

Fundamental Approach to the Environment

Basic Approach

Approach

Policy

With the 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 its previous structure for environmental conservation by establishing the Ecology Center in 1991 and formulating its Declaration on the Global Environment, a basic philosophy for environmental conservation activities, in 1992. Toppan has promoted environmental initiatives based on the declaration ever since.

The Toppan Group targets the creation of a sustainable society where all forms of life in the global ecosystem can coexist into the future. In April 2009, the Group revised its Declaration on the Global Environment into The Toppan Group Declaration on the Global Environment, a basic philosophy for environmental activities applied to the entire Group. The revised declaration reflects Toppan's more assertive approach to the conservation of the global environment.

Toppan's environmental considerations encompass the entire lifecycle of a product or service from production and transportation/distribution to end-of-life treatment. All of the Group's business facilities and entities throughout the value chain are considered, from suppliers, service providers, and contractors to other major business partners of the Group (e.g., licensees, partners in joint ventures, partners of subcontractors, entities involved in non-controllable projects, due diligence providers, partners handling mergers and acquisitions, etc.).

The Toppan Group Declaration on the Global Environment
https://www.toppan.com/assets/pdf/sustainability/The_Toppan_Group_Declaration_on_the_Global_Environment.pdf

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 April 2009

Promotion Framework

Promotion
framework

Approach

■ Promotion Structure

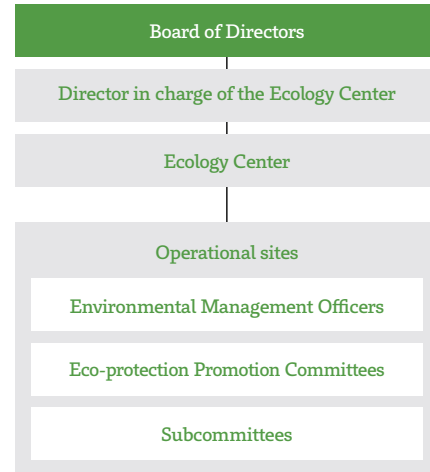
The Board of Directors is the highest-level body responsible for the Toppan Group's environmental management. The board appoints a director to head the Ecology Center, an organization that oversees Toppan's environmental conservation initiatives by supervising, evaluating, and verifying environmental activities undertaken throughout the Group and reporting results to the Board of Directors.

The Toppan Group has established an environmental conservation framework in which the heads of every division, Group company, and operational site are positioned as the personnel chiefly responsible for environmental efforts. These heads appoint Environmental Management Officers to steer the actual implementation of conservation activities carried out at their sites and collaborate to propel environmental initiatives throughout the divisions.

To accelerate the initiatives, these officers have set up Eco-protection Promotion Committees, bodies composed of persons relevant to the environment across the departments. The committees promote environmental conservation activities at Group sites and manage progress. For advanced environmental

measures, the committees have convened multiple subcommittees to formulate necessary responses to specific environmental issues. Energy Subcommittees, for example, pursue energy-saving efforts to help mitigate global warming.

Environmental Management Structure



■ Managing Climate Change Risks

The Toppan Group has set up a TCFD* Working Group composed of personnel from relevant head office divisions under the Sustainability Promotion Committee to address the risks and opportunities presented by climate change. The working group employs scenario analysis to identify significant risks and opportunities and perform evaluations focused chiefly on the financial impacts of climate change on the Group.

*Task Force on Climate-related Financial Disclosures

Environmental Management

Promotion
framework

System

The Toppan Group has established environmental management systems (EMSs) based on ISO 14001.

A PDCA cycle of planning, support and operation, performance evaluation, and improvement serves as a core part of the ISO 14001-based EMSs to ensure ongoing improvement.

Group sites maintain their EMSs through management system audits by ISO 14001 registrars, internal environmental audits (of legal compliance) by the Ecology Center, and other internal environmental audits at individual sites.

