

Toray Group's Approach to Climate Change

Toray Group is committed to its current corporate philosophy of “contributing to society through the creation of new value.” This is in keeping with a principle since Toray's foundation in 1926 that corporations are public institutions that should contribute to society through business. Based on this corporate philosophy, the Group has for many decades focused on creating innovative technologies and advanced materials that provide solutions to various social challenges, including global environmental issues, and has helped to build a sustainable world.

Based on this approach, the Toray Group Sustainability Vision was established in 2018. As part of vision objectives to be achieved by 2050, the Group is aiming to help achieve a net zero emissions world, where greenhouse gas emissions are completely offset by absorption—in other words, a net zero emissions, carbon-neutral world.

The Group has long been focused on expanding the Sustainability Innovation (SI) Business,¹ which includes renewable energy, hydrogen, and materials for electrification, and now is also developing new SI products that help with greenhouse gas absorption, such as CO₂ separation membranes. Through these efforts, the Group aims to contribute to reducing global greenhouse gas emissions and help realize a carbon neutral world by 2050.

In addition, Toray Group aims to reduce its own greenhouse gas emissions (Scope 1 and 2) and become carbon neutral by 2050. It will do this by expanding the SI Business, which in return will provide Toray Group with sustainable energy and raw materials, as well as by developing and introducing innovative processes and CO₂ recycling technology that utilize CO₂ as a resource.

Moreover, the Group is also committed to reducing greenhouse gas emissions throughout the supply chain (Scope 3) by promoting initiatives such as bio-based raw materials and recycling. Targets have been set with a focus on Category 1 emissions (purchased goods and services), which accounts for the largest share of Scope 3 emissions.

¹ Sustainability Innovation (SI) Business: Business areas and product lines that can help realize the Toray Group Sustainability Vision

To accelerate these initiatives addressing climate change, in April 2021 Toray established a group-wide committee on climate change, chaired by the president. The new committee serves as a framework for discussing and deliberating group-wide policies on reducing the company's greenhouse gas emissions, as well as for investigating the expansion of the environmentally friendly products business, which has been ongoing since 2010.

In April 2022, the committee scope was expanded to include circular economy promotion, and in 2023 it was further extended to cover the preservation and restoration of biodiversity and natural capital (nature-positive initiatives).

In 2025, to strengthen its response to increasingly complex and expanding sustainability challenges, the Group integrated relevant departments and established the Corporate Sustainability Strategic Management Division as a new organization under the direct supervision of the president. Accordingly, the Group now has a centralized organization to promote environmental impact reduction and information disclosure, as well as the expansion of sustainability-related businesses, such as those related to climate change initiatives and the circular economy. The Board also considers opportunities and risks related to climate change as part of important factors when making business decisions and conducts appropriate oversight and comprehensive decision-making.

At the Executive Committee, a group-wide body that supports the Board of Directors by deliberating on important matters, key policies and topics related to sustainability are also discussed.

Regarding the expansion of the SI Business, which promotes the reduction of society's environmental impact through the Group's business activities, projects are being promoted across businesses not only in existing initiatives but also in next-generation areas with growth potential, such as the circular economy, hydrogen, and mobility.

In terms of greenhouse gas emissions reduction, the Group is working toward the target of a 50% reduction in Scope 1 and 2 emissions per unit of revenue by fiscal 2030, while more ambitious reduction targets and measures to achieve them are currently under consideration. To accelerate efforts to reduce GHG emissions, the Group's internal carbon pricing system (set at 10,000 yen / ton-CO₂ for fiscal 2024) has been revised to function as an incentive. For Scope 3 emissions as well, targets have been set with a focus on Category 1, which accounts for the largest share, and engagement with suppliers has begun. At the same time, the Group is working on expanding the scope of information consolidation and its systematization to ensure timely compliance with the EU Corporate Sustainability Reporting Directive (CSRD) and the disclosure standards of the Sustainability Standards Board of Japan (SSBJ).

Since initiatives to promote the circular economy and the preservation and restoration of biodiversity and natural capital are closely linked with climate change measures, they are integrated and promoted in a unified manner under the Corporate Sustainability Strategic Management Division.

For circular economy measures, the Group is promoting the recycling of key polymers and the use of biomass raw materials. To build the supply chain, technological development is also advancing in upstream bioprocesses and recycling processes, with the goal of achieving a 20% target for the percentage of raw materials sourced from biomass and other recycled materials by 2030.

