



Efforts to Maximize the Value of “Green” (TCFD)

Amid the pressing crisis of climate change, DENSO is exploring the ideal vision for a sustainable mobility society and is accelerating its sustainability management with a view to maximizing the value of “green,” which is a target adopted under its Long-term Policy for 2030. In 2019, we pledged our support for the Task Force on Climate-related Financial Disclosures (TCFD). Since doing so, we have been carrying out a scenario analysis regarding the impact of climate change on our businesses and the opportunities and risks related to this impact. We have also been examining ways to reflect the results of this analysis in our business strategies. In this section, we introduce the status of the initiatives we are promoting in accordance with the TCFD.

Scenario Analysis of Business Opportunities and Risks

To understand the impact of climate change on our businesses and to identify climate-related opportunities and risks, we referenced the external scenarios of the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) and used them as benchmarks for our scenario analysis. Also, while confirming the scenario analysis for the automotive industry, we compared and contrasted this analysis with our awareness of the business environment existing under the Company’s medium- to long-term strategies to hypothesize comprehensive scenarios. Upon doing so, we were able to identify climate-related opportunities and risks by analyzing the differences between our medium- to long-term strategies and these scenarios.

Hypothesizing Scenarios

In terms of transition risk, we have defined the Sustainable Development Scenario (SDS) and the Net Zero Emissions by 2050 Scenario (NZE) of the IEA’s World Energy Outlook as “ambitious” scenarios. For the scope of these scenarios, we quantified Group CO<sub>2</sub> emissions, the carbon tax, crude oil prices, the renewable energy rate, and the rate of new electric vehicle (xEV) introduction by 2040, and analyzed opportunities and risks based on the differences between these scenarios and Group strategies. Also, with regard to physical risks, we have defined the SSP5-8.5 and SSP2-4.5 scenarios of the Sixth Report of the IPCC as “stagnant” and “promotional” scenarios, respectively. We visualized aspects such as weather disasters, rising sea levels, deteriorating ecosystems, and water and food shortages in a qualitative manner and analyzed opportunities

and risks based on the differences between these scenarios and Group strategies.

Analysis of Climate-related Opportunities and Risks

We performed an analysis on the differences between our awareness of the business environment, which forms the basis of our medium- to long-term strategies, and the circumstances under the scenarios above. Items expected to have an impact on our businesses of over ¥10.0 billion were identified as key items and categorized into opportunities and risks. In our business strategies and financial strategies, we will incorporate measures that address these opportunities and risks, thereby simultaneously tackling social issues and enhancing our corporate value. Major opportunities and risks identified through the aforementioned analysis are as follows.

Major Opportunities

Key items	Timeframe / Impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2025)
Development of new products and services through R&D and technological innovation	Medium-term / High	<b>Increase in revenue due to higher demand for xEVs</b> Rise in demand for inverters and thermal products related to electrification and for technologies such as heat pumps that improve the heat efficiency of xEVs	¥200.0 billion	• Accelerate the development of technologies related to electrification—including power-saving technologies and compact high-output technologies—as well as the development of heat management technologies • Promote the development of engine control systems and other technologies that respond to alternative fuel (e-fuel, hydrogen, etc.)	¥100.0billion
Diversification of business activities	Long-term / Medium	<b>Increase in revenue following higher demand for decarbonization technologies</b> Creation of business opportunities in such non-automotive fields as food and agriculture (AgTech), factory automation (FA), and hydrogen (SOEC*1 and SOFC*2) by applying environmental technologies fostered in the automotive field	AgTech, FA, and Energy Business ¥300.0 billion (FY2031)	• Create technologies such as AgTech that leverage sensor, control, and robot technologies and create energy utilization technologies, such as those that leverage exhaust gas purification and heat management technologies • Actively use business alliances	¥19.0 billion
Utilization of more effective production and logistics processes	Medium-term / Relatively high	<b>Reduced energy costs through the promotion of energy conservation at plants worldwide</b> If we promote enhanced energy efficiency and are able to achieve our target under Eco Vision 2025 of reducing CO <sub>2</sub> emissions intensity by half compared with fiscal 2013, we could achieve a CO <sub>2</sub> emissions reduction of approximately 1.65 million tons per year and reduce energy costs.	¥92.0 billion	Continue rigorous energy-saving activities; adopt low-carbon materials, equipment, and production processes; enhance production process efficiency through the introduction of Factory-IoT (F-IoT); and promote the development of energy-saving production technologies	¥10.0 billion

