Disclosure in Accordance with the TCFD and TNFD Recommendations

Basic Approach

The TOPPAN Group recognizes that a globally expanding business relies on and impacts natural capital*, and that changes in the natural environment such as climate change and biodiversity* have a significant effect on the Group. To advance a sustainable society, we established the TOPPAN Group Environmental Policy in fiscal 2024, outlining three key elements: issues to address, commitments, and mechanisms and initiatives to achieve them. Based on this, we are working to drive both corporate value and a sustainable society.

We have promptly responded to international initiatives such as the Task Force on Climate-related Financial Disclosures (TCFD) and Task Force on Nature-related Financial Disclosures (TNFD). Climate change and nature-related issues* require an integrated approach. In the 2025 revision of this report, we have deepened value chain analysis and enhanced the level of integration. When considering risk countermeasures and business opportunities, we do not address sustainability themes independently, but consider trade-ons/trade-offs between initiatives, and implement measures to both mitigate/adapt to climate change and resolve nature-related issues. For this report, we made efforts to disclose information for all items in the TCFD and TNFD recommendations and have specifically considered the following in line with the general requirements.

1) Materiality

We define material issues for specific business activities and Companywide activities toward our long-term vision of "Digital & Sustainable Transformation." We also consider materiality from the perspective of contributing to the SDGs. To be a responsible corporate citizen, we identify issues to address through overall corporate activities under the theme of "Companywide Materiality" and those focused on through business activities under "Business Materiality," selecting environmental issues for each and addressing them from the perspectives of business foundation and business operations.

Initiatives and Accomplishments Related to Materiality >

https://www.holdings.toppan.com/en/sustainability/strategy.html

2) Disclosure Scope

We evaluate and disclose information covering the entire value chain (upstream, direct operations, downstream). All 168 global sites and all businesses are covered in direct operations. In the supply chain, we prioritize risk and opportunity assessments for raw materials (wood procurement) with a strong impact on one of our main businesses, Information & Communication. For downstream (plastic collection and disposal), our analysis focused on seven countries that are major manufacturing and sales bases for our plastic packaging materials. To comply with Global Biodiversity Framework (GBF) Target 15, we regularly monitor and assess biodiversity risks, dependencies, and impacts, and disclose information transparently.

3) Integration of Other Sustainability-Related Disclosures

We recognize climate-related issues and nature-related issues mutually affect one another. Disclosures are integrated with TCFD, but stakeholder engagement for biodiversity under "Governance" is described as a nature-related issue, and "Strategy" and "Metrics and Targets" are integrated for climate and nature-related issues, while following the respective recommended approaches.

4) Period Covered

We set targets for climate change and nature-related issues within our annual plans (short-term: within 1 year), medium-term plans (medium-term: 2–3 years), and long-term vision (long-term: 4–30+ years).

5) Engagement with Indigenous Peoples, Local Communities, and Affected Stakeholders

Regarding human rights as a paramount principle guiding business and sustainability initiatives and recognizing the

*"Natural capital" refers to natural assets such as animals, plants, water, soil, atmosphere, etc., which provide benefits to corporations and society through ecosystem services. "Biodiversity" is a part of natural capital, denoting the diversity of animals and plants. This diversity plays a role in maintaining natural capital soundly and stably by preventing natural disasters such as floods and droughts and enhancing recovery, as well as supporting carbon and water cycles and soil formation, and is deeply connected to water resources and soil. This page expresses "biodiversity" to include the meaning of "natural capital." In addition, the term "nature-related issues" is used to mean issues concerning natural capital as a whole, focusing on biodiversity, and is used together with "climate-related issues."

importance of engaging with local residents and Indigenous peoples, we have established a grievance mechanism for complaints and concerns from all stakeholders. Information on external trends and stakeholder feedback on nature-related issues is obtained by participating in organizations and consortia and used to identify and examine issues and drive biodiversity activities. We disclose information to stakeholders through annual integrated reports, sustainability reports, and more.

6) Initiatives for Next Fiscal Year and Beyond

We will further enhance and refine disclosure by reviewing risk scenarios under TCFD and expanding TNFD scope to include upstream elements beyond wood procurement. We also aim to strengthen TNFD disclosure and complete early adopter disclosures, including considering responses based on the TNFD nature transition plan guidance scheduled for fiscal 2025.

Governance

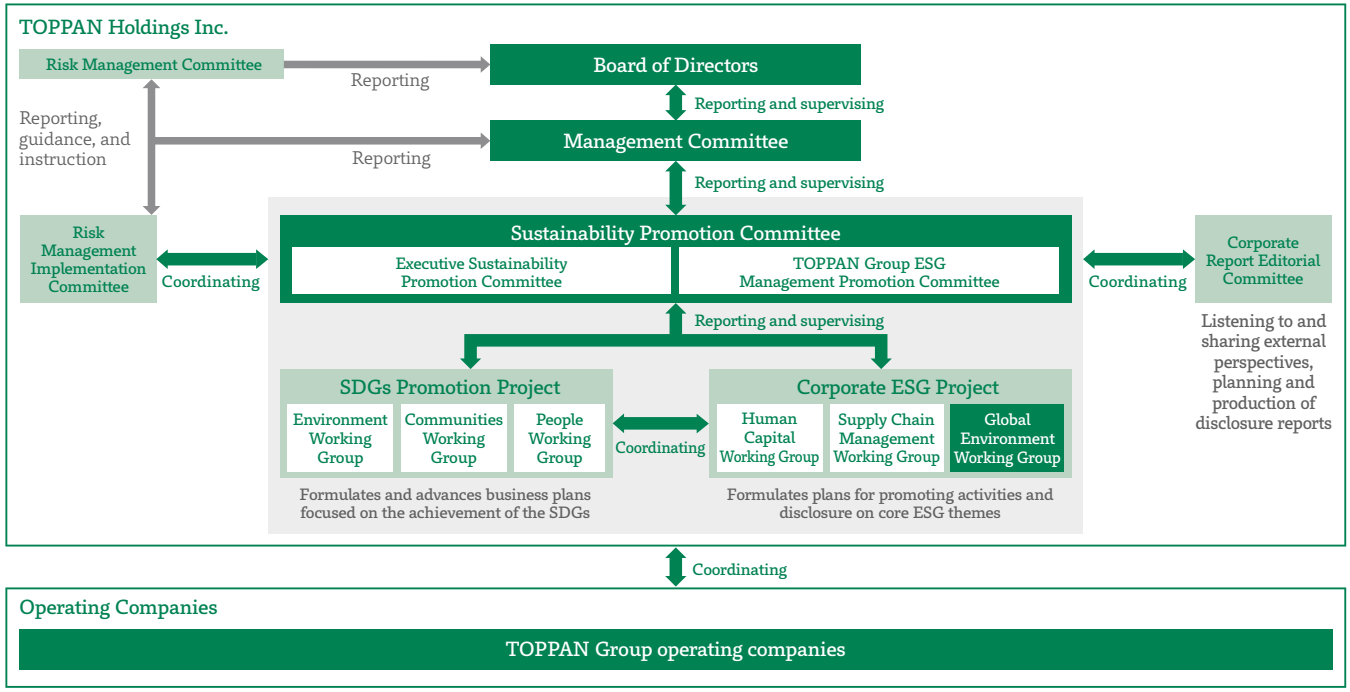
A. Board of Directors' Oversight on Dependencies, Impacts, Risks, and Opportunities

● 1) Organizational Initiatives and the Responsibilities of the Board of Directors

The Medium Term Plan (fiscal 2023-2025) defines "expanding ESG initiatives" as a priority for the medium-to-long term. We are strengthening efforts on ESG issues, including climate change and biodiversity. The Board recognizes the importance of climate-related issues in management strategy and considers related risks and opportunities when plotting out investments for business growth (including portfolio transformation centered on DX and SX addressing social issues).

For specific ESG and climate change initiatives, the Board receives reports from the Management Committee on the details of actions considered and discussed by the Sustainability Promotion Committee. The Board discusses, monitors, and supervises target setting and progress. The Board also recognizes nature-related issues as an important part of management strategy. Nature-related activities discussed and deliberated by the Sustainability Promotion Committee are also reported to the Board, which discusses, monitors, and supervises target setting and progress.

TOPPAN Group Sustainability Promotion Structure



● 2) Process and Frequency of Reports Received by the Board of Directors

Every April, the Board receives and approves reports on GHG emissions and efforts for biodiversity, resource circulation, and optimal water use in the previous fiscal year under our medium-and-long-term targets for fiscal 2030, as well as reports on current single-fiscal-year targets. The Board also receives reports on the assessment and status of important risks and opportunities as well as the progress of efforts for climate-related issues, which are reflected in comprehensive decision-making on management strategy. If new climate-related regulations, systems, or the like are announced, the Board receives quarterly reports from the Sustainability Promotion Committee and discusses and decides on responses. We will address nature-related issues in the same way.

