an incentive redemption clause regarding intentional fraudulent accounting and distortion of evaluation materials is included in the Executive Director’s Compensation Policy, thereby enhancing soundness of executive director performance compensation.

Category	Content			
Compensation rule	<ul style="list-style-type: none"> • Salary: A basic annual income is determined through a BOD resolution in consideration of position and responsibilities/roles of entrusted work, etc. in accordance with the Executive Director’s Compensation Policy. It can be adjusted by a BOD resolution if such is determined as needed in accordance with management conditions and changes. • Incentives: A short-term incentive is provided every year and a long-term incentive is provided every three years based on management performance evaluation results according to the Executive Director’s Compensation Policy. <ul style="list-style-type: none"> – Short-term incentive: This incentive is paid after a BOD resolution by reflecting target evaluation results every year. By putting together quantified indexes and non-quantified indexes for major matters of the corresponding year, this incentive is paid within the base pay’s 0-280% (president) and 0-165% (executive director) range. – Long-term incentive: This incentive is paid after a BOD resolution by reflecting the results of a comprehensive evaluation on long-term management performance (3 years). By putting together quantified indexes for major management matters, this incentive is paid within the base pay’s 0-600% (president) and 0-300% (executive director) range. We operate a stock compensation system linked with performance to promote top management’s responsible management and maximize shareholder value. Of the long-term incentives of executive directors, including the CEO, stock compensation is paid as stocks with limited transfer conditions. • Benefits: Medical examination expenses, accident insurance, etc. are covered in accordance with the Executive Director’s Compensation Policy. 			
	• Executive Director (as of April 2024)			
Corresponding personnel	Name	Position	Type of compensation	Measurement standard and method
	Bang, Kyung-man	CEO (BOD, Management Committee, Sustainability Committee)	Earned income (bonus)	<ul style="list-style-type: none"> – Short-term incentive: A comprehensive evaluation is performed on quantified indexes that include revenues, operating profit, and ESG evaluation results, and non-quantified indexes that include advancement of ESG management, strengthening of key growth businesses, advancement of business foundation, and expansion of business portfolio. In particular, in the ESG management advancement items, an evaluation is carried out on execution performance in responding to climate change at the company-wide level, establishment of the Group’s mid- to long-term net-zero strategies, establishment of a response system, etc. – Long-term incentive: An objective evaluation is carried out on quantified indexes that include revenues, operating profit, ROE, ESG task results, TSR, etc. In particular, the GHG reduction rate is chosen as one of the ESG task results to assess execution of climate change management. <p>The company assigns to the top management climate change response responsibilities in short- and long-term performance indexes.</p>



KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

2. Top Management

(1) Delegation of Climate-related Management/Supervision Roles

The Sustainability Committee entrusted top management with the responsibility to manage/supervise climate-related risks and opportunities. KT&G's CEO manages/supervises execution of climate change strategies, and oversees the company's climate change-related management activities.

(A) ESG Management Council

This Council consists of C-level executives of all business divisions and supports top management's decision-making. It holds discussions to strengthen climate change response and continually communicates about issues that arise in the business execution process. Based on what was discussed at the ESG Management Council, the top management makes decisions on ESG issues from an integrated company-wide perspective.

(B) Strategy Division

The Chief of Strategy Division, who is KT&G's CSO and CFO, performs the role of reviewing and managing KT&G's ESG issues, including climate-related issues, major financial plans, investments, and budgets. By simultaneously fulfilling two important responsibilities, the Strategy Division Officer performs reviews so that ESG issues and financial issues are interconnected for discussions. The Chief of Strategy Division also receives reports on major climate-related strategies and performance from the ESG Management Office, which is the ESG management control tower, and examines the progress of executing detailed tasks.

(C) Execution organization

KT&G's top management operates the Energy Environment Department under Manufacturing HQ to support the supervision of climate-related risks and opportunities. The Energy Environment Department tallies and manages the company's climate performance based on the mid-to long-term environmental management goals. It implements activities to minimize climate impact through the establishment and implementation of detailed strategies such as switching to renewable energy, improving energy efficiency, expanding water reuse, and minimizing waste to landfills. We also designate an environmental performance officer in each organization (HQs in head office, plants, regional sales offices, etc.) to implement tasks through organic collaboration with the Energy Environment Department.

KT&G has been operating the Industrial Regulation Compliance Operating System to systematically manage environmental regulations and compliance. The system consists of a total of 23 laws across four key areas encompassing safety, material management, environment, and energy related to plant operations; monitoring and updating laws and regulations on 130 items; self-audit for regulatory compliance; and reminder of implementation at the end of the implementation cycle.

(D) Outside advisory group

The Energy Environment Working Group, which is a working-level council, uses an outside advisory group that consists of consultants, investment analysts, professors, and others to monitor climate-related risks and opportunities to support the top management's supervision of climate-related risks and opportunities. Through a climate scenario analysis, the outside advisory group reviewed factors related to transition and physical risks.

(2) Top Management's Use of Control and Procedure

KT&G examines the status of company-wide risk management through the Audit Committee, which consists of non-executive directors. The audit planning team under the Audit Committee performs independent internal audits on ESG management implementation matters. Internal audit results are reported to the Audit Committee and top management. Within a month after a notice is sent on audit results, the relevant field department submits to the audit planning team an improvement plan for matters that were pointed out after the audit. The audit planning team periodically examines if measures were executed for the matters and reports the results to the Audit Committee once a year. Selection of an internal audit topic is based on the audit planning team's own risk evaluation when an annual audit plan is established.

When risks are evaluated, we comprehensively consider opportunities, risks, regulation changes, and others. In 2022, we reviewed appropriateness of the overall ESG management system and reviewed the execution status of short- and mid- to long-term ESG-related tasks, such as response to climate change and ways to achieve mid- to long-term environmental goals. In 2023, we performed a focused review of whether efforts are being made to implement environmental management by reducing wastes in relation to achieving our environmental vision – KT&G Green Impact. Moving forward, we will make continuous efforts to examine company-wide ESG management implementation levels and the progress of mid- to long-term ESG-related tasks, and also examine roles and responsibilities that were assigned to major organizations.

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

Strategy

1. Climate-related Risks and Opportunities and Types

KT&G and its subsidiaries that are subject to consolidation referred to SASB disclosure topics in the step of identifying climate-related risks and opportunities that can be reasonably estimated to have an impact on the company’s outlook. For the business model, we referred to the disclosure topics such as “tobacco” and “processed foods” in the food and beverage category. For the value chain, we referred to such disclosure topics as “agricultural products” in the food and beverage category, and “containers packaging” in the resource transformation category, and “chemicals.”

(1) Estimating Risk and Opportunity Impact Based on Time Horizon

KT&G performed a materiality assessment on climate change risks and set priority in consideration of the possibility of occurrence and size of impact for all climate change risks. Of the total 21 climate change risks, we described eight climate change risks and three climate change opportunities that recorded a relatively high ranking by major area.

Category	Risk and opportunity categorization	Description	Short-term	Mid-term	Long-term	
Transition	Policy and legal	Carbon pricing system	The government or an international organization charges a price for carbon emissions to facilitate GHG reduction. This raises the cost of carbon emissions that arise in KT&G’s tobacco manufacturing process and raw material supply process, and can lead to an increase in production costs and weakened product price competitiveness. In addition, additional costs may arise to reduce carbon emissions in the raw material procurement and processing process for manufacturing health functional food.	Medium	High	High
	Markets	Rise in raw material costs	Due to climate change response policies and regulations, raw material supply and demand may become unstable for tobacco leaves and health functional food, which are our main raw materials, which may in turn lead to a rise in procurement costs. This can have a direct impact on KT&G’s product manufacturing costs, causing weakening of price competitiveness.	High	High	High
	Reputation	Prejudice against the business area	Negative social perception of the tobacco industry may be combined with climate change issues to have a negative impact on KT&G’s reputation.	Medium	Medium	Medium
Rise in stakeholder concerns or negative views		Insufficient measures taken to respond to climate change may decrease the sense of stakeholder trust, including investors, customers, and government officials, which can have a negative impact on KT&G’s business continuity. This can especially have an adverse impact on company evaluations and investment attraction in the global market.	Medium	Medium	Medium	
Physical	Acute	Cyclone, hurricane	Extreme weather that accompanies strong winds and heavy rainfall may cause damage to KT&G’s domestic and overseas manufacturing plants and logistics facilities, and may increase the risk of stoppage of production and supply chain. In case of tobacco products, significant damage may be caused to leaf tobacco-producing areas. Also, there may be setbacks in the supply of raw materials for health functional food.	Medium	Medium	Medium
		Heavy rainfall and flood	Localized heavy rain and flood increase the risk of business site flooding and operation stoppage as well as damage to major infrastructure. This can have an impact on KT&G’s continuous production and product supply. In particular, damage to a raw material storage facility or logistics center can trigger supply setbacks.	High	High	High
	Chronic	Temperature change	A rise in average temperatures reduces agricultural productivity of tobacco plantations and leads to changes in energy consumption patterns. This has an impact on KT&G’s raw material supply and operational costs. Changes in the yield and cultivation regions, etc. of plants and agricultural products, which are raw materials of health functional food, may lead to instability in supply and demand as well as lower quality.	Medium	Medium	High
		Water shortage	If availability of water resources goes down owing to changes in rainfall patterns and an increase in drought that are caused by climate change, this directly impacts KT&G’s production activities. In particular, restricted use of water in the raw material processing and manufacturing process may lower production efficiency.	Medium	Medium	High
Opportunities	Products and services	Consumer preference for eco-friendly, low-carbon products	New market opportunities can be seized ahead of others and corporate competitiveness can be enhanced by expanding low-carbon and eco-friendly product development and sales. By launching products that applied eco-friendly packaging and non-plastic cigarette filters, sustainability can be developed into key competitiveness. This creates the company’s growth engine by discovering new business opportunities while actively responding to a rise in consumer demand for eco-friendly products.	Medium	High	High
	Resilience	Secure key competitiveness by strengthening the ability to respond to climate change risks	Strengthened ability to respond to climate change is expected to lead to a rise in corporate value over the long term as a result of enhanced sustainability and key competitiveness of KT&G. In particular, we can expect stable business operations by establishing a sustainable raw material supply chain and overhauling a disaster response manual to respond to climate risks.	Medium	Medium	High
	Resource efficiency	Reduce operational costs by expanding low-carbon facilities and renewable energy facilities	By improving energy efficiency and increasing use of renewable energy, KT&G can reduce operational costs while fulfilling environmental responsibilities. For example, installation of photovoltaic panels can curtail energy costs and reduce GHG emissions.	Medium	Medium	Medium

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(2) Time Horizon of Impact of Identified Risks and Opportunities

KT&G defines the time horizon in which it expects climate-related risks and opportunities to arise as follows.

Time horizon	Target period	Target period based on current term
Short-term	1 year	- 2024
Mid-term	More than 1 year and no more than 5 years	2025 - 2028
Long-term	More than 5 years	2029 -

(3) Connection between Strategic Decision-making Plan Periods

KT&G’s strategic decision-making takes place through establishment of a business plan (3 years) and establishment and review of a mid- to long-term vision (5 years). This is in consideration of the major Group business portfolio’s market change cycle, new product R&D period, etc. Climate-related risks and opportunities are considered in overseas trend analysis and internal status diagnosis in the plan-establishing process.

2. Business Model and Value Chain

(1) Current and Anticipated Impact on the Business Models and Value Chain

According to the nature of the business that KT&G and its subsidiaries that are subject to consolidation engage in, KT&G categorizes its business models into the “tobacco area” that runs the business of manufacturing and selling cigarette products and the next-generation e-cigarette HNB, etc., the “health functional area” that runs the business of manufacturing and selling red ginseng and non-red ginseng health functional food, etc., the “real estate area” that runs the business of real estate development and lease, and the “other area” that runs the business of R&D, manufacturing, sales, etc. of drugs/cosmetics. Each business model’s value chain includes used and dependent interactions, resources, and relationships for KT&G to produce the company’s products or services, ranging from product planning to shipment, consumption, and end of life.

In relation to the expected strategy-1-(1) time horizon-based risk and opportunity impact, KT&G identified sustainability-related risks and opportunities in the “tobacco area” and “health and function area.” The “tobacco area” and “health functional area” business model is ① product and technology R&D, ② production and manufacturing of outputs, and ③ sales and marketing, and value chain activities are ① purchase of inputs, including raw materials/materials, in the upstream, ② distribution and transport of inputs and outputs, and ③ use and disposal of sold products in the downstream.

(A) Transition risk: Carbon pricing system

If carbon prices surge or stricter and enhanced carbon pricing regulations are implemented, it could lead to a significant risk of increased operating costs based on greenhouse gas (GHG) emissions. In addition, there may be indirect increases in carbon costs across the entire value chain, including partners, supply networks, and distribution networks. The carbon pricing system transition risk mainly impacts purchase of inputs, including raw materials/materials, and production and manufacturing from among KT&G’s business models and value chain.

