

Toray Group Sustainability Vision



Providing Innovative Technologies and Advanced Materials to Help Address Global Issues

At the Toray Group, we consider sustainability to be the most important global issue of the 21st century. Today, climate change, water scarcity, and resource depletion are just some of the mounting environmental challenges facing the planet. With the global population expected to increase to some ten billion people by 2050 and aging demographics on the increase worldwide, an interlinked web of global issues are posing ever-graver problems.

Since Toray's founding in 1926, we have always believed that materials can change lives, true to our fundamental corporate principle of contributing to society. At the Toray Group, we make it our mission to deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces with balancing development and sustainability.

We are convinced that Toray can continue to grow without negatively impacting global sustainability. By delivering on our corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," we will do our utmost to address global issues, including the goals of the Paris Agreement and the United Nations Sustainable Development Goals (SDGs), while working closely with our business partners worldwide.

Four Perspectives of the World as Envisioned by the Toray Group in 2050



**A net zero emissions world,
where greenhouse gas
emissions are completely
offset by absorption**



**A world where resources are
sustainably managed**



**A world with a restored natural
environment, with clean water
and air for everyone**



**A world where everyone
enjoys good health and
hygiene**

Progress against the Commitments for 2030

The Toray Group is striving to achieve the following quantitative targets.

		FY 2013 Actual (Baseline) (J-GAAP)	FY 2024 Actual ⁸	FY 2030 Target ⁸
Supply of Sustainability Innovation products ¹		562.4 billion yen	2.4-fold	4.5-fold
CO ₂ emissions avoided in value chain ²		38 million tons	11.3-fold	25-fold
Water filtration throughput contribution by Toray's water treatment membranes ³		27.23 million tons/day	2.9-fold	3.5-fold
Greenhouse gas emissions in production activities ⁴	Per unit of revenue ^{6&7} across the Toray Group	356 tons/100 million yen	43% reduction ⁹	50% or more reduction
	Greenhouse gas emissions of Toray Group in Japan ^{5&6}	2.45 million tons	28% reduction ⁹	40% or more reduction
Water usage in production activities	Per unit of revenue ⁷ across the Toray Group	14,693 tons/100 million yen	38% reduction ⁹	50% or more reduction

- (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
- 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).
- 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.
- 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.
- 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.
- 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.
- FY2013 results are based on net sales (J-GAAP)
- Each relative ratio is calculated in comparison to FY 2013.
- The calculation of the figure for the baseline of FY 2013 includes data for companies that joined the Toray Group in FY 2014 or later.

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Towards 2050

A net zero emissions world, where greenhouse gas emissions are completely offset by absorption

ACTIONS

Accelerating measures to counter climate change

In order to keep the air temperature from rising by more than 1.5°C due to global warming, we must become carbon neutral by 2050. Being carbon neutral means that the amount of greenhouse gases such as carbon dioxide that we are emitting is equivalent to the amount being absorbed. In addition to reducing the amount of carbon dioxide emitted during the product manufacturing stage, the Toray Group will utilize materials and technologies associated with energy conservation and new and renewable forms of energy to work toward creating a new-energy society. This can be achieved by reducing product weight in order to reduce fuel consumption, thereby improving carbon dioxide emissions throughout the entire product lifecycle, leveraging renewable energies such as wind power, which does not produce carbon dioxide, and utilizing hydrogen and electric vehicles.



AFFORDABLE AND CLEAN ENERGY



INDUSTRY, INNOVATION AND INFRASTRUCTURE



CLIMATE ACTION



Curbing CO₂ emissions throughout the life cycle of products

Toray provides lightweight and strong carbon fiber that can reduce the weight of aircraft and automobiles, to improve fuel economy and reduce CO₂ emissions.



Building a renewable energy economy

Toray supplies materials for use in renewable energy technologies including wind and solar energy, and in hydrogen conversion, storage, and fuel cells.



Reducing CO₂ emissions in manufacturing

Toray actively strives to reduce CO₂ emissions in manufacturing, through process improvements that conserve energy, use renewable energy and reduce the use of coal.