B. Management's Role in Assessing and Managing Dependencies, Impacts, Risks, and Opportunities

The Board has assigned responsibility for climate-related issues to the Sustainability Promotion Committee (chaired by the president & representative director) and supervises the committee's activities. The Global Environment Working Group under the committee leads related efforts and consists of personnel from relevant divisions and the business departments of Group companies. It coordinates assessments and countermeasures on climate-related issues in cooperation with the SDGs Promotion Project.

Through the Management Committee, the Board receives reports from the Sustainability Promotion Committee regarding the assessment, status, and target management of climate-related issues. The Board makes comprehensive decisions on management strategy, taking climate-related issues into account. The Board also assigns responsibility for nature-related issues to the Sustainability Promotion Committee and supervises the committee's activities. The Global Environment Working Group has been leading TNFD initiatives since October 2023.

The Executive Sustainability Promotion Committee is a forum for exchanging views on future sustainability issues. Directors and external experts discuss ESG issues, including climate and nature, and consider important matters with the Sustainability Promotion Committee.

Promotion Structure for Sustainability Initiatives ›
https://www.holdings.toppan.com/en/sustainability/structure.html

C. Stakeholder Engagement for Biodiversity

● 1) Approach to Human Rights

We regard human rights as a paramount principle guiding business and sustainability initiatives. We operate under the tenet of "respect for human beings" and our Human Rights Policy based on this was formulated in October 2021. We promote environmental conservation initiatives based on our Declaration on the Global Environment, Environmental Policy, and Basic Policy on Biodiversity. We advance measures to avoid human rights violations caused by our operations.

Human Rights (see page 32) ›

● 2) Human Rights Due Diligence

We support the United Nations Guiding Principles on Business and Human Rights and recognize the need for related due diligence. We have assessed human rights risks in the printing industry and identified five risks specific to us, in accordance with our Human Rights Policy. In fiscal 2022 and 2023, we assessed stakeholders with a focus on the risks identified. Based on the results, the Sustainability Promotion Committee deliberated future initiatives.

For nature-related issues (soil, water pollution, etc.), we also identified human rights risks (health of local residents, rights of Indigenous people, etc.) related to local communities across the value chain (upstream, direct operations, downstream).

● 3) Engagement Process

We understand the importance of engagement with local residents and Indigenous people. When acquiring or using land for business, we emphasize not only legal and regulatory compliance but also gaining the understanding of local residents and Indigenous people. We are aware of the importance of hearing the opinions of diverse stakeholders across the value chain (upstream, direct operations, downstream) in assessing and responding to nature-related issues, and participate in organizations and consortiums, including the TNFD Forum and the Ministry of the Environment's 30by30 Alliance for Biodiversity. We gather information on external trends and stakeholder views on biodiversity, tie them to our LEAP approach for nature-related issues, and apply them in initiatives, such as green spaces at our sites and conservation and restoration efforts in surrounding areas.

Participation in Initiatives and Collaboration with External Parties (see page 121) ›
Biodiversity (see page 129) ›

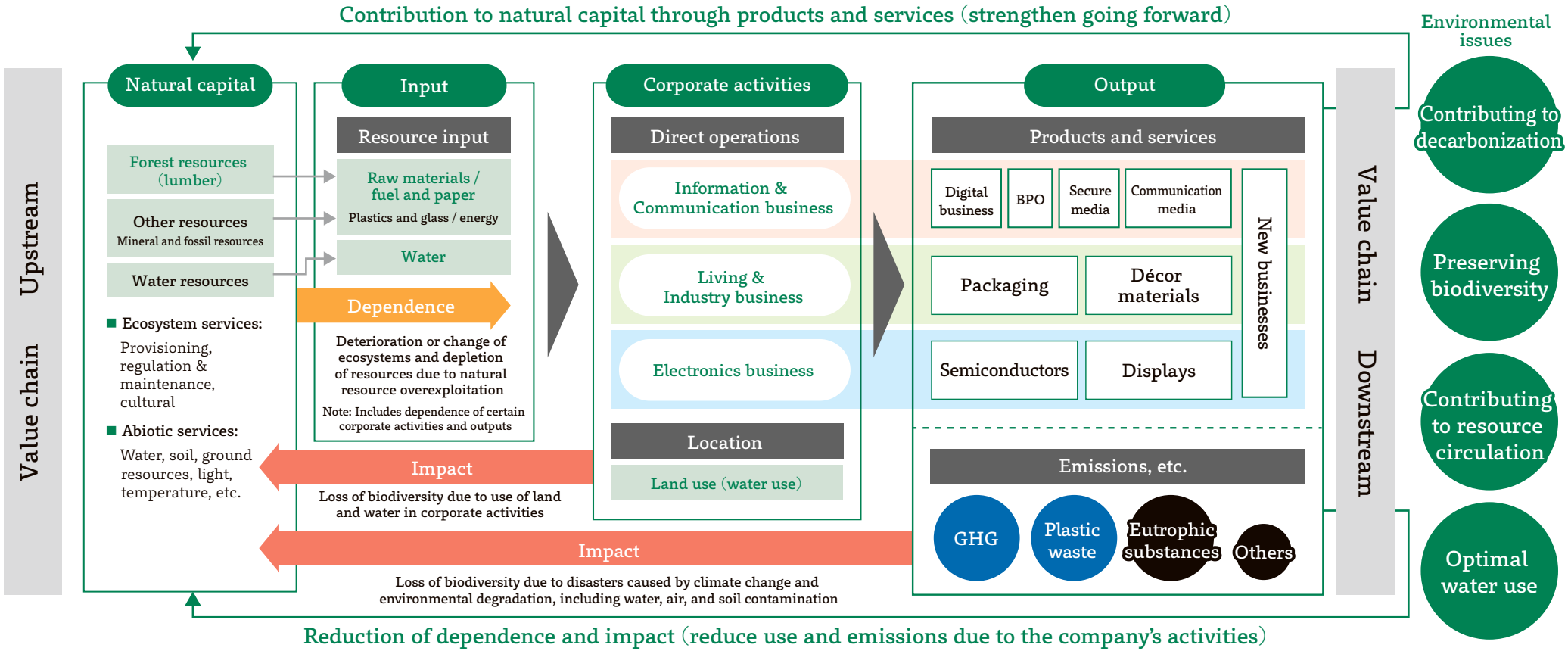
Strategy

A. Environmental Value Chain of the TOPPAN Group

We have organized the TOPPAN Group's dependencies and impacts on natural capital throughout the entire value chain (upstream, direct operations, downstream) as follows.

In package manufacturing and communication media, two of our core businesses, we assume high dependence on paper as well as on forest resources (wood) as raw material. We also assume that groundwater use in the Information & Communication, Living & Industry, and Electronics segments is high in terms of both dependence and impact. Furthermore, we assume that the impact on biodiversity includes not only manufacturing processes but also the discharge of plastic packaging materials and promotional materials into rivers, oceans, and other natural environments after use. We understand the importance of balancing climate change response and corporate sustainability in all areas of our business as well as the impact of greenhouse gas (GHG) emissions.

TOPPAN Group Environmental Value Chain Chart



B. List of High-priority Risks, Opportunities, and Countermeasures

We used TCFD scenario analysis for climate change, while for nature-related issues, we prioritized high-risk and high-opportunity items based on the results of TNFD LEAP analysis, assessed financial impacts, and considered countermeasures.

