

Environment



Management Approaches

Basic Approach

For the Isuzu Group's basic approach related to the environment, it established and is implementing the goals of pursuing its business activities in all areas with conservation of the global environment in mind, and developing and operating its environmental management structure to reduce the burden on the environment in all of its business areas.

Vision Framework

The Isuzu Group regards conserving the global environment and pursuing our business activities in all areas with an environmental awareness as important business challenge. To this end we have established the Isuzu Group's Charter on the Global Environment.

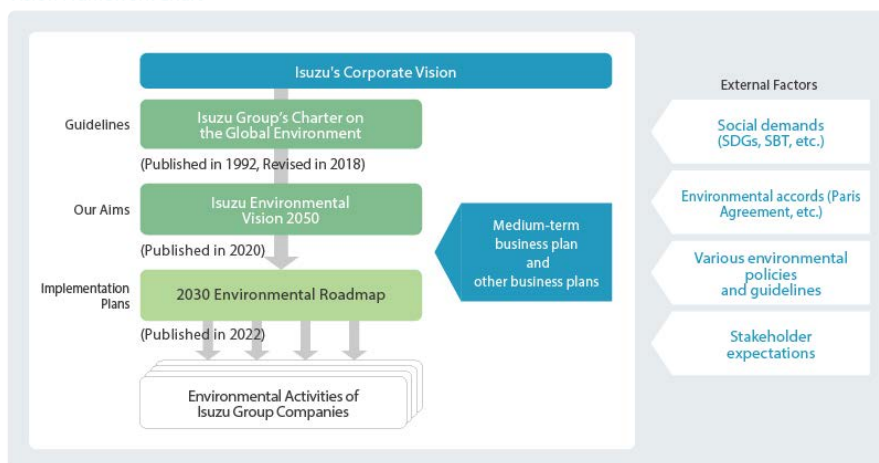
All Isuzu Group members use the Charter as a guideline when engaging in environmental activities. It was first published in 1992, and in line with dramatically changing societal trends and social demands, was revised in 2018.

In addition, in order to realize a sustainable society, and believing it is necessary to clarify the Isuzu Group's environmental aspirations from a longer-term perspective, in March 2020 we published our Isuzu Environmental Vision 2050.

In June 2022, Isuzu issued a new 2030 Environmental Roadmap, which presents the roadmap and challenges Isuzu sees for the year 2030 at this point in time in order to realize its long-term environmental vision.

By establishing and operating environmental management based on this philosophy system, the Isuzu Group contributes to reducing environmental burdens and building a sustainable society through the promotion of environmental activities in all of its global business domains.

Vision Framework Chart

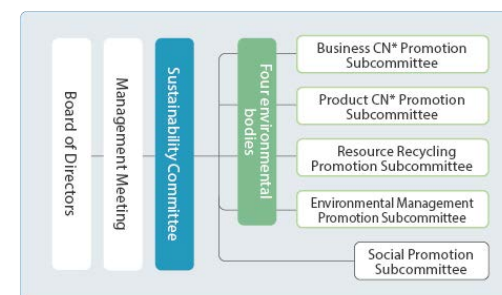


Management Structure

The Isuzu Group has established four environmental bodies under the Sustainability Committee to facilitate environmental conservation activities in all of its business operations. These four bodies consist of Isuzu Group affiliate companies operating in environmentally relevant fields. They set and pursue their goals to resolve many different problems and improve their environmental activities. The Sustainability Committee, chaired by the Executive Vice President and including executives in charge of each area, meets regularly (at least four times a year) to deliberate and make decisions on a wide variety of matters related to the resolution of Isuzu's key environmental issues and environmental conservation, including climate change measures.

Composition of Sustainability Committee

Composition of Sustainability Committee



Role of Four Environmental Bodies

Business CN Promotion Subcommittee	Focusing mainly on production activities, which are the Group's main source of CO ₂ emissions, the subcommittee promotes cross-divisional activities to achieve the 2050 carbon neutral goal, aiming to achieve carbon neutrality in the Isuzu Group's business activities.
Product CN Promotion Subcommittee	The subcommittee promotes various activities that contribute to the carbon neutrality of products, including decarbonization technologies and energy, aiming to achieve well-to-wheel carbon neutrality.
Resource Recycling Promotion Subcommittee	The subcommittee promotes waste controls and recycling activities in all Isuzu's business activities including products and services, toward achieving 100% recycling of resources.
Environmental Management Promotion Subcommittee	The subcommittee promotes environmental activities in coordination with Group companies, centered mainly on environmental management measures such as ISO 14001 certification acquisition, environmental risk management, and biodiversity preservation.

Management Approaches

Isuzu Group's Charter on the Global Environment

All Isuzu Group members use the Charter as a guideline when pursuing environment activities.

Basic Policy

► Realization of a prosperous and sustainable society

We the members of the Isuzu Group regard it as an important business challenge to preserve the global environment so that our planet remains prosperous and sustainable and can be passed on to future generations. In this regard, we pursue our business activities in all areas with an awareness of environmental conservation.

► Reduced environmental burden for all business operations

The Isuzu Group recognizes our responsibility in supporting *transportation*, offers enhanced products and services to our global customers through close cooperation with all Group companies, and develops and operates our environmental management system to reduce the environmental burden of all of our business areas.

Action Guidelines

1 Create a sustainable society

We coordinate our business operations and environmental initiatives, thereby offering environmentally-aware, high-value-added products and services to society.

