

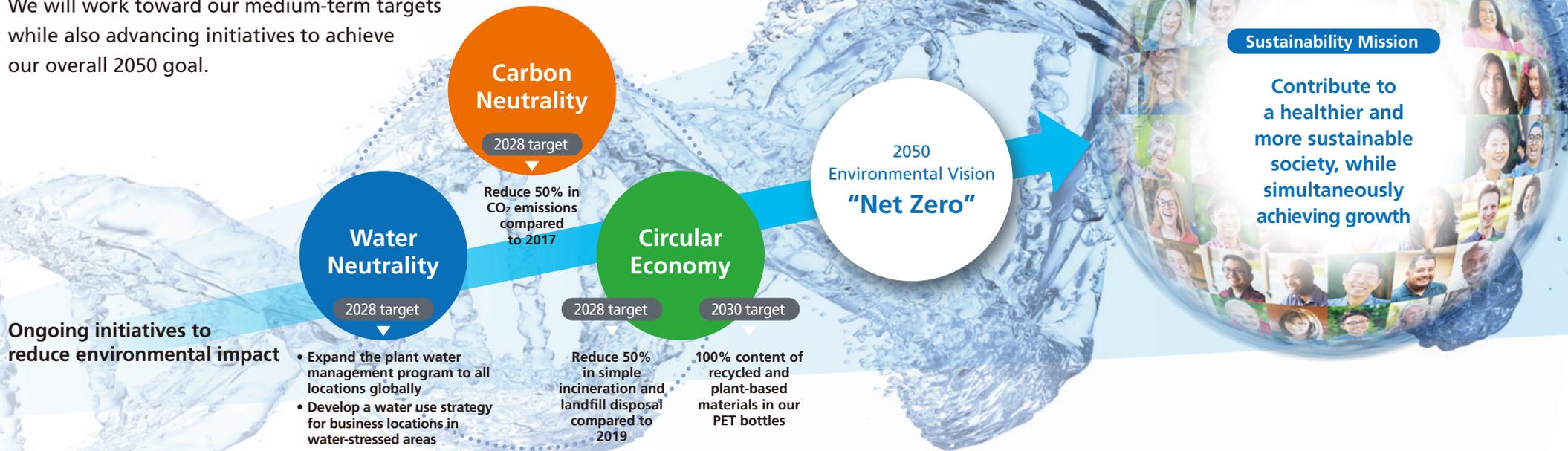
Environment

For more details about our environment-related initiatives, visit:
<https://www.otsuka.com/en/csr/environment/>



Toward Our 2050 Environmental Vision, "Net Zero"

The Otsuka group has established 2050 Environmental Vision, "Net Zero," with the aim of reducing the total environmental impact across all its business activities to zero. We will work toward our medium-term targets while also advancing initiatives to achieve our overall 2050 goal.



Ongoing initiatives to reduce environmental impact

- Carbon Neutrality (2028 target):** Reduce 50% in CO₂ emissions compared to 2017
- Water Neutrality (2028 target):**
 - Expand the plant water management program to all locations globally
 - Develop a water use strategy for business locations in water-stressed areas
- Circular Economy (2028 target):** Reduce 50% in simple incineration and landfill disposal compared to 2019
- Circular Economy (2030 target):** 100% content of recycled and plant-based materials in our PET bottles

Materiality (Material Issues)	Social Issues	Our Goals	Our Activities
Carbon Neutrality ¹	<ul style="list-style-type: none"> Global warming 	<ul style="list-style-type: none"> 2028 target: Reduce 50% in CO₂ emissions compared to 2017 	<ul style="list-style-type: none"> Reduce CO₂ emissions throughout the value chain
Circular Economy ²	<ul style="list-style-type: none"> Environmental load increase 	<ul style="list-style-type: none"> 2028 target: Reduce 50% in simple incineration and landfill disposal compared to 2019 2030 target: 100% content of recycled and plant-based materials in our PET bottles 	<ul style="list-style-type: none"> Reduce environmental impact by improving resource efficiency Promote business activities aimed at sustainability for both society and the earth
Water Neutrality ³	<ul style="list-style-type: none"> Reduced freshwater availability due to water resource risks 	<ul style="list-style-type: none"> 2028 target: Expand the plant water management program to all locations globally 2028 target: Develop a water use strategy for business locations in water-stressed areas 	<ul style="list-style-type: none"> Understanding water resource risks Management and effective use of water resources

¹ Sustainable energy use ² Sustainable use of raw materials ³ Sustainable use of water resources

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Basic Policy

Aiming to create a healthy future as a total healthcare company, the Otsuka group has established 2050 Environmental Vision, "Net Zero," with the aim of reducing the total environmental impact across all its business activities to zero.