Scenario	Risk Type	Drivers / Hazards	Potential Impact on Business	Related Business	Risk / Opportunity	Dependency/ Impact	Climate	Nature	Time Frame	Financial Impact	Main Initiatives
Physical	Acute	Increasing severity of acute, extreme weather conditions	Loss of production opportunities and factory assets due to increased risk of disasters, flooding and water damage	All businesses	Risk	Impact	○	–	Medium term	Large	・Continue to consider alternative production plans over the long term; periodically gather information on flood-prevention technologies and take steps to introduce them
			Outflow of chemical substances due to increased risk of disasters, flooding and water damage	All businesses	Risk	Impact	○	○	Medium term	Small	・Examine the possibility of chemical leakage and formulate and implement countermeasures
			Expanded markets for next-generation communications due to growth in remote monitoring needs	New businesses	Opportunity	–	○	–	Medium term	Medium	・Create communications-related businesses, such as ZETA-based solutions, and metaverse-related businesses
		Changes in forest ecosystems	Decrease in procurement volumes due to destruction or rapid deterioration of ecosystems (partly caused by climate change), leading to a decline in sales and an increase in procurement costs due to reviews of procurement sources	Information & Communication/ Living & Industry	Risk	Dependency	–	○	Short term	–	・Examine raw paper suppliers and strengthen supplier engagement
	Chronic	Changes in rainfall and weather patterns	Reduction in sales due to delays/halts in manufacturing or shipping caused by water procurement risks or usage restrictions	All businesses	Risk	Dependency	○	○	Long term	Small	・Set Companywide targets for water use reduction and study reduction measures
			Increase in procurement costs for raw materials with high water dependence during manufacturing	All businesses	Risk	Dependency	○	○	Long term	–	・Identify suppliers with high water risk (water stress) and strengthen supplier engagement
		Increase in food loss and hygiene needs associated with rising temperatures	Increase in sales of packaging materials that contribute to product longevity	Living & Industry	Opportunity	–	○	○	Long term	Large	・Quantify and visualize contributions to food loss reduction by our products, and showcase our brand value ・Engage with international standards such as ISO and be involved in rule-making
Transition	Policies	Introduction of / increase in carbon tax	Increase in operational costs due to introduction of carbon tax	All businesses	Risk	Impact	○	–	Medium term	Large	・Utilize Scope 1 & 2 GHG emissions reductions for the 2030 medium-and-long-term environmental targets toward the TOPPAN Group Environmental Vision 2050 ・Long-term monitoring of systems and new renewable energy technologies
		Increase in renewable energy ratio	Increase in operational costs due to rises in unit prices for energy	All businesses	Risk	Impact	○	–	Medium term	Medium	・Utilize Scope 1 & 2 GHG emissions reductions for the 2030 medium-and-long-term environmental targets toward the TOPPAN Group Environmental Vision 2050 ・Long-term monitoring of systems and new renewable energy technologies
			Growth in sales of relevant products due to expanded markets for clean energy	New businesses	Opportunity	Impact	○	–	Long term	Medium	・Strengthen the development of fuel cell materials and battery packaging materials for EVs; invest in expansion of production bases
		Growing demand for lighter/thinner containers and requests to reduce container emissions and waste	Increase in procurement costs due to rising prices of sustainable raw materials or switching to alternative materials	Living & Industry	Risk	Impact	○	○	Medium term	Medium	・Continually monitor the sustainable raw materials market and study procurement strategies
			Expansion of sales of recyclable mono-material containers and films	Living & Industry	Opportunity	Impact	○	○	Medium term	Large	・Expand deployment to markets where government policy is expected to prompt demand ・Engage with governments in countries where we are expanding and international initiatives towards the development of recycling-related laws/regulations/systems/ standards, and be involved in rule-making
		Expansion of the designation of hazardous chemicals under regulations such as REACH	Increase in costs to comply with tighter regulations on chemical management	All businesses	Risk	Impact	–	○	Short term	–	・Focus on trends in regulations ・Examine switching raw materials
		Increase in demand for next-generation biofuels in response to calls for decarbonization	Expanded demand for bioethanol derived from waste, such as scrap wood and used paper that are difficult to recycle	New businesses	Opportunity	Impact	○	○	Long term	–	・Expand business development and production capacity
		Promotion of green infrastructure such as urban green spaces	Expansion of sales for urban greening consulting services	Information & Communication/ Living & Industry	Opportunity	Dependency/ Impact	○	○	Long term	–	・Explore business opportunities, examine partner candidate companies and secure financing through utilization of public-private partnership platforms, etc.
		Growing demand for decarbonization in logistics	Expansion of sales of solutions for optimizing logistics and transportation efficiency and CO_2 reduction visualization	All businesses	Opportunity	Impact	○	–	Long term	–	・Examine the enhancement of existing solutions for improving transport/delivery efficiency
	Market	Increase in raw material prices (Price pass-through)	Increase in cost of procuring non-petroleum-derived raw materials, such as paper and glass, due to carbon tax and increases in unit prices for energy on supplier side	All businesses	Risk	Impact	○	–	Medium term	Large	・Examine suppliers, cultivate new suppliers ・Examine/consider alternatives ・Long-term monitoring of systems and markets
		Electrification, automation, advancement of communications, and the accompanying growth of demand for generative AI	Increase in sales of semiconductors that improve power conversion efficiency	New Businesses/ Electronics	Opportunity	Impact	○	–	Short term	–	・Examine production sites, partners, and procurement sources with regard to geopolitical risks
		Increase in consumer awareness of food loss and increase in severity of food shortages	Expansion of sales of dynamic pricing solutions for reducing food loss for retailers and food service industries	Information & Communication/ Living & Industry	Opportunity	Impact	–	○	Medium term	–	・Explore opportunities for expanded sales to retailers based on pilot schemes for the food service industry
	Liability for compensation	Economic growth in emerging countries and increase in stakeholder concerns	Increase in costs of responding to criticism from NGOs and others for insufficient action as a packaging manufacturer in the face of worsening marine plastic pollution in emerging countries	Living & Industry	Risk	Impact	–	○	Short term	–	・Understand and address waste disposal methods in countries where our factories and products are deployed
		Increase in requests for the protection of watershed biodiversity	Decrease in sales due to suspension of operations resulting from insufficient response to biodiversity protection in watersheds or violations of wastewater emission standards, and increased costs due to liability for damages	All businesses	Risk	Impact	–	○	Short term	Small	・Ensure thorough understanding of all sites and review/strengthen wastewater treatment
		Increase in external demands for environmental and human rights due diligence and increase in stakeholder concerns	Increase in costs due to compensation liability when land or resources of Indigenous peoples and local communities are harmed	All businesses	Risk	Impact	–	○	Short term	Small	・Understand and address whether there is contact with Indigenous peoples and local communities at all direct operation sites

*Transition risks and opportunities: Assessed in the 1.5℃ and 4℃ scenarios based on the IEA World Energy Outlook 2023 Net Zero Emissions by 2050 (NZE) scenario, and Stated Policies Scenario (STEPS)/Announced Pledges Scenario (APS)
*Physical risks and opportunities: Assessed in the 1.5℃ and 4℃ scenarios based on the Representative Concentration Pathways (RCPs) (1.5℃: RCP1.9, RCP2.6, 4.0℃: RCP8.5, RCP7.0) adopted by the Intergovernmental Panel on Climate Change (IPCC)
*Based on time frames of one year or less for the short term, two to three years for the medium term, and four to 30 years or more for the long term, the risks and opportunities in climate- and nature-related issues are examined by the relevant departments to ensure consistency with the TOPPAN Group's business plans for each fiscal year, medium-term plans, and long-term vision.
*Financial impact: Small, less than 1 billion yen; medium, 1 billion yen to 10 billion yen; large, more than 10 billion yen
*In the fiscal 2024 disclosure, the risk "Decrease in cost of procuring petrochemical-based film due to lower demand for crude oil" was noted, but it has been removed in this year's disclosure in light of the latest petroleum market trends.

C. Assessing the Impact of Climate Change on Our Business, Strategy, and Financial Planning through Scenario Analysis

● 1) Climate-related Risks and Opportunities the Organization Has Identified over the Short, Medium, and Long Term

(1) Processes used to determine which risks and opportunities could have a material financial impact on the organization

The Global Environment Working Group set up under the Sustainability Promotion Committee is tasked with implementing the scenario analysis. Personnel from related divisions and Group companies participate in the working group to identify significant risks and opportunities related to climate change, assess the financial impacts, and consider measures based on those assessments, and business strategy members from relevant departments and Group companies also take part. We have assessed financial impacts and considered countermeasures with a focus on concrete businesses. Two pathways were examined in the scenario analysis: 1.5℃ and 4℃ scenarios with long-term forecasts up to 2050. Operations in Japanese and overseas sites have been considered throughout the value chain, from R&D to procurement, production, and product supply.

(2) Climate-related issues with a large financial impact

In the 1.5℃ scenario, we reconfirmed that there are risks of increased costs accompanying the introduction of a carbon tax and higher prices for purchased energy. Given the expected shifts in consumer preferences, moreover, there are opportunities for increased sales of low-carbon-emission products and services and for gains in corporate value.

In the 4℃ scenario, we confirmed that increased wind and flood damage resulting from higher atmospheric temperatures could lead to such risks as stoppages at major Group plants. We continue to consider alternative production plans to manage these risks over the long term while periodically gathering information on flood-prevention technologies and taking steps to introduce them.