Regarding the conservation and restoration of biodiversity and natural capital, the Group has formulated a basic policy and published its TNFD report in December 2024. In addition to GHG emissions reduction and circular economy measures, the Group is accelerating efforts to improve water use efficiency and reduce pollutants.

Further, in order to achieve carbon neutrality in 2050, Toray Group recognizes the need to make changes and take a leap in technological innovation based on non-conventional ideas, as well as the need for efforts that are not limited to single corporations, but involve industry, government, and broader society working together to achieve this goal.

The Group holds discussions and pursues dialogue with affiliated economic organizations, industry associations, and government, working with these entities to achieve the goals of carbon neutrality and the Paris Agreement by 2050.

Through this dialogue, the Group collects information released by the government and conducts interviews with the relevant ministries. Toray shares its opinions and makes recommendations as part of efforts to understand, confirm, and apply the relevant information to its internal policies.

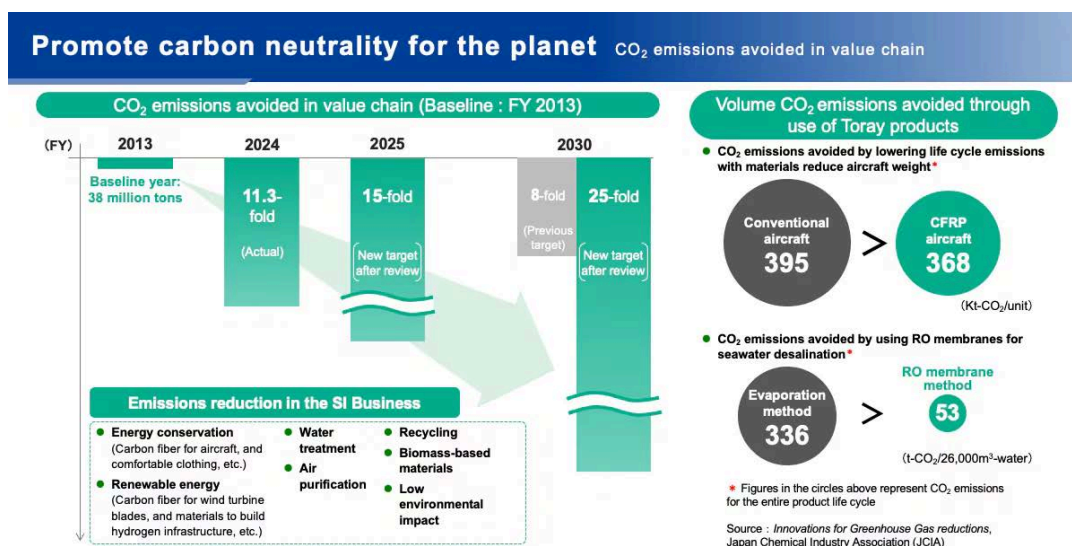
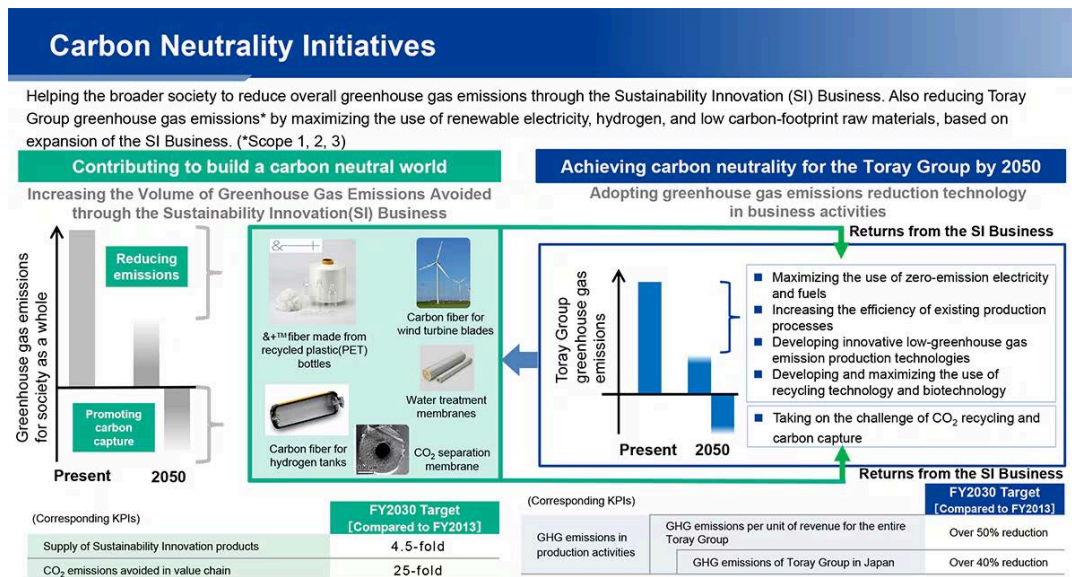
Toray Group also participates in relevant industry organizations, which make recommendations to the government based on the consensus regarding initiatives needed to promote carbon neutrality.