2 Comply with environmental laws and minimize the environmental load

In an effort to minimize the impact on the environment from our business operations, we ensure that we comply with environmental laws and engage in key environmental issues in all of our business areas from development to production, distribution, sales and servicing, addressing climate change, resource recycling, prevention of environmental risks from hazardous substances, environmental measures and conservation of biodiversity.

3 Promote environmental technology

We promote the development of technology to reduce the environmental load applied throughout the product lifecycle.

4 Maintain proactive social communication

We maintain a positive attitude toward the disclosure of product, service, and business activity information on the environment, promoting good communication with members of society and communities, and work toward realizing a prosperous society.

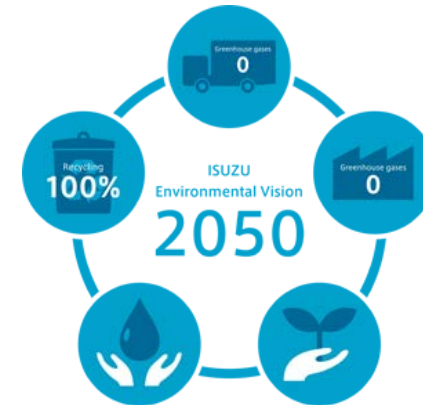
5 Foster environmental awareness as corporate citizen

We engage in perpetual efforts to foster environmental awareness in each Group member as a corporate citizen operating in a local community, encouraging them to learn about and act toward environmental conservation.

Isuzu Environmental Vision 2050

Formulating Our Vision

In order for society to be prosperous and sustainable in 2050, and for Isuzu to continue to support *transportation*, in March 2020 the Isuzu Group published our Isuzu Environmental Vision 2050. To help ensure a prosperous and sustainable society, each and every member of the Isuzu Group is committed to undergoing the challenge of achieving our Isuzu Environmental Vision 2050 together with our customers and partners.








Toward the Realization of the Environmental Vision

We believe that the road to the realization of Isuzu's environmental vision, as explained in the Isuzu Environmental Vision 2050, is a very long and arduous one. Our goal is to enable each and every person in the Isuzu Group to think and act on Isuzu's four environmental priorities. In June 2022, we created the 2030 Environmental Roadmap as a roadmap that clarifies the challenges the Isuzu Group wants to take on and the vision it aims to achieve by 2030, a milestone. This roadmap is a summary of how Isuzu thinks and wants to achieve its environmental vision as of 2022, based on the thoughts of all concerned. Some of the situations may change drastically in the future due to technological advances and social changes. While flexibly responding to various changes, Isuzu will promote GX (Green Transformation) in all of its business activities to realize the Aspiration shown in the Environmental Vision.

Management Approaches

2030 Environmental Roadmap

The 2030 Environmental Roadmap presents Isuzu's goals (2030 Challenge) and action plans (Global Action) to achieve a decarbonized and sustainable society by 2030.

Isuzu Environmental Vision 2050	2030 Environmental Roadmap	
	Aspiration	2030 Challenge
 <p>Zero GHG emissions directly from business activities</p>	<ul style="list-style-type: none"> We reduce CO₂ emissions* by 50% by 2030 as compared with 2013 * Scope1+Scope2 	<ul style="list-style-type: none"> We reduce total energy consumption We promote the introduction and expansion of clean energy We proactively introduce innovative technologies
 <p>Zero GHG emissions over the entire product lifecycle</p>	<ul style="list-style-type: none"> We offer a full lineup of CN vehicles to meet diverse needs 	<ul style="list-style-type: none"> By 2025, we identify new technologies to use By 2030, we expand mass production models while promoting social implementation
 <p>100% recycling rate of waste and discarded vehicles</p>	<ul style="list-style-type: none"> We promote activities to realize a circular economy 	<ul style="list-style-type: none"> We manage all resources discharged at all sites We promote the effective use of resources We make our business recycling-oriented
 <p>Pursue safe and secure operations and products</p>	<ul style="list-style-type: none"> We strengthen our environmental management and supplier engagement 	<ul style="list-style-type: none"> We establish a Group-wide environmental management structure We build a sustainable supply chain We identify and adapt to environmental and natural risks in our business activities
 <p>Conserve the biodiversity of the region</p>	<ul style="list-style-type: none"> We promote biodiversity conservation activities specific to each region 	<ul style="list-style-type: none"> We collaborate with local communities and promote activities to conserve the biodiversity unique to each region We promote proactive information disclosure We raise environmental awareness among employees and promote human resource development to support the realization of a society in harmony with nature

In Pursuit of Our Vision

Isuzu Environmental Vision 2050 is not easy to achieve.

We will gather a variety of wisdom and new technologies and cooperate with customers and business partners to pursue, from the perspective of multi-stakeholder partnership, many different efforts to make our society rich and sustainable.

> [Isuzu Environmental Vision 2050](#) 

Management Approaches

Contributions to Sustainable Development Goals (SDGs)

For the Isuzu Group to help realize a prosperous and sustainable society, we believe that activities aimed at achieving the Sustainable Development Goals (SDGs) adopted at the UN summit are important.

Isuzu will contribute to the achievement of the SDGs through the promotion of environmental activities and taking on the challenge of reducing environmental impacts.



Ensure healthy lives and promote well-being for all at all ages

- Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



Ensure availability and sustainable management of water and sanitation for all

- Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- Target 6.b: Support and strengthen the participation of local communities in improving water and sanitation management.