● 2) Impacts of Climate-related Risks and Opportunities on the Organization's Business, Strategy, and Financial Planning

(1) The organization's consideration of impact on business and strategy

To contribute further to the Net Zero society targeted by the TOPPAN Group Environmental Vision 2050, we are advancing a business portfolio transformation centered on digital and sustainable transformation under the Medium Term Plan. Between fiscal 2023 and 2025, we will invest approximately 300 billion yen in DX and SX businesses, including M&A and business investments in growth areas as well as capital investments in growth businesses and businesses in their initial phases.

(2) Resilience of the organization's strategy in consideration of different climate-related scenarios

Qualitative and quantitative analyses were conducted under multiple scenarios. These included the International Energy Agency (IEA) World Energy Outlook 2023 (hereinafter IEA WEO2023) Net Zero Emissions by 2050 (NZE) Scenario, IEA WEO2023 Stated Policies Scenario (STEPS), and multiple scenarios combining Shared Socioeconomic Pathways (SSP) and Radiative Forcing (RCP) in the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report.

The period covered is 2030 to 2050.

Scenarios

	1.5℃	4℃
Transition scenario	IEA NZE 2050	IEA STEPS or APS
Physical scenarios	RCP 1.9	RCP 7.0
	RCP 2.6	RCP 8.5

(3) Adaption plan for transition risks and physical risks

Scenario analyses have identified transition risks that the TOPPAN Group faces, including the expanded adoption of carbon pricing systems worldwide that increases operational costs for carbon neutrality. Physical risks include halts in production due to water damage from flooding at production sites and higher expenses for restoration. We are addressing these risks by reinforcing disaster-preparedness measures and reducing Scope 1 & 2 and Scope 3 greenhouse gas (GHG) emissions through the stepwise introduction of renewable energy. A new transition plan in place will neutralize Scope 1 & 2 and Scope 3 GHG emissions by 2050. Energy-efficient activities and facilities will be intensified under an internal carbon pricing (ICP) system that steps up our low-carbon investments and long-term carbon neutrality measures for Scope 1, 2, and 3 GHG emissions.

In response to these changes, we will create and expand business opportunities by linking portfolio transformation—under the key concept of "Digital & Sustainable Transformation"—with our business strategies. Specifically, we will focus on developing DX support services that contribute to reducing GHG emissions in the supply chain and enhancing sustainable packaging that improves recyclability and reduces food loss.

Our ongoing scenario analyses will enhance our forecasting

accuracy. We will stay resilient to an uncertain future by further integrating analysis results into management strategies.

ICP System Overview

Purpose of introducing the system	Drive energy efficiency
	Drive low-carbon investments
	Incentivize consideration of environmental issues in decision-making
	Achieve climate-related targets
Scope of GHG covered by the system	Scope 1, 2, and 3
Type of price	Shadow price
Price	130 USD/t-CO_2
Scope of system application	Decision-making process for capital investment, etc.

Transition Plan for Carbon Neutrality by 2050 (see page 100) >

D. Overview and Results of Analysis of Dependencies and Impacts on Natural Capital and Biodiversity (LEAP Analysis)

● 1) Overview of LEAP Analysis Implementation

(1) Overview of the analysis

From the end of 2024 through 2025, we re-conducted an analysis using the LEAP approach*1 regarding dependencies, impacts, risks, and opportunities related to nature, and compiled the results in June 2025. In the previous analysis, we focused on upstream supply chains (wood procurement) and direct operations, conducting only the 'L' and 'E' processes of the LEAP approach. In this analysis, we included downstream processes (plastic collection and disposal) in addition to upstream processes (wood procurement) and direct operation sites, and implemented all LEAP processes. The tools used in each process of this approach are all those recommended by TNFD.

(2) Analysis method for Locate

In the Locate process, the TOPPAN Group supply chain was surveyed from a broad perspective to investigate points of connection with nature at each site (upstream: 198 sites, direct operation: 125 sites). Priority sites for action were identified from both "business importance" and "ecological sensitivity" perspectives.

(3) Analysis method for Evaluate

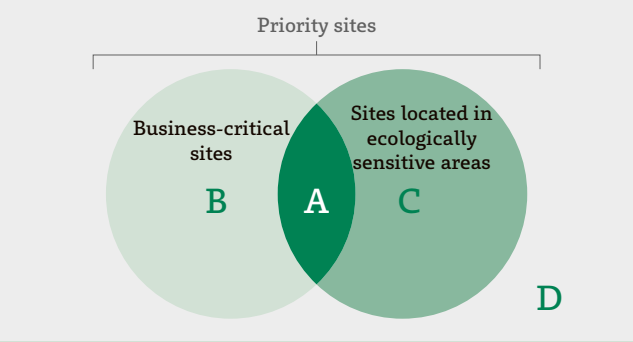
For upstream and direct operations, GIS and other geographic information systems were used for site identification and in-depth analysis, overlaying location information with the latest versions of ENCORE*2 and the WWF Biodiversity/Water Risk Filter*3 and similar ecosystem analysis tools for evaluation. For downstream, the natural impacts of general disposal practices were qualitatively evaluated in seven countries where the TOPPAN Group has major manufacturing and sales locations for plastic packaging materials.

(4) Analysis method for Assess

Risks (14 items) and opportunities (32 items) relating to natural capital for the TOPPAN Group were derived through external environment analysis (using the STEEP framework) and Locate & Evaluate analyses covering the entire value chain (upstream, direct operations, downstream). These were integrated with the risks and opportunities identified by TCFD. Furthermore, two scenarios were constructed in the scenario analysis, and gap analysis against current initiatives was conducted, identifying risks and opportunities with high response priority based on qualitative evaluation criteria. For those risks and opportunities where quantification logic could be established, a financial impact assessment was conducted.

Approach for Identifying Priority Sites

Conceptual diagram of site classifications for analysis



Criteria for determining priority sites

	Priority site classifications	Criteria for determination (example)	Priority level
A	Sites that are both business-critical and located in ecologically sensitive areas	Corresponds to both B and C	High
B	Business-critical sites[1]	Sites with high degree of impact/dependence and high business importance (L-2 ENCORE assessment result x business materiality ratings)	Medium
C	Sites located in ecologically sensitive areas[2]	High ecological sensitivity (L-4 assessment result)	Medium
D	Not applicable	Does not correspond to A, B or C	Low

1: Based on ENCORE results, "business-critical sites" are selected from sites with high dependence/impact on nature.
Upstream sites: Sites were selected if at least one ENCORE assessment item was "very high" or the number of "high" assessment items was above the average of all sites, and if they had transactions with many paper manufacturers or included manufacturers without certification.
Direct operation sites: Sites were selected if at least one ENCORE assessment item was "very high" or the number of "high" assessment items was above the average of all sites, and if the proportion of transactions at the site was 1.5% or more of the total transaction value, or if the site was considered difficult to substitute, based on actual circumstances.
2: For sites located in ecologically sensitive areas, the sensitivity of the ecosystems was evaluated using ENCORE, the WWF Biodiversity/Water Risk Filter, etc., based on five criteria ((1) Importance for biodiversity, (2) High ecosystem integrity, (3) Rapid decline of ecosystem integrity, (4) Importance for ecosystem service provision, (5) Physical water risk), each rated on a five-point scale (1-5). Sites were selected if "5. Very High" was given for at least one criterion or if the number of "5. Very High" and "4. High" scores was above average.

(5) Study of Prepare (countermeasures)

Countermeasures were studied for the high-priority risks and opportunities identified through the Assess process (see "Strategy B. List of High-priority Risks, Opportunities, and Countermeasures" on page 108).

*1 LEAP Approach: An integrated approach developed by TNFD to evaluate nature-related material issues for business, consisting of four processes: Locate (discovery), Evaluate (diagnosis), Assess (assessment), and Prepare (preparation).
*2 ENCORE: Acronym for Exploring Natural Capital Opportunities, Risks and Exposure. A nature-related risk analysis tool developed by the Natural Capital Finance Alliance and others, an international finance sector group in the natural capital field
*3 WWF Biodiversity/Water Risk Filter: An analysis tool developed by WWF for identifying biodiversity and water risks by region and supply chain stage worldwide

● 2) Results of Locate & Evaluate Analysis for Upstream (wood procurement)

(1) Sites analyzed

We identified regions located in ecologically sensitive areas and extracted 15 priority region candidates considering business significance. From this pool, five sites were selected as analysis targets based on different supplier countries, numerous paper manufacturers, and high ecological sensitivity scores.

