Ministry of the Environment

ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

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ADDITIONAL MATERIALS

This report is an English-language digest of parts of Japan's Annual Report on the Environment, the Sound Material-Cycle Society, and Biodiversity, all of which were approved by the Cabinet on June 6, 2025, and includes various data.

"MARKET"
THE ENVIRONMENT AND BUSINESS

Human activities are increasingly exceeding the Earth's biocapacity, threatening the stability of the environment and natural capital, and confronting us with the triple global crisis of climate change, biodiversity loss and pollution. Economic and social activities are based on the foundation of natural capital (the environment), and overcoming these crises is one of the most critical issues. Achieving a sustainable society requires an integrated approach to shift economic and social systems into ones that are net-zero (decarbonized), circular, and nature-positive. The Sixth Basic Environment Plan, approved upon a cabinet decision in May 2024, sets out the building of a "circulation and symbiosis based society" as the type of society that environmental policy should aim for, and aims to achieve "new avenues for growth" that will bring about "Well-being/quality of life" not only in the present but also in the future.

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Chapter 1 introduces economic activities that will lead to "new avenues for growth," including initiatives to build a green economic system that realizes sustainable production and consumption, and to encourage appropriate evaluation of environmental value and long-term investment in natural capital and capital systems that maintain, restore, and enhance natural capital.

1 THE DIRECTION OF JAPAN'S GLOBAL WARMING COUNTERMEASURES

Climate change is an urgent challenge for all humanity, and advancing global action is crucial to achieving the 1.5°C goal.

Based on the Plan for Global Warming Countermeasures approved upon a cabinet decision on October 2021, Japan has implemented countermeasures and measures to achieve its FY2030 greenhouse gas reduction target (46% reduction from its FY2013 levels, and continuing strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50%). Furthermore, in February 2025, the Cabinet approved a new Plan for Global Warming Countermeasures that includes greenhouse gas reduction targets beyond 2030 and the countermeasures and measures to achieve them.

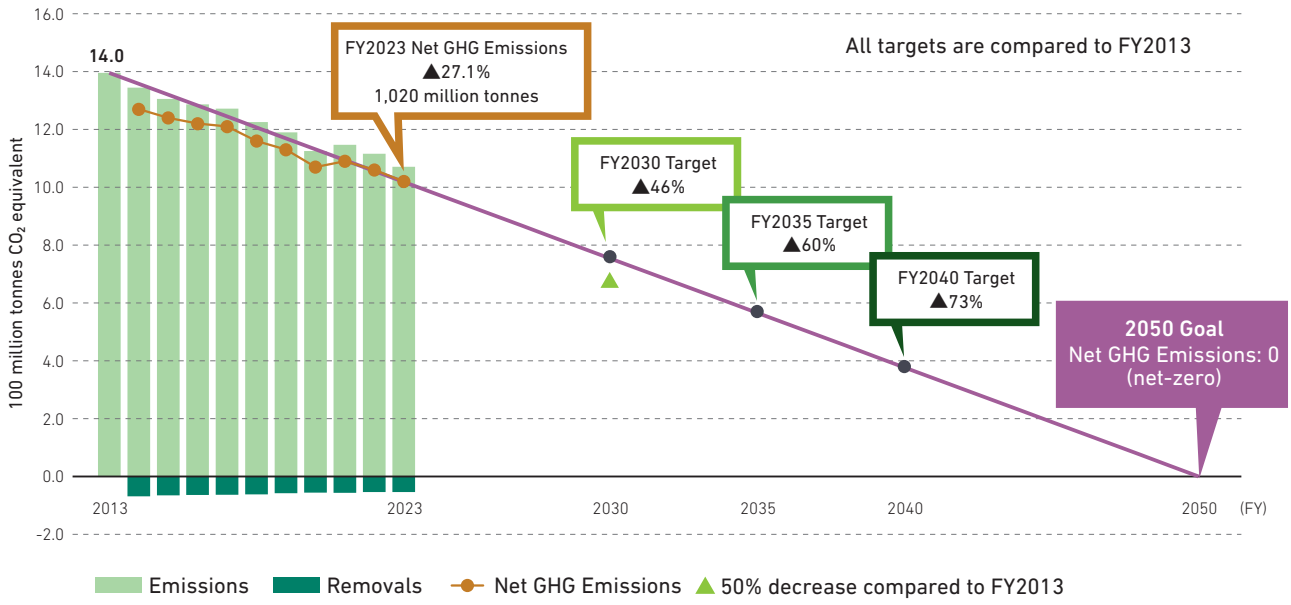
In formulating this plan, the Ministry of the Environment and the Ministry of Economy, Trade and Industry held nine deliberations in a Joint Council from June 2024, and the plan was considered in conjunction with the "Strategic Energy Plan," which outlines the future direction of energy policy, and the "GX2040 Vision," which presents the direction of the GX industrial structure and GX industrial location policy to be aimed for around 2040 in order to encourage decarbonization investment.

Taking into account the discussions at the Joint Council and the results of public comments, the "Plan for Global Warming Countermeasures" was approved upon a cabinet decision on February 18, 2025, simultaneously with the "Strategic Energy Plan" and the "GX2040 Vision."

This plan aims to reduce greenhouse gas emissions by 60% in FY2035 and by 73% in FY 2040, respectively, from its FY2013 levels, as ambitious targets aligned with the global 1.5°C goal and on a straight pathway towards net-zero by 2050. Furthermore, on the same day, this target was submitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) as "Japan's NDC (Nationally Determined Contribution)."

Going forward, it will be critically important that the government, local governments, companies, and citizens share this target and take action to achieve it. In order to make steady advance toward these targets, it is necessary to promote measures in cooperation with relevant ministries and agencies, and to review and strengthen existing measures flexibly through review processes.

Japan's new GHG emission reduction target (NDC)



Source: Ministry of the Environment

2 GREEN CONSUMPTION FOR A SUSTAINABLE SOCIETY

Contributing to economic growth by high value-added strategy across the economy through the use of environmental value that brings about "new avenues for growth"

The Sixth Basic Environment Plan, approved upon a cabinet decision in May 2024, proposes a shift from a "linear/standard mass production type socio-economic system" focused on material affluence to a "Circular/High value-added type socio-economic system" that also prioritizes intangible values and spiritual well-being.

If "environmental value," which has not necessarily been valued in the market until now, is valued in the market and consumers begin to choose products and services with high environmental value, it is expected that this will lead to economic growth through the high value-added strategy of such products and services (internalization of non-market value). For companies, too, products and services that have acquired environmental value through environmental investments will be valued by consumers in the market, enabling them to engage in a sustainable cycle of improving natural capital. In order to promote "high value-added strategy across the economy through the use of environmental value," it is necessary for the government to visualize and provide information on environmental value, change consumer awareness and behavior, create demand through green purchasing, and, when necessary, take policy measures such as carbon pricing, support, and regulation to correct the inconveniences (market failures) that arise when left to the market alone, thereby promoting investment that improves natural capital.

Through these actions, we aim to improve natural capital and maintain, restore, and enhance natural capital (the environment)—including a climate conducive to achieving the 1.5°C target, healthy water and atmospheric environments, and rich ecosystems.

Environmental states

Environmental states refer to environmental claims of products or services conveyed through descriptions, symbols, or diagrams, and include environmental labels and declarations. ISO has established some types of international standards concerning environmental states, aiming to stimulate market-driven continuous environmental improvement.

Environmental states by third-party certification are called "eco-label (formerly Type I: ISO14024)" and formulates product categories based on indicators that take the entire life cycle of products and services into account. Eco Mark is the only eco-label in Japan. As of March 31, 2025, there are 76 product categories covered by the Eco Mark, and 53,990 certified products.

Regarding self-declared environmental claims (formerly Type II: ISO14021), which are environmental claims made by business operators themselves, and environmental labels issued by private associations, the "Environmental Label Database" continues to be operated, which provides organized and classified information on each labeling system. In this context, the Ministry of Agriculture, Forestry and Fisheries has launched full-scale operation of the "ChoiSTAR (the English nickname for "Mieru Label")" action starting in March 2024, which evaluates efforts to reduce environmental load during the production stage of agricultural products and displays the results in an easy-to-understand manner.

There are some methods for declaring environmental states that quantitatively indicate a product's environmental load. The SuMPO EPD is the only Environmental Product Declaration (EPD) in Japan (formerly Type III: ISO14025) that indicates multiple impact areas. The Carbon Footprint of Product (ISO/TS14067) is an environmental states method that indicates a single impact area of global warming.

Column

About EPD (Environmental Product Declaration)

EPD (Environmental Product Declaration) is an international program that complies with standards in environmental areas set by the ISO (International Organization for Standardization) and focuses on calculating quantitative environmental information for each product, verifying it by a third party, and disclosing it for visualization.

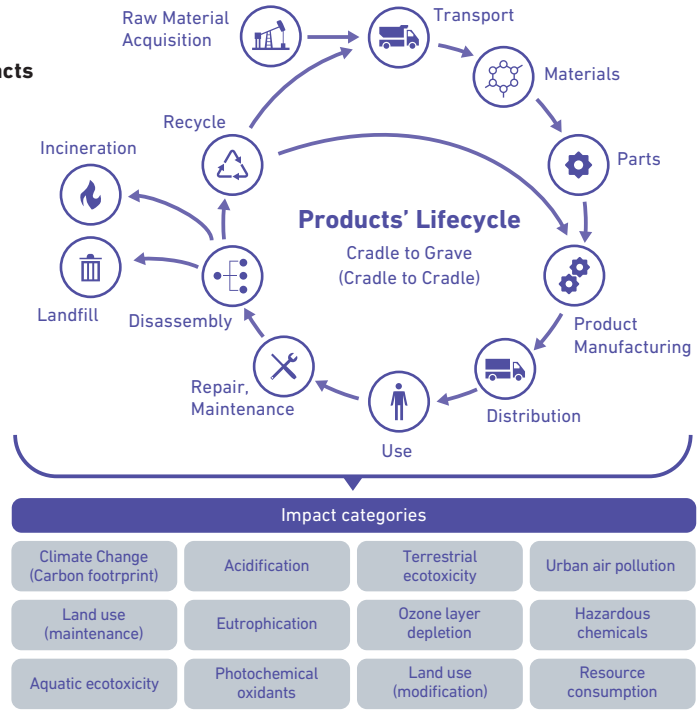
A distinctive feature of EPD is that companies conduct environmental impact assessments of each product at each stage of its life cycle (raw material procurement, manufacturing, use, disposal/recycling, etc.) and receive and pass on this information along the supply chain. One of the distinctive features of EPD is its assessment across multiple areas (LCA: Life Cycle Assessment), which considers not only Carbon Footprint of Product but also the impact on the atmosphere and water bodies, the amount of hazardous chemicals, and other factors. By complying with the ISO standard for formulating calculation rules for each product categories, a unified calculation process has been clarified for each product, and EPD programs being rolled out in each country are being developed with an emphasis on common calculation rules, and in Japan there is the SuMPO EPD.

As of January 2024, EPDs number over 23,000, primarily in the field of architecture, and many Japanese companies are also engaging in business that adopts EPDs in overseas markets.

LCA and Carbon Footprint of Product

Methodology for quantifying environmental impacts throughout the full product life cycle

- LCA methodology based on ISO14040 and ISO14044
- Scientific quantification across the full life cycle (Cradle to Grave)
- CFP (Carbon footprint) is a part of the indicators from LCA focusing on climate change



Example of EPD certified products

Source: General Incorporated Association Sustainable Management Promotion Organization (SuMPO)

3 SCIENCE AND TECHNOLOGY, INNOVATION, AND STARTUP SUPPORT NECESSARY FOR TRANSITIONING TO A SUSTAINABLE SOCIETY

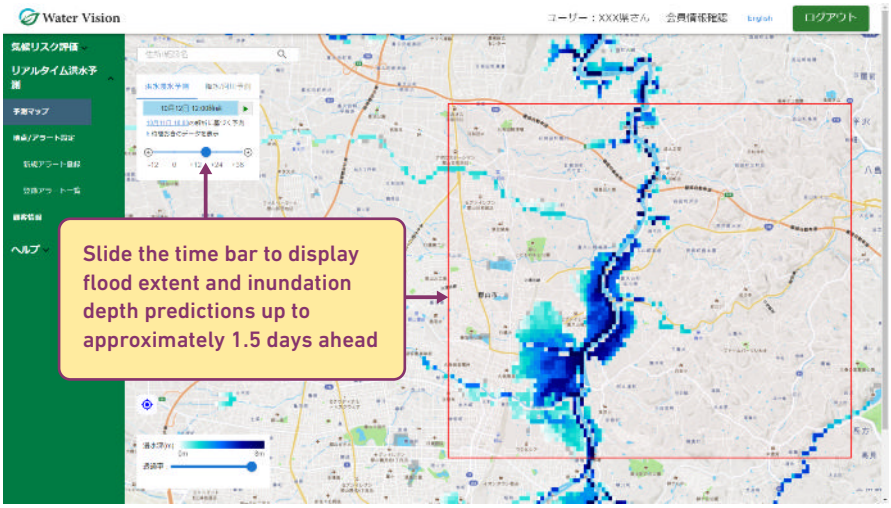
To realize a sustainable society, it is important to support startups that create innovations and implement them in society to resolve various technical issues in the fields of nature-positive, net-zero GHG emissions, and circular economy, as well as in the integrated promotion of these fields. The Ministry of the Environment provides seamless support for environmental startups according to their growth stage, including support for research and development and commercialization, awards to outstanding environmental startups, granting credit at the commercialization stage, and investment and financing through Japan Green Investment Corp. for Carbon Neutrality. Here are some example cases.

Example case

Environment Minister's Award at the Environmental Startup Award (Gaia Vision)

The Ministry of the Environment has been conducting the Environmental Startup Award since FY2020, with the aim of supporting the creation of new role models and the expansion of business opportunities by awarding promising environmental startups. Gaia Vision, recipient of the FY2023 Environment Minister's Award, provides the climate change risk analysis platform "Climate Vision" and the real-time flood forecasting solution "Water Vision," both leveraging flood simulation technology and climate data analysis technology. They are widely used in industries such as manufacturing, logistics, and finance for managing risks at operational sites and addressing global sustainability disclosure requirements, and were recognized for their advanced technological capabilities and social impact in climate change adaptation.

