Environmental Policy and Targets

Basic Approach

With growing awareness of environmental conservation throughout the world in the 1990s, the scope of environmental issues to be tackled by businesses grew significantly. TOPPAN reorganized the framework for environmental conservation by establishing the Ecology Center in 1991 and formulating a Declaration on the Global Environment, a basic philosophy for environmental conservation activities, in 1992.

In April 2009 we revised this declaration into the TOPPAN Group Declaration on the Global Environment, an environmental action philosophy for the entire Group.

The TOPPAN Group Declaration on the Global Environment

As responsible members of international society, we who work within the TOPPAN Group strive to realize a sustainable society through forward looking corporate activities with consideration for the conservation of the global environment.

Basic Principles

1. We observe all laws, regulations and in-company rules relating to the environment.
2. For the future of the Earth, we strive for the effective utilization of limited resources and the reduction of all types of environmental burden.
3. With foresight, we promote the development and widespread use of products that show consideration for the environment, and contribute to the environmental activities of customers.
4. We engage in communication related to the environment with a wide range of peoples both inside and outside the company, and strive for mutual understanding.
5. We also take a proactive approach to environmental conservation in corporate activities in international society.

Formulated in April 1992
Revised in October 2023

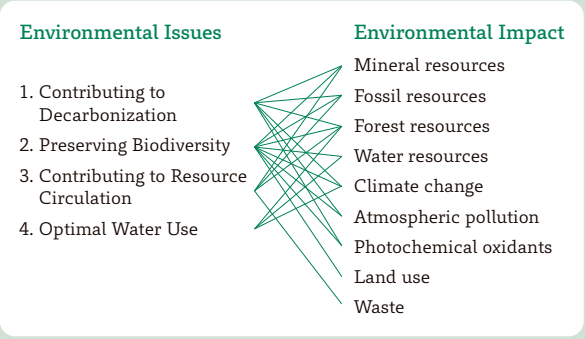
TOPPAN Group Environmental Policy

In April 2024 we formulated a TOPPAN Group Environmental Policy as a replacement to the Annex to the TOPPAN Group Declaration on the Global Environment. This policy sets forth the environmental issues to address, our commitments, and systems and initiatives for implementation for the creation of a sustainable society as advocated in the declaration. Under this policy, we will deploy solutions to global environmental issues as means of enhancing our corporate value and shaping a sustainable society.

TOPPAN Group Environmental Policy

1. Environmental Issues to Address

The TOPPAN Group uses life-cycle assessment (LCA) to identify environmental issues based on the environmental impact of its business activities.



Environmental Issues

1) Contributing to Decarbonization: Working to tackle climate change, conserve forest resources, and reduce fossil resource consumption.
2) Preserving Biodiversity: Working to conserve forest and water resources and prevent pollution.
3) Contributing to Resource Circulation: Working to ensure the circular use of fossil, forest, and mineral resources.
4) Optimal Water Use: Working to optimize water consumption, recharge water by conserving forest resources, and prevent pollution.

2. Commitments

1. Scope

We advance initiatives and collaboration focused not only on our own business activities but on the entire value chain. This includes production activities and business facilities, products and services, distribution and logistics, waste management, suppliers, service providers, contractors, and other major business partners (businesses outside of our control, joint venture partners, licensees, subcontracting partners, etc.), due diligence, mergers, and acquisitions.

2. Legal Compliance

In conducting our business activities, we comply with laws, regulations, and other requirements related to environmental conservation.

3. Environmental Conservation and Pollution Prevention

In conducting our business activities, we will strive to prevent pollution of the atmosphere, water, and soil; control water consumption; and protect the environment to ensure the provision of sanitary water to employees and local residents.

4. Measures to Address Climate Change

We will strive to achieve net zero by reducing greenhouse gas emissions in our business activities and through the products and services we provide.

5. Preservation of Natural Capital and Biodiversity

In conducting our business activities, we will strive to achieve a net-positive impact on biodiversity, preserve natural capital, and consider the human rights of local residents in procurement.

6. Deforestation Prevention

We will strive to achieve zero deforestation associated with forest resources in paper procurement by 2025.