(2) ENCORE evaluation results for upstream (wood procurement)

We analyzed impacts and dependencies using ENCORE for the business sectors "Afforestation and Other Forestry Activities" and "Logging Industry". As a result, since the business utilizes biological resources (wood), there were 7 impact items and 14 dependency items rated High or above.

Impact Items

No	Impact Items	Evaluation
1	Noise and light pollution, etc.	H
2	Air pollutants	VH
3	Biological resource extraction	VH
4	Harmful soil/water pollution	H
5	Nutrient pollution of soil/water	H
6	Land use	VH
7	Introduction of invasive species	H

*Legend: VH: Very high, H: High, M: Medium, L: Low, VL: Very low (Based on ENCORE's materiality ratings)

Dependency Items

No	Dependency Items	Evaluation
1	Biomass supply	VH
2	Soil and sediment retention	VH
3	Filtration	VH
4	Soil quality	VH
5	Biological control	H
6	Air purification	H
7	Flood mitigation services	H
8	Genetic material	VH
9	Global climate regulation	VH
10	Water supply	H
11	Population maintenance/ habitat provision	H
12	Local climate regulation	VH
13	Water flow regulation	H
14	Rainfall pattern regulation	VH

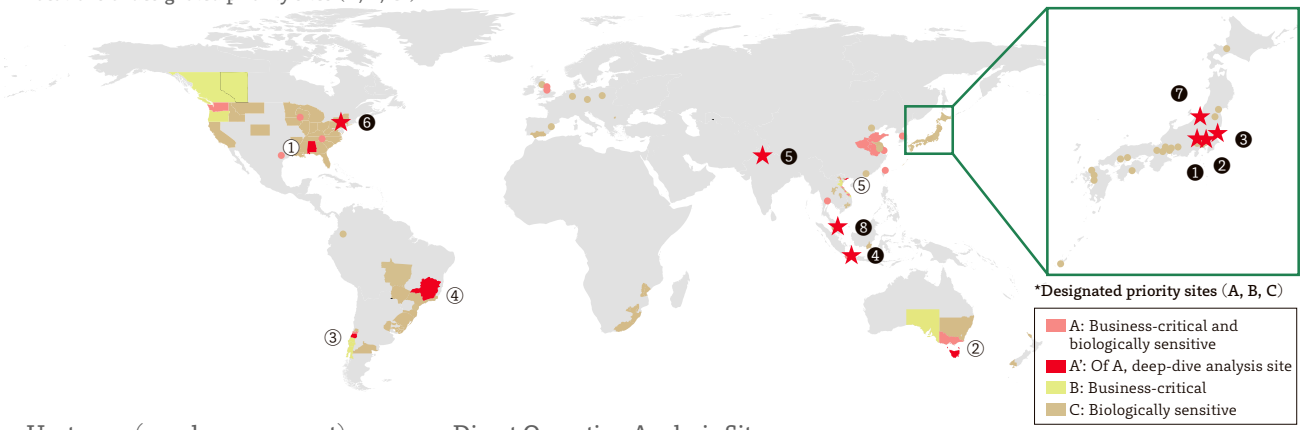
(3) Evaluate analysis results for upstream (wood procurement)

For the five sites subject to analysis, we evaluated impacts and dependencies from a wood procurement perspective, considering the natural characteristics surrounding each site, based on Locate analysis results. As a result, natural loss and rapid degradation of nature on which we depend or impact were identified in Alabama (U.S.), Maule (Chile), and Quang Ninh (Vietnam), indicating possible future needs to change procurement volumes or sources, which could increase procurement costs.

Thus far, we have ensured 100% confirmation of legality in

List of Sites Analyzed (upstream and direct operations – locations deemed to be both business-critical and biologically sensitive)

Locations of designated priority sites (A, B, C*)



Upstream (wood procurement) Analysis Sites

No	Procurement Region (State/Province Level)	Procurement Country
①	Alabama State	United States
②	Tasmania State	Australia
③	Maule Region	Chile
④	Minas Gerais State	Brazil
⑤	Quang Ninh Province	Vietnam

Direct Operation Analysis Sites

No	Site Name	Business Category	Selection Reason
❶	TOPPAN Package Products Gunma Center	Living & Industry	Mother plant for packaging material production
❷	TOPPAN Decor Products Satte Plant	Living & Industry	The only decor materials factory in Japan
❸	TOPPAN Package Products Mito Plant	Living & Industry	Consolidated folding carton plant in Japan
❹	PT. TOPPAN PLASINDO LESTARI	Living & Industry	Flexible packaging plant in Indonesia
❺	TOPPAN Speciality Films Pvt. Ltd.	Living & Industry	Flexible packaging plant in India
❻	INTERPRINT, Inc.	Living & Industry	Decor materials plant in the USA
❼	TOPPAN Electronics Products Niigata Plant	Electronics	The only FC-BGA (Flip Chip-Ball Grid Array) substrate* plant in Japan
❽	ADVANCED SUBSTRATE TECHNOLOGIES PTE. LTD.	Electronics	New overseas plant in Singapore to expand manufacturing of FC-BGA (Flip Chip-Ball Grid Array) substrates*

*FC-BGA substrate: Refers to a high-density semiconductor package substrate that enables high-speed and multi-functionality of LSI chips.

paper raw material procurement in line with the TOPPAN Group's environmental policy. Based on this evaluation, we will examine countermeasures for "financial risks caused by climate change (such as decreased sales due to reduced wood procurement amounts or increased costs due to reviewing procurement sources, resulting from ecosystem destruction or rapid degradation)".

● 3) Locate & Evaluate Analysis Results for Direct Operations

(1) Sites analyzed

We identified areas located in ecologically sensitive regions and, considering business-critical areas, selected about 30 priority areas, of which eight with distinct business and regional characteristics were chosen as analysis sites.

(2) ENCORE evaluation results for direct operation sites

We analyzed impacts and dependencies on nature using ENCORE for our Information & Communication, Living & Industry, and Electronics sectors. Regarding impacts, "emission of harmful soil/water pollutants" was evaluated as High or above across all business categories, while in the Living & Industry sector, "emission of non-GHG air pollutants", "nutrient pollution of soil/water", and "generation and release of solid waste" were all rated High or above. Regarding dependencies, "water supply" and "water flow regulation" were rated high for the Information & Communication and Living & Industry sectors, while "filtration" was rated high in the Living & Industry sector.

Impact Item Evaluation Results

		Impact Item Evaluation Results			
		Emission of non-GHG air pollutants	Emission of harmful soil/water pollutants	Nutrient pollution of soil/water	Generation and release of solid waste
Business Segment	Information & Communication	L	H	-	L
	Living & Industry	H	VH	H	H
	Electronics	L	VH	-	L

Dependency Item Evaluation Results

		Dependency Item Evaluation Results		
		Filtration	Water supply	Water flow regulation
Business Segment	Information & Communication	M	H	H
	Living & Industry	H	H	H
	Electronics	M	M	M

*Legend: VH: Very high, H: High, M: Medium, L: Low, VL: Very low, and items for which ENCORE lacked sufficient academic evidence to evaluate (Based on ENCORE's materiality ratings)

(3) Detailed analysis results for direct operation sites

For the eight sites analyzed (6 Living & Industry, 2 Electronics), we identified the causes for impact and dependency at each location while also incorporating ecosystem services information, then performed a gap analysis with current initiatives and evaluated key items by site.

As a result, for Living & Industry sectors, although some measures are in place for the four items rated High or above, the levels of initiatives varied by site, and it was found that especially at overseas locations, there is a need to strengthen risk countermeasures related to water pollution and dependence on water.

In the Electronics sector, only the potential impact for harmful soil/water pollution was identified, but all sites have either installed or plan to install large-scale wastewater treatment facilities, allowing confirmation that impacts from Volatile Organic Compounds (VOCs) are being mitigated.

TOPPAN Package Products (TPP) Gunma Center (Japan)

Business and Ecological Characteristics

The TPP Gunma Center is the main factory for our packaging material production, located in Meiwa Town, Ora District, Gunma Prefecture. It conducts printing on procured film, lamination of multiple films, and cutting processes. Although wastewater from this plant does not flow directly into rivers, the Watarase Retarding Basin (1), a Ramsar Convention wetland, is located within 20 km downstream. Additionally, the plant is located near the Tone River, which has historically experienced frequent flooding, and it has been confirmed that there are water risks, including water quality pollution, in the area.