Ensure access to affordable, reliable, sustainable and modern energy for all

- Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
- Target 7.3: By 2030, double the rate of improvement in global energy efficiency.



Ensure sustainable production and consumption patterns

- Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.



Take urgent action to mitigate climate change and its impacts

- Target 13.2: Integrate climate change measures into national policies, strategies and planning.
- Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

- Target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and eutrophication.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

- Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.



Strengthen the means of implementation and revitalize the global partnership for sustainable development

- Target 17.16: Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.
- Target 17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Climate Change Measures

Basic Approach

Products and Services



We will aim for zero greenhouse gas (GHG) emissions* across the entire life-cycle of Isuzu Group products by 2050

*Zero GHG emissions: Net zero balance of GHG emissions and absorption

Business Activities



We will aim for zero greenhouse gas (GHG) emissions* arising directly from Isuzu Group operations by 2050

*Direct GHG emissions from business activities: Scope1+Scope2

Management Structure

> Management Structure

Strategy Relating to Climate Change

Many different global environmental issues, linked to climate change, are significantly affecting our society and are critical issues that require urgent solutions. This awareness is common worldwide. Based on this awareness, carbon-neutral strategies are rapidly being introduced in Japan and many other countries. A move toward a decarbonized society is gaining momentum worldwide. Isuzu considers this as an opportunity for its growth and intensifies its commitment to the issue. Isuzu performed scenario analysis and specified risks and opportunities on the basis of its long-term environmental scenario up to 2050, based on IPCC's climate scenario and the social economy scenario created by IPCC and IEA. As a result, we renewed our awareness of the fact that global environmental issues such as climate change gravely affect the Isuzu Group's business activities and its products. Countering climate change requires the satisfaction of tighter environmental regulations and the development of new technologies. The global climate change also leads to frequent natural disasters that are increasingly severe. They may seriously affect Isuzu's business activities. Meanwhile, the society is increasingly anticipating the creation of an innovation to help achieve a decarbonized society. Addressing the issue properly will lead us to new business opportunities. To this end, the Isuzu Environmental Vision 2050 regards measures against climate change as one of the priority issues. We also have the Carbon Neutrality Plan for establishing, by 2040, a full lineup of products compatible with the transition to carbon neutrality, and for expanding the mass production and sales of electric vehicles over our major models in 2030.

Climate Change Measures

Long-term Environmental Scenarios

4°C Scenario

▶ In the 4°C scenario, continued reliance on fossil fuel allows climate change to go unchecked. This entails the aggravation of natural disasters. People and nations scramble for availability of fossil fuel, limited resources. This gives rise to wider gaps and a trend toward anti-globalization, rendering international governance dysfunctional. In the scenario, progression of climate change brings about an undesirable society that is prone to disaster and economically stagnant.

1.5°C Scenario

▶ In the 1.5°C scenario, regulations on GHG emissions are tightened and, because of technological innovation and other factors, the rise in temperature is kept at 1.5 degree C or smaller. This would make the society carbon-neutral. Tighter regulations and advance of technological innovation would greatly change our social and industrial structure.
Isuzu performed a scenario analysis based on IEA's scenario (e.g. 2DS/B2DS/SDS). The 1.5°C scenario would bring significant changes to Isuzu's products depending on their usage, and to our business activities.

▶ Products

● By type of vehicle

- For small commercial vehicles to support short-distance, small-quantity transportation, EVs and other next-generation, power-train vehicles are increasingly developed and offered.
- Electrification and other trends emerge in mid- to large-sized commercial vehicles.
- Internal-combustion engines will continue to play significant roles in mid- and large-sized commercial vehicles which support long-distance, large-quantity transportation.

● Utilization of sustainable, decarbonized clean energy

- We need to develop and market power trains with much greater fuel efficiency and smaller energy loss than conventional ones and the products equipped with such power trains.

▶ Service

- We are currently conducting a demonstration test of automatic driving, platooning and full-trailer trucks, all of which have become popularized.
- More efficient means of transportation become common.

▶ Business Activities

- In production and other business activities, we transition to decarbonized clean energy.
- We thoroughly practice minimization of resource input and efficient use of emissions with an aim to achieve carbon neutrality.

Risks and Opportunities

Risks brought by climate change are divided into transition risk and physical risks: the former accompanies a transition to a decarbonized society while the latter takes such forms as the aggravation of natural disaster and may exert physical impacts.

The climate change risks and opportunities anticipated in Isuzu's operations are as follows:

Classification	Risks	Opportunities	Action	Impact on our operations
Transition-related Risks and opportunities associated with transition to a decarbonized society	<ul style="list-style-type: none"> • Decrease in our market share due to delay in reacting to tighter environmental regulations 	<ul style="list-style-type: none"> • Increase in demand for zero-emission vehicles 	<ul style="list-style-type: none"> • Advance the efforts to establish a full lineup compatible with the transition to carbon neutrality 	Large
	<ul style="list-style-type: none"> • Increase in development and production costs for building compatibility with diverse power trains such as those for EVs and FCVs 	<ul style="list-style-type: none"> • Expansion of open innovation • Widespread use of reasonably priced clean energy 	<ul style="list-style-type: none"> • Utilization of alliance in pursuing efficient, collaborative development • Switching to reasonably priced clean energy to achieve low-carbon operations and reduce costs 	Large
	<ul style="list-style-type: none"> • Shrinkage of market of internal combustion vehicles using fossil fuel 	—	<ul style="list-style-type: none"> • Using next-generation fuel (carbon-neutral fuel) to utilize existing internal-combustion technologies and infrastructure 	Large
	<ul style="list-style-type: none"> • Decline in our brand power due to the incapability to address diverse needs of logistics infrastructure 	<ul style="list-style-type: none"> • Increase in needs for automatic driving, platooning and full-trailer trucks 	<ul style="list-style-type: none"> • Creation of logistics innovation contributing to carbon neutrality through co-creation with customers 	Large

