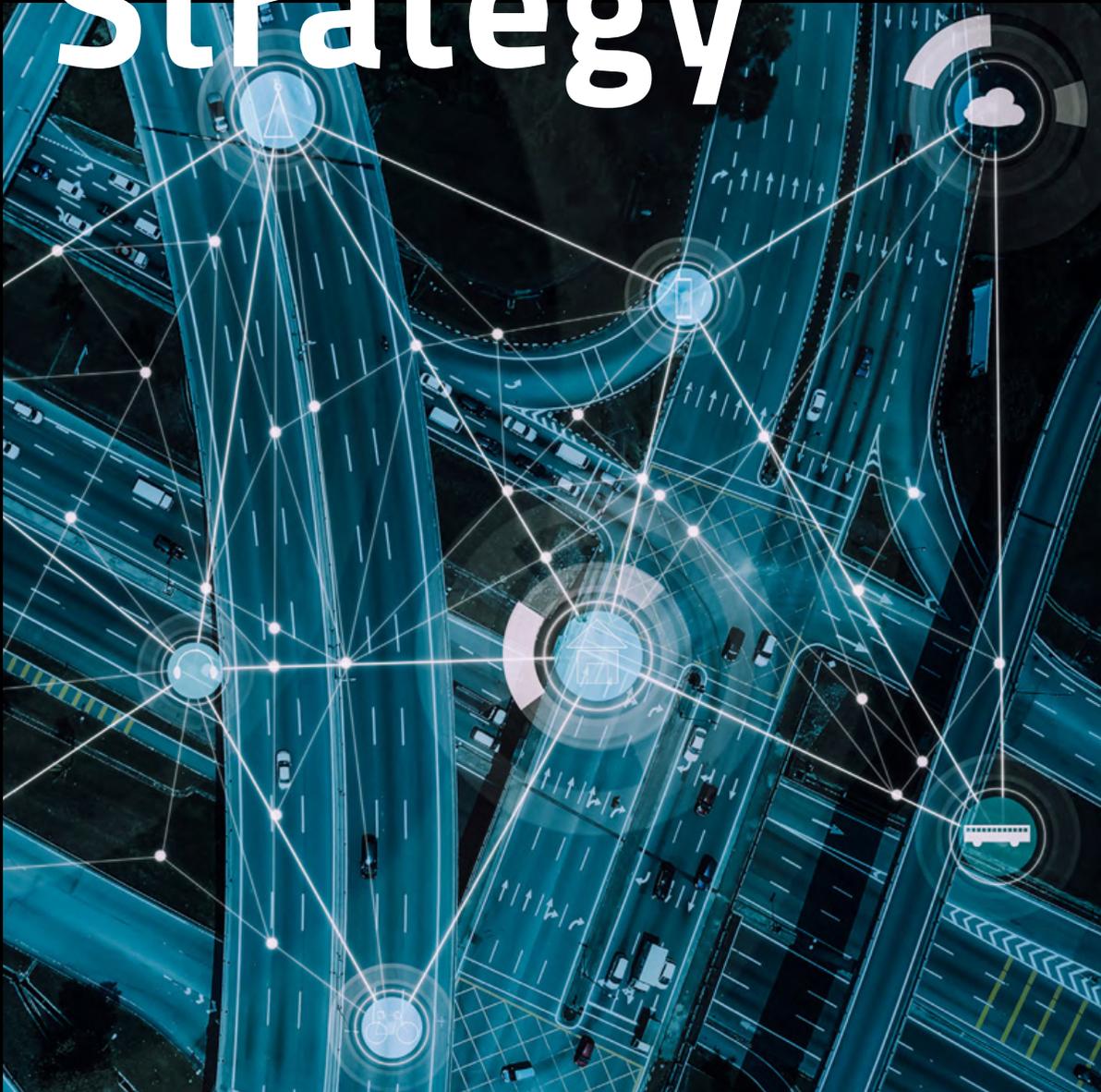


Medium-to Long-Term Strategy



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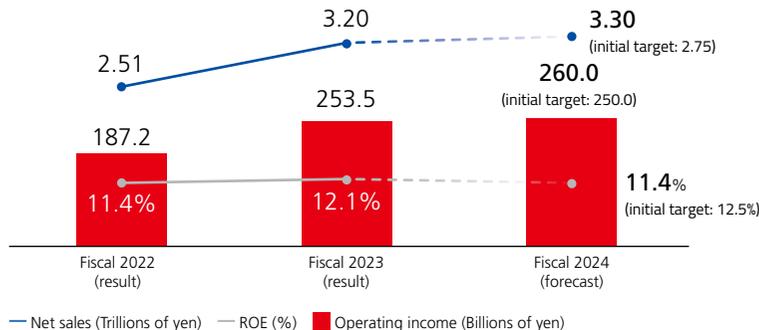
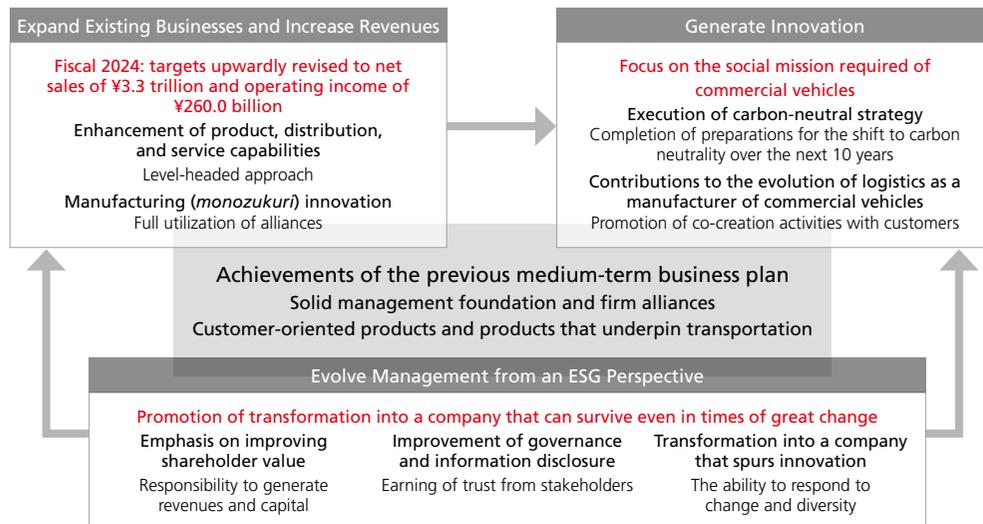
Medium-Term Business Plan 2024

Every three years, Isuzu formulates a business plan with a view to achieving medium-term corporate growth. In May 2021, the Isuzu Group formulated Medium-Term Business Plan 2024 with an eye to achieving growth by fiscal 2024, the year ending March 31, 2024, and beyond.

As we have already achieved our initial targets of net sales of ¥2.75 trillion and operating income of ¥250.0 billion, we have upwardly revised our targets for fiscal 2024 to net sales of ¥3.30 trillion and operating income of ¥260.0 billion. We aim to achieve our initial ROE target by further increasing profits.