7. Product Stewardship

We will strive to minimize environmental risks throughout the product life cycle and promote sustainable consumption.

8. Continuous Improvement

To fulfill our commitments, we will make continuous efforts to improve our environmental management system, environmental vision and targets, and relationships with internal and external stakeholders.

3. Systems and Initiatives for Implementation

1. Environmental Management System

Our environmental management system is structured based on ISO 14001. Environmental management systems based on ISO 14001 drive improvements through a PDCA cycle of planning, support and operation, assessment, and improvement. In addition, the Ecology Center, which is the organization responsible for overseeing environmental conservation activities, monitors, checks, and audits environmental performance data and legal compliance to ensure continuous improvement.

2. Governance

The Board of Directors of TOPPAN Holdings Inc. is the highest level body responsible for the TOPPAN Group's environmental conservation activities. As the organization that oversees environmental conservation activities, the Ecology Center advances efforts under the direction of an officer appointed by the Board of Directors, supervises and assesses activities, and reports the results of verification to the Board of Directors. By supervising and providing guidance on the approval and progress of the TOPPAN Group Environmental Policy, the TOPPAN Group Environmental Vision, and the TOPPAN Group Medium-and-Long-Term Environmental Targets, the Board of Directors advances initiatives focused on key environmental issues for management, such as countermeasures to climate change and preservation of natural capital.

3. Environmental Vision and Targets

To drive solutions to environmental issues, we will formulate a long-term environmental vision as well as medium-term environmental targets that serve as milestones and will advance initiatives to achieve the targets.

4. Raising the Awareness of Internal and External Stakeholders

We will contribute to solutions to environmental issues by disclosing information on the TOPPAN Group's environmental initiatives—including our declaration on the global environment, environmental policies, performance data, and the progress of our efforts—and communicating with internal and external stakeholders based on the information disclosed.

5. Employee Education

To drive solutions to environmental issues, we will provide TOPPAN Group employees with educational opportunities that enable them to acquire and put into practice the necessary knowledge on the environment.

Formulated in April 2024
Revised in April 2025

Environmental Targets

TOPPAN Group Environmental Vision 2050

We pledge our ongoing commitment to addressing environmental issues throughout the supply chain in cooperation with the communities we work with around the world. To accelerate the Group's initiatives for a sustainable society that supports all forms of life in the global ecosystem of tomorrow, we have added preserving biodiversity and aiming for net zero Scope 3 greenhouse gas emissions to the TOPPAN Group Environmental Vision 2050 ("Vision 2050"). Vision 2050 is the long-term environmental policy we established in 2021.

TOPPAN Group Environmental Vision 2050

As a member of international society, the TOPPAN Group aims to enable "fulfilling, sustainable living" by contributing to decarbonization, preservation of biodiversity, resource circulation, and the optimal use of water through forward-looking activities with consideration for preservation of the global environment.

1. Contributing to Decarbonization
   Aiming for net zero Scope 1 & 2 and Scope 3 greenhouse gas emissions.
2. Preserving Biodiversity
   Aiming for a society that coexists in harmony with nature, balancing conservation with socioeconomic activity.
3. Contributing to Resource Circulation
   Aiming for zero waste emissions.
4. Optimal Water Use
   Contributing to achieving optimal water use and improving water quality by preventing pollution.

TOPPAN Group Environmental Targets for 2050

To achieve the TOPPAN Group Environmental Vision 2050, we have set the following targets, with fiscal 2017 as the benchmark year and 2050 as the deadline for achieving the targets.

1. Contributing to decarbonization
   Scope 1 & 2 greenhouse gas emissions: Net zero (90% reduction compared to fiscal 2017*; based on a 1.5° scenario)
   Scope 3 greenhouse gas emissions: Net zero (90% reduction compared to fiscal 2017*)
   *Offsetting residual emissions using internationally recognized methods

