

Task force on Climate-related Financial Disclosures (TCFD)

Support for TCFD and disclosure of information based on the TCFD recommendations

AISIN expressed our support for TCFD in 2019. We have conducted scenario analyses based on the recommendations and have disclosed related information.

Items recommended for disclosure by TCFD and AISIN's response

Governance

Recommended disclosure	Status of response
a) Describe the board's oversight of climate-related risks and opportunities.	<ul style="list-style-type: none"> Discussed prevention of global warming at Executive Management Committee and Board of Directors meetings in recognition that climate action is an important management strategy, and selected this issue as a priority issue to be tackled by the AISIN Group The Board of Directors (held 13 times in FY2023) deliberated on important climate-related matters proposed and reported through the Sustainability Conference, the Environmental Committee, and the Carbon Neutral Promotion Committee, each of which is a climate-related meeting, and revise business strategies and plans as necessary
b) Describe management's role in assessing and managing climate-related risks and opportunities.	

Strategy

Recommended disclosure	Status of response
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	<ul style="list-style-type: none"> Aim to realize Carbon Neutral society in 2050 through both "production" and "products," viewing carbon neutrality as an urgent global issue 1) Production aspect: Established the Carbon Neutral Promotion Center, which is responsible for planning the AISIN Group's overall strategy, introducing and procuring renewable energy, and developing technologies and businesses through collaboration with outside parties 2) Product aspect: Established the EV Promotion Center, which is responsible for formulating BEV product development roadmaps and strategies, strengthening advanced development of BEV products, and promoting cross-company projects for Group and Companies Analyze transition and physical risks and opportunities associated with climate change based on the definitions suggested by the TCFD recommendations, and determine how to respond on a regular basis
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	

Risk Management

Recommended disclosure	Status of response
a) Describe the organization's processes for identifying and assessing climate-related risks.	<ul style="list-style-type: none"> Identified transition and physical risks caused by climate changes and built a framework for the evaluation and management of risks Regarding major risks that impact the AISIN Group, monitor and manage them regularly through the Sustainability Conference, etc. Reviewed identified risks as necessary based on the laws and regulations of the respective countries, dialogue with stakeholders, external evaluations, such as the CDP, and customer trends
b) Describe the organization's processes for managing climate-related risks.	
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	

Metrics and Targets

Recommended disclosure	Status of response
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	<p>FY2031 Targets</p> <ul style="list-style-type: none"> Production CO₂ emissions (Scope 1 and 2): Reduction of 50% or more compared to FY2014 Life cycle CO₂ emissions: Reduction of 25% or more compared to FY2020 <p>FY2036 Targets</p> <ul style="list-style-type: none"> Production CO₂ emissions (Scope 1 and 2): Carbon neutrality <p>FY 2051 Targets</p> <ul style="list-style-type: none"> Life Cycle CO₂ emissions (Scope 1, 2, and 3): Carbon neutrality <p>Indexes (FY2023 results)</p> <ul style="list-style-type: none"> Production CO₂ emissions: 2.279 million t-CO₂ (18% reduction compared to FY2014) Life Cycle CO₂ emissions: 16.83 million t-CO₂ (6% reduction compared to FY2020)
b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	

 Performance Data (environmental)

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Governance

The AISIN Group views response to climate change as one of its important management strategies, and has selected “initiatives to prevent global warming” as a priority issue for the Group to focus on. Furthermore, we have analyzed the impacts, and incorporated them into our management strategies.

In terms of the framework, with the Sustainability Conference, which decides policies including climate change response, positioned as the highest level meeting body, we deliberate on matters based on the status of initiatives and challenges. In addition, in conjunction with the Sustainability Conference, we regularly hold the Carbon Neutrality Promotion Conference, which determines strategies for the Group’s long-term goals for climate change challenges (carbon neutrality in 2050), and the Environmental Committee, which promotes and monitors our efforts to achieve short- and medium-term goals, for swift decision-making on climate change goals and the direction of our activities, as well as flexible response.

The Board of Directors also deliberates on important climate-related matters proposed and reported through the Sustainability Conference, and changes business strategies and plans as necessary.