\*1 SOEC: Solid oxide electrolysis cell      \*2 SOFC: Solid oxide fuel cell

Major Risks

Key items	Timeframe / Impact	Major potential financial impact	Financial impact (fiscal 2026)	Response measures	Response cost (fiscal 2025)
<b>Transition risk</b> New controls and regulations placed on our existing products and services	Long-term / Relatively high	<b>Decline in revenue against the backdrop of increasingly strict regulations on fuel efficiency and exhaust gas</b> We expect even tighter regulations on fuel efficiency as well as acceleration in the transition to xEVs, including HEVs (comprising 47% of all vehicles in 2030). Non-compliance with regulations resulting from an inability to adapt to changes could cause a decline in unit sales.	~¥300.0 billion	• Accelerate the development of energy-saving technologies for products powered by electricity with a view to extending driving distance • Accelerate development aimed at enhancing fuel efficiency of internal combustion engines in HEVs and other vehicles to respond to new regulations on fuel efficiency	¥80.0 billion
<b>Physical risk</b> Increased severity and occurrence of abnormal weather such as typhoons and floods	Long-term / Relatively high	<b>Decline in revenue due to suspended plant operations and supply chain disruptions</b> Revenue could decline due to damage to in-house plants or supply chain interruptions that result in a suspension of plant operations in Japan and greater Asia, where we conduct 65% of our overall production and where the possibility of abnormal weather occurring is high.	~¥120.0 billion	• Implement measures to mitigate the impact of disasters on buildings, etc., and strengthen risk management in the supply chain through such measures as ensuring multiple suppliers for components • Connect our plants across the globe by using IT and IoT and establish a global production structure that can immediately respond to changing production needs	¥4.7 billion
<b>Transition risk</b> Carbon pricing mechanism	Medium-term / High	<b>Decline in cost competitiveness due to the accelerated introduction of carbon pricing</b> Carbon costs could be added to all in-vehicle products due to the expansion and increasing strictness of international regulations, such as carbon taxes and emissions trading systems.	~¥12.0 billion	• Strategically and incrementally transition to renewable energy in manufacturing activities • Continue to promote activities to conserve energy and enhance energy efficiency in the production process	¥2.2 billion

Impact on Management Strategy

Based on the results of our analysis, we have come to understand the significant impact that climate change will have on our product development and production activities, particularly the trend toward carbon neutrality. Based on this understanding, we have set ourselves the ambitious target of becoming carbon neutral and have reflected this target in our management strategies.

Specifically, for our *Monozukuri* activities, we have set the target of realizing carbon-neutral electricity by fiscal 2026 (carbon credits to be used with respect to gas) and becoming completely carbon neutral, including gas, by fiscal 2036. We will continue to promote energy-saving activities, an area in which we excel as a company. At the same time, we will introduce electricity derived from high-quality renewable energy that is optimally economic and utilize carbon credits, among other initiatives. To accelerate investments toward these kinds of efforts to reduce CO<sub>2</sub> emissions, including energy conservation and renewable energy, we have introduced internal carbon pricing (ICP) within our investment decision-making approach.

For mobility products, we are working to reduce CO<sub>2</sub> emissions to the greatest extent possible by promoting the development of electrification technologies. Furthermore, we are working to achieve negative CO<sub>2</sub> emissions through technologies that create green energy using hydrogen. Through these efforts, we will aim to achieve carbon neutrality across all of society.

Moreover, to balance contributions to the environment with business growth, we are holding regular discussions on reshuffling our business portfolio based not only on profitability and growth potential but also on CO<sub>2</sub> emissions and the reduction of these emissions. We believe these initiatives help advance a resilient business strategy.

Impact on Financial Planning

Given the trend toward carbon neutrality, we must further accelerate the development of electrification technologies and transition to components compatible with such alternative fuels as hydrogen fuel and biofuel. Furthermore, in order to realize carbon-neutral *Monozukuri*, we need to allocate funds to procure electricity derived from renewable energy sources and purchase CO<sub>2</sub> offset certificates and carbon credits. To that end, in our financial planning, we have reflected an increase in R&D costs related to electrification and efforts to respond to alternative fuel needs. We have also reflected costs related to the introduction of renewable energy.

In addition, we have incorporated into our financial plans the costs related to measures to address the physical risks of climate change (reinforcing buildings and structures), taking into consideration when new buildings are built and the age of existing buildings.

Governance

DENSO has established the Companywide Safety, Health, and Environment Committee as the body responsible for advancing the environmental activities of the entire Group. It shares short-, medium-, and long-term environmental targets; reports on the issues and progress of activities related to the environment in general, including the results of scenario analysis; and issues instructions on measures to be taken. Chaired by an executive vice president, the committee convenes twice a year, with the Safety, Health & Environment Division acting as secretariat.