Water Vision



Source: Gaia Vision

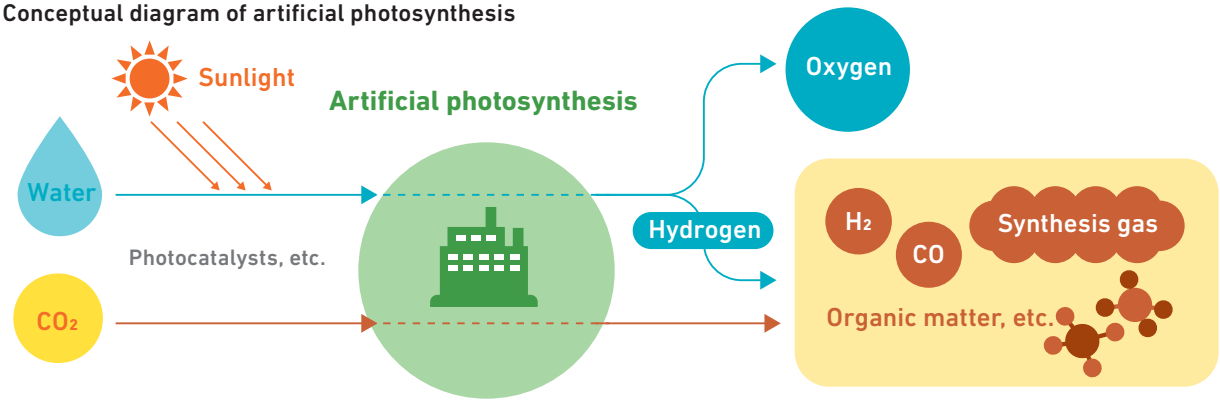
Example case

Artificial photosynthesis

Artificial photosynthesis is attracting attention as one of the CCU (Carbon dioxide Capture and Utilization) technologies. It utilizes sunlight and water to synthesize energy carriers including hydrogen as well as useful compounds such as useful compounds such as olefins, derived from CO_2, through energy storage reactions with no CO_2 emissions. Research and development in this field is also progressing in Japan.

Various approaches are being explored, including water splitting driven by electrical energy generated when sunlight strikes photocatalysts or solar cells, and the use of microorganisms capable of producing specific substances directly from sunlight. The Ministry of the Environment is currently advancing the development and demonstration of CO_2 electrolysis technology utilizing artificial photosynthesis.

Conceptual diagram of artificial photosynthesis



Source: Ministry of the Environment

“GOVERNMENT”

ACTIONS TOWARD INTEGRATING THE CIRCULAR ECONOMY, NATURE-POSITIVE, AND NET-ZERO GHG EMISSIONS

The global annual average temperature in 2024 was the warmest year in the observational record. With extreme weather events occurring worldwide and the number of large-scale natural disasters increasing, climate change issue has reached a point where it is described as a “climate crisis” that threatens the very foundations of survival for humanity and all living things. In Japan as well, the year 2024 was the warmest annual average temperature in the observational record, alongside declining agricultural yields and quality, increased risks of heat illness, and other impacts of climate change appearing nationwide. Taking this situation into consideration, the Sixth Basic Environment Plan states that in order to realize a circulation and symbiosis based society, which is the ideal form of sustainable society, environmental policies in individual fields such as the circular economy, nature-positive, and net-zero GHG emissions (net-zero) must be implemented in an integrated manner to advance Integrated improvements on Environment, Economy and Society, and that a cross-sectional approach is needed to ensure that specific measures resolve multiple different issues in an integrated manner, in order to create synergies that will also lead to the resolution of structural issues in the economy and society.

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Chapter 2 looks at each of the actions to simultaneously achieve a circular economy, nature-positive, and net-zero.

1 CIRCULAR ECONOMY

In order to advance actions with all stakeholders toward transitioning to a circular economy, the Fifth Fundamental Plan for Establishing a Sound Material-Cycle Society was formulated in August 2024 as a national strategy that brings together government-wide measures aimed at creating a sound material-cycle society. At the end of 2024, the Inter-Ministerial Council on the Circular Economy compiled a "Package for Accelerating the Transition to a Circular Economy," and actions are being made based on this.

Thorough resource circulation throughout the entire life cycle through cooperation between business operators for resource circulation

Cooperation between arterial industries which are responsible for manufacturing and retail, and venous industries which are responsible for waste management and recycle business, is growing increasingly important. This cooperation between business operators (known as arterial-venous cooperation) enables the creation of new market value by maximizing the utilization of Japan's advanced technological capabilities cultivated over many years.

It is crucial for companies in the manufacturing and retail companies to cooperate with companies in the waste management and recycle business to establish a system that reliably supplies recycled materials of the required quality and quantity.

To this end, we will promote the expansion of the use of recycled materials and their stable supply, the improvement of environmentally conscious design and the utilization rate of recycled materials, the advancement of recycling methods such as the dismantling, crushing, and sorting of used products, and the steady advancement of actions based on various recycling acts. This will enable us to promote thorough resource circulation throughout the entire life cycle based on the medium- to long-term policy directions for each material and product.

Realization of diverse local circulation systems and regional revitalization

Local governments are expected to serve as coordinators to promote cooperation and collaboration among local citizens, business operators, NPOs, NGOs, and other entities, to build resource circulation systems that utilize local circulative and renewable resources. They build systems to efficiently circulate local resources at the optimal scale for each resource type, thereby advancing reuse, recycling, repair, maintenance, sharing, and subscription services.

Through these actions, utilizing local recyclable and renewable resources as raw materials for new products or as feedstock for fertilizers and animal feed is expected to generate new added value and employment opportunities in the region, thereby revitalizing the local economy. Simultaneously, reducing the volume of waste requiring disposal is anticipated to contribute to cutting public expenditures.

Additionally, in local communities, efforts are being promoted to provide diverse options such as products made from recycled or renewable resources produced through resource circulation actions in each region, along with repair services and reused goods accompanied by labeling indicating their environmental value. This aims to encourage consumers to raise their awareness, translate it into actual actions, and promote shift of lifestyles, thereby realizing a high-quality life.

Example case

From a town of recycling to a town shaping the world's future (Osaki town, Kagoshima Prefecture)

Originally lacking a waste incineration facility, Osaki Town succeeded in extending the lifespan of its existing waste landfill site by recycling waste and reducing its volume. The town has implemented thorough waste separation, considering factors such as volume, cost, and sorting methods, while gradually increasing the number of items. With the addition of "disposable diapers" starting in FY2023, they now collect and sort 28 different items.

They have achieved Japan's highest resource recycling rate a total of 16 times, including 12 consecutive years starting in FY2006, and in FY2023, they achieved a recycling rate of 83.0%. As a result, benefits include reduced per capita waste disposal costs through waste separation and recycling, revenue generated from the sale of recyclable resources, and increased employment at recycling centers.

Osaki Town Vision Map for the Future

Source: Osaki Town

Example case

Integration of "environmental conservation policy" and "industrial promotion" (Kitakyushu City, Fukuoka Prefecture)

Kitakyushu City, which has long flourished as a transportation hub, coal distribution center, and steel town, is leveraging its experience overcoming pollution caused by rapid economic growth to promote advanced actions for a sound material-cycle society. As Japan's largest-scale "Kitakyushu Eco-Town Project," it has attracted a cluster of recycling companies (25 companies as of March 2025) and also created approximately 1,000 employees. In addition, the "Kitakyushu Committee for Promoting the Circular Economy Vision" was established in 2022, and the city and companies work together to promote a "circular economy model" through arterial-venous cooperation, such as building a recycling system for PV panels, automotive rechargeable batteries, food resources, etc.

Diverse recycling in Kitakyushu City

Eco-industrial clusters through the Eco-Town Project

Automobile recycling

Home appliance recycling

Plastic bottle recycling

Secondary battery recycling

Waste wood and plastic recycling

Building a recycling system that addresses new social issues

PV panel recycling

Food resource recycling

Automotive rechargeable battery recycling

Source: City of Kitakyushu

Construction of proper international circular resource systems and promotion of overseas expansion of the circular industry

Japan will promote integrated resource circulation measures both domestically and internationally by leading discussions on circular economy and resource efficiency measures including the 3Rs, international agreements on resource circulation, the proper import and export of recyclable waste, countermeasures against plastic pollution, and will international resource circulation, and also leading the formation of international rules in cooperation with international organizations and private companies. In addition, it is important to construct international resource circulation systems based on the Japan-ASEAN partnership and the G7 agreement to strengthen domestic and international recovery and recycling of critical minerals and other materials.

Furthermore, Japan will promote overseas expansion of our country's outstanding schemes, human resource development, systems, technologies, and other capabilities as integrated packages to developing countries, including ASEAN, thereby strengthening proper waste management and resource circulation. These actions contribute to reducing environmental pollution and other issues, thereby alleviating global resource constraints.

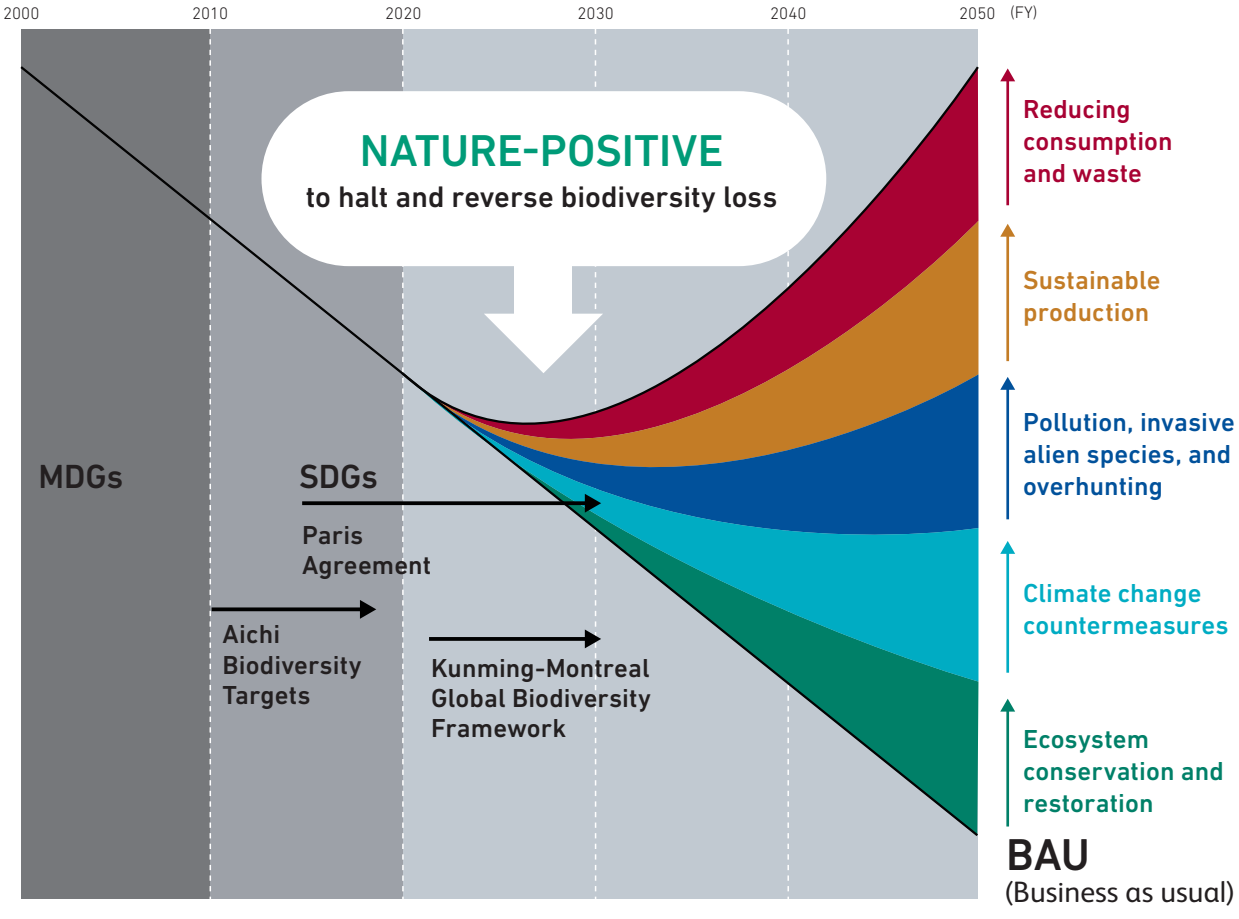
2 NATURE-POSITIVE

Japan's current state toward nature-positive

"Nature-positive" means "halting and reversing biodiversity loss to put nature on a path to recovery". This is not just about conventional nature conservation, but is a concept that involves transforming society and the economy as a whole to contribute to the conservation of biodiversity by linking measures in various fields, such as climate change countermeasures and resource circulation. It goes one step further than halting the biodiversity loss, which has been the aim of previous targets such as the Aichi Biodiversity Targets, and embodies a strong determination not only to halt the loss but also to turn it into recovery. The term "nature-positive" began to gain international recognition after it was used in the "G7 2030 Nature Compact," an annex to the Leaders' Communiqué from the 2021 G7 Cornwall Summit held in the United Kingdom. This concept is also reflected in the 2030 mission of the GBF (Global Biodiversity Framework) adopted at CBD-COP15 in December 2022.

According to the "the Japan Biodiversity Outlook 3 (JBO3)," Japan's biodiversity has been continuously declining over the past 50 years. To improve the deteriorating state of biodiversity, the National Biodiversity Strategy and Action Plan of Japan 2023-2030 sets the goal of achieving "nature-positive by 2030" and promotes various actions to this end. For example, the actions toward the 30 by 30 target discussed in the next section are one of them.

Conceptual diagram of nature-positive



Source: Created by the Ministry of the Environment based on the "Global Biodiversity Outlook 5 (GBO5)"

30 by 30 target

The so-called "30 by 30 target," which aims to effectively conserve more than 30% of both land and sea as healthy ecosystems by 2030, is one of the key targets for achieving nature-positive.

This 30 by 30 target is positioned as GBF Target 3 and serves as the successor to Target 11 of Aichi Biodiversity Targets, which aimed to "conserve at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas by 2020 systems of protected areas and other measures."

As of August 2024, approximately 20.8% of Japan's land and 13.3% of its oceans have been designated as protected areas such as national parks and OECMs (Other Effective area-based Conservation Measures: areas other than protected areas that contribute to the conservation of biodiversity). In order to achieve the target, it is essential not only to expand protected areas and improve their management quality of , but also to promote the establishment and management of OECMs.

The background for setting this target included the following scientific findings.

For example, international scientific findings indicate that in order to protect many of the world's terrestrial mammal species, it is necessary to expand existing protected areas to 33.8% of the total land area. Additionally, research reports indicate that conserving 26 to 28% of the world's land is necessary to conserve amphibians, birds, mammals, and other species globally. Regarding oceans, a review of 144 existing studies found that the majority recommend protecting over 30% of oceans, with an average requirement of protecting 37% of the world's oceans.