Based on this vision, we have determined the material issues in our environmental initiatives to be *carbon neutrality*, *circular economy*, and *water neutrality*. As global action aimed at a decarbonized society gathers speed, we have established a new set of medium-term targets with the aim of being more proactive in our own initiatives. We will promote activities to improve employees' understanding and recognition of environmental issues through environment-related training, generate synergy among Otsuka group companies, and act from a unified standpoint.

Carbon Neutrality

Global warming and the resulting change in climate are having a major impact on the world's bioresources and water resources, and environmental problems are becoming more apparent on a global scale. As a group that operates globally, we recognize that climate change presents major risks but at the same time offers new business opportunities. In aiming to contribute to a decarbonized, more sustainable society, we are working to reduce greenhouse gas (GHG) emissions throughout the value chain in line with the international targets and indicators adopted under the Paris Agreement.

Disclosure According to TCFD Recommendations

In October 2021, Otsuka Holdings announced its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Accordingly, we are moving forward with the disclosure of information on climate-related risks and opportunities in governance, strategy, risk management, and metrics and targets, according to the framework recommended by the TCFD.



Governance

The Otsuka Holdings Environmental Committee comprises the executive deputy president and director of Otsuka Holdings, group company directors, and executive officers. The committee is responsible for making decisions on key challenges relating to climate change. Furthermore, resolutions on matters relating to group-wide direction are shared with each company following approval by the Board of Directors. These matters are communicated to each company in the form of Otsuka group policies and incorporated into specific action plans. In 2021, the Board of Directors approved 2050 Environmental Vision, "Net Zero," with the aim of reducing the total environmental impact across all its business activities to zero.

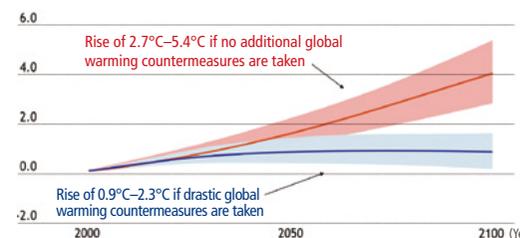
Otsuka Group Environmental Management System



Strategy

The Otsuka group conducts climate change scenario analysis to assess the resilience of its strategies. Specifically, it references the IEA's *World Energy Outlook 2020* and other materials to assess business risks and opportunities in both the below 2°C scenario and the 4°C scenario.

Change in Global Mean Surface Temperature*



4°C Scenario
A scenario in which development is dependent on fossil fuels and climate change measures are not introduced. Rising temperatures cause an increase in natural disasters, negative impact on crops, and loss of biodiversity.

Below 2°C Scenario
A scenario in which development is sustainable and climate change measures are proactively implemented to keep the temperature rise below 2°C. Measures to achieve a decarbonized society are enhanced, including the introduction of CO₂ emissions regulations and expansion of the renewable energy market.

* Based on the Ministry of the Environment's Japanese translation of *Summary for Policymakers, Working Group II Report, Fifth Assessment Report* published by the IPCC

Main Scenarios Referenced

- IEA *World Energy Outlook 2020* (Sustainable Development Scenario, Stated Policy Scenario)
- IPCC (RCP2.6, RCP8.5)
- OECD-FAO Agricultural Outlook 2021–2030

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Scenario Analysis: Financial Impacts and Responses Associated with Climate-Related Risks and Opportunities