Committee	Person in charge	Frequency	Roles
Sustainability Conference	President	Twice a year	Deliberates on and determines a sustainability policy, and promotes the policy across the Group
Environmental Committee	President	Three times a year	Formulates and rolls out basic policies to optimize the execution of environment-related business operations and minimize risks, and conducts monitoring
Carbon Neutrality Promotion Conference	CCNO*	Four times a year	Discusses and promotes strategies for carbon neutrality and climate change issues (including policy development, goal achievement scenarios, activity management, and problem solving)

* CCNO: Chief Carbon Neutral Officer

Strategies and risk management

Scenario analysis

The AISIN Group has always met the diversifying needs of the automotive industry with our advanced technical capabilities, but with the biggest period of change in 100 years and the threat of large-scale disasters caused by climate change, we are facing our biggest challenges ever.

To overcome this period of change and assess whether we can achieve sustainable growth, we have analyzed scenarios using the TCFD.

Analysis and setting of scenarios

The target of analysis is “global” and “all businesses” in order to examine the business impact on the entire Group. We have set up a scenario for FY2031, which is a transition period for electrification in the automobile industry in order to have short-, medium- and long-term perspectives.

- “Well Below 2°C scenario” where impacts will become apparent on the transition side
- “4°C scenario” where impacts will come to the surface on the physical side

Scenarios	Well Below 2°C scenario	4°C scenario
Vision for Society	Bold policies and technological innovation to achieve sustainable development <ul style="list-style-type: none"> • Introduction of carbon tax • Shift to electrification 	Society in which climate change caused by global warming affects businesses <ul style="list-style-type: none"> • More severe flooding from heavy rain and typhoons
Reference scenarios	<ul style="list-style-type: none"> • NZE(IEA WEO2050) • 30@30(IEA EV Outlook30@30) 	<ul style="list-style-type: none"> • RCP8.5(IPCC AR5)

Anticipated concerns of stakeholders

Transition side:

- I. Low evaluation of carbon efficiency and easily affected by carbon tax
- II. Internal combustion engines are still widely used, and industry will need to adapt rapidly to electrification

Physical side:

- III. Impact on continuity of production by disruption of supply chains as a result of natural disasters

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Identification of risks and opportunities

We have identified all anticipated risks and opportunities, then conducted a detailed analysis of three points those are of particular concern.

		Impact on procurement	Impact on direct operations	Impact on demand for products and services
Risks and opportunities in the well below 2°C scenario	Policies, laws, and regulations	<ul style="list-style-type: none"> ● Increase in raw material procurement costs as cost increases faced by suppliers due to carbon tax are passed on ● Costs associated with support for the selection of suppliers and carbon neutral initiatives ● Increasing procurement costs for necessary raw materials due to many companies demand and require for low-carbon raw materials 	<ul style="list-style-type: none"> ● Additional energy costs for low-carbon and decarbonization due to the introduction of carbon tax policies (Point 1) ● Additional costs for hard and soft measures to eliminate carbon from production processes 	<ul style="list-style-type: none"> ● While the promotion of electrification increases demand for electric vehicle products, it decreases demand for gasoline-powered vehicle products (Point 2) ● Demand for Aisin products varies depending on CN requirements from customers ● Increase in demand for environmentally friendly ENE-FARM household fuel cells (SOFC) and gas heat pump air-conditioners ● Expansion of new businesses using technology to absorb emitted CO₂
	Technology			
	Market			
	Reputation			
Risks and opportunities in the 4°C scenario	Acute	<ul style="list-style-type: none"> ● Disruption of supply chains and temporary suspension of business as a result of larger and more frequent weather disasters (such as heavy rain and typhoons) ● With a rise in sea levels & average temperatures and the depletion of usable local water resources, key suppliers struggle to stay in business 	<ul style="list-style-type: none"> ● Temporary suspension of business as a result of larger and more frequent weather disasters (heavy rain, typhoons, etc.) (Point 3) ● Increase in health risks for employees and air conditioning costs due to increases in average temperatures ● Difficulty staying in business due to the depletion of usable local water resources 	<ul style="list-style-type: none"> ● Increase in demand for ENE-FARM household fuel cells (SOFC), which have high resilience performance due to their independent power generation function during power outages
	Chronic			