In fiscal 2023, as part of its initiative to invest in innovation, the Company also outlined a policy to allocate a total of ¥1 trillion to research and development and capital expenditures by 2030.

Overview of Medium-Term Business Plan 2024



Progress of Medium-Term Business Plan 2024

	Expand Existing Businesses and Increase Revenues	Generate Innovation	Evolve Management from an ESG Perspective
Targets	<ul style="list-style-type: none"> Strengthening of alliances Further improvements in productivity and pursuit of global expansion 	<ul style="list-style-type: none"> Execution of carbon-neutral strategy to achieve the targets set forth in Isuzu Long-Term Environmental Vision 2050 Contributions to the evolution of logistics as a manufacturer of commercial vehicles 	<ul style="list-style-type: none"> Transformation into a company that can survive even in times of great change
Status of initiatives (in fiscal 2023)	<ul style="list-style-type: none"> In incorporating Isuzu's modular design concept I-MACS,* we executed a full-model change of N-Series and F-Series trucks. We have also added new and noncommercial license-compliant models to the N-series lineup. We brought to market the new large tractor heads GIGA and Quon, which were developed in synergy with UD Trucks Corporation as part of the company's participation in the Isuzu Group. 	<ul style="list-style-type: none"> Began providing EVisor, a total solutions program for the commercial introduction and operational support of EVs, to coincide with the launch of the N-Series EV Began operation of the commercial vehicle information platform GATEX through collaboration with Fujitsu Limited and Transtron Inc. Selected Honda Motor Co., Ltd. as a development and supply partner for fuel-cell battery systems to be installed in heavy-duty fuel-cell vehicles, which are scheduled to launch in 2027 	<ul style="list-style-type: none"> Redefined the Isuzu Group's values and direction through the formulation of the ISUZU ID Implemented changes in officer structure and reorganized divisions and departments with the aim of strengthening the Company's management structure Currently formulating an execution plan for reforming personnel systems with the aim of strengthening our human resource foundation.

* I-MACS: an abbreviation for Isuzu Modular Architecture and Component Standard, based on which the use and combination of components in vehicle development are optimized



The new tractor models jointly developed with UD Trucks Corporation

CFO Message

Increasing Isuzu's Corporate Value

Aiming to Boost Revenues and Enhance Capital Efficiency



Naohiro Yamaguchi

Director of the Board and Senior Executive Officer,
Group CFO, EVP of Corporate Strategy Division,
EVP of Corporate Planning & Financial Division,
and Executive of administrative and liaison affairs

» Preface

Supporting the Implementation of the ISUZU ID from a Financial Standpoint

Through the realization of the recently formulated ISUZU ID, Isuzu will build a more robust business foundation by leveraging its long-cultivated competitive edge to expand existing businesses and increase revenues. To accelerate efforts toward carbon neutrality and logistics-related digital transformation (DX), we aim to realize our purpose of “Moving the World – for You” by implementing investments in innovation totaling ¥1 trillion.

My duty as chief financial officer (CFO) is to strive to maximize corporate value by disclosing and steadily implementing business and financial strategies that will build more robust revenue and financial bases and balance future growth investments. Since joining Isuzu, I have been primarily engaged in overseas business development and management. Leveraging the experience, sense of balance, and global perspective I have gained through my involvement in these areas, I will support the Company in realizing its purpose.

Medium-Term Business Plan 2024

In May 2021, Isuzu formulated Medium-Term Business Plan 2024—covering the period from fiscal 2022, the year ended March 31, 2022, to fiscal 2024, the year ending March 31, 2024 (see Medium-Term Business Plan 2024 on [page 36](#) for more details)—as a growth strategy at the heart of its value creation. Amid the accelerating trend toward decarbonization and rising expectations for uninterrupted logistics, our basic policy positions a carbon-neutral strategy and contributions to evolving logistics

as our foundation for innovation in order to address social issues that require the assistance of commercial vehicles.

To support these efforts, we will utilize the business foundation and various alliances we have created to further expand our business and increase revenues.

» The Four Key Elements in Supporting Our Value Creation Story

As CFO, I believe that the following four elements are key in supporting our value creation story and meeting the expectations of stakeholders.

Growth Investments

The Isuzu Group aims to sustainably increase corporate value by prioritizing investments that are necessary for the continuation of business activities and future growth.

During Medium-Term Business Plan 2024, we plan to allocate ¥300.0 billion for capital expenditures and ¥350.0 billion for research and development expenditures.

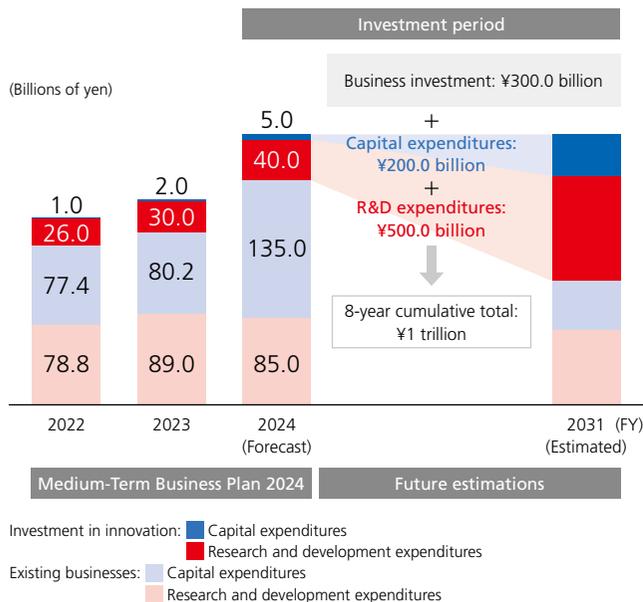
In terms of capital expenditures, over the past two years, in addition to replacing aging equipment and facilities, we have implemented investments related to the sustainable growth of existing businesses, including the full-model changing of medium- and light-duty trucks, as well as making investments geared toward increasing the production capacity of light commercial vehicles in South Africa. From the standpoint of strengthening our business revenue base, we have invested in significant streamlining, a major renewal of our core systems, and the relocation of our headquarters to improve productivity. In addition

CFO Message

to these investments, we will continue to invest in our dealerships in Japan with a view to maintaining and expanding their functions.

We have allocated around 25% of total research and development expenditures to expanding the development of connected, autonomous, shared & service, and electric (CASE) technologies with a focus on light-duty battery-electric trucks and battery-electric buses, which has enabled us to begin mass production of light-duty battery-electric trucks this year. Due to rising energy costs, among others, and increased investment in advanced technologies, total research and development expenditures during Medium-Term Business Plan 2024 are estimated to be ¥350.0 billion, an increase of ¥10.0 billion from the originally planned target of ¥340.0 billion.

Forecast of Research and Development and Capital Expenditures Based on Our Policy to Invest ¥1 Trillion in Innovation



In order to accelerate our efforts toward carbon neutrality and logistics-related DX, we have outlined our policy to invest a total of ¥1 trillion in innovation in the form of research and development, capital expenditures, and business investments by 2030 (see figure on the bottom-left). The finer details of the policy are still being discussed, but we intend to secure our competitive edge by leveraging alliances while earnestly expanding investments in advanced technologies and working to improve the efficiency of investments in existing technologies.