Category	Contents	Business/Financial Impacts		Our Response/Resilience	
		Below 2°C	4°C		
Transition Risks	Policies and regulations	• Increased costs due to tightened regulations such as carbon pricing	Large	Large	<ul style="list-style-type: none"> • Introduction of internal carbon pricing • Introduction of CO₂-free electricity
	Market	<ul style="list-style-type: none"> • Steep rise in renewable energy prices • Steep rise in energy prices 	Large	Large	<ul style="list-style-type: none"> • Introduction of solar power generation systems including mega solar power systems
	Reputation	• Reputation risk and investment-related risk associated with inadequate response to climate change and water resource risks	Large	Medium	<ul style="list-style-type: none"> • Improving energy efficiency through energy saving and fuel conversion • Investment in environmental facilities in Japan and overseas
Physical Risks	Acute	• Risks of damage to production and other facilities due to intensification of extreme weather, and cost increases to prepare for extreme weather events	Medium	Large	<ul style="list-style-type: none"> • Decentralized production of major products • Formulation, disclosure, and sharing of procurement policies and guidelines with suppliers • Strengthening communication with our supply chains (expanding the number of suppliers that are subject to our supply chain questionnaires, improving and enhancing contents of the questionnaires, and holding discussions)
		• Risks in raw material procurement such as disruption to supply chains and stable procurement			
	Chronic	<ul style="list-style-type: none"> • Increased energy costs associated with temperature rise • Effects of climate change on drug discovery using crop and other natural products 	Large	Medium	<ul style="list-style-type: none"> • Systematic renewal of facilities • Collection of information about the impacts on drug discovery using crops and other natural products, risk assessment, and examination of countermeasures
Opportunities	Resource efficiency	• Reduction of operating costs through the introduction of energy-efficient equipment	Large	Medium	<ul style="list-style-type: none"> • Collection of information on new technologies (such as membrane water treatment technology that does not require steam) and examination of introduction of such technologies in a timely manner
	Energy sources	• Reduction of energy procurement risk due to proactive introduction of renewable energy	Large	Small	<ul style="list-style-type: none"> • Introduction of internal carbon pricing • Collection of information on next-generation energy sources (such as hydrogen and ammonia) and examination of introduction of such sources in a timely manner
	Products and services	• Increased revenue from increased demand for products that mitigate or address climate change (e.g., products for preventing heat stroke and the spread of infectious diseases)	Large	Large	<ul style="list-style-type: none"> • Formulation of the Otsuka Group Plastic Policy (in 2020) that aims at reducing reliance on fossil fuel-derived materials • Examination of introduction of recycled PET resin or plant-based bio-PET resin for PET bottle beverage containers • Examples: Expand sales of products for preventing heat stroke, and expand sales of products with low environmental impact throughout their lifecycles
	Market	• Increased revenue from expansion into new market categories with products that address climate change	Medium	Medium	• Development of products that mitigate or address climate change (e.g., plant-based products)
	Resilience	• Strengthening business continuity planning (measures against disaster and supply chain disruptions)	Medium	Large	<ul style="list-style-type: none"> • Strengthening of promotion of energy saving and renewable energy through internal carbon pricing • Business continuity plan measures at manufacturing sites (anti-seismic measures and measures against flooding)

Assessment of business/financial impacts

Large: One billion yen or more (equivalent to 1% of operating income assuming a minimum operating income of 100 billion yen)

Medium: From negligible to less than one billion yen

Small: Negligible

Risk Management

The Otsuka group examines and assesses climate-related risks that have the potential to impact its financial affairs and strategies. The Otsuka Holdings Environmental Committee considers related risks, and committee members in charge of environmental management report on any matters that are deemed to be significant in the risk assessment process to the Board of Directors. Resolutions on matters approved by the Board of Directors are communicated to each company in the form of Otsuka group policies, and the whole group works to minimize climate-related risks.

Metrics and Targets

The Otsuka group has established 2050 Environmental Vision, "Net Zero," with the aim of reducing the total environmental impact across all its business activities to zero. In addition to revising our CO₂ emissions reduction target upward (from a 30% reduction by 2030 to a 50% reduction by 2028; compared to 2017), we have joined the international RE100 initiative (see next page) and continue to promote activities aimed at decarbonization. Looking ahead, we will maximize group synergy and proactively engage in efforts to achieve carbon neutrality.