Toray also participates in the GX League, a collaborative industry-government initiative to promote carbon neutrality. Accordingly, the Group discloses information related to its carbon neutrality activities, which includes the setting of GHG emission reduction targets and follow-up on the results achieved.

Major Affiliations: Organizations / Initiatives / Committees / Subcommittees (partial list)

- Nippon Keidanren (Japan Business Federation): Sub-Committee on Global Environment, Committee on Environment 
- Japan Chemical Industry Association: Technical Affairs Committee 
- Japan Chemical Fibers Association 
- Japan Environmental Management Association for Industry 
- GX League 
- TCFD (Taskforce on Climate-related Financial Disclosures) Consortium 

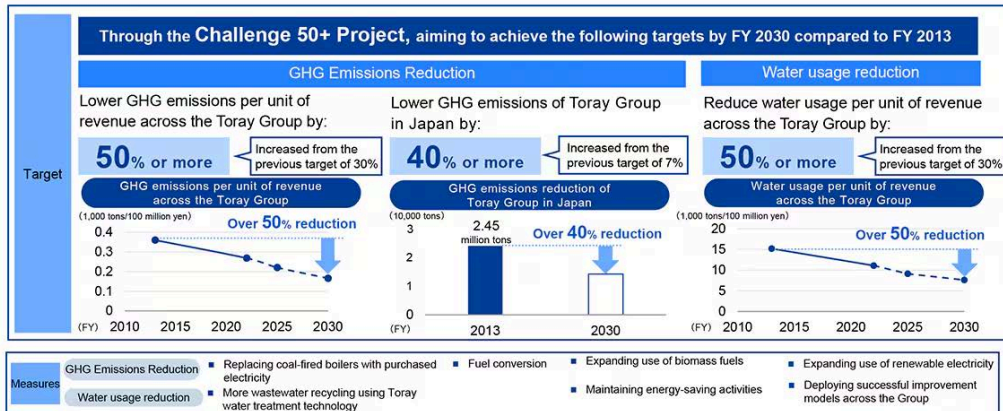
In order to reduce Category 1 emissions (from purchased goods and services), which account for the largest share of the Group's Scope 3 emissions, Toray is promoting engagement with major suppliers in an effort to reduce the carbon footprint of purchased raw materials. This involves confirming their basic policies, reduction plans and targets, as well as relevant issues, while establishing constructive dialogues with the suppliers.



Achieving Carbon Neutrality across the Toray Group

Emission Reductions in Production Activities

Toray Group will reduce greenhouse gas emissions in the production stage by switching to cleaner fuels and leveraging the Group's proprietary knowledge and technologies. We have raised our emissions reduction target for FY 2030 because our own carbon neutralization and sustainability initiatives are progressing ahead of plan.

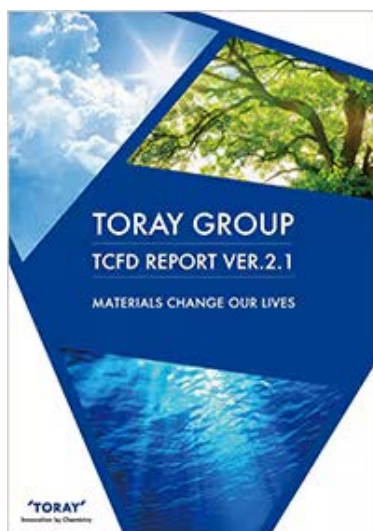


In May 2019, Toray Group declared its support for the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. In April 2021, the Toray Group TCFD Report 2021 was released in accordance with these TCFD recommendations.

Toray analyzed its opportunities and risks associated with climate change and disclosed the results. The analysis covered activities not only within the Group, but also across its supply chain and product life cycles, from upstream raw material procurement to downstream processing, product use, and disposal.

