



# Disclosure Based on the TCFD and TNFD Frameworks

The Yokohama Rubber Group manufactures and sells tires and rubber products for industrial use by utilizing natural capital including natural rubber, etc. With environmental issues including climate change and damage to natural capital growing more and more serious on a global scale, we recognize the impact of greenhouse gas emission in our business activities on climate change and promote sustainable business activities. We are working on various initiatives including the development of tires compatible with changing climate conditions such as high temperatures, heavy rainfalls and snowfalls, and the procurement of highly sustainable raw materials.

We will proactively disclose information to a wide range of stakeholders with transparency in line with the recommendations from the Task Force on Climate-related Financial Disclosure (TCFD) and the Task Force on Nature-related Financial Disclosures (TNFD) while analyzing the risks and opportunities of issues related to climate change and natural capital and reflecting such risks and opportunities on business strategies.

## Governance

Our CSR Council, chaired by our Chairman and CEO, convenes twice a year (in May and November), and is positioned to plan and discuss sustainability issues to be addressed by the Yokohama Rubber Group.

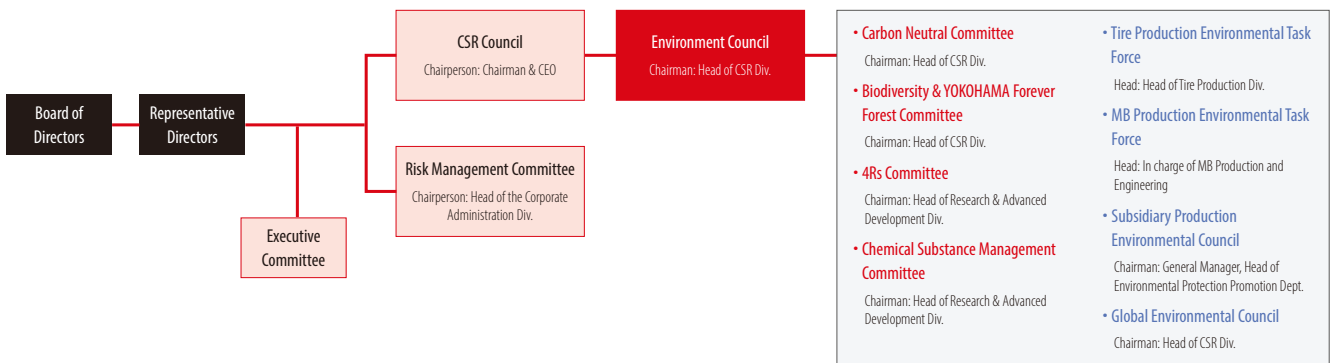
Regarding issues related to climate change and natural capital, we have established the Environment Council (chairman: head of CSR Div.) as bodies subordinate to the CSR Council to consider strategies related to climate change and natural capital including carbon neutral strategies and conduct monitoring. We have also established four committees, two task forces, and two councils, as bodies subordinate to the Environment Council to give in-depth consideration to individual themes.

In addition, in the case that it is necessary to make decisions on important matters or make early decisions, or make reports or

conduct deliberations, an Executive Committee will make reports and conduct deliberations, and submit the details of such reports and deliberations to the Board of Directors according to their importance.

The progress status of sustainability issues is reported to Chairman & CEO and Members of the Board in charge of the Corporate Social Responsibility Div., as well as to internal Audit & Supervisory Committee members on a monthly basis, and initiatives on carbon neutrality and circular economy are discussed as ongoing themes at meetings on management strategies held twice a year (May and November) by all senior management of the Group (including those of overseas group companies as continuous themes).

### Governance Support System



## Risk Management

Under the Environment Council, the Carbon Neutral Committee identifies and assesses risks related to climate change, and the Biodiversity & YOKOHAMA Forever Forest Committee and other individual committees, task forces and councils identify and assess risks related to natural capital, and engage in activities to mitigate them.