TOPPAN Group Medium- and-Long-Term Environmental Targets for Fiscal 2030

1. Contributing to decarbonization
   Reduce Scope 1 & 2 greenhouse gas emissions by 54.6% compared to fiscal 2017 (renewable energy ratio of 25%; based on a 1.5° scenario).
   Reduce Scope 3 greenhouse gas emissions by 54.6% compared to fiscal 2017 (based on a 1.5° scenario).
2. Preserving biodiversity
   Confirm 100% legality in procurement of paper raw materials by fiscal 2025.
   Contribute to the conservation of regions in which humans coexist with nature both inside and outside the Group, covering an area equivalent to 10% of the total area of manufacturing sites.
3. Contributing to resource circulation
   Reduce final landfill waste disposal by 60% compared to fiscal 2017.
   Increase waste plastic material recycling rate by 9 percentage points compared to fiscal 2017.
4. Optimal water use
   Achieve water withdrawal reduction targets for at least 50% of sites (4 sites) with high water risk (water stress exceeding 40%; total of 7 sites).
   Ensure no cases of action taken by authorities due to exceeding regulatory threshold values.

Greenhouse Gas Reduction Targets Validated by SBT

TOPPAN Holdings has obtained Net-Zero Target validation from the Science Based Targets initiative (SBTi) for greenhouse gas emission reduction targets across the entire TOPPAN Group value chain.

For emissions that still cannot be fully reduced even through reduction efforts aligned with the 1.5℃ emission pathway, we aim to achieve net zero by developing and introducing innovative technologies and making investments to utilize means such as forest-derived absorption and carbon removal technologies.

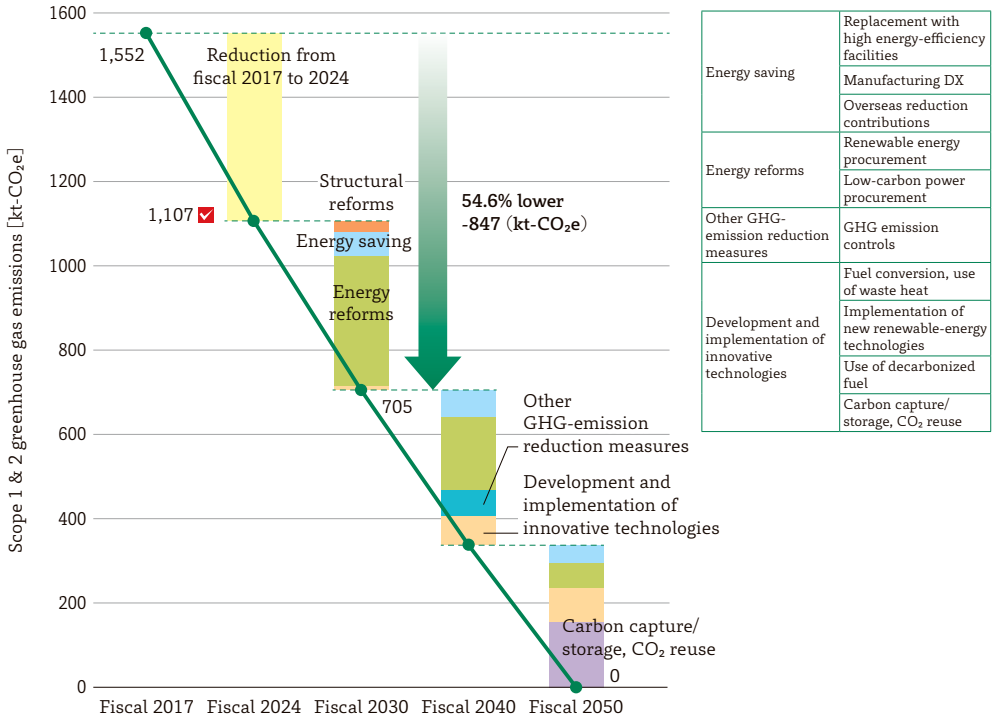
Overall Net-zero Target	2050 target Net-zero Scope 1 & 2 and Scope 3 GHG emissions
Near-term Targets	2030 targets Scope 1 & 2 GHG emissions: Reduce by 54.6% compared to the fiscal 2017 level Scope 3 GHG emissions: Reduce by 54.6% compared to the fiscal 2017 level
Long-term Targets	2050 targets Scope 1 & 2 GHG emissions: Reduce by 90% compared to fiscal 2017 level Scope 3 GHG emissions: Reduce by 90% compared to fiscal 2017 level

Transition Plan for Carbon Neutrality by 2050

● Scope 1 & 2

By 2030, the TOPPAN Group will focus on energy efficiency measures and the preferential adoption of low-carbon power and renewable energy sources.