Financial Soundness

As a company that operates businesses engaged in the manufacture and operational support of trucks—an essential part of social infrastructure—it is our responsibility to underpin the stability of such businesses while maintaining a financial base that enables flexible financing for investments in growth. Specifically, the Company intends to maintain a credit rating of “A” from rating agencies in Japan.

Moreover, Isuzu will proceed with the repayment of the ¥280.0 billion borrowed in April 2021 as funding for the acquisition of UD Trucks Corporation, in order to build a financial base that can flexibly respond to market changes while securing investment capacity so the Company can adroitly secure investment opportunities.

Shareholder Returns

After comprehensively considering the balance between shareholder returns and internal cash reserves for securing growth investments and maintaining financial soundness, the Company will return profits to shareholders based on the level of profitability for each fiscal year. The Company aims to achieve steady dividend growth through its continued efforts to increase profitability.

During the period of Medium-Term Business Plan 2024, we are targeting an average dividend payout ratio of 40.0%. In addition, the Company will purchase treasury stock in a flexible manner based on such factors as its financial condition, cash flows, and expected future revenues.

Profitability and Capital Efficiency

From the perspective of emphasizing capital efficiency, we are aiming for ROE that exceeds the cost of shareholders’ equity. In doing so, we will strive to improve profitability and strengthen cash management through measures that include increasing working capital efficiency. Our first step will be to ramp up activities to normalize inventory levels, which have risen significantly compared with pre-COVID-19 levels due to longer rear-body mounting periods, shipping delays caused by the global shortage of car carriers, and the buildup of the safety stock of production parts that are in unstable supply.

The target ROE for fiscal 2024, the final year of Medium-Term Business Plan 2024, is 12.5%, which exceeds the cost of shareholders’ equity. In order to achieve this target, it is essential that the Company increases its profitability. To this end, we will promote business activities by leveraging the business foundation cultivated during the previous medium-term business plan along with the accomplishments realized through our alliances.

In addition, Isuzu will strive to improve capital efficiency by regularly examining cross-shareholdings according to their necessity to business strategies, economic rationality, and other factors and by strengthening investment management.

CFO Message

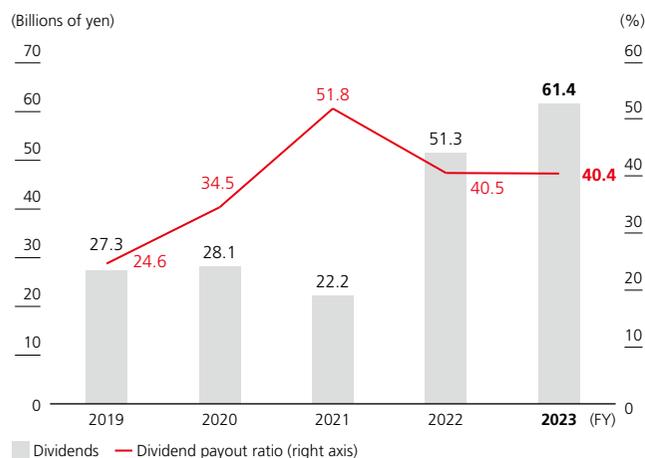
» A Review of Progress Made to Date and a Look Ahead to the Next Medium-Term Business Plan

Final-Year Targets of Medium-Term Business Plan 2024 Achieved in Fiscal 2023, One Year Ahead of Schedule, and Shareholder Returns Increased

For fiscal 2023, the second year of Medium-Term Business Plan 2024, net sales were ¥3.20 trillion and operating income was ¥253.5 billion, exceeding the targets we set at the beginning of the period of ¥3.0 trillion and ¥200.0 billion, respectively. Moreover, we were able to exceed our targets of ¥2.75 trillion in net sales and ¥250.0 billion in operating income for the final year of Medium-Term Business Plan 2024, one year ahead of schedule.

Net sales increased significantly from fiscal 2022 due to the easing of parts supply shortages; however, due to constraints imposed on production as a result of the semiconductor shortage, Isuzu was unable to supply sufficient quantities of products, leaving customers in many regions waiting.

• Dividends



In terms of profitability, compared to the substantial increase in net sales, the growth in operating income has been limited. The primary factor behind this limited growth is soaring material, logistics, and energy costs, which have risen to historically high levels. Although we are taking steps to reflect these soaring costs in our sales prices with the understanding of our customers, there is inevitably a time lag between cost increases and their reflection in sales prices, so we are unable to say at this point whether we achieved sufficient results in fiscal 2023. We will continue to work on activities to reflect costs in our sales prices so that we can achieve results over the next one to two years.

In line with the target dividend payout ratio 40% for the period of Medium-Term Business Plan 2024, we issued an annual dividend of ¥79 per share in fiscal 2023, up ¥13 from the previous fiscal year.

Aiming for Further Expansion of Sales and Revenues in Fiscal 2024

Our targets for fiscal 2024 are net sales of ¥3.3 trillion and operating income of ¥260.0 billion, both of which we plan to expand further from the previous year. The assumed exchange rate is US\$1 to ¥130.

Market conditions remain favorable and production constraints are expected to ease significantly.

Meanwhile, the effects of soaring material and energy costs are expected to continue. We aim to increase profits by expanding sales and reflecting said cost increases in our sales prices.

In addition, we will continue to create synergies with UD Trucks, which was acquired by the Isuzu Group in 2021. In line with the synergistic benefits targeted at the time of the acquisition, research and development expenditures decreased ¥6.0 billion in fiscal 2023, and we are working to achieve a reduction of ¥13.0 billion in fiscal 2024, which is also in keeping with the target set at the time of acquisition.

The current forecast for ROE is 11.4%, which is below the 12.5% target set forth in Medium-Term Business Plan 2024, but we are working to further increase profits in order to achieve this target. We are also continuing to consider the purchase of treasury stock.

In line with the target dividend payout ratio 40% for the period of Medium-Term Business Plan 2024, we plan to issue an annual dividend per share of ¥80, up ¥1 from fiscal 2023.

» Looking Ahead to the Formulation of the Next Medium-Term Business Plan

As I mentioned above, the business environment has changed dramatically since Medium-Term Business Plan 2024 was formulated. There is no indication that soaring material and energy costs are going to return to the levels upon which the current medium-term business plan was based and expectations for carbon-neutral solutions and logistics-related DX are rising at a faster rate than expected.

Amid this rapidly changing business environment, we are currently formulating our next medium-term business plan. After outlining our vision for Isuzu from a long-term perspective with a view to the 2030s, we will then set forth concrete measures to be taken from a medium-term perspective.

To reiterate, my duty as CFO is to strive to maximize corporate value by disclosing and steadily implementing business and financial strategies that will build more robust revenue and financial bases and balance future growth investments. I ask for your continued support not only for our activities in fiscal 2024 but also for the content and implementation of the next medium-term management plan to be announced in fiscal 2025.

Alliance System for Realizing Innovation

▶▶ Collaboration with Cummins Inc. in the Powertrain Business

In February 2021, we reached an agreement with Cummins Inc. of the United States to collaborate on the development and sale of medium-sized diesel engines for the Powertrain Business and to conduct joint research into various advanced technologies.

