Welcome to your CDP Climate Change Questionnaire 2023

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

[Business Profile]
Kumho Tire is a global tire manufacturer that exports to more than 180 countries around the world with a base in its Seoul office, eight plants at home and abroad, nine overseas sales corporations, and 13 branches and offices.
We are achieving growth by implementing region-specific or country-specific product operation strategies, sales area expansion, and effective marketing strategies. As of 2022, Kumhotire recorded sales of KRW 3,560 trillion at home and abroad, approx. 37% up from the last year. With our goals embodied in Vision 2025, Kumho Tire strives to become a world-class tire company through constant technological innovation, taking a leap forward as a mobility business company and making meaningful changes throughout the product life cycle from tire development and production to sales and solutions.

[Response to Climate Change]
The 26th UN Climate Change Conference of the Parties (COP26) announced a declaration to further raise greenhouse gas (GHG) reduction targets and carbon-free investment, while the Korean government's enforcement of the Framework Act on Carbon Neutrality and automakers' declaration of carbon neutrality are accelerating Korea's transition to a carbon neutral society. Recognizing this trend as an opportunity, Kumho Tire established a "2045 carbon- neutral strategy" and prepared a 2045 Net-Zero roadmap. In addition, we plan to join the SBTi (Science Based Targets Initiative) to establish targets that are aligned with the internationally recognized 1.5°C scenario. In addition, we have assessed and researched the environmental impact of tires through the life cycle assessment (LCA) and established targets to achieve 100% use of recycled materials (recycled carbon black and recycled PET) and bio-sourced materials (natural rubber and environmental-friendly butadiene) in all tire products by 2045. We have built the environmental processes based on an environmental management system that meets international standards (ISO 14001) and are carrying out monitoring by establishing a factory energy management system (FEMS) to reduce energy consumption and increase energy efficiency. Furthermore, we have promoted the introduction of solar power generation and built solar energy facilities in the Nanjing, Changchun and Tianjin Plants in China, and in our Vietnam Plant. We have actively taken steps to respond to climate change by joining global

initiatives such as the U.N. Global Compact (UNGC) and Carbon Disclosure Project (CDP), and we are the first in the Korean tire industry to declare support for the Task Force on Climate Related Financial Disclosures (TCFD). We have also participated in the Korean TCFD Alliance, an alliance of private actors to respond to climate change disclosures, improving and raising the level of climate-related financial information reporting.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

1 월 1, 2022

End date

12 월 31, 2022

Indicate if you are providing emissions data for past reporting years

No

C0.3

(C0.3) Select the countries/areas in which you operate.

Australia
Austria
Brazil
Canada
China
Egypt
France
Germany
Italy
Japan
Mexico
Panama
Poland
Republic of Korea
Russian Federation
Saudi Arabia
Spain
Thailand
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United States of America

Viet Nam

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

KRW

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	KR7073240004

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	Kumhotire has established an ESG committee under its board of directors to systematically manage ESG management at the board level and reflect ESG philosophy in important decision-making processes. Based on transparent governance, the ESG Committee seeks to strategically and systematically manage the environment sector to improve management health and analyze the impact of the company on the environment to achieve sustainable growth over the long term.

	In addition, we identify and identify various topics and issues related to our ESG operations, check the company's sustainable management strategy and direction, and continuously evaluate and review its performance and problems. In addition, the Committee will deliberate and decide on ESG management strategies, including presentation of ESG management strategy directions, management and supervision of ESG management initiatives, and non-financial risk management.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Overseeing major capital expenditures Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing the setting of corporate targets Monitoring progress towards corporate targets	Kumho Tire operating the ESG Committee under the Board to systematically control ESG management at the Board level and reflect the ESG philosophy in the process of making important decisions. The ESG Committee consists of three directors (one inside director and two independent directors), and holds a meeting on a semiannual basis or from time to time when necessary. The ESG Committee aims to strategically and systematically manage the environmental, social, and governance sectors so that Kumho Tire can enhance sound management based on transparent governance, and also achieve sustainable growth in the long term by analyzing the company's impact on the environment and society. In addition, the ESG Committee identifies various topics and issues related to ESG management, examines the company's sustainable management strategy and direction, and continuously self-evaluates and reviews ESG-related performance and challenges. In 2022, the Board of Directors, as the top decision-making body, discussed such agenda as the current status of our response to climate change and major ESG achievements, in order to enable Kumho Tire to systematically pursue sustainable management. Kumho Tire operating the ESG Management Committee under the CEO to manage ESG as a new business norm linked to the companywide management strategy. The ESG Management Committee, which is convened on a

		quarterly basis, identifies significant financial and non-financial risks to discuss preemptive measures and makes final decisions from the ESG perspective through the review of key business opportunities and monitoring of related performance. In order to promote and operate ESG implementation tasks, the Committee has organized and operates five working groups concerning Environmental Management, People & Culture, Responsible Supply Chain, Ethical Management, and Governance.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	Kumho Tire uses our past work experiences as the criteria for assessing our competence in climate change issues. The Board member is a joint chairperson of a foundation established to respond to environmental pollution, and serves as chairperson of the New and Renewable Energy Power Generation Cooperative which works to reduce carbon emissions and respond to the climate crisis.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

Kumho Tire has built an environmental governance system in which the CEO bears the ultimate responsibility for climate-related management activities and risk management. The CEO reviews and approves ESG environmental matters through the ESG Management Committee. The ESG Management Committee is a CEO-led decision-making organization in which the CEO serves as chairperson, and the heads of major business divisions participate as members, leading ESG management including response to climate change as a new business norm linked to the companywide management strategy. The ESG Management Committee establishes ESG strategies including climate change issues, reviews ESG-related agenda that require Board approval, examines major businesses and monitors performance from the ESG perspective, identifies significant financial and non-financial risks, discusses preemptive measures, and reports important issues to the Board.

Position or committee

Sustainability committee

Climate-related responsibilities of this position

Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Half-yearly

Please explain

Kumhotire operating an ESG committee under its board of directors to systematically manage ESG management at the board level and reflect ESG philosophy in important decision-making processes.
The Committee will deliberate and decide on ESG management strategies, including presentation of ESG management strategy directions, management and supervision of ESG management initiatives, and non-financial risk management.

Based on transparent governance, the ESG Committee seeks to strategically and systematically manage the environment sector to improve management health and analyze the impact of the company on the environment to achieve sustainable growth over the long term. In addition, we identify and identify various topics and issues related to our ESG operations, check the company's sustainable management strategy and direction, and continuously evaluate and review its performance and problems.

Position or committee

Other committee, please specify

ESG Management Committee

Climate-related responsibilities of this position

Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)

Integrating climate-related issues into the strategy

Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

Kumho tire operating the ESG Management Committee to manage ESG as a new business norm linked to the company's management strategy. All headquarters heads are participating as members, centering on the CEO, who is the chairman. ESG management committees identify significant financial and non-financial risks, discuss proactive responses, review key business opportunities, and monitor relevant performance to make final decisions from an ESG perspective.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment

Row 1	Yes	Kumho Tire conducts ESG campaigns for all executives and employees and provides monetary incentives to encourage their participation. In addition, Kumho Tire takes into account climate-related performances such as energy usage reduction and environmental compliance in the employees' evaluation in the Health & Safety, Environment Team and the Machinery Engineering & Maintenance Team. Employees of the R&D Division are awarded for excellent development performance results related to climate change. We plan to expand and apply KPI evaluations linked to ESG indicators to more executives in the future.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Facilities manager

Type of incentive

Monetary reward

Incentive(s)

Promotion

Performance indicator(s)

Implementation of an emissions reduction initiative

Incentive plan(s) this incentive is linked to

Long-Term Incentive Plan

Further details of incentive(s)

In order to achieve the ESG management targets, we have set KPIs for the executives of major departments, and the ESG Management Committee regularly checks them to effectively achieve the targets. In order to reduce GHG emissions generated from energy consumption, the heads of the facility teams at home and abroad establish their own targets for electricity and urban gas conservation and check whether the targets are achieved each year. Since achieving energy saving targets is linked to executives' KPIs, each person in charge makes efforts to save energy and can receive prompt feedback on their performance.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Energy savings are essential to reduce Scope 1 and Scope 2 emissions. In particular, since GHG emissions from electricity and urban gas account for more than 95% of all GHG emissions, we will continue to push for energy conservation to reduce emissions.

Entitled to incentive

Other, please specify

Type of incentive

Monetary reward

Incentive(s)

Other, please specify

Monetary reward

Performance indicator(s)

Energy efficiency improvement

Incentive plan(s) this incentive is linked to

Long-Term Incentive Plan

Further details of incentive(s)

The R&D Division holds an annual meeting to share R&D results and awards excellent projects that developed EV-related and environment-friendly technologies, motivating researchers to actively produce good research results. In 2022, Kumho Tire granted pecuniary rewards to employees who participated in excellent EV-related and environment-friendly research projects, such as research regarding low weight LRR EV platform and EV tire mileage.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Given that GHG emissions in the phase of tire use account for more than 80% of the Scope 3 emissions, it is an important task to continue conducting research on RR (rotational resistance) and mileage improvement.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment

Short-term	0	3	(-2025) Kumho Tire committed to SBTi near-term and net-zero targets in 2022 and intends to be approved targets in 2 years. The objectives until 2030 are consistent with the period for the national NDC plan (-2030).
Medium-term	3	8	(- 2030)
Long-term	8	23	(- 2045) Kumho Tire plans to achieve net-zero emissions by 2045.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Kumho Tire defines substantive financial or strategic impact as follows in the risk management process (subject to change): (1) incurrence of company-wide costs due to environmental regulations (i.e., cost increase due to the price increase of emission permits in the ETS and increase of the ratio of the amount allocated onerously); (2) impact on sales resulting from change of demand for goods and services due to climate issues (decrease in sales of not less than 5%); (3) change of stakeholders action and change in corporate value depending on corporate climate actions (change in the stock prices not less than 10%); (4) change of production costs due to natural disasters (increase of materials procurement costs not less than 5%); and (5) change in the capital access due to market changes (reduction in the interest rate by not lower than 5bp).

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

In order to manage climate change issues in conjunction with companywide management strategies, we have established the ESG Management Committee led by the CEO, and we report ESG management performance and progress, including carbon neutral strategies. The ESG Management Committee holds a meeting on a quarterly basis to proactively identify and respond to financial and non-financial risks related to climate change.

Kumho Tire has established and operated a risk identification and management process in order to manage climate change risks. To identify risks, five working groups identify risks in their relevant areas and discuss them at the monthly WG LEADER meeting, and each working group determines implementation tasks for major risks identified. The implementation status is regularly monitored by relevant departments, and important matters are reported to the ESG Management Committee led by the CEO to be reflected in decision making.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Kumho Tire not only operates business sites in Korea but also operates manufacturing plants and sales networks worldwide, ensuring compliance with applicable laws and regulations of countries in which it does business. Kumho Tire is eligible for allocation under the emissions trading system in Korea and has established GHG emission allocation plans for each business site based on the allocated amount. Kumho Tire participated in the 1st and 2nd commitment period from 2015 to 2020, and is currently participating in the 3rd period (2021-2025). Currently, a company that does not buy emission permits for the emissions that exceed the allocated amount may be imposed a penalty surcharge of three times the average market price of emission permits, up to KRW 100,000 per 1 ton of carbon dioxide, and the purchase cost of purchasing emission permits may increase in the future in case the ratio of onerous allocation may decrease or the price of emission permits rises. Kumho Tire has a manufacturing plant in Tianjin, China which has been included in the Tianjin Pilot ETS since 2021. If the plant fails to comply with the regulations, it will be disqualified for the Korean national support policy concerning financial benefits, circular economy, energy-saving measures and emissions reduction. In addition, as the Tianjin Carbon Peaking and Neutrality Promotion Regulations was entered into force in November 2021, an additional financial disadvantage of CNY