From 2030, we will switch fuel sources and increase the use of decarbonized fuel. By current estimates, approximately 10% of the Scope 1 & 2 greenhouse gas (GHG) emissions resulting from our operations in fiscal 2017 will still be emitted in 2050. These emissions will be absorbed using carbon capture/storage technologies, CO_2 reuse technologies, and other carbon neutrality measures deployed to achieve net zero emissions by 2050.



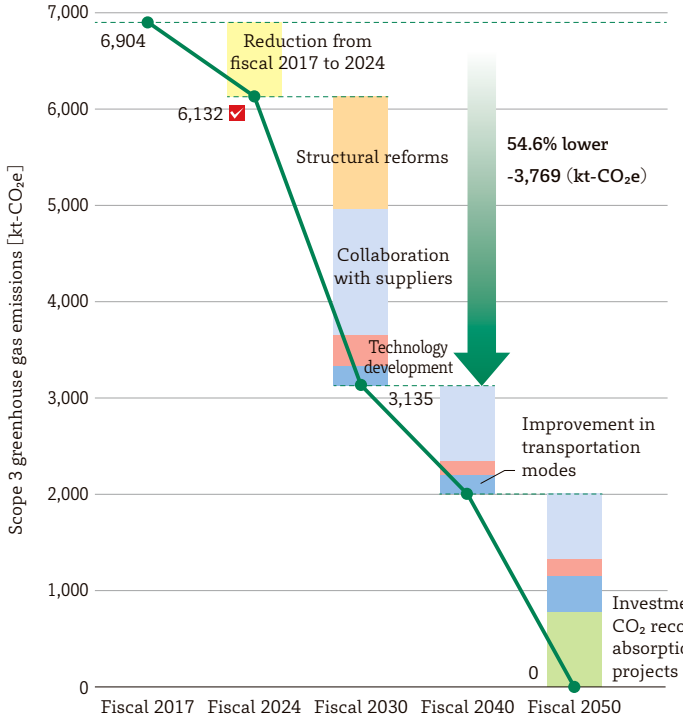
Energy saving	Replacement with high energy-efficiency facilities
	Manufacturing DX
	Overseas reduction contributions
Energy reforms	Renewable energy procurement
	Low-carbon power procurement
Other GHG-emission reduction measures	GHG emission controls
Development and implementation of innovative technologies	Fuel conversion, use of waste heat
	Implementation of new renewable-energy technologies
	Use of decarbonized fuel
	Carbon capture/ storage, CO_2 reuse

● Scope 3

By 2030, TOPPAN will further adopt low-carbon materials and switch from paper to digital data through the digital transformation (DX).

From 2030, we will adopt low-carbon logistics companies outside of the Group and shift from fossil fuels to electricity to power vehicles owned by logistics companies within the Group.

By current estimates, approximately 10% of the Scope 3 GHG emissions resulting from our operations in fiscal 2017 will still be emitted in 2050. We will absorb these emissions by investing in CO_2 recovery projects and expanding greenbelts to achieve net zero emissions by 2050.



Collaboration with suppliers	Registration of the energy intensity of paper manufacturers
	Expanded use of materials with lower emission factors
	Adoption of net-zero carbon materials
Technology development	Use of biomass materials, maximum use of solvent-free materials
	Maximum use of mono-materials
	Higher recycling rates
Improvement in transportation modes	Maximum efficiency in transportation (via intra- and inter-industry partnerships)
	EV100 compliance for logistics vehicles
	Use of zero-CO_2 transportation modes for commuting and business trips
Investment in CO_2 recovery/ absorption projects	Investment in CO_2 recovery projects
	Expansion of greenbelts
	CCUS* installation, etc.

*Carbon dioxide Capture, Utilization and Storage

*Every indicator assured by an independent assurance provider is marked with an assurance stamp ☑.
*GHG emissions quantification is subject to uncertainty when measuring activity data, determining emission factors, and considering scientific uncertainty inherent in the Global Warming Potentials.