The Ecology Center aggregates environmental performance data (for details, see the “List of Indicators Assured by an Independent Assurance Provider” on page 153) as the organization responsible for overseeing the Toppan Group’s environmental conservation activities. The aggregation results are assured by KPMG AZSA Sustainability Co., Ltd. (an independent assurance provider) and reported to the Board of Directors. The center discloses the verified performance data via the Toppan corporate website and other communication

channels.

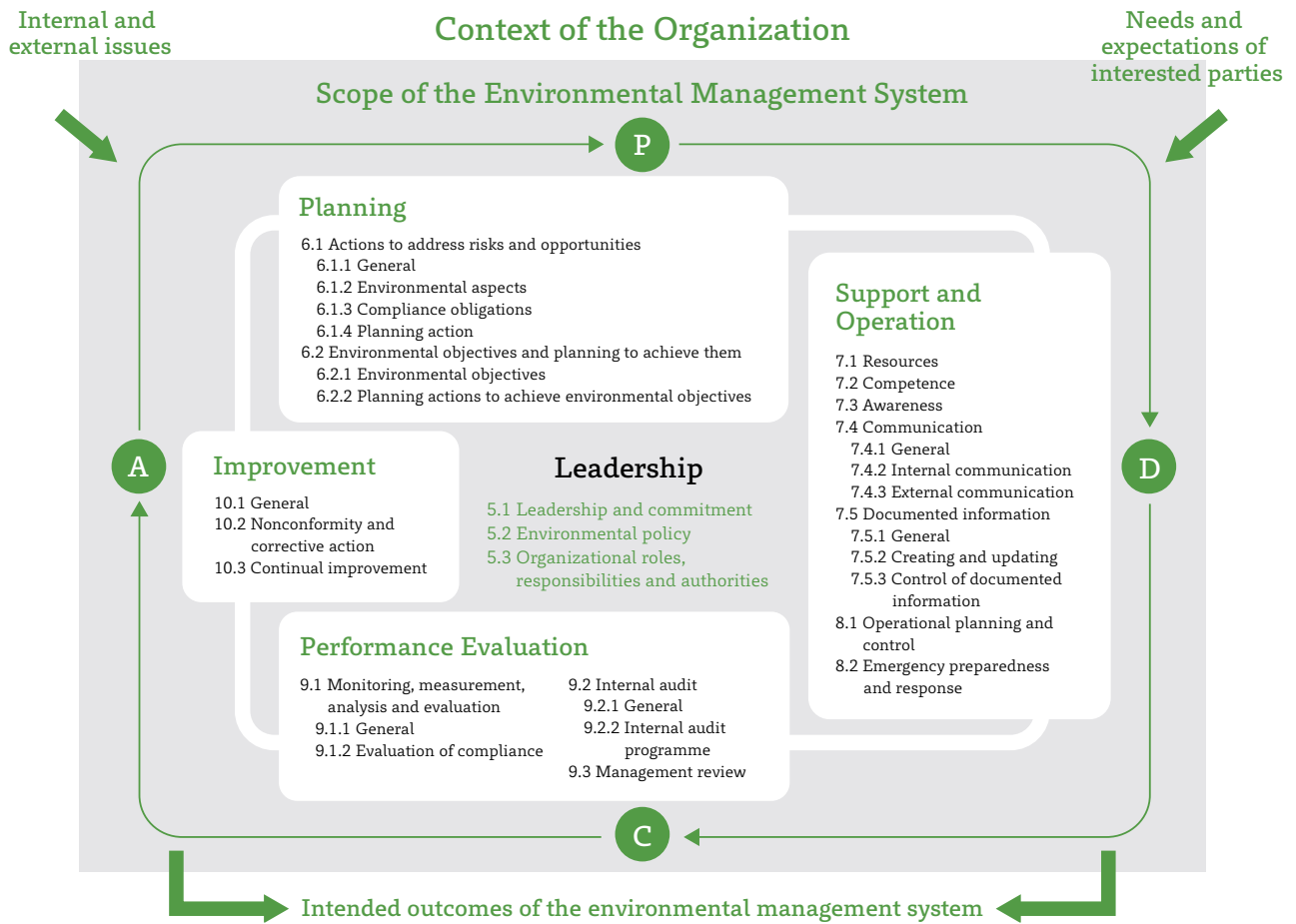
For environmental targets, in particular, the Ecology Center decides a set of site-specific, single-year targets based on the Groupwide targets and develops current-year measures with authorization from the Board of Directors. These site-specific targets are treated as key performance indicators for managing the progress of environmental conservation activities carried out at individual sites. The Ecology Center also manages the monitoring of soil and groundwater pollution, ascertains the results, and discloses the details.