With regard to climate change—one of the DENSO Group’s material issues—the targets, indicators, and action plans that have been discussed and proposed by the Companywide Safety, Health, and Environment Committee are deliberated by the Sustainability Meeting and Management Deliberation Meeting and then finally approved by the Board of Directors. Monitoring of the achievement of these targets is carried out by the Companywide Safety, Health, and Environment Committee, Sustainability Meeting, Management Deliberation Meeting, and Board of Directors.

Risk Management

In a volatile business environment, DENSO always strives to actively identify diversifying risks and conduct risk management from the perspectives of minimizing damage and ensuring business continuity. The Sustainability Meeting reviews materiality once a year, and the Companywide Safety, Health, and Environment Committee works with the Sustainability Meeting to review risks and opportunities related to climate change, clarifying the Company’s response to each major issue.

Also, we have designated climate change risks (physical risks) as one of the major risks toward which the Risk Management Meeting should particularly invest resources and promote initiatives. Based on this designation, we are strengthening our response to these risks on a Groupwide basis from the perspective of overall risk management. (Risk Management

□□ P.98–99)



For details on Eco Vision 2025, please see the following website.  
<https://www.denso.com/global/en/about-us/sustainability/environment/ecovision/>







Metrics and Targets

At DENSO, we clarified our metrics and targets in the Mid-term Policy and incorporated them into our corporate management objectives as one of the sustainability targets pertaining to our priority issues (Materiality). In addition to the Companywide Safety, Health, and Environment Committee mentioned earlier, progress is monitored by the Sustainability Meeting and reported to the Management Deliberation Meeting and the Board of Directors.

To ensure an effective approach across the entire DENSO Group, metrics and targets are calculated using the management control approach, which includes 100% of emissions from consolidated subsidiaries.

For the road map to achieve each metric and target, please refer to “Green Strategy” (P34).

Climate Change-related Targets  
(CO<sub>2</sub> Emissions Reduction) (Reference year: Fiscal 2021)

Component procurement	FY2031	Reduction of 25% (equivalent to well below 2°C*)
Scope 3 (Upstream)	FY2051	Carbon neutral
Monozukuri	FY2026	Carbon neutral
Scope 1 and 2	FY2036	Carbon neutral (without carbon credits)
Product use	FY2031	Reduction of 25% (equivalent to well below 2°C*)
Scope 3 (Downstream)		

\* The target of keeping temperature increases well below 2°C, which is a Scope 3 target under the 1.5°C standard

Scope 1 and 2 Carbon-Neutral Monozukuri

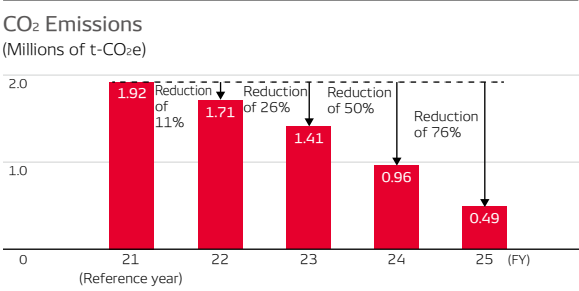
Achieve Complete Carbon Neutrality at Plants

We aim to achieve carbon neutrality in *Monozukuri* by lowering CO<sub>2</sub> emissions through a reduction in energy consumption based on more-efficient manufacturing processes; by using such renewable energy sources as sunlight; and by reducing CO<sub>2</sub> emitted in production processes through the utilization of green hydrogen created through the use of renewable energy.

Achievements to Date

We have reduced CO<sub>2</sub> emissions by 76% compared with fiscal 2021, achieving our fiscal 2025 target, by thoroughly implementing energy-saving activities, which are one of our long-standing strengths; by introducing renewable energy; and by utilizing carbon credits.

As of fiscal 2025, we have achieved carbon neutrality at DENSO CORPORATION, all 11 manufacturing sites, Advanced Research and Innovation Center, DENSO FUKUSHIMA CORPORATION, DENSO HOKKAIDO CORPORATION, DENSO IWATE CORPORATION, DENSO KYUSHU CORPORATION, and all of our manufacturing companies in Europe (16 bases), China (13 bases), and Asia (10 bases), excluding their subsidiaries.



Notes: 1. The results figures reflect the use of carbon credits.  
2. The targets are production bases in Japan and overseas (including the Group's manufacturing companies).  
3. Fiscal 2021 results have been adjusted for the effect of the reduced production that accompanied the COVID-19 pandemic.

Scope 3 (Upstream) Reduction of CO<sub>2</sub> Emissions across the Supply Chain

Our Vision: Achieve Carbon Neutrality through Collaboration between DENSO and Suppliers

Since the challenges involved in achieving carbon neutrality differ by industry and supplier, we are advancing our initiatives through dialogue and mutual understanding with our suppliers.