Alliance details

- Sharing technological capabilities and know-how, complementing each other's strengths, and promoting cooperation that leverages economies of scale in various next-generation powertrains, including diesel engines with low environmental impact and electric powertrains

Main initiatives

- Cummins will supply Isuzu with medium-sized B6.7 diesel engines to use in medium-duty trucks. Vehicles equipped with this engine will be introduced to global markets to meet the needs of customers around the world.
- Isuzu and Cummins plan to install a Cummins' electric system in the Company's F-Series medium-duty commercial vehicles for the North American market and began monitoring for large-fleet customers in September 2022. ("Development of Carbon-Neutral Vehicles That Meet Diverse Needs," [page 44](#))

▶▶ Strategic Alliance with the Volvo Group

Based on a basic agreement for forming a strategic alliance in the field of commercial vehicles concluded with the Volvo Group in Sweden, we started a full-scale strategic alliance in April 2021.

Alliance details

- Isuzu and the Volvo Group will promote collaboration in the development of existing and advanced technologies by mutually complementing their areas of expertise, leveraging each company's superior technologies, and collaborating to utilize economies of scale.
- Isuzu acquired UD Trucks Corporation and its business from the Volvo Group in April 2021 in order to further strengthen its heavy-duty truck business in Japan and international markets.
- The two companies will promote collaboration in light-duty and medium-duty trucks to respond to evolving urban logistics.
- Both companies will pursue mutual benefits from increased sales volumes through collaborative purchasing based on mutual technologies and deployment regions.

Main initiatives

- From April 2023, Isuzu and UD Trucks began sales of their new tractor heads. In the future, both companies will start development via their large-scale shared platform of a full-model change for their heavy-duty trucks in Japan and overseas markets, with an eye to collaborating with the Volvo Group in the area of advanced technologies.
- In addition, under the leadership of the Alliance Board, consisting of the chairman and president of Isuzu, the CEO of the Volvo Group, and executives from both companies, the Company will promote activities that leverage the advantages of the alliance, including the establishment of alliance offices in both Japan and Sweden, and the development of a corporate culture and management from an environmental, social, and, governance perspective ("Diversity, Equity, and Inclusion Initiatives," [page 58](#)).

▶▶ Collaboration with Participating Partners in Commercial Japan Partnership Technologies

Isuzu participates in Commercial Japan Partnership Technologies, a joint venture established in March 2021, in which it has begun collaboration with participating partners to accelerate the response to connected, autonomous, shared & service, and electric (CASE) technologies and services in commercial businesses. In July 2021, Suzuki Motor Corporation and Daihatsu Motor Co., Ltd. also partnered with CJPT to contribute their expertise in the light commercial vehicle field.

Alliance details

- Promote the planning of CASE technologies and services in commercial businesses
- Jointly develop electric and fuel-cell vehicles, automated driving technology, and electronic platforms, with a focus on the light-duty truck domain
- Jointly build a commercial version of the connected technology platform and provide various logistics solutions

Main initiatives

- Plan and develop a next-generation, hydrogen-fuel-cell electric route bus based on the heavy-duty battery-electric route bus scheduled to commence production in fiscal 2025 ([page 44](#))
- Commence planning and basic research on hydrogen engines for heavy-duty commercial vehicles
- Developed light-duty fuel-cell trucks and began introducing them to the market through social implementation projects in Fukushima Prefecture in February 2023 and Tokyo in April 2023. A new social implementation project has also been launched in Fukuoka Prefecture, and market introduction began in June 2023 ([page 44](#)).
- Collaboration to achieve carbon neutrality in Thailand. Promotion of specific plans through demonstration tests

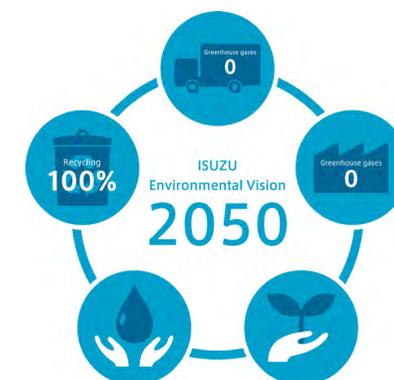
Isuzu's Medium- To Long-Term Strategy for Realizing Innovation

As a medium- to long-term strategy, Isuzu will realize innovation in the areas of next-generation product development to help achieve carbon neutrality and of new product development geared toward evolving logistics.

In March 2020, the Company outlined the environmental aspects of its business activities from a long-term perspective in Isuzu Long-Term Environmental Vision 2050. Through a long-term scenario analysis of the period up to 2050, Isuzu identified risks, such as tightened environmental regulations and intensified natural disasters, and opportunities, such as contributing to a decarbonized society through technological development. In addition, the Company published the 2030 Environmental Roadmap in June 2022, which clearly outlines the milestones toward realizing Long-Term Environmental Vision 2050.

Furthermore, Isuzu will accelerate its efforts toward carbon neutrality and evolving logistics by investing a total of ¥1 trillion in innovation by 2030.

Moving forward, Isuzu will continue to grow and provide value to society through the approaches, initiatives, and product development activities listed below.