The red circle indicates the evaluation target area (20 km)

Impact and Dependence Assessment Results:

Regarding the ENCORE assessment results for this factory, we analyzed the specific nature impacts and dependencies assumed at the site, taking into account the business and the ecological characteristics of the surrounding area, by inventorying concrete risk countermeasures implemented at this location. As a result, while there is a potential impact of chrome plating discharge from the manufacturing process, measures such as complete recovery of waste liquid are in place, and it has been confirmed that risk mitigation is sufficiently implemented. On the other hand, since there remains a high risk of flooding in this area, it has also been confirmed that continued thorough flood countermeasures are necessary.

● 4) Downstream (countries where our products are deployed) Locate & Evaluate Analysis Methods and Results

(1) Analysis methods and overview of results

We qualitatively evaluated disposal's impact on nature under typical national systems in the seven countries where the Group has major manufacturing and sales locations for plastic packaging materials. Analysis revealed that recycling infrastructure maturity and plastic waste recycling rates vary significantly by country/region, indicating these factors need to be considered when assessing sustainable packaging markets.

*Downstream location countries: U.K., China, Japan, Brazil, India, Indonesia, U.S.

(2) Case study: Analysis of waste from companies and households in Indonesia

In Indonesia, where there are two TOPPAN Group packaging material factories and a new one scheduled to launch, we found that the majority of waste is disposed of by incineration or dumping by households. In recent years, however, collection schemes offering individuals monetary incentives have grown, and recycling is promoted in some areas.

Category	Disposal Method	Weight Breakdown (10,000 t)		Anticipated Impact
General/Industrial Waste	Recycle	68	10%	Most recycled plastic waste is currently collected by informal small-scale collectors (including individuals). In recent years, in addition to Indonesian government initiatives to substantially reduce plastic waste by 2040 through a recycling system, schemes such as "waste banks," where private companies buy household recyclables and deliver them to recyclers, have partially formed.
	Landfill	136	20%	The majority of plastic waste is transported directly to landfill with household waste and not separated at home or in collection systems, causing soil contamination and water pollution from leachate entering groundwater or surrounding water bodies.
	Dumping	61	9%	
	Incineration	320	47%	Almost half the plastic waste is incorrectly incinerated by households, producing toxic gases, heavy metals, and water contamination. Indonesia has no large-scale incineration or waste-to-energy facilities (construction is under planning).
	Illegal Dumping	34	5%	Contamination from illegal dumping can also block drainage systems, contributing to flooding and soil pollution.
	Discharge into sea, lakes, or rivers	61	9%	Some dumped plastic waste flows into the sea or lakes, and fishing gear is sometimes disposed of directly into the ocean. Marine plastic debris is negatively affecting invertebrate and fish growth, health, fertility, survival, and feeding.

● 5) Assess: Scenario Analysis, Identification of Risks and Opportunities, and Financial Impact Assessment

(1) Overall framework of Assess analysis

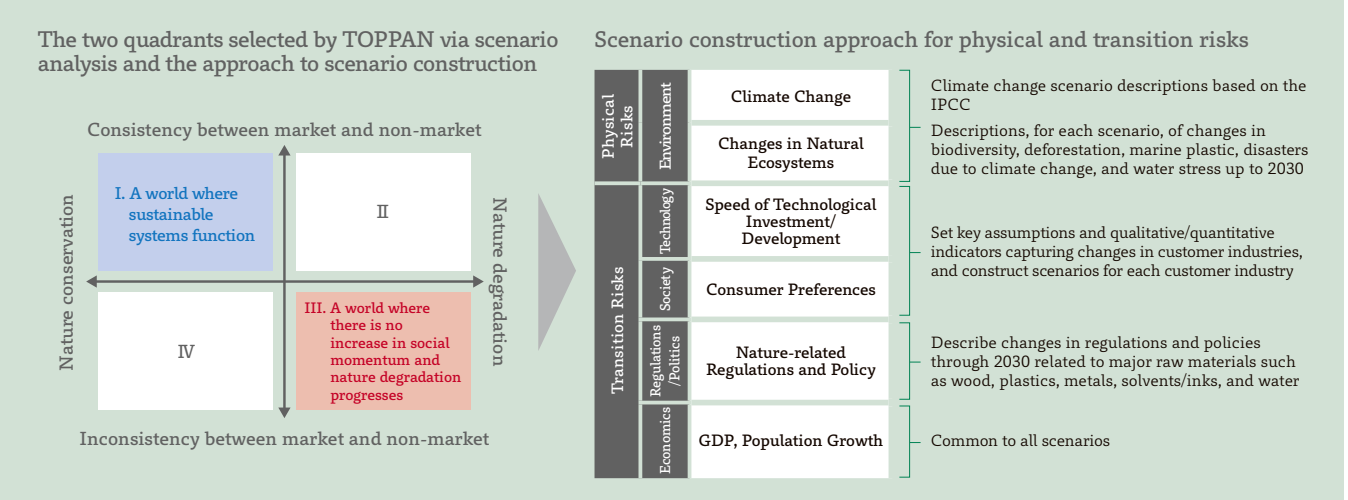
Through STEEP framework*1 external environment analysis and LEAP Locate & Evaluate analysis, we identified 14 risks and 32 opportunities relating to nature-related issues for the Group, integrating these with TCFD-identified risks and opportunities. We constructed scenarios for two quadrants refined by scenario analysis, performed a gap analysis with current initiatives, and identified risks and opportunities with the highest priority for response based on qualitative criteria. Financial impact was assessed for risks and opportunities where quantification logic could be established.

(2) Scenario analysis

Of the four-quadrant scenarios based on two uncertainties recommended by TNFD, Scenario I was set as "a world where sustainable systems function (progress toward the 1.5°C scenario)," and Scenario III as "a world where there is no increase in social momentum and nature degradation proceeds;" key assumptions and qualitative/quantitative indicators influencing assumptions critical to the emergence of physical and transition risks were established, and exploratory scenarios for 2030 were constructed. Scenario analyses for physical risks were based on TCFD scenario analysis results*2, aiming for the greatest possible integration.

*1 Macro-environmental analysis framework using five perspectives—Society, Technology, Economics, Environment, and Politics
*2 For details, see "Strategy C. Assessing the Impact of Climate Change on Our Business, Strategy, and Financial Planning through Scenario Analysis" on page 109.

Scenario Analysis and Scenario Construction Approach



(3) Methods and results of prioritizing risks and opportunities

・Risk priority assessment criteria and results:

Risks were evaluated on two axes, "impact" and "likelihood," for each of the two scenarios. For the evaluation of Scenario I and III, the higher of the two was totaled as the overall evaluation, and eight risks that were rated as Medium or higher in both or either the impact or likelihood were identified as high-priority risks.

・Opportunity priority assessment criteria and results:

For opportunities, scoring was done for each scenario on two axes: "market attractiveness" and "our competitiveness," and the top eight opportunities by total score were identified as high-priority opportunities.

Risk Priority Assessment Results

= High-Priority Risks

		Impact	Likelihood
(1)	Decrease in sales due to a reduction in wood procurement volume caused by ecosystem destruction or rapid degradation driven by climate change, and increase in costs due to review of procurement sources, etc.	M	H
(2)	Loss of production opportunities and factory assets due to increased risk of disasters, floods, and water damage	L	L
(3)	Outflow of chemical substances due to increased risk of disasters, floods, and water damage	L	L
(4)	Reduction in sales due to delays/halts in manufacturing or shipping caused by water procurement risks or usage restrictions	M	L
(5)	Increase in procurement costs for raw materials with high water dependence during manufacturing	L	M
(6)	Increase in procurement costs due to rising prices of sustainable raw materials or switching to alternative materials	M	H
(7)	Decrease in sales resulting from decreased demand for plastic containers and packaging	L	L
(8)	Increase in costs to comply with tighter regulations on chemical management	L	M
(9)	Increase in costs to meet growing demand for products and services with low environmental impact and energy consumption, as well as demands for waste reduction and lower environmental impact during disposal/recycling	L	L
(10)	Increase in employee disengagement, talent outflow, and hiring costs due to insufficient response to environmental and human rights due diligence and disclosure	L	L
(11)	Decrease in stock prices and increase in difficulty raising funds due to insufficient response to environmental and human rights due diligence and disclosure, and exclusion from investment targets	L	L
(12)	Increase in costs of responding to criticism from NGOs and others for insufficient action as a packaging manufacturer in the face of worsening marine plastic pollution in emerging countries	M	M
(13)	Decrease in sales due to suspension of operations resulting from insufficient response to biodiversity protection in watersheds or violations of wastewater emission standards, and increased costs due to liability for damages	M	L
(14)	Increase in costs due to compensation liability when land or resources of Indigenous peoples and local communities are harmed	M	L