Scientific findings within Japan also indicate that, regarding terrestrial areas, effectively expanding protected areas to 30% could reduce the risk of species extinction by an estimated 30%.

3 NET-ZERO GHG EMISSIONSS (NET-ZERO)

The 29th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP29)

In November 2024, COP29 was held in Baku, Republic of Azerbaijan. At COP29, Keiichiro Asao, Minister of the Environment, announced Japan's commitment to actively contribute to global emissions reductions to achieve the 1.5°C. In the negotiations, regarding a New Collective Quantified Goal (NCQG), the decision to set the support goal of "at least USD 300 billion per year by 2035 for developing country Parties" was adopted. It was also decided to call on all actors to work together to enable the scaling up of financing to developing country Parties for climate action from all public and private sources to at least USD 1.3 trillion per year by 2035. In addition, detailed rules for Article 6 of the Paris Agreement, which calls for international cooperation to reduce greenhouse gas emissions, were decided and fully operationalized.

Speech by Keiichiro Asao, Minister of the Environment, at the Ministerial Session

Source: Ministry of the Environment

Taking advantage of this growing momentum, we will actively contribute to global emission reductions by further expanding and accelerating projects utilizing the Joint Crediting Mechanism (JCM) and by vigorously promoting Article 6 initiatives worldwide through the "Paris Agreement Article 6 Implementation Partnership."

Joint Crediting Mechanism (JCM), overseas expansion of environmental infrastructure

Japan has implemented a mechanism (Joint Crediting Mechanism: JCM) in which Japanese companies and the government cooperate in terms of technology and funding to implement countermeasures in partner countries, such as those in the Global South, and the resulting GHG reduction and removal benefits are distributed according to the degree of contribution of both countries. To date, more than 270 projects have been implemented. The "Action Plan for the Next Decade," adopted at the second Asia Zero Emission Community (AZEC) Leaders Meeting held in Vientiane, Laos in October 2024, also included cooperation on high-integrity carbon markets, encompassing the expansion of JCM partner countries within AZEC. Moreover, to promote the utilization of the JCM, the "Act Partially Amending the Act on Promotion of Global Warming Countermeasures (Act No. 56 of 2024)" was enacted in June 2024 to codify procedures for issuing credits and other matters. Based on this Act, the designated implementing agency, the "Joint Crediting Mechanism Implementation Agency, designated by the Government of Japan," was launched on April 1, 2025.

Furthermore, to establish market mechanisms including the JCM consistent with Article 6 of the Paris Agreement, Japan is supporting the development of implementation frameworks in various countries through the "Paris Agreement Article 6 Implementation Partnership" (as of the end of January 2025, 86 countries and over 200 institutions participate), which Japan spearheaded at COP27. The utilization of market mechanisms, including the JCM, and carbon markets are expected to expand further worldwide. We will continue to strengthen international cooperation and expand support for countries' implementation of Article 6.

In addition, as a framework for cooperation between the public and private sectors, we will leverage the Japan Platform for Redesign: Sustainable Infrastructure (JPRSI), established in September 2020, to support the activities of private companies actively engaged in the overseas expansion of environmental infrastructure. Specific activities include hosting an integrated "Environment Week" featuring seminars and exhibitions, providing support for access to local information, promoting Japanese companies' environmental technologies overseas, and supporting the formation of individual cases and securing orders through task force operations and consultation desks.

"CITIZENS"

PRACTICING AND IMPLEMENTING INTEGRATED IMPROVEMENTS ON ENVIRONMENT, ECONOMY AND SOCIETY IN LOCAL COMMUNITIES AND LIFESTYLES

Our lifestyles are sustained by the natural blessings (ecosystem services) provided by forests, the countryside, rivers and the sea. To build a sustainable society nationwide, each local community must be sustainable. The Sixth Basic Environment Plan has positioned one of its key strategies as a way to practice and implement Integrated Improvements on Environment, Economy and Society by linking the creation of sustainable regions that utilize local resources to the resolution of local economic and social issues, with a view to focusing on regions, which are the foundation of local communities.

3

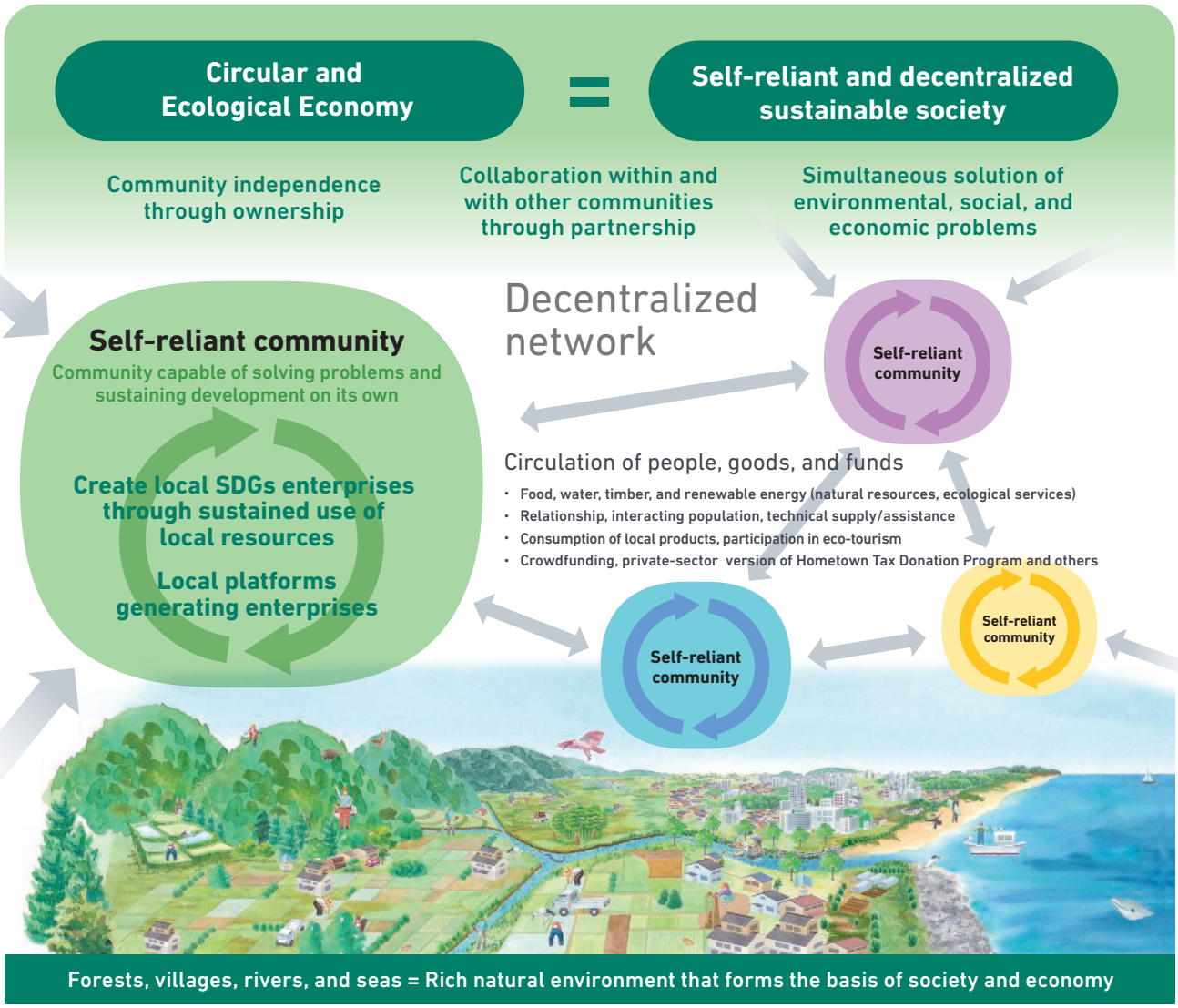
Chapter 3 introduces actions that leverage the environment to connect local communities and the lives of their residents to affluence and well-being.

1 PRACTICE AND IMPLEMENTATION OF THE CIRCULAR AND ECOLOGICAL ECONOMY

Circular and Ecological Economy

The Circular and Ecological Economy is a concept of "self-reliant and decentralized society" where each local community resolves its own issues by continuously creating enterprises (local SDGs enterprises) that utilize local resources sustainably to improve the environment, economy, and society, while making best use of its unique characteristics to network with other communities and help each other. This concept aims to create sustainable local communities by promoting decarbonization, resource circulation, and nature-positive actions while simultaneously resolving local economic and social issues through sustainable utilization of local resources. For example, the natural blessings of renewable energy and biomass from Satoyama landscapes solve social issues such as improving the region's disaster prevention capabilities and strengthening the region's economic cycle improve the local employment and income. As the Circular and Ecological Economy represents an approach to resolve local environmental, social, and economic issues in an integrated manner primarily based on the independence of the local communities and in partnership with others, it may also be called local SDGs.

Concept of Circular and Ecological Economy



Source: Ministry of the Environment

Example case

"Let's Create Never-Ending Clothes." Initiative to eco-friendly activities for a good life, moving forward together with customers (AOYAMA TRADING Co., Ltd.)

In response to mass production and mass disposal, Aoyama Trading has evolved its initiatives to collect unwanted clothing and resource circulation, which began in 1998, and has now installed "WEAR SHiFT" recycling boxes in stores nationwide.The company is promoting eco-friendly activities together with its customers and is also challenging itself with clothing-to-clothing Closed-loop Recycling. Additionally, the company uses a portion of the collected clothing to produce recycled blankets for disaster relief, donating them to municipalities affected by large-scale disasters. It also takes action to the creation of "AOYAMA Forests" through donations to forest conservation activities proportional to the volume of clothing collected.

"WEAR SHiFT" recycling boxes installation in stores

Source: AOYAMA TRADING Co., Ltd.

Improving local well-being through the conservation and utilization of a good environment

In order to build a sustainable society and pass it on to the next generation, it is important to aim for a good environment and to create concrete benefits for the region, such as improving local well-being and attractiveness, and realizing community revitalization through sustainable tourism, by having people interact with that good environment and use it in a sustainable way. To realize this, we are addressing to conserve, restore, and create the region's unique natural and cultural assets, such as its abundant waterfronts, starry skies, and soundscapes, while also promoting their sustainable use. We are also building a model for integrated conservation of the watershed that connects regions working to create a good environment, from the forests and rivers that serve as water sources to the sea, and creating Satoumi, which aims to create a virtuous cycle of promoting the conservation, restoration, and creation of seagrass meadows and tidal flats, and utilizing them as local resources.

Column

Activities to create a good environment

In parallel with regulatory measures, the Ministry of the Environment has been working to foster understanding of the maintenance and restoration of healthy water environments through projects such as the "Selected 100 Exquisite and Well-Conserved Waters," "100 selections of famous clear water of Heisei," and "100 Soundscapes of Japan to Keep," as well as to conserve a "good environment" such as the nature and culture that can be experienced with all five senses, such as abundant waterfronts, starry skies, and soundscapes that are unique to each region. A "good environment" also serves as a key element in regional revitalization, promoting indigenous industries such as buckwheat noodles, wasabi (Japanese horseradish), and Japanese sake making that utilize clean water, as well as tourism.

However, in recent years, there are also scattered instances of regions where a "good environment" is deteriorating, or where the continuation of conservation activities for a good environment is becoming difficult due to factors such as insufficient funding and a shortage of personnel.

In this context, it is expected that not only will the conservation of a "good environment" in the region be achieved, but also that its active regeneration and creation, along with its sustainable utilization, will contribute to resolving regional issues. This is anticipated to enhance people's well-being, increase the region's appeal, and realize community revitalization.

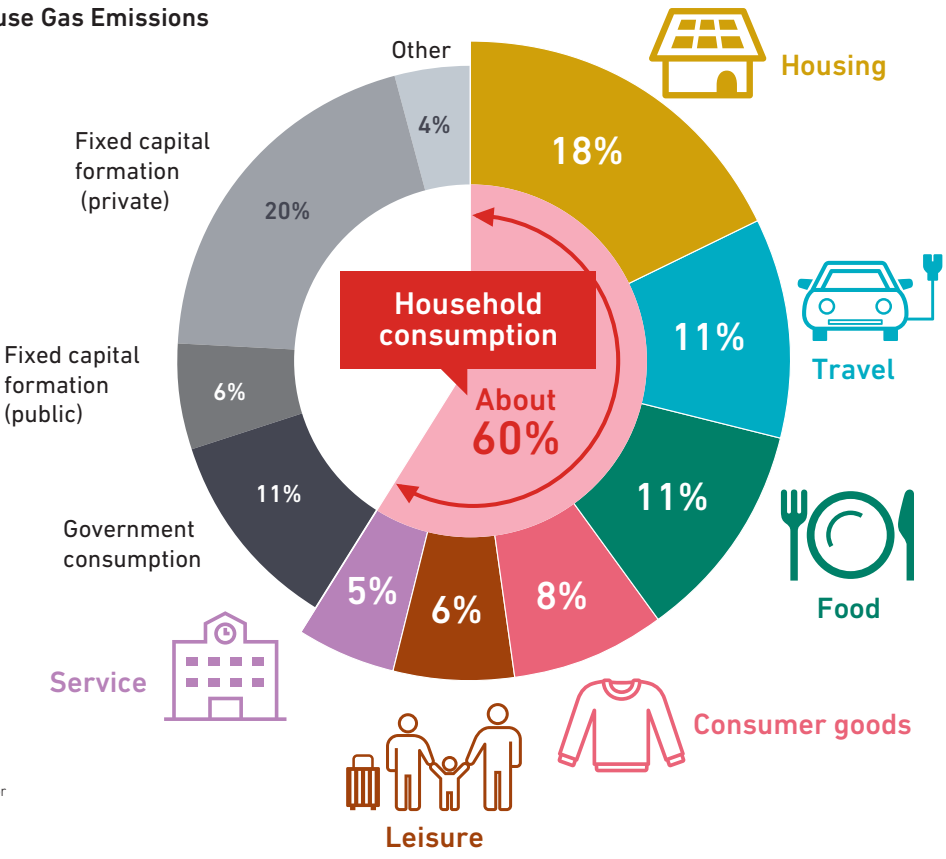
FY 2024 model project for promoting activities to create a good environment (Bandai Town, Fukushima Prefecture)

Source: Bandai Town

2 LIFESTYLE SHIFT

Japan has set a target of achieving net-zero greenhouse gas emissions by 2050, however, reports indicate that approximately 60% of Japan's greenhouse gas emissions, when measured on a consumption basis, originate from households. This underscores the necessity for each and every one of us to take action to reduce greenhouse gas emissions. To achieve this, we need to reduce greenhouse gas emissions and waste from the dimensions of "housing," "transportation," "food," and "fashion," and change our lifestyles to resource circulation through the 3R + Renewable and value natural resources. Furthermore, we must all aim to take action starting with our immediate surroundings as our personal challenge. Simultaneously, we need to realize the transition to a sustainable society by fostering interconnected societal and organizational transformation through the behavioral changes of each individual.