Subsequently, in November 2023, the Toray Group TCFD Report Ver. 2 was released. Toray Group TCFD Report Ver. 2 includes new quantitative analysis of major climate change-related risks around the 2040 timeframe, as well as information on efforts to combat climate change in business activities, engagement with external partners, and other matters.

Then, an updated version, the Toray Group TCFD Report Ver. 2.1 was released in June 2024.



TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Toray Group TCFD Report Ver.2.1 (2.60MB)

PDF

Toray Group will continue to accelerate its pursuit of sustainable growth for the Group and initiatives to address climate change, as well as actively disclose information in accordance with the TCFD recommendations.

Click > [here](#) for the Group's past TCFD Reports.

1. GHG emissions: Absolute Scope 1, Scope 2, and Scope 3 emissions intensity (tons-CO ₂ , basic unit)	<ul style="list-style-type: none"> • Scope 1 and 2 reduction targets Medium-Term Management Program Project AP-G 2025 (3.45MB) PDF (p.18, 42, 43, 45) • Scope 1,2 and 3 emissions Toray Group TCFD Report Ver.2.1 (2.60MB) PDF (p.32-35)
2. Transition Risks: Amount and extent of assets or business activities vulnerable to transition risks (Percentage)	<ul style="list-style-type: none"> • Opportunities and risks Toray Group TCFD Report Ver.2.1 (2.60MB) PDF (p.10-18) • Reducing coal use at factories outside Japan > Managing Energy Use and Reducing Greenhouse Gas Emissions
3. Physical Risks: Amount and extent of assets or business activities vulnerable to physical risks (Percentage)	<ul style="list-style-type: none"> • Opportunities and risks Toray Group TCFD Report Ver.2.1 (2.60MB) PDF (p.10-18) • Handling Water Hazard Risks (Floods, Storm Surges, Etc.) > Business Continuity Plan Initiatives
4. Climate-Related Opportunities: Proportion of revenue, assets, or other business activities aligned with climate-related opportunities (Percentage)	<ul style="list-style-type: none"> • Revenue from Sustainability Innovation (SI) Business Medium-Term Management Program Project AP-G 2025 (3.45MB) PDF (p.20, 21)
5. Capital Deployment: Amount of capital expenditure, financing, or investment deployed toward climate-related risks and opportunities (Yen)	<ul style="list-style-type: none"> • Capital investment and R&D expenses Toray Group TCFD Report Ver.2.1 (2.60MB) PDF (p.27, 28) Medium-Term Management Program Project AP-G 2025 (3.45MB) PDF (p.40)
6. Internal Carbon Prices: Price on each ton of GHG emissions used internally by an organization (Yen/ton-CO ₂)	<ul style="list-style-type: none"> • Internal carbon pricing Toray Group TCFD Report Ver.2.1 (2.60MB) PDF (p.33)
7. Remuneration: Proportion of executive management remuneration linked to climate considerations (Percentage, weighting, description, or amount in reporting currency)	<ul style="list-style-type: none"> • Remuneration for Members of the Board Integrated Annual Report 2024 (6.6MB) PDF (p.68)

Related Information

Toray Group Sustainability Vision (2.36MB) [PDF](#)

- > [Managing Energy Use and Reducing Greenhouse Gas Emissions](#)
- > [Risk Management](#)
- > [Contributing Solutions to Social Issues through Business Activities](#)
- > [Establishing Sustainable Supply Chain](#)

Click [here \(3.11MB\)](#) [PDF](#) for Toray answers to the CDP 2024 questionnaire (available only in Japanese).

One of the corporate commitments presented in Toray Group's Long-Term Corporate Vision, AP-G 2000, introduced in 1991, was to play an active role in protecting the global environment, and in the same year, the Group established the Global Environment Research Laboratory. In the following year (1992), the management of Toray Group affirmed its determination to take active steps to address global environmental issues, one of which was the formation of the company-wide Global Environment Committee.

In 2000, Toray Group formulated its Three-Year Environmental Plan of medium-term environmental preservation goals, which included targets for reducing greenhouse gas emissions. The Group continued to pursue activities in line with this plan through its Fifth Medium-Term Environmental Plan (targets set for fiscal 2020).