More details on ISO 14001 EMS certification in the Toppan Group (in Japanese)

<https://www.toppan.co.jp/about-us/our-corporate-approach/iso/iso14001.html>

- ▶ [Independent Assurance Report \(see page 154\)](#)
- ▶ [Monitoring soil and groundwater pollution \(see page 123\)](#)

Management Cycle under ISO 14001:2015



Numbers of Internal Environmental Audits and Issues in Need of Improvement (Fiscal 2020) Activity results, performance data

Domestic sites audited	57 sites
Issues in need of improvement identified at domestic sites	55 issues
Domestic sites reviewed	1 site

ISO 14001 Certification (54 systems at 92 sites, as of March 31, 2021)

Activity results,
performance dataISO 14001 Certification Obtained at Toppan Inc. and Domestic Manufacturing Subsidiaries
(subject to the medium-term environmental targets)

Operational Site (Division or Manufacturing Subsidiary)	Registrar	Registration Date
Electronics Division	JQA	July 1998
Environmental Design Subdivision [Kashiwa Plant and Satte Plant of Toppan Decor Products Inc.] (Living & Industry Division)	GCC	March 2000
Tokyo-based sites (Information & Communication Manufacturing Subdivision)	SAI GLOBAL	February 2002
Fukusaki Plant [including Fukusaki Plant of Toppan Plastic Co., Ltd.] (Toppan Packaging Products Co., Ltd.)	JQA	July 2002
Takino Site	JQA	October 2002
Azusawa Site, Atago Site, Kawaguchi Site, Sagamihara Site, Numazu Site (Toppan Logistics Co., Ltd.)	GCC	October 2002
Gunma Central Plant (Toppan Packaging Products Co., Ltd.)	JQA	July 2003
Mito Plant (Toppan Proprint Co., Ltd.)	GCC	January 2004
Fukuyama Plant (Toppan Communication Products Co., Ltd.)	GCC	October 2004
Higashinohon Subdivision	GCC	March 2005
Toppan Technical Research Institute	JQA	May 2005
Sapporo Plant, Chitose Plant (Hokkaido Subdivision)	GCC	June 2005
Satte Plant (Toppan Plastic Co., Ltd.)	SAI GLOBAL	December 2006
Ranzan Plant, Kyushu Plant (Toppan Packaging Service Co., Ltd.)	JQA	February 2007
Sagamihara Plant (Toppan Packaging Products Co., Ltd.)	SAI GLOBAL	March 2007
Kyushu Subdivision (Nishinohon Division)	GCC	October 2008
Head office, Kansai branch (Toppan Techno Co., Ltd.)	SAI GLOBAL	March 2009
Sodegaura Beverage Plant (Toppan Packaging Service Co., Ltd.)	SAI GLOBAL	April 2009
Fukaya Plant (Toppan Packaging Products Co., Ltd.)	GCC	March 2010
Chubu Division	JQA	December 2010
Kochi Plant (Toppan Electronics Products Co., Ltd.)	BUREAU VERITAS	February 2008

ISO 14001 Certification Obtained at Domestic Subsidiaries

Operational Site (Group Company)	Registrar	Registration Date
Head office, Saitama Plant (Livretch Co., Ltd.)	JCQA	July 2001
Fukushima Plant [including Takino Plant, Sagamihara Plant] (Toppan Infomedia Co., Ltd.)	JUSE	November 2001
Central Research Center (Toppan Forms Co., Ltd.)	JQA	March 2004
Toppan Forms Tokai Co., Ltd.	JQA	August 2004
Toppan Forms Kansai Co., Ltd.	JQA	April 2007
Toppan Forms Nishinohon Co., Ltd.	JQA	January 2005
Toppan Forms Central Products Co., Ltd.	JQA	September 2011
Tosho Printing Co., Ltd.	Intertek	May 2003
Gunma Plant (Tamapoly Co., Ltd.)	JQA	February 2011
Sanda Plant (Tamapoly Co., Ltd.)	JQA	January 2012
Tochigi Plant (Tamapoly Co., Ltd.)	JQA	August 2017

