

TCFD Endorsement and Response

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 February 2021, the Company announced that it would endeavor to achieve carbon neutrality throughout the entire supply chain by 2050. Mazda's major initiatives to address climate change in accordance with the TCFD recommendations³ are as follows.

Governance

- a) Board's oversight of climate-related risks and opportunities
- b) Management's role in assessing and managing climate-related risks and opportunities

Taking on the challenge of achieving carbon neutrality by 2050, we have assigned a director to oversee Mazda's decarbonization strategy and executive officers to be in charge of carbon neutrality. In 2021, Mazda formed a specialized team (hereinafter referred to as Specialized Team) dedicated to carbon neutrality matters. At its head is the Corporate Strategy Office working closely with the Specialized Team composed of members involved in products, manufacturing, purchasing, logistics, sales and recycling. Under the supervision of the officers in charge of decarbonization, the Corporate Strategy Office leads the team to formulate and promote strategies from a Life Cycle Assessment (LCA) perspective for responding to risks and opportunities selected based on Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA) scenarios and trends, while also considering the investment and expenses required for such initiatives and response schedules. Strategies are deliberated⁴ over at the Executive Committee Meetings attended by the Representative Director and President. Also the issues concerning sustainability including the initiative for climate change are reported to the Board of Directors timely and appropriately. Product and technology development plans for realization of strategy are deliberated by the Product Planning and Design Committee, which is composed of executive officers and above.

Strategy

- a) Climate-related risks and opportunities identified over the short, medium, and long term
- b) Impact of climate related risks and opportunities on business, strategy, and financial planning
- c) Resilience of strategy taking into consideration climate-related scenario

We have identified major risks and opportunities based on scenarios from the IPCC and the IEA, government policies, regulatory and industry trends.

Major Risks and Opportunities

Transition Risks	Policy and Legal	<ul style="list-style-type: none"> Stricter regulations on fuel economy and exhaust gas emissions, carbon pricing, including introduction of carbon tax
	Technology	<ul style="list-style-type: none"> Increase in resources to develop electrification technologies, including electric drive system or batteries
	Market	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Implications on investment decisions considering ESG by investors
Physical Risks	Acute	<ul style="list-style-type: none"> Damage by torrential rain, production halts caused by supply chain disruptions
	Chronic	<ul style="list-style-type: none"> Increasing impact of production halts due to severe and frequent natural disasters, higher frequency of high tide caused by rising sea levels
Opportunities	Resource Efficiency	<ul style="list-style-type: none"> Efficient use of raw materials through thorough material recycling
	Energy Source	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

Concrete Initiatives

■ Driving Development of Electrification Technology

During a period of transition to EVs up to around 2030, we see our Multi-Solution approach to be effective. We offer a variety of solutions, including internal combustion engines, electrification technologies and alternative fuels, so we can provide appropriate combinations that suit power generation conditions in each region. On the other hand, we expect Mazda's EV ratio in our global sales in 2030 to be in 25 to 40%, considering each country's electrification policies or more stringent regulations. Since last year, 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. As it allows us to be flexible and adaptive to coming changes, such as changes in regulations, consumer needs and acceptance levels, and infrastructure development, the following three-phase electrification approach will work for this uncertain situation. We will proceed with electrification step by step with the cooperation of our partner companies (*).

Phase 1 (2022 – 2024): Enhance technology development for the age of electrification

By fully using our technology assets of multiple electrification technology, we will launch attractive products while also meeting market regulations. We will enhance our earning power with the introduction of Large products offering plug-in hybrids and diesel engines with a mild hybrid system that achieve both environmental and driving performance. In addition, we will develop technologies for battery-EV (hereinafter "BEV") in a full-fledged manner.

Phase 2 (2025 –2027): Transition to electrification

In order to reduce CO₂ by improving fuel economy in the phase of transition to EVs, we will introduce new hybrids, further refining our multi-electrification technologies. In addition to introducing vehicles dedicated to BEVs in China where electrification is advancing, we will also begin launching BEVs globally. As for internal combustion engines, we will boost efficiency to the utmost in preparation of the application of technology to further improve thermal efficiency and the possibility of the future use of renewable fuels.

Phase 3 (2028 – 2030): Full-scale launch of BEVs

We move forward in our efforts for the full-fledged launch of pure battery EV models, we 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.

* About cooperation of our partner companies;

- For the sustainable local economic growth and the successful transformation of electrification, Mazda has joined together with local companies to establish a joint venture company for the purpose of developing the high-efficiency production technology required for the manufacture of electric drive units as well as for the production and supply of those units, as a first step of the development for electrification technologies of related components and the evolution entire supply chain in the Chugoku region.
- Regarding the core parts of an electric drive unit such as inverters containing SiC power semiconductors and motor, Mazda has also established a joint venture with several partner companies in possession of high-quality technology.
- Regarding the batteries, we will procure them from our partner companies while promoting research and development of our advanced battery technologies adopted by the Green Innovation Fund Project at our facilities.

■ Carbon Neutral Electricity Promotion Subcommittee's Initiatives in the Chugoku Region

In November 2021, Mazda participated in as chair company and began activities as part of the Carbon Neutral Electricity Promotion Subcommittee, which was set up as one of the special subcommittees under the Chugoku Region Carbon Neutrality Promotion Council, established by the Chugoku Economic Federation. In cooperation with member partners, we have been discussing issues such as how to expand the supply of electricity derived from renewable sources.

■ Efforts for the Spread of Next-generation Bio-liquid Fuels

We proactively promote industry-academia-government cooperation and tie-ups between companies to provide technical support for the spread of carbon-neutral next-generation biofuels. The Company has confirmed that such fuels have the same performance as petroleum-derived diesel oil and started using them in some of its diesel-powered company vehicles since 2020. In addition, we have developed the combustion-technologies compatible with both next-generation biofuels and conventional diesel oil, for the newest in-line 6-cylinder diesel engine equipped in CX-60. In order to ensure the reliability of engine components, we will proceed to confirm it by using CX-60 of next-generation biofuels demonstration vehicle.

Risk Management

- a) Process for identifying and assessing climate-related risks
- b) Process for managing climate-related risks
- c) Status of integration of climate-related risk management processes into overall risk management

We have identified major risks and opportunities based on scenarios from the IPCC and the IEA, government policies, regulatory and industry trends. Sharing progress and issues of initiatives in a bi-weekly meeting, the Specialized Team works to identify risks and conduct assessment processes. Strategies discussed during the meeting are deliberated over at the Executive Committee Meetings attended by the Representative Director and President. Physical risks are managed within the emergency risk management system of Business Continuity Plan (BCP).

Metrics and Targets

- a) Metrics used to assess climate related risks and opportunities
- b) Scope 1, Scope 2, and Scope 3 greenhouse gas (GHG) emissions and the related risks
- c) Targets and performance in managing climate-related risks and opportunities

To take on the challenge of achieving carbon neutrality throughout our entire supply chain, 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, Mazda is driving the establishment of an EMS or Environmental Management System, including ISO14001. Regarding suppliers, we request that partners formulate plans to reduce GHG emissions during our monthly liaison meeting.

■ GHG emissions of Scope 1, 2 and 3

For information regarding FY March 2022 results, visit the below URL (Japanese only):

https://www.mazda.com/globalassets/ja/assets/investors/library/annual/files/ir2022j_all.pdf

■ Major Metrics and Targets:

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

*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 Source: <https://tcf-consortium.jp/en/about>

*4 As of November 2022, deliberated 2 times at the Executive Committee Meetings.