● Single-year Environmental Targets

The Ecology Center aggregates annual environmental performance data related to targets set under the fiscal 2030 goals, reports results to the Board of Directors, sets single-year targets, and develops measures for the current year with authorization from the Board of Directors. Site-specific targets set in line with the Groupwide targets are treated as key performance indicators for managing the progress of environmental conservation activities carried out at individual sites.

Environmental Targets for Fiscal 2025

	Performance Target	Performance Indicator	Target Value for Fiscal 2025
(1) Contributing to decarbonization	Reduce CO_2 emissions	Scope 1 & 2 greenhouse gas emissions	874 kt-CO_2e
		Renewable energy ratio	10.0%
		Scope 3 greenhouse gas emissions	5,323 kt-CO_2e
(2) Preserving biodiversity	Prevent illegal deforestation	Confirm the legality of raw materials procured for paper production	100%
	Contribute to a society that coexists in harmony with nature	Area of land in which humans coexist in harmony with nature	Increase by one the number of regions contributing to conservation in which humans coexist in harmony with nature
(3) Contributing to resource circulation	Reduce final landfill waste disposal	Final landfill waste disposal	4,300 t
	Circulate resources	Waste plastic material recycling rate	56.8%
(4) Optimal water use	Set medium- and long-term water consumption targets for the TOPPAN Group (considering other environmental impacts)		
	Prevent water pollution	No. of actions taken by authorities in response to exceeded regulatory standards	0

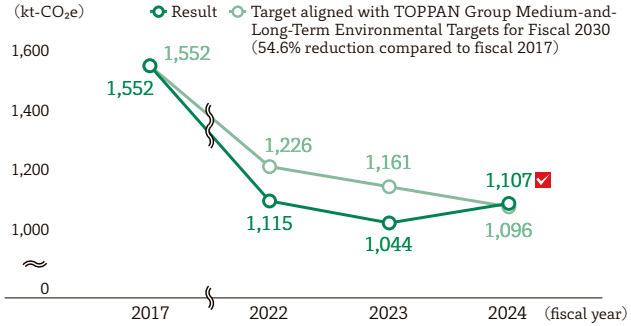
Data

TOPPAN Group Medium-and-Long-Term Environmental Targets for Fiscal 2030 (Fiscal 2024 Results)

TOPPAN has been undertaking environmental conservation activities to ensure that the entire Group attains the target values set for fiscal 2030. The values from fiscal 2017 are set as baselines.

Scope 1 & 2 Greenhouse Gas Emissions

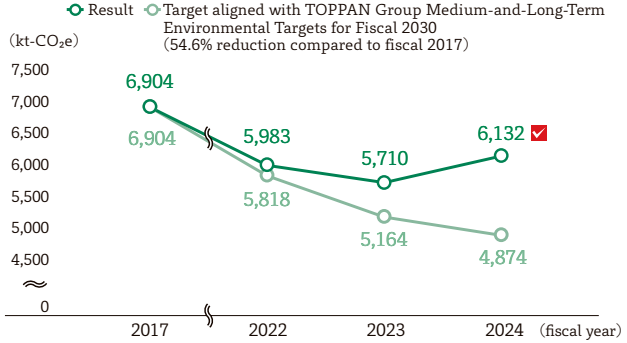
In fiscal 2024 we did not achieve our single-year Scope 1 & 2 greenhouse gas (GHG)-emission reduction target towards the fiscal 2030 goal (under the Science Based Targets initiative [SBTi] 1.5°C scenario).



*For Scope 1 & 2 emissions, greenhouse gas (GHG) emissions associated with electricity consumption at domestic sites are calculated using the base emission factors according to the method specified in the Ministerial Ordinance Concerning the Calculation of Greenhouse Gas Emissions from the Business Activities of Specified Dischargers issued by the Ministry of the Environment (MOE) of Japan. The conversion factors used to calculate GHG emissions associated with electricity consumption at overseas sites are prioritized in the following order: 1) the factors independently set by the electric utilities from which Group sites purchase electricity, 2) the factors published by central and local governments, and 3) the latest factors published by the International Energy Agency (IEA).
GHG emissions associated with fuel consumption, excluding electricity consumption, are calculated globally by the MOE method specified in the Ministerial Ordinance Concerning the Calculation of Greenhouse Gas Emissions from the Business Activities of Specified Dischargers.
*The result for fiscal 2024 of 1,107 thousand t-CO_2e includes 69 thousand t-CO_2e from NMVOC combustion