Specifically, we have surveyed CO<sub>2</sub> emissions from approximately 300 major suppliers that together account for over 70% of our total procurement outlays, and asked them to work with us toward achieving our medium-term target for reducing CO<sub>2</sub> emissions by 25% by fiscal 2031 compared with fiscal 2021 levels (equivalent to a 2.5% reduction per year), and a long-term goal of achieving carbon neutrality by fiscal 2051. To support the energy-saving efforts of our suppliers, we have created a permanent showroom showcasing DENSO's energy-saving know-how and case studies, provided assistance with energy conservation diagnosis and the loaning out of energy monitoring equipment, and hosted tours of our carbon-neutral plants to share best practices in actual settings. Furthermore, we document the challenges and requests shared by suppliers through these activities, and present proposals to industry groups and other stakeholders with the aim of driving improvements in the operating environment for the entire supply chain.

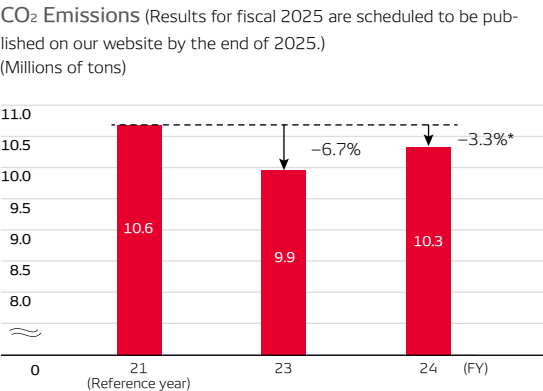


Carbon-neutral plant tours

Achievements to Date

Although energy-saving measures and the use of renewable energy at suppliers helped reduce emissions, an increase in order volumes from DENSO with its suppliers was also a factor affecting emissions. As a result, CO<sub>2</sub> emissions were reduced by 3.3% as of fiscal 2024, compared with fiscal 2021, falling short of the 7.5% reduction target.

To reach our reduction targets, we will increase support for suppliers and accelerate the adoption of low-CO<sub>2</sub> materials in products and the deployment of renewable energy across the supply chain from fiscal 2026 onward. We also plan to establish industry rules that allow for the CO<sub>2</sub> emissions reduction value of our products to be provided as added value to customers and society.



\* Although total CO<sub>2</sub> emissions increased in fiscal 2024, CO<sub>2</sub> emissions intensity (CO<sub>2</sub> emissions per unit of procurement) declined.

Scope 3 (Downstream) Carbon Neutrality for Electric Vehicle Components

Aim Contribute to the Electrification of Cars to Reduce CO<sub>2</sub> Emissions to the Greatest Extent Possible

We will help reduce CO<sub>2</sub> emissions from vehicle use by developing products and systems that support the popularization of HEVs, BEVs, FCEVs, and other xEVs.

In addition, we intend to contribute to reductions in CO<sub>2</sub> emissions by applying the electrification technologies honed in the automobile industry to aerospace mobility.

Reducing CO<sub>2</sub> Emissions from Energy Use

Aim Realize an Energy-recycling Society through the Development and Popularization of Technologies That Make Effective Use of Renewable Energy

We will establish technologies that use energy in a highly efficient manner, regardless of location or time, and work to popularize them on a global basis. By doing so, we will help realize an energy-recycling society.

For example, we have commenced verification tests for SOFCs, which create electricity from hydrogen, and SOECs, which produce hydrogen from electricity, by utilizing the heat management and material technologies that we have cultivated in the automotive field. Through these kinds of verification tests, we will pursue the efficiency of fully utilizing green hydrogen energy and the durability of being able to safely use energy systems over long periods of time. By doing so, we will take on the challenges of development aimed at balancing environmental sustainability and economic viability.

International Certification of Reduction Targets

We have established targets for the reduction of greenhouse gas emissions by fiscal 2031. These targets are based on scientific evidence and consistent with the goal of limiting the global average temperature increase to 1.5°C above pre-industrial levels, which is set forth by the Paris Agreement. As a result, our targets have obtained Science Based Targets (SBT) certification from the internationally recognized Science Based Targets initiative (SBTi).\*

\* The SBTi is a joint initiative established by World Wide Fund for Nature, the CDP, the World Resources Institute, and the United Nations Global Compact. The SBTi formulates guidance that enables companies to set specific targets for the volumes and timeframes of greenhouse gas emissions reductions. SBT certification is granted to companies whose targets are recognized to be in conformity with scientific findings (Science Based Targets).



We will continue conducting extensive studies and analyze in even greater detail the quantitative financial effects of key items as well as the specific business opportunities and risks that accompany them. We will then reflect our findings in business strategies and action plans.