ISO 14001 Certification Obtained at Overseas Subsidiaries

Group Company (Operational Site)	Registrar	Registration Date
Toppan Photomasks, Inc. (Round Rock Site)	LRQA	November 2001
Toppan Photomasks France S.A.S.	LRQA	October 2000
Toppan Chunghwa Electronics Co., Ltd.	SGS	October 2003
Toppan SMIC Electronics (Shanghai) Co., Ltd.	SGS	February 2007
Toppan Leefung Printing (Shanghai) Co., Ltd.	CCCI	April 2007
Toppan Leefung Packaging (Shanghai) Co., Ltd.	NQA	July 2008
Toppan Leefung Changcheng Printing (Beijing) Co., Ltd.	ZDHY	November 2009
Toppan Excel Printing (Guangzhou) Co., Ltd.	CNAS	May 2009
Toppan Yau Yue Packaging (Dongguan) Co., Ltd.	Intertek	May 2016
Toppan Win Label Printing (Dongguan) Co., Ltd.	CQC	November 2012
Toppan Leefung Packaging & Printing (Dongguan) Co., Ltd.	HKQAA	March 2009
PT. Indonesia Toppan Printing	LRQA	November 2004
Toppan Photomasks Korea Ltd.	LRQA	February 2005
Toppan Photomasks Co., Ltd. (Shanghai)		
Ortustech (Malaysia) Sdn. Bhd.	BUREAU VERITAS	September 2014
Toppan Security Printing Pte. Ltd.	TUV	August 2010
Giantplus Technology Co., Ltd. (Bade Plant [T 1])	SGS	January 2008
Giantplus Technology Co., Ltd. (Bade Plant [T 2])	SGS	May 2018
Giantplus Technology Co., Ltd. (Headquarters)	SGS	January 2005
Giantplus Technology Co., Ltd. (Hsinchu Plant)	SGS	March 2013
Kunshan Giantplus Optronics Display Technology Co., Ltd.	SGS	June 2012
Siam Toppan Packaging Co., Ltd.	MASCI	April 2002
Toppan FutureCard Industries LLC	URS	February 2015

Environmental Education

Training,
education

The Toppan Group implements various measures to improve the environmental literacy of employees based on social trends related to the environment, priority topics for year-by-year environmental activities, and other environment-related issues.

Toppan has been holding sessions for rank-based training,

optional training, and internal auditor training. The rank-based training includes both group sessions and Groupwide e-learning programs. The Group also organizes regular training on Eco-creativity Activities for employees in sales departments.

Results of Environmental Education (Fiscal 2020)

Training	Number of Trainees
New employee training: General environmental education	464
E-learning-based program on Toppan's sustainability initiatives	17,759
E-learning-based program for personnel in charge of the environment in fiscal 2020	545
Toppan Challenge School (15 courses)	68
Toppan Business School (7 courses)	1,205
Internal environmental auditor training program	169

Environmental Communication

Training,
education

The Toppan Group develops Environmental Communication Activities to share environmental conservation awareness with stakeholders through community involvement initiatives and environmental education for Group employees and non-Toppan individuals. Toppan has been organizing a host of environmental communication activities such as industry-

government-academia-civil society projects, the disclosure of environmental performance data on the Toppan website, the publication of *Site Eco Reports* for surrounding communities and local governments, neighborhood meetings to report on the Group's environmental efforts, and participation in eco-exhibitions and environmental consortiums.

Environmental Targets

Policy

Activity results,
performance data

■ Toppan Group Environmental Vision 2050

Toppan has formulated the Toppan Group Environmental Vision 2050, a long-term policy for addressing global environmental issues, as a proponent of a sustainable society

that supports all forms of life in the global ecosystem of tomorrow.