		20,000 to CNY 200,000 (approx. KRW 3,840,000 to KRW 38,400,000) can be imposed on a company that fails to report GHG emissions, which is 5 to 10 times the average market price of emission permits. The Tianjin Pilot ETS has gradually introduced an auction system and such emissions trading has increased, as auctions were held twice in each year of 2020 and 2021 after the first trading in 2019. In addition, Vietnam is expected to start the emissions trading system in 2028. As of 2022, our Vietnam Plant is included in the list of sectors and facilities that are required to prepare a GHG inventory, such as energy, transportation, construction, industrial process, agriculture and forestry. The Vietnamese government is preparing regulations for the emissions trading system, which are expected to include financial disadvantages for failure to comply with regulations or emissions that exceed the allocated amount.
Emerging regulation	Relevant, always included	Climate-related regulations are rapidly spreading at home and abroad. In March 2022, Korea enforced the Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis which raised the 2030 NDC (Nationally Determined Contributions) to 40% and established a master plan to achieve carbon neutrality. This Act urges enterprises to transparently disclose not only GHG reduction performances and plans but also climate-related risks such as asset loss. In addition, the Financial Services Commission of Korea made it mandatory for companies listed on the KOSPI market with total assets of not less than KRW 2 trillion to disclose sustainability reports from 2025. The European Commission announced the Directive on Corporate Sustainability Due Diligence in February 2022 in order to enhance protection of human rights and environment in the supply chain. The Directive proposes to require human rights and environmental due diligence from participants in the entire supply chain of the companies subject to due diligence, establish administrative sanctions on violations and allow civil liabilities for damages. Meanwhile, Europe revised the Carbon Border Adjustment Mechanism (CBAM) to enhance original regulations, advancing the time to introduce the CBAM and adding organic chemicals, plastics, hydrogen, ammonia and indirect emissions to the 5 items originally listed (steel, electricity, fertilizer, aluminum and cement) in the CBAM. If the regulation extends to the automobile and tire industries in the future, it could incur costs to enterprises. Furthermore, the regulations on fuel efficiency are tightening across the globe, and tires used in vehicles are also required to meet high mileage standards with the enactment of WLTP (Worldwide harmonized Light-duty vehicle Test Procedure) and the amendment of EU labeling laws. In U.S. locations where Kumho Tire has a plant and a sales corporation, companies are likely to be required to disclose emissions as the Biden Administration rejoined the

		Paris Agreement in 2021. The U.S. Securities and Exchange Commission (SEC) released a draft of the regulations on climate-related disclosures for listed companies. According to the draft, listed companies shall disclose their Scope 1 and 2 emissions by 2023, and Scope 3 by 2024.
Technology	Relevant, always included	Climate-related technical risks can include the risk of increasing costs incurred to convert existing tires into lower emissions products and the risk of losing sales (market) in case the conversion to low carbon products are delayed or failure to develop new technologies. The mobility industry worldwide is faced with strong demands for contributing to transition into carbon neutral society, and the tire industries are also under pressure to cooperate for achieving the global 1.5°C target. If Kumho Tie fails to effectively respond to these demands, it can lead to financial loss and weakened competitiveness. Therefore, Kumho Tire is closely monitoring technical risks and establishing R&D investment plans. The mobility market is now demanding sustainable products with low rolling resistance (LRR), sustainable materials and lower GHG emissions through the entire life cycle. In addition, as the EV market is rapidly growing, demand for EV tires is escalating as well. In order to be installed to EVs that are 150-200g heavier than regular automobiles with internal combustion engines due to the battery weight, tires should have stronger grip force and wear resistance. Kumho Tire released the first EV tire products in 2013 in Korea. Based on the accumulated technologies, Kumho Tire is now supplying Crugen HP71 and Ecsta PS71 for Kia's EV6, which are fit for EVs with improved wear resistance, grip force, and LRR.
Legal	Relevant, always included	As a company eligible for allocation of emission permits, Kumho Tire is required to report greenhouse gas emissions. In case of failure to report accurate emissions data, an administrative fine will be imposed. In Korea, the Energy Efficiency Labeling system has operated since 2012 to label the energy efficiency of the product, and it was extended to tire products for trucks and buses in 2022. The tire labeling is mandatory not only in Korea but also in many countries including the Europe, Brazil and the Middle East and to be enforced in China and India soon. If tire products are promoted for sale without strict verification of energy efficiency, customers may file a lawsuit on the grounds of false advertising, etc.
Market	Relevant, always included	Preference to low carbon products and environment-friendly policy directions are worldwide trends, and regulations on manufacturing of vehicles and vehicle parts are getting stricter. In fact, the EU passed a regulation on prohibiting sales of internal combustion vehicles from 2035. A lot of car makers including Volvo, Benz and Renault declared a fully transition to EV product portfolios and are implementing carbon neutrality strategies throughout their supply chains. As such, the EV market is growing rapidly and the demand for low carbon auto parts is

		increasing, therefore, it is important to develop environment-friendly and EV tire products with lower environmental impacts in lifecycle, and supply them in a timely manner.
Reputation	Relevant, always included	Entersprises are faced with strong demands for climate actions with emphasizing of the climate crisis from the international communities, and increasing market demands for environment-friendly products in line with value conscious consumption. In particular, the mobility industry is encountering stronger demands for the contribution to transition into the carbon neutral society, since GHG emissions of the industry accounts for a considerable portion of total emissions of the trasportation sector, due to the emissions from internal combustion engines. Kumho Tire is now required to disclose information on its environmental management and climate related strategies (GHG emissions, energy consumption, RE100, governance, etc.) in the B2B transactions with car makers. With the change of consumption trends into "meaning out", consumers are considering sustainability of the product as major criteria for their choices, including corporate actions on climate change and ESG activities. Corporate value may fall down due to negative impressions if it fails to meet market demands for environment-friendly products/activities and information disclosure.
Acute physical	Relevant, always included	All of Kumho Tire's manufacturing facilities are exposed, to some extent, to physical risks, such as floods, heat wave, water shortage and forest fires, etc. A storm, flood or forest fire may affect raw material yields, inventories, facilities and capacity of plants. Heat wave may cause cost increase for cooling, degraded quality and productivity. According to the Thinkhazard, a platform that provides regional analysis on climate-related risks, Kumho Tire's plants in Georgia, U.S., Binh Duong, Vietnam, and Tianjin, China are exposed to the risks of floods, typhoons, forest fires and heat wave. The plant in Nanjing, China is vulnerable to floods, heat wave and forest fires while the one in Changchun, China exposed to floods and forest fires. Kumho Tire conducts internal safety and health inspections to continuously monitor and control such physical risks, and operates the FEMS (Factory Energy Management System). In order to efficiently respond when any physical risk is materialized, Kumho Tire established a risk management system, the Emergency Management Committee to report from the business site up to the CEO, the chairperson of it.
Chronic physical	Relevant, always included	Kumho Tire has the geographical and supply chain environment that can be affected by the rise in temperature and rainfall changes caused by climate change, which is expected to increase costs. This is because the global temperature rise can affect production of natural rubber, one of the key tire raw materials, which accounts for approx. 23% of total raw material cost. As most of them are produced in the Southeast Asia including Thailand and Indonesia, the accelerated climate change may reduce the efficiency in rubber production and

		degrade its supply. It will, in turn, increase the purchase cost of natural rubber and lead to aggravated profitability. Kumho Tire has participated in the GPSNR (Global Platform for Sustainable Natural Rubber) as one of the founding members, to build and support a sustainable natural rubber supply chain. Plus, the shortage of industrial water resulting from climate change and the consequential price increase of industrial water may affect manufacturing efficiency. In order to mitigate those risks, Kumho Tire introduced reverse osmosis and advanced treatment facilities, to reduce waste water by reusing them for process water.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

As an enterprise eligible for allocation of emission permits, Kumho Tire participated in the 1st and 2nd emissions trading scheme from 2015 to 2020 and is now participating in the 3rd emissions trading scheme. In the 3rd period, the onerous allocation ratio rised to 10%, over 3 times increase from 3% of the 2nd period. The EU Council agreed on a phase-out of free emission allowances by 2032 and the Korean Government is also likely to incrementally decrease the ratio of free allocation with reducing total permitted emissions, to respond to CBAM (Carbon Border Adjustment Mechanism) and align with carbon neutral society.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

50,500,000,000

Potential financial impact figure – maximum (currency)

60,400,000,000

Explanation of financial impact figure

Kumho Tire calculated the potential financial impact from purchase of emission permits in the 3rd period (2021-2025) and the 4th period (2026-2030) of the emissions trading scheme (ETS) based on the following 2 scenarios.

(Assumptions)
- Scenario 1: maintaining GHG emissions level of 2021 until 2030
- Scenario 2: reducing emissions to the level of the NDC industrial targets (14.5% reduction compared to 2018 by 2030)
- Assumptions for both scenarios : (1) applying the amount of free allocated permits in the 3rd period (2021-2023: 251,921KAU; 2024-2025: 249,562 KAU); (2) the ratio of onerous allocation increasing to 40% in the 4th period (2026-2030); (3) applying the current allocation approach of GF (grandfathering); and (4) the carbon price increasing by USD120, from 2021 (KRW23,402, average price of KAU21 in 2021) to 2030 based on IEA – NDC-based Carbon Price Scenario

(Results)
- Scenario 1: In the 3rd period, the cost for emission permits increases from KRW280 million to KRW740 million. In the 4th period, exceeding emissions sharply grow as the free emission allowance ratio rapidly decreases. As a result, Kumho Tire's annual cost for purchasing emissions permits for the exceeding emissions will be between KRW9.01 billion and KRW14.27 billion in a year, reaching a total of KRW60.38 billion by 2030. (maximum impact)
- Scenario 2: In the 3rd period, Kumho will earn a total of approx. KRW250 million by reducing emissions approx. 1.2% in each year. However, during the 4th period, the declined free allocation would exceed the emissions reductions and in turn, Kumho Tire's annual cost for purchasing emission permits will increase from KRW8.32 billion in 2026 to KRW12.3 billion in 2030. The total cost for purchasing emission permits until 2030 will reach KRW51.49 billion. (minimum impact)

Cost of response to risk

9,600,000,000

Description of response and explanation of cost calculation

Kumho Tire has made constant efforts to reduce GHG emissions by investing in energy-saving facilities in plants. We invested about KRW 18 million in power conservation from January to December 2022, introducing a vacuum pump remote operation system in the molding process at the Gokseong Plant and increasing energy efficiency. This reduced about 116 tCO2eq of GHG emissions in a year. In addition, we invested about KRW 130 million in the remodeling of the inspection process and reduced 147 tCO2eq of GHG emissions in a year.

In addition, based on the assumption that we will achieve yearly emissions reduction from 2018 to 2030 (3,978 tCO2e) with solar energy facilities in accordance with Scenario 2 of the potential financial impact analysis, Kumho Tire calculated total investment costs for solar energy facilities from 2022 to 2030. According to the Korea Energy Economics Institute, the price of LCOE of solar energy (1MW) will drop from KRW144.8/kWh in 2020 to KRW108.3/kWh in 2030. In turn, the installation cost of approximately KRW 1.2 billion in 2022 is expected to decline to KRW 900 million in 2030, and Kumho Tire expects to invest a total of KRW 9.6 billion by 2030.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

Car makers worldwide has declared that they will completely stop investment in production and development of conventional internal combustion engine cars. Hyundai Motor Group, the largest car maker in Korea, stopped development of diesel engines and plans to stop developing gasoline engines gradually. Foreign car makers such as Volvo, Benz (100% transition by 2030) and GM (100% by 2035) also declared that they would convert all automobile products into EVs. According to the European Automobile Manufacturers' Association (EAMA), the market share of vehicles with gasoline and diesel engines (internal combustion engines) have been on the continuous decline, to

the 52.8% of the new cars sold in the first quarter of 2021. In addition, as the prices of gasoline and diesel hit the record high in 2022, it also leads to the decline in demand for vehicles with internal combustion engines. Kumho Tire could lose its market share and sales if it fails to quickly convert its product lines into low carbon in the era of low carbon transition of the automobile industry.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

625,810,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Kumho Tire's average turnover from tires (excluding non-tire products) between 2017 and 2021 is approx. KRW2.5 trillion. In case that the revenue linearly declines by 5% by 2030, the reduced turnover will increase from KRW13.9 billion in 2022 to KRW125.1 billion in 2030, which means the accumulated financial impact would reach a total of KRW625.8 billion by 2030.