Japan's Life cycle Greenhouse Gas Emissions on a consumption basis

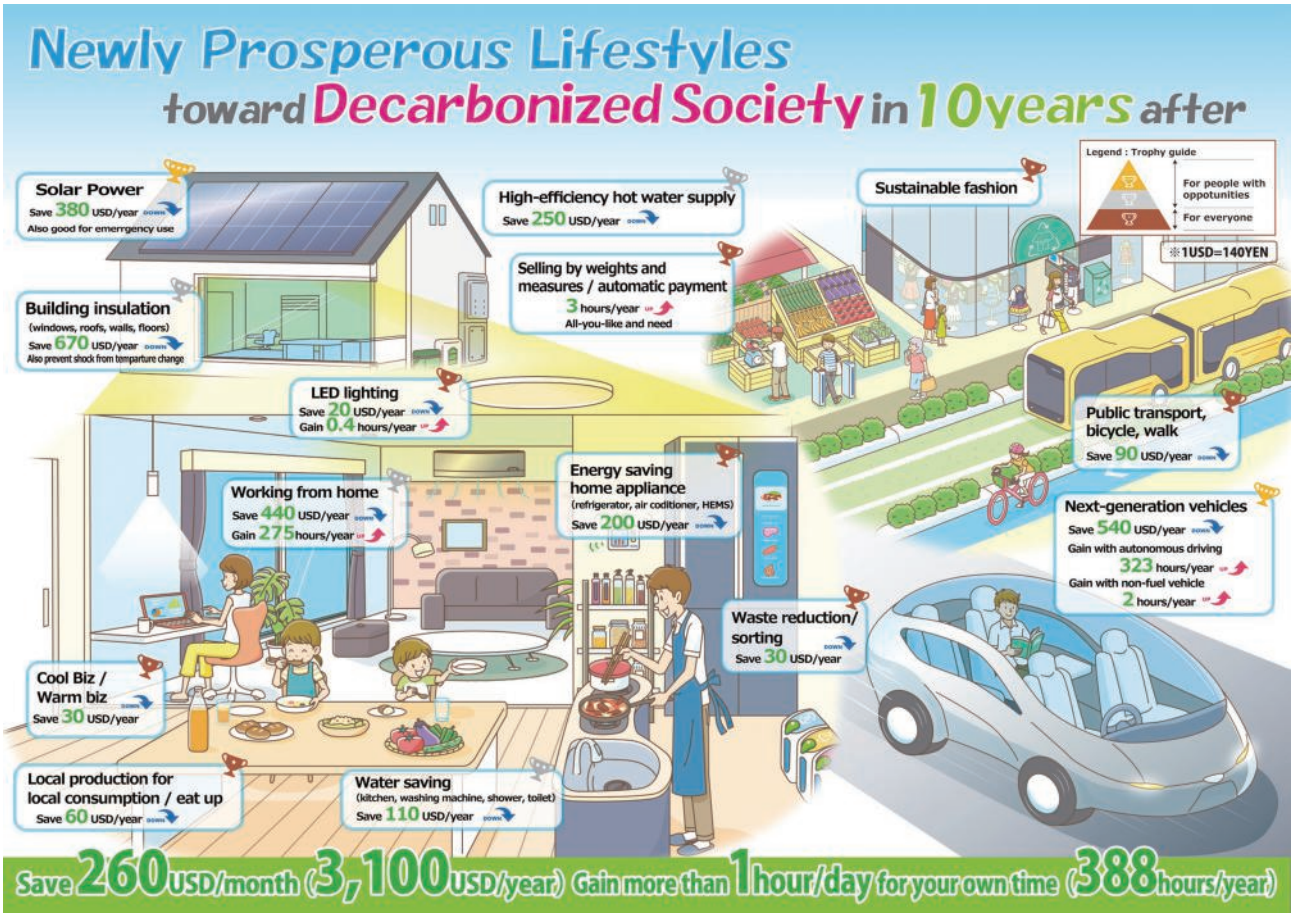


Source: Estimated by National Institute for Environmental Studies and Institute for Global Environmental Strategies (IGES) based on: Keisuke Nansai, "Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID)" (National Institute for Environmental Studies, 2019); Nansai et al. Resources, Conservation & Recycling 152 104525 (2020); and Ministry of Internal Affairs and Communications, "Input-output Table 2015"
Note: Each item represents the calculated total amount of greenhouse gas emissions (carbon footprint) throughout the life cycle (i.e., resource extraction, material processing, product manufacturing, distribution, retail, use, disposal) of each consumption/fixed capital formation product or service in Japan (numbers do not match direct emissions based on domestic production).

"DECOKATSU"
(National movement for Newly Prosperous Lifestyles toward Decarbonized Society)

To achieve net-zero greenhouse gas emissions by 2050, it is necessary to significantly reduce CO_2 emissions also in the field of lifestyle. Therefore, in order to encourage changes in the behavior of Japanese citizens and consumers and a lifestyle shift, the Ministry of the Environment launched a new national movement (National movement for Newly Prosperous Lifestyles toward Decarbonized Society) in October 2022 and decided on the nickname "DECOKATSU" in July 2023.

Under the "DECOKATSU," the Ministry of the Environment has proposed "Newly Prosperous Lifestyles toward Decarbonized Society in 10 years after," an overall vision of the citizen's future lifestyles that encompasses general aspects of life, including how they dress, eat, live, work, move, and purchase and is implementing initiatives to create newly prosperous lifestyles toward decarbonized society for the citizens in cooperation with local governments, companies, associations, and other entities.



Proposed Features of Newly Prosperous Lifestyles

Source: Ministry of the Environment

Additionally, in cooperation with local governments, companies, associations, and other entities participating in the public-private partnership council (DECOKATSU Support Team) established at the same time as the launch of "DECOKATSU," the Ministry of the Environment is promoting lifestyle shifts while encouraging new consumption and behaviors and creating demand for products and services both domestically and internationally, thereby supporting the creation of a prosperous life for the citizens. In 2024, we established a subsidy program for collaborative social implementation projects that provide mechanisms to structurally resolve demand-side bottlenecks for the citizens.

As one of the specific actions of DECOKATSU, we are encouraging the creation of enriching lifestyles for the Japanese citizens by disseminating information registered by local governments, companies, associations and other entities on the website under the following four approaches.

1 — Encouraging diverse and comfortable ways of working and lifestyles taking advantage of digital technology (e.g., telework, relocation to rural regions, and workation)
2 — Proposing and providing products and services that support New and Prosperous Lifestyles toward Decarbonization
3 — Encouraging behavior change through incentives and effective dissemination of information (awareness, nudge. Including dissemination from consumers)
4 — Proposing and supporting lifestyles particular to local communities (suited to the climate, culture and other features of each community)

(The number of information items published on the website as of March 2025: [1] information related to digitalization: 62 items; [2] information related to products/services: 266 items; [3] information related to incentives: 167 items; and [4] information related to local communities: 48 items; total: 543 items (some items are related to two or more categories))

Moreover, as initiatives to enrich and upgrade the citizen's lifestyles, the Ministry of the Environment has decided on a total of 13 actions, including [1] four actions "to take first" related to DE-ECO-Katsu, [2] three actions to "unconsciously reduce CO_2," and [3] six actions to "implement by all of us," and is calling for each and every individual to practice DECOKATSU in everyday life.

3 PROTECTING HUMAN LIFE AND THE ENVIRONMENT

Countermeasures against PFAS and other chemical substances

Among organofluorine compounds, perfluoroalkyl substances and polyfluoroalkyl substances are collectively referred to as "PFAS," with over 10,000 types of substances identified. Among PFAS, PFOS (perfluorooctane sulfonic acid), PFOA (perfluorooctanoic acid), and PFHxS (perfluorohexane sulfonic acid) are subject to elimination under the Stockholm Convention on Persistent Organic Pollutants (POPs Convention). As a result, they have been designated as Class I Specified Chemical Substances under the Act on the Regulation of Manufacture and Evaluation of Chemical Substances (Act No. 117 of 1973), and their manufacture, import, etc. are prohibited in principle. Additionally, regarding Aqueous Film Forming Foam (AFFF) containing PFOS, etc., manufactured or imported in the past, we are advancing efforts toward replacement and disposal in cooperation with relevant ministries, agencies, and organizations. We also conduct surveys every four years on the nationwide inventory of AFFF containing PFOS, etc. According to the survey results for FY2024, compared to the previous survey in FY2020, AFFF containing PFOS decreased by approximately 45%, and the PFOS content within AFFF decreased by approximately 36%.

Regarding PFOS and PFOA in the environment, results from continuous monitoring conducted since 2009 as part of the Environmental Survey and Monitoring of Chemicals indicate statistically significant decreasing trends in water quality (public water bodies such as rivers), sediment, and the atmosphere. Rivers, groundwater, etc. were designated as items requiring monitoring in 2020, and local governments are working to expand the number of measurement points by conducting monitoring according to local conditions.
At measurement points exceeding the guideline

values (provisional) set in 2020, local governments have implemented measures to prevent drinking water intake based on the "Guidance on How to Respond to PFOS and PFOA." In November 2024, this guidance was revised to incorporate new content, such as conducting surveys considering the presence of water sources for public water supply and drinking wells. In addition, the Ministry of the Environment will also begin demonstrating countermeasure technologies that effectively and efficiently reduce the concentrations of PFOS and PFOA in the environment.

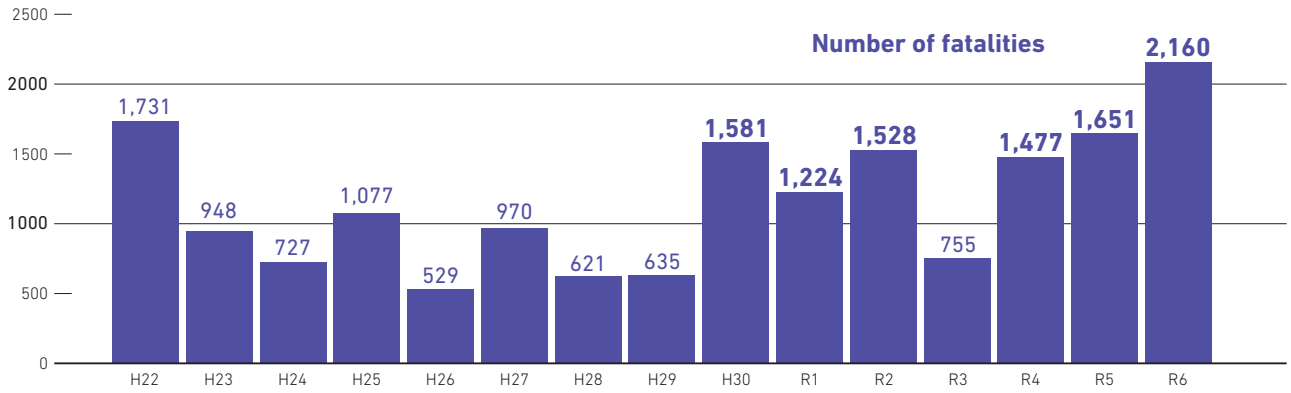
Furthermore, since reducing health risks to the public is paramount, preventing intake through drinking water is the top priority. Based on documents such as the "Risk Assessment Report Per- and Poly-fluoroalkyl Substances (PFAS) (Chemicals and Contaminants)" compiled by the Food Safety Commission of Japan of the Cabinet Office in June 2024, the Ministry of the Environment is advancing discussions on the handling of water quality target values and related matters. In addition, from May to September 2024, the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of the Environment jointly conducted "Nationwide survey on PFOS and PFOA in water supply," to grasp the detection status in water supply systems across the country, and published the compiled results in November and December. Utilizing this survey result, the Ministry of the Environment will proceed with measures, including raising Water Quality Standards based on the Water Supply Act (Act No. 177 of 1957). Additionally, the Ministry of Land, Infrastructure, Transport and Tourism compiled and published in November the primary measures implemented by water suppliers and other entities when tap water exceeded provisional target values.

Countermeasures against heat illness

Recent years have seen a succession of "hot summers." The summer of 2024 featured many days with high temperatures nationwide. Specifically, the average temperatures from June to August were the highest on record for Western Japan and Okinawa/Amami, and tied for the highest on record for Eastern Japan, matching the summer of 2023. Amidst these conditions, the number of fatalities due to heat illness and emergency transports has also increased.

Furthermore, in the future, the risk of extreme heat events is expected to increase due to the impacts of climate change, making countermeasures against heat illness an urgent issue in Japan.

Annual trends in fatalities due to heat illness



Source: Ministry of Health, Labour and Welfare Vital Statistics (https://www.mhlw.go.jp/toukei/list/81-1.html) Published on September 16, 2025

The Ministry of the Environment implements the Special Heat Stroke Alert and Heat Stroke Alert systems, provides heat index information, supports the expansion of designated heatwave evacuation facilities (Cooling Shelters) designated by municipalities, and conducts various outreach and awareness campaigns on heat illness prevention.

RECONSTRUCTION AND REVITALIZATION FROM THE GREAT EAST JAPAN EARTHQUAKE

The earthquake that occurred on March 11, 2011, had a magnitude of 9.0, making it the largest earthquake ever recorded in Japan's history of observations.

The tsunami triggered by this earthquake caused extensive and severe damage, primarily along the Pacific coast of the Tohoku region. Additionally, the accident at the Tokyo Electric Power Company (TEPCO) Fukushima Daiichi Nuclear Power Station resulted in the release of a large volume of radioactive materials into the environment. Moreover, many people living near the TEPCO Fukushima Daiichi Nuclear Power Station were forced to evacuate.

The Ministry of the Environment has been engaged in the efforts aimed at the reconstruction and revitalization of the affected areas, including the decontamination and the construction of Interim Storage Facility, the disposal of specified waste, and decontamination and the demolition of houses in the Specified Reconstruction and Revitalization Bases (SRRBs) and in the Specified Living Areas for Returnees in the Restricted Areas.