Climate Change Measures

	<ul style="list-style-type: none"> Increase in energy costs and in reputational risks due to delays in the introduction of GHG reduction measures and renewable energy in our business operations overall 	<ul style="list-style-type: none"> Early introduction of renewable energy to reduce costs and boost our corporate image 	<ul style="list-style-type: none"> Expansion of introduction of renewable energy Continued encouragement of energy-saving activities to reduce energy costs 	Moderate
Physical Risks and opportunities concerning phenomena such as the aggravation of natural disasters and depletion of water resources	<ul style="list-style-type: none"> Damage to business operations due to the rising occurrences of abnormal weather (e.g. flood, typhoon) 	<ul style="list-style-type: none"> Increase in demand for disaster-proof vehicles Expansion of needs for infrastructure services resistant to natural disasters 	<ul style="list-style-type: none"> Providing disaster-proof vehicles Repair of flooded vehicles Expansion of BCP to strengthen our corporate culture 	Large

Information Disclosure Based on the TCFD Recommendations

Isuzu is committed to the disclosure of climate change-related information in line with the framework recommended by the TCFD.

For the specific recommended disclosure items, see the relevant page.

Recommended disclosure item		Page
Governance	a) Explain the system for the organization's board of directors to supervise efforts to address climate-related risks and opportunities.	› Management Structure
	b) Explain the roles of management in the evaluation and management of climate-related risks and opportunities.	
Strategy	a) Explain the short-, medium- and long-term climate-related risks and opportunities identified by the organization.	› Strategy Relating to Climate Change › Long-term Environmental Scenarios › Risks and Opportunities › Products and Services › Business Activities
	b) Explain the impact of climate-related risks and opportunities on the business, strategic and financial planning of the organization.	
	c) Explain the impact of many different scenarios such as the 2 °C scenario on business, strategic and financial planning.	
Risk Management	a) Explain the process the organization uses to identify and evaluate climate-related risks.	› Management Structure › Long-term Environmental Scenarios
	b) Explain the process the organization uses to manage climate-related risks.	
	c) Explain how the process the organization uses to identify, evaluate and manage climate-related risks is integrated into the organization's general risk management.	
Indicators and Targets	a) Disclose the indicators used to evaluate climate-related risks and opportunities in line with the organization's strategy and risk management processes.	› ESG Data › Business Activities and Environmental Hazards › Isuzu Green Procurement Guidelines › Isuzu Environmental Vision 2050 › 2030 Environmental Roadmap
	b) Disclose greenhouse gas (GHG) emissions and related risks in Scope 1, Scope 2 and, if applicable, Scope 3.	
	c) Disclose the goals the organization uses to manage climate-related risks and opportunities and its track record for the achievement of the goals.	

Climate Change Measures

Initiatives

Products and Services

Efforts to Achieve Carbon Neutrality

To realize a decarbonized society, the achievement of carbon neutrality is the highest-priority social issue. Isuzu is aggressively pursuing carbon neutrality.

The achievement of carbon neutrality by 2050 requires that Isuzu successfully shift to carbon neutrality by shifting from fossil-fuels to carbon-neutral energy sources to power all of its new vehicles that will be available worldwide before that time. For that purpose, Isuzu is strongly pushing forward with its development of electric cars with a view toward mass production. We are conducting experiments for the introduction of BEVs and FCVs in society in an effort to identify the technologies that will enable us to achieve carbon neutrality. At the same time, we are preparing to introduce some of these products to the market.

We are assuming there will be situations where, for commercial vehicles, internal combustion engines will continue to be necessary. So we will continue to develop high-performance internal combustion engines as we prepare for future carbon-neutral fuels such as biofuels and renewable energy-derived synthetic fuels.

Development and Diffusion of Next-generations Vehicles

Light Electric Truck

In 2019, we started monitoring the use of the truck in home deliveries, deliveries from convenience stores and waste collection. The truck is being tested in terms of economic rationality and convenience and refined in preparation for the start of mass production in FY2023.



Heavy-duty Fuel Cell Truck

Collaborative development with Honda R&D Co., Ltd. began in 2020. The truck is being developed and will begin monitoring program in FY2023.



Light Fuel Cell Truck

In 2021, we launched a joint project We plan to cooperate with social implementation efforts in Fukushima Prefecture through the use of hydrogen technology, and also participate in social implementation in other cities through the provision of vehicles.



BEV Full-flat Route Bus

To meet the need for zero-emission public buses, we are developing BEV full-flat Route buses with the aim of starting production in FY2025.

North American Medium-duty Electric Trucks
Under the Isuzu Cummins Powertrain Partnership Agreement, starting in 2022, a prototype vehicle equipped with a Cummins electric system will be built and tested for roll-out to North American customers.