The more critical environmental risks identified by the individual committees, task forces, or councils will be directly worked on by the Environment Council to decide corporate actions. For physical risks such as natural disasters, the Central Meeting for Disaster Prevention

promotes disaster control, and BCP and risk reduction efforts. Of the above-mentioned types of risks, the most critical and urgent ones are discussed, evaluated and acted upon by the Risk Management Committee, chaired by the head of our Corporate Administration Division. The Risk Management Committee is a body provided for the purpose of strengthening our defense against various risks surrounding the Yokohama Rubber Group. The activities of the Risk Management Committee are regularly reported to the Board of Directors.

## Strategy

### Climate change

We have classified climate-related risks into two specific categories, risks associated with the transition to a low-carbon economy (transition risks), and risks associated with the physical impacts of climate change (physical risks). We have also assessed the magnitude of the resulting financial impacts and summarized the risks and opportunities for our business. In addition, we have conducted an analysis

using scenarios presented by the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) regarding temperature increases, and examined adaptation measures and financial impacts based on the risks and opportunities of the 1.5°C and 4°C scenarios, respectively.

### Major risks and opportunities related to climate change

	Material factors	Category	Potential financial impact	Financial impact	Future countermeasures	
Risks	Transition to a decarbonized society	Policies and regulations	Introduction and rise of carbon pricing	Large	<ul style="list-style-type: none"> <li>Formulate and implement a roadmap to carbon neutrality</li> <li>Promote "activities to reduce energy consumption by 1% per year" (improve equipment efficiency, optimize operations, review processing specifications, etc.)</li> <li>Expand use of renewable energy</li> <li>Introduce new energy technologies</li> </ul>	
		Markets	Resource (raw material) price hikes and supply instability	Large		
			Increase in renewable energy and fuel prices (crude oil, natural gas)	Large		
		Technologies	Capital investment to improve manufacturing process efficiency	Medium		
		Reputation	Impact on customer evaluation of emission reduction efforts and stance, and on stock prices	Small		
			Response to the global movement to promote the use of renewable energy (reputation among stakeholders)	Small		
	Change in demand for products and services	Markets	Product selection based on evaluation of CO <sub>2</sub> emissions during manufacturing (competition within the same products)	Large	Promote carbon neutral manufacturing sites to achieve zero CO <sub>2</sub> emissions during production	
	Response to changes in the automotive industry	Markets	Decline in car sales due to MaaS	Large	Explore commercial tires enhancements, costs, services, and DX	
	Physical risks	Intensification of weather disasters due to rising temperatures	Acute	Raw material procurement difficulties and higher procurement costs due to supply chain disruptions	Large	<ul style="list-style-type: none"> <li>Diversify suppliers and raw material production sites</li> <li>Strengthen manufacturing sites against windstorms, floods, and earthquakes, formulate BCP</li> </ul>
				Equipment damage or shutdown due to extreme weather	Large	
Intensification of climate change		Chronic	Depletion of natural rubber (natural resources) due to climate change, making procurement difficult	Large	Strengthen sustainable raw materials research and development	
			Decline in demand for winter tires due to reduced snowfall, etc.	Large	Develop and launch sales of all-season tires	
		Increased R&D investment required to improve product performance	Medium	Promote joint R&D with business partners		
Opportunities	Transition to a decarbonized society	Energy sources	Reduce energy costs by improving manufacturing process efficiency	Medium	Promote "activities to reduce energy consumption by 1% per year" (improve equipment efficiency, optimize operations, review processing specifications, etc.)	
		Products and services	Increase market share by responding quickly to changes in demand (carbon neutral compliance and performance requirements for electric vehicle (EV) installation) and stricter regulations.	Large	<ul style="list-style-type: none"> <li>Increase installation of EV-compatible tires on new vehicles</li> <li>Expand sales of "E+" mark EV-compatible tires</li> </ul>	
	Change in demand for products and services	Products and services	Improve competitiveness and profitability by offering environmentally friendly products using renewable/recycled raw materials and fuel-efficient, low-carbon products	Large	<ul style="list-style-type: none"> <li>Expand sales of tires and rubber products using renewable/recycled raw materials</li> <li>Expand sales of fuel-efficient tires with superior environmental performance</li> <li>Expand sales of tires and rubber products with zero CO<sub>2</sub> emissions during manufacturing</li> </ul>	
	Response to changes in the automotive industry	Products and services	Increased demand for products and services that support next-generation mobility (CASE and MaaS compliance, new business opportunities through hydrogen utilization)	Large	<ul style="list-style-type: none"> <li>Sell sensor tires (IoT tires)</li> <li>Strengthen tire solution services</li> </ul>	
Climate change	Products and services	Increased demand for products and services that contribute to disaster prevention, recovery, temperature change, food and nature (for example, tires and other products that contribute to crop and forest growth)	Large	<ul style="list-style-type: none"> <li>Expand sales of off-highway tires (OHT)</li> <li>Expand sales of rubber products such as conveyor belts that are highly resistant to impacts and heat</li> </ul>		