Activity	Current	Anticipated
Purchase of inputs, including raw materials/materials	Farms, which are a major raw material supply chain, are not directly subject to regulations. Also, a low percentage of materials suppliers, which are mostly located in Korea, are directly subject to regulations.	Expansion of carbon emissions regulations is expected to result in the inclusion of carbon emissions costs throughout all value chain processes, including raw materials, production, and distribution, including raw material suppliers. We expect indirect carbon cost increases in the overall value chain, including partner companies, supply chain, and distribution network.
Production and manufacturing	KT&G is subject to allocation of GHG emissions allowances and is subject to the emissions trading system’s emissions regulations. As such, low-carbon facilities and renewable energy facilities continue to be expanded with a focus on KT&G.	There is a higher possibility of an increase in allowance and carbon prices as a result of each country’s strengthened GHG reduction policy on manufacturing business sites and facilitation/adoption of the carbon credit trading market. There will likely be an increase in corporate input of resources to transition to a low-carbon production system.

(B) Transition opportunity: Consumer preference for eco-friendly, low-carbon products

A change in consumer preference toward eco-friendly, low-carbon products can become a risk to KT&G product demand but can also become an opportunity to enhance the company’s reputation and increase market share by developing alternatives. We can strengthen our technological competitiveness by carrying out R&D on materials that can reduce carbon and securing patents, and generate additional profits through new product launch and licensing.

The adoption of such materials creates new business opportunities, gives concrete shape to sustainable growth strategies, and can strengthen competitiveness in the global market. In detail, we can continually launch innovative products and lead the market based on technology patents and the ability to manufacture carbon reduction products. Accordingly, increased consumer preference for eco-friendly, low-carbon products mainly impacts product and technology R&D from among KT&G’s business models and value chain.

Activity	Current	Anticipated
Product and technology R&D	We have been carrying out R&D since 2013 to develop eco-friendly materials, including non-plastic and biodegradable materials	Amid an expansion of the eco-friendly, low-carbon product market, products’ eco-friendliness is forecast to act as a factor that impacts the company’s brand image. As the importance of developing products and technologies that apply environmental factors gains more emphasis, relevant R&D costs are expected to rise.

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(C) Physical risk

Climate change is associated with changes in weather patterns and crop cultivation seasons, which can impact the production and cost of crop raw materials, such as leaf tobacco. Furthermore, it may result in reduced quality or quantity of tobacco leaves and intensified competition for resources, leading to higher costs. If these factors cumulatively lead to an unstable supply situation for raw materials, it can escalate production costs, negatively affecting KT&G’s profitability and overall financial performance. Physical risk mainly impacts purchase of inputs, including raw materials/materials, and production and manufacturing from among KT&G’s business models and value chain.

Segmentation	Current	Anticipated
Procurement of inputs, including raw materials/materials	The supply chain of major raw materials, which are tobacco leaves, ginseng, and crops, is currently stable. However, ginseng is a half-shade plant that grows well in cool weather, and its cultivation areas are steadily moving north due to climate change which may lead to relocation of farmlands and changes in yield. Accordingly, we are carrying out climate response activities, such as researching new varieties to respond to the climate disaster and developing sun shading facilities.	Temperature changes impact tobacco plant growth and can potentially lead to a decrease in yield or changes in geographical locations that are suitable for cultivation. This may cause setbacks in procuring high-quality raw materials.
Production and manufacturing	There are no cases where water accessibility led to a setback in production activities. However, as a result of water risk analysis of WRI, the Daejeon Plant and Türkiye Plant were categorized as relatively high water stress risk regions. Accordingly, we are increasing investments in the water reuse process in preparation for water stress risk and acute drought.	Water is a resource used in several processes within production facilities, such as cooling and cleaning. It is a main ingredient of some products. If water availability deteriorates, there will be setbacks in these processes, leading to a slowdown or stoppage of production.

(2) Areas Where Risks and Opportunities are Concentrated

Areas where climate-related risks and opportunities of KT&G and its subsidiaries are focused are purchase of inputs, including raw materials/materials, production and manufacturing, and product and technology R&D.

3. Strategy and Decision-making

(1) Response to Risks and Opportunities, and Plan

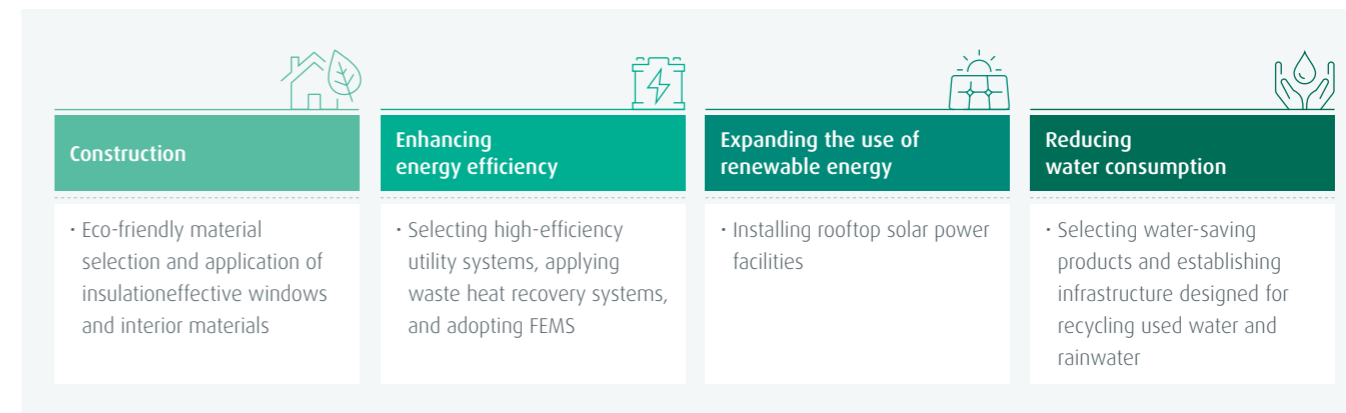
(A) Changes in resource allocation for business models

KT&G has no direct climate-related resource allocation changes for business models in 2023. We establish and execute resource allocation plans to adopt renewable energy and expand high-efficiency facilities, including the establishment of eco-friendly printing plants, to build eco-friendly facilities and processes.

Establishment of the Sejong Business Site, an eco-friendly printing factory

KT&G is building a printing factory by investing around KRW 180 billion in a 48,583m² site in the Mirae Industrial Complex located in Sejong Special Self-Governing City, and the factory is planned for completion in 2025. The newly established printing factory will produce packaging materials such as cigarette packaging and paper boxes for KT&G’s tobacco products. It will incorporate state-of-the-art logistics automation and smart printing processes to significantly enhance operational efficiency. The construction of this future-oriented factory emphasizes environmental friendliness from design and utility selection to operation. It aims to incorporate eco-friendly elements throughout all aspects, ensuring environmental sustainability. After completion, we aim to have the printing factory become the first manufacturing facility in Korea to achieve LEED¹⁾ GOLD certification.

Eco-friendly Technology Applied to Sejong Business Site



¹⁾ Leadership in Energy & Environmental Design: Green building certification program developed by the U.S. Green Building Council (USGBC). It is a globally recognized green building rating system that provides guidelines for environmentally friendly design and construction, taking into account aspects such as water efficiency, energy efficiency, and resource reuse. There are four certification levels based on the evaluation criteria.



KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(B) Direct mitigation and adaptation efforts

Category	Content	Mitigation	Adaptation	Current	Anticipated
① Product material change	<ul style="list-style-type: none"> R&D of alternative materials, including non-plastic and biodegradable materials <ul style="list-style-type: none"> Development of cigarette filters with lyocell fibers that can reduce carbon compared to cellulose acetate (CA) material Working on paper filter technology development and review in parallel 	●		●	●
	<ul style="list-style-type: none"> Establishing an “Eco-Design” process and guidelines to consider life cycle carbon footprint when developing new products based on LCA execution results 	●		●	●
② Expansion of renewable energy production and procurement	<ul style="list-style-type: none"> Installation of photovoltaic power generation facilities on the roof of manufacturing plants 	●		●	●
	<ul style="list-style-type: none"> Renewable Energy Certificate (REC) and I-REC spot purchasing 	●		●	●
	<ul style="list-style-type: none"> Power Purchase Agreement (PPA) 	●		●	●
③ Adopt high-efficiency facilities and transition to electric vehicles	<ul style="list-style-type: none"> Participate in the K-EV100 initiative and change company vehicles to electric vehicles 	●		●	●
	<ul style="list-style-type: none"> Improve energy efficiency of internal processes <ul style="list-style-type: none"> Improve steam boiler operation Apply inverter control to air compressors Make a replacement to high-efficiency utility facilities Adopt Factory Energy Management System (FEMS) Transition to energy-saving compressed air dryers 	●		●	●
	<ul style="list-style-type: none"> Reusing heat <ul style="list-style-type: none"> Directly reuse hot water generated during the cooling process of drying equipment for the equipment component cleaning plant In the boiler system, KT&G has installed air preheaters to increase the temperature of incoming air and improve boiler combustion efficiency. Utilize high-temperature condensate from the process for reusing in the hot water production process 	●		●	●
	<ul style="list-style-type: none"> Reduce use of oil-based fuel and transition to/procure renewable energy 	●		●	●
	<ul style="list-style-type: none"> Adopt LED at major plants 	●		●	●

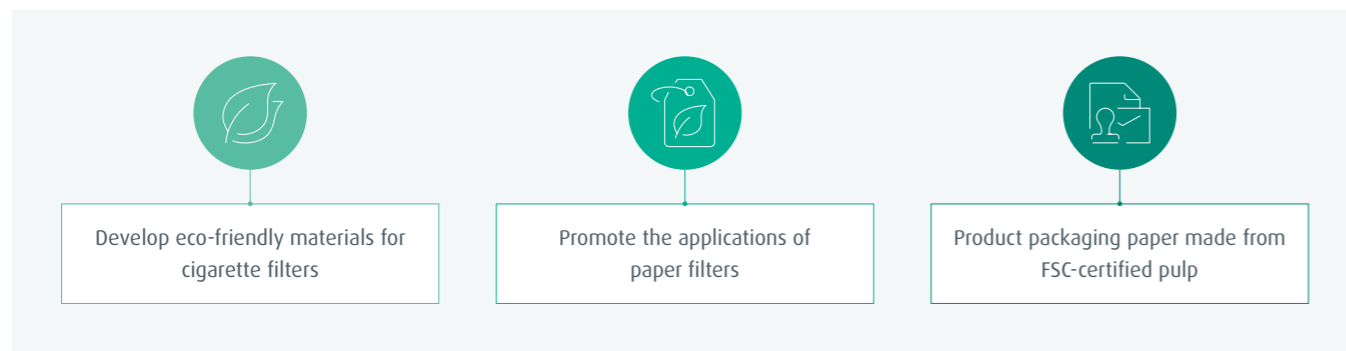
Category	Content	Mitigation	Adaptation	Current	Anticipated
④ Internal policy	<ul style="list-style-type: none"> Reflect potential carbon prices in long-term business plans and financial risk evaluations through internal carbon pricing 	●			●
	<ul style="list-style-type: none"> Implement the company-wide energy costs settlement system 	●			●
	<ul style="list-style-type: none"> Publish the “Best Practice Casebook for GHG Reduction and Water Reduction,” which summarizes the best practices for energy reduction that have been proven at domestic plants and induces voluntary benchmarking for domestic and overseas plants and the Group subsidiaries 	●	●	●	●
⑤ Personnel adjustment	<ul style="list-style-type: none"> To advance our environmental management, we promoted the Energy Environment Technology Team under the Manufacturing HQ to the Energy Environment Department and strengthened its roles 	●		●	
	<ul style="list-style-type: none"> Designate an environmental performance officer in each organization (HQs in head office, plants, regional sales offices, etc.) to implement tasks through organic collaboration with the Energy Environment Department 	●		●	
	<ul style="list-style-type: none"> Provided a total of 14 environmental training sessions through outsourcing to employees in charge of ESG at plants and head office 	●		●	
⑥ Physical risk	<ul style="list-style-type: none"> Develop and implement a disaster management standard manual, which includes guidelines for disaster recovery in the event of natural disasters like cyclones and floods 		●	●	●
	<ul style="list-style-type: none"> Regular risk assessments are conducted to identify, evaluate, and mitigate risk factors at each business site, enhancing safety and health management to prevent major disasters 		●	●	●
	<ul style="list-style-type: none"> Establish emergency response manuals tailored to specific locations and situations 		●	●	●
	<ul style="list-style-type: none"> Periodically checking drainage to prevent flood damage 		●	●	●
	<ul style="list-style-type: none"> Managing an emergency network to communicate the situation in the event of a natural disaster 		●	●	●

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

1 Product material change

Since 2013, KT&G has been conducting research and development of alternative materials such as non-plastic and biodegradable materials. Among alternative materials, lyocell tow is a material known for its excellent biodegradability after being discarded for it uses a method of converting natural pulp extracted from trees into fibers by simply dissolving it into fibers without chemical modification. Having confirmed the applicability of cigarette filters using lyocell fibers, KT&G signed an agreement with KOLON Industries in February of 2023 to jointly develop cigarette filters with eco-friendly lyocell fibers. In addition, we have secured intellectual property rights by receiving the patent grant for related technologies while continuing our research and development for realization and commercialization of products with quality similar to that of existing filters.