Toppan Group Environmental Vision 2050

As a member of international society, the Toppan Group aims to enable “fulfilling, sustainable living” by contributing to decarbonization, 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 virtually zero Scope 1 and 2 greenhouse gas emissions.
- ② Contributing to Resource Circulation
Aiming for zero waste emissions.
- ③ Optimal Water Use
Reducing water consumption and contributing to improved water quality by preventing pollution.

■ Toppan Group Medium-and-Long-Term Environmental Targets for Fiscal 2030

In tandem with the Toppan Group Environmental Vision 2050, Toppan has reviewed the key performance indicators (KPIs) for SDG-linked issues under the “environmentally friendly & sustainable production” theme within the Companywide Materiality category. The review led to the establishment of a new set of target values called the Toppan Group Medium-and-Long-Term Environmental Targets for Fiscal 2030.

Based on the new environmental vision, Toppan has employed a backcasting methodology to establish new fiscal 2030 targets for “contributing to decarbonization” and “optimal water use.” Toppan has also upwardly revised its target value for reducing Scope 1 and 2 greenhouse gas emissions “contributing to decarbonization.”

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

- ① Contributing to Decarbonization
Reduce Scope 1 and 2 greenhouse gas emissions by 32.5% (446 kt-CO₂e) compared to the fiscal 2017 level (1,373 kt-CO₂e). (Renewable energy ratio of 6.5%)
Reduce Scope 3 greenhouse gas emissions by 20% (1,224 kt-CO₂e) compared to the fiscal 2017 level (6,122 kt-CO₂e).
- ② Contributing to Resource Circulation
Reduce final landfill waste disposal by 60% (4,444 t) compared to the fiscal 2017 level (7,407 t).
Increase waste plastic material recycling rate by 12 percentage points (to 65%) compared to the fiscal 2017 level (53%).
- ③ Optimal Water Use
Reduce water consumption, improve water efficiency, and avoid water pollution risks.
(Quantitative targets will be set going forward.)

■ Medium-term Environmental Targets for Domestic Sites

The Toppan Group has established medium-term environmental targets for three management indicators at domestic sites for fiscal 2020: a CO₂ emission target for the mitigation of global warming, a final landfill waste disposal

target for building a recycling-oriented society, and an atmospheric VOC emission target for the conservation of the atmospheric environment. These indicators are calculated for Toppan Inc. and manufacturing subsidiaries in Japan.

Medium-term Environmental Targets for Domestic Sites in Fiscal 2020

1. Mitigation of global warming	2. Action for building a recycling-oriented society	3. Conservation of the atmospheric environment
<ul style="list-style-type: none"> ● Reduce CO₂ emissions by 30% compared to the fiscal 2008 level (751 kt-CO₂ → 530 kt-CO₂: Reduce by 221 kt-CO₂) 	<ul style="list-style-type: none"> ● Reduce final landfill waste disposal by 95% compared to the fiscal 2008 level (1,584 t → 80 t: Reduce by 1,504 t) 	<ul style="list-style-type: none"> ● Reduce VOC emissions into the atmosphere by 70% compared to the fiscal 2008 level (7,326 t → 2,198 t: Reduce by 5,128 t)

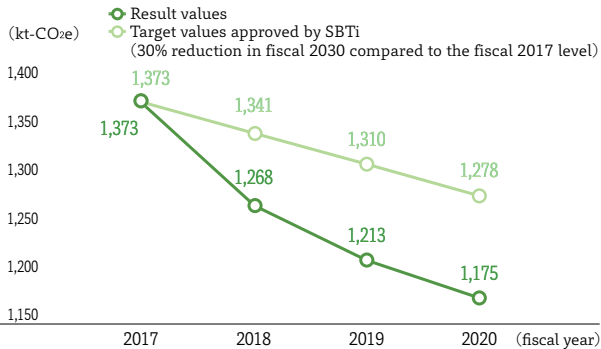
■ Toppan Group Medium-and-Long-Term Environmental Targets (Fiscal 2020 Results)

The Toppan Group 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 and 2 Greenhouse Gas Emissions

The Toppan Group once again achieved its single-year Scope 1 and 2 greenhouse gas (GHG)-emission reduction targets approved by the Science Based Targets initiative (SBTi) in fiscal 2020.