### Summary of scenario analysis results

Scenario Conditions	1.5°C Scenario	4°C Scenario
Scenario overview	Limits the increase in global average temperature to 1.5°C above pre-industrial levels by 2100 through stringent climate policies and technological innovations for sustainable development.	Failure of strict climate policies and technological innovation, and rapid intensification of the physical effects of climate change, resulting in a 4°C increase in average temperature by 2100 relative to pre-industrial levels.
Reference scenarios	Transition risks IEA Net Zero Emissions by 2050 Scenario (NZE)	IEA World Energy Outlook 2021 (WEO2021)
	Physical risks IPCC 6th Report SSP1-1.9	IPCC 6th Report SSP5-8.5
Analysis results	<p>Mainly transition risks/opportunities are manifested.</p> <p>[Risks] Increased energy costs and capital investment to improve manufacturing process efficiency required to comply with strict climate change regulations, renewable energy procurement, and the introduction of carbon pricing Increased R&amp;D and procurement costs for renewable/recycled raw materials due to an increase in the number of products with lower environmental impact</p> <p>[Opportunities] Competitiveness and profitability enhancements through carbon neutral compliance, early response to EV-mounted performance requirements, and provision of environmentally friendly, fuel-efficient, and low-carbon products</p>	<p>Mainly physical risks/opportunities are manifested.</p> <p>[Risks] Increased occurrence of serious natural disasters at manufacturing sites and in the supply chain; Extreme weather conditions may also deplete natural resources, causing raw material supply instability Product demand fluctuation due to chronic climate change, including lower demand for winter tires due to reduced snowfall, among other factors</p> <p>[Opportunities] Increased demand for products and services compliant with disaster prevention, recovery, and temperature fluctuations</p>



## Disclosure Based on the TCFD and TNFD Frameworks

### Natural capital

First of all, regarding tire business, our Group's major business, we have summarized items that our stakeholders expect us to address related to

the nature-related dependence and impact in consideration of the value chain based on analysis by ENCORE, a nature-related risk assessment tool.

#### Heat map of dependence

Low High

ENCORE Industry		Land use	Water use	Use of biological resources	Stabilization of climate	Decrease in natural disasters	Coordination/ decomposition/purification	Pest control
Tire business Sales ratio 89%	Tires	Low	Medium	Low	High	Low	Low	Low
	Agricultural products	High	High	High	High	Medium	Low	High
	Forestry products	Medium	High	High	High	High	Low	High
	Chemical products	Low	High	Low	Low	Low	Low	Low
	Metal/mining	Low	Medium	Low	Low	Low	Low	Low
	Water disposal	Low	High	Low	Low	Low	Low	Low
MB business Sales ratio 10%	Rubber/automotive parts	Low	Medium	Low	Low	Low	Low	Low
	Agricultural products	High	High	High	High	Medium	Low	High
	Forestry products	Medium	High	High	High	High	Low	High
	Chemical products	Low	High	Low	Low	Low	Low	Low
	Metal/mining	Low	Medium	Low	Low	Low	Low	Low
	Marine products	Low	Low	Low	Low	Medium	Low	Low
PRGR business Sales ratio 1%	Leisure products	Low	Medium	Low	Low	Low	Low	Low
	Apparel products	Low	High	Low	Low	Low	Low	Low
	Measurement instruments	Low	Low	Low	Low	Low	Low	Low
	Chemical products	Low	High	Low	Low	Low	Low	Low
	Forestry products	Medium	High	High	High	Medium	Low	High
	Metal/mining	Low	Medium	Low	Low	Medium	Low	Low
Paper package containers	Low	Low	Low	Low	Low	Low	Low	