Develop Eco-friendly Materials and Use Eco-friendly Certified Materials



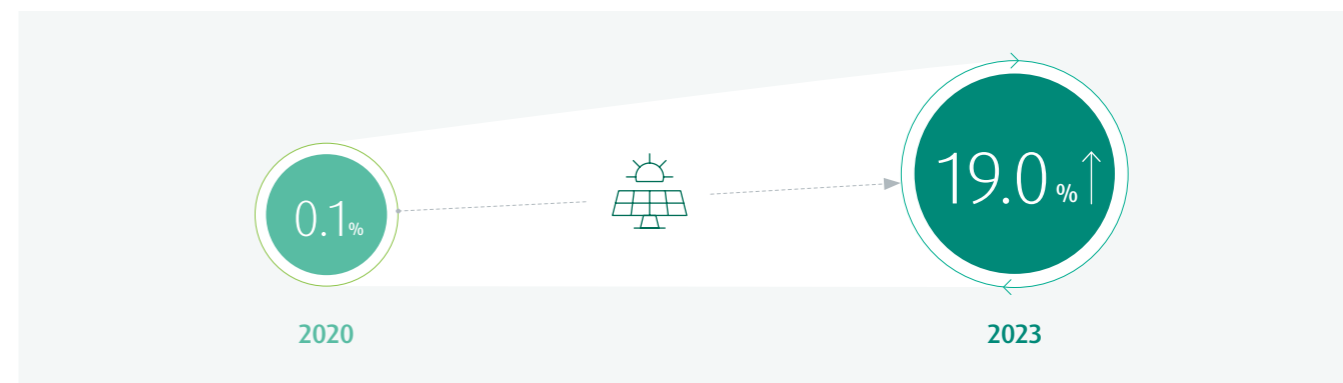
2 Expansion of renewable energy production and procurement

KT&G is striving to transition to renewable energy over the mid-to long-term to achieve its 80% renewable energy goal by 2030 and reduce GHG emissions. We are moving forward with the adoption of solar power generation facilities on the rooftops or roofs of domestic factories and SangSang Madang Nonsan. We have been operating a 3.1 MWp solar power generation system on the roof of the Gwangju Plant since June 2023. This marks the beginning of our plan to install around 26.2 MWp solar power generation systems at five domestic factories by 2026. In doing so, we aim to achieve our goal of reducing an annual 15,377 tCO₂eq tons of GHG emissions.

We are also reviewing and implementing other forms of renewable energy adoption. We purchased Renewable Energy Certificates (RECs) in consideration of continued reduction based on our mid- to long-term GHG reduction roadmap, and completed a 15,126MWh International Renewable Energy Certificate (I-REC) purchase for the Indonesia Plant and 3,018MWh I-REC purchase for the Türkiye Plant as well as a 5,350MWh Green Energy purchase for the Russia Plant in 2023. In addition, we signed a 12MWp-level (7.5% of company-wide electric power amount) power purchase agreement (PPA) to stably secure renewable energy. Supply was commenced in December 2023 and 17 business sites are using renewable electricity, including KT&G’s Seoul Office Building.

As a result of these efforts, KT&G Group’s¹⁾ renewable energy consumption rate increased from 0.1% in 2020 to 13.5% in 2023. It has grown to 19.0% in 2023 based on domestic and overseas business sites²⁾ of KT&G. In 2024, we aim to further enhance the renewable energy rate to reach approximately 20% through the introduction of PPA and other initiatives. We also plan to accelerate the adoption of renewable energy by facilitating discussions by Group subsidiary councils.

Percentage of renewable energy consumption at domestic and overseas business sites of KT&G



¹⁾ Based on all domestic business sites of KT&G and manufacturing sites of KT&G Group

²⁾ Based on all domestic business sites of KT&G and manufacturing sites of KT&G overseas subsidiaries

KT&G SUSTAINABILITY DISCLOSURE - [CLIMATE]

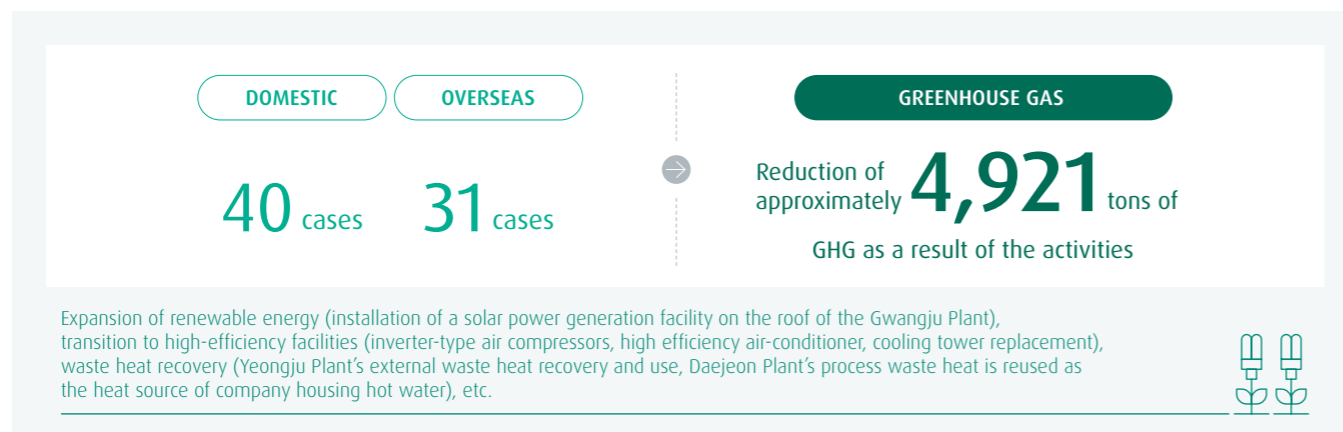
③ Change in process and facilities

In 2021, KT&G established a mid-to long-term environmental management vision, and actively manages manufacturing factory ESG tasks to reduce Scope 1 and 2 GHG emissions by 42%, reduce water withdrawal by 20%, and achieve a recycling rate of 90% compared to 2020 by 2030. To identify key tasks for achieving mid-to long-term environmental targets, the Energy Environment Department has been using internal experts every year since 2022 to conduct on-site assessments for nine plants in Korea and abroad (six in Korea, three overseas), and derives and implements improvement tasks based on assessment results.

For domestic plants, we seek to further rationalize energy use in business sites, going beyond execution of direct energy-saving tasks, such as a transition to high-efficiency facilities and waste heat recovery. To efficiently manage and optimize energy use, we adopted the Factory Energy Management System (FEMS) at the Daejeon Plant in 2023, and plan to actively expand FEMS application at domestic and overseas plants in 2024 based on Daejeon Factory operations. In addition, we will maximize use of renewable energy by building solar power generation facilities by using unused sites, such as factory roofs. As a result of these efforts, Yeongju Plant received the Minister of Trade, Industry and Energy Commendation at the Climate Change Response and Greenhouse Gas Reduction Excellence Awards that was held in November 2023, in recognition of reducing GHG emissions by making continued facility investments and manufacturing process improvements since 2020. The Cheonan Plant received the Minister of Trade, Industry and Energy Commendation at the 10th Korea Energy Engineer Award that was held in March 2024, gaining recognition for its efforts to enhance energy usage efficiency and prevent safety accidents.

The results of an assessment of overseas plants showed that the management levels varied depending on the country's environmental regulations, utility status, and operational methods at each plant. In addition, environmental issues such as water resource management and ease of renewable energy supply differed based on the location of the plants. To enhance the ESG management level of overseas plants, we are prioritizing the establishment of measurement infrastructure by installing meters on major energy and water-consuming equipment and/or locations, such as air conditioners and dryers, based on which we strive to strengthen our analysis-based reduction activities. Moreover, we are implementing a total of 87 key tasks related to GHG, water, and waste for each plant (39 tasks in 2023 and 48 tasks in 2024). To reinforce management capabilities for overseas plants, the company plans to continue implementing ESG KPI goal management, sharing case studies of greenhouse gas/water usage reduction at domestic plants, and promoting energy environment guideline revisions.

Performance of Key Improvement Tasks in 2023



Strengthening management of overseas plants

To advance ESG management of overseas plants, KT&G establishes 3 major KPI (GHG emissions intensity, water withdrawal intensity, and waste recycling rate) targets per factory every year and holds a monthly ESG video conference to review performance and discuss issues. In addition, non-metric targets are assigned, such as increase in renewable energy ratio and acquisition of global ESG certifications, to reflect ESG performance-based incentives.

We created the Energy Environment Guideline, a work manual for overseas plants, in the first half of 2024 and provided it to the Indonesia and Türkiye Plants, and established support facility operation standards and the water leak/air leak inspection system. As a result of strengthening overseas plants' ESG management, we made the achievement of reducing GHG emissions (29.5%¹⁾) despite increased production in 2023 compared to the previous year.

Transition of business fleets to electric vehicles

KT&G participates in the K-EV100 initiative organized by the Ministry of Environment in 2021, actively promoting the transition of its business fleets to electric vehicles (EVs). We aim to achieve our mid- to long-term GHG reduction target by converting 100% of our business fleets to EVs by 2030. (GHG emissions from business fleets are included in Scope 1 and 2 emissions.)

Starting with the introduction of six EVs at the Yeongdeungpo Integrated Logistics Center in 2021, we converted approximately 5.8% of KT&G's vehicles to EVs as of the end of 2023. Once the release of various EV models is in full swing, we plan to accelerate the transition to EVs and implement it more vigorously.

Status of Electric Vehicle Adoption

Category	Unit	2022	2023
Electric Vehicles	Vehicle	19	63
Proportion of Electric Vehicles	%	1.7	5.8

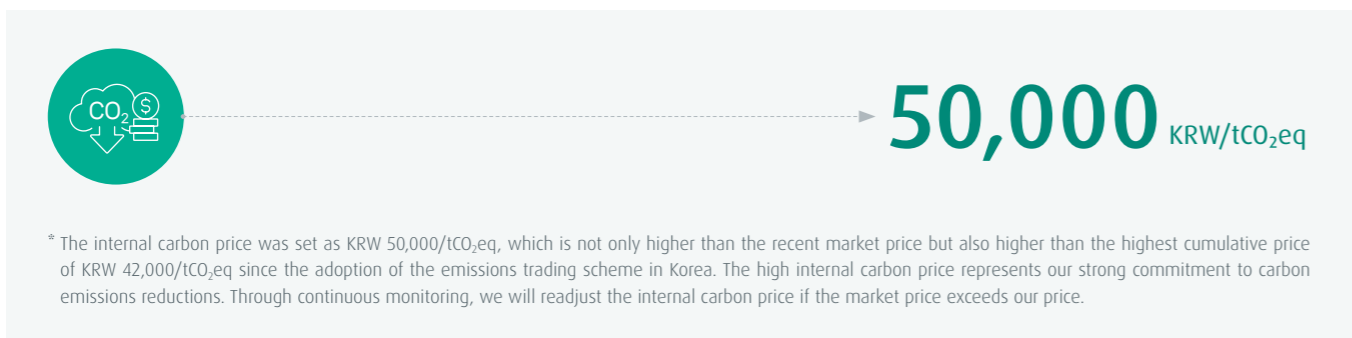
¹⁾ Based on Scope 1 and 2 emissions of KT&G's overseas manufacturing sites

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

4 Internal policy (Operation of internal carbon pricing)

In order to respond to climate change proactively, KT&G introduced guidelines for economic analysis of new investments in 2022 and implemented an internal carbon pricing system as a way to encourage decision-making that considers potential carbon costs. Currently, the internal carbon pricing system is used to assess the payback period in manufacturing facilities where greenhouse gas emissions are high and most reduction activities take place. As a result, the GHG reduction from energy saving improvements increased in 2022 compared to 2021. In 2023, we are accelerating GHG emissions reduction by expanding the scope of the internal carbon pricing system to include overseas factories where securing economic feasibility for investments has been relatively challenging due to lower energy costs.

KT&G’s internal carbon pricing in 2023



(C) Indirect mitigation and adaptation efforts

Category	Content	Mitigation	Adaptation	Current	Anticipated
Cooperation with outside organizations	• Participates in the Sustainable Tobacco Program (STP), an evaluation platform to assess and survey the social/environmental impact of the leaf tobacco supply chain jointly with major global tobacco manufacturers	●	●	●	●
	• Supplying fuel reduction devices for driers to farms to improve energy efficiency during leaf tobacco drying – Supplied 84 devices in 2022 and 100 devices in 2023	●		●	
Supply chain support	• Build Green Impact Alliance with significant materials partner companies – Establish joint GHG targets with significant materials partner companies – Provide training support in relation to responding to climate change by holding a regular ESG workshop and consulting to build a GHG reduction foundation * 2023 target: 16 partner companies (approximately 85-90% of the annual purchase volume) – Other training and consulting on ISO certification, etc.	●		●	●
	• Provide programs that facilitate carbon emissions reduction among logistics partner companies – Provide our company’s products to drivers who have eco-friendly driving habits (ECO mileage: participated in by a total 64 vehicles of five partner companies) – Provide support to replace old vehicles (ECO Change: Partner companies with which we have a trade history of 7 years or more, supported replacement of 4 vehicles in 2022)	●		●	●
	• Diagnosis of large energy-consuming utility-specializing companies and establishment of improvement plans	●	●	●	●

(D) Climate-related transition plan

KT&G set targets that are connected to the Paris Agreement, which aims to limit the global temperature rise to below 2°C compared to pre-industrial levels, and established mid- to long-term reduction targets in accordance with the Science Based Targets Initiative (SBTi) guidelines to strengthen responsibility over GHG emissions that is in line with global standards. We aim to receive SBTi certification. In 2022, we raised our reduction targets for 2023 from SBTi’s well-below 2°C (Scope 1+2) and 2°C (Scope 3) scenarios to 1.5°C (Scope 1+2) and well-below 2°C (Scope 3) scenarios. In May 2024, we advanced our 2050 net-zero target to 2045 to take a leading role in global climate change and achieve sustainable growth. Ultimately, KT&G seeks to realize net zero across the entire business value chain by 2045.