Climate Change Risks and Opportunities

Category	Risks and Opportunities Types	Stage of impact	Impact on AISIN	Time Horizon	Business and financial impact level	Response
				Short/Medium/Long	High/Medium	
Transition risks	Market	Purchasing	Increasing procurement costs for necessary raw materials due to many companies demand and require for low-carbon raw materials	Medium	Medium	<ul style="list-style-type: none"> ● Reduction of raw materials used by reducing weight and replacing raw materials at the product design stage. ● Fewer purchased raw materials due to the promotion of a Circular Economy
	New regulations	Direct operations	Additional costs due to policies including the introduction of carbon tax and renewable energy	Medium	High	<ul style="list-style-type: none"> ● Promotion of energy-saving activities to minimize energy use ● Integrated management of renewable energy in response to regional characteristics
	New regulations	Demand for products	While the promotion of electrification increases demand for electric vehicle products, it decreases demand for gasoline-powered vehicle products.	Medium	High	<ul style="list-style-type: none"> ● Setting a goal of achieving an electrification rate of 70% or more in powertrain unit sales by 2030, and shifting the product mix to electric vehicles ● Enhancing sales of products that contribute to carbon neutrality through the electrification of mobility and energy solutions with a wide range of products, including high-efficiency/small-size electric units, regenerative cooperative regenerative brake, thermal management system, and aerodynamic devices
Physical risks	Acute	Direct operations	Disruption of supply chains and temporary suspension of business as a result of larger and more frequent weather disasters (heavy rain, typhoons, floods, etc.)	Short	Medium	<ul style="list-style-type: none"> ● Establishment of codes of conduct and rules during an abnormal weather event ● Advancement of Business Continuity Planning for procurement logistics ● Identification of at-risk sites and regular monitoring ● Formulation and implementation of a flood control plan
Opportunities	Demand for products	-	Increased demand for AISIN's electric-unit-related products due to the promotion of electrification	Medium	High	<ul style="list-style-type: none"> ● Speedy market launch of AISIN's electric units with improved power consumption due to highly efficient / small-size ● Cost reduction by standardizing units by vehicle model, and cutting material costs ● Improving the cruising range of electric vehicles through the evolution of Regenerative Cooperative Brake Systems ● Expansion of production capacity for related products
			Increased need to absorb emitted CO ₂ to achieve carbon neutrality	Medium	Medium	<ul style="list-style-type: none"> ● CO₂ recovery and utilization, and development and social implementation of technology ● Development of new business using AISIN's proprietary technology to fix emitted CO₂ as calcium carbonate using amino acids
			Increased demand for energy-saving and low-carbon emission products	Medium	Medium	<ul style="list-style-type: none"> ● Further increase in efficiency and sales of ENE-FARM household fuel cells (SOFC), which generate electricity and hot water

Time horizon:
 Short: Up to FY2026
 Medium: Up to FY2031
 Long: Up to FY2051

Business and financial impact level:
 High: The business is anticipated to be suspended, significantly downsized, or expanded.
 Medium: Impact on some parts of the business is expected.

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Results of scenario analysis (details)

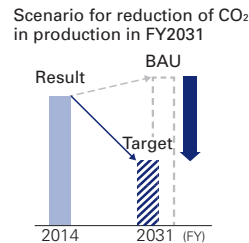
Point 1 Introduction of carbon tax and increasing call for zero carbon by our customers

Well below 2°C scenario and impact on direct operations; and well below 2°C scenario and impact on demand for products and services

- (1) Risks and opportunities**
- Possibility of carbon tax due to future government regulations, etc.
 - Selection of products for procurement from the perspective of carbon efficiency in customers' production processes
 - Emission reduction requirements in Scope 1 and 2 of the AISIN Group increase as automakers set their life cycle CO₂ reduction targets stricter.

- (2) Description**
- Production CO₂ emissions: Outcome of 3.09 million t-CO₂ in sales plans for each site (until FY2026) and sales projections for each region (until FY2031)
 - Carbon price: If the price is assumed to be US\$140 (US\$1 = 109.45 yen: 15,323 yen)/t-CO₂ based on the scenario of net zero emissions in 2050 and IEA WEO 2022, there is concern that the cost would increase by 47 billion yen in 2030.
 - There is concern that our business may be threatened by products with high CO₂ emissions during production and low carbon efficiency relative to sales.

- (3) Response**
- The AISIN Group is working to reduce CO₂ emissions by 50% from FY2014 in FY2031, with the aim of becoming carbon neutral by FY2036.
 - We are working toward a target of at least 25% renewable energy by FY2031.
 - We are considering new technology, such as methanation and hydrogen technology, along with renewable energy procurement strategies.