Cost of response to risk

2,985,000,000

Description of response and explanation of cost calculation

Based on our self-developed design technology, Kumho Tire is developing environment-friendly products to reduce environmental impact on the entire life cycle of tire products. Kumho Tire has contributed to improvement of air quality by minimizing fine dust from tire wear and reduced GHG (CO2) emissions by improving mileage through the lowered rolling resistance coefficient. In addition, in order to contribute to the circular economy, Kumho Tire has participated in the research of end-of-life tire (ELT) amounts, recycled amounts and recycling technologies with global tire makers since 2005 as a member of the World Business Council for Sustainable Development - Tire Industry Project (WBCSD-TIP). ELTs can be converted into resources by applying waste resources treatment technologies that can recover carbon black, oil and other such waste in the pyrolysis process. Kumho Tire conducts research and assessments in regard to

application of recycled raw materials. Kumho Tire aims to convert 40% of its total raw materials to sustainable materials by 2030 and 100% by 2045 by strengthening basic R&D of eco-friendly materials that can replace existing petrochemical-based materials with sustainable ones.

In 2022, Kumho Tire completed 171 out of a total 257 R&D projects, and achieved target performance by focusing on EV tire research such as the development of EV ULRR compound technologies, development of high rigidity cords for EV tires, and development of technologies to upgrade EV compound abrasiveness. In addition, Kumho Tire is developing a virtual product development system technology using supercomputers to improve product quality and shorten the development period, which has reduced the development period by 25% compared to the previous year. In 2022, Kumho Tire conducted 11 research projects on the development of eco-friendly materials as part of ESG management and will continue to expand and promote advanced and innovative technical tasks to secure new technologies and improve competitiveness. The response cost was calculated based on the research cost of developing EV tires and eco-friendly materials.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Other, please specify

Decreased corporate value

Company-specific description

Our corporate customers are requesting Kumho Tire to disclose climate-related information such as CDP and EcoVadis including the performance of environment-friendly tire production. If Kumho Tire fails to meet the demand from the stakeholders including corporate customers, it would have adverse impact on the sustainability rating, and the increased concerns and negative opinions of the stakeholders regarding Kumho Tire’s response to climate change may cause decline in corporate value.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

164,879,114,850

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

We took into account the possibility that the concerns and negative views of stakeholders due to our lack of climate information disclosures could lead to a future corporate value decline. As of June 30, 2023, a 10% decline in the stock price means that the stock price falls by KRW 475 (June 30, 2023 closing price of KRW 4,750 * 10% = KRW 475). Since the number of issued and outstanding shares is 347,113,926 shares as of March 2022, the impact on corporate value is about KRW 164.8 billion (347,113,926 shares * KRW 475).

Cost of response to risk

313,500,000

Description of response and explanation of cost calculation

Kumho Tires has disclosed the climate-related information through participating initiatives such as CDP and EcoVadis, as well as established an environmental management system verified by third parties in order to measure GHG emissions and energy consumption. We calculated the cost for ESG information disclosure as approx. KRW310 million, inlcuding cost for establishing net zero strategies and responding to CDP, LCA (Life Cycle Assessment) project, GHG emissions calculation and verification, and publishing a Sustainability Report.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Chronic physical

Changing precipitation patterns and types (rain, hail, snow/ice)

Primary potential financial impact

Increased direct costs

Company-specific description

Most of the natural rubber are produced in the Southeast Asian countries such as Thailand and Indonesia. Heat wave may reduce latex production because the lack of rain delays tree maturation. In addition, annual rainfalls are expected to be extremely fluctuated due to El Niño-Southern Oscillation (ENSO), which may lead to frequent rainfalls causing soil erosion and flooding. Damage to natural rubber trees caused by frequent typhoons sometimes cause irreversible harm to the farms. According to the research published in the Frontiers in Environmental Science (2021), climate change would reduce rainfalls by 10% to 30% in the Southern Thailand by 2029.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

85,071,000,000

Potential financial impact figure – maximum (currency)

97,224,000,000

Explanation of financial impact figure

Changes in the price of raw materials are affected by changes in supply and demand. In 2022, our cost for purchasing natural rubber for tire manufacturing was KRW 81,020,000,000. If the purchase cost rises by 5 to 20% due to a setback in supply of natural rubber, the potential financial impact would be KRW 85,071,000,000 to KRW 97,224,000,000 (81,020,000,000 * 5% < X < 81,020,000 * 20%).

Cost of response to risk

20,000,000

Description of response and explanation of cost calculation

Kumho Tire has participated in the Global Platform for Sustainable Natural Rubber (GPSNR) as one of the 39 founding members including tire manufacturers, for

improving sustainability of rubber yields, preventing reclamation and lumbering, protecting bio-diversity and water resources, and increasing transparency and traceability of the supply chain. We have established the Natural Rubber Policy to support sustainable and fair natural rubber value chain, and resource conservation. Kumho Tire spent approx. KRW20,000,000 on GPSNR activities.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Participation in carbon market

Primary potential financial impact

Increased diversification of financial assets

Company-specific description

As an enterprise eligible for allocation of emission permits, Kumho Tire participated in the 1st and 2nd emissions trading scheme from 2015 to 2020 and is now participating in the 3rd emissions trading scheme. In addition, Kumho Tire's plant in Tianjin, China was selected to participate in the Tianjin Pilot ETS in 2021.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4,080,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Kumho Tire sold emission permits of 74,742 tCO2e for KRW2,641,237,000 in 2019 during the 2nd ETS period (2018-2020), and sold permits of 20,004 tCO2e for KRW329,893,000 in 2020. In 2021, the first year of the 3rd period, Kumho Tire sold emission permits of 8,334 tCO2e for KRW121 million. In 2021, the Tianjin Plant of Kumho Tire was allocated with emission permits of 109,973 tCO2e, and carried over the remaining permits (4,932 tCO2e) to the following year after emitting 105,041 tCO2e emitted. Kumho Tire analyzes potential profits from trading of emission permits until 2025 based on the following assumptions:

(Assumptions)
(1) applying the amount of free allocated permits in the 3rd period (2021-2023: 251,921KAU; 2024-2025: 249,562 KAU)
(2) maintaining the remaining permits in the Korea and Tianjin ETS to the past level with investment in the emissions reduction
- Korea: selling permits of 8,153 tCO2e (average quantity sold between 2015 and 2021) every year until 2025
- Tianjin: selling permits of 4,932 tCO2e (carried over quantity in 2021) every year until 2025
(3) Price of emission permits: according to the IEA NDC Price Scenario, in Korea, KAU21's average price increases from KRW23,402 to KRW137,400 (USD120) by 2030; in Tianjin, China, the from average secondary market price increases from approx. KRW5,000 (CNY30.53) to KRW34,350 (USD30) by 2030.

(Results)
Kumho Tire's earnings from the sale of emission permits in the Korea ETS is estimated to increase from KRW191 million in 2021 to KRW1.12 billion in 2025, and those in the Tianjin Pilot ETS are expected to grow from KRW41 million in 2021 to KRW280 million in 2025. Kumho Tire is estimated to earn approx. KRW4.08 billion from the sale of emission permits by 2025.

Cost to realize opportunity

12,928,850,000

Strategy to realize opportunity and explanation of cost calculation

Kumho Tire has made constant efforts to reduce GHG emissions by investing in energy-saving facilities in plants. Kumho Tire invested approximately KRW 18 million in power conservation from January to December 2022, introducing a vacuum pump remote operation system in the molding process at the Gokseong Plant and increasing energy efficiency. This reduced about 116 tCO2eq of GHG emissions per year. In addition, we invested about KRW 130 million in the remodeling of the inspection process and reduced 147 tCO2eq of GHG emissions per year.

Kumho Tire calculated total investments until 2025 assuming that the investment cost increases 5% every year between 2024 and 2025
(Investment in plant operations in 2023: (KRW 10,685,000,000 * 10%) * 10% = KRW 12,928,850,000).

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

With the expansion of the environment-friendly vehicle market in the Europe and US, the market for tire products installed in those vehicles is also expected to rapidly grow. Since Kumho Tire started to develop EV tires in 2012, it launched EV tire model “WATTRUN” for the first time in Korea, and has been developing and supplying other EV tires such as Crugen HP71 and Ecsta PS71. Crugen HP71, which is applied to Kia’s EV6, achieved a high fuel efficiency and obtained the first grade in the rolling resistance coefficient in the domestic energy consumption efficiency rating system. Kumho Tire is also establishing manufacturing facilities exclusively for EV tire with upgraded EV tire design technologies and trend analysis. In addition, Kumho Tire focuses on developing LRR (low rolling resistance) products in order to respond to strengthened mileage regulations. It allowed Kumho Tire to achieve increased mileage compared to existing products by improving LRR compounds and structures, thereby contribute to reducing GHG emissions from tires, one of the main components of vehicles. Kumho Tire quickly

responded to the Europe's strengthening regulations such as the introduction of Fit for 55. "Fortran e" developed in alignment with the European climate and road conditions, obtained Triple A in the EU labelling for RR, wet grip and noise, and will be put in the market in 2025.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,000,000,000,000

Potential financial impact figure – maximum (currency)

2,500,000,000,000

Explanation of financial impact figure

We have established a new definition of eco-friendly products, and we will continue to monitor changing legal system standards and requirements in the future, and apply and manage them in each sector. Eco-friendly products are based on 1. Energy efficiency improvement products 2. Wear performance improvement products 3. Eco-friendly concept products 4. Environmental sign certification products 5. Carbon emission reduction products account for 31.1% of sales in 2022.

Assuming that the proportion will expand to 40-50% of expected sales (5 trillion won) in 2025, the potential financial impact is between 2 trillion won and 2.5 trillion won.

Cost to realize opportunity

14,200,000,000

Strategy to realize opportunity and explanation of cost calculation

In 2022, out of a total 257 R&D projects, R&D projects pertaining to EVs and LRR accounted for 32 projects, or 12.5% of the total number of R&D projects. We calculated the cost assuming that the R&D investment in EVs and LRR in 2022 would increase by 20% every year until 2025.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Other, please specify

Increased access to capital

Primary potential financial impact

Increased access to capital

Company-specific description

Government-run banks and commercial banks in Korea are expanding environment-friendly investments by providing special interest rates on credit products for enterprises which implement environment-friendly management. Kumho Tire is eligible for those products since it has endeavored to integrate sustainability issues to its management. For instance, it has been focused to develop low mileagge and low carbon products, getting certified of the EPD (Environmental Product Declaration) and CFP (Carbon Footprint of products) Label from the Korea Environmental Industry & Technology Institute under the Ministry of Environment for the first time in the tire industry. In addition, Kumho Tire has continuously developed and supplied EV tires such as WATTRUN VS31 and Crugen HP71. Kumho Tire can obtain funds by issuing green bonds in order to expand sustainable and environment-friendly business. In Korea, the difference of matrix pricing (spread) between green bonds (issued during 2019 and the 1st quarter of 2021) and conventional bonds with the same maturity was a negative figure, which means green bonds have effect of reducing financing cost with lower interest rate.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

335,000,000

Potential financial impact figure – maximum (currency)

1,500,000,000

Explanation of financial impact figure

The difference of matrix pricing (spread) between green bonds (issued during 2019 and the 1st quarter of 2021) and conventional bonds with the same maturity is -6.75 bps in average, which means green bonds were issued at higher prices than others. Hence, it can be assumed that the interest rate for green bonds is 0.067% lower than that of conventional bonds. In addition, government-run banks and commercial banks in Korea have launched financial products linked to ESG performance with approx. 0.3% more favorable interest rates. Hence, the potential financial impact is calculated assuming Kumho Tire raises funds of KRW500 billion for investment in low carbon products to develop EV tires, etc. with a more favorable interest rate of between 0.067% and 0.3%. (500,000,000,000*0.00067=335,000,000/ 500,000,000,000*0.003=1,500,000,000)

Cost to realize opportunity

14,203,886,000

Strategy to realize opportunity and explanation of cost calculation

Government-run banks and commercial banks in Korea provide more favorable interest rates to enterprises that actively participate in environment-friendly management and ESG performances such as the environment-friendly product certification (EPD and CFP Label). Kumho Tire got certificated for those labeling from the Korea Environmental Industry & Technology Institute under the Ministry of Environment for the first time in the tire industry, for applying various design technologies and environment-friendly raw materials. As of 2021, Kumho Tire has maintained the EPD Label for 4 products and invested KRW3,886,000 in the EPD certification. Out of a total of 333 R&D projects in 2021, 51 projects were environment-friendly projects, which consists of 27 research projects and 24 development projects on EVs and LRR. Since such projects accounted for 15.3% of the total number of R&D projects, Kumho Tire calculated management costs assuming that 15.3% of the R&D investment in 2021 (approx. KRW92.7 billion) were environment-friendly R&D costs and the result is approx. KRW14.2 billion.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan

Yes

Mechanism by which feedback is collected from shareholders on your climate transition plan

We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

Attach any relevant documents which detail your climate transition plan (optional)

Until 2021, Kumho Tire had aimed to comply with the National Roadmap for Greenhouse Gas Reductions by 2030, which the Korean government announced as an expression of Korea's commitment to the Paris Agreement. However, as the Korean Government raised the net zero targets by 2050 and the NDC targets (40% reduction from 2018) in October 2021, Kumho Tire was in a position to thoroughly review its targets for GHG emissions and deeply consider the gravity of the climate crisis and solutions therefore raised by IPCC and WMO. Kumho Tire has established a 2045 carbon-neutral strategy to actively participate in the transition to the low-carbon economy and to transform climate-related risks into opportunities. Kumho Tire also joined SBTi on July 1, 2022 and committed to establishing 1.5°C net zero targets. Our carbon neutrality targets are aligned with the 1.5°C net zero scenario and would be in compliance with the SBTi Corporate Net-Zero Standard released by the SBTi in October 2021. Kumho Tire disclosed its net zero targets in its sustainability report and is preparing specific strategies for achieving such targets(p.23)

2023 Kumho Tire Sustainability Report.pdf

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy
Row 1	Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Company-wide		The IEA NZE 2050 scenario is a scenario that shows the path to achieving NetZero by 2050. This scenario meets energy-related objectives in relation to the UN

IEA NZE 2050			Sustainable Development Goals (SDGs). This scenario presupposes the achievement of a country-by-country net system of 1.5°C temperature rise limits. From a global perspective, this transition risk was assumed and analyzed according to the scenario because active low-carbon transformation can pose a business risk in terms of policy, law, market, technology, and reputation for policy, law, market, technology, and reputation. - No new internal combustion engine car sales in 2035 - CO2 prices in developed countries rise from 75 USD/tCO2 in 2025 to 250 USD/tCO2 in 2050, while China, Russia, Brazil and South Africa rise from 45 USD/tCO2 in 2025 to 200 USD/tCO2 in 2050
Physical climate scenarios RCP 8.5	Company-wide		The RCP 8.5-degree scenario was chosen to respond to the natural disasters expected by the worst climate change. According to the scenario, global average temperatures in 2100 are expected to rise by more than 4 degrees compared to pre-industrial (1850-1900), and carbon dioxide concentrations will reach 940 ppm. This is expected to cause not only acute natural disasters such as typhoons, floods, and landslides, but also extreme climate change such as changes in precipitation patterns and heat waves, and have a huge impact on human survival. According to this scenario, the lower the temperature, the greater the future temperature increase, especially in Far Eastern Asia, such as Manchuria, Primorsky Krai, and the Kamchatka Peninsula, and precipitation is expected to increase overall in East Asia. In particular, the increase trend is expected to be noticeable in mid- and high-altitude continents, which is believed to be due to increased atmospheric water vapor and strengthened water vapor transport from the ocean to the continent due to global warming. Kumho Tire operates eight manufacturing facilities in Korea, the United States, China and Vietnam, of which six are located in East Asia. Therefore, this outlook could have a serious negative impact on Kumho Tire.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

What are Kumho Tire's key risks and opportunities under the climate change scenario and what are the potential financial implications for the company?

Results of the climate-related scenario analysis with respect to the focal questions

According to our climate-related scenario analysis, the emissions trading system is expected to have a direct impact on the company. Kumho Tire is eligible for allocation under the emissions trading system in Korea. It participated in the 1st and 2nd commitment periods from 2015 to 2020, and is currently participating in the 3rd period (2021-2025). In the 3rd period, auctioning accounts for 10% of the emissions trading system, more than triple the 3% in the 2nd period. The government is considering further increasing the percentage of auctioning in the 4th period (2026 to 2030). Europe has formed a plan to phase out free allocation for the CBAM industries by 2034, and Korea is also likely to gradually expand auctioning, along with the reduction of the total emissions allowed, in order to prepare for the CBAM and carbon neutrality. The potential financial impact expected from these changes is estimated at KRW 50.5 billion to KRW 60.4 billion. As a countermeasure, Kumho Tire is making efforts to reduce GHG emissions through investment in energy conservation in plants, building solar energy facilities in each plant.

Another influential factor is the difficulty of procuring natural rubber. The main producers of natural rubber are Southeast Asian countries such as Thailand and Indonesia. High temperatures reduce latex production, which in turn reduces our production, and dry climates cause delays in trees reaching maturity and rubber production. In addition, the annual precipitation fluctuations are expected to become more severe due to the El Niño-Southern Oscillation (ENSO), and if the number of precipitation days increases, soil leakage and flooding damage will escalate. If natural rubber trees are damaged due to increased typhoons, it can cause irreversible damage to the plantation. Kumho Tire estimates the potential financial impact to be KRW 85,071,000,000 to KRW 97,224,000,000. This estimate was calculated based on the purchase cost of natural rubber for tire manufacturing in 2022.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

Products and services	Yes	Car makers worldwide have declared that they would completely stop investment in production and development of conventional internal combustion engine cars, and a full transition to EV product portfolios. In order to adapt to the low carbon conversion in the mobility industry, Kumho Tire is making efforts to reduce GHG emissions in lifecycle by developeing design technologies, and by launching EV tire products to meet the demands from EV market. WATTRUN VS31 is an ultra-light weight tire launched in 2013, developed with the support of Environment-Friendly Motor Vehicle Technology Development Project Group under the Ministry of Environment. According to the tests conducted by domestic and foreign qualification test institutes, it improved the mileage efficiency by 4.8% and reduced CO2 emission by 5.9% compared to existing products. This technology also applied to ECOWING ES31 which is sold not only in the domestic market but also in the North America and Europe markets. Kumho Tire conducted precise analysis of EV benchmark tires to secure advanced EV tire technologies in 2021, considering heavy weight, high torque and low noise characteristics of EVs. We are developing EV platforms through VPD (Virtual Product Development) and planning to test on actual cars in 2022 and to develop high-performance EV tires for PCR and SUV in 2023. In 2022, we are expanding the sales of low-wear and low-carbon tires by launching four types of tires for EVs,'TA91 ev, HP71 ev, PS71 ev, TA31 ev'
Supply chain and/or value chain	Yes	Kumho Tire has participated in the GPSNR (Global Platform for Sustainable Natural Rubber) as one of the founding members, to build and support a sustainable natural rubber supply chain. The GPSNR has established standards for improving sustainability of rubber yields, preventing reclamation and lumbering, protecting bio-diversity and water resources, and increasing transparency and traceability of the supply chain, in order to create sustainable and fair natural rubber value chain. Kumho Tire will continuously strive for build and manage a sustainable natural rubber supply chain by expanding the application of natural rubber policy and green purchase policy to its supply chain. Plus, the shortage of industrial water resulting from climate change and the consequential price increase of industrial water may affect manufacturing efficiency. In order to mitigate those risks, Kumho Tire introduced reverse osmosis and advanced treatment facilities, to reduce waste water by reusing them for process water.

Investment in R&D	Yes	With the establishment of the Gwangju Performance Center in 1981, Kumho Tire has established global R&D network, with overseas R&D centers in China, US and Europe to develop advanced technologies. In particular, Kumho Tire has focused on responding to climate change by developing and expanding environment-friendly tires with sustainable raw materials, low-wear, low carbon emissions, and by developing compound technologies to utilizing renewable, recycled, and plant-based raw materials. In 2022, Kumho Tire conducted basic R&D to develop new environment-friendly materials that can be used for tires, researches on properties of end-of-life tire (ELT) pyrolysis carbon black, MRP, etc. and development of compounds that increase the use of reclaimed rubber(55% in 2022, 80% in 2023). Furthermore, Kumho Tire focuses on the development of low mileage tires with low rolling resistance (LRR) in order to respond to mileage regulations and expands R&D to be prepared for rapidly growing demands for EVs. Kumho Tire conducted precise analysis of EV benchmark tires to secure advanced EV tire technologies in 2021, considering heavy weight, high torque and low noise characteristics of EVs. We are developing EV platforms through VPD (Virtual Product Development) and planning to test on actual cars in 2022 and to develop high-performance EV tires for PCR and SUV in 2023. Furthermore, we have been conducting a variety of researches to develop low-wear, low carbon tires that contribute to reduction of fine dusts and greenhouse gases. Kumho Tire is participating in a road technology research project hosted by the Ministry of Land, Infrastructure and Transport in order to develop technologies for quantitative analysis of fine duts in road, and to develop road materials and low-wear tires that can decrease fine dusts.
Operations	Yes	Kumho Tire built the FEMS (Factory Energy Management System) in the domestic plants in 2013 and has monitored the energy consumption in manufacturing facilities and the history of measures taken for problematic equipment to manage energy efficiency. Kumho Tire plans to introduce more solar energy facilities for conversion to environment-friendly energy, and contributes to GHG emissions reduction through improvement of obsolete equipment and introduction of high efficiency equipment. Kumho Tire has participated in the green growth pursued by the Korean Government, and got certifiied for reduction of GHG emissions for the first time in the domestic tire industry. In

		addition, Kumho Tire manages air and water pollution rates below 50% of the regulated level installing dust collecting equipment and waste water treatment equipment in the plants. In particular, with high-efficiency and low NOx burners, Kumho Tire has reduced NOx that causes fine dusts. Kumho Tire has established a target rate of the resource circulation every year, and monitored its performance in order to improve inefficient use of resources in the manufacturing process. In 2021, the resource circulation rate was 28.6% improved compared to that of 2018.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures	1) Revenues – In line with the automobile market's environment-friendly and low carbon conversion, customers show preference to environment-friendly products. If Kumho Tire is able to quickly convert to low carbon products with low rolling resistance that emits less carbon and EV tires with higher energy efficiency, it can have impact on the increase in revenues. In addition, if Kumho Tire participates in the emissions trading scheme and emits greenhouse gases less than the allocated quantity through reduction technologies, etc., the earnings from surplus emission permits will contribute to increase in revenues. 2) Direct cost – Natural rubber is a major raw material used to make tires. However, most natural rubber is produced in the Southeast Asia, a region vulnerable to climate change. The decrease of yields due to climate change and the leaf fall disease would provoke price hikes of natural rubber and increase the unit cost for tire production. 3) Capital expenditure – If Kumho Tire fails to reduce greenhouse gas emissions quickly, there would be indirect costs for purchasing emission permits during the 3rd period (2021-2025) and 4th period (2026-2030) of the emissions trading scheme. In addition, Kumho Tire must spend additional costs to get verification of greenhouse gas emissions from a third party.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition
Row 1	No, but we plan to in the next two years

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition

1.5°C aligned

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Base year

2018

Base year Scope 1 emissions covered by target (metric tons CO2e)

92,623.4

Base year Scope 2 emissions covered by target (metric tons CO2e)

169,156.6

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)

Base year total Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

261,780

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

67.1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

44.6

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

50.6

Target year

2025

Targeted reduction from base year (%)

4.67

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

249,554.874

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

89,751

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

174,605

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

264,356

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

-21.0713574649

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Kumho Tire's target is to include 100% of Scope 1 and 2 emissions of the reporting year in the target scope and to reduce emissions below the allocated emission permits by 2025 when the 3rd period ends. Kumho Tire was allocated with 90% of its average emissions from 2017 to 2019 for the 3rd period pursuant to the reduction goal by sector of "Basic Roadmap for the Attainment of 2030 National Greenhouse Gas Reduction Targets" released in July 2018.