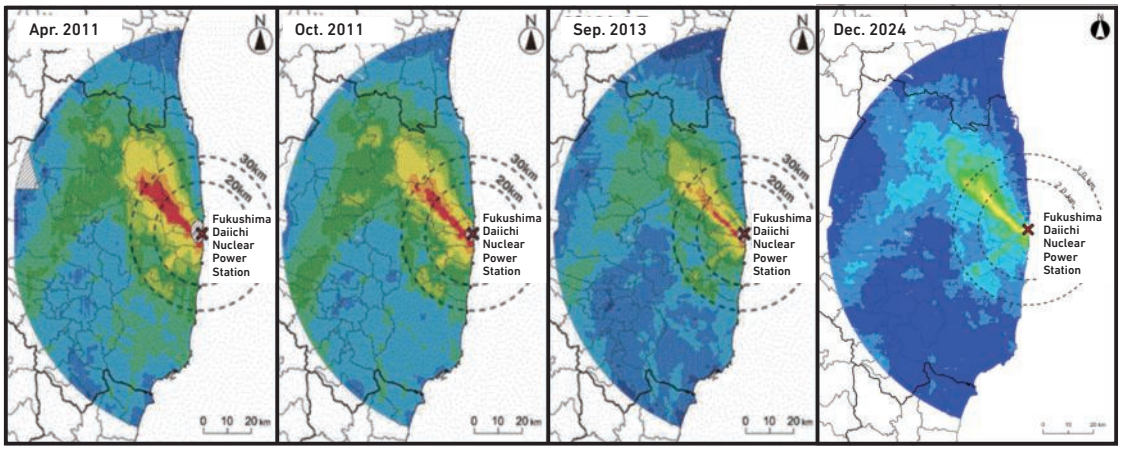
4

1 STATUS OF ENVIRONMENTAL RESTORATION FROM RADIOACTIVE CONTAMINATION

Regarding the status of environmental restoration from radioactive contamination, the airborne monitoring data collected at the height of 1 meter above ground level within the 80-km zone around the TEPCO Fukushima Daiichi Nuclear Power Station as of December 2024 continues to show a decreasing trend in the air dose rate.

Furthermore, according to monitoring conducted in Fukushima Prefecture and surrounding areas by the Ministry of the Environment, radioactive cesium has not been detected in rivers, coastal waters, or groundwater in recent years. Regarding water quality in lakes and marshes in the same region, radioactive cesium was detected at only 2 out of 164 monitoring points in FY2023.

Distribution of air dose rates within 80 km radius of TEPCO Fukushima Daiichi Nuclear Power Station



Note: The April 2011 chart was mapped using a different method than is used now.
Source: Secretariat of the Nuclear Regulation Authority

2 EFFORTS AIMED AT THE ENVIRONMENTAL REGENERATION OF THE AFFECTED AREAS

By the end of March 2018, the whole area decontamination of 100 cities, towns, and villages in eight prefectures was completed, excluding the Restricted Areas. In addition, decontamination and the demolition of houses and other structures in the SRRBs have been progressing since December 2017. In the SRRBs, decontamination was almost completed, while the progress rate for demolition in relation to the number of applications received was approximately 89% by the end of December 2024.

As a result of these efforts, by November 2023, evacuation orders for the entire SRRBs in six towns and villages (Katsurao Village, Okuma Town, Futaba Town, Namie Town, Tomioka Town, and Iitate Village) were lifted. Furthermore, for areas outside the SRRBs, the Nuclear Emergency Response Headquarters and the Reconstruction Promotion Council decided in August 2021 on the "Consideration on the Lifting of Evacuation Orders to Facilitate Return to and Residence in Areas Outside Specified Reconstruction and Revitalization Bases," which states that over the course of the 2020s, efforts will be made to decontaminate areas necessary for return so that residents who wish to return can do so, and to lift evacuation orders. To implement this government policy, the "Act on Special Measures for the Reconstruction and Revitalization of Fukushima" was amended in June 2023 to establish a system

allowing mayors of municipalities within the Specified Areas under Evacuation Orders to designate the "Specified Living Areas for Returnees," which aim to facilitate the return of residents following the lifting of evacuation orders and to rebuild the lives of those residents after their return. The Ministry of the Environment has been advancing decontamination and the demolition of houses and other structures in the Specified Living Areas for Returnees since December 2023.

3 EFFORTS TOWARD THE FINAL DISPOSAL OF REMOVED SOIL AND WASTE GENERATED WITHIN FUKUSHIMA PREFECTURE

Regarding the final disposal of the removed soil and waste arising from decontamination activities within Fukushima Prefecture, it is stipulated that necessary measures shall be taken to complete the final disposal outside Fukushima Prefecture within 30 years from the start of transfer to the Interim Storage Facility. Reducing the volume of final disposal is key to realizing the final disposal outside Fukushima Prefecture, and efforts such as the managed recycling of removed soil* are important.

In March 2025, based on the results of efforts such as demonstration projects for managed recycling such as environmental restoration project in Nagadoro and road embankment, the final report of the International Atomic Energy Agency (IAEA) expert meeting, and advice from domestic experts, the Ministry of the Environment formulated standards and guidelines for the managed recycling and landfill disposal of removed soil, and also outlined Approaches beyond FY2025 toward final disposal outside the Fukushima Prefecture, including multiple options for the structure and required area of the final disposal site.

To realize the final disposal outside Fukushima Prefecture for removed soil and waste and to promote the managed recycling of removed soil, various activities are being carried out to foster public understanding and trust regarding the necessity and safety of this project, including the use of social media, hosting site tours for the general public to the Nagadoro District of Iitate Village and Interim Storage Facility, and providing lectures on the environmental restoration project for university students and other participants, as well as site tours.

In December 2024, the Council for Promotion of Managed Recycling, etc. for Realization of Final Disposal of Removed Soil and Waste outside Fukushima Prefecture was established to advance measures such as strategies for reducing the volume of final disposal through the managed recycling of removed soil and countermeasures against reputational damage, with the entire government working together. In May 2025, Basic Policy was formulated at this Council. Under this Council, all ministries and agencies will work together to advance efforts aimed at creating managed recycling cases.

*The managed recycling of removed soil: The use (including operation and maintenance) of removed soil processed into recycled materials (which means the treatment of removed soil to enable its use as materials for embankment, landfill or filling by means of the necessary treatment according to the use of the soil) for the purpose of contributing to the revitalization from the disaster caused by the accident at the TEPCO Fukushima Daiichi Nuclear Power Station, under appropriate management.

4 MONITORING OF SEA AREAS RELATED TO ALPS TREATED WATER

In August 2023, the discharge of water treated by Advanced Liquid Processing System (hereinafter referred to as "ALPS treated water") into the ocean started. When discharging the ALPS treated water into the ocean, it must be confirmed that all radioactive materials other than tritium have been sufficiently purified to levels below safety standards. Tritium, which is difficult to remove, must be significantly diluted with seawater to a concentration that fully meets safety standards (below 1,500 becquerels per liter) before disposal.

In order to grasp the situation in the environment, the Ministry of the Environment measures the concentration levels of tritium and other radionuclides contained in seawater, fish, and seaweed based on the Comprehensive Radiation Monitoring Plan (decided by the Monitoring Coordination Meeting in August 2011 and revised in March 2025) Since the start of the discharge in particular, we have strengthened and expanded monitoring and conducted an analysis intended to obtain results over a short period of time (rapid analysis), approximately one week or so, at a high frequency, in addition to an existing analysis intended to obtain precise results over an extended period of time (precise analysis). The results of these analyses have confirmed that there is no impact on the human body or the environment.

When examining these monitoring methods and evaluating their results, scientific validity is confirmed by reviews and advice from experts at the "The Experts Meeting on sea-area monitoring rgarding ALPS treated water."

We will continue to rigorously implement the monitoring of sea areas with a high level of objectivity, transparency, and credibility, as well as disseminating information on the results domestically and internationally in an easy-to-understand manner.

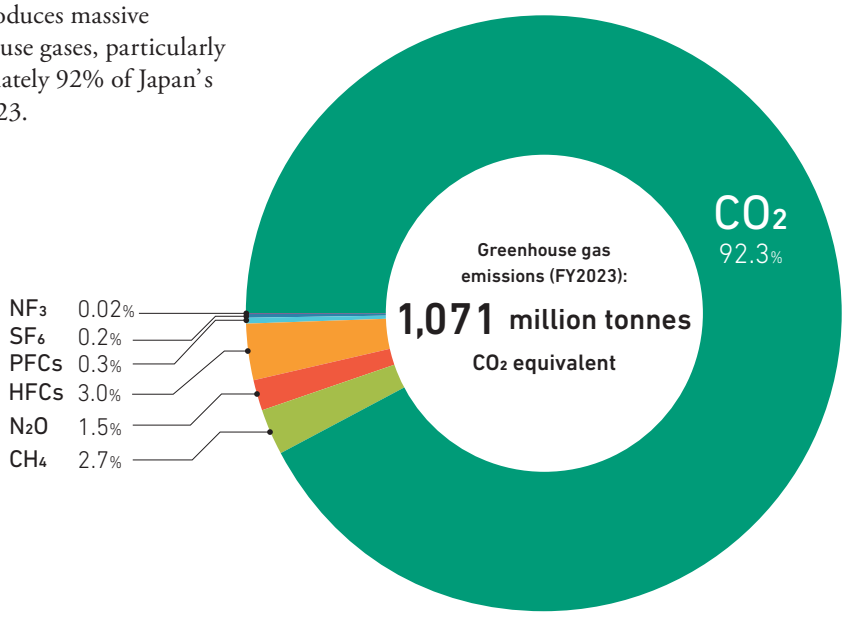
A scene from monitoring of sea areas

Source: Ministry of the Environment

ADDITIONAL MATERIALS FROM THE ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

Breakdown of Japan's Greenhouse Gas Emissions (FY2023)

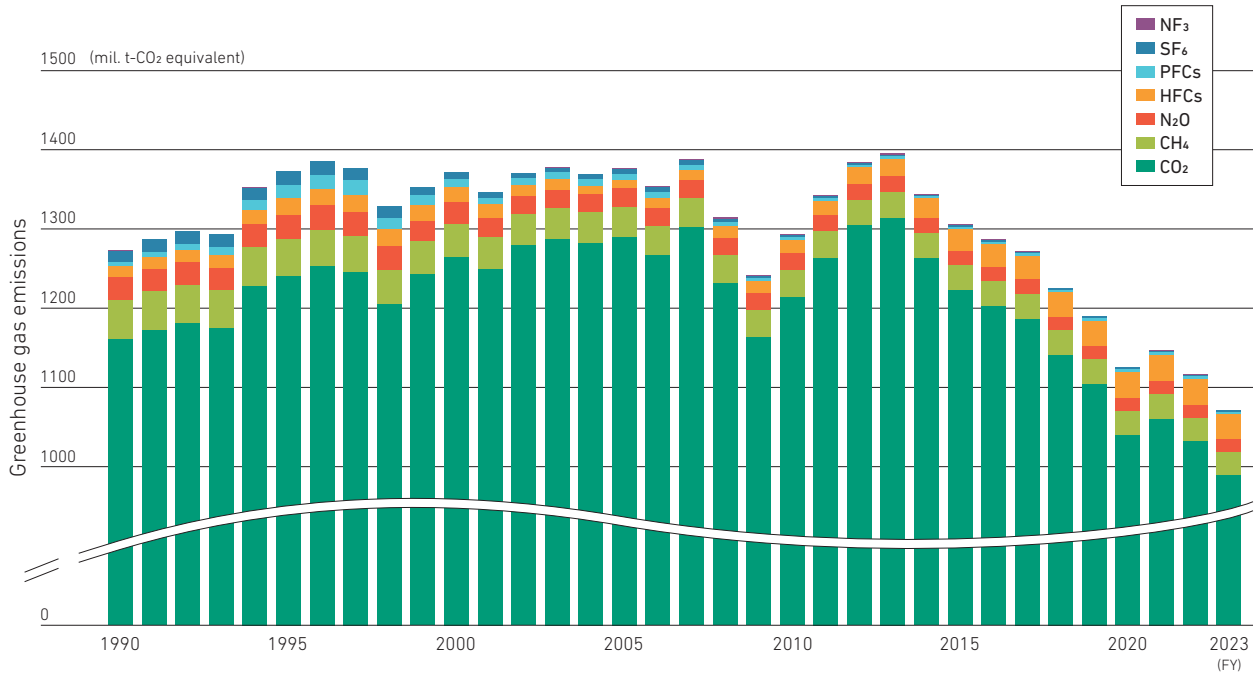
Globally, fossil fuel combustion produces massive amounts of anthropogenic greenhouse gases, particularly CO_2, which accounts for approximately 92% of Japan's greenhouse gas emissions in FY 2023.



Source: Ministry of the Environment

Japan's Greenhouse Gas Emissions

In Japan, the greenhouse gas emissions in FY 2023 were equivalent to 1,071 million tonnes of CO_2.
The decarbonization of power sources (the combined share of renewable energy and nuclear power in the power source mix exceeds 30%) and a reduction in energy consumption due to decreased domestic production activity in the manufacturing sector, contributed to a 4.0% decrease compared to FY2022.



