

## 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.

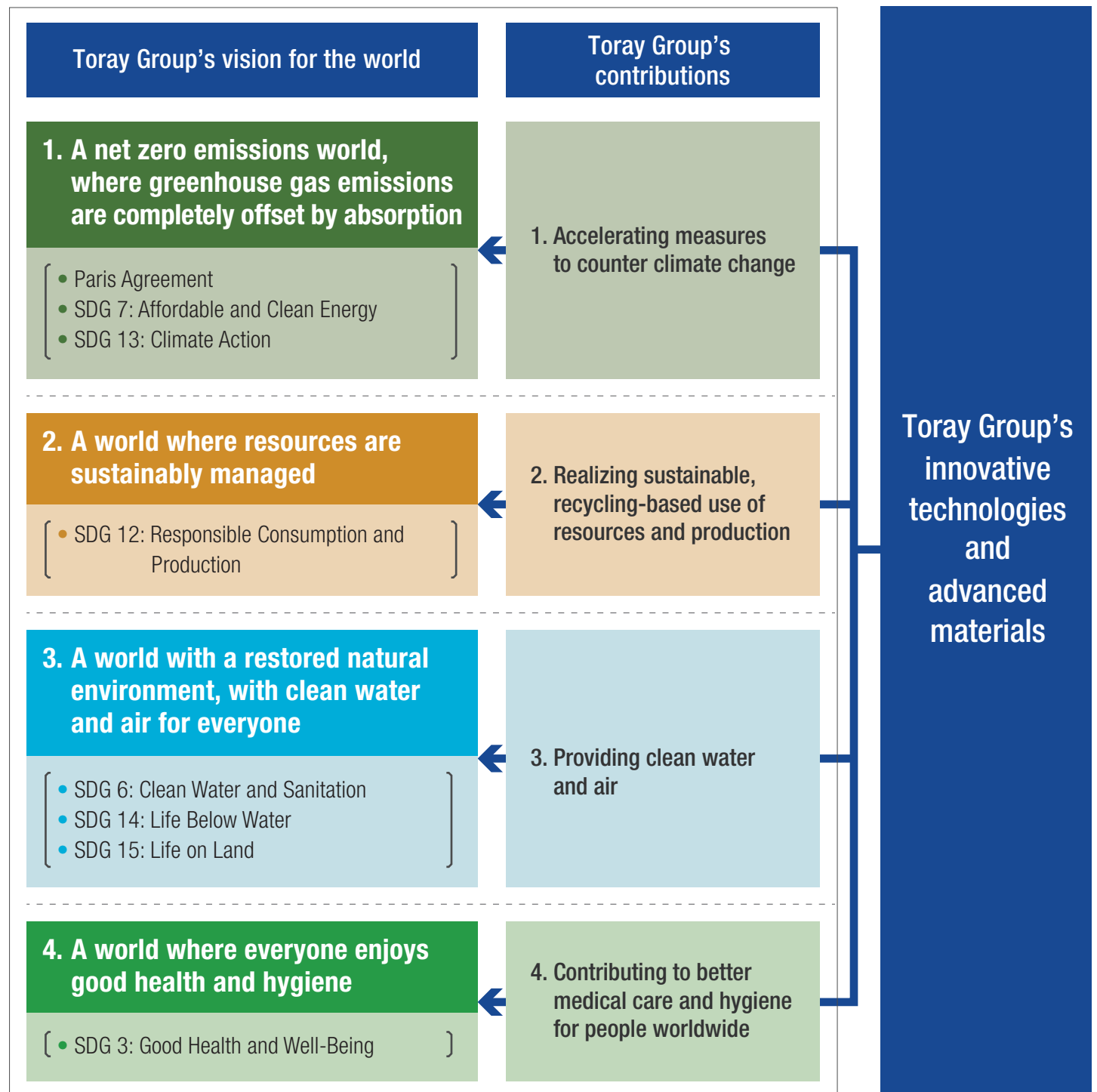
Since Toray's founding in 1926, we have always believed that materials can change lives, true to our fundamental corporate principle of contributing to society. At the Toray Group, we make it our mission to deliver innovative technologies and advanced materials that provide real solutions to the challenges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



## The World as Envisioned by the Toray Group in 2050

At the Toray Group, we are focusing our efforts on the four priorities shown below, as we supply innovative technologies and advanced materials to help achieve our future vision for the world.





# Toray Group Initiatives

The Toray Group is hard at work on specific initiatives in the following four areas.

## 1. Accelerating measures to counter climate change



### Curbing CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions in manufacturing

Toray actively strives to reduce CO<sub>2</sub> emissions in manufacturing, through process improvements that conserve energy, use renewable energy and reduce the use of coal.

## 2. Realizing sustainable, recycling-based use of resources and production



### 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.



### 3. Providing clean water and air



#### 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.

### 4. Contributing to better medical care and hygiene for people worldwide



#### Contributing to better public health by preventing infection, and more

Toray supplies advanced material products such as protective clothing to help secure human health.



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

Toray supplies DNA microarrays for early diagnosis of diseases and innovative drugs that support people's health.



#### Contributing to longevity

Toray manufactures advanced clothing that can monitor biological information and aging assistive products that support longevity and enhance the quality of life.



## Quantitative Targets for Fiscal 2030

The Toray Group is striving to achieve the following quantitative targets.<sup>1</sup>

- **Supply four times more Green Innovation products (products that help to solve issues related to the global environment, resources, and energy)  
(This will avoid eight times more CO<sub>2</sub> emissions in the value chain<sup>2</sup>)**
- **Supply six times more Life Innovation products (products that enhance public health, improve the quality of medical care, and contribute to health maintenance and longevity)**
- **Triple the total annual volume of water treated using Toray's water treatment membranes<sup>3</sup>**
- **Reduce greenhouse gas emissions in production activities by 30% per unit of sales across the entire Toray Group by introducing renewable energy or taking other initiatives<sup>4</sup>**
- **Reduce water usage in production activities by 30% per unit of sales across the entire Toray Group**

<sup>1</sup> The baseline year for quantitative targets is fiscal 2013.

<sup>2</sup> For CO<sub>2</sub> emissions avoided in the value chain, Toray calculates the CO<sub>2</sub> emissions reduced throughout the value chain of products in accordance with the chemical sector guidelines of the Japan Chemical Industry Association, the International Council of Chemical Associations (ICCA), and the World Business Council For Sustainable Development (WBCSD).

<sup>3</sup> Toray calculates water treated with Toray's water treatment membranes by multiplying the amount of fresh water that its ultrafiltration water treatment membranes can produce per day, including reverse osmosis (RO), ultrafiltration (UF) and membrane separation bioreactors (MBR), by the number of membrane elements sold.

<sup>4</sup> In Japan, Toray works to surpass the reduction target set for the industrial sector by the Japanese government (absolute emissions reduced by 7%), which is based on the Paris Agreement. 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 2030.