Climate Change Measures

Working toward Next-generation Fuels

Isuzu recognizes that the use of next-generation fuels such as carbon-neutral synthetic fuels and biofuels (CN fuels) in vehicles is a technical issue that should be addressed at the same level as electrification in order to realize a carbon-neutral society. Carbon-neutral synthetic fuels are CN fuels refined from hydrogen that is, in turn, refined from renewable energy sources and carbon dioxide emitted from the atmosphere or factories using a synthetic process powered by renewable energy. Biofuels are made from biomass that absorbs CO₂ from the atmosphere. They can also be CN fuels when renewable energy is used in the refining process. Government subsidies have been made available for carbon-neutral synthetic fuels, including for the development of refining technology for social implementation. Society can expect the following benefits from the successful introduction of CN fuels.

- Utilization of existing internal-combustion engine technologies
- Immediate contribution to the achievement of carbon neutrality as soon as it begins to be supplied (utilization in already available vehicles)
- Utilization of existing fuel supply infrastructure such as existing fuel stations

In preparation for the introduction of CN fuels in society, we will strongly push forward with our activities to accelerate the practical use and the spread of next-generation vehicles, including assessment and improvement of conformity and demonstration testing of vehicles in terms of performance, durability, reliability and other properties. Further, we will actively work with CN fuel manufacturers to identify issues and propose improvements regarding fuel quality and other matters. Commercial vehicles serving people and their logistics needs, the products that Isuzu manufactures, are available in many different types and are used in many different situations and environments. Some of these vehicles may be hard to electrify. The utilization of CN fuel in these vehicles can accelerate the shift to carbon neutrality. Commercial vehicles are global products that are sold worldwide. Depending on national or regional situations, however, it may be difficult to switch to electric vehicles. In these situations, the use of already available vehicles will continue. In these countries and regions, the availability of CN fuels with the potential to leverage the existing fuel-supply infrastructure would effectively facilitate carbon neutrality.

This led Isuzu to set up a department in April 2021 to advance and accelerate the utilization of CN fuels and to push forward with the extensive activities above. In pursuit of a globally carbon-neutral society, Isuzu will encourage the use of CN fuels and will continue to support *transportation*.

Business Activities

Use Less Energy

We will continue to implement energy conservation initiatives throughout our business activities and continue with our activities to reduce energy consumption by streamlining processes, reviewing and optimizing operational methods of facilities etc. and visualizing the energy consumption at all of the Group companies.

We are producing substantial results throughout the Isuzu Group through our review of our conventional ways of using energy to identify more opportunities to conserve energy and deploying these solutions across our companies.

Efforts to Increase the Environmental Friendliness of Our Dealers' Sites

Isuzu is trying to increase the environmental friendliness of its sites through proactive efforts such as the installation of LED lighting and skylights and the introduction of reusable energy systems when renovating or building new sales bases. Our newly built sites employ an effluent treatment system using microorganisms to prevent environmental pollution which may result from the wastewater generated during vehicle maintenance or washing. In such a way, we are promoting the transition to water treatment facilities that are more environmentally conscious than the existing ones.



Kumamoto Branch, Isuzu Motors Kyushu Co.,Ltd.

Climate Change Measures

Creating Clean Energy

To create clean energy through the active utilization of renewable resources, Isuzu Group's companies in Thailand are installing large photovoltaic power generation systems. Since FY2019, Isuzu Motors Co., (Thailand) Ltd.(IMCT), Isuzu Engine Manufacturing Co., (Thailand) Ltd. and KDI Services & Technologies Co., Ltd. have installed solar panel systems with a total output of 3,460 kW. Other Group companies in Thailand are also planning to introduce energy-saving equipment and photovoltaic power generation systems.



KDI Services & Technologies

Switching to Clean Energy

For energies used at business sites, we will sequentially switch to clean energy derived from renewable sources.

Since FY2020, Isuzu has utilized the Aqua Premium rate plan offered by TEPCO Energy Partner, Inc. where a portion of the electricity purchased is hydroelectric power.

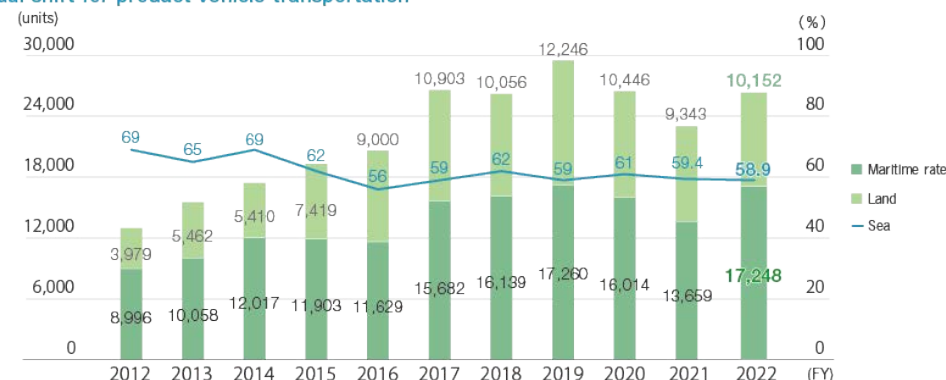
Through this plan TEPCO Energy Partner, Inc. sells the CO₂-emission-free electricity that it generates hydroelectrically, offering an option for customers who want a portion of the electricity they purchase to be carbon-free.

Additionally, in FY2023, Isuzu started purchasing electricity with non-fossil certificates and expanding the purchase of electricity derived from renewable energy sources. Isuzu will continue to utilize various mechanisms to further expand its use of clean energy.