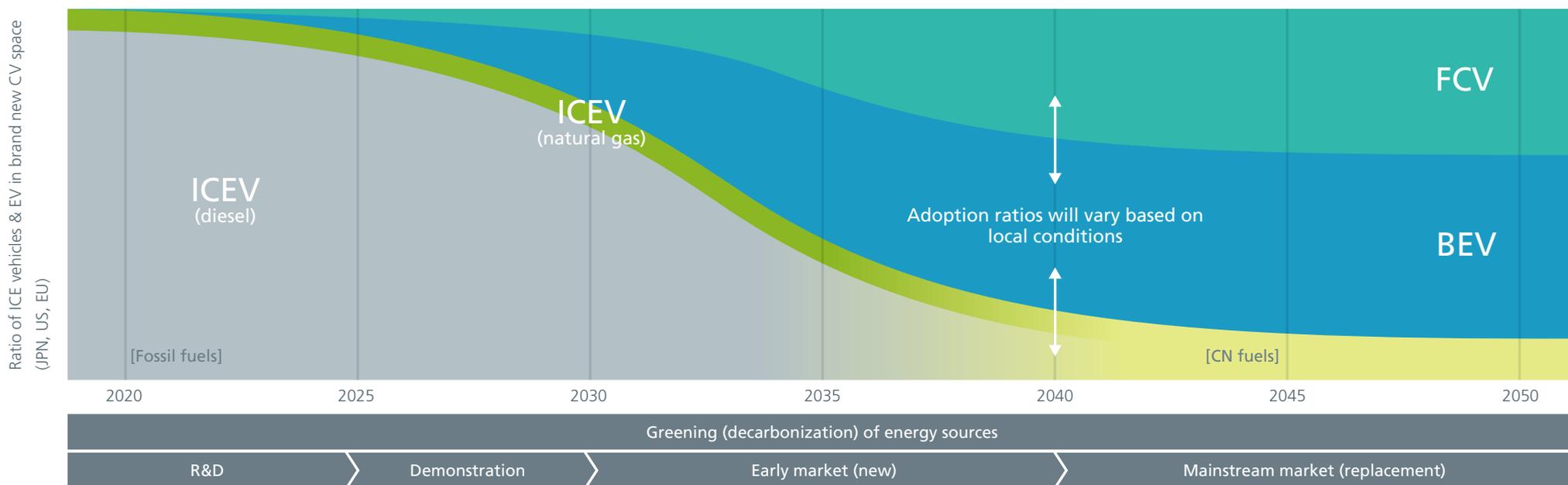


		Examples of Approaches and Initiatives	Relation to Product Value		
			Low Environmental Impact	Easy to Use	Durable and Long Lasting
Realizing Innovation	Next-Generation Product Development to Help Achieve Carbon Neutrality	Development of Carbon-Neutral Vehicles That Meet Diverse Needs 📖 Page 42	●		
		Achievement of Net-Zero Greenhouse Gas Emissions in Isuzu's Business Activities 📖 Page 45	●	●	
		Achievement of a Recycling-Oriented Society through the Use of Rebuilt and Remanufactured Unit Vehicles 📖 Page 46	●	●	
		Expansion of Value Provided through the Evolution of Fleet Management and Operational Support Services 📖 Page 48	●	●	●
	New Product Development Geared toward Evolving Logistics	Development of Automated Driving Technologies 📖 Page 49	●	●	●
		Development and Application of Advanced Safety Technologies 📖 Page 50	●	●	●
		Development of More User-Friendly Rear Bodies		●	

Development of Carbon-Neutral Vehicles That Meet Diverse Needs

The process encompassing the research and development of carbon-neutral vehicles to their social implementation and popularization varies depending on the social infrastructure and energy use in each country and region and thus cannot be approached in a uniform manner. However, based on projected social changes, it is expected that, while the scale of expansion will vary depending on regional conditions and social trends, the number of carbon-neutral vehicles will gradually increase among the various options available. Taking such social conditions into consideration, Isuzu will work to promote carbon-neutral vehicles tailored to the characteristics of each country and region.

▶ Projected Carbon-Neutral Vehicle Expansion



*ICEV (internal combustion engine vehicle): vehicles powered by fuels such as diesel, gas, and CN fuels
 *CN fuels: carbon neutral fuels such as biofuels and synthetic fuels derived from renewable energies.

*NGV (Natural Gas Vehicle) *FCV (fuel-cell vehicle)
 *BEV (Battery Electric Vehicle)

Research and Development Period

We will proceed with demonstration tests for the social implementation of various carbon-neutral vehicles and promote research and development from the perspective of economic rationality, among other factors.

With customers' needs in mind, Isuzu will identify optimal technologies to support a diverse range of applications by 2025.

Social Implementation Period

In 2025 and beyond, we will utilize the knowledge and data obtained from the demonstration tests to expand and improve our product lineup and expand mass production and sales, thereby promoting the social implementation of carbon-neutral vehicles.

Popularization Period

From 2030 onward, the initial cost of carbon-neutral vehicles is expected to decrease as development costs are reduced through our leveraging of alliances and other means. In addition, running costs are expected to decrease due to social changes such as the spread of infrastructure, commonality with other companies' products, and standardization. By reducing the burden on customers through such cost decreases, it is likely that we will enter a period of popularization whereby switching to a carbon-neutral vehicle will become a viable option for customers.

Transitional Period

Around the time of the popularization period, we expect that customers using existing vehicles will gradually switch to carbon-neutral vehicles and that the number of carbon-neutral vehicles in their fleets will increase. At the same time, carbon-neutral fuels are expected to become widely used from around 2040, and we anticipate that existing internal combustion engines will be encouraged to become carbon neutral through the use of carbon-neutral fuels.

Development of Carbon-Neutral Vehicles That Meet Diverse Needs

▶▶ Close up:

Demonstrating Next-Generation Fuels

Using Renewable Diesel in Preparation for Expo 2025 Osaka, Kansai

Isuzu, together with Itochu Corporation, Itochu Enex Co., Ltd., Kajima Corporation, Konoike Construction Co., Ltd., Shimizu Corporation, and Takenaka Corporation, will proceed with demonstration tests using renewable diesel to promote decarbonization in the construction and transportation fields in preparation for Expo 2025 Osaka, Kansai.

These demonstrations were selected as part of Osaka Prefecture's Carbon Neutral Technology Development and Verification Project 2023, which aims to encourage companies to utilize the expo, a world-class event, as an opportunity to develop and demonstrate technologies that will contribute to carbon neutrality. Itochu and Itochu Enex's demonstration project for decarbonization in the construction and transportation sectors using renewable diesel was selected at last year's event.

Itochu will procure renewable diesel from Neste,* the world's largest producer of renewable fuel, while Isuzu will conduct engine tests with a view to using the fuel in trucks and industrial machinery and consider granting guarantees. Itochu Enex will expand its supply network in Osaka Prefecture, and Kajima, Konoike Construction, Shimizu, and Takenaka will work to demonstrate the use of renewable diesel in construction work carried out for the expo itself.

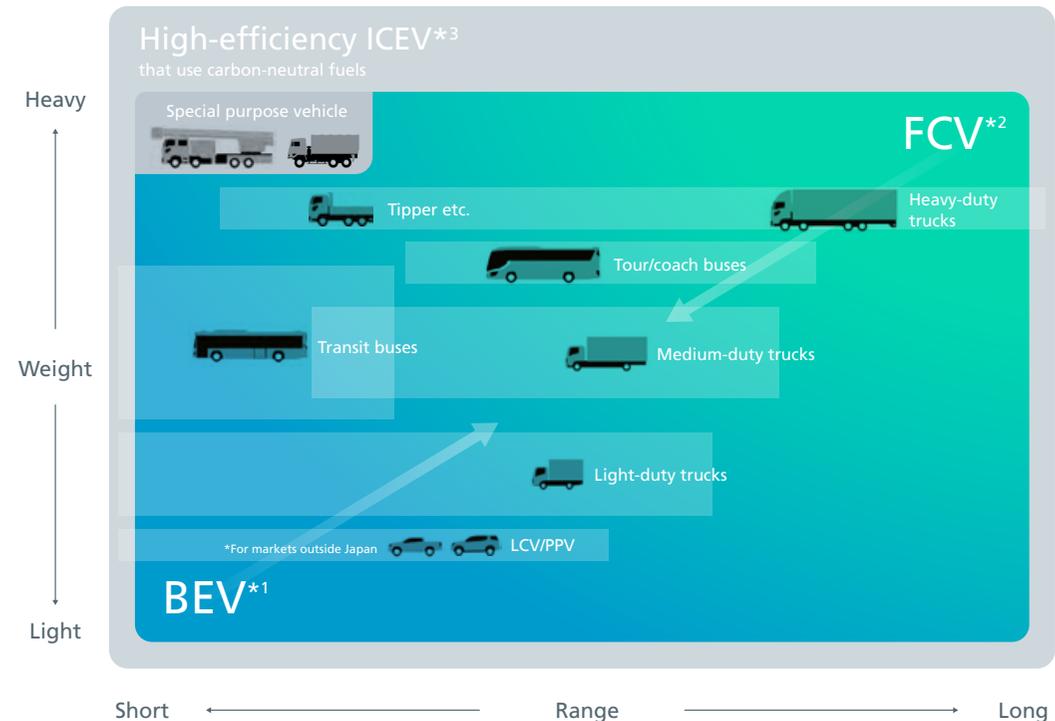
* Neste MY Renewable Diesel™ is produced from vegetable, animal, plant, and other waste fats that do not compete with food sources, and results in around 90% less greenhouse gas (GHG) emissions over the fuel's life cycle when compared with fossil diesel. Renewable diesel is a "drop-in" fuel that can be used in existing vehicles, machinery, and refueling facilities, and has already been widely distributed in Europe and the United States. As a next-generation renewable fuel that can minimize the cost of introducing decarbonization measures and contribute significantly to reducing GHG emissions, further expansion of its use in the construction and transportation sectors is expected in the future.