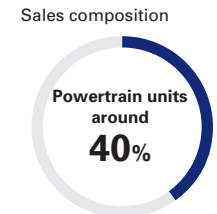
- (4) Impact and evaluation**
- Improved carbon efficiency in the future due to initiatives to reduce emissions
 - Attracting customer demand as a result of target setting and reduction of emissions

Point 2 While the promotion of electrification increases demand for electric vehicle products, it also decreases demand for products for vehicles with an internal combustion engine.

Well below 2°C scenario and impact on demand for products and services

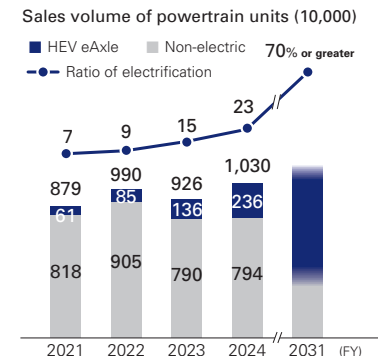
- (1) Risks and opportunities**
- Transition to a zero carbon society will increase demand associated with new products and services.
 - Major shift to electric vehicles in the automotive industry
 - Products for gasoline vehicles will decrease, but those for electrification will increase.

- (2) Description**
- The target of 70% electrification has been set for FY2031, in anticipation of a larger shift than the ratio in IEA ETP B2DS (projection for AISIN only).
 - The new powertrain units accompanying electrification (automatic transmissions, hybrid transmissions, etc.) will account for 40% of AISIN's Revenue (FY2023).



- (3) Response**
- We have decided to shift the AISIN Group's business domain to solution-oriented products, including CASE, and are working on structural reforms.
 - We established the EV Promotion Center in May 2022, and started developing new products from an overall vehicle perspective.
 - A CESO (Chief Electric Strategy Officer) was appointed to accelerate initiatives for electrification, which is a key area of ours.

- (4) Impact and evaluation**
- Electrify 70% or more of our powertrain unit products with increased unit sales in FY2031.
 - Continuously grow sales other than units (electronically controlled brakes, heat management products, etc.).



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Point 3 Temporary suspension of business in the event of a disaster due to the increasing frequency and scale of weather disasters (such as heavy rain and typhoons)

4°C scenario and impact on direct operations

(1) Risks and opportunities

- Larger and more frequent weather disasters
- Concerns about opportunity losses and disaster recovery costs as a result of temporary suspension of business after disasters

(2) Description

- Research on flood risks at production sites based on local government bodies' hazard maps

Flooding (MLIT standard):

Damage anticipated to river embankments as a result of the area's highest class of rainfall in the coming 200 years

Storm surges (MLIT standard):

Largest storm surges caused by typhoons the size of the Muroto Typhoon in 1934

- Potential for damage more severe than anticipated

(3) Response

- The risk of flooding in Japan was analyzed, and measures are in place in eight locations that could incur damage in the event of flooding. These measures include installing plates and sheets to stop water based on the anticipated depth of flooding; relocating dies and molds, products, spare motors, etc. to elevated locations; securing sandbags; and raising the height of emergency generators.

(4) Impact and evaluation

- We have identified sites in Japan with a high risk of water damage through surveys of the area. Measures to prevent opportunity losses have already been strengthened, and we are working to strengthen them further.

Future developments



Future developments based on scenario analysis

Through our scenario analysis, we analyzed the impact of the risks we are facing, determined the scope of each risk and opportunity, and sorted out measures to address such risks and opportunities. The results will be reflected in our medium- to long-term strategies and targets.

We will enhance our resilience against the impact on demand for our products and services by ensuring the following:

- **Shift to electric vehicle products (product development)**
- **Reduction of production CO₂ emissions ("Aisin Consolidated Environmental Action Plan")**

Medium- to long-term management strategies and targets according to the TCFD recommendations

	Promoted by	KPIs and targets for FY2031	
Electrification	Powertrain business Chassis and Vehicle Safety System business	Revenue ratio of electrification products in related areas	50% or greater
CO₂ emissions from production	Consolidated Environmental Committee	Reduction rate of emissions (vs. FY2014)	Reduction of 50% or greater