In particular, we support the global campaign RE100 (Renewable Electricity 100%), which aims to cover 100% of electricity usage with renewable energy. To systematically implement RE100, we have set a target to achieve over 80% renewable energy usage of our total electricity consumption by 2030."

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

In addition, we are continuously advancing Scope 3 emissions measurements in accordance with SBTi recommendations for objective verification of the mid- to long-term GHG reduction targets. We identified that Scope 3 emissions from KT&G’s upstream and downstream account for more than around 73% of the overall value chain as of the end of 2023. In collaboration with leaf tobacco farms, we are striving to improve energy efficiency in the leaf tobacco drying process. By helping materials partner companies reduce GHG emissions, we aim to reduce Scope 3 emissions by 25%¹⁾ compared to 2022 by 2030.

MAJOR TRANSITION PLAN

1. Establish SBTi-based GHG reduction targets

- 2030 emissions target
 - Scope 1+2 emissions: 42% reduction compared to 2020
 - Scope 3 emissions: 25%¹⁾ reduction compared to 2020
- Aiming to achieve net zero of Scope 1+2+3 emissions by 2045

2. Setting renewable energy procurement targets that exceed RE100 guidelines

- 2030 renewable energy procurement target: 80%
- Diversify renewable energy procurement
 - Expand internal photovoltaic power generation facilities
 - Long-term, stable renewable energy procurement by using PPA
 - Strategic adoption of i-REC in connection with overseas business site management plans

3 Raise energy consumption efficiency and improve energy efficiency of internal processes

- Diagnose efficiency of considerable energy-consuming facilities and processes and make improvements
- Improving steam boiler operation, applying an inverter control to air compressors, replacing with high-efficiency utility facilities, introducing FEMS, etc.

4. Refinement of value chain GHG emissions inventory and support for reduction

- Establish reduction partnerships with partner companies in the value chain
- Reduce energy consumption by restoring and reusing the heat generated from drying leaf tobacco

5. Convert business fleet to electric vehicles

- Convert all business fleets to EVs by participating in the K-EV100 (the project of supporting Korean Zero Emission Vehicle) project and expand the charging infrastructure

MAJOR ASSUMPTIONS

1. Assumed conditions for calculating estimated GHG emissions: Product manufacturing and business site operations are expected to be based on the mid- to long-term production plans of KT&G and the Group subsidiaries
2. Outlook on carbon credit price: Price based on IEA 2022 GECC Model STEPS
3. Inflation rate by country and annual electricity price increase rate
4. Execution of external renewable energy procurement, including PPA and i-REC

DEPENDENT FACTORS

1. Availability of material and human resources to implement the transition plan
2. Domestic and overseas economic conditions that can impact the financial validity of the assumed conditions, including the inflation rate and electricity price increase rate
3. Regulations on emissions trading that may impact a rise in carbon credits
4. Installation of photovoltaic facilities at the Group subsidiaries and PPA contract conditions

¹⁾ Targets: Category 1, 3, 11

(E) Plan on achieving climate-related targets (including GHG emissions target)

1. GHG emissions target

KT&G Group set a goal of reducing Scope 1+2 emissions by 42% (compared to 2020) and reducing Scope 3 emissions by 25%¹⁾ (compared to 2022) by 2030. We plan to realize net zero across the entire business value chain by 2045.

2. Major reduction measures and implementation plan

Category	Achievement plan
Expand internal solar power generation facilities	• Operate photovoltaic facilities at major business sites starting in 2023 and achieve 21% of the reduction portfolio by 2030
Switch to high-efficiency facilities	• Diagnose and improve efficiency of considerable energy-consuming facilities and processes and achieve cumulative reduction of 145,000 tCO ₂ eq by 2030
PPA and i-REC purchasing	• Adopt PPA: Aiming at cumulative emissions reduction of around 157.3 thousand tCO ₂ eq by 2030 by expanding renewable energy procurement by actively using PPA starting in 2023 • i-REC purchasing: Target overseas business sites since it is easy to procure external renewable energy credits
Reduction activities in the supply chain	• Cooperation with farms: Collaborate with leaf tobacco farms to improve energy efficiency in the leaf tobacco drying process • Support partner companies: Establish support measures and build a cooperation system to help materials partner companies reduce GHG emissions

(2) Resource Procurement Plan

KT&G issued green bonds worth KRW 100 billion in April 2024 and the funds that were raised will be invested in such projects as renewable energy (photovoltaic facility) and eco-friendly building construction projects. In addition, we adopted internal carbon pricing to promote decision-making that considers potential carbon costs when making investment decisions and to use it as guidelines for facilitating investment activities for climate change response, leading to the effect of reducing the payback period of climate change response activities that is internally estimated when conducting economic analysis of investments. In addition, we analyzed economic feasibility of each reduction measure and considered the timing of adoption to establish a reduction plan per year. By analyzing the marginal abatement cost curve (MACC) we first adopt cost-effective reduction measures and consecutively apply measures with high reduction potential over the mid- to long term. Furthermore, we additionally hired relevant personnel (4 people) after 2023 to operate a professional climate change organization, and plan to assign them to relevant departments to handle such tasks as establishing GHG reduction plans and reducing and monitoring GHG emissions.

(3) Quantitative and Qualitative Information on the Progress of Plans Disclosed in Past Reporting Periods

Please refer to the “Metrics and Targets: [\(3\) Analysis of Performance Against Target](#)”

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

4. Financial Position and Financial Performance Impact

- KT&G internally defined as follows climate-related activities that can have an important impact on financial position and financial performance, and analyzed financial impact pathways for each activity.
- As of the reporting date, KT&G is advancing the Group-level climate-related financial impact calculation system, including detailed establishment of climate change response activities and appropriateness of the classification system of each strategic task (definition of “high-efficiency facilities,” etc.). We will further enhance data integrity and accuracy and disclose quantitative information.

(1) Carbon Pricing System’s Impact on Financial Statements

(A) Purchase and Use of RECs and Carbon Credits

KT&G is a company subject to the Korea Emissions Trading Scheme (K-ETS), a GHG emissions trading system in Korea. As a participant in this scheme, KT&G is required to annually calculate its greenhouse gas emissions. Companies operating within the emissions trading scheme receive a portion of emission allowances without charge. Should they surpass their assigned emission quotas, they must purchase extra emission allowances in the trade market. KT&G purchases Renewable Energy Certificates (RECs) and emission allowances to fulfill its obligations toward emissions that surpass the allowances allocated for the corresponding year. Relevant expenditures are reflected in cost of sales and sales, general and administrative expenses as utilities expenses in the income statement. In addition, we recognize GHG liabilities provisions by reasonably estimating purchase costs for the estimated amount of allowances purchase that surpasses the free allocated amount for the year in relation to GHG emissions. In the event of an increase in allowances-related costs as a result of a rise in allowance prices and charged allowance allocation rate, this may be reflected as an increase in liabilities in future statement of financial position, a rise in the cost of sales and costs in the income statement, and cash outflow from operating activities in the statement of cash flow.

(B) Investment in Low-carbon, High-efficiency Facilities

KT&G is increasing investments in GHG emission reduction facilities as a strategy to respond to transition risks that result from climate change. To transition to a low-carbon system, we are making process improvements, such as replacing facilities and adopting new facilities to raise energy efficiency including air conditioning equipment and ventilation systems. Relevant expenditures are reflected as acquisition of tangible assets or repair and maintenance expenses, etc. depending on the expenditure characteristic. In case of acquisition of tangible assets, it is reflected in financial information as an increase in tangible assets and a decrease in assets, such as cash and cash equivalents, or an increase in liabilities, such as accounts payable, in the statement of financial position. The acquired tangible assets are reflected in the cost of sales and sales, general and administrative expenses as depreciation costs until depreciation is complete according to durable years. Repair and maintenance expenses, etc. are reflected as a decrease in assets, such as cash and cash equivalents, or a rise in liabilities, such as accounts payable, in the statement of financial position, and a rise in cost of sales and sales, general and administrative expenses in the income statement. Reduced energy costs from energy efficiency improvements, etc. may impact cost of sales reduction and operating profit improvements, etc. in the income statement.

(C) Investment in Renewable Energy Facilities

KT&G is increasing investments in renewable energy facilities as a strategy to respond to transition risks stemming from climate change. KT&G is expanding photovoltaic facilities to transition to a low-carbon system, and relevant expenditures are reflected as acquisition of tangible assets, etc. KT&G installed photovoltaic facilities at the KT&G Gwangju Plant, KGC Buyeo Plant, etc. in the current term, and recognized this as tangible assets in the statement of financial position. In case of acquisition of tangible assets, it is reflected as an increase in tangible assets and a decrease in assets, such as cash and cash equivalents, or an increase in liabilities, such as accounts payable, in the statement of financial position. The acquired tangible assets are reflected in the cost of sales and sales, general and administrative expenses as depreciation costs in the income statement until depreciation is complete. Reduced energy costs from increased adoption of renewable energy may impact cost of sales reduction and operating profit improvements, etc. in the income statement.

(D) Introduction of low-carbon transportation and infrastructure

KT&G is transitioning its business fleets to EVs and expanding EV charging facilities as a strategy to respond to transition risks stemming from climate change. Acquisition of charging facilities may be reflected as an increase in tangible assets and a decrease in assets, such as cash and cash equivalents, or an increase in liabilities, such as accounts payable, in the statement of financial position. The acquired tangible assets are reflected in the cost of sales and sales, general and administrative expenses as depreciation costs in the income statement until depreciation is complete. EV lease is reflected as an increase in right-of-use assets and an increase in lease liabilities in the statement of financial position, and reflected as the cost of sales and depreciation costs in the income statement across the usage period of the relevant right-of-use assets. There is also cash outflow and a decrease in lease liabilities according to the contract. There are also costs that are generated such as insurance premium. EV lease replaces the previous internal combustion engine vehicle lease. Depending on the difference in lease costs, this may be reflected as an increase or decrease in assets and costs in the financial statements.

(2) Impact of Consumer Preference for Eco-friendly Low-carbon Products on Financial Statements

(A) R&D of new materials capable of reducing carbon emissions

KT&G views changes in consumer preference toward eco-friendly, low-carbon products as an opportunity and carries out R&D for development of eco-friendly materials, such as non-plastic and biodegradable materials. We acquired tangible assets, such as eco-friendly material R&D facilities, in the R&D process, and relevant R&D costs are reflected as costs of the current term. Eco-friendliness certification and legal costs, etc. also arose, which are reflected in sales, general and administrative expenses as general fees in the income statement.

In case of reflection as acquisition of tangible assets, it can result in an increase in tangible assets and a decrease in assets, such as cash and cash equivalents, or an increase in liabilities, such as accounts payable, in the statement of financial position. The acquired tangible assets lead to cost of sales and sales, general and administrative expenses as depreciation costs in the income statement every term until depreciation is complete.

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

5. Climate Resilience

(1) Implications of Company Assessment on Strategy and Business Model

KT&G performed a scenario analysis by reflecting valid scenario context, including physical climate environment change, policy change, socio-economic change, and market and technology change, based on open, usable climate change scenarios presented by the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA).