 Carbon Neutrality	Targets	• 2028 target: Reduce 50% in CO ₂ emissions compared to 2017	
	Fiscal 2021 Results	CO ₂ emissions reductions through introduction of renewable energy 143,000 t-CO₂	CO ₂ emissions 683,000 t-CO₂
 Circular Economy	Targets	• 2028 target: Reduce 50% in simple incineration and landfill disposal compared to 2019 • 2030 target: 100% content of recycled and plant-based materials in our PET bottles	
	Fiscal 2021 Results	Total waste volume 90,100 t	Simple incineration and landfill disposal volume 16,400 t
 Water Neutrality	Targets	• 2028 target: Expand the plant water management program to all locations globally • 2028 target: Develop a water use strategy for business locations in water-stressed areas	
	Fiscal 2021 Results	Water usage 17.68 million m³	Water intensity per unit of sale 11.80 m³/¥ million

(Calculated based on the performance of all manufacturing sites in the consolidated Otsuka group)

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Joining the RE100 Initiative

In April 2022, the Otsuka group joined the international RE100 initiative, which asks companies to commit to using 100% renewable energy in their business activities. As the world transitions to a decarbonized society, under our 2050 Environmental Vision, "Net Zero," through which we aim to reduce the total environmental impact across all business activities to zero, we will continue to proactively implement measures to reduce CO₂ emissions.



Increasing Utilization of Renewable Energy and Maximizing Energy Efficiency

The Otsuka group has set the target of reducing CO₂ emissions by 50% (compared to 2017) by 2028. To achieve this target, we are increasing our renewable energy usage through the introduction of CO₂-free electricity and solar power generation equipment, and maximizing our energy efficiency through the adoption of co-generation systems.¹

In 2021, we introduced CO₂-free electricity at all 23 manufacturing sites of five² Otsuka group companies, and as a result reduced our annual emissions by approximately 109,800 t-CO₂.³ Furthermore, in Tokushima Prefecture, which is home to many Otsuka group production facilities, we have begun upgrading the co-generation facility at Otsuka Chemical's Tokushima Factory. This will enable us to supply electricity and steam to neighboring Otsuka group manufacturing sites and improve our energy efficiency. The new co-generation system is scheduled to begin operation in 2024, and is expected to cut annual emissions by approximately 8,000 t-CO₂. In addition, we have introduced a new co-generation system and changed boiler fuel at Otsuka Pharmaceutical Factory's Naruto Factory, which should result in an annual reduction of approximately 4,800 t-CO₂.

1. The engines, turbines, or fuel cells of co-generation systems generate electricity from natural gas, LPG, or other fuel sources. At the same time, the systems collect the waste heat, thereby achieving efficient use of both heat and electricity

2. Otsuka Pharmaceutical, Otsuka Pharmaceutical Factory, Taiho Pharmaceutical, Otsuka Chemical, and Otsuka Foods

3. Compared to 2017

Introducing CO₂-Free Electricity at Four* Indonesian Group Companies

Among our overseas businesses, the highest generator of CO₂ emissions after Japan is Indonesia, where we are engaged in the pharmaceutical, nutraceutical, and chemical businesses. In Indonesia, we have introduced CO₂-free electricity from geothermal power, which we forecast will reduce annual CO₂ emissions by about 60%.

Moving forward, we will continue increasing our use of renewable energy and maximizing energy efficiency both in Japan and around the world, and make use of group synergy to contribute to a decarbonized, more sustainable society.

* PT Otsuka Indonesia, PT Amerta Indah Otsuka, PT Widatra Bhakti, and PT Lautan Otsuka Chemical



Sukabumi Factory, PT Amerta Indah Otsuka

Building a New Integrated Energy Service Structure

As one effort to achieve 2050 Environmental Vision, "Net Zero," and reduce the total environmental impact across all business activities to zero, the Otsuka group has established a new integrated energy service structure under the retail electricity provider model. Through this move, we will be able to procure renewable energy from power producers and other sources, and more efficiently supply electricity generated within the Otsuka group to group business sites.