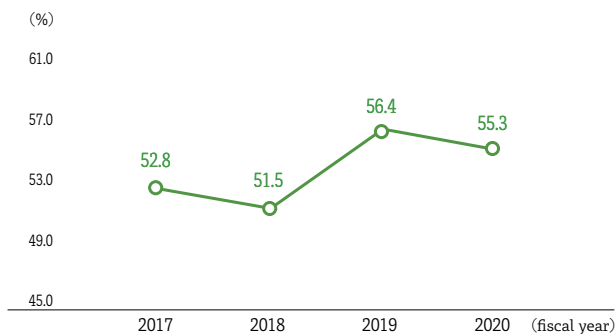


*For Scope 1 and 2 emissions, CO₂ emissions associated with electricity consumption at domestic sites are calculated using the basic emission factor according to the method specified in the Ministerial Ordinance Concerning the Calculation of Greenhouse Gas Emissions from Business Activities of Specified Dischargers (the latest amendment on April 30, 2015) issued by the Ministry of the Environment (MOE) of Japan. Meanwhile, CO₂ emissions associated with electricity consumption at overseas sites are calculated using country-specific conversion factors published by the International Energy Agency (IEA).

Greenhouse gas 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 Business Activities of Specified Dischargers (the latest amendment on April 30, 2015).

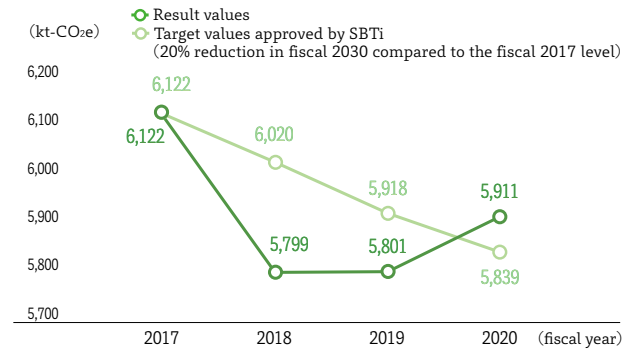
• Waste Plastic Material Recycling Rate

In recycling waste plastics, the Toppan Group seeks to attain a new single-year target set for fiscal 2021 in line with the medium-and-long-term targets for fiscal 2030.



• Scope 3 Greenhouse Gas Emissions

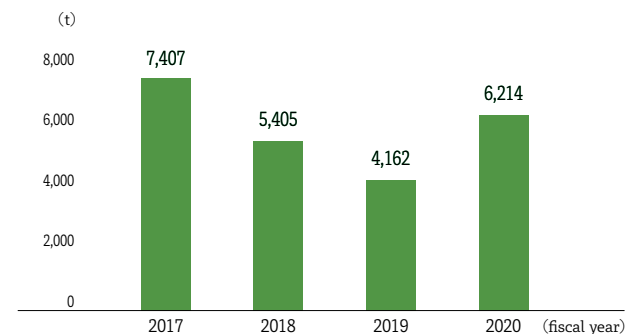
The Toppan Group failed to attain its single-year Scope 3 GHG-emission reduction target approved by the SBTi in fiscal 2020, mainly due to the additional operational sites acquired through the M&A in fiscal 2019.



*Methods for calculating the Scope 3 GHG emissions are presented on page 113.

• Final Landfill Waste Disposal

In recycling waste, the Toppan Group seeks to attain a new single-year target set for fiscal 2021 in line with the medium-and-long-term targets for fiscal 2030.



*The data for fiscal 2019 and earlier are adjusted based on revised calculation methods.