(A) Implications of company assessment on strategy and business model

Category	Transition risk	Physical risk																																						
Impact evaluation based on scenario analysis	<ul style="list-style-type: none"> In the 1.5°C scenario, where low-carbon transition policies are considerably implemented, there is a higher possibility of increase in the price of carbon, new regulations related to greenhouse gas emissions, and risks associated with market and reputation. In particular, under the 2.0°C scenario, risk related to increased raw material costs is observed to be high in some areas. While technology and litigation-related risks are relatively low in terms of likelihood, they have the potential to have a certain level of impact if they occur. 	<ul style="list-style-type: none"> KT&G assessed the physical risks of climate change by evaluating acute risks such as cyclones, hurricanes, heavy rainfall, and wildfires, as well as chronic risks such as change in precipitation patterns, temperature variations, and rising sea levels. Unlike transition risks, the physical risks were found to be more significant in the 2.0°C or higher scenarios, and the timing of these impacts was observed to be earlier compared to the 1.5°C scenario. Under the more extreme 4.0°C scenario, the physical risks increased dramatically, posing higher probabilities and larger impacts on operations, supply chains, and business continuity. Although the physical risks decreased in the 1.5°C scenario compared to the more severe warming scenarios, they were still observed to have notable effects. 																																						
Scope of analysis	<ul style="list-style-type: none"> KT&G and Group subsidiaries (KGC, Yungjin Pharm, Tae-A Industrial, COSMOCOS, KGCYebon) 	<ul style="list-style-type: none"> 19 major business sites in Korea and abroad of KT&G and the Group subsidiaries 																																						
Financial impact	<ul style="list-style-type: none"> Financial impact of the carbon pricing system in consideration of climate-related targets and capabilities <p style="text-align: right;">(Cumulative per period, Unit: KRW billion)*</p> <table border="1"> <thead> <tr> <th rowspan="2">Scenario</th> <th colspan="3">Time horizon</th> </tr> <tr> <th>Short ('-25)</th> <th>Mid ('26-'28)</th> <th>Long ('29-'30)</th> </tr> </thead> <tbody> <tr> <td>NZE</td> <td>Less than 20 billion</td> <td>Less than 30 billion</td> <td>Less than 40 billion</td> </tr> <tr> <td>APS</td> <td>Less than 20 billion</td> <td>Less than 30 billion</td> <td>Less than 40 billion</td> </tr> <tr> <td>STEPS</td> <td>Less than 20 billion</td> <td>Less than 30 billion</td> <td>Less than 40 billion</td> </tr> </tbody> </table>	Scenario	Time horizon			Short ('-25)	Mid ('26-'28)	Long ('29-'30)	NZE	Less than 20 billion	Less than 30 billion	Less than 40 billion	APS	Less than 20 billion	Less than 30 billion	Less than 40 billion	STEPS	Less than 20 billion	Less than 30 billion	Less than 40 billion	<ul style="list-style-type: none"> Financial impact of physical risk <p style="text-align: right;">(Modelled Average Annual Loss (%))**</p> <table border="1"> <thead> <tr> <th rowspan="2">Scenario</th> <th colspan="3">Time horizon</th> </tr> <tr> <th>2020s</th> <th>2030s</th> <th>2040s</th> </tr> </thead> <tbody> <tr> <td>SSP1-2.6</td> <td>1.3</td> <td>1.8</td> <td>2.2</td> </tr> <tr> <td>SSP2-4.5</td> <td>1.2</td> <td>1.8</td> <td>2.1</td> </tr> <tr> <td>SSP5-8.5</td> <td>1.3</td> <td>2.0</td> <td>2.7</td> </tr> </tbody> </table>	Scenario	Time horizon			2020s	2030s	2040s	SSP1-2.6	1.3	1.8	2.2	SSP2-4.5	1.2	1.8	2.1	SSP5-8.5	1.3	2.0	2.7
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Implications of company assessment for its strategy and business model	<ol style="list-style-type: none"> 1. Responding to carbon costs and regulations <ul style="list-style-type: none"> Carbon cost management: As policies become stronger for the transition to low carbon, there is a need for a strategy that prepares for increased costs, resulting from carbon price increases and strengthening of relevant regulations. The company should curtail costs through efficient carbon management strategy and achieve carbon emission reduction targets. Respond to regulation change: There is a need to establish a system that enables prompt responses to new regulations related to GHG emissions. To this end, there is a need for continued monitoring of policy changes and the establishment of a response plan. 2. Market and reputation management <ul style="list-style-type: none"> Reputation risk: Insufficient responses to climate change may lead to loss of market and consumer trust. As such, the company must transparently disclose sustainability-related activities and carry out active climate change response activities to maintain a positive corporate image. Respond to market change: There is a high possibility that the market environment will change as the transition to a low-carbon economy gains speed. The company must establish a business model that can flexibly respond to this change. 3. Raw material cost management <ul style="list-style-type: none"> Raw material cost fluctuation: There is a need to strengthen supply chain management strategy in preparation for raw material cost increases with the transition to low carbon. There is a need to establish strategies that can respond to cost increases by diversifying raw materials and establishing efficient usage measures. 	<ol style="list-style-type: none"> 1. Disaster response and recovery plan: <ul style="list-style-type: none"> Disaster response: There is a need for a prompt response and recovery plan in preparation for acute disasters such as cyclone and flood caused by climate change. There is a need to secure employee and business site safety through alternative production plans, emergency response training, etc. Emergency response system: There is a need to establish an emergency response system that enables prompt responses in the event of a disaster and to strengthen preparedness through regular training and simulations. 2. Facility and infrastructure investment: <ul style="list-style-type: none"> Flood prevention facilities: To protect production facilities from heavy rain and floods, there is a need to invest in infrastructure, such as the installation of flood prevention facilities and berms and enhancement of drainage systems. Physical risk must be minimized through these investments. Reinforce facilities: There is a need to strengthen the infrastructure of major business sites to reduce physical risk and reinforce facilities that can minimize damage in the event of a disaster. 3. Continuous monitoring and prevention: <ul style="list-style-type: none"> Climate change monitoring: There is a need to identify and respond to potential risks in advance through continued, periodic monitoring of progressive physical risks such as temperature change and water resource stress. Preventive measures: There is a need to establish preemptive measures to prevent physical risks and continually develop measures that can minimize impact from climate change. 																																						

* KT&G understands the uncertainties caused by various variables that impact carbon prices and measured the carbon pricing system's financial impact by applying the global carbon price per scenario that is provided by the IEA to control broad assumptions. This is an estimated value that is based on scenario analysis and may be different from the actual price.

** KT&G estimated financial impact of climate change by using S&P's Climamomics® analysis tool. S&P's Climamomics® calculates the sum of estimated financial loss that may arise from climate change through Modelled Average Annual Loss (MAAL) which is indicated in a relative percentage of asset value.



KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(A) Implications of corporate evaluation on strategy and business model

Category	Transition risk	Physical risk
Company's response	Policy and regulation <ul style="list-style-type: none"> KT&G is designated as a company subject to the emissions trading scheme and is obligated to implement policy responses in connection to the national carbon neutrality roadmap policy. Investments are being made in such areas as improving energy efficiency and increasing renewable energy use in preparation for potential financial risk increases as a result of a rise in allowance prices stemming from reduced allowances. Discussions are being held on GHG reduction through cooperation with partner companies in the supply chain. 	Heavy rain <ul style="list-style-type: none"> Invest in the installation of flood prevention facilities and berms and enhancement of drainage systems to protect production facilities in the event of heavy rain and flooding near business sites. Secure employee safety and business sites' operational continuity through an emergency measure plan that includes a prompt evacuation plan in the event of a disaster, alternative production plan, and emergency response training.
	Markets <ul style="list-style-type: none"> Expand sustainable management practices, such as improving facility efficiency during procurement, reducing carbon footprint, and improving water efficiency, through close cooperation with farms and suppliers Establish a cooperation system with significant materials partner companies and participate in and use the Sustainable Tobacco Program (STP), which is a tobacco industry initiative 	Temperature change <ul style="list-style-type: none"> Perform continued, periodic monitoring of business sites' energy usage patterns, etc. resulting from temperature changes and changes in water resource stress levels of major business sites.
	Energy source <ul style="list-style-type: none"> Expand renewable energy procurement through various methods, including expanding photovoltaic power generation facilities in business sites, signing PPAs, and purchasing REC. 	Water shortage <ul style="list-style-type: none"> To preemptively respond to water shortage issues, secure sustainability from a mid- to long-term perspective by participating in major initiatives that promote a virtuous cycle of sustainable practices, continued monitoring, and improvement activities.
Evaluate climate resilience	If KT&G and its consolidated entities implement mitigation measures according to SBTi guidelines and achieve net zero by 2045, financial impact related to the carbon pricing system, which is a transition risk, is expected to significantly alleviate. In particular, KT&G and consolidated companies are judged to have flexible climate resilience, such as reduced electricity costs and decreased allowance purchase costs, through economic feasibility analysis per renewable energy procurement option to adapt to climate-related changes, developments, or uncertainties and execution of transition to renewable energy using diverse means of implementation.	

1) Financial impact of the carbon pricing system (details)

KT&G chose risks caused by the carbon pricing system in consideration of calculability of financial impact and materiality of climate change risks from among various transition risks stemming from climate change, and estimated relevant financial impact. Results of evaluating risks through a climate change scenario analysis indicate that risk levels from the carbon pricing system are the highest in 2030 in the 1.5°C scenario (IEA NZE 2050) and that they alleviate by a certain level according to emissions reduction from long-term perspective by 2050. In addition, risks from the carbon pricing system are shown to have the highest risk level from among the chosen 13 transition risks.

Emissions trading prices indicate a high fluctuation rate in Korea, signifying high price uncertainty. Due to the national carbon neutrality roadmap and carbon neutrality policy stance, the total emissions allowances are being reduced, which in turn will increase carbon credits, thereby expanding potential financial risks. In particular, in the IEA NZE 2050 scenario that assumes significant transition risks, carbon prices are forecast to be set at around USD 140 in 2030, reflecting the possibility of further expansion of financial impact from carbon prices.

The tobacco industry uses energy in the manufacturing and distribution process. In particular, carbon prices from considerable energy consumption in the logistics and shipping processes owing to a global supply chain may transfer to the unit cost of shipping. The carbon pricing system may increase such potential and indirect operational costs, thus bringing about financial risks.

With an understanding of uncertainties caused by various variables that impact carbon prices and to control extensive assumptions, KT&G conducted calculations based on global carbon prices presented by scenarios as well as its GHG reduction target emissions.

2) Financial impact of physical risk (details)

For a more accurate and detailed evaluation of physical risk's financial impact, KT&G used S&P's Climanomics® analysis tool. For this analysis, we evaluated the potential impact of physical risk for each facility based on KT&G's major production facilities' and supply chain's location information, according to diverse climate change scenarios. In case of physical risk, we performed a 10-year unit scenario analysis through the 2040s in consideration of the characteristics of long-term climate data that is forecast based on a 10-year unit, which is the basis of climate modeling.

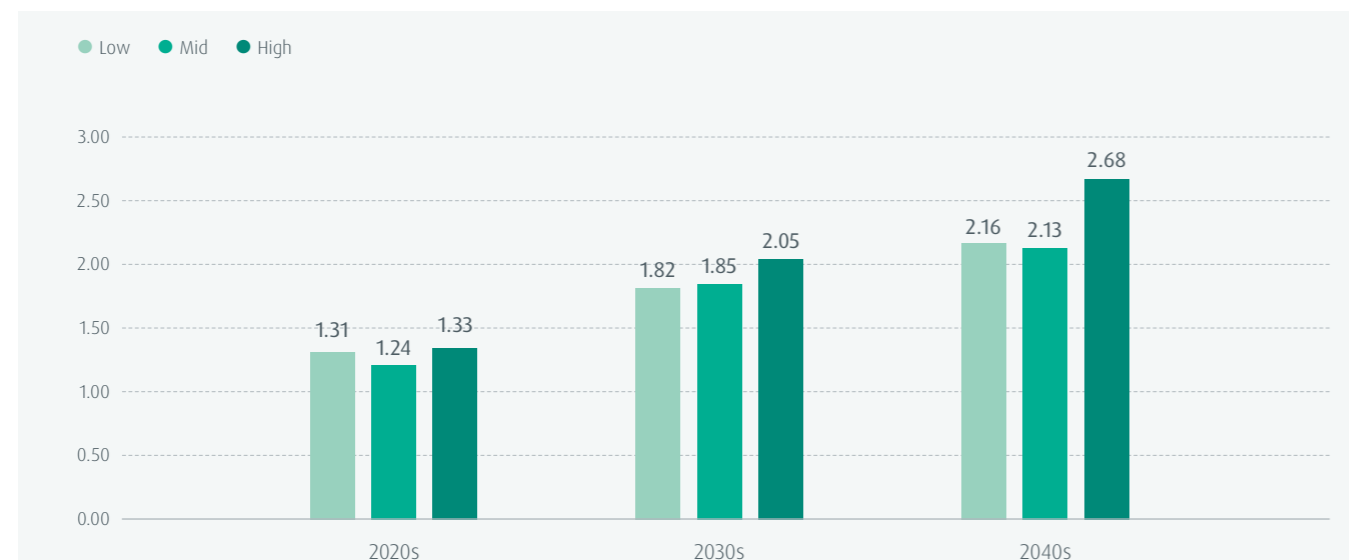
S&P's Climanomics® estimates financial losses from climate change through MAAL. MAAL is an index that covers diverse financial losses, such as an increase in operation costs, expansion of capital expenditures, and reduction in profits, that are expected to arise during a designated period. The physical risk that was subject to analysis consisted of 8 items, including cyclone, flood, temperature change, and wildfire.

We analyzed physical risk's financial impact for three climate change scenarios (SSP1-2.6, SSP2-4.5, SSP5-8.5) from the 2020s to 2040s (2020-2049). Analysis results show that KT&G's ratio of annual average loss against asset value will increase from 1.3% in the 2020s to 2.2% in the 2040s in the SSP1-2.6 scenario. In contrast, in the most negative climate change scenario, which is SSP5-8.5, the loss ratio is shown to increase from 1.3% in the 2020s to 2.7% in the 2040s. This implies that as the severity of climate change grows, the level of physical risks that KT&G faces may also increase.

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

From among physical risks, the extreme temperature risk was confirmed as a major risk factor that can have the greatest impact on KT&G’s financial loss across all scenarios and periods. In addition, flood that is caused by heavy rainfall and water resource shortage risks were confirmed as risk factors that have a mid-level impact.