#### Heat map of impact

Low High

ENCORE Industry		Land use	Depletion of water	Depletion of nature resources	Soil pollution	Water contamination	Air pollution	Impact on surrounding ecosystem	GHG emission	Waste
Tire business Sales ratio 89%	Tires	Low	Medium	Low	Low	Low	Low	Low	Low	Low
	Agricultural products	High	Low	High	Medium	Medium	Low	High	Low	Low
	Forestry products	High	Low	High	Medium	Medium	Low	High	Low	Low
	Chemical products	Medium	High	High	Medium	Medium	Low	High	Low	Low
	Metal/mining	Low	High	High	Medium	Medium	Low	High	Low	Low
	Water disposal	Low	Medium	Low	Low	Low	Low	High	Low	Low
MB business Sales ratio 10%	Rubber/automotive parts	Low	Medium	Low	Low	Low	Low	Low	Low	Low
	Agricultural products	High	Low	High	Medium	Medium	Low	High	Low	Low
	Forestry products	High	Low	High	Medium	Medium	Low	High	Low	Low
	Chemical products	Medium	High	High	Medium	Medium	Low	High	Low	Low
	Metal/mining	Low	High	High	Medium	Medium	Low	High	Low	Low
	Marine products	Low	Low	Low	Low	Low	Low	High	Low	Low
PRGR business Sales ratio 1%	Leisure products	Low	Medium	Low	Low	Low	Low	Low	Low	Low
	Apparel products	Low	High	Low	Low	Low	Low	Low	Low	Low
	Measurement instruments	Low	Low	Low	Low	Low	Low	Low	Low	Low
	Chemical products	Low	High	High	Medium	Medium	Low	High	Low	Low
	Forestry products	High	Low	High	Medium	Medium	Low	High	Low	Low
	Metal/mining	Low	High	High	Medium	Medium	Low	High	Low	Low
Paper package containers	Low	High	Low	Low	Low	Low	High	Low	Low	

As a result of the analysis, it was confirmed that regarding dependency, our tire business has a great dependency on the use of biological resources and climate change at the stage of raw material procurement, and regarding impact, it has a great impact on land use at the stage of raw material procurement, and it also has a great impact on climate

change; climate change and the surrounding ecosystem caused by in-house operation.

Based on these analytical results, we examined the potential impact of individual risks and opportunities on our tire business in reference to nature-related risks and opportunity classification of TNFD.

## Major risks and opportunities related to natural capital

TNFD classification		Business risks and opportunities for our organization	Potential impact on an organization's business	Time frame	
Risks	Transition risks	Policies	Introduction and enhancement of regulations	Increase in procurement and development costs due to response to the enhancement of existing regulations and the introduction of new regulations related to deforestation, raw materials, and water	Short- to mid-term
		Markets	Increase in raw materials prices	Increase in costs for the procurement of natural rubber and other raw materials due to increase in costs for ecosystem preservation	Short- to mid-term
			Change in consumer behavior	Consumers' decision to avoid purchasing our product due to insufficient efforts for ecosystem preservation	Short- to mid-term
		Technologies	Development and dissemination of technologies with low environmental impact	Delay in the development of sustainable raw materials contributing to the reduction of environmental impacts, and increase in introduction costs	Short- to mid-term
		Reputation	Evaluation from consumers and society	Defection of customers and degradation of corporate image due to insufficient efforts for ecosystem preservation	Mid- to long-term
	Evaluation from investors		Decrease in ESG ratings and stock prices due to insufficient efforts for ecosystem preservation	Mid- to long-term	
	Compensation liability	Occurrence of compensation liability due to the development of laws and regulations, and legal precedents	Increase in the number of lawsuits related to the violation of rights of indigenous people and local community	Short- to mid-term	
		Response to lawsuits and administrative guidance by strengthening environmental regulations, etc.		Short- to mid-term	
	Physical risks	Acute	Increase in natural disasters	Production halt due to the occurrence of natural disasters associated with ecosystem degradation around production sites	Short- to mid-term
		Chronic			
Opportunities	Resource efficiency	Dissemination of efficiency solutions	Cost reduction by the adoption of recycled raw materials and the improvement of resource efficiency	Mid- to long-term	
	Markets	Change in consumer behavior	Response to increased demand for products giving consideration to the reduction of environmental impacts and ecosystem preservation	Mid- to long-term	
	Products and services	Expansion of businesses related to natural capital	Development and sales of tires for agricultural and forestry machinery vehicles giving consideration to ecosystem preservation	Mid- to long-term	
	Reputation	Evaluation from consumers and society	Improvement of customer evaluation and corporate image due to accelerated efforts toward nature positive	Mid- to long-term	
		Evaluation from investors	Improvement of ESG ratings and corporate value due to accelerated efforts toward nature positive	Mid- to long-term	