Environmental Targets for Fiscal 2021

	Environmental Targets	Management Indicators	Target Values for Fiscal 2021
① Contributing to decarbonization	Reduce CO ₂ emissions	Scope 1 and 2 greenhouse gas emissions	1,174 kt-CO ₂ e
		Scope 3 greenhouse gas emissions	5,745 kt-CO ₂ e
② Contributing to resource circulation	Reduce final landfill waste disposal	Final landfill waste disposal	6,126 t
	Circulate resources	Waste plastic material recycling rate	56.5%
③ Optimal water use	Evaluate water consumption according to use at operational sites across the Group and implement an automatic water-quality monitoring system for preventing water pollution		

■ Medium-term Environmental Targets for Domestic Sites (Fiscal 2020 Results)

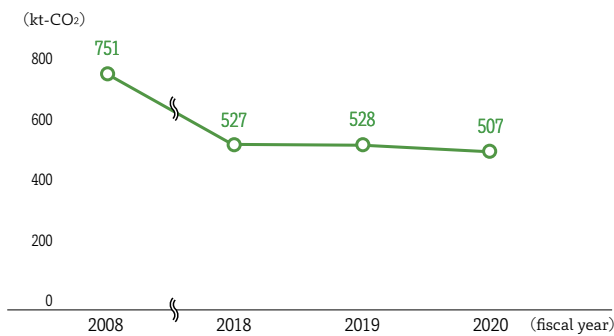
The Toppan Group spent a decade pursuing environmental conservation activities towards the achievement of the fiscal 2020 targets for Toppan Inc. and main domestic Group manufacturing subsidiaries, setting fiscal 2008 values as baselines.

Toppan has succeeded in attaining the fiscal 2020 targets for CO₂ emissions and final landfill waste disposal. The Group

will continue its conservation activities to achieve the next-decade targets covering all of the operational sites across the Group, including overseas sites, for fiscal 2030.

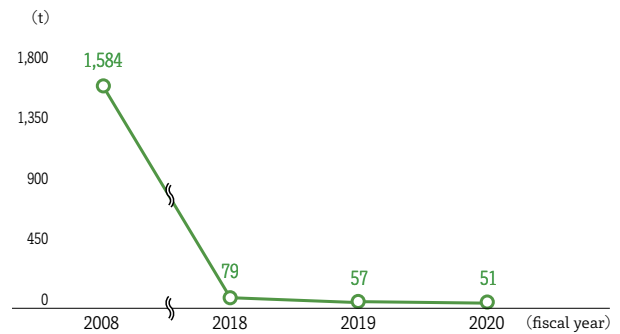
The fiscal 2020 targets for VOC emissions into the atmosphere, on the other hand, were not achieved. The Group will expand its efforts to reduce the use and atmospheric emissions of VOCs in the years to come.

CO₂ Emissions

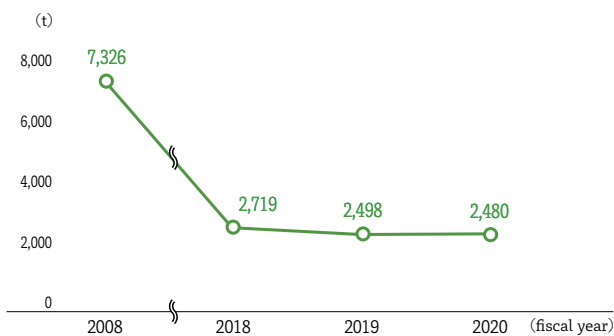


*CO₂ emissions associated with electricity consumption are calculated uniformly as 0.378 t-CO₂/MWh to confirm the degree of improvement achieved. CO₂ emissions in fiscal 2020 totaled 556 kt-CO₂ when calculated using the basic emission factor according to the method specified in the Ministerial Ordinance Concerning the Calculation of Greenhouse Gas Emissions from Business Activities of Specified Dischargers (the latest amendment on April 30, 2015) issued by the Ministry of the Environment of Japan.