Scope 3 Greenhouse Gas Emissions

In fiscal 2024 we failed to attain our single-year Scope 3 GHG-emission reduction target towards the fiscal 2030 goal (under the SBTi 1.5°C scenario). Due to the partial adoption of primary data from major suppliers, there was a decrease of 148 thousand t-CO_2e, but due to the revision of the emission factor database and increased activity volume, there was an increase of 571 thousand t-CO_2e, resulting in a net increase of 422 thousand t-CO_2e compared to last year.



*The methods for calculating Scope 3 GHG emissions are presented on page 126.

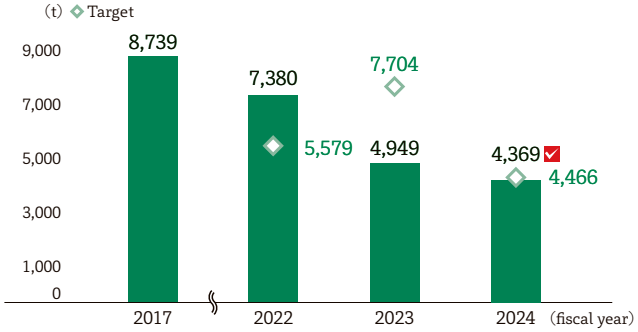
Renewable-derived Energy: Amount and Ratio

Fiscal Year	Renewable-derived Energy (GWh/year)	Ratio (%)
2022	20.22	1.19
2023	41.81	2.52
2024	59.27 ☑	3.46 ☑

*Renewable-derived energy (electricity derived from renewable energy sources) is the renewable energy procured from PPA providers and electricity retailers plus the total energy generated at renewable energy power facilities (for solar power and hydro power) installed at Group sites.
*The ratio of renewable-derived energy is the percentage of electricity derived from renewable energy sources out of our overall power consumption.

Final Landfill Waste Disposal

Efforts have been underway since fiscal 2021 to attain the single-year targets set in line with the fiscal 2030 goal. We succeeded in attaining the reduction target in fiscal 2024.



Waste Plastic Material Recycling Rate

Efforts have been underway since fiscal 2021 to attain the single-year targets set in line with the fiscal 2030 goal. Our recycling-rate target was attained in fiscal 2024.

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

Assessing Environmental Impact

We apply the "Life-cycle Impact assessment Method based on Endpoint modeling (LIME)" to assess the degree to which our initiatives have reduced total environmental impact across the Group. This allows us to consolidate INPUT and OUTPUT data into a single index of environmental impact and provides a quantitative view of that impact against the base year. From fiscal 2024, the calculation system boundary was expanded (from raw material procurement to product transportation) and updated with the latest factors. (Secondary DB: IDEA v3.4.1, Integrated Factors: LIME3 2023 Revised Edition)

Quantifying Environmental Impact based on LIME

We use LIME to quantify the Group's total environmental impact, with the base year (fiscal 2017) value at 100. Under the 2023 revised edition of LIME3, we attained an 8.5% reduction in environmental impact and a 1.29-fold enhancement in environmental efficiency in fiscal 2024. Under the conventional LIME3 evaluation, we achieved an 8.1% reduction in impact and a 29% improvement in efficiency compared to the base year.

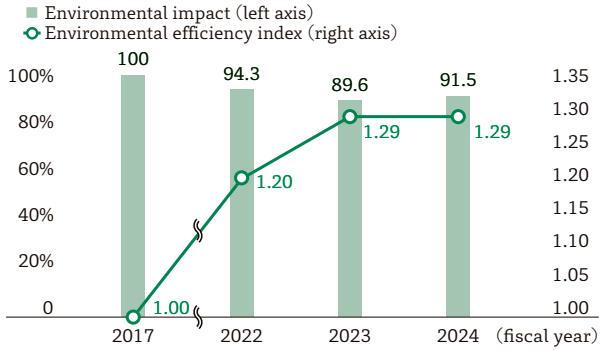
TOPIC

Dr. Norihiro Itsubo
Professor, Department of Resources and Environmental Engineering, School of Creative Science and Engineering
Waseda University

Needs for sustainability-related disclosure are increasing. In addition to Scope 3 and other climate-related disclosures, there is demand for disclosures focusing on nature and ecosystems. With a comprehensive perspective including resource consumption expected, the TOPPAN Group uses LIME to calculate environmental efficiency indicators for climate, nature, and resources. Evaluations considering environmental conditions and supply chains in each country provide the desired perspective for global companies, and analysis results can be used strategically to create new value.