→ Lineup of Carbon-Neutral Vehicles That Meet Diverse Needs

Isuzu aims to achieve net-zero greenhouse gas (GHG) emissions throughout the entire life cycle of its products by 2050.

In order to do so, the Company's entire lineup of new vehicles sold worldwide must be carbon neutral. However, the type of carbon-neutral vehicles required will vary depending on how a given vehicle is used and where it is used. We will respond to the diverse needs of various customers and continue to support transportation all over the world by offering a wide lineup of carbon-neutral vehicles.

We believe that the development of carbon-neutral vehicles calls for the pursuit of more efficient internal combustion engines, the use of carbon-neutral fuels, the combination of new technologies, and the promotion of electrification. Through alliances with our various business partners, we are confident that we can offer carbon-neutral vehicles for a variety of applications and will identify the technologies required for this endeavor by 2025.



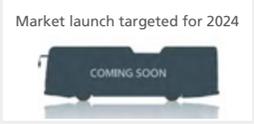
*1 LCVs, light-duty trucks, route buses, etc., that travel short distances and are lightweight

*2 Heavy-duty trucks, sightseeing buses, and other large vehicles that travel long distances

*3 Special-purpose vehicles such as fire engines, etc.

Development of Carbon-Neutral Vehicles That Meet Diverse Needs

→ Main Initiatives Geared toward Carbon-Neutral Vehicle Development

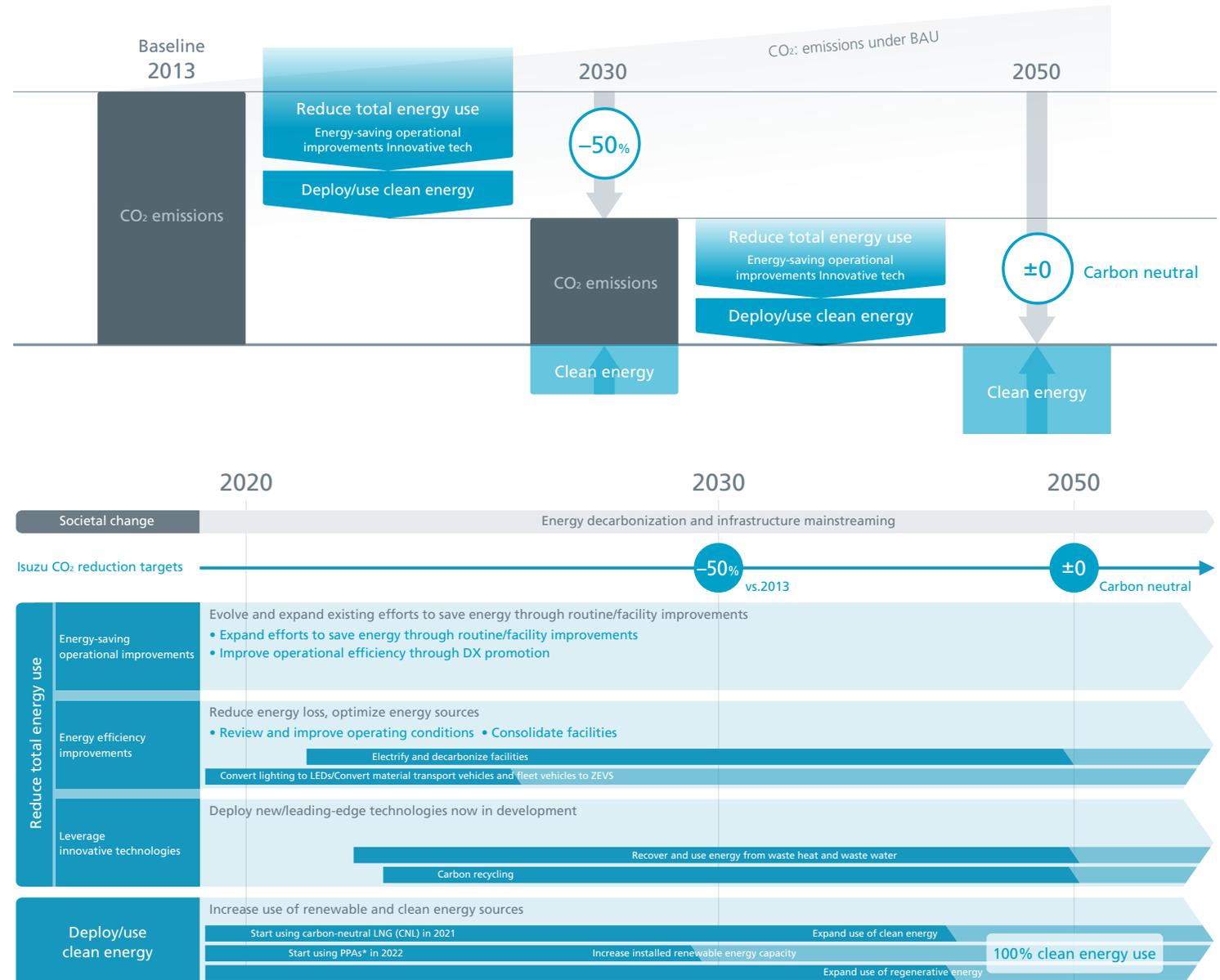
Main Initiatives	Summary of Initiatives and Future Plans
<p>Commence mass production of light-duty battery-electric vehicles</p> 	<ul style="list-style-type: none"> Based on the knowledge gained from the monitoring trials conducted since 2019, Isuzu launched its first mass-market battery-electric light-duty truck in the Japanese market in March 2023, which the Company plans to steadily roll out to North America and Europe. In Japan, models compatible with noncommercial driver's licenses are scheduled for release in due course.
<p>Commence introduction of fuel-cell vehicles to the market</p> 	<ul style="list-style-type: none"> Isuzu is promoting the planning and development of a mass-market light-duty fuel-cell truck in collaboration with partners of Commercial Japan Partnership Technologies Corporation (CJPT). Market introduction will begin through a social implementation project in Fukushima Prefecture in February 2023 and in Tokyo in April 2023. The number of units introduced will be increased gradually, with 60 units to be introduced in Fukushima Prefecture and 190 units in Tokyo. A new social implementation project will also be launched in Fukuoka, with market introduction starting in June 2023.
<p>Commence monitoring trials of medium-duty battery-electric vehicles for the North American market</p> 	<ul style="list-style-type: none"> Isuzu and Cummins Inc. have installed a Cummins electric system in Isuzu's F-Series (FTR) medium-duty commercial vehicles for the North American market, and both parties began monitoring the system for a major North American fleet customer in September 2022.
<p>Commence monitoring trials for heavy-duty fuel-cell vehicles</p> 	<ul style="list-style-type: none"> Isuzu has selected Honda Motor Co., Ltd. as a development and supply partner for fuel-cell battery systems to be installed in heavy-duty fuel-cell vehicles, which are scheduled for launch in 2027. The two companies also signed a joint research agreement on heavy-duty fuel-cell trucks in January 2020 and plan to start demonstration tests on public roads using monitored vehicles during fiscal 2024.
<p>Commence production of heavy-duty battery-electric route buses</p> 	<ul style="list-style-type: none"> From fiscal 2025, Isuzu and Hino Motors, Ltd. plan to begin production of large battery-electric route buses through their joint venture J-Bus. Compared with conventional non-step buses, these new buses have a much larger, fully flat area, thereby improving safety for travelers and contributing to our aim of eliminating onboard passenger accidents entirely.
<p>Commence consideration for the development of heavy-duty fuel-cell route buses</p> 	<ul style="list-style-type: none"> Isuzu is continuing discussions with partners participating in CJPT for the development, production, and launch of next-generation fuel-cell route buses based on the aforementioned large battery-electric route buses. By standardizing their parts, the cost of battery-electric vehicles and fuel-cell vehicles will be significantly reduced, thereby spurring the adoption of a new generation of fuel-cell stacks. We will also leverage the expertise of Toyota Motor Corporation and Hino Motors in the area of fuel-cell electric bus development, aiming to provide electric vehicles with longer service lives and higher added value.
<p>Electrification of Light Commercial Vehicles</p> 	<ul style="list-style-type: none"> In line with the laws and regulations of the relevant countries and progress made toward achieving carbon neutrality, battery-electric pickup trucks produced by Isuzu Motors Co., (Thailand) Ltd. will be launched on a gradual basis at the appropriate timing from 2025 onward, starting with European markets. To address needs for a wide range of applications, from commercial to passenger pickup trucks, we will make proposals that include the perspectives of both carbon neutrality and the enhancement of social infrastructure and livelihoods.