Final Landfill Waste Disposal



VOC Emissions into the Atmosphere



■ Single-year Environmental Targets (Fiscal 2020 Results)

Values, Results, and Evaluation of Environmental Targets for Fiscal 2020

Environmental Targets	Management Indicators	Fiscal 2020			
		Target Values	Results	Achievement Rates	Evaluation
1 Mitigation of global warming Reduce CO ₂ emissions	CO ₂ emissions	530 kt-CO ₂	507 kt-CO ₂	104.4%	A
2 Action for building a recycling-oriented society Reduce final landfill waste disposal	Final landfill waste disposal	72 t	51 t	128.8%	S
3 Conservation of the atmospheric environment Reduce VOC emissions into the atmosphere	VOC emissions into the atmosphere	2,198 t	2,480 t	87.1%	B

Evaluation criteria

S: Results achieved far surpass the targets (achievement rate [%] \geq 105)

A: Targets achieved (100 \leq achievement rate [%] < 105)

B: Activities fully carried out, but targets unachieved (70 \leq achievement rate [%] < 100)

C: Activities insufficient (achievement rate [%] < 70)

Achievement rate: 200 - (values actually achieved / target values) x 100 [%]

Assessing Environmental Impact

Approach

Activity results, performance data

Toppan applies the “Life-cycle Impact assessment Method based on Endpoint modeling (LIME)” to assess the degree to which the Group’s initiatives for achieving environmental targets have reduced the Group’s total environmental impact. This life cycle assessment allows the Group to consolidate

INPUT and OUTPUT data on the environmental burden associated with business activities into a single index of environmental impact. The LIME provides Toppan with a quantitative view of how environmental impact is changing from the base year.

■ Quantifying Environmental Impact based on LIME

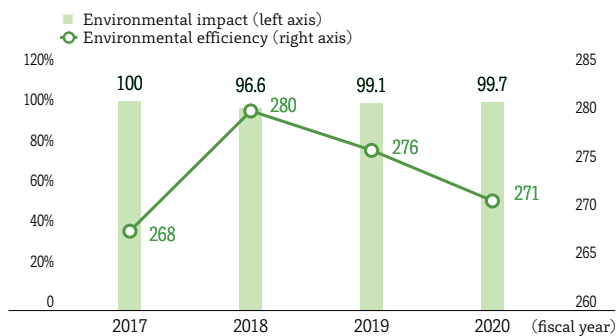
The Toppan Group applies the LIME method to quantify its total environmental impact, setting the base year value to 100.

With LIME 3, the Group attained a 0.3% reduction in environmental impact and a 1.3% enhancement in

environmental efficiency in fiscal 2020, compared with the baseline values in fiscal 2017 (the base year in the LIME 3 calculation).

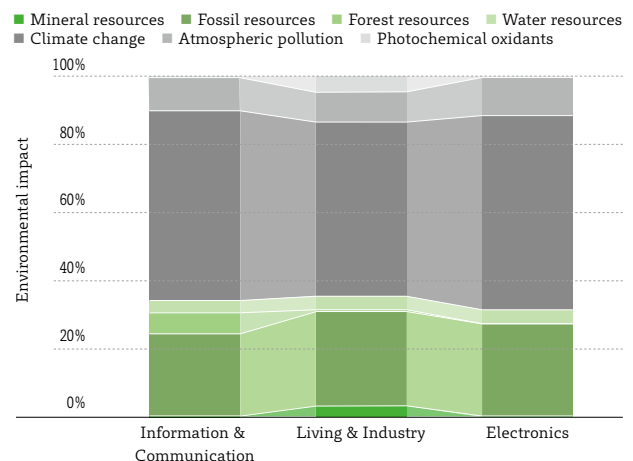
LIME 3 Assessment Across the Group

Global Environmental Impact and Environmental Efficiency



*1 The value in fiscal 2017 = 100 (baseline); recalculated with non-production sites excluded
 *2 Environmental efficiency = net sales / environmental impact
 Toppan has been reducing its climate change-related impact, a large component of the Group’s overall environmental impact, primarily through two channels: energy-saving and other eco initiatives that reduce energy consumption, and high-efficiency production and material recycling methods that reduce resource consumption. In spite of these endeavors, Toppan’s environmental impact in fiscal 2020 increased from the previous year, mainly as a consequence of the additional operational sites acquired through the M&A in fiscal 2019.

Types of Global 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. Toppan therefore assesses the environmental impact associated with key items for each business field.