Definitions:
Impact: "Degree of impact on business" and "Existence of existing measures/BCP to mitigate impact"
Likelihood: "Manifestation at our company as of 2030," "Existence of existing measures to avoid occurrence"
*Both evaluated using three criteria ("High," "Medium," "Low")

Opportunity Priority Assessment Results

High-Priority Opportunities		Scenario I		Scenario III		Opportunity Score
#	Opportunity Items	Market Attractiveness	Our Competitiveness	Market Attractiveness	Our Competitiveness	
1	Increase in sales of semiconductors that improve power conversion efficiency	H	H	L	H	10
2	Increase in sales of DX solutions for food loss reduction aimed at retail and food service industries	H	H	L	H	10
3	Increase in sales of mono-material containers and films for easier recycling	M	H	L	H	9
4	Increase in sales of packaging materials that contribute to product longevity	M	H	L	H	9
5	Expansion of sales for urban greening consulting services	M	H	L	H	9
6	Increase in sales of solutions for optimizing logistics and transportation efficiency	M	H	L	H	9
7	Increase in sales of biofuels	H	M	M	M	9
8	Increase in sales of products related to on-site renewable energy generation	H	M	M	M	9

Scored as High = 3 points, Medium = 2 points, Low = 1 point
Only evaluation results for high-priority opportunities are listed
Definition:
Market Attractiveness: Global market size and market growth rate in 2030
High: Market size of 1 trillion yen or more and growth rate of 15% or higher
Medium: Market size from 5 trillion to 10 trillion yen and growth rate 1 to 15%
Low: Market size of 1 trillion yen or less and growth rate of 5% or less
Our Competitiveness: Whether competitiveness is established and need for collaboration with other companies

● 6) Prepare: Consideration of Countermeasures

Countermeasures were studied for the high-priority risks and opportunities identified through the Assess process (see "Strategy B. List of High-priority Risks, Opportunities, and Countermeasures" on page 108).

(1) Approach to opportunities

・Nature positive as a business opportunity:

The World Economic Forum estimates that the economic transition to nature positive will create $10 trillion in market opportunities worldwide by 2030 *1.

Nature4Climate (a U.S. climate change initiative) calculates that the total amount of pre-seed, seed, and early-stage investment in startups developing nature-related technologies more than doubled from 2020 to 2022 *2.

*1 Source: World Economic Forum, *The Future of Nature and Business*
*2 Source: Nature4Climate, *The state of nature tech: Building confidence in a growing market*

・Potential for TOPPAN Group contribution:

The vision of the TOPPAN Group—"Becoming a leading provider of solutions to social issues worldwide through DX and SX"—is well aligned with solving issues related to nature. Opportunities for contributing to nature positivity using DX technology are also considerable from the perspective of providing solutions for customers' nature-related issues, and we will continue to strengthen our efforts.

Use Cases and Examples of Business Opportunities for the TOPPAN Group

(1) Expansion of sustainable packaging deployment

There has been a trend recently in Europe toward stricter regulations and policies, such as design requirements for recyclable packaging and setting minimum recycled content rates for plastic packaging, and a tendency for increased sustainability-oriented consumption, especially among Millennials and Generation Z.

The TOPPAN Group is responding to such policy and social trends by offering environmentally friendly packaging that achieves both reduced environmental impact and growth for our customers' businesses, through optimized package design and utilization of sustainable resources. For example, by converting packages composed of composite materials into mono-material barrier packages, we are working to improve recyclability. Additionally, in sourcing raw materials, we are developing and launching products using recycled materials (such as mechanically recycled PET film and recycled polyethylene film), thereby utilizing resources effectively and striving to reduce CO_2 emissions.

Going forward, we will accelerate the deployment of environmentally friendly packaging in policy-driven markets such as Europe, and promote the establishment of recycling schemes for collection and regeneration of packages, thereby helping to achieve a sustainable, circular society.

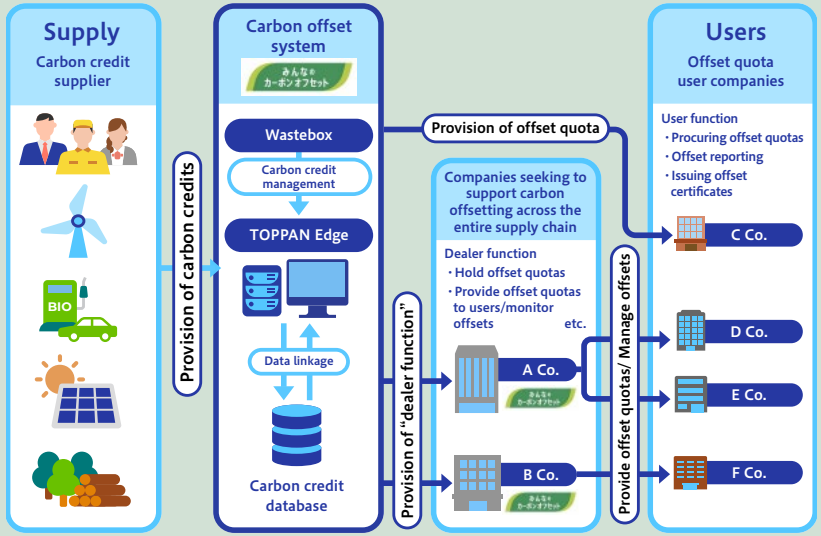
Mono-material barrier packaging


Packaging using mechanically recycled PET film

(2) "Everyone's Carbon Offset"—a system supporting decarbonization throughout the supply chain

In Japan as well as worldwide, companies are taking a variety of measures to reduce carbon emissions in line with the "Carbon Neutrality by 2050" goal set by the Paris Agreement. However, it is difficult to achieve the goals through self-help efforts alone, and there is a growing need for carbon offsetting, in which unavoidable emissions are compensated for by reductions or absorptions elsewhere. Meanwhile, ESG issues, notably environmental ones, must now be addressed across entire supply chains, and a shortage of personnel and know-how for such efforts has become a problem. In response to the major social challenge of decarbonizing the entire supply chain, TOPPAN Edge, in partnership with Wastebox, Inc., has developed and provides the supply-chain-wide carbon offset support service "Everyone's Carbon Offset."

This service incorporates a "dealer function, " which allows companies to provide offset quotas to business partners and investment recipients, and a "user function, " which enables users to complete everything online, from procuring offset quotas to issuing certificates. Companies introducing the service can easily engage in carbon offset initiatives and are also able to identify the emissions and efforts of offset recipients. Through the provision of this service, the two companies are working together with the goal of expanding decarbonization efforts throughout the entire supply chain.



Risk Management

A. The Organization's Processes for Identifying and Assessing Climate- and Nature-related Risks

The Global Environment Working Group identifies and assesses climate-related risks. In relation to the entire value chain (upstream, direct operations, downstream) of Group businesses and our products and services, risks identified are categorized into technology risk, market risk, reputation risk, legal risk, risks related to existing and new regulations, and risks related to rapid or gradual physical change. The working group identifies potential risks and opportunities associated with each risk type, upstream and downstream, throughout the value chain from R&D to procurement, production, and product supply. Impacts are assessed over the short term (within one year), medium term (two to three years), and long term (four to more than 30 years). We also identify and qualitatively assess nature-related dependencies, impacts, risks, and opportunities, calculate financial impacts, and consider countermeasures.

B. The Organization's Processes for Managing Climate- and Nature-related Risks

The Global Environment Working Group formulates and advances plans to address climate-related risks based on impact assessments factoring in financial impacts. Assessment results and plans are reported to the Sustainability Promotion Committee and evaluated. Based on reports from the committee, the Board manages climate change risks and supervises the risk management process. The working group will also assess dependencies, impacts, risks, and opportunities for nature-related issues.

C. How Processes for Identifying, Assessing, and Managing Climate- and Nature-related Risks Are Integrated into the Organization's Overall Risk Management

Sustainability risk management, including climate change, is incorporated into comprehensive risk management with close collaboration between the Sustainability Promotion Committee and Risk Management Implementation Committee, under the control of the Board. For the "Business and Other Risks" (formerly "Significant Risks") identified as key risks for the Group, we review and select risks annually based on changes in the external environment, the potential for new or elevated medium- to long-term risks to materialize, occurrence frequency, and impact levels. The process takes into account sustainability management, including environmental issues such as climate change and natural capital. The GRC Division, which oversees risk management, reviews the risks after consulting departments responsible for risk management, and reports to the Board for approval.