Reducing CO₂ Emissions in Logistics Processes

Isuzu is reducing the CO₂ emissions in its logistics processes at the target rate of 1% per year by reviewing the routes it uses to transport parts, promoting fuel-efficient driving during transportation, and adding more shipping routes to increase marine transportation (modal shift).

Modal shift for product vehicle transportation



Main Initiatives for the Reduction of CO₂ Emissions

- Improved transportation efficiency as a consequence of efforts such as the thorough implementation of load-based truck transport management
- Increased use of returnable racks that can be folded during return
- Increased trailer transportation and increased container fill rates

In 2020, a new parts center was added next to the Tochigi Plant, centralizing all of the warehouses that had been scattered around the surrounding area. This centralized transportation between warehouses and improved logistics efficiency. Further, an elevated bridge was installed between two existing parts center warehouses enabling truck transportation to be replaced by automated tractors, which further reduced CO₂ emissions.

Increasing Container Round Use

Isuzu works on the Container Round Use (CRU) system which diverts empty import containers to be used as export containers. The increase of CRU eliminates the need to transport empty containers, which reduces the CO₂ emissions from transportation and can also ensure the availability of containers.

This helps to stabilize logistics.

Climate Change Measures

Organizing of Green Sales Activities

Isuzu Dealers are doing all they can for the environment in every aspect of their business activities. They are continuously working to implement all possible environmental activities, including the selection of hybrid vehicles and other environmentally friendly vehicles for use as company cars, implementing Cool Biz and Warm Biz campaigns, and taking part in local area cleanup activities. We are also promoting efforts to reduce carbon dioxide emissions at our sales offices and service centers, to further promote the use of recycled automobile parts etc., and to promote proper waste management. To this end, we are working toward acquiring certification as an environmentally friendly auto body shop, which is awarded to business sites that are actively engaged in environmental measures and comply with related laws and regulations. In FY2022, three sites received the Branch Director's Award.

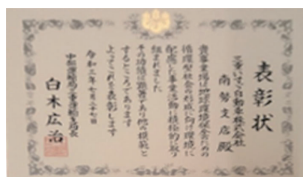
[Branch Director's Award won by]



Isuzu Motors Chubu Co.,Ltd.
Minato Service Center



Mie Isuzu Motors Limited
Ueno Sales Office



Mie Isuzu Motors Limited
Nansei Branch

Holding Fuel Efficient and Safe Driving Seminars

Considering the life cycle of Isuzu products, the majority of CO₂ emissions comes from product (vehicle) use.

The Isuzu has been holding seminars on fuel-efficient and safe driving in Japan and overseas since 1995, to provide Isuzu vehicles' buyers with tips on fuel-efficient driving in accordance with the performance of their vehicles.

Seminar Participation over the Past 3 Years

	Courses	Number of participants
FY2022	60	1,128
FY2021	54	884
FY2020	115	1,535



Fuel efficient and safe driving seminar

Resource Recycling

Basic Approach



We will achieve 100% recycling of waste and end-of-use vehicles generated by Isuzu Group operations by 2050

Management Structure

> Management Structure

Initiatives

Promote Effective Resource Use

Reduced Packaging Materials

We make efforts as a Group toward reducing the amount of materials used through proper management and promoting shifts to returnable items as well as material recycling.

The Isuzu Group as a whole is in the process of reviewing packaging methods to reduce packaging materials, and in FY2018 we began using the returnable racks that have become the global standard. This is gradually expanding from the ASEAN region and is being promoted worldwide in regions including India and Africa.



Returnable Rack

Effective Utilization of Water Resources

Isuzu's business activities entail the consumption of a large quantity of water in vehicle manufacturing, plant maintenance, effluent treatment and many other situations.

Isuzu endeavors to conserve these finite water resources by, for example, encouraging the reuse of treated wastewater and the water used in processes and efforts to consume less water on a Group-wide basis.

Promoting Rebuilding

The Isuzu Group promotes the rebuilding of used engines and parts to more effectively use the limited resources that we have.

In the rebuilding of engines, used engines are disassembled, the parts are cleaned and inspected and worn parts are replaced with new ones before reassembly. The Isuzu Group provides customers with genuine Isuzu E-PARTS that have been refurbished to meet the same inspection criteria that new parts straight off the production line must meet. This enables our customers to use products that are more eco-friendly that have the same high quality.

Isuzu Engine Manufacturing Hokkaido Co., Ltd. rebuilds engines and parts to reduce resource input and manufacturing energy. We will further reduce resource and energy input through establishing evaluation standards for parts recycling technologies and recycled parts, improving the parts recycling rate, and promoting and expanding rebuilding.



Rebuilt Engine Reassembly

Promoting Recycling

The Isuzu Group promotes recycling of the waste generated through its business operations through meticulous sorting on a daily basis and pursues activities to reduce and mitigate the generation of discharge, including by sorting out valuables from the discharge.

Domestically, we also recycle used-cars pursuant to Japan's Act on Recycling, etc. of End-of-Life Vehicles, as well as three designated items (ASR*, air bags, and chlorofluorocarbon).

Additionally, to recycle and properly dispose of ASR, we have created the Automobile Shredder Residue Recycling Promotion Team (ART), which works in cooperation with 12 other automobile manufacturers.