Four Perspectives of the World as Envisioned by the Toray Group in 2050



Towards 2050

A world where resources are sustainably managed

ACTIONS

Realizing sustainable, recycling-based use of resources and production

In order to create a sustainable society, we must transition to a so-called recycling-based society — a society managed in a sustainable manner that makes effective use of, and recycles, our limited resources. Specifically, this involves using our limited resources sustainably by reducing our use of fossil fuels such as oil, reducing and reusing waste plastic, effectively using and reusing water resources, and making effective use of carbon dioxide. This transition to a recycling-based society will also contribute to resolving the issues of global warming and marine plastic waste. The Toray Group will contribute to creating this recycling-based society by developing and commercializing bioplastics that use plants and other biological resources, promoting the recycling of textiles, camera film and resin products, and reducing waste at the production stage.



INDUSTRY, INNOVATION
AND INFRASTRUCTURE



RESPONSIBLE
CONSUMPTION
AND PRODUCTION



LIFE
BELOW WATER



Using non-fossil resources (bioresources)

Toray works to reduce the world's dependency on fossil fuel resources by manufacturing non-edible plant-based fibers and developing materials and fuels using biotechnologies and membrane separation technology.



Promoting product recycling

Toray facilitates recycling of its diverse products including fibers, resins, films, and carbon fiber.



Reducing waste at production sites

Toray implements measures to use resources more effectively, practices recycling, and works to reduce waste.

Four Perspectives of the World as Envisioned by the Toray Group in 2050



Towards 2050

A world with a restored natural environment, with clean water and air for everyone

ACTIONS

Providing clean water and air, and reducing environmental impact

Population growth, the development of the agricultural and livestock industry, and industrialization have led to water and air pollution becoming global issues. We must solve these problems and create a greener world in which everyone has access to safe water and air, and where people can live in harmony with nature while considering natural capital. The Toray Group is committed to bringing about such a world by reducing and controlling the amount of water used in our manufacturing processes, actively preventing air and water pollution, keeping the water supply safe using water treatment membrane technology, and improving the indoor air environment using high-performance air filters. We contribute to reducing the impact on ecosystems through technologies that reduce the use of harmful substances such as organic solvents and materials used as substitutes for natural products such as feathers and leather. We are also focusing on environmental education, to raise awareness around environmental issues in the younger generation.



ZERO HUNGER



GOOD HEALTH AND WELL-BEING



CLEAN WATER AND SANITATION



INDUSTRY, INNOVATION AND INFRASTRUCTURE



RESPONSIBLE CONSUMPTION AND PRODUCTION



LIFE BELOW WATER



LIFE ON LAND



Providing safe water using membrane technologies

Toray supplies water treatment technologies for the desalination, purification, and reuse of water to address water scarcity and reduce environmental impacts.



Managing water usage at plants and preventing air and water pollution

Toray pursues greater reuse of water, purification of exhaust ventilation and wastewater, and appropriate management of chemical substances at its plants. In areas where water resources are particularly scarce, Toray takes additional steps to curb water intake.



Providing ultrafine filter fibers for cleaner air

Toray supplies proprietary ultrafine fiber non-woven fabrics that remove particulates from the air, delivering cleaner air around the world.



Inspiring interest in the environment

Toray supports education to raise awareness of environmental issues such as water scarcity.

Four Perspectives of the World as Envisioned by the Toray Group in 2050



Towards 2050

A world where everyone enjoys good health and hygiene

ACTIONS

Contributing to better medical care and hygiene for people worldwide

Innovative diagnostic technologies and curative medicines are required in both developed and developing countries, but these bring with them the challenges of increased medical costs and an increased burden on healthcare sites. In the 21st century, the most significant challenges facing society are raising the healthcare and public sanitation services required to maintain a healthy and independent way of life, and providing high-quality medical care.

Toray contributes to human health through advanced materials and innovative technologies, focusing on health and longevity, improving the quality of medical care, reducing burdens on medical institutions, and focusing on human safety, in order to create a world in which all people lead healthy and hygienic lives.



ZERO HUNGER



GOOD HEALTH AND WELL-BEING



INDUSTRY, INNOVATION AND INFRASTRUCTURE



CLIMATE ACTION



Improving the quality of medical care with innovative technologies and advanced materials

Toray helps improve the quality of medical care with early diagnosis of diseases and innovative drugs and devices.



Contributing to health and longevity

Toray promotes health, longevity and better quality of life by providing products that enhance physical functions that change with age.



Helping to keep people safe

Toray helps protect people from infectious diseases, accidents, disasters, and extreme weather events such as heatwaves.