## Metrics and Targets

## Climate change

Metrics (KPIs)	FY2026 Targets	FY2030 Targets	FY2050 Targets
Reduction of greenhouse gases emissions (Scope 1+2)	30% reduction compared with the FY2019 level	40% reduction compared with the FY2019 level	Achievement of carbon neutrality
Percentage of renewable energy	—	—	Achieving 100%
Renewable/recycled raw material usage	28%	30%	Achieving 100%

## Actual greenhouse gas emissions

## Scope 1, 2 (consolidated)

Category (Unit: thousand tons)	FY2019 (Base year)	FY2020	FY2021	FY2022	FY2023
Scope 1	656	605	699	648	588
Scope 2	614	550	601	593	494
Scope 1 and 2 combined	1,270	1,155	1,300	1,241	1,082
Reduction rate of Scope 1 and 2 combined (Base year: FY2019)	—	(9.1%)	2.3%	(2.3%)	(14.8%)

\* Actual greenhouse gas emissions of each fiscal year (Scope 1 or 2) include actual emissions from Yokohama TWS before its merger.

## Scope 3 (consolidated)

Category (Unit: thousand tons)	FY2019	FY2020	FY2021	FY2022	FY2023
1 Purchased goods and services	2,628	2,317	4,031	4,022	3,381
2 Capital goods	58	52	152	175	199
3 Fuel- and energy-related activities (not included in Scope 1 or 2)	106	135	147	129	139
4 Upstream transportation and distribution	141	167	154	125	136
5 Waste generated in operations	2	16	50	27	29
6 Business travel	11	3	5	5	13
7 Employee commuting	25	20	21	19	24
8 Upstream leased assets	—	—	—	—	—
9 Downstream transportation and distribution	54	59	72	59	74
10 Processing of sold products	10	10	10	14	10
11 Use of sold products	18,394	16,776	19,940	21,087	20,735
12 End-of-life treatment of sold products	1,179	1,132	875	906	913
13 Downstream leased assets	—	—	—	—	—
14 Franchises	—	—	—	—	—
15 Investments	135	112	246	92	67
Total of the above	22,745	20,799	25,702	26,661	25,718

\* Actual greenhouse gas emissions of each fiscal year (Scope 3) do not include actual emissions from Yokohama TWS before its merger. In addition, there were no actual emissions classified in the categories of 8, 13 or 14.

## Natural capital

Metrics (KPIs)	Results			Targets
	FY2021	FY2022	FY2023	
(1) Total number of trees planted/seedlings supplied through YOKOHAMA Forever Forest activities	1,090,000	1,200,000	1,240,000	FY2030: Total number of trees planted and saplings provided of 1.5 million
(2) Number of business sites certified as Nationally Certified Sustainably Managed Natural Site by the Ministry of the Environment	—	—	1	FY2026: 5 sites in total
(3) Number of major environmental incidents (air, water, or soil)	0	0	0	Continuation of zero incidents

\*1"—" indicates that there were no results.