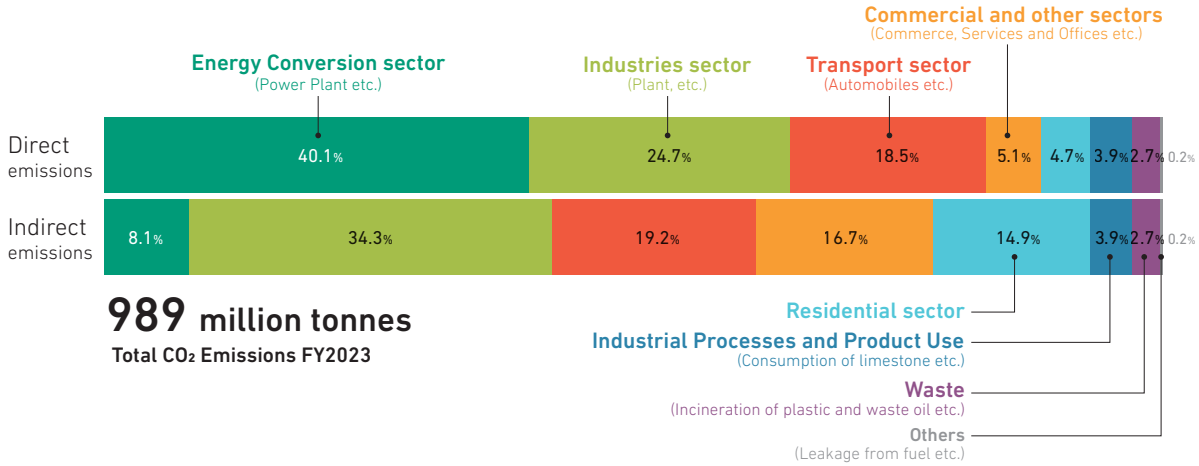
Source: Ministry of the Environment

Japan's GHG Emissions

Additional materials provide more details about the Japan's GHG Emissions

Breakdown of CO_2 Emissions by Sector

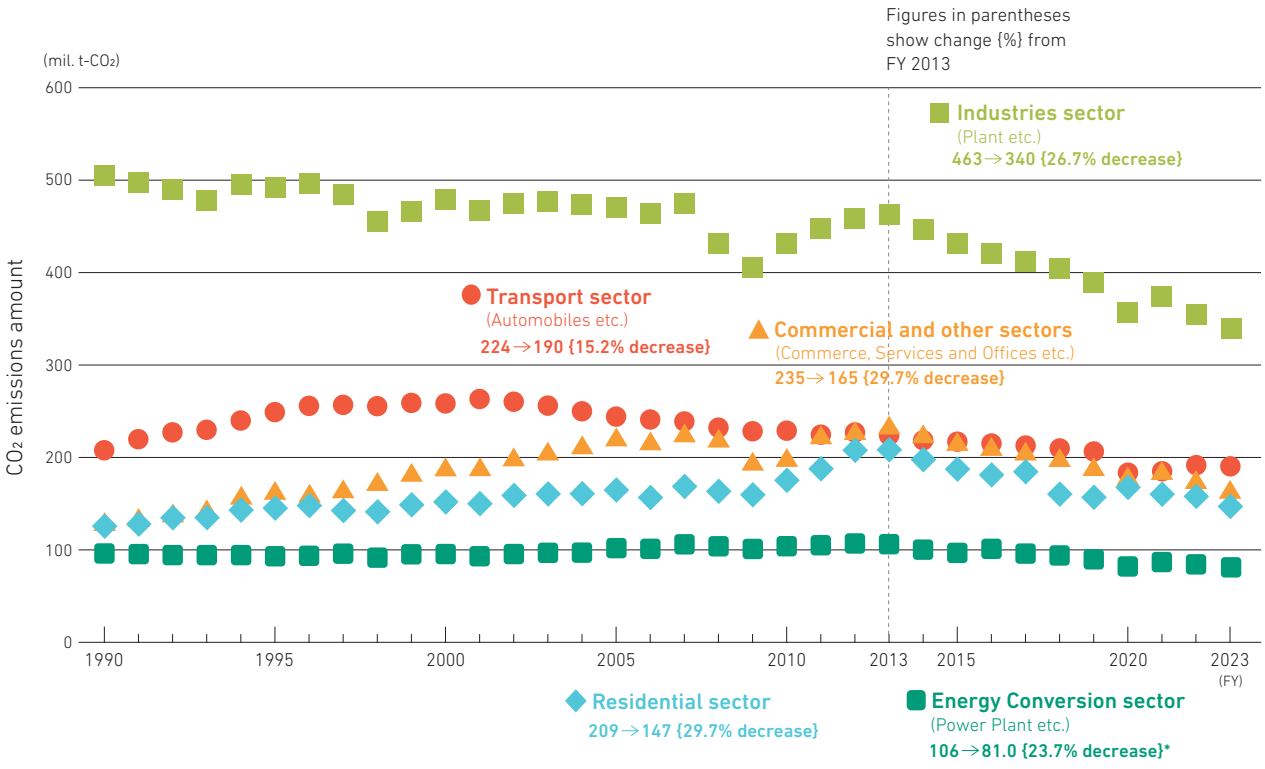
The sector with the largest CO_2 emissions in indirect emissions in FY 2023 was industries sector, accounting for approximately 34.3% of Japan's total.



Source: Ministry of the Environment

Energy-related CO_2 Emissions by Sector (Indirect Emissions)

Plotting energy-related CO_2 emissions by sector reveals that emissions in every sector decreased from FY 2013.



* Excluding statistical discrepancy from power and heat allocation.

Source: Ministry of the Environment

ADDITIONAL MATERIALS FROM THE ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

Threatened Species in Japan

With an increasing number of species being put on the Red List, which publicizes threatened species, it is clear that the circumstances of wild fauna, flora and marine species in Japan continue to be severe.

(Reported in March 2025)

	Taxon	Species Targeted for Evaluation	Extinct	Extinct in the Wild	Threatened Species			Near Threatened	Data Deficient	Total of listed species	Endangered Local Population
					Endangered Class I		Endangered Class II				
					Class IA	Class IB					
			EX	EW	CR	EN	VU	NT	DD		LP
Fauna	Mammals	160 (160)	7 (7)	0 (0)	**34(33)**			17 (18)	5 (5)	63 (63)	26 (23)
					25(24)		9(9)				
					12(12)	13(12)					
	Birds	Approx. 700 (Approx. 700)	15 (15)	0 (0)	**98(98)**			22 (21)	17 (17)	152 (151)	2 (2)
					55(55)		43(43)				
					24(24)	31(31)					
	Reptiles	100 (100)	0 (0)	0 (0)	**37(37)**			17 (17)	3 (4)	57 (58)	5 (5)
					14(14)		23(23)				
					5(5)	9(9)					
	Amphibians	91 (76)	0 (0)	0 (0)	**47(29)**			19 (22)	1 (1)	67 (52)	0 (0)
					25(17)		22(12)				
					5(4)	20(13)					
	Brackish water and freshwater fish	Approx. 400 (Approx. 400)	3 (3)	1 (1)	**169(169)**			35 (35)	37 (37)	245 (245)	15 (15)
					125(125)		44(44)				
					71(71)	54(54)					
	Insects	Approx. 32,000 (Approx. 32,000)	4 (4)	0 (0)	**367(363)**			351 (350)	153 (153)	875 (870)	2 (2)
					182(177)		185(186)				
					75(71)	107(106)					
	Shellfish	Approx. 3,200 (Approx. 3,200)	19 (19)	0 (0)	**629(616)**			440 (445)	89 (89)	1177 (1169)	13 (13)
					301(288)		327(328)				
					39(33)	28(16)					
	Other invertebrates	Approx. 5,300 (Approx. 5,300)	1 (0)	0 (0)	**65(65)**			42 (42)	44 (44)	152 (151)	0 (0)
					22(22)		43(43)				
					0(0)	2(2)					
	Subtotal of Fauna		49 (48)	1 (1)	**1446(1410)**			943 (950)	348 (350)	2787 (2759)	63 (60)
					749(722)		697(688)				
Flora	Vascular plants	Approx. 7,000 (Approx. 7,000)	26 (28)	10 (11)	**1765(1790)**			377 (297)	44 (37)	2222 (2163)	0 (0)
					1065(1049)		700(741)				
					539(529)	526(520)					
	Bryophytes	Approx. 1,800 (Approx. 1,800)	4 (0)	0 (0)	**169(240)**			41 (21)	75 (21)	289 (282)	0 (0)
					98(137)		71(103)				
	Algae	Approx. 3,000 (Approx. 3,000)	4 (4)	1 (1)	**79(116)**			26 (41)	68 (40)	178 (202)	0 (0)
					62(95)		17(21)				
	Lichens	Approx. 1,600 (Approx. 1,600)	3 (4)	0 (0)	**37(63)**			14 (41)	99 (46)	153 (154)	0 (0)
					34(43)		20(20)				
	Fungi	Approx. 3,000 (Approx. 3,000)	20 (25)	0 (1)	**13(61)**			8 (21)	69 (51)	110 (159)	0 (0)
					10(37)		3(24)				
	Subtotal of Flora		57 (61)	11 (13)	**2063(2270)**			466 (421)	355 (195)	2952 (2960)	0 (0)
					1269(1361)		794(909)				
Marine Species	Fishes	Approx. 3,900	0	0	**16**			89	112	217	2
					8	6	2				
	Hermatypic corals	Approx. 690	1	0	**6**			7	1	15	0
					0	1	5				
	Crustaceans	Approx. 3,000	0	0	**30**			43	98	171	2
					8	11	11				
	Cephalopoda	Approx. 230	0	0	**0**			3	0	3	0
					0	0	0				
	Other invertebrates	Approx. 2,300	0	0	**4**			20	13	37	1
					1	2	1				
	Subtotal of Marine Species		1	0	**56**			162	224	443	5
					17	20	19				

Biodiversity

Additional materials provide more details about biodiversity in Japan.

Taxon	Species Targeted for Evaluation	Extinct	Extinct in the Wild	Threatened Species		Near Threatened	Data Deficient	Total of listed species	Endangered Local Population
				Endangered Class I	Endangered Class II				
Total of thirteen taxonomic groups		107	12	3565		1571	927	6182	68
				2055	1510				

* The number of species excluding those that cannot be evaluated by the naked eye.
- The numbers in parentheses for animals indicate the respective numbers of species (including subspecies) listed in the Red List 2019.
- The numbers in parentheses for plants and fungi indicate the respective numbers of species (including subspecies and varieties, and in algae, also form) listed in the Red List 2020.
- The numbers in the LP column indicate the respective numbers of target groups. For vascular plants, LP is not treated as an evaluation target.
- This table presents number of species listed in the most recent Red Lists by taxonomic group, based on a combination of the Marine Species Red List (published on March 21, 2017), the Red List 2020 (published on March 27, 2020), and the Fifth Red List (published on March 18, 2025).

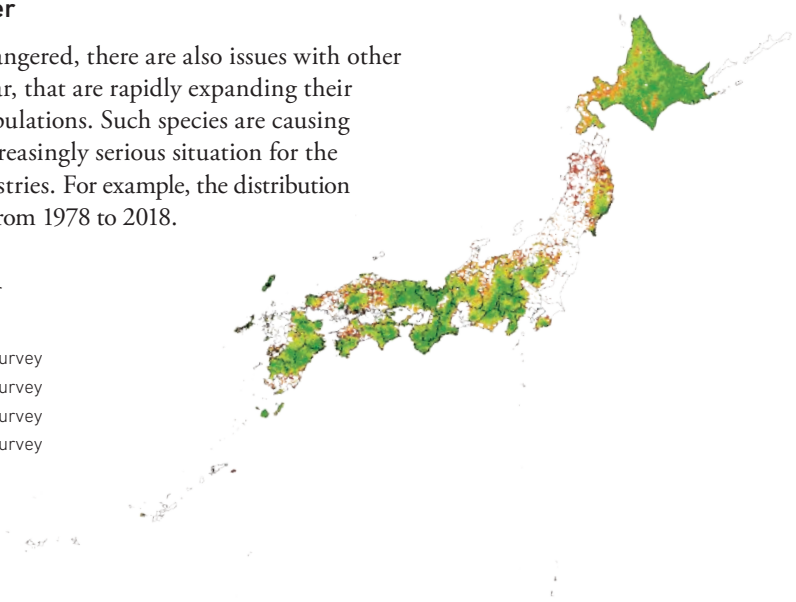
The categories are considered as follows:

Extinct [EX]: Species that are likely to already be extinct / Extinct in the Wild [EW]: Species that exist only in captivity or as a naturalized population outside its natural habitat / Endangered Class I (Critically Endangered + Endangered) [CR+EN]: Species that are threatened to extinction / Endangered Class I A (Critically Endangered) [CR]: Species that are facing an extremely high risk of extinction in the wild in the near future / Endangered Class I B (Endangered) [EN]: Species that are facing a high risk of extinction in the wild in the near future / Endangered Class II (Vulnerable) [VU]: Species with and increasing risk of extinction / Near Threatened [NT]: Species that are not currently endangered, but may possibly qualify for "endangered" status with changes in their habitat conditions / Data Deficient [DD]: Species with data insufficient for adequate evaluation / Endangered Local Population [LP]: Species with a population isolated regionally, and face a high risk of extinction

Source: Red List by the Ministry of the Environment

Expanding Distribution of Sika Deer

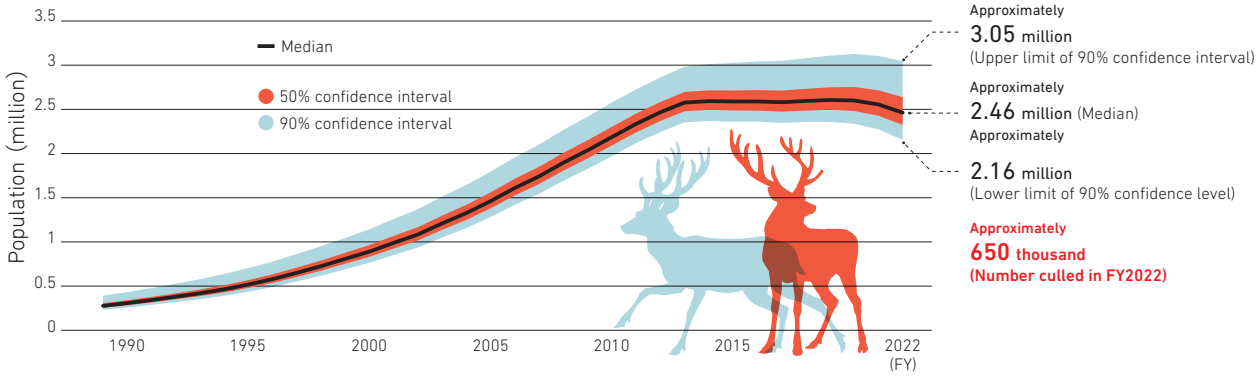
While certain flora and fauna are endangered, there are also issues with other species, such as Sika deer and wild boar, that are rapidly expanding their range of habitat and growing their populations. Such species are causing increasing damage, resulting in an increasingly serious situation for the agricultural, forestry, and fishery industries. For example, the distribution of Sika deer expanded approx. 2.7 fold from 1978 to 2018.



Source: Ministry of the Environment

Estimated Number of Sika Deer in Japan (excluding Hokkaido prefecture*)

Various efforts have increased the number of Sika deer captured, but the estimated population remains high.



*: In FY 2022, estimated number in Hokkaido was approx. 670,000, and number culled was approx. 107,000 (Hokkaido data).