Achievement of Net-Zero Greenhouse Gas Emissions in Isuzu's Business Activities

In the process of promoting a business-wide shift to becoming carbon neutral, the Company must achieve carbon neutrality not only in its products and services but also in the greenhouse gases emitted directly from its own business activities.

Isuzu has begun taking on the challenge of reducing CO₂ emissions directly from its business activities—Scope 1 and Scope 2 emissions—by 50% from 2013 levels by 2030 and to achieve carbon neutrality by 2050.

The Isuzu Group, both in Japan and overseas, will continue to take on the challenges of reducing total energy use, introducing and expanding clean energy, and implementing innovative technologies with a view to realizing carbon-neutral products that are produced at carbon-neutral plants.



*PPA: Power purchase agreement

Achievement of a Recycling-Oriented Society through the Use of Rebuilt and Remanufactured Unit Vehicles

Action Plan for Transitioning to a Circular Society

Crucial to the transition to a sustainable society is the shift from a linear economic system of mass production, mass consumption, and mass disposal, to a circular economic system. Isuzu will promote the shift to a circular economic system that maximizes added value while efficiently and cyclically using resources at every stage of its business.

Global action	~2025 Resource recycling status assessment phase	~2030 Resource recycling implementation phase	2030-2050 Achieving a circular economy
Thorough management of the total amount of waste resources at all sites	<ul style="list-style-type: none"> Understand the management status of waste (waste, water, etc.) generated at bases and pursue optimization 	<ul style="list-style-type: none"> Curtail waste generation by controlling the total amount of waste generated at bases 	Make a circular economy a reality
Promotion of the effective use of resources	<ul style="list-style-type: none"> Ascertain the recycling status and take action Understand the status of difficult-to-treat materials 	<ul style="list-style-type: none"> Implement recycling of difficult-to-treat materials Expand use of recycled materials 	
Transition to a recycling-oriented business	<ul style="list-style-type: none"> Respond as needed to new issues related to new products Respond to new recycling issues by adopting new materials 	<ul style="list-style-type: none"> Establish recycling-oriented business 	

▶▶ Close up: Progress on Remanufactured Unit Vehicle Business as Seen in the GIGA type-Re Line

Isuzu aims to realize a recycling-oriented society by utilizing the rebuilding technology of Group company Isuzu Engine Manufacturing Hokkaido Co., Ltd. (IEMH).

What is a rebuilt / remanufactured unit vehicle?

Rebuilt unit vehicles:

Unlike used products that are reused in a deteriorated state, this recycling method guarantees the same performance level and durability as a new product in the form of a rebuilt product by disassembling and cleaning the core parts of used engines and transmissions and replacing worn out parts.

Remanufactured unit vehicles:

A remanufactured unit vehicle refers to a vehicle that, in addition to using a rebuilt engine and other drive train components, has been restored to the same level as a new vehicle, such as by restoring functionality and comfort by replacing parts connected to the suspension and washing and replacing interior parts.

01: Contribution to Resource Recycling and Carbon Neutrality through the GIGA type-Re Line

Since October 2022, we have been remanufacturing GIGA heavy-duty truck models that have reached the end of their lease and started handling maintenance leasing of GIGA type-Re remanufactured unit vehicles, which have been remanufactured to the same performance level as a new vehicle. Among GIGA vehicles whose five-year maintenance lease period has expired, for example, vehicles with short-term, high-operating use of one million kilometers in five years, we restore reusable engines, transmissions, and other components to the same level as new parts, and guarantee maintenance leases once again for one million kilometers of operation for five years. Reusing large parts such as engine cores and functional parts not only contributes to resource recycling but is also expected to reduce CO₂ emissions by approximately 90% compared with when a new car is manufactured.

The logistics industry is beginning to recognize that the fuel efficiency and efficiency improvements that have been made with the aim of reducing costs will contribute to decarbonization. For example, Yamato Box Charter Co., Ltd., which has been conducting joint demonstration tests since 2021, mainly carries out trunk line transportation for courier services on a 24-hour basis, and it is only engines and transmissions that exceed durability periods. In other words, it turned out that there are many vehicles that are suitable for remanufacturing following short-term heavy operation. For companies that use them, GIGA type-Re vehicles contribute to the promotion of carbon neutrality and the establishment of a circular economy. Starting with their adoption by Yamato Box Charter, 15 units have already been manufactured and shipped and have also been adopted by Nakano Shokai Co., Ltd., which runs third-party logistics and real estate businesses. Companies that adopted them appreciate that the use of GIGA type-Re vehicles will contribute to resource recycling and carbon neutrality.