Risk management (assessment, planning, and progress monitoring) is conducted with cooperation between the first and second lines, while the Sustainability Promotion Committee and Global Environment Working Group handle environmental risk management, reporting to the Risk Management Implementation Committee. The Risk Management Implementation Committee identifies Groupwide risks, including sustainability risks, and discusses and monitors inherent risks and countermeasures. The Risk Management Committee, composed of all Board members, has an oversight and control function for the Risk Management Implementation Committee and coordinates independently with the Board, which makes comprehensive decisions. A similar risk management process will also be established for nature-related risks.

Metrics and Targets

A. Climate Change Metrics and Targets

Our metrics for climate-related risks are Scope 1 & 2 and Scope 3 GHG emissions and the ratio of renewable energy out of total power consumption. Our metrics for climate-related opportunities, meanwhile, assess how far a business mitigates climate change and social issues: percentage of operating profit contributed by growth businesses (including DX and SX) under the Medium Term Plan and number of services contributing to GHG-emission reduction under the TOPPAN Business Action for SDGs. We define management's responsibilities for climate-related matters by looking at progress towards GHG-emission reduction targets, in addition to financial metrics, to determine directors' performance-linked bonuses. For Scope 1 & 2 and Scope 3 GHG emissions, our long-term reduction targets for 2050 and medium-and-long-term targets for 2030 are SBT certified.

B. Metrics and Targets Related to Nature

We have set medium-and-long-term targets for fiscal 2030 and are working towards them in nature-related areas across the value chain (upstream, direct operations, downstream).

Contributing to Decarbonization (see page 123) ›

Initiatives and Accomplishments Related to Materiality ›
https://www.holdings.toppan.com/en/sustainability/strategy.html

Medium Term Plan ›
https://www.holdings.toppan.com/en/ir/management/policy.html

List of Metrics and Targets for Nature-related Issues, Including Climate-related Issues

Environmental Issues for the TOPPAN Group	Relevant TCFD Recommended Disclosure Metrics/ TNFD Core Global Disclosure Metrics	Target Achievement Fiscal Year	Target Value	Result	Future Countermeasures
<Contributing to decarbonization> Aiming for net zero Scope 1 & 2 and Scope 3 greenhouse gas emissions	GHG emissions Scope 1 & 2	Fiscal 2030	54.6% reduction compared to fiscal 2017 (renewable energy ratio 25%)	28.7% reduction compared to fiscal 2017 (Renewable energy ratio: 3.5%)	Promotion of energy saving measures, procurement of low-carbon electricity and renewable energy
	GHG emissions Scope 1 & 2	Fiscal 2050	Net zero emissions		Electrification of Group logistics companies, employment of low-carbon logistics companies Investment in CO_2 capture businesses and absorption via expansion of green spaces
	GHG emissions Scope 3	Fiscal 2030	54.6% reduction compared to fiscal 2017	11.2% reduction compared to fiscal 2017	Active adoption of low-carbon materials
	GHG emissions Scope 3	Fiscal 2050	Net zero emissions		Fuel conversion and use of carbon-free fuel Absorption via CO_2 storage technology and CO_2 reuse, etc.
	Proportion of operating profit contributed by growth businesses	Fiscal 2025	51%	41%	To be studied next fiscal year, including target setting
	Number of services contributing to greenhouse gas reduction	Fiscal 2025	60	55	To be studied next fiscal year, including target setting
	Number of services contributing to greenhouse gas reduction	Fiscal 2030	80		To be studied next fiscal year, including target setting
<Preserving biodiversity> Aiming for a society that coexists in harmony with nature, balancing conservation with socioeconomic activity	Use of land/freshwater/seawater (1) Total area currently managed (2) Total area altered by business (land, freshwater, sea) (3) Total area restored or rehabilitated (land, freshwater, sea)	Fiscal 2030	Contribution to in-company and external nature-symbiotic areas (Equivalent to 10% of the site area of TOPPAN Inc. manufacturing sites)	(1) Manufacturing site area of TOPPAN Inc.: 2,302 thousand m² (2) - (3) Total restored or rehabilitated area: Voluntary: 96 thousand m² (4.2%)	(1) Data acquisition for Group and overseas sites (2) Collection and organization of site history information (3) Expansion of collaboration with NPOs
	Resource use/replenishment Procurement volume of high-risk natural materials (wood)	Fiscal 2025	100% verification of legality in paper raw material procurement by fiscal 2025	Confirmation of legality in paper raw material procurement in TOPPAN Group: 79.7% (based on purchased weight) Amount of forest-certified paper procured: 474,962 t	Ascertaining procurement amounts by country Understanding amounts procured under sustainable management plans and certification systems
<Contributing to resource circulation> Aiming for zero waste emissions	Pollution/pollution removal (1) Volume of soil pollutants emitted (2) Volume of wastewater and pollutants in wastewater (3) Volume generated and treated for hazardous/non-hazardous waste (4) Volume of air pollutants (excluding GHGs) emitted	Fiscal 2030	(1) - (not set) (2) - (not set) (3) Final landfill waste: 60% reduction compared to fiscal 2017 Material recycling rate of plastic waste: 9%pt. increase vs. fiscal 2017 (4) - (not set)	(1) - (Planned to be aggregated and investigated in the future) (2) Total wastewater discharge: 8,000 thousand m² ☑, BOD load: 33,154 kg ☑, COD load: 1,735 kg ☑, Nitrogen emission: 20,088 kg ☑, Phosphorus emission: 6,376 kg ☑ (3) Hazardous waste discharge: 23,209 t (of which material recycling: 16,486 t, Thermal recovery: 4,621 t, Simple incineration: 1,090 t, Landfill: 1,012 t, Others: 0 t) Non-hazardous waste: 264,969 t (of which material recycling: 223,307 t, Thermal recovery: 35,592 t, Simple incineration: 1,713 t, Landfill: 3,357 t, Others: 0 t) (4) VOC atmospheric emissions: 4,088 t (Domestic) ☑	(1) Identification of soil contaminants to be aggregated (2) Considering aggregation in watershed areas (3) Improving aggregation accuracy for overseas sites (4) Data collection and organization including overseas sites
	Total footprint measured by splitting total weight (tons) of plastics (polymers, durable goods, packaging) used or sold by raw material content For plastic packaging, the percentage (%) of plastics that fall in the following categories • Reusable • Compostable • Technically recyclable • Recyclable in practice and at scale	Fiscal 2030	- (not set)	- (Planned to be investigated and aggregated in the future)	Investigation for in-house procurements or when included in customer-supplied materials
	Revenue increase—including its percentage—and description of impact from products and services that deliver demonstrable positive impact on nature (1) Ratio of sales from SX priority themes (sustainable packaging) to total sales (2) Percentage of packaging sales accounted for by sustainable packaging	Fiscal 2030	(1) - (not set) (2) 100%	(1) 8.3% (2) 50%	To be studied next fiscal year, including target setting
	Ratio of targets that are time-bound and measurable (1) Percentage of barrier-technology-based packaging switched to mono-material (2) Number of proofs of concept for establishing recycling schemes for packaging and sales promotion materials (3) Total weight of food in packaging that contributes to longer shelf lives	Fiscal 2030	(1) Domestic: 30%; Overseas: 50% (2) 120 cases (3) 400,000 tons	(1) Domestic: 5%; Overseas: 13% (2) 78 cases (3) 26 tons	To be studied next fiscal year, including target setting
<Optimal water use> Contributing to achieving optimal water use and improving water quality by preventing pollution	Resource use/replenishment (1) Total withdrawal and consumption of water (2) Withdrawal and consumption of water from water-stressed areas (3) Volume of water saved/reused/replenished	Fiscal 2030	(1) - (not set) (2) Sites with high water risk (water stress over 40%) Water withdrawal reduction target: At least 50% of sites achieved (4 sites) (3) - (not set)	(1) Total water withdrawal: 10,809 thousand m³ ☑, Total consumption: 2,809 thousand m³ Breakdown of water withdrawal: Industrial water: 549 thousand m³ ☑ Municipal water: 4,908 thousand m³ ☑ Groundwater: 5,328 thousand m³ ☑ Rainwater use: 23 thousand m³ ☑ (2) - (Planned to be investigated and aggregated in the future) (3) Amount of water circulated on premises: 2,311 thousand m³ ☑	(1) To be studied next fiscal year, including target setting (2) Reduction of water withdrawal at sites where targets not achieved (3) To be studied next fiscal year, including target setting

*Other core global metrics and additional metrics will also be considered.
*"-" : Currently indicates a status of "not set" or "under consideration".

*Every indicator assured by an independent assurance provider is marked with an assurance stamp ☑.