Plan for achieving target, and progress made to the end of the reporting year

Kumho Tire systematically manages energy and GHGs by utilizing the factory energy management system (FEMS) at each plant in Korea. It analyzes and shares energy consumption and efficiency data real-time to optimize energy use, in addition to managing facility efficiency by analyzing energy consumption by unit. Kumho Tire also holds an energy management committee meeting once a month to reduce energy consumption in line with the changes in the internal and external environment.
More than 50% of Kumho Tire's GHG emissions are Scope 2 emissions, and power supply through renewable energy is a key task to achieve the 2045 carbon neutrality goal. Hence, we are pushing for the construction of solar energy facilities at domestic and overseas business sites for the transition to renewable energy. In Korea, we are operating small-scale solar power facilities in the Yongin Research Institute and the office building of the Gokseong Plant, while reviewing the feasibility of solar power facilities at the Gwangju, Gokseong, and Pyeongtaek plants from various angles. As for overseas business sites, we have introduced or are positively considering introduction of solar energy facilities at four out of five business sites in China (Nanjing, Tianjin, and Changchun Plants), Vietnam, and the United States. The Nanjing Plant in China is building a solar power facility of about 16MW on its roof. It is expected to generate approximately 14,000 MWh of electricity upon completion at the end of June 2023. We are also building solar energy facilities in the Tianjin Plant, Changchun Plant, and Vietnam Plant as a means of using renewable energy, aiming to operate them in early 2024 at the latest. Once completed, the solar energy facilities are expected to generate 20% of the electricity consumed by each plant in 2022 on average. To achieve our 2045 carbon neutrality targets, we will continue to procure renewable energy through various channels such as power purchase agreements (PPAs), renewable energy certificates (RECs), and green premium purchase. Against this background, we will establish an annual procurement plan to achieve the RE100 goal.
We are preparing emission reduction targets that meet the SBTi criteria and will submit the reduction targets to SBTi within 2024.

List the emissions reduction initiatives which contributed most to achieving this target

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Net-zero target(s)

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2021

Target coverage

Product level

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Other, please specify

Other, please specify

The percentage of transition to environment-friendly raw materials

Target denominator (intensity targets only)

Base year

2021

Figure or percentage in base year

24

Target year

2045

Figure or percentage in target year

100

Figure or percentage in reporting year

25

% of target achieved relative to base year [auto-calculated]

1.3157894737

Target status in reporting year

Underway

Is this target part of an emissions target?

No

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

Kumho Tire has a target to achieve 100% transition to environment-friendly raw materials for all tire products by 2045. Kumho Tire plans to increase the use of recycled materials, such as recycled carbon black, MRP (micronized rubber powder) and recycled PET to 40% and bio-source materials, such as natural rubber and environment-friendly butadiene, to 60% by 2045.

Plan for achieving target, and progress made to the end of the reporting year

Kumho Tire is endeavoring to develop environment-friendly compound technologies that apply renewable and recycled materials and bio-sourced environment-friendly new materials to tire production. In 2021, Kumho Tire succeeded in the research and application of properties of end-of-life tire (ELT) pyrolysis carbon black, MRP, etc. and development of compounds that increase the use of reclaimed rubber. In 2022, Kumho Tire plans to take a step forward in the development of environment-friendly materials through researches on environment-friendly certified synthetic rubber and chemicals, and manufacture of prototypes of the products that had been in the experimental stage. Kumho Tire also applied bio-sourced materials such as oils and fiber cords to test tires, which may replace petrochemical materials and silica, and conducted assessment thereof. Based on basic researches, Kumho Tire is committed to achieving 40% use of environment-friendly raw materials by 2030 and 100% by 2045 and will make efforts to meet such targets.

List the actions which contributed most to achieving this target

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Not applicable

Target year for achieving net zero

2045

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Please explain target coverage and identify any exclusions

Scope 1, 2, 3

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Unsure

Planned milestones and/or near-term investments for neutralization at target year

Planned actions to mitigate emissions beyond your value chain (optional)

The activities that we focus on in the short term are to reduce Scope 1 and 2 emissions by workplace.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	4	1,795
Implementation commenced*	1	10
Implemented*	5	8,732
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Reduction of power consumption of rolling equipment through Remodeling of inspection process

Estimated annual CO2e savings (metric tonnes CO2e)

147

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

36,593,456

Investment required (unit currency – as specified in C0.4)

135,000,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

In 2022, as a form of investment to save energy in our plants, Kumho Tire remodeled the conveyor line of the inspection process and suspended operation of 6 units of inspection equipment. The investment amount was KRW 135,000,000, the annual fuel savings estimated to be 315MWh (based on the number of operation days), and the Gwangju Plant's recorded average unit electricity cost in 2022 was KRW 115.99/kWh with saved costs estimated to be KRW 36,593,456 per year. The reduction in GHG emissions is estimated to be 147tCO2eq, as calculated by multiplying the annual fuel savings by the national emission factor of electricity (0.4663tCO2eq/MWh).

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Steam Trap Replacement Works

Estimated annual CO2e savings (metric tonnes CO2e)

1,111

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

559,411,197

Investment required (unit currency – as specified in C0.4)

112,050,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

In 2022, as a form of investment to save energy in our plants, Kumho Tire replaced old steam traps in the curing process. The investment amount was KRW 112,050,000, the annual fuel savings estimated to be 502km3 (based on the number of operation days), and the Gwangju Plant's recorded average unit fuel cost in 2022 was KRW 1,113.65/m3 with saved costs estimated to be KRW 559,411,197 per year. The reduction in GHG emissions is estimated to be 1,111tCO2eq, as calculated by multiplying the fuel savings by the national emission factor of fuel (2.2124tCO2eq/km3).

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Establishment of Remote Operation System for Vacuum Pump in Molding Process

Estimated annual CO2e savings (metric tonnes CO2e)

116

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

29,226,932

Investment required (unit currency – as specified in C0.4)

18,500,000

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

In 2022, as a form of investment to save energy in plants, Kumho Tire built a vacuum pump remote operation system in the molding process (from operation of 2 facilities to 1 facility). The investment amount was KRW 18,500,000, the annual electricity savings estimated to be 248MWh (based on the number of operation days), and the Gokseong Plant's recorded average unit electricity cost in 2022 was KRW117.9/kWh with saved costs estimated to be KRW 29,226,932 per year. The reduction in GHG emissions is estimated to be 116tCO2eq, as calculated by multiplying the electricity savings by the national emission factor of electricity (0.4663tCO2eq/MWh).

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Replacement of steam trap for main steam engine in TBR process

Estimated annual CO2e savings (metric tonnes CO2e)

80

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

204,793,183

Investment required (unit currency – as specified in C0.4)

11,456,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

In 2022, as a form of investment to save energy in plants, Kumho Tire replaced old steam traps in the main steam lines and the TBR curing process. The investment amount was KRW 11,456,000, the annual fuel savings estimated to be 177km3 (based on the number of operation days), and the Gwangju Plant's recorded average unit fuel cost in 2022 was KRW1,156.7/m3 with saved costs estimated to be KRW 204,793,183 per year. The reduction in GHG emissions is estimated to be 80tCO2eq, as calculated by multiplying the fuel savings by the national emission factor of fuel (2.2124tCO2eq/km3).

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Improvement of refrigerator efficiency

Estimated annual CO2e savings (metric tonnes CO2e)

911

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

50,529

Investment required (unit currency – as specified in C0.4)

42,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

In 2022, as an investment to save energy in plants, Kumho Tire improved the efficiency of freezers by improving the LTD of freezers. The investment amount was USD 42,000, the annual electricity savings estimated to be 1,261 MWh, and the unit price of industrial electricity in 2022 was USD 0.07/kWh according to the Vietnam Electric (EVN) statistics, which leads to estimated saved costs of USD88,289 (= 1,261,269*0.07) per year, and estimated savings in cleaning costs to be USD4,240 per year. The reduction in GHG emissions resulting from electricity savings is estimated to be 911tCO2eq, as calculated by multiplying the electricity savings by the national emission factor of electricity (0.4663tCO2eq/MWh).

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Kumho Tire induces investment in emissions reduction activities in preparation for the reduction of emission permits allocated gratuitously and carbon price increase as the ETS is enhanced in the future.

Dedicated budget for low-carbon product R&D	Kumho Tire invested its R&D budgets in the development of low-carbon, low-wear tires through global R&D networks. In addition, Kumho Tire intends to improve energy efficiency and reduce carbon emissions by investing in the development of new technologies to apply sustainable new materials.
Dedicated budget for other emissions reduction activities	Kumho Tire executes a part of the dedicated budget to energy saving through improvement of energy efficiency of the manufacturing process, such as replacement and improvement of compressors and recovery of steam turbine efficiency.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

Other, please specify

Regulation (EU) 2020/740, internal standard

Type of product(s) or service(s)

Road

Other, please specify

Tire

Description of product(s) or service(s)

ECOWING ES31 is a LRR (Low Rolling Resistance) tire product developed to reduce CO2 emissions in accordance with EU environmental regulations while maintaining the same performance. In particular, it achieved minimizing energy loss by lowering RR compared to existing products, and realized balanced driving performance in terms of wet grip, mileage and noise by applying optimal tread pattern designs and new materials. WATTRUN VS31 is an ultra-light weight tire which is 25% lighter than ordinary tires and obtained A/A grade in EU labeling based on the excellent fuel efficiency. Kumho Tire applied new technologies to reduce its weight by 25% while maintaining the equal performance to ordinary tires. Both products correspond to the 1st grade of Korea Tire Efficiency Standard Rating.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify

Internal calculation

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

Annual mileage (12,519km)

Reference product/service or baseline scenario used

KH27 (former version of ECOWING)

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

27,974.07

Explain your calculation of avoided emissions, including any assumptions

Kumho Tire tested energy efficiency of its low carbon tire (ES31) and KH27 (reference group) applicated to the same vehicle model (Avante AD) through the Korea Automotive Technology Institute (KATECH) in October 2018. We calculated avoided emissions based on the annual mileage (12,519km) and the annual mileage by multiplying the daily average mileage of automobiles in 2018 (34.3km) in the statistics of the Ministry of Land, Infrastructure and Transport by 365 days. According to the test results, vehicles with KH27 have the mileage of 14km/liter and consume approx. 892.4 liters per year while vehicles with VS31 & ES31 has the mileage of 14.53km/liter and consume approx. 861.6 liters per year. Hence, VS31 & ES31 can save 32.6 liters per year compared to KH27. If multiplying the fuel quantity saved by the improved mileage (32.6 liters) by the number of vehicles available (sales quantity/4=571,772), the total saved fuel quantity is 18,639,783.5 liters. Since Avante's mileage is 14km/liter, tires have the effect of reducing driving of 260,956,969km. As Avante's CO2 emissions are 110g/km, the estimated avoided emissions are 27,974.07tCO2e.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

2.45

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?
Row 1	No

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

1 월 1, 2018

Base year end

12 월 31, 2018

Base year emissions (metric tons CO2e)

138,056.8

Comment

Kumho Tire includes three production plants (Gwangju, Gokseong and Pyeongtaek) and other branches and service centers as domestic business sites, and three manufacturing plants in China (Tianjin, Changchun and Nanjing) and other manufacturing plants in Vietnam and Georgia, US as overseas business sites in the reporting boundary. For domestic business sites, the reported emissions were verified in

accordance with the Korea GHG and Energy Target Management System Operating Guidelines. For the Tianjin plant, the reported emissions were verified in accordance with Tianjin Pilot ETS' regulations. For other overseas business sites, emissions were calculated in accordance with IPCC Guidelines for National Greenhouse Gas Inventories (2006).

Scope 2 (location-based)

Base year start

1 월 1, 2018

Base year end

12 월 31, 2018

Base year emissions (metric tons CO2e)

379,170.2

Comment

Kumho Tire includes three production plants (Gwangju, Gokseong and Pyeongtaek) and other branches and service centers as domestic business sites, and three manufacturing plants in China (Tianjin, Changchun and Nanjing) and other manufacturing plants in Vietnam and Georgia, US as overseas business sites in the reporting boundary. For domestic business sites, the reported emissions were verified in accordance with the Korea GHG and Energy Target Management System Operating Guidelines. For the Tianjin plant, the reported emissions were verified in accordance with Tianjin Pilot ETS' regulations. For other overseas business sites, emissions were calculated in accordance with IPCC Guidelines for National Greenhouse Gas Inventories (2006).