In 2009, Toray Group established its Global Environment Business Strategic Planning Department under the direct control of the president for the purpose of promoting and supporting company-wide plans, development, and business integration of Toray Group global environment business strategies. Since 2011, under the Group's Long-Term Corporate Vision AP-Growth Toray 2020, this department has been central in efforts to expand the Group's Green Innovation (GR) Business (now the Sustainability Innovation (SI) Business) and promote Toray products and services that provide solutions to global environmental challenges and issues related to resources and energy. Moreover, in the face of the increasing severity of such global environmental challenges as climate change, in July 2018 Toray Group announced the Toray Group Sustainability Vision, which sets out Toray Group initiatives and quantitative targets for fiscal 2030 with a view to realizing the World as Envisioned by Toray Group in 2050. The Group has continued to focus on promoting efforts to achieve this vision.

In May 2020, Toray Group announced its Long-Term Corporate Vision, TORAY VISION 2030 which runs through the end of fiscal 2030. In March 2023, the Group released its Medium-Term Management Program, Project AP-G 2025, which covers the three-year period starting in fiscal 2023.

As part of this effort, the Group's Green Innovation businesses, which help solve global environmental problems and resource- and energy-related issues, and its Life Innovation businesses, which contribute to better medical care and long, healthy lives and promote public health and human safety, including measures to counter disasters and abnormal weather, were integrated and redefined as the Sustainability Innovation (SI) Business. The Group has expanded the SI Business while strengthening its sustainability efforts, as shown by the integration of the Global Environment Business Strategic Planning Department into the Corporate Strategic Planning Division. By expanding the products supplied by the SI Business, Toray Group aims to promote Group growth and will contribute to the sustainable development of society through means such as greater CO₂ emissions avoided in the value chain.

Progress on Project AP-G 2025 Sustainability Goals and on the FY 2030 Goals of the Toray Group Sustainability Vision

	FY2013 Actual	FY2024 Actual	FY2025 Target	FY2030 Target
Revenue from Sustainability Innovation (SI) Business ²	562.4 billion yen	1,368.9 billion yen (2.4-fold)	1,600.0 billion yen (2.8-fold)	4.5-fold
CO ₂ emissions avoided in value chain ³	38 million tons	11.3-fold	15.0-fold	25-fold
Water filtration throughput contribution by Toray's water treatment membranes ⁴	27.23 million tons	2.9-fold	2.9-fold	3.5-fold
Greenhouse gas emissions per unit of revenue in production activities ^{5&7}	356 tons/100 million yen	203 tons/100 million yen (43% reduction ⁸)	40% reduction	50% or more reduction
Greenhouse gas emissions of Toray Group in Japan ^{6&7}	2.45 million tons	1.76 million tons (28% reduction ⁸)	20% reduction	40% or more reduction
Water usage per unit of revenue in production activities	14,693 tons/100 million yen	9,100 tons/100 million yen (38% reduction ⁸)	40% reduction	50% or more reduction

Each relative ratio is calculated in comparison to FY 2013.

² (1) Products that accelerate measures to counter climate change; (2) products that facilitate sustainable, recycling-based use of resources and production; (3) products that help provide clean water and air and reduce environmental impact; and (4) products that help deliver better medical care and hygiene for people worldwide

³ Toray calculates the value chain CO₂ emissions reduced throughout the entire product lifecycle in accordance with the chemical sector guidelines of the Japan Chemical Industry Association, and the International Council of Chemical Associations (ICCA).

⁴ Water treated annually with Toray water treatment membranes. It is calculated by multiplying the amount of fresh water that the Toray membranes can produce per day, including reverse osmosis (RO), ultrafiltration (UF) and membrane separation bioreactors (MBR), by the number of membrane elements sold.

⁵ With the use of renewable energies and other zero emission power sources rising worldwide, the Toray Group aims to employ zero-emission power sources at a rate equivalent to or better than the targets in each country by fiscal 2030.

⁶ In Japan, Toray works to surpass the reduction target set for the industrial sector by the Japanese government (absolute emissions reduced by 38%) in its comprehensive plan (Cabinet decision on October 22, 2021) based on Japan's Act on Promotion of Global Warming Countermeasures.

⁷ The calculation method has been changed to multiplying the degree of financial control Toray Industries has over the individual subsidiary, in accordance with the GHG protocol, the international standard.

⁸ The calculation of the figure for the baseline of fiscal 2013 includes data for companies that joined the Toray Group in fiscal 2014 or later.

Disclosure with Respect to Section 44475.2 of Division 26 Part 10 of California Health and Safety Code (California AB1305)

[Disclosure with Respect to Section 44475.2 of Division 26 Part 10 of California Health and Safety Code \(California AB1305\)](#) (PDF : 90.7KB) 