Modelled Average Annual Loss due to Physical Risks by Scenario (%)



- The MAAL ratio indicates an upward trend in all scenarios as time passes.
- The low GHG emissions scenario and the mid GHG emissions scenario do not show a big difference in the time horizon of the analysis. At some points in time, the low emission scenario is observed to be slightly larger but this is interpreted as an impact from the reflection of general climate scenario characteristics and uncertainty.
- This relative book value-based asset loss was calculated using the S&P Climanomics® analysis tool and may be different from the actual impact on asset value.

(B) Areas of Significant Uncertainty Considered in the Assessment of Climate Resilience

Category	Definition	Uncertainty
Carbon cost	• Future carbon price announced by the IEA scenario	• Each country’s carbon-related price volatility
Electric charge	• Industrial electric charge	• Possibility of an increase in electric charge
Charged allocation ratio	• National allowance allocation plan for plan period	• Possibility of a decrease in the free allocation ratio
Price of energy sources	• Price of electricity for industrial use, LPG, LNG, etc.	• Price volatility of major energy sources attributable to increased practicality of electric charges and emergence of disputes and wars caused by global geopolitical risks
Climate model	• IPCC’s climate change forecast model	• Climate system complexity and limitations in forecasts result in inherent uncertainty with regard to climate change’s pathway and impact
Financial loss model	• Relationship model between financial losses of physical risks	• There is a possibility of a gap with the actual financial impact owing to simplification and assumptions in the financial modeling application process

(C) Company’s Ability to Adjust or Adapt Strategies and Business Models over the Short, Mid, and Long Term for Climate Change

Category	Definition
Establish net-zero strategies of Group subsidiaries	• We established and are implementing GHG emissions reduction plans for the overall company to achieve net-zero goals. To this end, we are executing comprehensive strategies that include increased use of renewable energy, development and adoption of low-carbon technologies, and reduction of carbon emissions of the supply chain. These efforts are expected to contribute to enhancing the company’s sustainability and minimizing climate change risks over the long term.
Identify and evaluate climate risks by climate change scenario	• We are evaluating each scenario’s impact on the company’s operational and financial performance by analyzing diverse climate change scenarios. By doing so, we are identifying climate risks and opportunities that we estimate in the short, mid, and long term, and establishing relevant strategies, thereby strengthening the company’s climate change response capabilities. This analysis provides important information for the company’s strategic decision-making and helps to raise adaptability to climate change and secure resilience.
Availability and flexibility of financial resources	• We issued green bonds worth KRW 100 billion in April 2024 and plan to distribute the funds for such projects as renewable energy and eco-friendly building projects. KT&G’s fund support areas for the green sector include diverse areas such as renewable energy, energy efficiency, clean shipping, adaptation to climate change, and preservation of land and aquatic creature diversity. Funds that are raised through green bonds will be used in diverse areas and are expected to contribute to responding to climate change.
Availability and flexibility of human resources and material resources	<ul style="list-style-type: none"> • Strengthen expertise to forecast changes in the carbon credit market and to carry out efficient trading • Closely monitor domestic and overseas policies/regulations related to climate change, and establish a response system in preparation • Raise the energy efficiency of production facilities and maintain indoor temperatures at appropriate levels • Install some uninterruptible power supplies to prepare for electric power risks, and adopt a central monitoring system to identify electric power consumption in real time • Operate an energy-saving taskforce to continually carry out energy-saving activities and measure performance • Analyze the economic feasibility of each renewable energy procurement option with the goal of 80% renewable energy by 2030 and use diverse means of implementation to execute the transition to renewable energy • Develop new high-efficiency technologies through R&D innovation and contribute to GHG reduction

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(2) Climate-related Scenario Analysis Method

(A) Information on the inputs used by the company

Scenario	Definition	Reason for decision	Time frame	Source	Business scope
Transition	NZE	• Scenario for the global energy sector to achieve zero net CO ₂ emissions by 2050	-2050	IEA World Energy Outlook	KT&G and Group subsidiaries (KGC, Yungjin Pharm, Tae-A Industrial, COSMOCOS, KGCYebon)
	APS	• Scenario that assumes that all climate promises made by governments across the globe, including the Nationally Determined Contribution (NDC) and long-term net-zero goals, will be met completely and in a timely manner			
	STEPS	• Scenario that reflects current policy setting based on an evaluation by area of specific policies that are currently being implemented and policies that were announced by governments			
Physical	SSP1-2.6	• Assumes GHG reduction through strong climate policies and extensive adoption of renewable energy. Scenario in which the global community cooperates to actively respond to climate change and the temperature increase is restrained to 2°C or less by 2100	-2050	IPCC	19 major business sites and 11 major supply chain sites in Korea and abroad
	SSP2-4.5	• The current policy direction is maintained and mid-level GHG reduction efforts are reflected. Some renewable energy is used, but fossil fuels are also continually used. Accordingly, in this scenario, the rise in the earth's temperature exceeds 2°C.			
	SSP5-8.5	• Scenario in which GHG emissions sharply increase, and continued use of fossil fuels and low-level climate change responses lead to a more than 4°C rise in the earth's temperature			

(B) Major assumptions used for analysis

Major assumptions that were used in the climate change scenario analysis process were applied to various areas, including policy, energy, legal issues, technology, market, and reputation, and carbon price, energy intensity per GDP, the level of technological development of CCUS and ESS, unit price of renewable energy sources, and EV and hydrogen economy technology costs, etc. were used as major parameters.

Detailed assumptions of each scenario are as follows:

1) 1.5°C scenario

This scenario assumes an immediate global transition to a carbon-neutral economy and limits global warming to 1.5°C in accordance with the Paris Agreement. Cooperative efforts and action take place to reduce emissions, and global cooperation for net zero leads to execution of key measures. The carbon price was set as USD 50 for 2025, USD 140 for 2030, and USD 250 for 2050.

2) 2.0°C scenario

In this scenario, policies are executed to achieve the emissions reduction target of each country that was declared. However, more advanced policies are not implemented and therefore a temperature increase of more than 2.0°C is applied. Although relatively gradual and continued policy execution takes place, physical risk's occurrence frequency and impact are shown somewhat clearly. The carbon price was set as USD 45 for 2025, USD 135 for 2030, and USD 200 for 2050.

3) 4.0°C scenario

This scenario's premise is a temperature increase of more than 4.0°C by considering only the effects of current policies and action. Policy measures that can trigger transition risk are not implemented, resulting in a relatively low transition risk. However, physical risk stemming from climate change frequently occurs and becomes more extreme. The carbon price was set as USD 31 for 2025, USD 42 for 2030, and USD 89 for 2050.

(C) Analysis period

KT&G performed a climate-related scenario analysis within the reporting period.



KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

Risk Management**1. Climate-related Risk and Opportunity Management Process (identify, assess, prioritize, and monitor)****(1) Inputs and Parameters**

Inputs and parameters	Data source
Policy execution level	Ministry of Environment and Ministry of Trade, Industry and Energy
GHG emissions trend	Company data
Emissions allowance price	Guidance for reporting and verification of GHG emissions trading scheme, provided by Ministry of Environment

(2) Identification of Climate-related Risks and Opportunities

KT&G identifies the impact of potential risks and opportunities that climate change can cause to the company through climate scenario analysis, and uses this to strengthen climate change response activities and the risk/opportunity management system.

(3) Climate-related Risk and Opportunity Assessment Method

KT&G identifies and assesses climate-related risks and opportunities by using climate change scenario analysis. Climate change scenario analysis is conducted through a comprehensive analysis, including identifying and defining climate change risks, assessing relevance, and selecting appropriate scenarios. In addition, the analysis is enhanced by incorporating the insights of external expert panels comprising investment analysts, professors, and consultants, and internal evaluations from company members. Additionally, to identify more precise and detailed physical risk impact, we used S&P's Climanomics[®] tool to advance climate change physical risk evaluation. By following this process, we measure the likelihood of climate change risks and their potential impacts under each scenario. We also identify key climate change risks and assess response strategies to mitigate impact and enhance resilience.

Assessment method	Details
Qualitative assessment	<ul style="list-style-type: none"> Evaluate climate change risks' sensitivity and exposure regarding KT&G's business and management activities based on the climate change scenarios presented by IEA and IPCC
Quantitative assessment	<ul style="list-style-type: none"> Establish quantitative judgment criteria that can categorize low/mid/high for climate change risk's likelihood and impact criteria <ul style="list-style-type: none"> Likelihood: Calculate the likelihood of risk occurrence based on climate change scenario as a percentage and categorize it into low (less than 30%), mid (30-70%) and high (more than 70%) Level of impact: Categorize into low, mid, or high by comprehensively considering financial impact (sales decrease, cost increase, etc.) and operational impact (decrease in production, supply chain setback, etc.) Measure the financial impact of climate-related physical risk by using the S&P Climanomics[®] analysis technique

(4) Level of Priority of Climate-related Risks and Opportunities When Compared to Other Sustainability Risks

KT&G recognizes the significance of climate change's impact on business, and integrates climate-related risks into the company-wide risk management system for management. In particular, when we evaluate identified risks of various types, we mainly categorize them into financial impact and non-financial impact, and apply risk evaluation criteria that comprehensively consider each risk's likelihood and impact level. In addition, we recognize that climate risk has distinctive characteristics from other risks, such as long-term impact, possibility of regulation change, and impact on reputation, and we conduct an additional analysis during the double materiality assessment to identify and evaluate non-financial material issues. Internally, we evaluate climate risk's financial impact and likelihood through climate scenario analysis. Externally, we identify climate issues' social/environmental impact and level of stakeholder interest through stakeholder surveys. We combine these to calculate the materiality score of each sustainability issue, including climate risk, and determine priority.

As a result of a double materiality assessment, climate risk was identified as KT&G's priority sustainability management issue. We accordingly established and are executing detailed risk reduction strategies. Leading mitigation measures that are being implemented are investments in preparation for natural disasters for major facilities and business continuity plan (BCP) as well as disaster recovery (DR) system inspections for short-term physical risks, and GHG reduction and energy transition investments for long-term transition risks. Climate risk index response activities are periodically reported to top management and the Sustainability Committee. We are transparently disclosing relevant information by participating in external initiatives, such as CDP.

(5) Monitoring of Climate-related Risks and Opportunities

KT&G monitors major parameters, including policy implementation level, GHG emissions trend, and carbon price, and updates climate change scenario analysis in the event of a major change or deviation to these metrics. There is a higher possibility of greater intensity of physical risks owing to high uncertainty over the level of GHG emissions reduction across the globe. Accordingly, we updated the climate change scenario analysis in 2023 including an analysis on the 4.0°C scenario with a high physical risk. The Sustainability Committee is supervising ESG/climate-related issues and risks while reviewing the company's response strategies and policies and monitoring the operational performance and progress. In 2022, the audit planning team, which is an independent organization under the Audit Committee, inspected the ESG management execution status, including climate change issues, and reported the results to the Audit Committee.

(6) Changes in the Risk Management Process

Changes in the risk management process in KT&G's reporting period are as follows:

Change	Content
Complemented the identification process	During the 2023 climate change risk and opportunity evaluation, we additionally formed and operated an internal working-level team of the ESG Working Group and outside advisory team
Change in identification and evaluation method	Made an update from physical risk scenario RCP to SSP

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

2. Integration with the Company-wide Risk Management System

KT&G established a climate change risk management process to preemptively respond to climate change and integrated it to the company-wide risk management system to advance the risk management process. For climate-related risks, the ESG Management Office in the Strategy Division performs control tower roles to oversee the identification of risks and opportunities and reports relevant content to the Sustainability Committee under the BOD. In addition, we inspect ESG issues including climate change response and environment-related risks through the Audit Committee, which is the final company-wide risk-supervising organization, and the audit planning team under the Committee and make a report to the Audit Committee. We review risk factors at least twice a year to identify and prevent risk factors that may arise in overall management, and integrate climate-related risks and opportunities as sub items of the non-financial risk area for management. We categorize and identify physical/transition risks stemming from climate change into short, mid, and long term according to materiality of the impact on business, and quantitatively analyze likelihood and financial impact through scenario analysis.

Metrics and Targets**1. Climate-related Metrics****(1) Greenhouse Gas****(A) Absolute total emissions (Market-based)**

Category	(Unit: tCO ₂ eq)	
	2022	2023
Scope 1 ¹⁾	74,258	72,087
Scope 2 ¹⁾	117,160	113,585
Scope 3 ²⁾	857,279	516,237
C1 Purchased goods and services	240,323	224,444
C2 Capital goods	45,281	103,537
C3 Fuel- and energy-related activities	23,508	23,423
C4 Upstream transportation and distribution	31,571	19,190
C5 Waste generated in operations	4,596	4,602
C6 Business travel	2,548	3,453
C7 Employee commuting	11,883	11,822
C8 Upstream leased assets	654	696
C9 Downstream transportation and distribution	14,744	10,903
C10 Processing of sold products	703	1,069
C11 Use of sold products	398,866	57,830
C12 End-of-life treatment of sold products	66,399	40,275
C13 Downstream leased assets	2,457	1,347
C14 Franchises	3,670	3,687
C15 Investments	10,077	9,961
Total	1,048,697	701,909

* Verification status: Third-party verification completed within the scope (based on GHG data management and collection, emissions calculation, and reporting processes)

** Verification principle: ISO 14064-1:2018(WRI/WBCSD GHG Protocol:2004, Corporate Value Chain (Scope3) Accounting and Reporting Standard

¹⁾ Scope of aggregation: All domestic business sites (138 buildings including manufacturing sites (Daejeon Plant 1 and 2, Yeongju Plant, Gwangju Plant, etc.), leased buildings, branches, offices, etc.) and overseas manufacturing sites of KT&G; and domestic and overseas manufacturing sites of subsidiaries.