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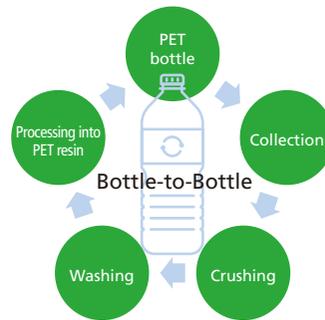
Circular Economy

In line with global trends, for us to be able to create a more sustainable society and achieve sustainable corporate growth, we must shift to a more sustainable business model whereby we can achieve growth without having a serious impact on the environment. To continue offering products that contribute to the health of people worldwide, we have set ourselves two goals: reduce simple incineration and landfill disposal of waste by 50% compared to 2019 and use 100% recycled or plant-based materials in our PET bottles by 2030* as per the Otsuka Group Plastic Policy. We will continue to increase resource efficiency throughout the value chain and build a harmonious and sustainable relationship with bioresource and other resource sources.

* Goal has been revised. Previous goal: 50% content of recycled or plant-based materials in PET bottles by 2030

Containers and Packaging for a Sustainable Society

Based on the Otsuka Group Plastic Policy, we are quickly moving forward with measures to reduce the environmental impact caused by our plastic containers and packaging. In doing so, we are contributing to sustainable closed-loop recycling for plastics and other resources.



Launch of PET Bottles Made Using Recycled Materials

We launched a PET bottle made using 50% recycled PET resin for *Crystal Geyser* in April 2021, and a 30% recycled PET bottle for *POCARI SWEAT* in March 2022. While moving forward with further technological development, we will gradually extend the use of recycled PET bottles to other products.

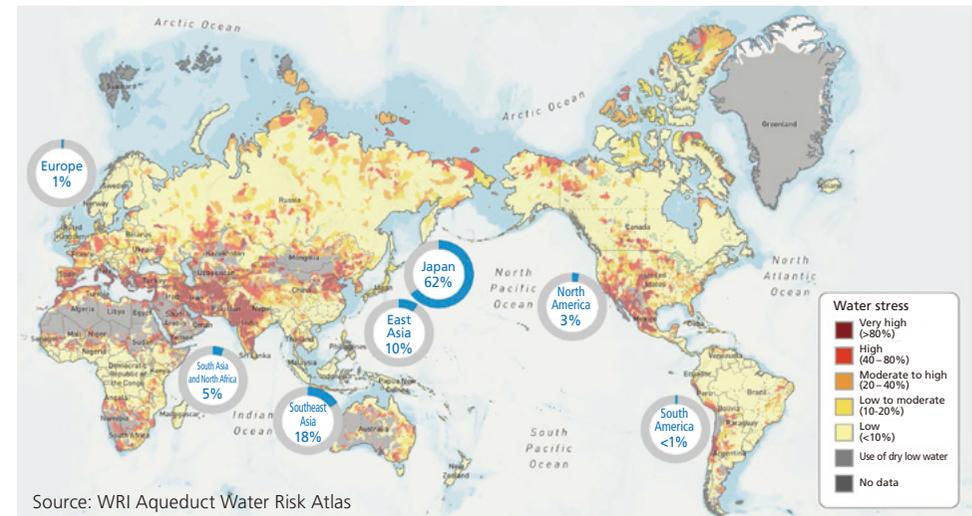


Water Neutrality

Water resources are unevenly distributed across countries and regions, each of which faces different challenges. We are working with all our stakeholders to conduct ongoing water conservation initiatives from intake to discharge (including cultivation of water resources, conscientious use, and clean return) as we aim for sustainable water use. As such, we have revised our targets to include developing and implementing a water use strategy for business sites in water-stressed areas, and expanding the plant water management program to all locations globally, both by 2028.

Working together, group companies use the World Resources Institute's (WRI) Aqueduct Water Risk Atlas, as well as extensive water-related data, to assess the water risks at all manufacturing sites within the scope of consolidation. Based on that assessment, we draw up model cases for water management and water targets tailored to each country or region. We will examine and evaluate the results and launch similar initiatives at sites worldwide.

Aqueduct Water Risk Atlas and Breakdown by Region of Water Consumption in the Otsuka Group



Source: WRI Aqueduct Water Risk Atlas