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

815,423.515

Comment

Scope 3 category 2: Capital goods

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

42,163.553

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

28,178.491

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

219,567.567

Comment

Scope 3 category 5: Waste generated in operations

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

1,987.064

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

1 월 1, 2022

Base year end

12 월 31, 2022

Base year emissions (metric tons CO2e)

1,213

Comment

Scope 3 category 8: Upstream leased assets

Base year start

1 월 1, 2022

Base year end

12 월 31, 2022

Base year emissions (metric tons CO2e)

2,220

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

219,567.567

Comment

Scope 3 category 10: Processing of sold products

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

222,234.438

Comment

Scope 3 category 11: Use of sold products

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

4,570,584.3

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

299,478.12

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

1 월 1, 2021

Base year end

12 월 31, 2021

Base year emissions (metric tons CO2e)

24,091

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

China Corporate Energy Conservation and GHG Management Programme
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
Korea GHG and Energy Target Management System Operating Guidelines
Other, please specify
The Greenhouse Gas Protocol - Technical Guidance for Calculating Scope 3 Emissions

C6. Emissions data

C6.1

(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

152,399

Comment

We included three plants (Gwangju, Gokseong and Pyeongtaek) that are subject to the Korean GHG emissions trading system, as well as other branches and service centers as domestic business sites, three Chinese plants (Tianjin, Changchun, Nanjing), plants in Vietnam and Georgia, U.S., three overseas R&D centers (China, Europe, and the U.S.), four sales corporations (U.S., China, Europe and Australia), and one U.S. logistics center as overseas business sites in the reporting boundary. For domestic business sites, the reported emissions were verified in accordance with the Korea GHG and Energy Target Management System Operating Guidelines. For the Tianjin Plant, the reported emissions were verified in accordance with the Tianjin Pilot ETS' regulations. For other overseas business sites, the reported emissions were verified in accordance with ISO 14064-1 and ISO 14064-3 standards.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

The Vietnamese production plant has a contract to supply wood pellet steam with a local company, but it does not provide a greenhouse gas emission coefficient, so the corresponding emissions were reported in location-based.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

382,854

Comment

We included three plants (Gwangju, Gokseong and Pyeongtaek) that are subject to the Korean GHG emissions trading system, as well as other branches and service centers as domestic business sites, three Chinese plants (Tianjin, Changchun, Nanjing), plants in Vietnam and Georgia, U.S., three overseas R&D centers (China, Europe, and the

U.S.), four sales corporations (U.S., China, Europe and Australia), and one U.S. logistics center as overseas business sites in the reporting boundary. For domestic business sites, the reported emissions were verified in accordance with the Korea GHG and Energy Target Management System Operating Guidelines. For the Tianjin Plant, the reported emissions were verified in accordance with the Tianjin Pilot ETS' regulations. For other overseas business sites, the reported emissions were verified in accordance with ISO 14064-1 and ISO 14064-3 standards.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions

Overseas sales offices (excluding Chinese subsidiaries, US subsidiaries, European subsidiaries, and Australian subsidiaries)

Scope(s) or Scope 3 category(ies)

Scope 1

Scope 2 (location-based)

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source

Relevance of Scope 3 emissions from this source

Date of completion of acquisition or merger

Estimated percentage of total Scope 1+2 emissions this excluded source represents

0.3

Estimated percentage of total Scope 3 emissions this excluded source represents

Explain why this source is excluded

1. Korea reports all sales office emissions.
2. There are a total of 23 operating corporations overseas, and the estimated emissions for the remaining 18 offices excluding the four operating corporations (US, Europe, China, Australia) with the largest number of employees are 1,908 tons. The share of global emissions in 2022 is 0.36%.

Explain how you estimated the percentage of emissions this excluded source represents

1. Emission from European Office * 18 offices = 1,908 tCO2eq
2. 1,908 / 535,253 = 0.36%

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

963,007

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The emissions were calculated based on the purchase costs of raw materials such as rubber, cord (fabric/steel), carbon black, and bead wire purchased as raw materials for tires in 2022 in accordance with the GHG Protocol's Corporate Value Chain (Scope 3) Standard.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

157,193

Emissions calculation methodology

Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The emissions were calculated based on the amount of investment in plant and equipment necessary for manufacturing tires in 2022 in accordance with the GHG Protocol's Corporate Value Chain (Scope 3) Standard.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

53,297

Emissions calculation methodology

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The emissions were calculated based on domestic and overseas fuel and energy consumed and evaluation coefficients of the Korean EPD. Formula: ∑(energy consumed by fuel type (kg) x emission coefficient by fuel (kgCO2e/kg)) or ∑(energy consumed (kWh or MJ) x energy emission coefficient (kgCO2e/kWh or MJ/kg)). All business places use gasoline, diesel, kerosene, LGN, LPG and electricity for fuel and energy, and emissions from the use of LNG and electricity account for 99% of emissions. As to electricity, the upstream emission coefficient at the power station (raw materials) were appliedused for that of power consumption in this category, since the emission coefficient from power transmission and distribution loss was already applied to the calculation of Scope 2 emissions.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

758,670

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The emissions were calculated based on the air and maritime freight charges, land freight charges for domestic sale and export, warehousing fees, rents for logistics centers and warehouses, and electric bills, etc. incurred in the domestic upstream logistics phase in 2021 in accordance with the GHG Protocol's Corporate Value Chain(Scope 3) Standard.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

8,990

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

We calculated emissions from actual waste treatment quantities (tons) in 2022, using evaluation coefficients of the Korean EPD (Environmental Production Declaration) by treatment type such as landfill, incineration, recycling, waste water treatment, etc.

Business travel

Evaluation status

Not relevant, explanation provided

Please explain

Kumho Tire calculates only the GHG emissions related to the entire life cycle of tire products. We will expand Scope 3 categories calculated and managed in 2024.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1,213

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

According to GHG Protocol's Corporate Value Chain (Scope 3) standard, GHG emissions were calculated based on shuttle bus operating costs in 2022.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2,220

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Based on the greenhouse gas emissions of the U.S. logistics center calculated in 2022, the unit of emission per area was calculated. After that, the total area of the distribution center being rented was multiplied by the original unit to calculate the amount of emissions.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

54

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

As of 2022, Kumho Tire calculated greenhouse gas emissions within the range of not paying transportation costs.

Processing of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

65

Emissions calculation methodology

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The amount of greenhouse gas emissions was calculated based on the electricity usage of the tire detachment device.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

4,914,880

Emissions calculation methodology

Methodology for indirect use phase emissions, please specify

Calculated emissions from energy consumption due to rolling resistance and acceleration resistance generated from driving cars

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions were calculated based on the Life Cycle Assessment (LCA) results conducted in 2022.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

96,179

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

It was calculated based on the waste tire recycling statistics of the Korea Tire Industry Association in Korea and WBCSD-TIP "Global ELT Management – Global state of knowledge on regulation, management systems, impacts of recovery and technologies."

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

There are no downstream leased assets excluded from the calculation of Scope 1, 2 emissions.

Franchises

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

23,433

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Annual emissions of a total 662 dealerships of TIREpro and KTS were calculated by multiplying the average size of 10 stores by the building GHG emission factor, in accordance with the GHG Protocol’s Corporate Value Chain (Scope 3) Standard.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Kumho Tire's consolidated standards companies are all within our operational control, so they are included in our Scope 1 and 2 emissions.

Other (upstream)

Evaluation status

Not evaluated

Please explain

-

Other (downstream)

Evaluation status

Not evaluated

Please explain

-

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Yes

C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	736	In 2022, we calculated the amount of steam made of wood pellets purchased at Kumho Tire's Vietnamese production plant. Wood pellet boilers are located in the Vietnam production plant and are operated by other companies.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0000001504

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

535,253

Metric denominator

metric ton of product

Metric denominator: Unit total

3,559,158,000,000

Scope 2 figure used

Location-based

% change from previous year

22

Direction of change

Decreased

Reason(s) for change

Other emissions reduction activities

Please explain

Due to energy-saving activities in the heating and cooling and refining processes conducted in 2022, raw unit emissions decreased by 22%.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	152,199	IPCC Second Assessment Report (SAR - 100 year)
CH4	83	IPCC Second Assessment Report (SAR - 100 year)
N2O	116	IPCC Second Assessment Report (SAR - 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Republic of Korea	89,900

China	49,500
Viet Nam	1,910
United States of America	10,523
Germany	163
Australia	205

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Tire	150,145
Other	2,254

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Gwangju plant	43,337	35.142223	126.789302
Gokseong plant	40,278	35.312708	127.204844
Pyeongtaek plant	4,786	36.978134	126.853397
Tianjin plant, China	23,850	39.067588	117.538627
Changchun plant, China	10,192	43.788822	125.250077
Nanjing plant, China	15,431	32.120941	118.814769
Vietnam plant	1,910	10.780318	106.683983
Georgia plant, US	10,361	32.744948	-83.648744

Other	2,254	35.9078	127.7669

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Fixed combustion	149,123
Mobile combustion	3,266
Waste	10

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Republic of Korea	174,605	0
China	140,112	0
Viet Nam	41,212	0
United States of America	26,627	0
Germany	44	0
Australia	32	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Tire	378,162	
Other	4,693	

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Gwangju plant	77,105	0
Gokseong plant	86,643	0
Pyeongtaek plant	8,450	0
Tianjin plant, China	81,685	0
Changchun plant, China	19,674	0
Nanjing plant, China	36,902	0
Vietnam plant	41,212	0
Georgia plant, US	26,491	0
Other	4,693	0

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Purchased electricity	382,118	0
Purchased steam	737	0

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	5	Decreased	9	Yongin R&D Center, Gokseong Plant has small solar facilities. As power generation increased by 9% compared to last year, greenhouse gas emissions decreased by 9%. Renewable energy generation will increase significantly in the future as solar power generation facilities at other plants are under construction from the end of 2022.
Other emissions reduction activities	2,365	Decreased	0.44	In 2022, a total of 2,365 tCO2eq of greenhouse gas emissions were reduced by replacing steam traps, introducing a vacuum pump remote operation system, and improving refrigerator efficiency, and accounting for 0.44% of emissions in 2022.
Divestment	0	No change	0	Not Applicable
Acquisitions	0	No change	0	Not Applicable
Mergers	0	No change	0	Not Applicable
Change in output	30,611	Increased	6.1	Total global tire production increased 7% compared to 2022, resulting in a 6.1% increase in 2022 emissions compared to 2021.
Change in methodology	0		0	Not Applicable
Change in boundary	0	No change	0	Not Applicable
Change in physical operating conditions	0	No change	0	Not Applicable

Unidentified	0	No change	0	Not Applicable
Other	0	No change	0	Not Applicable

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	826,001	826,001
Consumption of purchased or acquired electricity		0	717,640	717,640
Consumption of purchased or acquired steam		0	87,547	87,547
Consumption of self-generated non-fuel renewable energy		140		140
Total energy consumption		140	1,631,188	1,631,328

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Other biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

0

Comment

Coal

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Oil

Heating value

HHV

Total fuel MWh consumed by the organization

8,561

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

968

Comment

Gas

Heating value

HHV

Total fuel MWh consumed by the organization

817,440

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Total fuel

Heating value

HHV

Total fuel MWh consumed by the organization

826,001

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

818,408

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	0	0	0	0
Heat	0	0	0	0
Steam	817,440	817,440	0	0
Cooling	0	0	0	0

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Republic of Korea

Consumption of purchased electricity (MWh)

0

Consumption of self-generated electricity (MWh)

140

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

140

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Other, please specify

Improvement of intake water unit (compared to 2021)

Metric value

20

Metric numerator

Total Water Usage (ton)

Metric denominator (intensity metric only)

Product Weight (ton)

% change from previous year

8.8

Direction of change

Decreased

Please explain

In order to reduce water usage and increase water recycling rate, we have achieved the goal of intake water unit.

Description

Land use

Metric value

90

Metric numerator

waste recycling rate

Metric denominator (intensity metric only)

Not Applicable

% change from previous year

81

Direction of change

Decreased

Please explain

In order to reduce the amount of waste generated, we have established a goal to improve the waste recycling rate.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

검증보고서_230320.pdf

Page/ section reference

p21 ~ p23

Relevant standard

Korean GHG and energy target management system

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Reasonable assurance

Attach the statement

문건 2. 금호타이어 천진 공장 온실가스 배출 검증.pdf

Page/ section reference

1. Atach past year report as verification is in progress
2. The verification report below included the greenhouse gas emissions of the Tianjin plant.

Relevant standard

Other, please specify

China Corporate Energy Conservation and GHG Management Programme

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

검증의견서_해외사업장 Scope 1 2_금호타이어(주)(국문)_v2-결합됨.pdf

Page/ section reference

p1~p2

We verified the greenhouse gas emissions, including the Tianjin plant.

Relevant standard

ISO14064-1

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

검증보고서_230320.pdf

Page/ section reference

p21 ~ p23

Relevant standard

Korean GHG and energy target management system

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance

Reasonable assurance

Attach the statement

문건 2. 금호타이어 천진 공장 온실가스 배출 검증.pdf

Page/ section reference

1. Atach past year report as verification is in progress
2. The verification report below included the greenhouse gas emissions of the Tianjin plant.