²⁾ Scope of aggregation: KT&G and its subsidiaries (KGC, Yungjin Pharm, Tae-A Industrial, COSMOCOS, KGCYebon)

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(B) Approach for emissions measurement

Guidelines that KT&G applied for measurement of GHG emissions are as follows.

Guidelines for Emissions Calculation

Category	Guidelines
Scope 1, 2	<ul style="list-style-type: none"> Guidelines on the operation of the target management of greenhouse gases in Korea Greenhouse Gas Protocol(GHG): A Corporate Accounting and Reporting Standard (Revised Edition) IPCC Guidelines for National Greenhouse Gas Protocol and Accounting Tool
Scope 3	<ul style="list-style-type: none"> ISO 14064-1:2018 Greenhouse Gas Protocol: Scope 3 Guidance Corporate Value Chain(Scope 3) Accounting and Reporting Standard Methodology for External Projects by the Ministry of Environment

KT&G is a company subject to K-ETS to which applies the Act on the Allocation and Trading of Greenhouse-Gas Emission Permits. In case of Korea, we applied the “Guidance for reporting and verification of GHG emissions trading scheme” and “ISO 14064-1 (2018)” when measuring Scope 1 and 2 emissions pursuant to the aforementioned law. We applied the GHG protocol for Scopes 1 and 2 and Scope 3 when measuring emissions for overseas business sites.

We applied [Appendix 4] Method for determining organizational boundary of the “Guidance for reporting and verification of GHG emissions trading scheme” and used the business site-level operational control method as our measurement approach. Accordingly, we did not disclose emissions of associates and joint ventures excluding subsidiaries.

In the reporting year, we recalculated Scope 3 emissions based on the year 2020. We adjusted the Scope 3 emissions category through discussions in the SBTi verification process. For more accurate calculation, we readjusted IPCC emissions factors as well and reflected additional emissions from overseas sales. In addition, we recalculated emissions in consideration of expansion of asset equipment scope and updated emissions factors to reflect the environmental impact of various kinds of tobaccos. Based on these changes, we recalculated base year data of 2020 and 2021. There are no other changes in the measurement approach, inputs, and assumptions in the reporting period.

Inputs and Major Assumptions

Category	Inputs				Major assumptions
	Activity data		Emission factor		
	Content	Type*	Content	Source	
Scope 1	Fuel usage	1 st	Emission factor by GHG type	(Electric power) IEA (Other than electric power) IPCC	-
Scope 2	Electric power or heat (steam) usage	1 st	Article 15 of the Guidance for reporting and verification of GHG emissions trading scheme	(Electric power) IEA (Other than electric power) IPCC	-
Scope 3					
	Service	2 nd	Emission factor by industry	WRI and Korea Energy Agency	Estimate emissions based on details of execution as intangible assets in CAPEX
	Partner companies’ fuel usage and KT&G proportion	1 st	Emission factor by fuel	Guidelines on the operation of the target management of greenhouse gases in Korea	Estimate emissions by reflecting proportion of delivery to our company from among major partner companies’ GHG emissions
C1 Purchased goods and services (KT&G)	(Domestic) Leaf tobacco farm land area	1 st	Emission factor when cultivating leaf tobacco	Common guidelines on measuring agricultural product GHG	Calculate emissions based on domestic leaf tobacco farms’ fertilizer, crop protection material, and energy usage
	(Domestic) Leaf tobacco farm land area	1 st	Emission factor when drying leaf tobacco	Directly measure emission coefficient when cultivating and drying leaf tobacco in Korea	Calculate emissions based on energy usage for drying leaf tobacco in Korea
	(Overseas) Leaf tobacco purchase amount	1 st	Emission factor of imported leaf tobacco	Directly measure emission coefficient when cultivating and drying overseas leaf tobacco	Estimate emissions based on cultivation and drying LCA per overseas leaf tobacco purchase amount
	6-year fresh ginseng purchase amount	1 st	Emission factor of 6-year fresh ginseng	Ecoinvent and Ministry of Environment LCI DB	Estimate emissions by performing LCA for cultivating 6-year fresh ginseng
	Herbal medicine purchase amount	2 nd	Emission factor by industry	WRI	Estimate emissions by applying the emission coefficient per industry based on herbal medicine purchase amount
C1 Purchased goods and services (K&G)	Materials and additives purchase amount	2 nd	Emission factor by industry	Korea Energy Agency	Estimate emissions by applying the emission coefficient per industry based on each partner company’s materials and additives purchase amount
	OEM company fuel usage	1 st	Emission factor by fuel	Guidelines on the operation of the target management of greenhouse gases in Korea	Estimate our company’s allocation from among OEM companies’ emissions based on major OEM companies’ fuel usage and ratio of delivery to our company

*  Completed external verification by a third party for Scope 1, 2, and 3 data

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

Inputs and Major Assumptions

Category	Inputs				Major assumptions
	Activity data		Emission factor		
	Content	Type*	Content	Source	
C1 Purchased goods and services (Subsidiaries other than KGC)	Product and service purchase amount	2 nd	Emission factor by industry	WRI and Korea Energy Agency	Estimate emissions by applying the emission coefficient per industry based on the purchased product and service amount
C2 Capital goods (KT&G and its subsidiaries)	(KT&G) Capital budget investment performance (Subsidiary) Capital goods purchase amount	2 nd	Emission factor by industry	WRI and Korea Energy Agency	Estimate emissions by applying the emission coefficient per industry based on the executed capital budget
C3 Fuel- and energy-related activities (KT&G and its subsidiaries)	Fuel usage	1 st	Emission factor by fuel	(Domestic) Ministry of Environment LCI DB (Overseas) UK GOV conversion factor	Complement the electric power upstream emission coefficient by considering the emission coefficient of domestic electric power upstream and power generation step and power transmission and distribution loss rate
C4 Upstream transportation and distribution (KT&G and its subsidiaries)	Transportation method, distance, no. of times of transportation	1 st	Emission factor by means of transportation	Ministry of Environment LCI DB and WRI Emission Factor	If it is difficult to secure data on the shipping method, shipping distance, and no. of times of shipping, calculate emissions based on shipping cost
	Transportation costs	2 nd			
C5 Waste generated in operations (KT&G and its subsidiaries)	Waste treatment method and amount	1 st	Emission factor by waste type and treatment method	Ministry of Environment LCI DB	Calculate emissions through the emission coefficient per waste type and treatment method
C6 Business travel (KT&G and its subsidiaries)	Types and distance of means of transportation	1 st	Emission factor by means of transportation	Ministry of Environment's Guidelines for Low-Carbon Green Events	Calculate emissions by considering travel distance for business trip, means of transportation, and no. of people
C7 Employee commuting (KT&G and its subsidiaries)	No. of employees	1 st	Emission factor by means of transportation	(Domestic) National transportation database, Korea Energy Agency's report on GHG emissions in the transportation sector, Ministry of Environment's Guidelines for Low-Carbon Green Events (Overseas) UNESCAP, Statista, Ministry of Environment's Guidelines for Low-Carbon Green Events	Estimate the distance per means of transportation in consideration of KT&G's no. of employees and annual no. of work days based on statistical data on the average commute distance and ratio of each means of transportation
	Average travel distance for daily commute	2 nd			
	Ratio per means of transportation used by employees	2 nd			
	Annual no. of days of work	1 st			

Category	Inputs				Major assumptions
	Activity data		Emission factor		
	Content	Type*	Content	Source	
C8 Upstream leased assets (Subsidiaries)	Usage amount by fuel from leased assets	1 st	Emission factor by fuel	Guidelines on the operation of the target management of greenhouse gases in Korea	Calculate emissions based on usage amount per fuel source of leased assets
C9 Downstream transportation and distribution (KT&G and its subsidiaries)	Transportation method, distance, no. of times of transportation	1 st	Emission factor by means of transportation	Ministry of Environment's LCI DB and WRI Emission Factor	If it is difficult to secure data on the shipping method, shipping distance, and no. of times of shipping, calculate emissions based on shipping cost
	Transportation costs	2 nd			
C10 Processing of sold products (Subsidiaries)	Customer sales and cost of sales	2 nd	Emission factor by industry	Korea Energy Agency	Apply the industry's average sales if it is difficult to identify sales. Calculate the average ratio of cost of sales through the cost of sales in the same industry in case it is difficult to identify the cost of sales.
C11 Use of sold products (KT&G)	(Device charging) Average use when a device product is charged once	1 st	Emission factor of domestic electric power	Guidelines on the operation of the target management of greenhouse gases in Korea	Estimate the total no. of times of charging by dividing the NGP stick sales volume by average use when the device is charged once
	(Device charging) NGP stick sales volume	1 st			
	(Lighter combustion) Average no. of times of use per one lighter and volume of Butane	2 nd	Emission factor by fuel	Guidelines on the operation of the target management of greenhouse gases in Korea	Estimate the total amount of Butane used by dividing total cigarette sales by average no. of times of use per lighter
	(Cigarette combustion) Cigarette sales volume	1 st			
	(Cigarette combustion) Data on cigarette sales volume and use of cigarette rod part raw material	1 st	Emission factor during combustion by ingredient	Guidelines on the operation of the target management of greenhouse gases in Korea and Ministry of Environment's LCI DB	Calculate emissions by assuming combustion of the entire cigarette except the cigarette butt
	(Real estate) Year and total floor area of new real estate assets' completion of construction and sales in lots based on completed sales in lots/sales	1 st			

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

Inputs and Major Assumptions

Category	Inputs				Major assumptions
	Activity data		Emission factor		
	Content	Type*	Content	Source	
C12 End-of-life treatment of sold products (KT&G)	(Cigarette) Annual sales volume, average length of cigarette butts	2 nd	Emission factor by waste type and treatment method	Ministry of Environment's LCI DB	(Cigarette) Estimate the weight of cigarette wastes using sold tobacco weight * cigarette butts' average length ratio
	(Cigarette) Weight of filters and tobacco parts	1 st			
	(NGP) Annual sales volume	1 st			
	(NGP) Products' standard weight	1 st			
	(Real estate) Amount of input per construction material of sold (sales in lots/sales) real estate	2 nd			Estimate the amount of input per material during construction based on the concrete input
C12 End-of-life treatment of sold products (Subsidiaries)	Materials and weight of sold products	1 st	Emission factor by waste type and treatment method	Ministry of Environment's LCI DB	Apply the average ratio of each material and treatment method based on the national waste generation and treatment status
C13 Downstream leased assets (KT&G and its subsidiaries)	Usage amount by fuel from leased assets	1 st	Emission factor by fuel	Guidelines on the operation of the target management of greenhouse gases in Korea	Calculate emissions based on the amount of fuel used by leased assets
C13 Downstream leased assets (KGC)	Costs of using fuel that was used by leased assets	2 nd			
C14 Franchise (KT&G and its subsidiaries)	Total floor area per distribution channel	2 nd	Emission factor based on total floor area per building use	Construction Technology Digital Library system	Comprehensive application of guideline areas because it is difficult to identify individual store's area information
C15 Investments (KT&G)	(Subsidiaries) Owned share and total floor area (Associates and joint ventures) Owned share and sales	2 nd	Emission factor based on total floor area per building use and emission coefficient per industry	Forecasting and characteristics of GHG emissions in the construction area based on the national energy statistics of the Architectural Institute of Korea, WRI Emission factor	Estimate emissions by identifying annual emissions per area of subsidiaries and associates and reflecting the share ratio. In other cases, emissions were estimated by applying the emission coefficient per industry based on sales.

* 1st data is data that was provided by suppliers or other companies that are related to specific activities in the value chain (data from meter checks, utility bills, or other methods that represent specific activities in the value chain) while 2nd data refers to industry average data provided by a third-party data supplier (disclosed database, government statistics, literature research, and industrial association data)

(C) Information on Contractual Instruments Related to Scope 2 Greenhouse Gas Emissions

The contractual instruments related to Scope 2 are as follows, and KT&G's market-based emissions for 2023 are 113,585 tCO₂eq.