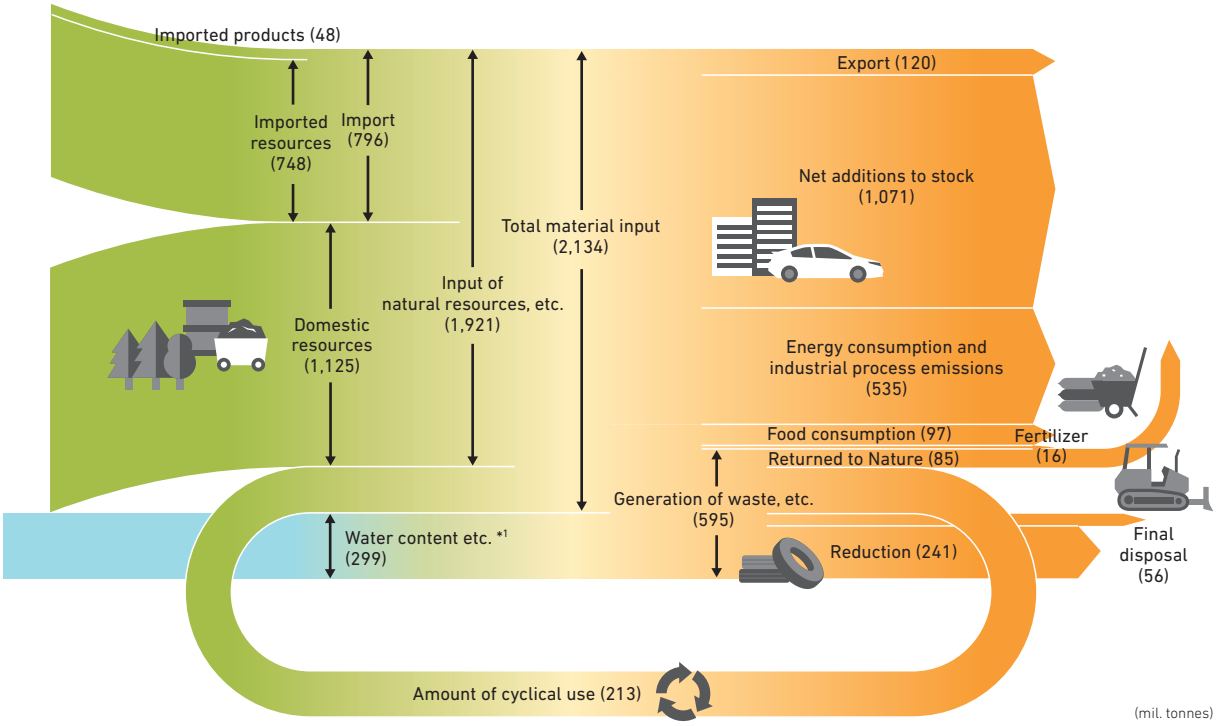
Source: Ministry of the Environment

ADDITIONAL MATERIALS FROM THE ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

Material Flow in Japan

In order to establish a sound material-cycle society, it is necessary to comprehend material flows (or substance flows) to understand the extent of material extraction, consumption, and disposal in Japan. Japan uses material flows to determine targets for the six indicators of resource productivity, material footprint per capita, input rate of renewable and cyclical resources, cyclical use rate(resource base), cyclical use rate(waste base), and final disposal amount.

FY2000 (for reference)

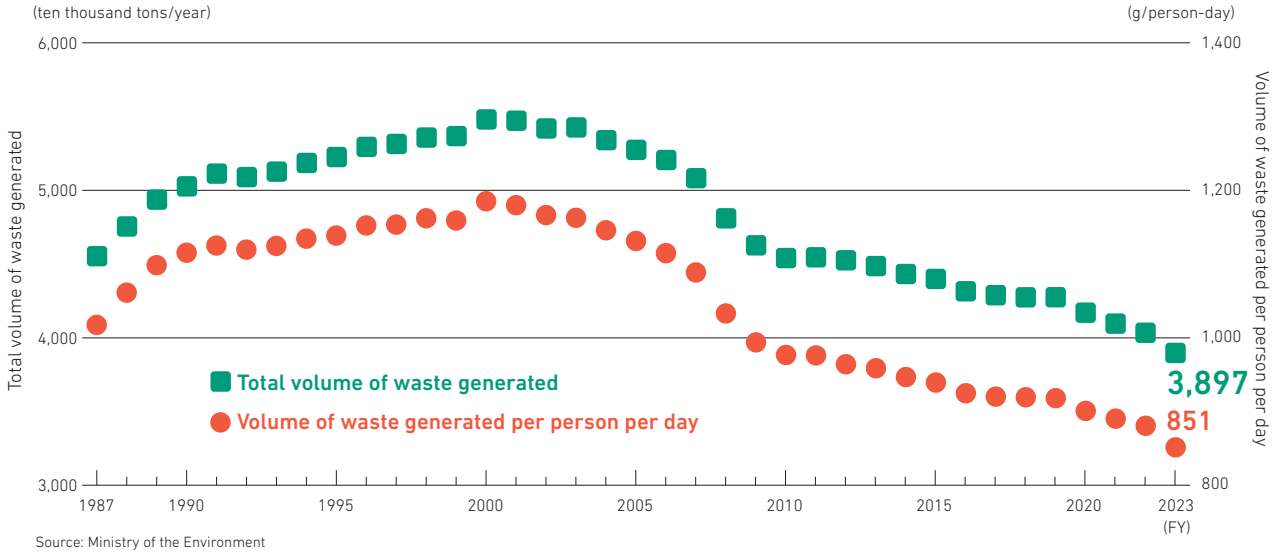


(mil. tonnes)

Source: Ministry of the Environment

Total Volume of Waste Generation and Waste Volume Per Person Per Day

Total generated waste and waste generated per person per day are declining year by year.



Source: Ministry of the Environment

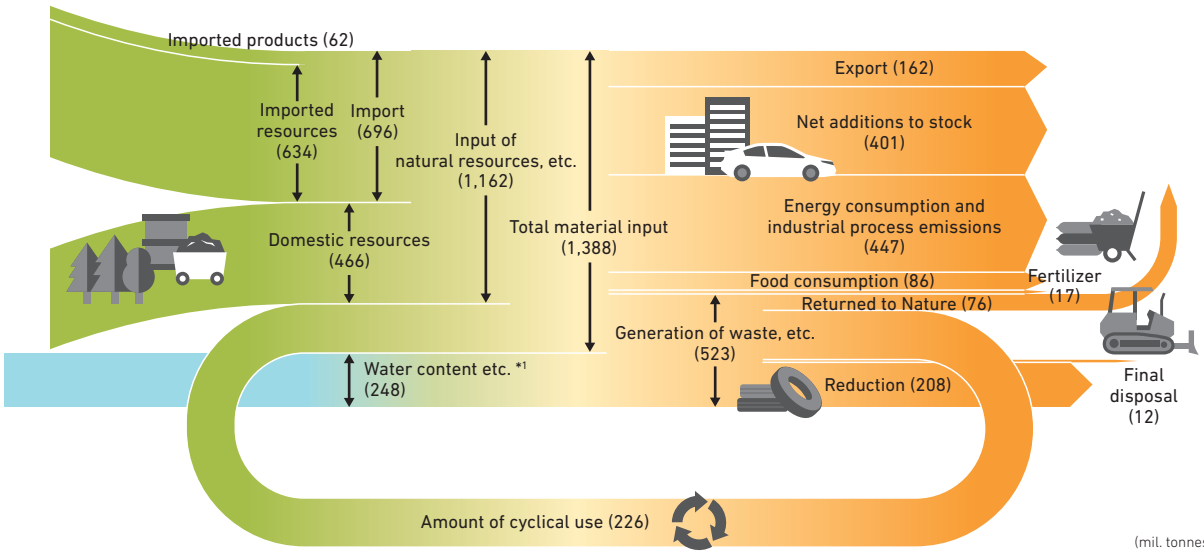
Sound material-cycle society

Additional materials provide more information about current efforts to form a sound material-cycle society.

*1 Water content: water contents of wastes (sludge, livestock waste, night soil, waste acid, waste alkali) and sediments dumped in association with the process of economic activities (sludge in mining, construction and in waterworks as well as slag)

Source: Ministry of the Environment

FY2022

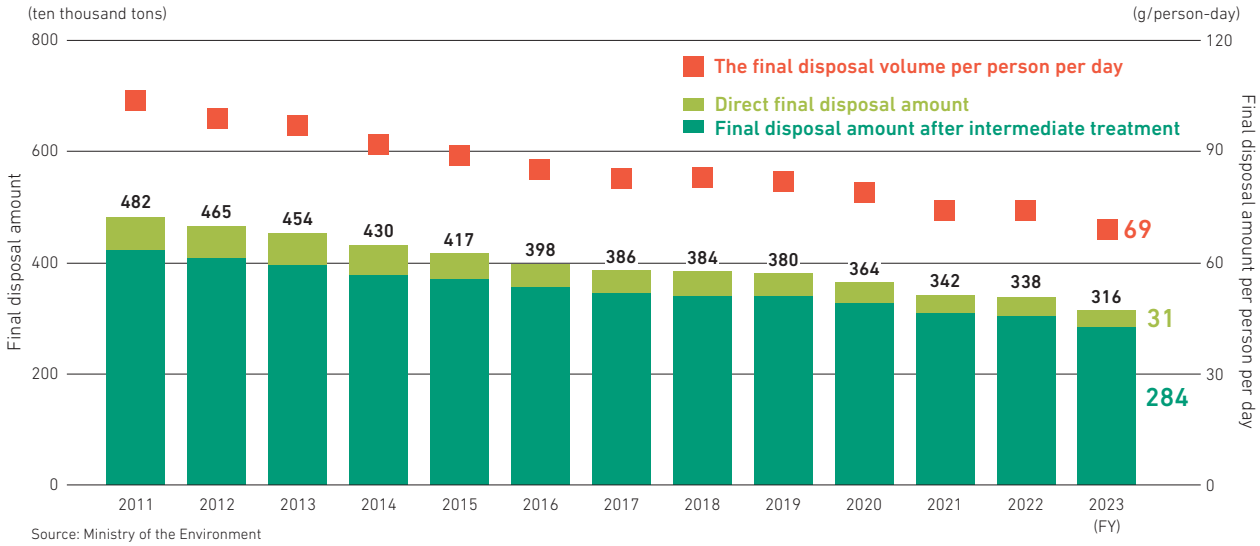


(mil. tonnes)

Source: Ministry of the Environment

Final Disposal Amount and Final Disposal Amount Per Person

Final disposal amount of waste and final disposal amount per person per day are trending downwards.



Source: Ministry of the Environment

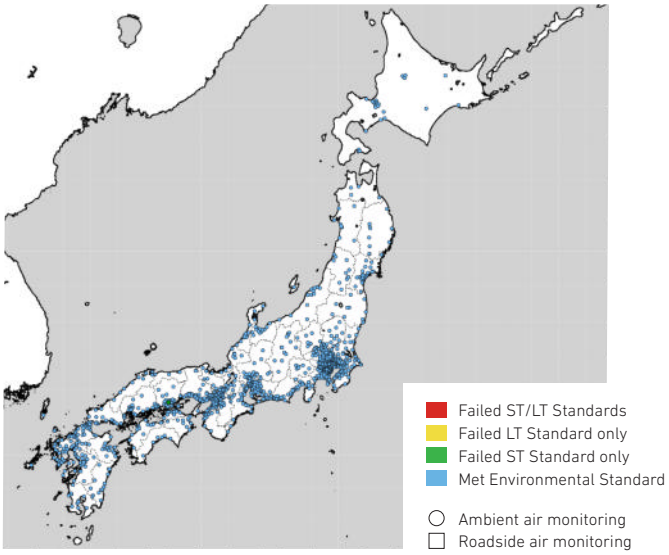
ADDITIONAL MATERIALS FROM THE ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

Fine particulate matter (PM2.5)

In FY2023, the rate of compliance with ambient air quality standards for fine particulate matter (PM 2.5) was 100% for ambient air pollution monitoring stations and 100% for roadside air pollution monitoring stations throughout Japan. The annual average was 8.5 μg/m³ for ambient air pollution monitoring stations and 9.1 μg/m³ for roadside air pollution monitoring stations.

Fiscal year		2018	2019	2020	2021	2022	2023
No. of vaild stations							
	Ambient	818	835	844	858	855	867
	Roadside	232	238	237	240	236	233
No. of vaild stations compliant with ambient air quality standards							
	Ambient	765	824	830	858	854	867
		93.5%	98.7%	98.3%	100%	99.9%	100%
	Roadside	216	234	233	240	236	233
		93.1%	98.3%	98.3%	100%	100%	100%

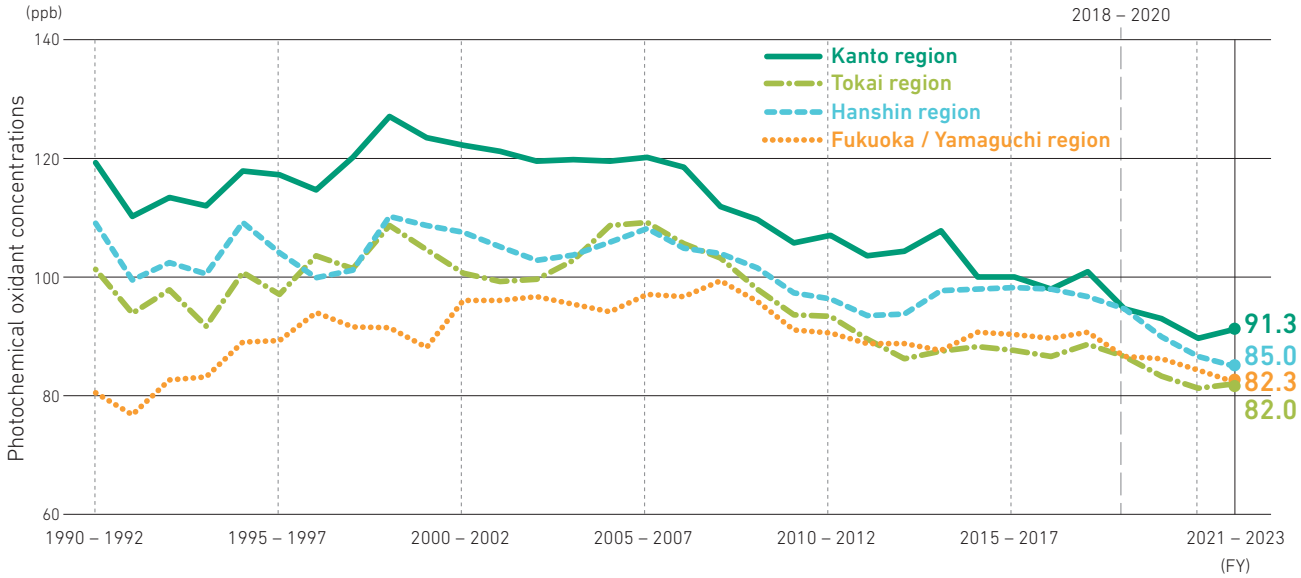
Source: Ministry of the Environment



Source: Ministry of the Environment

Photochemical oxidants

Photochemical oxidant concentrations (highest in the region for the 3-year average of the 99th percentile of the highest 8-hour day values) had been trending to decline compared FY 2018 to FY 2020.



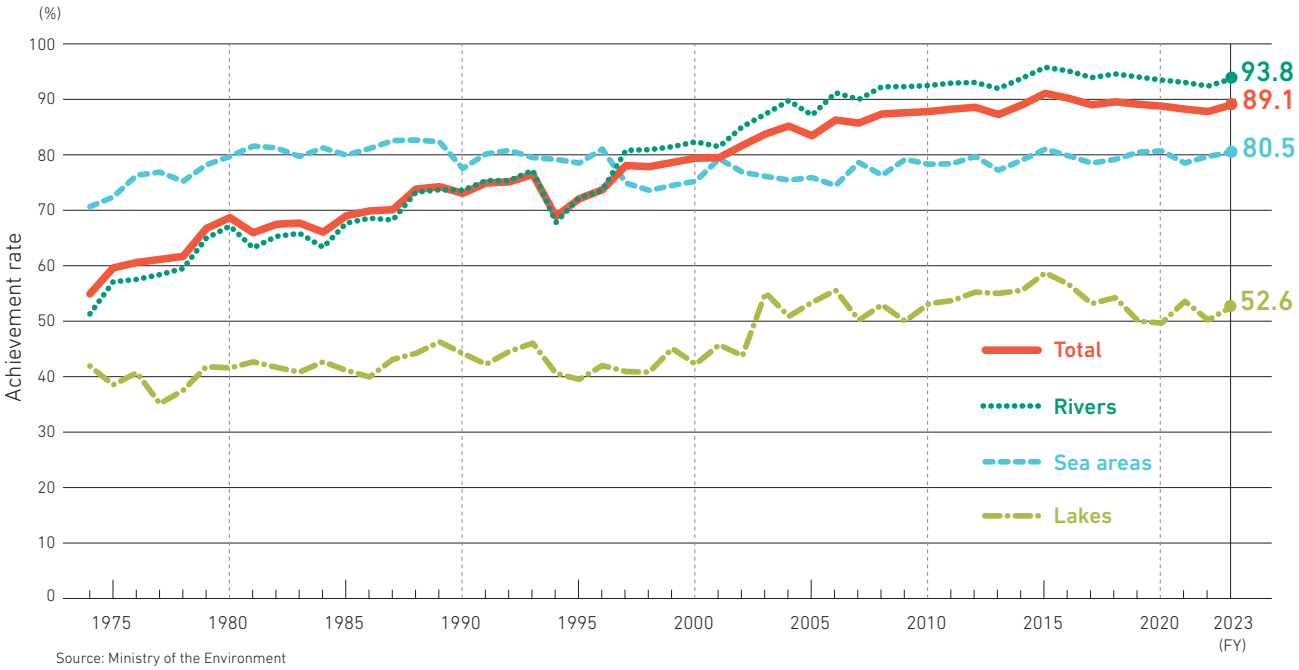
Source: Ministry of the Environment

Atmospheric and water environments

Additional materials provide more details about biodiversity in Japan.

Achievement of Environmental Standards (BOD or COD)

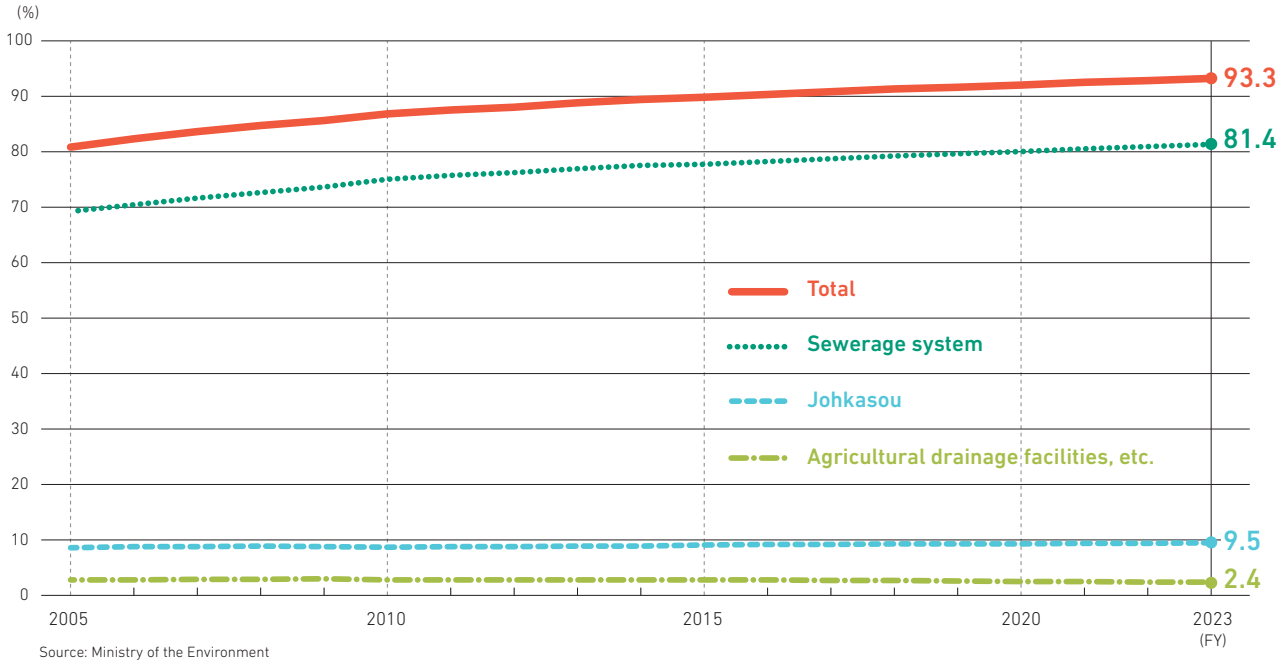
An overall level of 89.1% has been achieved for the biochemical oxygen demand (BOD) and chemical oxygen demand (COD) environmental standards relating to the maintenance of living environments. BOD and COD are leading indicators of water quality in respect of organic pollution.



Source: Ministry of the Environment

Coverage of Population Served by Wastewater Treatment System

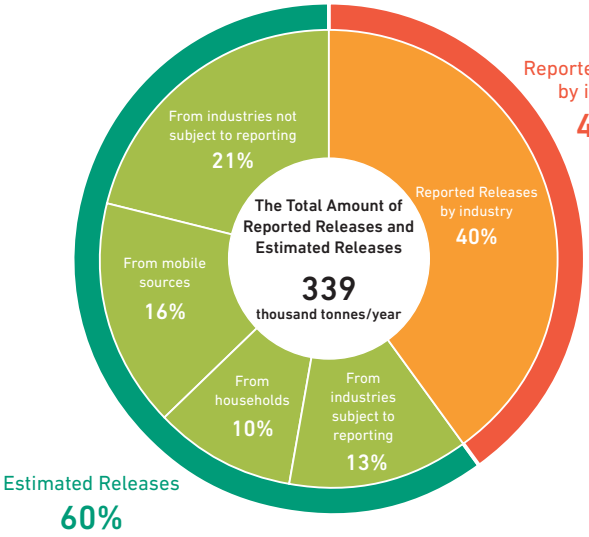
The population coverage of wastewater treatment systems in Japan is 93.3%. Wastewater treatment facilities are being installed to cover the population not yet served by the wastewater treatment systems.



Source: Ministry of the Environment

ADDITIONAL MATERIALS FROM THE ANNUAL REPORT ON THE ENVIRONMENT IN JAPAN 2025

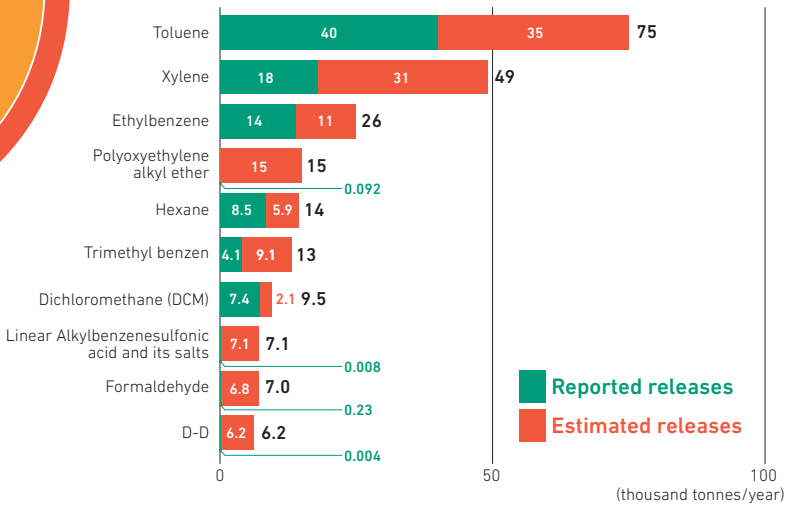
Breakdown of Reported Releases by Industry and Estimated Releases of Chemical Substances in FY 2023



Notes: The reported releases are from the business entities categorized as subjected to reporting. Releases are estimated for businesses that do not meet the reporting requirements, such as number of employees, annual handling quantity, etc., and are exempted from reporting.

Source: Ministry of Economy, Trade and Industry and Ministry of the Environment

Top 10 Chemicals with High-volume of Reported Releases and Estimated Releases (FY 2023)



Source: Ministry of Economy, Trade and Industry and Ministry of the Environment

In February 2025, the government compiled data reported from businesses concerned on release and transfer of chemical substances complying with the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Law). Releases that were not subject to reporting were estimated.

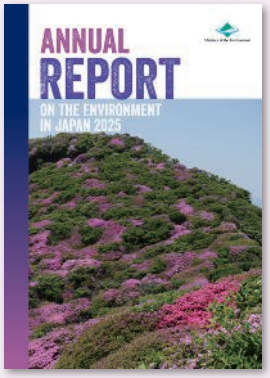


Photo: Miyama Kirishima azaleas in full bloom on Mt. Takadake in June, Aso-Kuju National Park

Aso-Kuju National Park showcases some of Japan's most iconic volcanic landscapes and lush grasslands. In the south, Mt. Aso, boasting a caldera of world-leading scale, towers overhead. Visitors can enjoy the fuming Nakadake crater, the beautiful cone-shaped Komezuka, and the vast Kusasenri grasslands. The Kuju Mountain Range and the Ramsar-listed Tadewara and Bogatsuru Marsh wetlands attract hikers with their seasonal flowers. In the north, the graceful peaks of Mt. Tsurumi and Mt. Yufudake rise above the hot spring resorts of Beppu and Yufuin. Here, visitors can experience majestic volcanoes, highlands, and hot spring culture all together— a true embodiment of Japan's natural beauty.

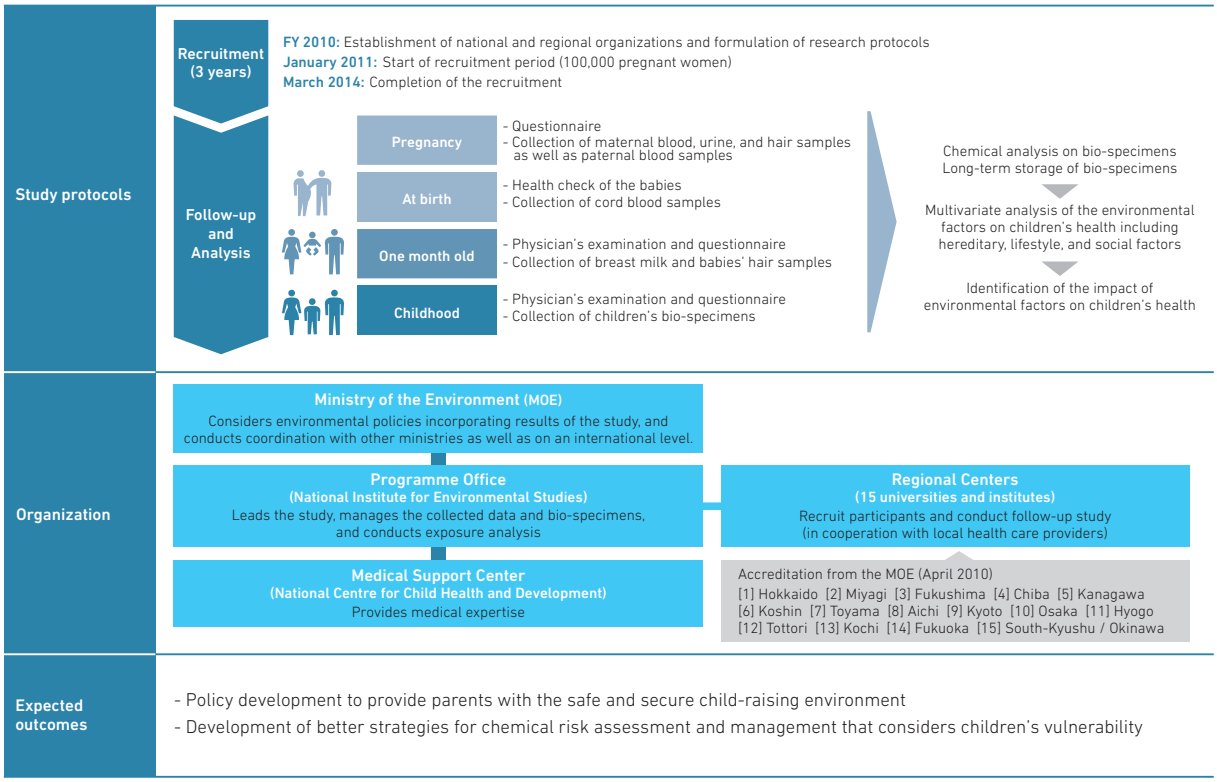
Environmental risks of chemicals

The following data provides information on action regarding chemical substance emissions into the environment and initiatives for children's environmental health.

The Japan Environment and Children's Study (JECS)

The Japan Environment and Children's Study (JECS), a large-scale, long-term national birth cohort study involving 100,000 mother-child pairs, was launched in FY 2010. The Sub-cohort study, which includes home visits for environmental measurements, medical examinations and children's bio-specimen collection, began in November 2014, involving 5,000 participants selected from the Main Study. In FY2022, a conceptual plan was formulated to conduct the follow-up study on the participants of ages 13 and higher in FY2024.

JECS is a large-scale, long-term prospective cohort study to examine the impact of the exposure to chemicals during pregnancy and childhood on children's health.



Source: Ministry of the Environment

Large Shijimi Blue
(Shijimiaeoides divinus)

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