Relevant standard

Other, please specify

China Corporate Energy Conservation and GHG Management Programme

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

검증의견서_해외사업장 Scope 1 2_금호타이어(주)(국문)_v2-결합됨.pdf

Page/ section reference

p1~p2

We verified the greenhouse gas emissions, including the Tianjin plant.

Relevant standard

ISO14064-1

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Purchased goods and services
Scope 3: Upstream transportation and distribution
Scope 3: Downstream transportation and distribution
Scope 3: Processing of sold products
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2022 년 Scope3 검증의견서.pdf

Page/section reference

p1~p2

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

96.5

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C9. Additional metrics	Other, please specify Waste, water used, energy consumed	AA1000 AS	The data about the amount of waste, water consumption and energy consumption were verified in accordance with the AA1000 AS and reported in the 2023 Sustainability Report (p16. ESG Management Metrics and Implementation Status) 1
C4. Targets and performance	Other, please specify Environment-friendly products certification	EPD	Kumho Tire obtained the EPD Label from the Korea Environmental Industry & Technology Institute under the Ministry of Environment for the first time in the tire industry, for applying various design technologies and environment-friendly materials to develop sustainable tire products. As of 2022, Kumho Tire maintains the EPD Label for 4 products, and will continue to expand environment-friendly products in order to meet demands for environment-friendly products. (p27. Environmental Labeling Certification) 1

[1]2023 Kumho Tire Sustainability Report.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Korea ETS

Tianjin pilot ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Korea ETS

% of Scope 1 emissions covered by the ETS

73.1

% of Scope 2 emissions covered by the ETS

47

Period start date

1 월 1, 2022

Period end date

12 월 31, 2022

Allowances allocated

251,921

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

89,899

Verified Scope 2 emissions in metric tons CO2e

174,605

Details of ownership

Facilities we own and operate

Comment

Tianjin pilot ETS

% of Scope 1 emissions covered by the ETS

18

% of Scope 2 emissions covered by the ETS

23

Period start date

1 월 1, 2022

Period end date

12 월 31, 2022

Allowances allocated

102,940

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

23,850

Verified Scope 2 emissions in metric tons CO2e

81,685

Details of ownership

Facilities we own and operate

Comment

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Starting from the participation in the 1st Korea ETS in 2015, Kumho Tire has developed strategies and built a system to manage emission permits in order to respond to carbon price systems. Kumho tire established organizations exclusively responsible for ESG including climate-related issues (ESG Team, SHE Planning Team and R&D SHE Team, etc.) were established in December 2021 to build a company-wide system managing climate issues. Also we have plans to develop innovative CO2 reduction technologies for energy saving up to 20% through process innovation (ES-20 project), to participate in CDM & KCDM projects, environment-friendly energy projects, and emission trading markets as well as investment in carbon funds.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Alignment with the price of allowances under an Emissions Trading Scheme

Objective(s) for implementing this internal carbon price

Drive energy efficiency
Navigate GHG regulations

Scope(s) covered

Scope 1
Scope 2

Pricing approach used – spatial variance

Uniform

Pricing approach used – temporal variance

Static

Indicate how you expect the price to change over time

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

12,050

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

32,700

Business decision-making processes this internal carbon price is applied to

Capital expenditure
Operations

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for all decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

Kumho Tire has participated in the first planning period of the Korea Emissions Trading Scheme (K-ETS) since 2015 and has used the emission price as an internal carbon price to make decisions on investments in new workplaces under consideration.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers/clients

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

4.9

% total procurement spend (direct and indirect)

52

% of supplier-related Scope 3 emissions as reported in C6.5

88

Rationale for the coverage of your engagement

Kumho Tire operates regular assessment for its suppliers to identify potential risk factors and recommend to improve. 32 suppliers whose transaction value of previous year was higher than KRW 2 billion or which had achieved lower ratings in previous assessment, completed the assessment. The transactions with them accounts for 52% of the total procurement spend.

Of Scope3 C1 emissions, 88 percent of companies that sign the partner's Code of Conduct.

Impact of engagement, including measures of success

Kumho Tire strives for shared growth and ESG management in the supply chain by establishing sustainable relationships with suppliers. Through K-POS, partners can directly manage the purchase process and communicate with Kumho Tire, which supports their ESG capabilities. Kumho Tire applies incentives according to the evaluation results through regular evaluation of its partners. It also strengthened ESG factors to improve the evaluation system and established partner codes of conduct for human rights, labor, health and safety, environment, ethics, responsible raw material procurement and management systems based on international norms and guidelines.

Signatures were requested from all partners, and 50 out of a total of 51 major partners in 2022.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing
Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

Kumho Tire communicates with all potential customers to raise their awareness on climate change and GHG reduction.

Impact of engagement, including measures of success

Kumho Tire discloses energy efficiency grades to its consumers through the website with the details of tire products including mileage, web grip and noise, etc., so that they can choose safe and high quality products. In addition, Kumho Tire has implemented annual quality system diagnosis in accordance with its own quality guidelines, contributed to risk factors elimination and quality improvement. With these efforts, Kumho Tire scored 4.8 out of 5 in the customer satisfaction survey executed by Kumho Tire in 2022, and has maintained the 1st place in the Korean Customer Satisfaction Index for 18 consecutive years. Furthermore, Kumho Tire constantly communicates with customers through product launching events and SNS including Youtube.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

We are conducting a classroom forest creation project by discovering additional activities that can contribute to responding to climate change. The creation of a classroom forest for elementary school students in Seoul helps children realize the seriousness of climate change and environmental pollution problems, while also contributing to improving the classroom

environment by distributing indoor plants. In 2022, a total of 500 trees were distributed to 21 classes to create classroom forests, and 500 ash trees were donated to eco-recovery forests in Gangwon-do's forest aging area to prevent forest fires and reduce carbon.

We also run the 'Green Campanner' program, a climate environment education for elementary school students. In 2022, a total of 1,083 elementary school students from 16 schools were educated to foster the competencies and the right consciousness that children should have as climate citizens. After learning the theory, we conducted a direct campaign to improve awareness on and off campus and provide opportunities to participate in responding to the climate crisis.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization’s purchasing process?

Yes, suppliers have to meet climate-related requirements, but they are not included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization’s purchasing process and the compliance mechanisms in place.

Climate-related requirement

Climate-related disclosure through a non-public platform

Description of this climate related requirement

Kumho Tire intends to identify and manage GHG emissions generated from corporate activities by dividing them into three categories of Scopes 1, 2 and 3. Hence, we send a questionnaire through the ESG system to our suppliers to obtain information on suppliers’ GHG targets, energy consumption, waste discharges, and renewable energy targets.

% suppliers by procurement spend that have to comply with this climate-related requirement

80

% suppliers by procurement spend in compliance with this climate-related requirement

28

Mechanisms for monitoring compliance with this climate-related requirement

First-party verification
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement

No response

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

TCFD Supporters

TCFD Supporter.PNG

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

As part of company-wide strategies to respond to climate change, Kumho Tire participates in the ETS as well as engages in activities that could influence policy, such as joining in the Korea TCFD Alliance and GPSNR, participation in the UN Global Compact and its climate program, Climate Ambition Accelerator, TCFD Supporters. Kumho Tire support has established the ESG Team as an organization in charge of ESG management, and integrated its strategies with ESG including climate issues pursuing the goals of Paris Agreement and stakeholders' demands.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

The ETS is a system that the government allocates annul emission permits to eligible companies and allows them to emit within the allocated amount, so that contributing to achieve national targets for reducing GHGs effectively through market mechanisms.

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Emissions trading schemes

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

China

Republic of Korea

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

Kumho Tire responds to climate change by complying with applicable laws pertaining to emissions trading scheme (ETS) and cooperating with the government's low carbon green growth policy. Kumho Tire has participated in the ETS from the first period to third period currently and complied with the guidelines for GHG reporting and allocation. It is required to submit GHG emissions data verified by a third party to the government every year and Kumho Tire manages GHG emissions by establishing allocation plans for each business sites according to the allocated amount. As a result, Kumho Tire has succeeded to reducing GHG emissions below the allocated emission permits every year until now.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

The Korean government declared 2050 carbon neutrality and established an emission policy that meets this goal. The regulation will play a key role in achieving Kumho Tire's carbon-neutral goal.

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify

UN Global Compact, Climate Ambition Accelerator

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The UN Global Compact (UNGC) is the world-largest corporate sustainablility initiative that recommends corporations to internalize 10 principles such as human rights, labor, environment, anti-corruption into the corporate operations and management strategies. The UNGC encourages global corporations to adopt sustainable and socially responsible corporate strategies. In addition, the UNGC launched the Climate Ambition Accelerator in 2022 and provides companies with information necessary for setting GHG reduction targets and Net-Zero plans aligned to the SBT (science-based target) and the 1.5°C target. The UNGC aims at promoting sustainable development by raising awareness of climate-related issues and inducing behavioral change by 2030.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

WBCSD_TIP(World Business Council for Sustainable Development_Tire Industry Porject)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Kumho Tire is a member of the Tire Industry Project (TIP) under the World Business Council for Sustainable Development (WBCSD) which was established in 2005. It cooperates with more than 200 global organizations for systemic innovation necessary to attain Net-Zero, minimize the loss of nature and respond to recovery power, and provides guidelines for setting science-based targets including standards and protocols in order to respond to climate change. 11 members of the WBCSD-TIP (2 Korean companies and 9 global companies) account for 60% of the global tire production capacity, and hold biennial global forums to discuss studies on environmental impact of the tire production and end-of-life treatment process. Kumho Tire continues to cooperate with members of TIP for sustainable development to conduct joint research projects on tire products and road wear particles, nano materials and technologies to utilize end-of-life tire (ELT).

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

GPSNR(Global Platform fot Sustainable Natural Rubber)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Kumho Tire has participated in the Global Platform for Sustainable Natural Rubber (GPSNR) as one of the 39 founding members including tire manufacturers, rubber producers, distributors and NGOs for sustainable procurement of natural rubber. The GPSNR establishes standards for improving sustainability of rubber yields, preventing reclamation and lumbering, protecting bio-diversity and water resources, and increasing transparency and traceability of the supply chain, in order to create sustainable and fair natural rubber value chain. Kumho Tire supports the GPSNR to contribute to improvement of sustainable value chain by mitigating risk factors of rubber supply that is seriously impacted by climate change by guaranteeing livelihood of small-scale rubber farmers. Kumho Tire will cotinuously support improvement of small farmers' livelihoods and protection of labor and human rights, as well as contribute to the attainment of net-zero emissions aligned to the 1.5°C target by gradually expanding the use of natural rubber.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

KOTMA(Korea Tire Manufacturers Association)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The Korea Tire Manufacturers Association (KOTMA) introduced the Extended Producer Responsibility (EPR) to extend the producers' responsibility to the treatment or disposal in the post-consumer phase. Kumho Tire is also participating in the KOTMA's program to recover and recycle end-of-life tire (ELT), and has performed the recycling obligation as a member of the Waste Recycling Association to contribute to environmental conservation.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The Korea Automobile Importers & Distributors Association (KAIDA) contributes to the improvement of the domestic automobile industry by improving business environment of the market, and supports the interests of imported car consumers in Korea. It actively responds to establishment and amendment of environmental regulations (GHG and mileage, exhaust gas, recycling, etc.) for climate actions and provides information on the automobile importers' CSR activities. Kumho Tire receives information on climate-related regulations and requirements for automobile importers from the KAIDA and thereby responds to climate-related regulatory and market risks. We believe that participation in KAIDA will ultimately contribute to the tire industry's performance aligned to the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

[금호타이어]사업보고서(2023.03.22).pdf

Page/Section reference

mainstream reports p175

Content elements

Emissions figures

Comment

Disclosure of information on free allocation, quantity used and quantity disposed under the ETS.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2023 Kumho Tire Sustainability Report.pdf

Page/Section reference

p14. ESG Management Governance
p16. ESG Management Metrics and Implementation Status
p18. TCFD Report : Response to Climate Change
p23. Indicators and Reduction Targets
p29. Research on Eco-friendly Tires based on LCA
p31. Advancing Environmental Management
p37. Circular Economy and Environment Impact Management

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

Net zero roadmap, Low-carbon products, Supplier engagement

Publication

In voluntary communications

Status

Complete

Attach the document

Page/Section reference

https://www.kumhotire.com/en/ESG/Environment/Climate/

Content elements

Governance
Strategy
Emission targets

Comment

CARBON NEUTRALITY 2045 DECLARATION, CARBON NEUTRALITY 2045 ROAD MAP, ENVIRONMENTAL MANAGEMENT STRATEGIES

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact	Kumho Tire joined UN Global Compact in May 2022 and declared its support for TCFD in March 2023. Through active activities beyond simple participation, we are strengthening ESG management practice and climate change response capabilities.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues
Row 1	No, but we plan to have both within the next two years

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Adoption of the mitigation hierarchy approach	Other, please specify GPSNR

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity-sensitive areas in the reporting year?