Means of contract	Energy source	Consumption (Mwh)	Contract period
REC purchase (Gyeongcheon Energy and 23 other companies)	Solar Power	3,204	Jan. 1, 2022 ~ Dec. 31, 2022
REC purchase (Jeju Energy Corporation and 1 other company)	Wind Power	2,649	Jan. 1, 2022 ~ Dec. 31, 2022
REC purchase (Korea South-East Power)	Bioenergy	8,393	Jan. 1, 2022 ~ Dec. 31, 2022
i-REC purchase (Indonesia)	Hydropower	12,300	Jan. 1, 2022 ~ Dec. 31, 2022
i-REC purchase (Türkiye)	Geothermal	2,518	Jan. 1, 2022 ~ Dec. 31, 2022
REC purchase (Dawon Energy and 26 other companies)	Solar Power	7,974	Jan. 1, 2023 ~ Dec. 31, 2023
REC purchase (Korea South-East Power)	Bioenergy	3,628	Jan. 1, 2023 ~ Dec. 31, 2023
i-REC purchase (Indonesia)	Hydropower	14,948	Jan. 1, 2023 ~ Dec. 31, 2023
i-REC purchase (Türkiye)	Geothermal	3,019	Jan. 1, 2023 ~ Dec. 31, 2023
Green energy (Russia)	Hydropower	5,350	Jan. 1, 2023 ~ Dec. 31, 2023
Direct PPA (SK E&S)	Hydropower	6 ¹⁾	Dec. 31, 2023 ~ Dec. 30, 2024

¹⁾ Amount of consumed during the contract period in 2023

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(2) Assets or Business Activities Vulnerable to Climate-related Transition Risks

KT&G’s carbon emission intensity is not high compared to other industries owing to business characteristics, but the domestic tobacco business area’s business sites are subject to K-ETS. As such, there is a possibility of exposure to risks stemming from changes in policies and regulations related to K-ETS. Considering the government’s policy direction of strengthening regulations, such as its raising of the 2030 national GHG reduction target, we expect potential cost increase risks stemming from allowance price increases in the mid- to long-term future.

Accordingly, we are making diverse efforts to enhance energy efficiency and reduce GHG of overall business sites. We are increasing investments in energy-saving facilities and reducing GHG emissions intensity by raising process efficiency. Our mid- to long-term plan is to raise the proportion of electric power use in production processes and increase the ratio of renewable energy power generation. These efforts will respond to potential regulation changes and contribute to establishing a foundation for sustainability management.

Assets or business activities	2023 sales (KRW million)
Sales of business sites subject to K-ETS	3,586,696

(3) Assets or Business Activities Vulnerable to Climate-related Physical Risks

KT&G used S&P’s Climonomics[®] analysis tool to analyze the level of physical risk from climate change, targeting major business sites. Analysis results indicate that Türkiye, from among overseas business sites, has a relatively high physical risk compared to other business sites of KT&G. In detail, the respective region is analyzed to experience a rise in physical risk levels after the 2030s due to extreme temperatures caused by climate change and increased water stress from water resource shortage. Until now, there is no history of direct damage caused to the Türkiye business site by abnormal climate.

Assets or business activities	2023 sales (KRW million)
Sales of KT&G Türkiye Corporation	36,238

(4) Assets or Business Activities Aligned with Climate-related Opportunities

KT&G categorized business activities classified as appropriate economic activities and suitable economic activities according to EU Taxonomy as assets and business activities aligned with climate-related opportunities.

Assets or business activities	2023 (KRW million)	
	Sales	Capital expenditure
Power generation using photovoltaic technology	369	-
Installation, maintenance, and repair of renewable energy technology	-	5,295

(5) Capital Deployment

Category	2023 (KRW million)	Details
Installation, maintenance, and repair of renewable energy technology	5,295	Transition to renewable energy by installing a photovoltaic power generation facility at the KT&G Gwangju Plant, etc.
Installation, maintenance, and repair of energy efficiency devices	13,978	Replace and adopt new facilities to raise energy efficiency, such as air conditioners and ventilation facilities
R&D of new biodegradable, low-carbon materials	1,413	Adopt new material R&D facilities and experiment equipment
Total	20,686	-

(6) Internal Carbon Price

KT&G’s internal carbon price was set as KRW 50,000/tCO₂e. The calculation method and methods applied to major assumptions and decision-making are as follows:

Category	KT&G status
Whether applied to decision-making and method	<ul style="list-style-type: none"> Investment decision-making: When a GHG reduction investment is needed, the internal carbon price-based payback period is calculated and used to determine the investment’s appropriateness and timing of adoption Other: Identify the investment’s potential vulnerability (stress test)
Detailed application scope	<ul style="list-style-type: none"> All business sites (including overseas)
Major assumptions and calculation methodology	<ul style="list-style-type: none"> We estimated a reduction in free allocated allowances and the resulting rise in allowance prices and set KRW 50,000 per CO₂ ton for consideration of potential carbon cost in investment decision (Indonesia: 5,726,800 rupiah, Russia: 2,508 rouble, Türkiye: 693 lira)
Way of encouraging climate-related policy and target execution	<ul style="list-style-type: none"> The internal carbon price is used as a guideline for economic analysis and improves and promotes validity of investment activities that respond to climate change while considering potential carbon costs during investment decision. The internal carbon price is included in the calculation of the payback period of estimated cost reduction and emission reduction activities in climate-related investment activities. When we developed a plan to install a photovoltaic power generation facility on the rooftop of manufacturing facilities in Korea in 2022, internal carbon price was applied to calculate profit and alternative effects to encourage the investment of reduced costs in renewable energy facilities. In detail, we assumed an annual reduction of around 1,690 tons of emissions as a result of photovoltaic facility installation and applied internal carbon price, resulting in an estimation of around KRW 85 million in annual economic profit. In addition, since the internal carbon price is in operation, we changed the investment payback period calculation method from the previous “investment cost/energy-saving cost” to “investment cost/(energy-saving cost + internal carbon price)” to result in a shortened payback period for investments in climate change response activities. As reflected above, internal carbon price helps to make positive decisions in the internal investment policy and decision-making process of various emission reduction activities. It also performs roles as a major guideline for deciding the priority of reduction activities by comparing the financial impact of potential reduction effects.

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(7) Compensation (Management)

KT&G operates performance evaluation indexes by reflecting the performance of implementing ESG tasks, including climate change, in the remuneration of C-level management of each sector/HQ, including top management. In April 2024, we raised the ESG index weight from 5% to 10% when setting the CEO's short-term management goals. In particular, we more directly incorporated the performance of implementing GHG reduction goals to execute the Group's low-carbon transition strategy in the long-term management goals, thus reorganizing the compensation system to generate practical climate change response outcomes. Major climate-related KPIs that were reflected in the performance evaluation of the CEO and relevant headquarters' top management and organization in 2023 are as follows.

Category	Major KPI	Percentage of compensation connected to climate-related matters in top management's compensation in 2023
CEO	<ul style="list-style-type: none"> Development of distinctive competitiveness in business-specialized areas and ratio of ESG target execution Results of evaluated grade of three organizations - CDP climate/water, MSCI, KCGS 	5%
Top management, managers in charge, and employees	<ul style="list-style-type: none"> Total Scope 1+2 GHG emissions Renewable energy adoption ratio Cumulative EV transition rate Execution of improvement tasks connected to energy diagnosis results Leased buildings' purchase and use of renewable electric power 	5%

(8) Industry-based Metrics

KT&G referred to the processed food and tobacco sectors from among Sustainable Industry Classification System (SICS) areas and industry classifications in the Industry-based Guidance on Implementing IFRS S2 to reflect the characteristics of the industry that KT&G belongs to.

2. Climate-related Targets

(1) Information Related to Metrics Used to Set the Targets (Target Metric, Objective, Application Scope, etc.)

KT&G established targets of 42% Scope 1+2 reduction by 2030 and net zero by 2045 in accordance with SBTi guidelines. This surpasses the reduction target of the 2030 NDC industry area of Korea, which is the region with jurisdiction of KT&G.

Target metric	Objective	Scope	Target type	Base year	Mid-year	Final year
					2030	2045
Total Scope 1, 2 emissions	Climate mitigation	Company-wide	Absolute quantity target	(2020) 197,028	114,240 (42% reduction)	0 ²⁾ (100% reduction)
Scope 3 emissions	Climate mitigation	Company-wide	Absolute quantity target	(2022) 857,279	691,605 (25% reduction ¹⁾)	
Renewable energy usage rate	Establish an eco-friendly energy system	Company-wide	Absolute quantity target	0.1%	80%	100%

¹⁾ Scope 3 mid-term reduction targets: Category 1, 3, 11

²⁾ In accordance with the SBTi guidelines, achieve net zero through 90% absolute reduction of GHG emissions and 10% offset

(2) Method of Monitoring Progress towards the Target

(A) Whether the set target was validated by a third party

To reduce GHG emissions, KT&G established mid- to long-term reduction targets according to the guidelines of SBTi, which is a global science-based reduction target initiative. We aim to complete SBTi validation in the future.

(B) Target review process

KT&G introduced and is implementing company-wide energy costs settlement system starting in 2022 to monitor energy emissions and water usage across all business sites. Under this system, each unit business site enters energy and water consumption in a computational system based on documentary evidence (utility bills). This has enabled us to check the implementation status of reduction targets for each business site and to forecast annual emissions by taking seasonal fluctuations into consideration. In January 2023, KT&G has expanded the implementation scope of the company-wide energy settlement system to include overseas manufacturing facilities (Indonesia, Türkiye, and Russia). In addition, the headquarters and domestic and overseas manufacturing sites are taking part in regular monthly video conferences (ESG Monthly).

KT&G SUSTAINABILITY DISCLOSURE – [CLIMATE]

(C) Monitoring metric for progress in achieving the target

KT&G monitors the following metrics in relation to the progress in achieving climate-related targets.

Target metric	Progress monitoring metric	Mid-to long-term target	Year of achievement	Target	Target year
Scope 1, 2 emissions	Scope 1, 2 emissions reduction rate	42%	2030	100%	2045
Scope 3 emissions	Scope 3 emissions reduction rate	25%	2030	100%	2045
Renewable energy consumption	Renewable energy conversion rate	80%	2030	100%	2045

(D) Target revision and explanation

To prepare for future risks stemming from GHG emission-related regulations and carbon price increases that may arise in the future through our internal carbon pricing system and active investments in renewable energy facilities, we raised our mid- to long-term GHG reduction target for 2030 from the SBTi's well-below 2°C (Scope 1+2) and 2°C (Scope 3) scenarios to 1.5°C (Scope 1+2) and well-below 2°C (Scope 3) scenarios in 2022.

Target metric	Progress monitoring metric	Year of achievement	Before change	After change
Scope 1&2 emissions	Scope 1&2 emissions reduction rate	2030	42%	42%
Scope 3 emissions	Scope 3 emissions reduction rate	2030	25%	25% (Targeting categories 1, 3, 11)

(3) Analysis of Performance against Target

KT&G's performance against its mid- to long-term climate-related targets is as follows. KT&G aims to reduce Scope 1 and 2 emissions by 42% from 2020 levels and reduce Scope 3 emissions by 25% by 2030, and achieve net zero by 2045.

[Reduce direct emissions (Scope 1)]

GHG directly emitted by KT&G arises from process gas and LNG fuel, etc. that are used mainly in manufacturing processes. To reduce direct emissions, we are switching utility facilities to high-efficiency facilities and recovering waste heat that is generated during processes to reduce fuel consumption. In addition, sales organizations with considerable gasoline and diesel mobile combustion emissions changed 6% of business fleets to EVs as of 2023 and plan to complete 100% transition to EVs by 2030.

[Reduce indirect emissions (Scope 2)]

KT&G supports the global initiative RE100 and seeks to achieve a business site renewable electricity usage rate of 80% by 2030. To this end, we built a 3.1 MWp-level photovoltaic power generation facility on the rooftop of the Gwangju Plant in 2023 and plan to build 26.2 MWp-level photovoltaic power generation facilities on the rooftop of manufacturing plants and unused sites by 2026. In 2023, we signed 12 MWp-level PPAs at 17 business sites in Korea and are being supplied with renewable energy which we plan to expand further. Starting in 2022, we have been purchasing domestic and overseas RECs, thus increasing Scope 2 reduction and renewable energy ratio.

Indicators for monitoring goals and progress	2022 Performance	2023 Performance	Mid-to long-term target (2030)		Final target (2045)	
			Target	Achievement rate for the reporting year	Target	Achievement rate for the reporting year
Scope 1, 2 (market-based)	Emissions	191,418	185,672	114,276		0
	Reductio rate compare to the base year	7.52%	9.0%	42%	13.7%	5.8%
Scope 3	Emissions	857,279	516,237	691,605		0
	Reductio rate compare to the base year	-%	39.8%	25%	205.9% ¹⁾	40.2%
Renewable energy conversion rate	10.8%	13.5%	80%	16.9%	100%	13.5%

¹⁾ Due to the significant reduction in emissions from the real estate division, which has high volatility in greenhouse gas emissions, Scope 3 emissions for 2023 have changed significantly.

(4) Information on GHG Emissions Reduction Target

(A) Type of greenhouse gases included in the GHG emissions reduction target, scope, and whether it is total emissions

KT&G set a reduction target for Scope 1 and 2 emissions. The Scope 1 emissions that we consider include six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆), and Scope 1 emissions include three GHGs (CO₂, CH₄, N₂O). On a separate basis of KT&G, a total of three GHGs (CO₂, CH₄, N₂O) were identified for Scope 1 and 2 emissions.

Category	GHG type					
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
Scope 1	○	○	○	X	X	X
Scope 2	○	○	○	X	X	X

(B) Whether the sectoral decarbonization approach was used

KT&G does not use the sectoral decarbonization approach for the GHG emissions reduction target as of the end of the reporting period but is considering its use for effective emissions reduction.