* Automobile Shredder Residue

Environmental Risk Prevention Measures

Basic Approach



We will pursue safe, reliable operations and products across the entire Isuzu Group value chain

Management Structure

> Management Structure

Initiatives

Promoting Water Resource Conservation

Understanding and Responding to Water Related Risks

In recent years, climate change is increasing concern about the ability to secure water resources and about water-related risks such as flooding. In light of this, Isuzu began surveying water-related risks in FY2016 using Aqueduct, a global water risk evaluation tool.

The survey showed that Isuzu faced no problems requiring urgent action in its use of groundwater or clean tap water. However, we also identified risks dependent on geographic and other conditions that could affect plant operations and supply chains in the event of torrential rains or extreme weather. In response to these findings, we are pushing forward with activities to reduce water resource consumption and to mitigate water-related risks in view of the risks faced in plant and business operations.

Building a Society Free of Water Stress

The Isuzu Group contributes to building a society free of water stress, where all people can have access to safe water without concern.

Isuzu Gives Water...for Life

Since 2013, 21 Isuzu Group companies in Thailand have carried out the Isuzu Gives Water...for Life project. As of March 2022, the project has held 39 events. The goals of the project are to install water treatment systems and provide access to drinkable water at schools that are dealing with polluted water in outlying areas of Thailand. Through the project, teachers and students learn how to manage and maintain the system so they are able to sustainably secure access to drinking water. This program is a collaboration with Thailand's Department of Groundwater Resources and regional authorities. In FY2022, we continued to be constrained by the pandemic, but in response to requests from several schools, we resumed our activities while taking adequate infection control measures. In FY2023, we expect to further expand our activities and will continue to actively contribute to Thai society as a member of the Isuzu Group.



Environmental Risk Prevention Measures

Thorough Chemical Substance Management

We take thorough measures to minimize the environmental risks associated with chemical substances used in our business activities and products.

Managing Chemical Substances and Promoting Alternatives

For the chemicals used in Isuzu's business activities, such as paints and secondary materials, Isuzu conducts preliminary screening before introducing new products to ensure employee safety and reduce environmental risks, scrutinizes whether chemicals can be used, and maintains a database of the chemicals used. We use this data to make PRTR (Pollutant Release and Transfer Register) notifications and also encourage Isuzu Group companies to switch to substances with less environmental impact and review manufacturing processes to reduce the use of Hazardous chemical substances.

For chemicals contained in our products, from the design and development stages, we exercise great care when evaluating the chemicals contained in materials and components and take action to meet the chemical substance regulations in the countries they will be used. Chemical substance regulations are tightening, and to address them we are utilizing the International Material Data System (IMDS). The IMDS is the automotive industry standard, a global system for the communication of data regarding the chemicals contained in products, to ensure that the chemicals contained in our products are controlled based on the data obtained from our business partners and to reduce the use of regulated chemicals.

There were no chemical-related accidents in FY2022.

Activities to Control Emission of Ozone Depleting Substances

Isuzu promotes activities aimed at controlling the emission of ozone depleting substances by reinforcing the inspection of facilities using CFCs and installing non-CFC equipment during facility upgrades.

Together with Our Stakeholders

We request that our business partners submit Environmental Management Self-Evaluation Reports which also include chemicals management data. We talk with our business partners to confirm the status of their chemicals management structures and exchange related information. In this way, we strive to improve chemicals management throughout our supply chain.

Biodiversity Conservation

Basic Approach



We will conserve native biodiversity in the areas surrounding Isuzu Group operations in partnership with NGOs and other stakeholders

Isuzu Group Policy on Biodiversity

In FY2019, Isuzu formulated an Isuzu Group Policy on Biodiversity while referring to materials such as the Ministry of the Environment's Guidelines for Private Sector Engagement in Biodiversity and the Keidanren Declaration of Biodiversity.

Based on this policy, the offices of each company within the Group conducts activities to help protect their unique regional natural environments and promote the conservation of biodiversity.

Since January 2020, we have endorsed the Keidanren Declaration of Biodiversity and have renewed our determination to work to conserve biodiversity through our business activities.

Basic Vision

- ▶ We, the Isuzu Group, understand the relationship all of our business activities have with the ecosystem. We support action that helps achieve a sustainable society through a harmony of business activities and biodiversity.

Action Guidelines

- ▶ Each employee learns and has an understanding that our business activities are enabled by biodiversity and, at the same time, are affecting it.
- ▶ We engage in activities that reduce our impact on biodiversity and protect it in all of our business activities.
- ▶ We protect biodiversity from a global perspective, taking into account the diversity of local communities.
- ▶ We promote cooperation and collaboration with our stakeholders in order to improve our conservation activities.
- ▶ We contribute to local communities, placing valuing on communication and cooperation with stakeholders through disclosing information on activities and other initiatives.

Management Structure

- > Management Structure

Initiatives

Promoting Biodiversity Conservation Efforts

We strive to conserve biodiversity around our business sites so that the sites work in harmony with the natural environment.

Isuzu conducted expert-led biodiversity surveys on the sites of its Fujisawa and Tochigi Plants. The results revealed that the forests were poorly cared for at both sites, which negatively impacted their function as habitats for local species. Consequently, the ecosystem was losing its equilibrium while invasive species were thriving. In response to these results, volunteer employees began working on site maintenance in FY2017. Since then, efforts have continued to develop the areas for native species to thrive, and to restore the healthy forest environment.