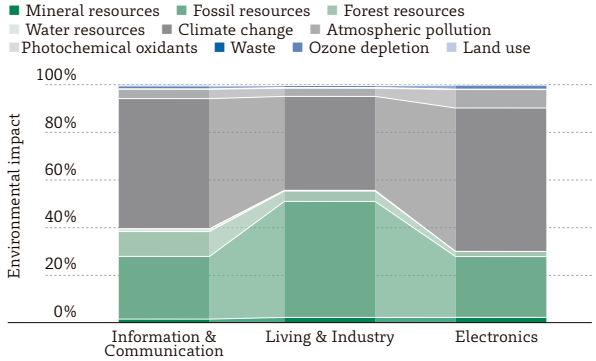
Groupwide LIME3 (2023 Revised Edition) Assessment

Environmental Impact and Environmental Efficiency Index



*Fiscal 2017 is set as 100. Calculated excluding non-production sites
Environmental efficiency index: environmental efficiency in fiscal 2017 is set as 1
*Environmental efficiency = net sales / environmental impact
For environmental impact, the impact of raw-material-derived climate change and fossil resources are significant. Efforts are being made to reduce environmental burden through more efficient production, material recycling, development of products using recycled materials to reduce resource consumption, and reduction in energy consumption through energy-saving activities.

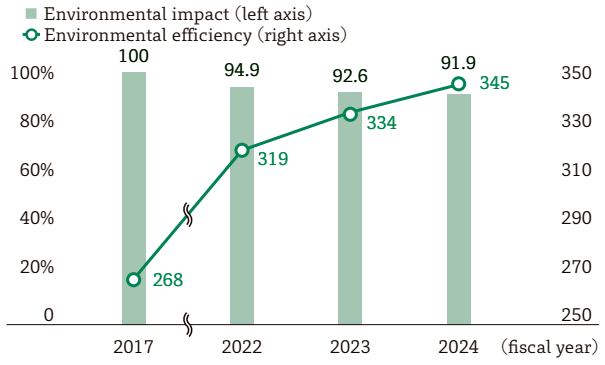
Breakdown of Environmental Impact by Business Field



*TOPPAN's environmental impact cannot be expressed in uniform terms or units, as the materials and product types handled by the Group differ among the business fields. We therefore assess the environmental impact associated with key items for each business field.

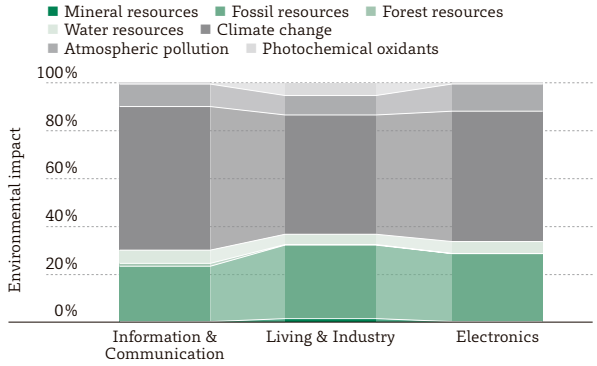
(Reference) Groupwide LIME3 (Conventional Version) Assessment

Environmental Impact and Environmental Efficiency



*Fiscal 2017 is set as 100. Calculated excluding non-production sites
*Environmental efficiency = net sales / environmental impact

Breakdown of Environmental Impact by Business Field



*TOPPAN's environmental impact cannot be expressed in uniform terms or units, as the materials and product types handled by the Group differ among the business fields. We therefore assess the environmental impact associated with key items for each business field.