Not assessed

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Education & awareness Other, please specify Forestry

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No	

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Other, please specify biodiversity activities	p.39 Biodiversity Activities 1

[1]2023 Kumho Tire Sustainability Report.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

CEO

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	CEO	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

By responding to the CDP Supply Chain module, Kumho Tire will provide information on how much Kumho Tire products affect the customer at the value chain stage and will cooperate with the customer for continuous improvement.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	3,559,158,000,000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

Renault Group

Scope of emissions

Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

2,577

Uncertainty (±%)

0

Major sources of emissions

Energy consumption by onsite boiler

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

848,571

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The sources of emissions identified are the sources over which the company has operational control. Exclusions are noted in C6.4a.

Requesting member

Renault Group

Scope of emissions

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

5,214

Uncertainty (±%)

0

Major sources of emissions

Purchased electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

848,571

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emission sources identified are those from which the company has operational control. Exclusions are specified in C6.4a.

Requesting member

Renault Group

Scope of emissions

Scope 3

Scope 2 accounting method

Scope 3 category(ies)
Category 11: Use of sold products

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
86,257

Uncertainty (±%)
0

Major sources of emissions
Predominate Scope 3 category is the use phase, which represents 70% of all Scope 3 emissions.

Verified
Yes

Allocation method
Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member
848,571

Unit for market value or quantity of goods/services supplied
Other, please specify
number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
We have identified and calculated the scope 3 emission sources in Korea in 2022 according to The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions and self-calculation methods.

Requesting member
Hyundai Motor Co

Scope of emissions
Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

9,806

Uncertainty (±%)

0

Major sources of emissions

Energy consumption by onsite boiler

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,367,261

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The sources of emissions identified are the sources over which the company has operational control. Exclusions are noted in C6.4a.

Requesting member

Hyundai Motor Co

Scope of emissions

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

26,342

Uncertainty (±%)

0

Major sources of emissions

Purchased electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,367,261

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emission sources identified are those from which the company has operational control. Exclusions are specified in C6.4a.

Requesting member

Hyundai Motor Co

Scope of emissions

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 11: Use of sold products

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

342,282

Uncertainty (±%)

0

Major sources of emissions

Predominate Scope 3 category is the use phase, which represents 70% of all Scope 3 emissions.

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,367,261

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have identified and calculated the scope 3 emission sources in Korea in 2022 according to The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions and self-calculation methods.

Requesting member

Kia Motors Corp

Scope of emissions

Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

11,729

Uncertainty (±%)

0

Major sources of emissions

Energy consumption by onsite boiler

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,289,000

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The sources of emissions identified are the sources over which the company has operational control. Exclusions are noted in C6.4a

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Requesting member

Kia Motors Corp

Scope of emissions

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

26,577

Uncertainty (±%)

0

Major sources of emissions

Purchased electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,289,000

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emission sources identified are those from which the company has operational control. Exclusions are specified in C6.4a.

Requesting member

Kia Motors Corp

Scope of emissions

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

334,327

Uncertainty (±%)

0

Major sources of emissions

Predominate Scope 3 category is the use phase, which represents 70% of all Scope 3 emissions.

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

3,289,000

Unit for market value or quantity of goods/services supplied

Other, please specify

number of tires sold

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have identified and calculated the scope 3 emission sources in Korea in 2022 according to The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions and self-calculation methods.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

Scope 1,2,3 emissions are listed in Kumho Tire's 2022 Sustainable Management Report. Scope 1, 2, and 3 emissions by workplace can be found in the report. https://www.kumhotire.com/en/ESG/Materials/Report/) can be translated into English into English.

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	The challenge to allocate emissions to different customers is that two or more tire products with different emissions are manufactured in one plant. In addition, half-finished products produced in one plant are sometimes transferred to another plant. Therefore, it is difficult to calculate and allocate emissions by product line under the current data system.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

Kumho Tire will improve the efficiency of the interal data collection process and thereby collect accurate primiary data on all activities that occur in the supply chain. In addition, Kumho Tire will improve the accuracy of emission allocation by expanding data collection from suppliers so as to allocate emissions based on the sales volume of each customer.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

Renault Group

Group type of project

New product or service

Type of project

Other, please specify

New product or service that has a lower downstream emissions footprint: Scope 3, Category 11 'Use of sold products

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

42,602

Estimated payback

Other, please specify

not applicable

Details of proposal

The proportion of emissions from Category 11 'Use Sold' in Scope 3 of the automobile manufacturer is significant, and emissions at the vehicle use stage are largely

dependent on the performance of the tire. Kumho Tire proposes to work with Renault Group to develop low-carbon tire technologies such as LRR (Lower Rolling Resistance) to satisfy end consumers and optimize the use of parts for next-generation eco-friendly vehicles. The company has obtained the European Labeling A/A rating by launching the Ultra Light Electric Vehicle (WATTRUN) VS31, which is 25% less weight than regular tires. The product delivers excellent performance for fuel efficiency savings that is equivalent to regular tires while reducing weight. In addition, ECOWING ES31 was launched to minimize energy loss by reducing rotational resistance compared to existing products, and to achieve balanced driving performance such as wet road braking, mileage, and noise through optimal tread pattern design and use of new materials. As a result of testing the energy efficiency of the two products through the Korea Automobile Research Institute (KATECH), it was found that 32.6 liters of fuel were saved per year compared to existing products.

Requesting member

Hyundai Motor Co

Group type of project

New product or service

Type of project

Other, please specify

New product or service that has a lower downstream emissions footprint: Scope 3, Category 11 'Use of sold products

Emissions targeted

Actions that would reduce both our own and our customers’ emissions

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

169,050

Estimated payback

Other, please specify

not applicable

Details of proposal

The proportion of emissions from Category 11 'Use Sold' in Scope 3 of the automobile manufacturer is significant, and emissions at the vehicle use stage are largely dependent on the performance of the tire. Kumho Tire proposes to work with Renault Group to develop low-carbon tire technologies such as LRR (Lower Rolling Resistance) to satisfy end consumers and optimize the use of parts for next-generation eco-friendly vehicles. The company has obtained the European Labeling A/A rating by launching the Ultra Light Electric Vehicle (WATTRUN) VS31, which is 25% less weight than regular

tires. The product delivers excellent performance for fuel efficiency savings that is equivalent to regular tires while reducing weight. In addition, ECOWING ES31 was launched to minimize energy loss by reducing rotational resistance compared to existing products, and to achieve balanced driving performance such as wet road braking, mileage, and noise through optimal tread pattern design and use of new materials. As a result of testing the energy efficiency of the two products through the Korea Automobile Research Institute (KATECH), it was found that 32.6 liters of fuel were saved per year compared to existing products.

Requesting member

Kia Motors Corp

Group type of project

New product or service

Type of project

Other, please specify

New product or service that has a lower downstream emissions footprint: Scope 3, Category 11 'Use of sold products

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

165,121

Estimated payback

Other, please specify

not applicable

Details of proposal

The proportion of emissions from Category 11 'Use Sold' in Scope 3 of the automobile manufacturer is significant, and emissions at the vehicle use stage are largely dependent on the performance of the tire. Kumho Tire proposes to work with Renault Group to develop low-carbon tire technologies such as LRR (Lower Rolling Resistance) to satisfy end consumers and optimize the use of parts for next-generation eco-friendly vehicles. The company has obtained the European Labeling A/A rating by launching the Ultra Light Electric Vehicle (WATTRUN) VS31, which is 25% less weight than regular tires. The product delivers excellent performance for fuel efficiency savings that is equivalent to regular tires while reducing weight. In addition, ECOWING ES31 was launched to minimize energy loss by reducing rotational resistance compared to existing products, and to achieve balanced driving performance such as wet road braking, mileage, and noise through optimal tread pattern design and use of new materials. As a

result of testing the energy efficiency of the two products through the Korea Automobile Research Institute (KATECH), it was found that 32.6 liters of fuel were saved per year compared to existing products.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Yes, I will provide data

SC4.1a

(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.

70

SC4.2a

(SC4.2a) Complete the following table for the goods/services for which you want to provide data.

Name of good/ service

Tires

Description of good/ service

Kumho Tire conducted LCA for one tire (HP71) in 2022.

Type of product

Final

SKU (Stock Keeping Unit)

-

Total emissions in kg CO2e per unit

129.59

±% change from previous figure supplied

0

Date of previous figure supplied

7 월 26, 2023

Explanation of change

This is the first year to report LCA emissions.

Methods used to estimate lifecycle emissions

ISO 14040 & 14044

SC4.2b

(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.

Name of good/ service

Tires

Please select the scope

Scope 1 & 2

Please select the lifecycle stage

Other, please specify

Lifecycle

Emissions at the lifecycle stage in kg CO2e per unit

129.59

Is this stage under your ownership or control?

Yes

Type of data used

Primary and secondary

Data quality

This is information about the product that performed LCA for one tire (HP71) produced by Kumho Tire's Gwangju plant.
The product was calculated using data from some partners.

If you are verifying/assuring this product emission data, please tell us how

President of the Korean Society has properly verified the LCA performance of the above company's products in accordance with the requirements of ISO 14040, ISO 14044, and ISO 14067.

SC4.2c

(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.

Name of good/ service	Initiative ID	Description of initiative	Completed or planned	Emission reductions in

				kg CO2e per unit
Tires	Initiative 1	Until 2021, Kumho Tire had strived for complying with the National Roadmap for Greenhouse Gas Reductions by 2030 that the government announced to commit to alignment with 1.5°C target of the Paris Agreement. However, since the Korean Government determined the net zero targets by 2050 and raised the NDC targets (reducing by 40% from 2018) in October 2021, Kumho Tire came to throughly review its goals for GHG emissions and strategies, in order to respond to climate crisis raised by IPCC and WMO. Kumho Tire has established a 2045 carbon neutrality strategy to contribute to the transition to low carbon economy and to manage climate-related risks and opportunities. Kumho Tire also joined SBTi on July 1 2022 and set a goal aligned to 1.5°C net zero targets, in accordance with the SBTi Corporate Net-Zero Standard released by the SBTi in October 2021.	Ongoing	0
Tires	Initiative 2	In 2022, as an investment to save energy in plants, Kumho Tire replaced old steam traps in the curing process. The investment amount was KRW112,050,000, the annual fuel savings are estimated to be 502km3 (based on the number of operation days), the Gwangju Plant's recorded average unit fuel cost in 2022 was KRW1,113.65/m3 and the saved cost is estimated to be KRW559,411,197 per year. The reduction in GHG emissions is estimated to be 1,111tCO2eq, as calculated by multiplying the fuel savings by the national emission factor of fuel (2.2124tCO2eq/km3). In addition to the above, we have carried out many energy-saving activities. In 2023, we are building solar power generation facilities for production plants such as the Nanjing plant. In addition, we are working on various projects such as introducing steam turbine generators and replacing high-efficiency air compressors according to ESG investment.	Completed	0

Tires	Initiative 3	Based on the design technology developed by itself, Kumho Tire strives to develop and expand environment-friendly products to reduce environmental impact in the entire lifecycle of tire products all processes. Kumho Tire has contributed to improvement of air environment by minimizing fine dusts from tire wear and reduced GHG (CO2) emissions by improving rolling resistance (RR). As a member of the World Business Council for Sustainable Development - Tire Industry Project (WBCSD-TIP), Kumho Tire has participated in the researched of global end-of-life tire (ELT) recycling technologies with global tire makers since 2005, in order to contribute to the circular economy. Kumho Tire conducts researches and assessments in regard to application of recycled raw materials, and set a target to increase the use of sustainable raw materials for all tire products, with 40% of recycled materials (recycled carbon black and recycled PET) and 60% of bio-sourced materials (natural rubber and environment-friendly butadiene) by 2045.	Ongoing	0

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms