CHAPTER 2

EARTH

Environmental problems, including global warming, are issues of critical importance for the human race.
Mazda actively adopts initiatives to promote a decarbonized/low-carbon and recycling-oriented society in harmony with nature, in cooperation with local governments, industrial organizations, and non-profit organizations. These efforts are reflected in all of Mazda's corporate activities with the aim of achieving a sustainable society.

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BASIC APPROACH TO ENVIRONMENTAL PROTECTION, AND ENVIRONMENTAL PROMOTION FRAMEWORK

The Mazda Global Environmental Charter

Environmental Principles

The Mazda Group aims to promote environmental protection and contribute to a better society while maintaining harmony with nature in its business activities worldwide.

- We will contribute to society by creating environmentally friendly technologies and products.
- We will use the Earth's resources and energy sparingly and never overlook environmental considerations when conducting our business.
- We will do our part to improve the environment by working with local communities and society.

Action Guidelines

1. Creation of Environmentally Sound Technologies and Products
   We are committed to the task of creating clean technologies, including methods to achieve cleaner exhaust emissions and reductions in CO_2 emissions, and the development of clean energy vehicles. We will promote the creation of products that are environmentally friendly from planning and development to manufacturing, use and recycling/disposal.

2. Corporate Activities in Consideration of Conserving Resources and Energy
   We will actively promote resource-saving and recycling activities to conserve the Earth's limited resources.
   We will strive to diversify energy sources and use them efficiently.
   We will promote the appropriate disposal and recycling of end-of-life vehicles.

3. Corporate Activities in Pursuit of a Cleaner Environment
   We will comply with environmental laws and regulations, and will also impose voluntary controls for higher standards and implement self-regulated controls.
   We will promote the development of new technologies and the introduction of new systems in our pursuit of a cleaner environment.

4. Working with Business Partners to Create a Better Environment
   We will actively provide our employees with education and information about environmental protection to enhance their awareness of the global environment.
   We will work in close cooperation with each other to achieve better environmental protection.

5. Creating a Better Environment in Cooperation with Local Communities and Society
   We will work actively to understand and appreciate society's requirements for the environment and reflect them in our business activities.
   We will disclose and publicize environment-related technologies, systems and information.
   We will not only conduct our own environmental activities, but will also actively participate in social activities for the conservation of the environment.

(Established in 1992; revised in April 2005)

Philosophy and Policies

Mazda carries out its corporate activities with the aim of fulfilling its Corporate Vision.*1 To this end, Mazda established the Mazda Global Environmental Charter as the basic policy for environmental matters in the Mazda Group. The Charter, which states "The Mazda Group aims to promote environmental protection and contributes to a better society while maintaining harmony with nature in its business activities worldwide," along with the five Action Guidelines forms the basis of Mazda's approach to the environment. The Company carries out corporate activities related to products and technologies; manufacturing, logistics, and office operations; social contributions, respectively in consideration of the environment. The Company also strives to address various social issues, including climate change and resource recycling, while placing emphasis on collaboration with external organizations/international initiatives.*2

Mazda Environmental Promotion Framework

Mazda has established three committees under the CSR Management Strategy Committee, chaired by the president of the Company, to promote environmental management throughout the Group. These are the Product Environment Committee, the Business Site Environment Committee, and the Social Contribution Committee. Moreover, Mazda is reviewing this promotion framework in order to further strengthen its initiatives.

Mazda Environmental Promotion Framework
(as of March 31, 2023)

*1 https://www.mazda.com/globalassets/en/assets/sustainability/policy/corporate_vision_e.pdf
*2 External organizations/international initiatives in which Mazda participates: subcommittees of the Japan Automobile Manufacturers Association, workshops of Global Compact Network Japan (GCNJ), etc.

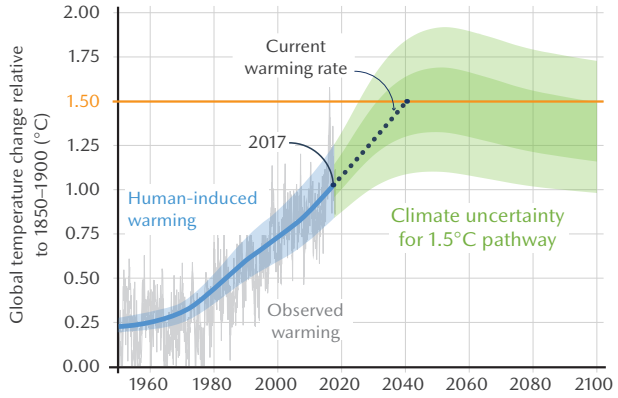
Earth

ENDEAVOR FOR CARBON NEUTRALITY BY 2050

Recognizing Social Issues

The average global temperature has already risen by about 1.0°C from pre-industrial levels. The Special Report on Global Warming of 1.5°C published by the Intergovernmental Panel on Climate Change (IPCC) states that if global warming continues to increase at the current rate and the rise in temperature far exceeds 1.5°C, there will be a significant impact on nature and human activities. The Special Report therefore points out the need to achieve net zero global carbon emissions by around 2050 in order to limit the temperature rise to 1.5°C.
In response to the above forecast, 145 countries (including Japan)*1 have declared their intention to achieve carbon neutrality by 2050, with nations around the globe stepping up their measures to design carbon pricing and other mechanisms and invest in the development of energy technologies. In the industrial world, initiatives have been accelerated to change the energy and industrial structures, promote decarbonization throughout the supply chain based on a life cycle assessment (LCA), and encourage the effective use of decarbonization/low-carbonization technologies to reduce greenhouse gas emissions.

Average anthropogenic temperature increase since the industrialization



IPCC "Frequently Asked Questions (P8)", Coordinating Editors: Sarah Connors, Ros Pidcock

Mazda's Approach to Resolving Issues

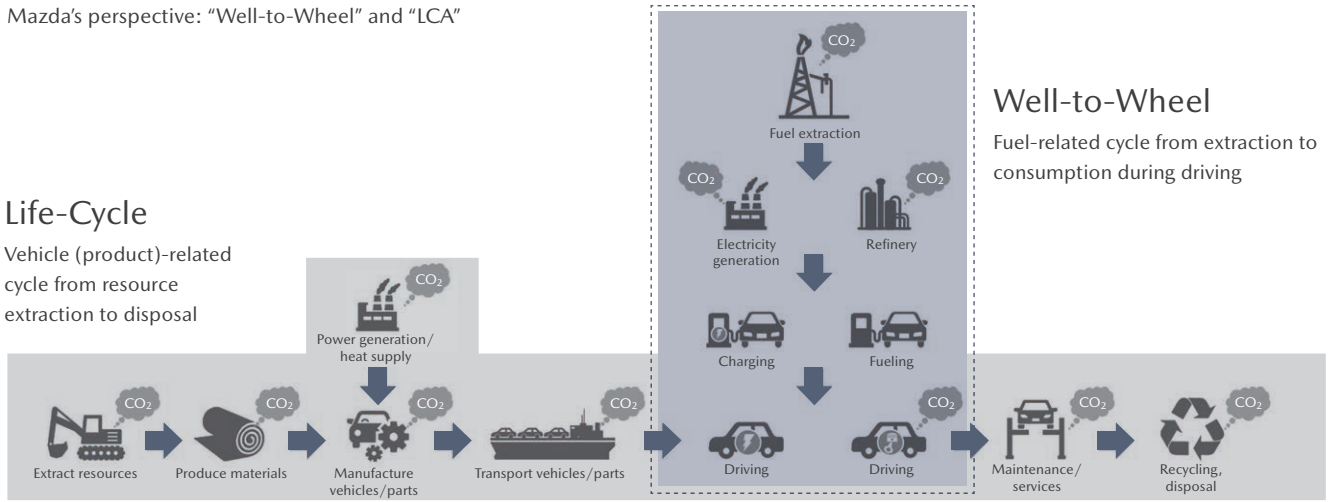
Reasons for Addressing Social Issues

As for the trends regarding vehicles around 2030, Mazda predicts that the fuel economy of vehicles as a whole will be further improved though the combination of highly efficient combustion engines, electric device technologies, highly efficient transmission systems and reduced body weight. Mazda also foresees technological innovation accelerating in accordance with fuel diversification. In addition, electric vehicles will be selected more often in regions where electricity can be generated with renewable energy or other cleaner sources. Energy decarbonization/low-carbonization and related technologies will be further promoted, which will intensify society-wide efforts to reduce environmental impact toward the achievement of carbon neutrality by 2050.
As a proportion of Japan's total CO_2 emissions, the entire transport sector contributes approximately 20%, with the automotive industry accounting for about 90% of CO_2 emissions from the sector. Mazda understands that, as a company belonging to the automotive industry, it has a duty to reduce CO_2 emissions with the aim of curbing global warming. In order to preserve our beautiful earth for future generations, the Company will advance its initiatives toward the realization of a sustainable mobility society.

Approach to Resolving Social Issues

Mazda announced that it will endeavor to achieve carbon neutrality for its entire supply chain by 2050. To accomplish this objective, the Company recognizes the importance of reducing CO_2 emissions throughout a vehicle's life cycle. For this reason, Mazda considers it necessary to provide its multi-solution, which enables the Company to offer various power unit choices that adapt to each region's energy sources and power generation methods, from both the perspective of well-to-wheel and the perspective of life cycle assessment (LCA). In manufacturing and logistics, the Mazda Group strives for energy value maximization and energy diversification, aiming to achieve reductions in the global total CO_2 emissions from plants/offices and logistics operations. The Group will continue these efforts, which must be made throughout the entire supply chain, with the cooperation of local governments and other industries.

Mazda's perspective: "Well-to-Wheel" and "LCA"



*1 Compiled at the Ministry of Economy, Trade and Industry by counting countries participating in the Climate Ambition Alliance, countries that have expressed their commitment to achieving carbon neutrality by 2050 by submitting long-term strategies to the United Nations, and countries that expressed their commitment to achieving carbon neutrality by 2050 at the Climate Summit in April 2021, COP 26, and other events. (As of October 2022)

Efforts Regarding Product and Technology Development

Approach to Product Environmental Performance

As vehicle ownership continues to expand around the world, automobile manufacturers must redouble their efforts to achieve cleaner exhaust emissions, and improve fuel economy in order to cut CO_2 emissions and help reduce the world's dependence on increasingly scarce fossil fuels. Mazda considers it necessary to develop a multiple-solution approach to automobile-related environmental issues that takes into account various factors such as regional characteristics, vehicle characteristics and types of fuel.

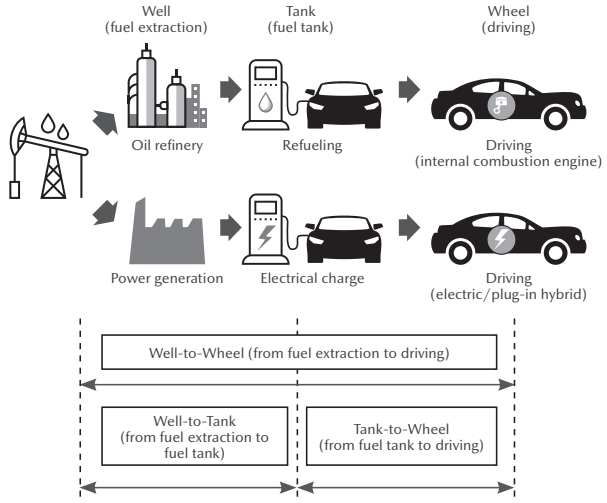
Addressing Global Warming

Mazda sees reducing emissions of CO_2 and other greenhouse gases over the vehicle's entire lifecycle—including manufacturing, use and disposal—as one of its top priorities and a duty of automotive industry. The Company wants to maximize its contribution by considering not only "tank-to-wheel" emissions that occur while driving but also "well-to-wheel" emissions, including fuel extraction, refining and power generation (well-to-tank). Offering a number of powertrain options in consideration of each region's energy sources and power generation methods will allow Mazda to make the optimum contribution to CO_2 emissions reductions by region.

The "Well-to-Wheel" Perspective

Make efforts to reduce CO_2 emissions from the perspective of "well-to-wheel," with the aim of reducing emissions over a vehicle's entire lifecycle.

Conceptual diagram of Well-to-Wheel*



* Where fossil fuel is extracted and used to drive a vehicle.

Life Cycle Assessment (LCA)

Life Cycle Assessment (LCA) is a method for calculating and evaluating the environmental influence of vehicles across their entire life cycle through the purchase of materials, manufacture, use, recycling, and final disposal. Since 2009, Mazda has adopted LCA as a means of determining the time required to reduce the environmental impact of vehicles in their life cycle, and has been actively working to reduce the environmental impact at each stage of the life cycle. The Company is also promoting evaluation of the practicability and reliability of new technologies for environmental performance in compliance with the methods specified in the international standards (ISO 14040 and ISO 14044).

Building Block Concept

To realize its goal of reducing CO_2 emissions and raising the average fuel economy of Mazda vehicles, Mazda is rolling out multi-solutions through effective development and production via measures such as bundled planning and common architecture, based on the Building Block concept that enables the Company to efficiently deliver superior technologies by layering fundamental technologies atop one another in stages. Through this Building Block concept and advances in process innovations, such as Model Based Development (P84), and *Monotsukuri* Innovation (P83), Mazda will, despite limited management resources, offer products and technologies that exceed customers' expectations.

Building Block Concept for Product Technologies

Continuous Evolution of Skyactiv Technology

The term Skyactiv Technology covers all Mazda's innovative technologies. Mazda redesigned these technologies from scratch, enhancing the efficiency of powertrain components and its electrification, such as the engine and transmission, reducing vehicle body weight, and improving aerodynamics. The number of models featuring Skyactiv Technology has steadily increased globally since the Skyactiv-G engine was introduced in 2011 in the Demio (known as Mazda2 overseas). Mazda is continuously evolving Skyactiv Technology by actively introducing new technologies.

The Latest Skyactiv Technology

- 2019: Introduced new-generation technologies, including the Skyactiv-X engine, set to become the world's first commercial gasoline engine to use compression ignition.*1 This engine is a new internal combustion engine unique to Mazda, which combines the advantages of gasoline and diesel engines to achieve outstanding environmental performance and uncompromised power and acceleration performance.
- 2020: Introduced vehicles newly equipped with its electrification technology, e-Skyactiv. Continued development of Skyactiv Multi-Solution Scalable Architecture, a platform that supports electrification technology.
- 2021: Newly developed e-Skyactiv D equipped with a new straight-six-cylinder engine with large displacement and powerful torque characteristics, as well as a small motor for effective environmental performance, and e-Skyactiv PHEV, Mazda's first plug-in hybrid system.
- 2022: Introduced the Mazda MX-30 e-Skyactiv R-EV, a series-type plug-in hybrid model which can also be used as a battery EV, while keeping the basic value provided by the conventional MX-30. The rotary engine is adopted as a generator, and enables further long-distance driving with the electricity it generates.

*1 As of August 2017, according to Mazda data

Energy Transition up to 2030

During a period of transition to EVs up to around 2030, Mazda sees its Multi-Solution approach as an effective one. Mazda offers a variety of solutions, including internal combustion engines, electrification technologies and alternative fuels, so that it can provide appropriate combinations that suit power generation conditions in each region. On the other hand, Mazda estimates that the EV ratio of its global sales in 2030 will be between 25 and 40%, depending on each country's or region's electrification policies or more stringent regulations. Since the end of 2021, various variable factors became apparent, such as regulatory tendencies, energy crises, and power shortages. Furthermore, it is extremely uncertain how each of these will develop in the future. Mazda must be flexible and adaptive to coming changes, such as changes in regulations, consumer needs and acceptance levels, and infrastructure development. To this end, the Company will steadily work on the transition to electrification in three phases, proceeding with electrification step by step with the cooperation of its partner companies.

- Phase 1 (2022–2024): By fully using its technology assets of multiple electrification technology, Mazda will launch attractive products while also meeting market regulations. In this phase, Mazda will improve profitability with the introduction of large products, offering plug-in hybrids (PHEV) and diesel engines with a mild hybrid system (MHEV) that achieve both environmental and driving performance. In addition, Mazda will develop technologies for battery EV (BEV) in a full-fledged manner.

- Phase 2 (2025–2027): In order to reduce CO_2 by improving fuel economy in the phase of transition to EVs, Mazda will introduce new hybrid systems, further refining its multi-electrification technologies. In addition, Mazda will pursue collaborations with partner companies in areas such as developing highly efficient production technologies for electric drive units and joint development of inverters for the progress of electrification.

- Phase 3 (2028–2030): Mazda moves forward in its efforts for the full-fledged launch of battery EV models, it will also consider the possibilities, including investing in battery production based on the extent of changes in the external environment and progress in strengthening our financial foundation.
  Through these three phases, Mazda will steadily push forward with its electrification strategies that adapt to regional characteristics and environmental needs. In this way, the Company will contribute to tackling major problems facing society, such as global warming.

Electric Vehicles Full of the Joy of Driving

Mazda is also committed to developing electric vehicles (EVs) in line with its "Sustainable Zoom-Zoom 2030" vision. Based on the Well-to-Wheel perspective, the Company believes that its electric driving technology for EVs is the optimal solution for a region with sufficient clean energy resources or a region with air pollution control norms. Mazda is promoting the commercialization of EVs full of the joy of driving in these regions. In addition, from the perspective of a vehicle's life cycle, Mazda desires to contribute to substantive reduction of the global environmental impact by installing appropriately sized batteries. In October 2019, the Company unveiled its first mass-production EV, the MX-30, which was launched globally starting in September 2020.

MX-30
EV Model

VPP Demonstration Experiment for EV Drive Battery Reuse Technologies

Mazda has completed a demonstration experiment*1—jointly conducted with Chugoku Electric Power Co., Inc., and Meidensha Corporation—to ascertain whether EV batteries can be reused as a resource for virtual power plants (VPPs).*2 As part of the demonstration experiment, Mazda was able to acquire the underlying technology needed to aggregate and control multiple EV batteries. The Company also gained data on aspects such as battery responsiveness and degradation properties. Going forward, Mazda will utilize these to investigate new services derived from the fusion of vehicle elements and energy, and continue to contribute to the global environment and local communities.

TOPICS

Mazda's development of vehicle motor technologies is recognized with the Chairman's Award at NEDO's Energy Conservation Technology Development Awards

Mazda has been recognized with the Chairman's Award, a prize only given to the most outstanding companies, at the NEDO 2022 Energy Conservation Technology Development Awards—which is organized by the New Energy and Industrial Technology Development Organization (NEDO)*1—for its development of vehicle motor variable magnetic field technologies. The technology was highly praised for its ability to vary the size of magnetic fields (conventionally fixed) to respond to driving conditions, and to ensure motor performance for different driving conditions so as to increase the power generated by the motor. It is predicted to improve fuel economy for hybrid vehicles that use conventional motors by 15% (fuel economy as measured using WLTC modes)*2 by allowing combination with high-efficiency internal combustion engines, as introducing this technology improves efficiency for the motor's practical range and increases the amount of deceleration energy regeneration. In the future, Mazda will apply this technology to its plug-in hybrids and EVs to extend their operational distances via motor drives, while raising energy efficiency to lessen their environmental impact.

Being recognized at the NEDO Energy Conservation Technology Development Awards

*1 In order to promote economic growth as well as sustainable energy conservation, NEDO welcomes applications from private companies and others working on technical development themes that can contribute to energy conservation, and subsidizes some of their research costs through its Strategic Innovation Program for Energy Conservation Technologies, which runs from FY March 2013 to FY March 2025. The Energy Conservation Technology Development Awards are presented to companies whose results have made an excellent contribution to energy conservation.
*2 Worldwide Harmonized Light Vehicles Test Cycle: an international testing method for emissions and fuel economy that consists of different running modes (simulating urban, suburban, and highway driving) with average usage times for each.

∗1 https://newsroom.mazda.com/ja/publicity/release/2019/201910/191017a.pdf (Japanese only)
∗2 A VPP gathers the numerous dispersed power sources owned by general households or factories, such as renewable energy, EVs, and batteries, and integrates and controls them as if they were a single generation plant.

Promoting Technologies for Carbon-neutral Fuels

Toward the achievement of carbon neutrality (hereinafter "CN") through its products, Mazda addresses environmental issues based on a multiple-solution approach, by endeavoring to spread carbon-neutral fuels (hydrogen, next-generation biofuel, synthetic fuel, etc.) required to vehicles equipped with internal combustion engines, such as hybrids (HEV) and plug-in hybrids (PHEV), in addition to developing electrification technology for HEV, PHEV and battery electric vehicles (BEV). The Company believes that liquid fuel is valued as a useful energy source for automobiles and other movable bodies for its excellent storability and high energy density, contributing to energy security of the entire society promoted by energy diversification. However, the use of petroleum-based fuels mined from underground increases CO_2 in the atmosphere and contributes to global warming. Next-generation biofuels and synthetic fuels can be used to produce gasoline and diesel substitutes with materials that absorb or recover CO_2 from the environment. Therefore, Mazda believes that the use of these fuels is one of the effective and realistic methods to address environmental issues that can significantly contribute to reducing CO_2 emissions from vehicles including those already sold, without requiring additional infrastructure.

Compatibility with Bioethanol and Biodiesel Mixed Fuel

Mixed fuels, which include bioethanol or biodiesel (fatty acid methyl ester [FAME]) made from plant materials, are used in some regions for their effectiveness in reducing CO_2 emissions. Mazda sells vehicles that are compatible with these fuels.

Efforts for the Spread of Next-generation Automotive Liquid Fuel

Mazda aims to expand the use of next-generation biofuels made from microalgae oil and used edible oil with excellent sustainability since they do not compete with food production and do not cause deforestation, unlike conventional biofuels made from food crops such as corn. Unlike conventional biofuels such as bioethanol and FAME, the next-generation fuels are hydrocarbon fuels equivalent to gasoline and light oil. For this reason, the Company expects them to be able to completely replace petroleum-based fuels.

R&D for Microalgae

In order to achieve mass production of next-generation biofuels in the future, Mazda considers it necessary to promote the mass cultivation of microalgae with a high production capacity per unit area compared to vegetable resources which are the raw materials for edible oils. Toward this goal, the Company is currently promoting R&D for microalgae through industry-academia-government collaboration. In 2017, Mazda opened a joint research course called the "Next-generation Automotive Technology Joint Research Course—Algae Energy Creation Laboratory" at a graduate school of Hiroshima University. Since 2021, with support from the "Program on open innovation platform for industry academia co-creation (COI NEXT)," sponsored by the Japan Science and Technology Agency (JST), research continues into improving algae performance using genome editing technology in collaboration with Hiroshima University and Tokyo Institute of Technology. Alongside these efforts, in 2020, Mazda became a member of the Institute of Microalgae Technology, Japan (IMAT)—which has a site on Osakikamijima-cho in Hiroshima Prefecture, in 2022 it also joined MATSURI (Microalgae Towards Sustainable & Resilient Industry), a consortium whose projects have been selected by the NEDO Green Innovation Fund for support. Mazda continues to work with researchers and other companies to develop industrial uses for microalgae and related technologies.

Demonstration Tests of Next-generation Biodiesel Fuels

Mazda also aims to expand the use of next-generation biofuels by conducting demonstration tests. In 2018, the Hiroshima Council of Automotive Industry-Academia-Government, in which the Company participates, and Euglena Co., Ltd. jointly launched a "Your Green Fuel" project, which established an entire biofuel value chain – from material manufacture and supply to the use of next-generation biodiesel fuels – as a "local production for local consumption model" within the Hiroshima area. Since 2020, Mazda has continued demonstration tests with its company-owned vehicles running on next-generation biodiesel fuels. The Company is increasing such tests of next-generation biodiesel fuels through various activities, including participation in the Super Endurance Race, one of the motorsports in Japan, since 2021, and operation of buses to transport Sanfrecce Hiroshima players in home games since 2022.

In cooperation with our partners throughout the entire biofuel value chain, from material purchasing, fuel manufacture, and supply to the use of next-generation biofuels, Mazda will continue its efforts to expand the use of such fuels and other CN fuels.

TOPICS

Technical research into manufacturing bioethanol fuel for vehicles

In March 2023, Mazda announced that it would be joining the Research Association of Biomass Innovation for Next-Generation Automobile Fuels (raBit), an organization formed by ENEOS Corporation, Suzuki Motor Corporation, Subaru Corporation, Daihatsu Motor Co., Ltd., Toyota Motor Corporation, and Toyota Tsusho Corporation.
The research on improving production technology for bioethanol fuel and using CO_2 generated during bioethanol fuel production, which the Research Association has been promoting as part of a range of diverse options for achieving carbon neutrality, coincide with the idea promoted by Mazda of providing more options with its multi-solution strategy, and this synchronicity led Mazda to take the step of joining the Research Association.

Mazda joins Research Association of Biomass Innovation for Next Generation Automobile Fuels

Participation in Motor Sports with Carbon-neutral Fuels

Toward the achievement of a carbon-neutral society, Mazda uses 100% biomass-derived, next-generation biodiesel fuel made from used edible oil and microalgae oil for racing vehicles equipped with diesel engines, with the aim of spreading the use of next-generation biodiesel fuels. Since 2022, the Company has entered its MAZDA SPIRIT RACING MAZDA2 Bio concept in Super Taikyu Series and in November 2022 participated in the final race at the Suzuka Circuit with a car based on the Mazda3 for the first time. Unlike conventional biodiesel fuels, next-generation biodiesel fuels, which are made from sustainable materials such as used edible oil and microalgae oil, do not compete with food production. Furthermore, they can be used as fuels replacing light oil for existing vehicles and equipment, without requiring additional infrastructure related to fuel supply, and are expected to be excellent liquid fuels that contribute to CN.
From the summer of 2023 onward, the MAZDA SPIRIT RACING ROADSTER/MX-5 participated in the ST-Q class, and the Company will continue to take on the challenge of successfully trialing carbon-neutral fuels as a replacement for gasoline. Mazda aims to conduct demonstration tests by participating in races with its vehicles running on carbon-neutral fuels, and to contribute to the maintenance and revitalization of motorsports in Japan in addition to the increased use of such fuels.

MAZDA SPIRIT RACING MAZDA2 Bio concept

Development of Resin Material for Auto Parts for Weight Reduction

In addition to Skyactiv Technology, which is developed with the whole concept of weight reduction, Mazda actively adopt new technologies for reducing weights in detailed parts. Mazda will continue to pursue weight reduction by using resin, aluminum, ultra-high-tensile steel and other materials having both lightness and strength.

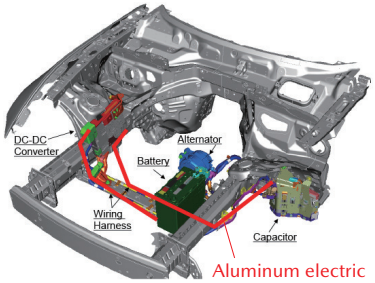
One of the Lightest Bumpers in Its Class Uses Resin Materials

Mazda has developed a new resin material for auto parts that can maintain the same level of rigidity as conventional materials while trimming vehicle weight. Because the new resin enables the manufacture of thinner parts and thus a significant reduction in the amount of material used, when used for front and rear bumpers, this resulted in the reduction of weight by around 20%. In the manufacturing process, thinner parts have enabled the shortening of cooling time upon shaping and halved the shaping time of bumpers partly due to the utilization of CAE analysis techniques. This resulted in a drastic reduction of the amount of energy used in manufacturing. Mazda further reduced the specific gravity of this new resin bumper by around 4%. The resultant bumper, one of the lightest in its class,*1 has been mounted on a series of new generation models. The new bumper was attached to the CX-30 in FY March 2020, to the MX-30 in FY March 2021, to the CX-5 in FY March 2022, and to the CX-60 and Mazda2 in FY March 2023.

Development of Lightweight Wiring Harness Using Aluminum Electric Wire

Mazda has developed a lightweight wiring harness using aluminum electric wire, which enables the Company to achieve vehicle weight reduction while maintaining connection reliability (quality). Since equipping the Roadster/MX-5, launched in 2015, with this lightweight wiring harness, the Company has been increasing the number of models*2 that incorporate the material. In FY March 2023, the lightweight wiring harness was adopted in the CX-60.

Aluminum electric wire of the Roadster/MX-5 Connection between capacitor and DC-DC converter Connection between DC-DC converter and battery



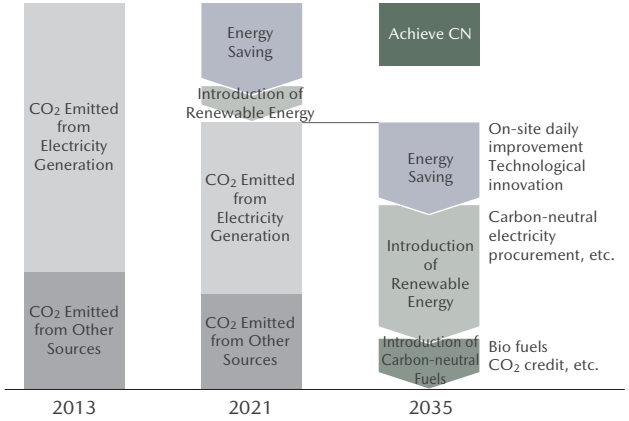
Taking on the Challenge of Achieving CN at Our Factories around the Globe by 2035

As a milestone on its road to achieving carbon neutrality (hereinafter "CN") throughout the entire supply chain by 2050, Mazda will endeavor to achieve carbon neutrality in its global factories by 2035.
To achieve CN, the Company will promote the following three pillars of its efforts, in collaboration with partner companies. In addition, the Company will promote an optimum approach in overseas factories modeled on initiatives in Japan.

Three Pillars to Achieve CN

(1) Energy Saving
(2) Shift to Renewable Energies
(3) Introduction of Carbon-neutral Fuels for In-house Transportation

Road Map for CO_2 Emissions Reduction



*1 1,500 to 2,000 cc class, as of March 2017, according to Mazda data
*2 Models adopting the lightweight wiring harness (as of September 2023): Roadster/MX-5, Mazda3, CX-30, Mazda6, CX-5, CX-8, CX-9, CX-60, CX-90 and MX-30

Efforts Regarding Manufacturing and Logistics

Mazda promotes the efficient use of energy while aiming to reduce CO_2 emissions in the areas of manufacturing and logistics.

[Manufacturing] Energy-Saving / Measures to Reduce CO_2 Emissions

<FY March 2023 Results (compared with FY March 2014)>

- Total CO_2 emissions from Mazda's four principal domestic sites*1 reduced by 33.4% compared with FY March 2014 (371 thousand t-CO_2)*2
- Emissions per unit of sales revenue reduced by 54.3% (12.3 t-CO_2/100 million yen)

  Production sites in Japan and abroad promote activities to improve the facility operation rate and shorten the cycle time, and take measures to cut losses at each step from production to consumption of energy.

  Under *Monotsukuri* Innovation, Mazda strives to reduce per-unit energy consumption. The *Monotsukuri* Innovation is the initiative to achieve a breakthrough in "sharing a completely new concept beyond the boundaries of models," in order to improve quality and brand value, as well as to increase profit margins, while flexibly responding to the requirements for the manufacture of several models and changes in production volume. (P83)
- Material: Reduced material weight by using thinner casted and forged parts, and reduced energy consumption by shortening the forging cycle time and downsizing the capacity of melting and heat treatment equipment.
- Processing and assembly: Evolved conventional flexible manufacturing lines to realize higher-efficiency, mixed flow production. Also pursued more efficient manufacturing by ensuring a smooth flow of lines and by consolidating and integrating lines.
- Press: Reduced the amount of scraps generated in manufacturing of press parts, and retrieved parts from scraps to reduce the amount of use of steel sheets. Also achieved multi-pressing, which performs molding of several parts using a single die, resulting in both integration of processes and reduction of energy consumption.
- Paint: Completed the introduction of the Aqua-Tech Paint System, a new water-based painting technology realized through the integration of painting functions and highly efficient painting technologies, into the Hofu Plant No. 2. Also introduced the Aqua-Tech Paint System to global production sites, resulting in reduced energy use and a substantial reduction of VOC (volatile organic compound) emissions.

Use of Renewable Energy

Mazda promotes the use of renewable energy*3 for in-house power.

- Solar panels were installed at the Hiroshima Plant, and operation of the solar power generation system was started in July 2021. The system generated 1.86 GWh in FY March 2023. Electricity generated by this system is used to charge the batteries of MX-30 EV models produced at the plant and for other manufacturing processes there.
- At the Hofu Plant, solar-powered units have been introduced in some corridor lighting.
- A solar power system is installed on the roof of the radio wave experiment building of the Miyoshi Office. The amount of electricity generated by this system in FY March 2023 was 28.3 MWh. Electricity generated by this system is used to provide power and lighting for the building, thereby continuously contributing to the reduction of CO_2 emissions.
- Mazda de Mexico Vehicle Operation (MMVO) in Mexico installed outdoor solar lighting, thereby promoting effective use of renewable energy using solar power and LEDs.

Amount of electricity generated from renewable energy (P112)

Hiroshima Plant (Head Office) building with solar panels installed on the rooftop

MX-30 EV model being charged

Photovoltaic Generation Report (Japanese only)

*1 Head office (Hiroshima); Miyoshi Plant; Hofu Plant, Nishinoura District; Hofu Plant, Nakanoseki District (including non-manufacturing areas such as product development)
*2 Calculated on a location-based. The emission coefficient used is based on criteria in the Japan Automobile Manufacturers Association's Carbon Neutral Action Plan.
*3 Refers to natural energy sources that can be used continuously without being depleted, such as electricity generation using solar, wind, geothermal, hydroelectric or biomass power, or direct solar heating. These types of energy generate zero or negligible CO_2 emissions.

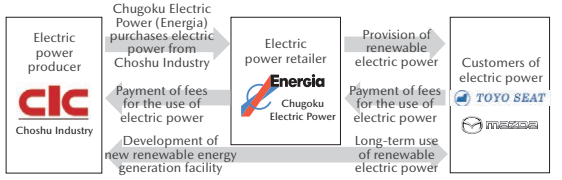
TOPICS Conclusion of offsite corporate PPA on solar power generation with local companies

In March 2023, with an eye to bringing about a carbon-neutral society, Mazda concluded an offsite corporate PPA*1 to procure electricity from renewable sources with a number of local companies: Toyo Seat Co., Ltd. (hereinafter "Toyo Seat"); Choshu Industry Co., Ltd. (hereinafter "Choshu Industry"); and The Chugoku Electric Power Co., Ltd. (hereinafter "Chugoku Electric Power").*2 Under the PPA, Choshu Industry will serve as the electric power producer, with Choshu Industry and Mazda installing new solar power generation facilities on unused land in the Chugoku region, using those facilities to generate electricity, which will then be sold to Chugoku Electric Power. Chugoku Electric Power will then supply this electricity to Toyo Seat and Mazda as a source of renewable energy.

This agreement represents the Chugoku region's first offsite corporate PPA involving more than one electric power consumer. From April this year, under the PPA, Chugoku Electric Power will commence, in stages, the supply of approximately 4,900 kW in renewable energy generated by solar panels to plants and other places of business belonging to Toyo Seat and Mazda. These arrangements are expected to reduce annual carbon dioxide emissions by approximately 2,610 tons.

The four parties to this agreement, as businesses involved in supplying and consuming electric power, remain committed to encouraging the further use of renewable energy in the Chugoku region, aiming through such activities to make further contributions to the sustainable development of the local economy and the achievement of a carbon-neutral society.

Offsite corporate PPA concept



Conclusion of offsite corporate PPA on solar power generation

*1. An Offsite Corporate PPA (Power Purchase Agreement) is a long-term contract for the purchase of electric power under which a company producing electric power through solar power generation facilities agrees to provide power generated using those facilities to a designated user or users based in a location separate from the solar power generation facilities, supplying that power to them via an electric power transmission network operated by an electric power retailer.
*2. In 2022, Japan's Ministry of Economy, Trade and Industry provided subsidies to cover a portion of the expense of installing solar power generation facilities in cases where consumers of electric power coordinated with an electric power producer to establish such facilities. These subsidies are intended to promote such collaborations and encourage wider adoption of independent initiatives to establish renewable energy sources, contributing to a reliable, long-term supply-demand balance in energy use during the period up until 2030, thereby supporting the achievement of ambitious targets for the reduction of greenhouse gas emissions.

TOPICS

Establishment of the Council for Utilizing Namikata Terminal as a Hub for Introducing Fuel Ammonia

In April 2023, Mazda agreed to establish the "Council for Utilizing Namikata Terminal as a Hub for Introducing Fuel Ammonia" (hereinafter referred to as the "Council") with Shikoku Electric Power Company, Taiyo Oil Company, Taiyo Nippon Sanso Company, Mitsubishi Corporation, Namikata Terminal Company, and Mitsubishi Corporation Clean Energy,*1 in order to study the possibility of turning Namikata Terminal,*2 located in Imabari City, Ehime Prefecture, into a hub for clean energies. The Council will be served as joint secretariats by Mitsubishi Corporation and Shikoku Electric Power Company.
The Council's agenda will include scheduling, legal and regulatory issues, efficient use of the terminal, measures to grow demand for fuel ammonia in the area and other issues, based on the assumption that the existing LPG tanks owned by Mitsubishi Corporation at the terminal will be converted to ammonia tanks and that the terminal will become a hub handling approximately 1 million tons of ammonia per year by 2030.
The Council will work to unite public and private interests to reestablish Namikata Terminal as a clean energy hub, create new clean energy industries in the region, and help the sustainable development of the local economy.

Namikata Terminal

Establishment of the Council for Utilizing Namikata Terminal as a Hub for Introducing Fuel Ammonia

*1 Ehime Prefecture, Imabari City, Saijo City, Niihama City, and Shikokuchuo City also participate as observers.
*2 Some petroleum-related facilities of the terminal are owned by Taiyo Oil Company and the others are owned by Mitsubishi Corporation. The terminal is operated by Namikata Terminal Company.

[Logistics] Initiatives for Reducing CO_2 Emissions during Product Shipment

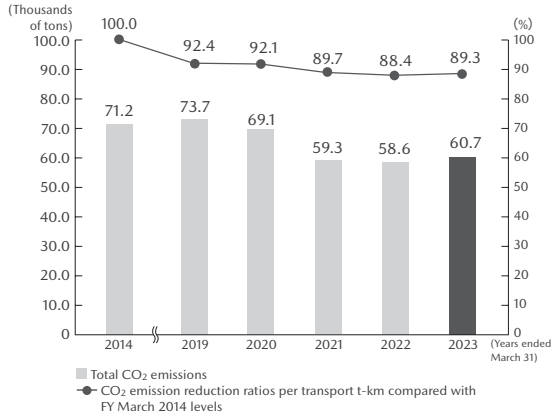
Mazda is working with logistics companies, dealerships, and other automakers throughout Japan to provide customers with the volume they require, with the precise timing they expect, while reducing CO_2 emissions during product shipment through highly efficient logistics across the entire supply chain.

<FY March 2023 Results>

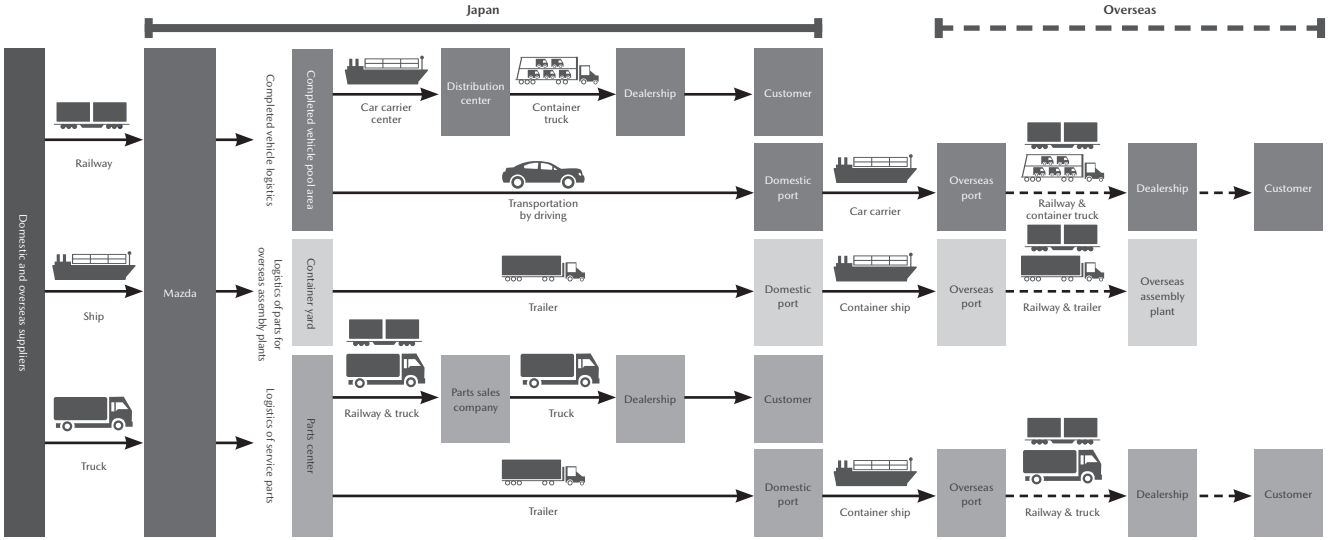
- Total domestic transportation volume was approximately 460 million ton-kilometers.
  In FY March 2023, CO_2 emission per ton-kilometer was reduced by 10.7% compared with FY March 2014 levels.

CO_2 emissions from logistics (P112)

CO_2 Emissions and Reductions for Logistics: Japan



- Range of the tracking capability for CO_2 emissions in the supply chain
  (——▶ Current tracking line ┈┈▶ Tracking line to be extended by 2030)



<Specific Initiatives>

In logistics, Mazda continued its efforts to reduce CO_2 emission in the following three fields by visualizing in detail hidden logistics in each process on a global level.

1. Delivering completed vehicles

<Japan/Overseas>

For its domestic marine transport of its vehicles, Mazda is promoting shared transport with other companies to improve transport efficiency and reduce environmental impact. In the case of international marine transport, ensuring ships are fully loaded allows the Company to load more vehicles, but it has also started using new, more environmentally friendly LNG tankers. By actively using these to transport vehicles, Mazda is reducing its CO_2 emissions. Elsewhere, with the aim of further decarbonization going forward, Mazda is moving forward with deliberations and studies with a range of partners—including shipping companies, logistics companies, energy-related companies, and local public organizations—and is continuing in-depth investigations into the technologies, fuels, equipment, and other elements needed to achieve carbon neutrality in the medium or long term.

2. Transport of service parts

<Japan>

Mazda is striving to improve the rate of modal shift regarding the transportation of service parts. The Company has also used large returnable containers, originally introduced to transport parts overseas, for domestic transportation to improve the loading efficiency of JR containers, thereby contributing to the reduction of CO_2 emissions. In FY March 2023, Mazda's railway transportation rate was 25%, reducing CO_2 emissions by around 159 tons.

In addition, the Company switched production of replacement bumpers and some sheet metal parts to the Tokai region and eliminated internal transportation, instead sending these directly overseas, without needing to be taken to the Hiroshima Plant first, via Nagoya Port. These measures have reduced CO_2 emissions by around 260 tons.

<Overseas>

The Company shifted the production of replacement bumpers from its Mexican plant to North American plants, where transport volumes are higher, in 2021. This reduced CO_2 emissions by around 150 tons in FY March 2023.

3. Transport of procured parts

<Japan>

For trucks transporting procured parts in Japan, the Company introduced the Cloud-based Transportation/Delivery Progress Management Service for Logistics Operations*1 in 2016. This has resulted in shorter delivery times during transport, lower costs, and higher quality, but also reduced the burden on drivers, alleviated traffic congestions, and reduced CO_2 emissions due to the more efficient transportation of items. By utilizing this system and reviewing cargo handling operations, Mazda is also working to improve truck turnover rates and reduce truck waiting time in the plants.

The Company is working to enlarge the scope of straight logistics—i.e., after the manufacture of parts to be exported to overseas assembly plants is completed, they are packaged and loaded into containers at the same location without the need for shipment between production locations and distribution centers. Now this straight logistics system has been expanded to cover engines, transmissions and auto body parts produced at Hiroshima Plant and the Hofu Plant. In FY March 2023, by applying this system to a broader range of parts destined for the Mexico Plant, the Company reduced CO_2 emissions by around 5 tons.

Moreover, using JR cargo transport, introducing full trailer, and by working to investigate the viability of introducing biofuels for delivery trucks, Mazda will aim to achieve carbon neutrality.

<Overseas>

The Company is now introducing new standard containers for parts to be transported in containers from Japan to overseas assembly plants. This makes us possible to eliminate the empty space inside the containers. It also reduces the number of containers and the number of transportation truck services.

The Company is also working to reduce the inventory and transportation of unnecessary parts by shipping the parts to overseas plants at the timing they are needed. In addition, for the future, the Company is in discussions with shipping companies to introduce alternative fuels with lower CO_2 emissions to its container carriers. With these steps, the Company expects to reduce CO_2 emissions by around 1,700 tons per year.

TOPICS **Subscription to convertible bonds issued by Euglena Co., Ltd.**

Mazda decided to subscribe to unsecured convertible bonds to be issued by Euglena Co., Ltd. ("Euglena"). Mazda will, through the subscription, support Euglena's biofuels business that aims to expand the use of next-generation biofuels. Euglena announced that it had been studying with two leading overseas energy companies the possibility of developing and operating a biorefinery in Malaysia to commercialize its biofuel business as well as increase adoption of next-generation biofuels.

Mazda has set a target of being carbon neutral across its entire supply chain by 2050. The company has been pursuing a multi-solution strategy that will provide a range of available solutions suitable to the specific circumstances of each region. One of these options is the expansion of next-generation biofuels. Mazda has decided to participate in this bond issuance because Mazda believes the project in which Euglena is engaged will promote greater use of next-generation biofuels and significantly contribute to realizing carbon neutrality. Mazda anticipates procuring the next-generation biofuels produced through this project and will give consideration to using the fuel in its internal logistics and other operations.

Subscription to Convertible Bonds Issued by Euglena

*1 The Cloud-based Transportation/Delivery Progress Management Service for Logistics Operators, developed by DOCOMO Systems, Inc.

Response to TCFD

Basic Approach

In May 2019, Mazda declared its support for the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD)*1 and joined the TCFD Consortium,*2 showing its commitment to strengthening its efforts to address climate change. In addition, in January 2021, the Company announced that it would endeavor to achieve carbon neutrality (hereinafter "CN") throughout the entire supply chain by 2050.

Governance

Transition Risks

Taking on the challenge of achieving carbon neutrality by 2050, Mazda has assigned a director to oversee its decarbonization strategy and executive officers to be in charge of CN. Under the leadership of a department charged with promoting CN strategy, a specialized team made up of members from multiple departments formulates strategies and implements plans based on the strategies that have been formulated so far. In addition, in order to promote the execution of plans throughout the Company, we have started a management approach that integrates CN initiatives into the existing ISO 14001 Environmental Management System (EMS).
The CN strategies are deliberated*3 at the Executive Committee Meetings and the Board of Directors attended by the representative directors and president. Also, issues concerning sustainability, including the initiative for climate change, are reported to the Board of Directors in a timely and appropriate manner.

Physical Risks

Torrential rain disaster response, which is an acute physical risk associated with climate change, has been managed as part of our Business Continuity Plan (BCP) under our emergency risk management structure.
In addition, in response to concerns about storm surges and water depletion, which are chronic physical risks, we are promoting reinforcement of seawall infrastructure and water resources conservation efforts in our operation led by specialized departments.

Strategy

Based on IPCC and IEA scenarios, policy and regulatory trends, and industry trends, Mazda formulated a scenario based on its own assumptions and recognized the following as the main risks and opportunities.

Major risks and opportunities

Transition Risks	Policy and Legal	• Stricter regulations on fuel economy and exhaust gas emissions, carbon pricing, including introduction of carbon tax
	Technology	• Increase in resources to develop electrification technologies, including electric drive system or batteries
	Market	• Rise in raw material prices for electrification and weight reduction and tight procurement of semiconductor components • Energy price spikes and supply instability due to tight fossil fuel and renewable energy supplies caused by political conditions and market forces
	Reputation	• Implications on investment decisions considering ESG by investors
Physical Risks	Acute	• Damage by torrential rain, production halts caused by supply chain disruptions, health hazards caused by heat waves
	Chronic	• Increasing impact of production halts due to severe and frequent natural disasters, higher frequency of high tide caused by rising sea levels, water resources depletion and rising water prices necessary for operations, spread of tropical diseases
Opportunities	Resource efficiency	• Efficient use of raw materials through thorough material recycling
	Energy Resource	• Stable reception of carbon neutral electricity by promoting the expansion of demand and supply of electricity • Diverse selection of renewable energy sources
	Products and Services, Markets	• Deployment of products that suit each region through Building-Block concept and multi-solution • Diversification of products that adapt to next-generation automobile fuels (alternative fuels such as biofuels, synthetic fuels, etc.) • Expansion of market opportunities through deployment of product that suit each region and diversification of products

Specific Initiatives

Mazda is implementing the following initiatives as part of its efforts to seize opportunities and avoid, or minimize the impact of, the risks it faces.

Acquiring Opportunities and Avoiding Transition Risks

- Enhancing development of electrification technology: Mazda is working toward electrification over three phases that take the Company to 2030 (P16)
- Efforts to expand demand for carbon-neutral electricity in the Chugoku region: At the Carbon Neutral Electricity Promotion Subcommittee, an expert subcommittee of the Chugoku Region Carbon Neutrality Promotion Council that Mazda joined in 2021, the Company has worked with collaboration partners to formulate a roadmap to help spread supply and demand for electricity that comes from renewable energy sources. From 2023 onward, Mazda is carrying out studies to put the roadmap into practice, and is moving toward the implementation stage.

Avoiding or Minimizing Physical Risks

- Development of a system to rapidly respond to damage from torrential rainfall and other disasters:
  - BCP: as part of its BCP, Mazda theorizes natural disasters, and works continuously to improve its response through infrastructure and systems.
  - Supply chain: working with suppliers, Mazda has introduced SCR (Supply Chain Resiliency) Keeper, a supply chain risk management system, and endeavors to quickly gain information on its sites should something occur, and to improve the speed with which it can react.
  - Logistics network: Mazda has developed an emergency communication system with transportation companies, and has ranked the impact posed by typhoons, torrential rains, etc. The Company is putting in place a system that, based on damage-avoidance responses set for each ranking, will maintain cooperation with the production system, while also minimizing the impact on operations.

*1 TCFD: Task Force on Climate-related Financial Disclosures
A private sector organization set up by the Financial Stability Board (FSB), in response to the request from the G20 Finance Ministers and Central Bank Governors.
*2 An organization established in Japan, aimed at holding discussions regarding climate change on effective corporate information disclosure and efforts for leading disclosed information to appropriate decision-making on investment by financial institutes and other entities. The Ministry of Economy, Trade and Industry, the Financial Services Agency, and the Ministry of the Environment participate in the consortium as observers.
*3 As of June 2023, reported and debated four times at the Board of Directors.

Risk Management

Transition Risks

Major risks and opportunities are identified based on the review of scenarios issued by the International Panel on Climate Change (IPCC) and International Energy Agency (IEA), policies and regulatory trends and industrial trends. A specialist team is implementing the risk identification and assessment process biweekly, sharing the progress of initiatives and toward tackling issues. Strategies reviewed are reported to, and discussed by, the Executive Committee Meeting and Board of Directors, which are attended by the president. Mazda also shares climate-related information with its suppliers periodically through a shared platform.

Physical Risks

Mazda is developing a framework to swiftly respond to damage from exceptionally heavy rainfall and other disasters, and manages such risks within an emergency risk management system that forms part of its Business Continuity Plan (BCP). In addition to these measures, given that the severity and frequency of exceptionally heavy rainfall are increasing in recent years, Mazda strives to improve its ability to gather weather forecast data, and to enable it to make decisions swiftly to respond to disaster, based on preset schedules. The Company also reviews its response to each rainy season, and works to improve its ability to respond.

Metrics and Targets

Global Warming Response

To take on the challenge of achieving carbon neutrality throughout Mazda's entire supply chain by 2050, it will be essential to understand the GHG emissions of Scope 1, 2 and 3. In addition, it is possible that more stringent carbon pricing, including the introduction of carbon taxes, could impact finances. In order to run eco-friendly operations more effectively throughout the Mazda Group and its entire supply chain, the Company has started a management approach that integrates CN initiatives into the existing ISO 14001 Environmental Management System (EMS).
In addition, Mazda asks its suppliers to provide it with CO_2 emission data in Scope 1 & 2 as well as logistics at the time of delivery to it (Scope 3 Category 1 for Mazda) every year, and set targets together with them to manage the results.

Conservation of Water Resources

Water is essential in automobile manufacturing processes such as cooling (e.g., cooling furnaces in casting), dilution (diluting the mother liquor used for cutting and cleaning in the machining process), and cleaning (e.g., cleaning car bodies in the painting process). In preparation for potential risks and concerns in future such as water resources depletion and rising water prices, we aim to realize initiatives for the recycling and circulation of water resources at a model plant*1 in Japan by 2030. By 2050, we aim to realize this initiative in our global production processes.

Major Metrics and Targets

Global Warming

Products	• Target: Achieving carbon neutrality by 2050 • Medium-term metric in 2030: EV ratio (expecting 100% of Mazda global sales vehicles will be electrified, and the EV ratio will be 25-40%)
Manufacturing	• Target: Achieving carbon neutrality at Mazda's global factories by 2035 • Metrics: Factory decarbonization progress ratio

Conservation of Water Resources

Manufacturing	Target: Reducing water intake by the entire Mazda Group companies in Japan by 38% in 2030 compared with 2013 Metrics: Water intake reduction ratio

Latest information on TCFD

*1 Model plant: A pilot plant where new attempts are made, ahead of other facilities.

Earth

RESOURCE CIRCULATION

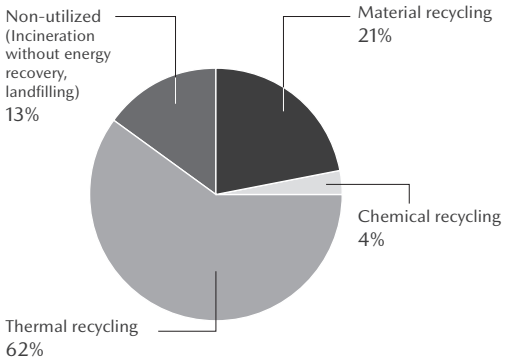
Recognizing Social Issues

Resource Recycling for Materials

In the context of a growing world population, the global community is facing challenges due to an increase in demand for resources and the worsening environmental issues, including the rising amount of waste. To address these challenges, it is necessary to transition to a circular economy that considers medium- and long-term outlooks, but also to promote the conventional 3R (reduce, reuse, and recycle) initiatives in all economic activities.

A circular economy intends to generate new value while reducing resource inputs and consumption and making effective use of social stock. Plastic recycling is indispensable in achieving a circular economy. In Japan, currently an estimated 60% of plastic waste goes through thermal recycling, which means that the waste is combusted in incinerators to produce energy. In Western countries, however, usually combustion is not included in the concept of recycling. Also, a minute amount of dioxin is generated during the process of combustion. For these reasons, companies are required to contribute to the circular use of resources (material recycling/chemical recycling) or the use of biomass plastics.

Breakdown of plastic waste recycling by type (Japan)



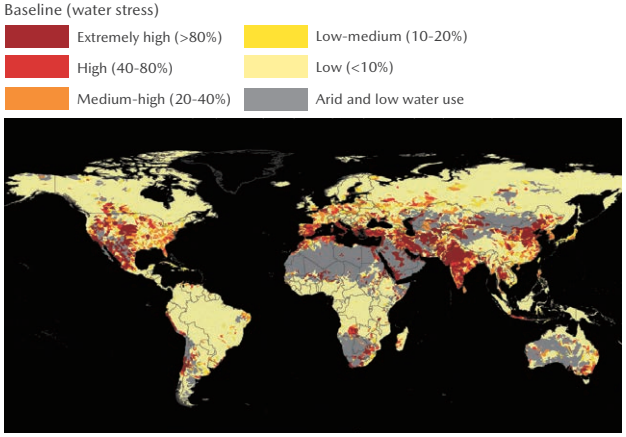
The above pie chart was created by Mazda, based on "An Introduction to Plastic Recycling 2023" published by the Plastic Waste Management Institute.

Resource Recycling for Water

Of the total volume of water existing on the earth, only 0.01% is useable by humans. This small amount of water is not distributed around the world, so a number of countries and regions face high water stress.*1

If the earth's temperature continues to increase due to climate change in the future, the sea levels will rise owing to the thermal expansion of the oceans and melting ice caps. This will result in rivers being contaminated with salt water, a rise in groundwater levels and other disasters that will reduce the amount of freshwater available to humans. Meanwhile, the United Nations World Water Development Report 2018 states that by 2050, global demand for water is expected to increase by 20-30% from 2010, driven by population growth, economic development and changing consumption patterns, among other factors. Companies must address the issues regarding global water resources in order to conduct sustainable business activities.

Water stress around the world



The below figure was created by Mazda under license from the World Resources Institute (WRI).

WRI "25% of the global population faces extremely high water stress each year"

Mazda's Approach to Resolving Issues

Reasons for Addressing Social Issues

Around 2030, Mazda forecasts progress in various initiatives to realize a recycling-oriented society from the perspective of natural capital. This will be achieved through using resources without any losses, promoting the 3Rs to encourage the reuse of water, plastic and other resources, and establishing resource circulation systems, such as a circular economy. Meanwhile, a significant reduction in energy and resource losses throughout the entire vehicle manufacturing supply chain may be expected as a result of efforts to make process more efficient. Dramatic progress will also be made in recycling and waste reduction initiatives through the promotion of the 3Rs and the transition to a circular economy.

Aiming to become a company that can coexist in harmony with the earth, Mazda will continue to implement thorough recycling and waste reduction initiatives.

Approach to Resolving Social Issues

To carry out product development and design with consideration for recycling needs, Mazda builds resource-recycling initiatives into every phase of the lifecycle of its vehicles, based on the 3Rs and the circular economy. Many limited resources are used to manufacture vehicles, such as steel, aluminum, plastics and rare metals. At its business sites (areas of manufacturing, logistics, etc.), the Company will push forward with initiatives toward the realization of a recycling-oriented society from two different perspectives shared throughout the entire vehicle supply chain. One is the well-to-wheel perspective, and the other is the global & supply chain perspective.

*1 Term that refers to the ability, or lack thereof, to meet human and ecological demand for water

Efforts Regarding Product and Technology Development

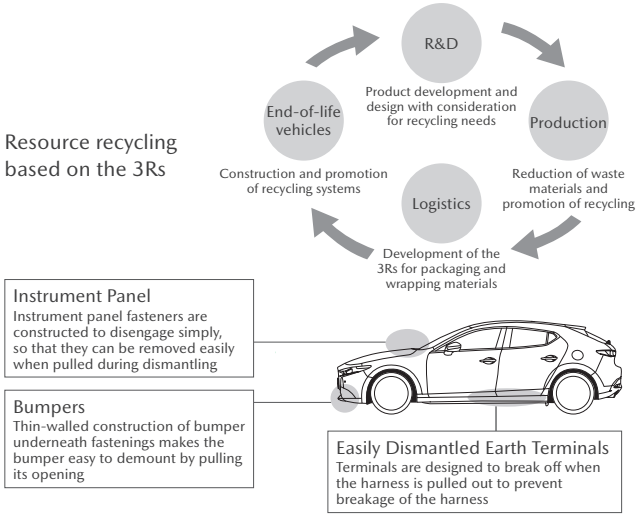
Product Development and Design with Consideration for Recycling Needs

Many limited resources are used to manufacture vehicles, such as steel, aluminum, plastics, and rare metals. Mazda is incorporating 3Rs design into all vehicles currently under development to increase the recyclability of its new vehicles.

<Specific Initiatives>

1. Research into vehicle design and dismantling technologies that simplify dismantling and separation, to make recyclable parts and materials easier to remove
2. Use of easily recyclable plastics, which constitute the majority of ASR*1 by weight

Resource recycling based on the 3Rs



Expanded Adoption of Biomaterials

Mazda has been proactively developing plant-derived biomaterials which have the potential to help reduce environmental impact by curbing the use of fossil fuels and CO_2 emissions. In 2006, the Company became the first in the automotive sector to develop high heat-resistant, high-strength bioplastic for vehicle interior parts. In 2007, Mazda succeeded in the development of the world's first*2 biofabric made with completely plant-derived fibers for vehicle seat covers. In 2014, bio-based engineering plastic,*3 suitable also for use in vehicle exterior parts, was developed by the Company, which is currently expanding the adoption of this material.

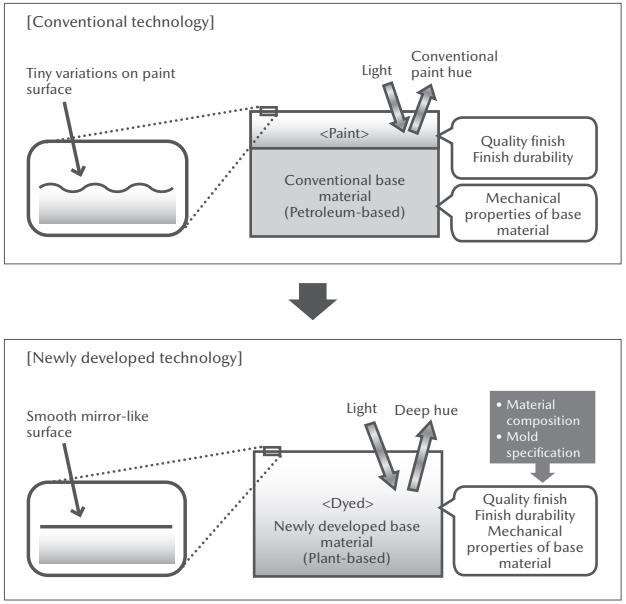
Technology development initiatives related to bio-based engineering plastics

2014: Mazda developed bio-based engineering plastic featuring a high-quality finish without painting. By developing paint-less technology for interior and exterior parts taking advantage of the characteristics of this material, the Company not only secured the excellent environmental performance of the material but also achieved a high-quality finish that could not be achieved with conventional paint, and contributed to environmental protection and production cost reduction by eliminating the painting process.

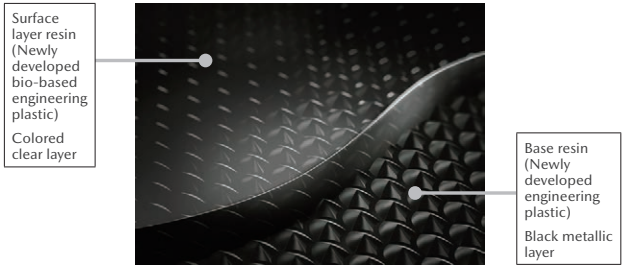
2017: Mazda developed materials suitable for making large, intricately shaped exterior parts, such as front grilles, and optimized the die specifications in order to substantially enhance the formability of these parts. In 2020, the Company received the Award for Science and Technology (Development Category) of the 2020 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology for the development of the above-mentioned bio-based engineering plastic.

2018: Mazda developed a new technology for two-layer molding of pattern designed bio-based engineering plastic, which enables the molding of a transparent surface layer and a base layer with a pattern-engraved surface, both of which are made of environmentally friendly bio-based engineering plastic. The new technology reduces environmental impact while making it possible to provide elaborated, shaded patterns of deep color, which was previously impossible with conventional technology. In 2021, the Company received the Aoki Katashi Innovation Award from the Japan Society of Polymer Processing for the development of the above-mentioned new technology for two-layer molding of pattern designed bio-based engineering plastic.
In 2023, Mazda received a METI Minister's Prize at the Ninth Monodzukuri Nippon Grand Awards.

2014: Development of paint-less technology for interior and exterior parts taking advantage of this material



2018: New technology for two-layer molding of pattern designed bio-based engineering plastic
New technology for two-layer molding of pattern designed bio-based engineering plastic: surface view



*1 Automobile Shredder Residue
It refers to the residue remaining after the crushing/shredding of what is left of the vehicle body following the removal of batteries, tires, fluids, and other parts requiring appropriate processing; the removal of engines, bumpers, and other valuable parts; and the separation and recovery of metals.
*2 As of September 2007; according to Mazda data
*3 Bio-based engineering plastic was developed by Mazda Motor Corporation in collaboration with Mitsubishi Chemical Corporation.

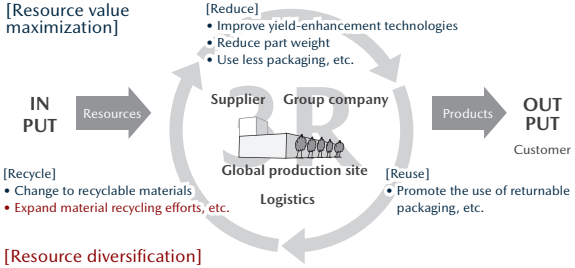
Efforts Regarding Production and Logistics

Resource Circulation: Materials

The Mazda Group continues to expand its global efforts for zero emissions and resource recycling, by such means as using resources without any losses, and 3R activities (to reduce, reuse, and recycle resources).

2030	2050
Achieve zero emissions in manufacturing and logistics processes on a global basis. • The status in which landfill waste is reduced to 0.1% or lower of the total waste generated. The Mazda Group companies in Japan achieved zero emissions in 2018	Achieve zero emissions through expanded resource recycling initiatives in manufacturing and logistics processes on a global basis. • Break away from dependence on thermal recycling or other combustion-based recycling methods • Augment material recycling

Ideal vision



Production Materials: Maintaining the Status of Zero Landfill Waste and Promoting the Reduction of Waste

To reduce landfill waste at its four principal domestic sites*1 to zero, Mazda is promoting reductions in the volume of manufacturing by-products and waste, more rigorous sorting of waste, and recycling. As a result, the Company has achieved zero landfill waste, and has maintained this status from FY March 2009 to FY March 2023. The Company has also achieved material recycling, to ensure that packaging materials used in the vehicle assembly process can be reused as raw materials, by more strictly sorting these packaging materials by ingredient and quality. The amount of waste in FY March 2023 was reduced by 86% compared with FY March 1991 levels. Mazda has been proactively using recycled materials for the plastic pallets used to transport parts overseas. Currently, the Company is continuing studies into using plastic waste generated at its plants as a recycled material for the production of plastic pallets, working to further reduce the amount of waste generated.

Amount of landfill waste, amount of recycled materials, recycling ratio (P113)

Logistic Materials: Reducing Volume of Packaging and Wrapping Materials

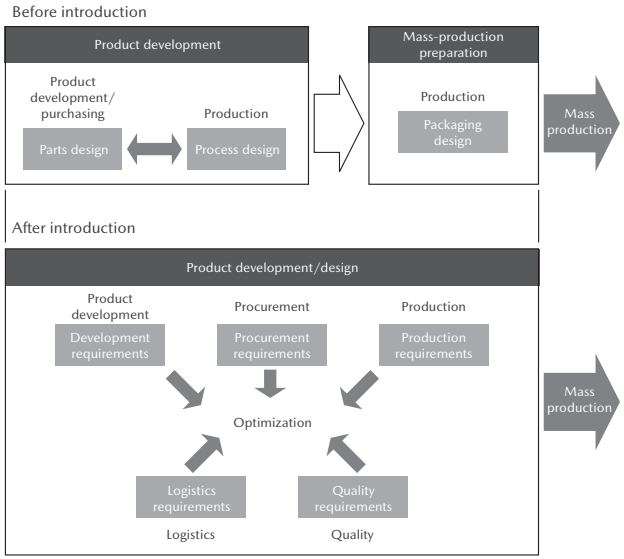
Mazda is moving forward with efforts centering on the "3Rs of Mazda logistics" to cut down on resources used for packaging and wrapping. In FY March 2023, the use of packaging and wrapping materials was reduced by 17% compared with FY March 2020 levels.

In FY March 2017, departments in the five areas—development, production, procurement (purchasing), logistics and quality—closely worked together to achieve the optimization of parts procurement and vehicle manufacturing, from the stage of product development, and to establish strong cooperation with the supply chain. These efforts resulted in reduced volumes of packaging and wrapping materials, and an increased packaging filling rate. In FY March 2023 as well, these departments worked in close collaboration to improve the packaging filling rate for some parts, and to reduce the volumes of their packaging and wrapping materials. Mazda will continue promoting and expanding these activities that involve efforts in different areas, so as to reduce the consumption of materials. In the area of repair parts for overseas, the Company continues to expand the application of large-size returnable containers, aiming at increasing the container filling rate. By utilizing these containers, Mazda succeeded in reducing the use of packaging and wrapping materials by about 2,100 tons in FY March 2022 and by about 2,700 tons in FY March 2023.

For the parts exported to overseas assembly plants, the Company is now expanding its introduction of new standard containers for parts to be transported in containers from Japan. This makes it possible to eliminate the empty space inside the containers. By improving filling rate inside the container from 70% to 90%, the Company could reduce the number of containers and the number of transportation truck services, thus contributing not only to the reduction of the use of packaging and wrapping materials, but also to the reduction of CO_2 emissions. These activities were rolled out to Mazda Toyota Manufacturing (MTM), which began operations in January 2022. By introducing new standard containers, in FY March 2023, the Company succeeded in reducing the number of containers by about 33, and the use of packaging and wrapping materials by around 1,800 tons. The Company is planning to expand the introduction of the new standard containers to achieve further reductions.

Consumption of wrapping and packaging materials (P113)

Activities Image



Introduction of Returnable Containers

*1 Head office (Hiroshima); Miyoshi Plant; Hofu Plant, Nishinoura District; Hofu Plant, Nakanoseki District (including non-manufacturing areas such as product development)

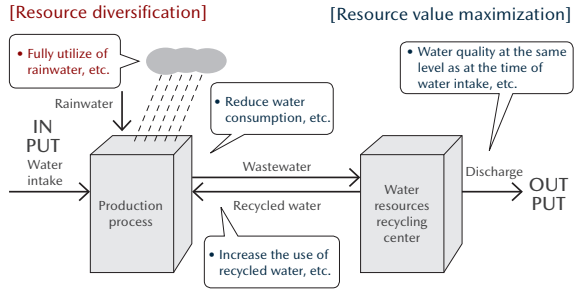
Resource Circulation: Water

To conserve water resources, the Mazda Group promotes activities to eliminate wasteful water use, and circulate water resources by treating used water so that it is the same quality as it was taken from nature.

2030	2050
Implement an optimal approach to water resources recycling and circulation at a model plant* in Japan. • Fully utilize water without any waste, as a valuable resource that is a natural blessing. • Circulate water as a valuable resource that is a natural blessing, by treating used water so that it is the same quality as before it was used, and returning it to nature.	Implement an optimal approach to water resources recycling and circulation in global manufacturing processes. • Fully utilize water without any waste, as a valuable resource that is a natural blessing. • Circulate water as a valuable resource that is a natural blessing, by treating used water so that it is the same quality as before it was used, and returning it to nature.

* Model plant: A pilot plant where new attempts are made, ahead of other facilities.

Ideal vision

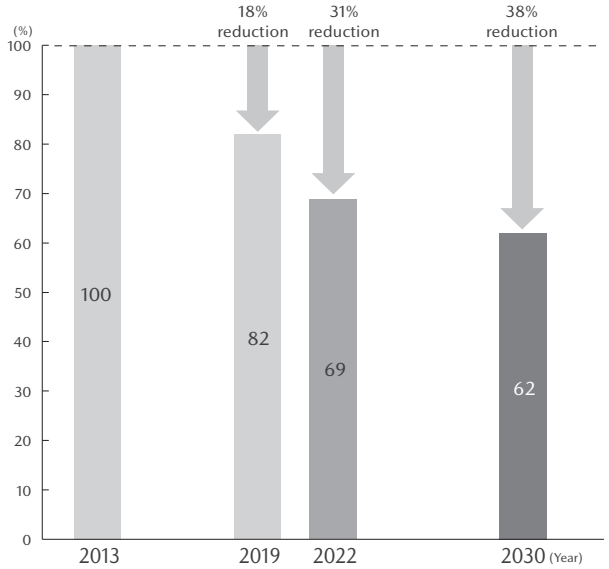


Water Resource Conservation Target

In order to implement its initiative of water resource reuse and recycling at a domestic model plant, the Company has set a target of reducing water intake by the entire Mazda Group in Japan by 38% in 2030 compared with 2013 levels. In order to achieve this target, the Company is planning to reduce the annual water use by 2%. In addition, the Company promotes the further use of rainwater and recycled water.

Water withdrawal and wastewater amount (P114)

Water withdrawal amount by Mazda Group companies in Japan



To Achieve Water Resource Conservation Target

By clarifying input, process, and output of water resource in its business activities, Mazda is promoting initiatives to efficiently use the valuable water (i.e., utilizing water resources without wasteful use), minimizing water usage, and circulating water resources by treating used water so that it is the same quality as when it was taken from nature. To push forward these initiatives, the Water Resource Group*1 was established consisting of members in charge of water resource conservation. The group works on six major themes: "eliminating wasteful use," "reduction," "reuse," "recycling," "utilization of rainwater, water sludge and waste fluid" as well as "building communities and systems and developing human resources" by splitting into two teams to analyze current conditions and to respond to issues identified during that analysis. The Water Resource Group also started sharing information on initiatives at domestic plant with overseas plants, as well as supporting the overseas plants' efforts to address the issues.

- Recycling/Circulation Team: reviews models in the field of wastewater treatment, reviews models and implement trials in the field of water intake
- Use Reduction Team: introduces models and rolls out trial results reviewed by the Recycling/Circulation Team to plants

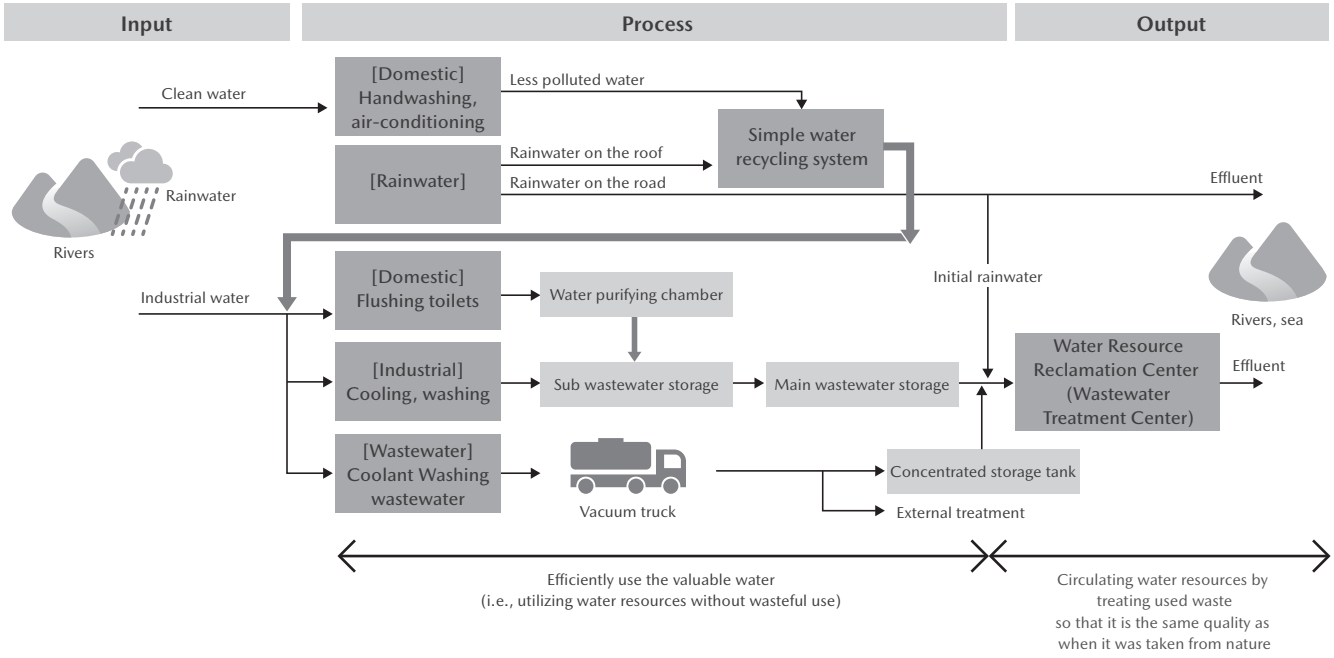
Examples of Efficient Use of Water Resources

[Appropriate use / reuse]

- Appropriate drainage of cooling towers:
  Prevention of overflows caused by excessive water supply, and reuse of less polluted water in circulation without draining in accordance with internal standards
- Reducing toilet washing water:
  Put a sensor on each toilet that allows flushing only when the sensor senses the existence of the user
- Effective use of electrodeposition paint cooling drainage:
  Water used to cool paint is reused in other processes

[Recycling of drain water / utilization of rainwater]

Less-polluted water, such as hand washing water and air-conditioning drainage, is recaptured and recycled with a simple recycling system and used together with stored rainwater for flushing toilets, watering green space, etc., at Mazda sites



*1 A working group affiliated with the Business Site Environment Committee, an organization that studies and promotes environmental protection methods in manufacturing and logistics and reduce environmental impact throughout the entire supply chain.

Initiatives for Collection and Recycling of End-of-Life Vehicles (ELVs) and Used Parts

Around 80% of a vehicle can be recycled. Implementing thorough recycling and waste reduction initiatives to ensure that limited resources are used effectively, Mazda promotes efforts to establish a recycling-oriented society.

Measures in Response to End-of-Life Vehicle Recycling Law in Japan

Mazda properly processes and recycles three designated items (fluorocarbons, airbags, and automobile shredder residue [ASR])*1 pursuant to the End-of-Life Vehicle Recycling Law in Japan. In addition, the Company is creating unique technologies and measures to move this recycling program forward. In the case of ASR, Mazda is working through ART,*2 a consortium of 13 key companies including Mazda, Nissan Motor Co., Ltd., and Mitsubishi Motors Corporation, to comply with the law and achieve progress in the reuse of resources.

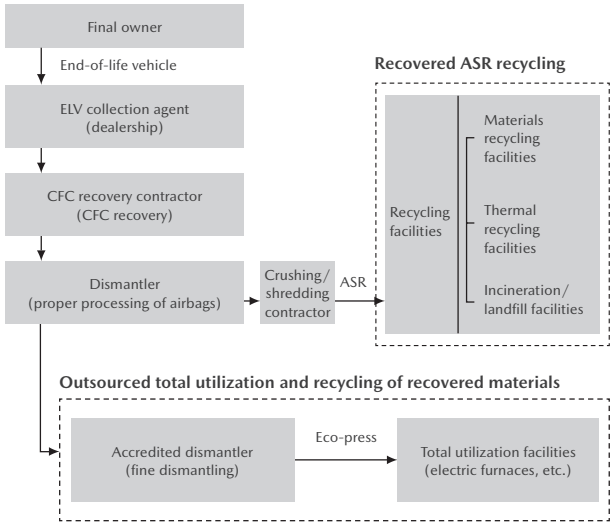
The Company appropriately executes recycling at dealerships. Dealerships collect vehicle recycling fees at the time of sale and receive the ELVs from their final owners in order to transfer them to the disposal processing companies. As for recycling fees, the Company reviewed its fee calculation standard in sequence for new models launched in 2012. The new fee standard is applicable to the Company's new models released after that. While forecasting a future recycling situation, the Company will continue to push forward with its recycling business in such a way to ensure a balance between revenue and expenditures in the medium and long term.

The End-of-Life Vehicle Recycling Law was revised in February 2012, and newly designated lithium-ion batteries and nickel-metal hydride batteries as items for advance collection before dismantling of end-of-life vehicles. Mazda is committed to collecting lithium-ion batteries installed in vehicles launched in and after October 2012 through the LiB Joint Collection System of Japan Auto Recycling Partnership, Ltd. The Company also independently collects nickel-metal hydride batteries installed in the Axela (Mazda3 overseas) Hybrid (launched in November 2013).

In order that the related supplier safely recycle vehicles installed with lithium-ion batteries and nickel-metal hydrate batteries as well as deceleration energy regeneration system capacitor, Mazda published the disposal work procedure on its website and promotes appropriate disposal.

Reference website (Japanese only) for Mazda's efforts with regard to the End-of-Life Vehicle Recycling Law

End-of-Life Vehicle Recycling Process



Resource Recycling Results in FY March 2023

Number of vehicles from which ASR is collected		113,036 units
Number of vehicles from which airbags are collected		108,127 units
Number of vehicles from which fluorocarbon is collected		107,587 units
Recycling ratio	ASR	96.8%
	Airbags	95.3%
Recycling ratio for ELVs*		More than 99%
Total contracting deposits received		1,380,143,362 yen
Total expenses for recycling		1,350,023,420 yen

(Includes separate cost required at Mazda)

* Recycling ratio for ELVs is the recycling ratio in dismantling/shredder processes of around 83% (cited from the May 2003 joint council data), plus the remaining ASR ratio of 17% multiplied by the ASR recycling rate for the relevant fiscal year.

Status of resource recycling initiatives (Japanese only)

ASR and the End-of-Life Vehicle Recycling Law in Japan

Disposed vehicles consist of about 80% useful metal and about 20% automotive shredder residue (ASR) that includes resin. Useful metal is recycled in cooperation with metal recycling-related companies such as dismantlers, crushing/shredding contractors, and steel manufacturers. With regard to ASR, which used to be disposed by landfill, is now subject to the End-of-Life Vehicle Recycling Law, which was enforced in January 2005. This is due to the rise in the risk of illegal dumping of end-of-life vehicles on the back of a surge in disposal costs due to overstrained final landfill sites and weakness in iron scrap prices.

After the enforcement of this law, car manufacturers are required to recycle ASR, chlorofluorocarbons—which lead to global warming and ozone depletion—and airbags—which require specialist knowledge for disposal—under their responsibility, using recycling fees deposited by final owners of the ELVs.

*1 Automobile Shredder Residue
It refers to the residue remaining after the crushing/shredding of what is left of the vehicle body following the removal of batteries, tires, fluids, and other parts requiring appropriate processing; the removal of engines, bumpers, and other valuable parts; and the separation and recovery of metals.

*2 ART: Automobile shredder residue Recycling promotion Team

Promoting Recycling of End-of-Life Vehicles Overseas

Mazda is committed to the recycling of end-of-life vehicles overseas in accordance with the laws in each country and region, under the initiative of the local distributors. As for countries in which recycling-related laws are planned to be established, Mazda is preparing to respond in cooperation with the distributors in such countries.

As well as vehicles for domestic use, in order that the related supplier safely recycle vehicles installed with lithium-ion batteries and capacitors, the Company published the disposal work procedure on its website and promotes appropriate disposal.

Reference website for Mazda's efforts with regard to recycling of end-of-life vehicles overseas

Europe

Based on the EU Directive, Mazda Motor Europe provides a dismantling manual to recycling contractors when introducing a new model and has established a network to collect used vehicles from their final owners free of charge, in cooperation with the distributors in each country.

China

A law was enforced in January 2015, in accordance with which local manufacturers are managing substances with environmental impact and developing dismantling manuals.

Promoting the Collection and Recycling of Used Parts in Japan

Mazda is continuously engaged in the recycling of damaged bumpers replaced for repairs as plastic materials for new vehicle bumpers, etc.

- Recycling of damaged bumpers: Mazda collects bumpers removed for repairs at dealerships throughout Japan, and recycles them for reuse as plastic parts (new vehicle bumpers, undercovers, etc.).
  In FY March 2023, the Company collected 45,399 bumpers, which were utilized as recycled materials.

Amount of recycled parts (P113)

ENVIRONMENTAL MANAGEMENT

Establishing Environmental Management Systems

Mazda is promoting the establishment of Environmental Management Systems (EMS) across its entire supply chain and in all Group companies. The purpose of the EMS is to carry out more environmentally conscious business activities in a more effective manner, based on ISO 14001 and other standards.

Progress Status

- Mazda and Group manufacturing companies in Japan and overseas have now acquired ISO 14001 certification. (Obtained by 14 out of a total of 14 companies)
- Mazda has had dealerships in Japan certified under EcoAction 21 (EA21),*1 an environmental management system. Introduction of the system has been completed at the Company's 15 consolidated dealerships, and is now expanded to owner-managed dealerships. As of the end of March 2023, 25 dealerships of the Mazda/Mazda Enfini sales channel, 114 dealerships of the Mazda Autozam sales channel, and Mazda Chuhan (a used car sales company) have been certified. The dealerships that have already been certified are continuously supporting the introduction of the environmental management system at newly opened shops.
- Mazda has completed introduction of an exclusive Mazda EMS to two Mazda Group vehicle parts companies in Japan.

List of ISO 14001 Certified Production and Business Sites

Domestic production / business sites

Hiroshima district	Hiroshima Plant	June 2000
	Miyoshi Plant	
Hofu Plant	Nishinoura district	September 1998
	Nakanoseki district	September 1999
Tokyo Headquarters		September 2016
Mazda R&D Center Yokohama		
Proving Ground (Mine, Kenbuchi, Nakasatunai)		
Osaka Corporate Sales Office		

Overseas production site

AutoAlliance (Thailand) Co., Ltd.*1	May 2000
Changan Mazda Automobile Co., Ltd.*1	December 2008
Changan Mazda Engine Co., Ltd.*1	February 2009
Mazda de Mexico Vehicle Operation*2	December 2014
Mazda Powertrain Manufacturing (Thailand) Co., Ltd.*2	November 2016

*1 Equity-method group company
*2 Consolidated group company

Four domestic consolidated group companies (excluding sales companies)

Mazda E&T Co., Ltd.*3	June 2000
Mazda Ace Co., Ltd.*3	June 2000
Mazda Logistics Co., Ltd.*3	June 2000
Kurashiki Kako Co., Ltd.	December 2001

*3 Some or all of the organizations at each of the companies above acquired ISO 14001 certification in the certification scope of Mazda.

Four domestic equity-method group companies

Toyo Advanced Technologies Co., Ltd.*4	June 2000
Japan Climate Systems Corporation	May 2000
Yoshiwa Kogyo Co., Ltd.	April 2002
MCM Energy Service Co., Ltd.*5	June 2008

*4 The company was ISO 14001 certified in the certification scope of Mazda. As a separate business facility, the company individually acquired the certification in March 2016. As a separate company, however, the company acquired re-certification in April 2017, resulting in the exclusion of the company from the certification scope of Mazda.
*5 Although the company was inside the certification scope of Mazda, it acquired the certification on its own in March 2013.

Development of Environmental Policies

In order to promote environmental initiatives within Mazda's scope of certification, the Company has developed the following environmental policy.

Mazda Environmental Policy

Basic Policy

Through business activities that coexist with the society and local community, we will realize the carbon-neutral and recycling-oriented society.

Action guidelines

(1) Mazda will strive to recycle resources, reduce energy consumption, introduce renewable energy, and conserve biodiversity.

(2) Mazda will promote the use of environmentally friendly products and services by providing products and services whose life cycle was considered.

(3) Mazda will not only comply with environmental laws and regulations, but also consider the environmental impact of its corporate activities on local communities and society and ensure the comfortable environment of the society in the future.

(4) Mazda will raise the environmental awareness of each employee and contribute to the realization of a sustainable society through the Company's entire corporate activities, while placing importance on the appropriate disclosure of information and mutual communication.

*1 Simplified EMS established by the Ministry of the Environment, for application at companies of various scales, such as small to medium-sized companies.

Promoting Green Purchasing

With the aim of reducing the environmental burden throughout its entire supply chain, Mazda established the "Mazda Green Purchasing Guidelines" and engages in operation activities accordingly. These guidelines require all of its suppliers worldwide to undertake measures to reduce their burden on the environment, at all stages from product development to manufacturing and delivery. The guidelines also make it clear that Mazda will give preference in purchasing to suppliers who implement such environmental measures.

Mazda also requires its suppliers of parts, materials, and industrial equipment and tools to obtain and maintain ISO 14001 certification, and to reduce the amount of greenhouse gas emissions generated through their corporate activities. In addition, the Company promotes environmental activities in collaboration with its suppliers by providing them with information and other assistance. Presently, all major suppliers involved in Mazda vehicle development and manufacturing have acquired ISO 14001 certification.

Status of Establishment of Environmental Management Systems (EMS) at Suppliers

- All major suppliers in Japan and abroad with which the Company has ongoing business relationships (around 500 companies), including new suppliers, have maintained certification as of the end of March 2023.
- Under the Mazda Green Purchasing Guidelines, Mazda requires, through primary suppliers, secondary suppliers and the subcontractors to establish EMS.

Collaborative Efforts with Suppliers to Achieve Carbon Neutrality

- Under the Mazda Green Purchasing Guidelines, Mazda asks suppliers to formulate and enact roadmaps to reducing their CO_2 emissions. The Company has received these CO_2 emissions reduction roadmaps from major suppliers, particularly from local suppliers, and collaborative efforts toward carbon neutrality are underway.

Status of Implementation of Environmental Audits

To confirm that environmental management systems, such as ISO 14001 and EcoAction 21, are operating effectively, both internal audits and environmental management system audits (EMS audit) are carried out annually at Mazda and all of its Group companies, both in Japan and overseas, that have obtained certification. Results of internal audits and EMS audits are reported to senior management, and any problems are swiftly and appropriately rectified.

EMS Audit Results on ISO 14001

Mazda Motor Corporation

	FY March 2019	FY March 2020	FY March 2021	FY March 2022	FY March 2023
Serious noncompliance issues	0	0	0	0	0
Minor noncompliance issues	0	0	0	0	1
Observation issues	6	6	5	5	8

Eliminating Sensory Pollution

Sensory pollution comprises noise, vibration, and odors that have a sensory or psychological impact on people. Mazda recognizes that clearing legal regulations may not be enough to prevent noise, vibration, and odors from annoying neighborhood residents. For this reason, Mazda is systematically stepping up measures to alleviate the causes of such pollution, as well as measures to improve noise insulation and odor removal.

Specific Initiatives in Environmental Risk Management

Environmental Monitoring

Drills are conducted at each plant and office to prepare to respond to accidents that adversely affect the natural environment, while environmental monitoring, including monitoring of air and water pollution, is also conducted regularly.

Legal Violations and Complaints

In FY March 2023, there was one violation of environmental laws and regulations at an overseas group company, and one complaint at a group company in Japan. The Company is taking appropriate actions and is implementing measures to prevent recurrence.

Environmental Monitoring

Environmental monitoring item	Target of monitoring	Items monitored	Monitoring frequency
Air quality	Boilers, melting furnaces, heating furnaces, drying furnaces, etc.	5 items: sulfur oxides, nitrogen oxides, soot, volatile organic compounds, hydrogen chloride	Around 320 times per year
Water quality	Treated wastewater	43 items: cadmium, cyanide, organic phosphorus, lead, hexavalent chromium, etc.	Around 1,600 times per year
Noise and Vibration	Site boundaries	2 items: noise level and vibration level	36 times per year
Odor	Site boundaries and other locations	1 item: odor index	15 times per year
Waste products	Slag, sludge, scrap metal, etc.	25 items: cadmium, cyanide, organic phosphorus, lead, hexavalent chromium, etc.	Around 100 times per year

Legal Violations and Complaints (FY March 2023)

	Mazda Motor Corporation		Group Companies	
	Number of incidents	Details and response	Number of incidents	Details and response
Legal violations	0	-	1	Water quality: implemented remedies for the sources
Complaints	0	-	1	Wastewater discharge: implemented measures to prevent reoccurrence

*Boundary: Mazda and its Group companies

Environmental Education/Education Program Structure

As part of its Environmental Management Systems (EMS), Mazda conducts environmental education—covering topics such as environmental issues, trends inside and outside Japan, the Company's environmental initiatives, and environmental conservation activities at different workplaces—for all employees once a year, and for EMS leaders twice a year. Mazda also encourages employees to obtain environment-related public qualifications. The Company offers support for employees working toward these qualifications, including financial support through the Mazda Flex Benefit System.*1

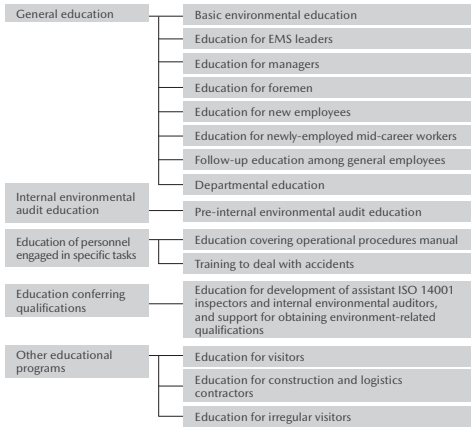
In addition, with the goal of raising environmental awareness, Mazda ran a questionnaire that asked employees about the zero-carbon actions they are taking in their daily activities. By explaining zero-action actions, the Company was able to share the latest information with its employees.

*1 This is a selective benefit system. Individual employees can seek the type of assistance that most suits them by choosing from a number of preset benefit options up to the points they have.

Qualifications that Employees Are Encouraged to Obtain:

- Energy attorney
- Head supervisor of pollution control
- Supervisor of air and water pollution control (Class 1 to 4)
- Supervisor of noise- and vibration-related pollution control
- Supervisor of dust and particulate pollution control (Specified, General)
- Supervisor of dioxide pollution control
- Special managing supervisor in charge of industrial waste disposal
- Environmental Society Test (= Eco Test)
- EMS inspector
- Internal environment auditor
- Environment measurer
- Construction environment hygiene control engineer

Environmental Education Structure



Routine Environmental Activities

Employees are working on environmentally friendly initiatives through their individual daily tasks.

Reducing Paper Use

Mazda continually makes efforts to considerably reduce the amount of paper used for office work through the digitization of documents, ledger sheets, and other forms, as well as through the use of projectors and monitors at meetings, etc. As part of its recycling efforts, the Company also reuses waste paper (shredder dust) as packaging material for shipping parts, and is increasing efforts to separate the collection of waste paper by type during disposal.

Reducing Energy Use

Through regular initiatives, including purchasing of low-power-consumption office equipment and furniture, and turning off lights and computers when they are not in use, Mazda makes continual efforts to reduce energy use. Furthermore, Mazda implements a "Cool Biz" program during the summer season every year, setting internal room temperatures at 28°C (82.4°F) on a standard basis. During the winter season when electricity consumption is particularly high, the Company implements a "Warm Biz" program, setting internal room temperatures at 20°C (68°F) on a standard basis.

Eco Walk Commuting Program

In order to raise employees' environmental consciousness and encourage them to take better care of their health, employees who walk two kilometers or more as part of their daily commute to work are rewarded with an addition of 1,500 yen per month to their commuting allowance.

Light-Down Campaign

- Mazda Light-Down Campaign

  To raise environmental awareness, Mazda and its domestic Group companies participated in the Light-Down (i.e., lights-off) Campaign, in which they turned off their signboards and indoor lighting.
  These participating sites shut off lighting for two hours from 20:00 to 22:00 on June 21 (summer solstice) and July 7 (Tanabata, or the Star Festival), 2022. This campaign saved about 9 MWh of electricity and around 4 tons of CO_2 emissions.
  (No. of participants) Mazda Motor Corporation: 14 sites
  Domestic Group companies: 963 sites of 270 companies
  This campaign started in 2011 with turning off lights at Mazda's six sites. The 12th event, in 2022, was the biggest yet.
- WWF's Earth Hour 2023

  Mazda and its domestic Group companies supported and participated in Earth Hour 2023 organized by the World Wildlife Fund (WWF), which is the world's largest global warming campaign.
  For one hour from 20:30 to 21:30 on March 25, 2023, the participating sites turned off signboards and indoor lighting.
  (No. of participants) Mazda Motor Corporation: 12 sites
  Domestic Group companies: 701 sites of 127 companies
  Mazda also participated in the Earth Hour promotional event held at the Hiroshima Peace Memorial Park as a partner company and streamed the event online.

For details of the Light-Down Campaign, see Sustainability "Earth: Related Information" (Japanese only)

Environment-Related Accident Emergency Drill and Prevention Campaign

Emergency Drill to Prevent Marine Pollution

Mazda's plants are located close to the seas and has a high environmental risk of oil leakage from domestic vessels, etc. For the oil leakage on the sea, the Company has conducting drills based on realistic scenarios to extend oil fence to prevent the spread of oil and collecting oil floating on the sea surface and confirm the effectiveness. In FY March 2024, Mazda resumed drills, after having previously been cancelled due to the COVID-19 pandemic.

Campaign for Oil Spill Prevention and Traffic Safety

Jointly with Mazda Logistics Co., Ltd. and several truckload transportation companies, Mazda Motor Corporation conducts an awareness-raising campaign to prevent oil spills on roads during vehicle delivery and improve traffic safety awareness. In this campaign, which are held twice a year, awareness-raising leaflets are distributed to drivers of delivery trucks to the Hiroshima Plant and the Hofu Plant. In doing so, the Company strives to improve such drivers' awareness of the environment and safety and create a system that ensures that employees can make a quick and appropriate response in the event of an accident. As part of prevent oil leakage from occurring, Mazda established a database to visualize maintenance status of each vehicle and information on past environmental defects and allows to timely send information alert message to transportation companies. The system began operation in March 2021. Initially around 38% of vehicles that deployed the MILK-RUN System*1 adopted the system. As of the end of FY March 2023, around 65% vehicles adopted the system. In future the Company is striving to extend the system to more suppliers to prevent oil leakage from occurring.

Campaign for Oil Spill Prevention and Traffic Safety

*1 A method in which a single truck visits multiple suppliers to collect supplies. Named after truck routes in rural areas, which picked up milk from each farm.

INITIATIVES FOR REDUCING ENVIRONMENTAL IMPACT

Cleaner Emissions

Cleaner Gas Emissions

Mazda is committed to mitigating air pollution from exhaust gas. To this end, the Company is actively developing low-emission vehicles, clearing the emission regulations in each country/region to introduce these vehicles globally.

Emissions Reduction Technologies

Mazda pays attention to global movements toward tighter control of exhaust emissions and fuel economy, market expansion due to rapidly growing emerging countries, and depletion of scarce resources. The Company has developed its unique high-performance, three-way catalytic converters and soot (particulate matter) oxidation catalyst, reducing the use of precious metals and helping to clean exhaust gases.

The Most Recent Emissions Reduction Technologies

- Gasoline engines
  To clean emissions from both its conventional 2.5-liter straight-4-cylinder engine and its newly developed 3.3-liter straight-6-cylinder gasoline turbo engine, Mazda uses a system based on a three-way catalytic converter. Combined with improved fuel control technologies that increase the speed at which the catalyst activates after starting the engine, or restarting it after a short pause, Mazda has cleared different countries' strict emissions regulations, including SULEV30 regulations in the US.
- Diesel engines
  To clean emissions from its newly developed 3.3-liter straight-6-cyclinder diesel turbo engine, Mazda uses a system based on oxidation catalysts, that also utilizes ceramic filters able to catch, collect, and clean soot. Making use of an original DCPCI (Distribution-Controlled Partially Premixed Compression Ignition) technology developed in pursuit of perfect combustion, as well as larger displacement, this affordable system does not require a NOx purification catalyst to achieve clean emissions that easily clear Japan's RDE (Real Driving Emission) regulations.

Proper Management of Chemical Substances and Heavy Metals

Mazda publishes Management Standards for Environmentally Hazardous Materials, specifying substances and heavy metals whose use in parts and materials it purchases is subject to restrictions (prohibited substances and substances for which reporting is required), to properly control the use of such hazardous materials.

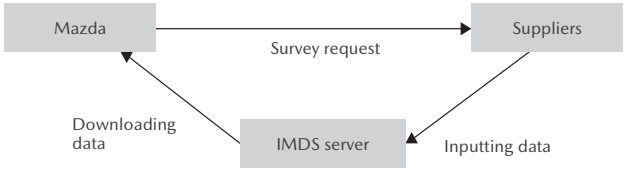
Collection and Management of Automotive Parts Materials

Mazda is working across its entire supply chain to reduce the use of environmentally hazardous materials such as lead, mercury, hexavalent chromium and cadmium. Using the standardized IMDS,*1 international system, the Company gathers information on the materials from suppliers (Met all of the voluntary targets of the Japan Automobile Manufacturers Association, Inc. (JAMA) (reduction of the use of lead and mercury, and prohibition of the use of hexavalent chromium and cadmium) by February 2007, earlier than the scheduled deadlines).

Measures Related to Application of IMDS

- The Company developed and published the guideline that helps suppliers to correctly input IMDS data.
- The data gathered through IMDS is used to calculate the Company's vehicle recycling rate and to comply with various regulatory regimes for chemical materials, such as REACH*2 in Europe.

How IMDS Works



VOC Reductions in Vehicle Cabins

To maintain a comfortable cabin environment, Mazda is committed to reducing VOCs*3 such as formaldehyde, toluene and xylene, which have been implicated as possible causes of sick building syndrome.

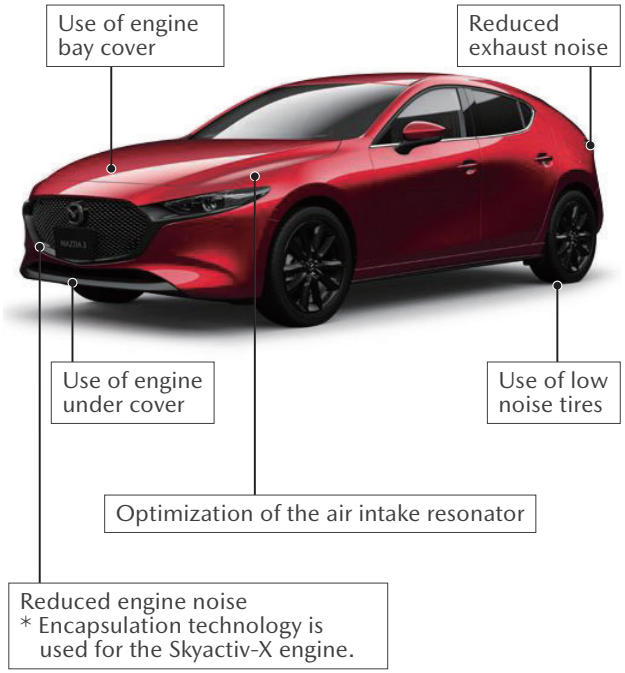
- In new models, starting with the Demio (Mazda2 overseas)*4 launched in 2007, Mazda reduced VOCs in the main materials used in the cabin, such as plastics, paints, and adhesives, thereby conforming with the indoor aerial concentration guidelines established by Japan's Ministry of Health, Labour and Welfare. (The CX-60, introduced in FY March 2023, followed the same guidelines.)

*1 International Material Data System
*2 Registration, Evaluation, Authorization and Restriction of Chemicals
*3 Volatile Organic Compounds
*4 As of 2007

Reduction of Vehicle Noise

Mazda has established its own noise standards which are even stricter than the most recent legal requirements. In compliance with the above in-house standards, the Company has been working to reduce the road traffic noise of all the passenger vehicles and commercial vehicles it produces. The Company has also been actively addressing the development of technologies to reduce the three major vehicle noises: engine noise, air intake/exhaust system noise, and tire noise.

Example of Anti-Noise Measures (Mazda3)



[Manufacturing] Air Pollution Prevention: Actively Adopting Fuels that Reduce Environmental Burdens

Mazda is continuing efforts to reduce the emission of sulfur oxides (SO_x), nitrogen oxides (NO_x), dust and soot, fine particles, vapors, and volatile organic compounds (VOCs).
In addition, Mazda is shifting the use of fuel oil to that of city gas and makes other efforts to actively adopt materials that reduce the environmental burden.

NO_x emissions and SO_x emissions (P115)

VOC Reductions: Body-Painting Lines

In FY March 2023, Mazda made steady progress toward achieving the target of reducing VOC emissions from vehicle body paint in body-painting lines to 19.0 g/m^2 or less. The target was achieved as a result of various measures. Such measures include the Three Layer Wet Paint System introduced as the standard process in all plants in Japan and major plants overseas, the Aqua-Tech Paint System (P19) that delivers world-leading environmental performance, a low-VOC paint that the Company developed and introduced, and improved efficiency in thinner recovery in cleaning operations.

VOC waste emissions (P115)

[Manufacturing] Reducing Emissions of PRTR-Listed Substances

With various efforts, such as the introduction of the Aqua-Tech Paint System into the painting process and improvements to the efficiency of thinner recovery for cleaning operation, in FY March 2023 the amounts of substances that are designated under the PRTR Law*1 released into the water system and the atmosphere decreased by 80% from FY March 1999 levels to 557 tons.
Mazda will continue working to reduce emissions of PRTR-designated substances.

Emissions of PRTR-listed substances (P115)

*1 Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. PRTR: Pollutant Release and Transfer Register

BIODIVERSITY CONSERVATION

Approach to Biodiversity Conservation

Endorsing the aims of the "Declaration of Biodiversity by Keidanren (the Japan Business Federation)," Mazda promotes initiatives to protect the global environment. In FY March 2012, with the aim of systematically developing its initiatives to protect biodiversity, Mazda conducted an assessment of impacts on biodiversity, and it recognized the significance of the impacts of its business activities and products on the blessings of nature and the environment. In line with this assessment, the Company established the Mazda Biodiversity Guidelines in December 2012 and has been implementing various initiatives through its business activities aiming at contributing to the conservation of biodiversity and creating a rich, sustainable society that ensures harmony between people and nature.

Based on the results of the above assessment of impacts, Mazda takes measures to mitigate its impacts on biodiversity with a particular focus on energy, water and other resources in the areas of products, technology, production, and logistics.

Process for Assessment of Impacts on Biodiversity

Step 1: Selecting an assessment target scope
(The assessment is made for Group companies engaged in automobile-related business, primarily those with major impacts in the value chain in Japan, although the assumed targets also include overseas companies and affiliates.)
Step 2: Assessing the levels of the dependence and impacts on ecosystem services, as well as assessing the threat to biodiversity
Step 3: Identifying business risks and opportunities regarding biodiversity
Step 4: Identifying priority issues and assessing the current situations of the existing responses
Step 5: Identifying a direction for future responses

The Mazda Biodiversity Guidelines

[Basic Approach]

Based on "The Mazda Global Environmental Charter," the Mazda Group, recognizing the blessings of nature and the significance of environmental impacts, contributes to the conservation of biodiversity through its corporate activities worldwide, with the aim of establishing and developing a rich, sustainable society that ensures harmony between people and nature.

[Priority Initiatives]

1. Creation of Environmentally Sound Technologies and Products

We will encourage the creation of technologies and products considering harmony between the environment and our corporate activities, by developing technologies that contribute to cleaner emission gases, reduction of CO_2 emissions, research and development of clean energy-based vehicles, promotion of recycling and biodiversity.

2. Corporate Activities in Consideration of Conserving Resources and Energy

We will promote reduction of substances with environmental impact and effective use of resources, and contribute to conservation of biodiversity, through efficient energy use and resource-saving/recycling activities.

3. Collaboration/Cooperation with Society and Local Communities

We will promote local community-based activities, by striving to establish collaboration/cooperation with a wide range of stakeholders including supply chains, local governments, communities, NPOs/NGOs, and education and research institutions.

4. Awareness Enhancement and Information Disclosure

We will take active and self-initiative actions and disclose and share the achievements widely to society, by striving to enhance awareness of the importance of coexistence between people and nature.

Established in December 2012

Examples of Initiatives

Creation of Environmentally Sound Technologies and Products	• Continuous Evolution of Skyactiv Technology (P15) • Electric Vehicles (P16) • Product Development and Design with Consideration for Recycling Needs (P25)
Corporate Activities in Consideration of Conserving Resources and Energy	• Improving the facility operation rate and shortening the cycle time in the production process (P19) • Assessing and considering the impact on biodiversity when constructing a new plant
Collaboration/ Cooperation with Society and Local Communities	• Promoting the preservation of forests, support for the protection of wildlife, etc.*1 • Conducting biodiversity initiatives on Company-owned lands
Awareness Enhancement and Information Disclosure	• Activities through the Mazda Foundation*2 • Promoting awareness of social contribution activities and disclosure of information on these activities • Educating employees and raising their awareness • Introducing the activities to the inside and outside of the Company through the Mazda Sustainability Report, etc.

*1 https://www.mazda.com/en/sustainability/social/report/
*2 Japan https://mzaidan.mazda.co.jp/ (Japanese only)
United States https://www.mazdafoundation.org/
Australia https://mazdafoundation.org.au/
New Zealand https://mazdafoundation.org.nz/
South Africa is not available now (as of November 2023)

Information Provision

The Biodiversity Newsletter is issued regularly to keep employees up to date on the biodiversity initiatives undertaken on Company-owned lands and biodiversity-related news. A total of 12 issues have been published thus far. The newsletter will continue to be issued so that more employees will become interested in biodiversity.