A recent investigation has found that these efforts have helped to reduce invasive species at the sites and that the ecosystem is gradually regaining its equilibrium. We will continue these initiatives in the future, leveraging expert opinions to restore the ecosystem to its natural state and even enrich it. In this way we will maintain an environment for Isuzu to continue its operations as it has always been.



Fujisawa Plant: Maintaining the site's forest
(Left: Before, Right: After)



Tochigi Plant: Maintaining the site's greenery area
(Left: Before, Right: After)

Biodiversity Conservation

Promoting Efforts to Protect Local Ecosystems

We promote efforts to protect regional ecosystems in local communities where we conduct business, working to conserve them along with their biodiversity. In addition, by encouraging these activities across the entire Isuzu Group, we will remain committed to protecting global biodiversity.

Watarase Reservoir Conservation Activities

Since 2016, Isuzu has been involved in conservation activities at the Watarase Reservoir near its Tochigi Plant.

The Watarase Reservoir is the largest reservoir area in Japan and is a Ramsar-registered wetland that serves an important flood control function to prevent flood damage in the region. It is also home to numerous plant and animal species, including endangered species. Isuzu has learned that proper management involving human intervention is necessary to maintain this rich biodiversity for the future and Isuzu continues to participate in activities such as reed cutting, removal of invasive alien species, and trash pickup organized by local governments and NPOs and led by volunteers from the Tochigi Plant. The ongoing conservation activities conducted with local residents have borne fruit and storks have been seen flying and nesting in the Watarase Yusui area.

15 staff members from two companies participated in the Watarase Reservoir Invasive Plant Removal Activity sponsored by Tochigi City in May 2021 to help eliminate non-native species from the expansive reservoir area.

In FY2022, we received letters of appreciation from Tochigi City and Oyama City recognizing us as an Environmental Conservation Organization and an Oyama City Watarase Yusui Wetland Conservation Support Organization respectively.



Participants in the Invasive Plant Removal Activity

Participating in Activities to Develop Forests That Supply Water in Kanagawa Prefecture

Since FY2019, the Isuzu Fujisawa Plant has been participating in Kanagawa Prefecture's Forest Restoration Partner project. To protect the woodlands that are the source of the groundwater used by the plant, we continue with the work of preserving the Yadoriki Water Source Forest in Ashigarakami District.

Group companies at the Fujisawa Plant have also taken part in the effort starting in FY2020, with 64 employees and their families representing four companies participating in the conservation activities held in June and September 2019. While being reminded of the importance of biodiversity and preserving the forests that act as water sources, participants observed nature and helped thin neglected forest, helping return it to its natural state.

* The activity was not held in FY2022 due to COVID-19.



Thinning the forest

Promoting Sustainable Procurement

In sourcing raw materials, we take into account sustainability and the conservation of biodiversity. Isuzu has established the Isuzu Green Procurement Guideline to promote environmental conservation activities in collaboration with our business partners. We ask them to engage in environmental conservation activities through annual production briefings and individual briefings.

Our production briefings in FY2022 took place in April and November (biannual). To prevent the spread of COVID-19, they took the form of distribution of handouts which included our activity plan for the business period, and the evaluation results for the previous term and requests for the current term regarding the Environmental Management Self-Evaluation Report which we ask business partners to submit.

We hold online production briefing sessions twice a year for the 232 members of Isuzu's Supplier and provide them with detailed explanations of our new initiatives to deepen their understanding of our plans.

Biodiversity Conservation

Developing Human Resources to Build a Society in Harmony with Nature

The Isuzu Group pursues good environment-related communication with its various stakeholders, including its customers, business partners, the surrounding community, shareholders, investors and employees. To this end, we participate in environmental activities in the local communities around where we operate and release many environmental data.

Enhancing its environment-related communication, the Isuzu Group endeavors to obtain more understanding about its environmental activities in pursuit of continued improvements. By proactively sharing information within the Group, we develop human resources that will help build a society in harmony with nature.

Training Employees

Isuzu has been providing all employees with common educational programs on the environment since FY2017.

This environmental education initiative, covering all Isuzu employees, is held periodically. It raises awareness of environmental issues among employees and promotes a better understanding of the Company's environmental activities. The program combines e-learning and group training, reducing the CO₂ emissions generated by the transportation needs of participating employees. Similarly, the introductory training programs for new and mid-career recruits includes this environmental education, where they learn the reasons behind Isuzu's environmental initiatives and consider what they should do as Isuzu employees.

We also provide training regarding environmental laws and regulations as well as internal environmental auditor training every year to deepen employees' understanding and make them more competent.

Presenting Our Environmental Initiatives to Members of the Local Community

Every year, the Isuzu Fujisawa Plant invites key members of local residents' associations from six neighboring areas. The visitors receive an explanation about the environmental initiatives of Isuzu and the Fujisawa Plant and take part in a tour of the assembly lines. This annual event is a valuable opportunity to promote a better understanding of Isuzu's environmental initiatives and what we actually do for the cause, among people in the local community to whom we usually owe so much. These activities provide a valuable opportunity for Isuzu's neighborhood residents, to whom we are always grateful, to learn about Isuzu's environmental activities and actual initiatives. When the event was held in October 2019, 46 people attended, and everyone commented that they understood Isuzu's initiatives well, making it a valuable opportunity for better communication with neighborhood residents.

* Activities for FY2022 were voluntarily suspended to prevent the spread of COVID-19.



A presentation on our environmental conservation activities