Achievement of a Recycling-Oriented Society through the Use of Rebuilt and Remanufactured Unit Vehicles

▶▶ Close up: Progress on Remanufactured Unit Vehicle Business as Seen in the GIGA type-Re Line

02: Added Value That Leverages the Strengths of Isuzu and IEMH

IEMH, which coalesces the Isuzu Group's rebuilding and remanufacturing abilities, has been involved in engine assembly, disassembly, and function research since its establishment and therefore has abundant human resources who are familiar with engines and specific parts. With a history spanning more than 10 years in the business of rebuilding engines and transmissions, IEMH leads other companies in the accumulation of expertise and recycling methods. An additional strength is the Isuzu Group's across-the-board high-quality standards, equivalent to those of new engines. In terms of the vehicle maintenance technology and know-how required for remanufacturing, IEMH has acquired the necessary technology through the exchange of human resources with sales companies within the Isuzu Group. IEMH's remanufacturing business currently only handles large-sized vehicles, but through these efforts, it has established a technological framework that can handle medium-sized and small-sized vehicles.

In addition, by collaborating with Isuzu's Product Development and Quality Assurance divisions, IEMH is constructing an appropriate recycling course that utilizes not only measurement and analysis data for each part, but also market and design information. Notably, IEMH is working to maximize the number of parts that can be reused by accurately assessing vehicle conditions such as the state of the engine and regularly replaced parts by utilizing PREISM advanced genuine maintenance and the MIMAMORI telematics system. By getting ongoing feedback on vehicle status and real parts status via connected services, IEMH is accumulating data on whether parts can be remanufactured and working to improve rates of reuse.

03: Aiming to Realize a Recycling-Oriented Society

Even in a world where carbon-neutral vehicles, such as electric vehicles and fuel-cell vehicles, have become widespread, it will take some time before the diesel vehicles we currently supply are completely replaced. We also anticipate that it will become difficult to obtain the metal resources used in those vehicles. Isuzu believes that rebuilt and remanufactured unit vehicles that utilize existing vehicles and engine units will be an important after-sales service option to keep our customers' operations running.

The Isuzu Group is making use of IEMH functions to not only improve the reuse rate and quality of parts, but also to acquire and establish regeneration technology, and we are also working to acquire the necessary technology to eventually rebuild existing vehicles into carbon-neutral vehicles, such as by refitting diesel engines with battery-powered motors. We aim to realize a recycling-oriented society by expanding businesses that utilize rebuilding and remanufacturing technologies.



Engines (left: before, right: after)



Transmissions (left: before, right: after)



Engine rebuilding



We are working to improve work efficiency by automating the parts cleaning process.



By using vehicle data from MIMAMORI and PREISM for diagnosis, we are able to both reuse parts and achieve quality assurance.

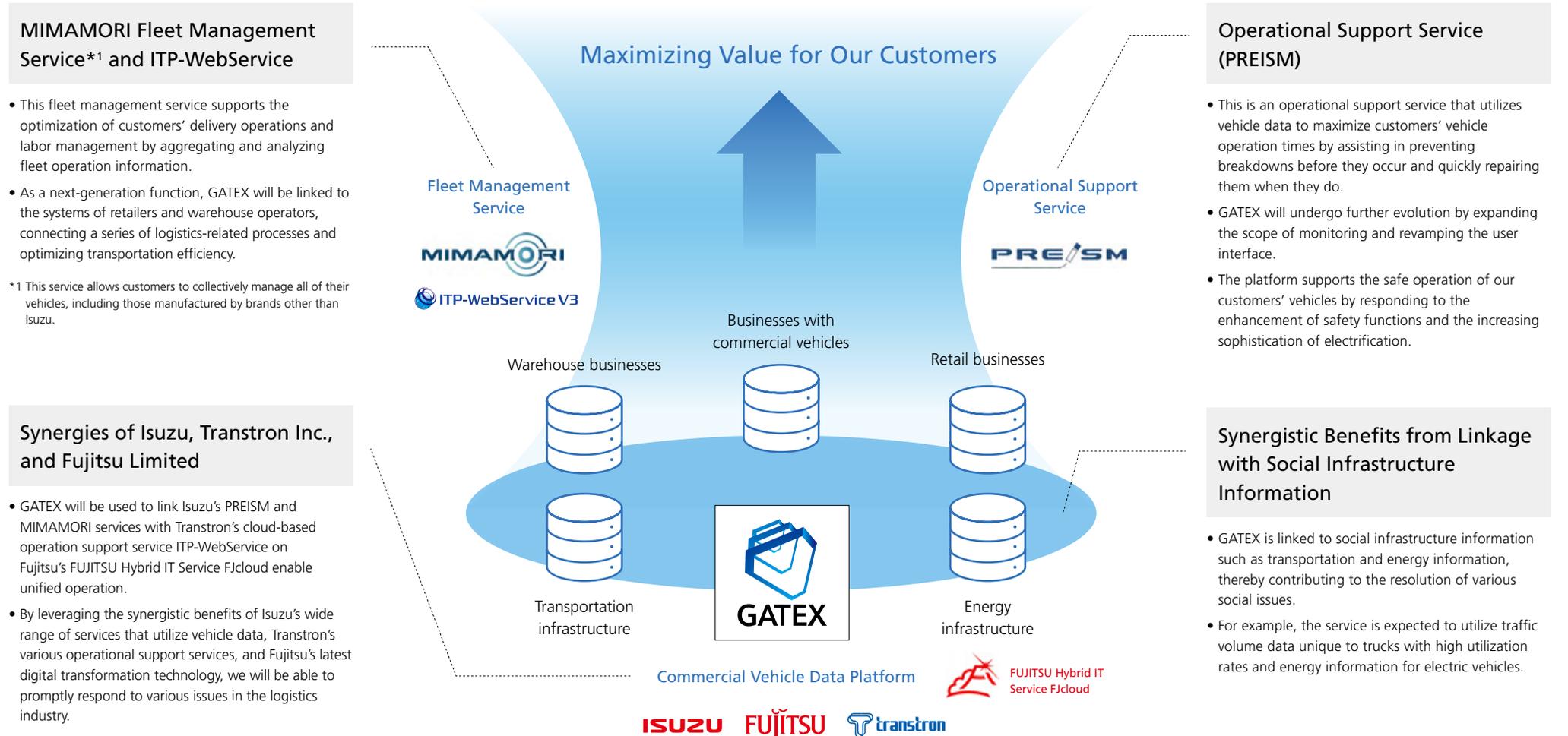


Remanufactured unit vehicle maintenance

Expansion of Value Provided through the Evolution of Fleet Management and Operational Support Services

Isuzu has been an industry pioneer in providing connected services that support its customers' businesses, such as the MIMAMORI fleet management service and the PREISM advanced genuine maintenance service. In October 2022, we began operation of GATEX, a commercial vehicle information platform built by Isuzu, Fujitsu Limited, and Transtron Inc. Based on information on approximately 500,000 trucks held by Isuzu and Transtron, GATEX is the largest scale connected service in the commercial mobility field.

Specifically, the platform will contribute to the creation of prosperous lifestyles by supporting the construction of a logistics infrastructure that enables goods to be delivered in a timely, safe, and accurate manner through the further advancement of fleet management and operational support services. Furthermore, the platform will contribute to a reduction in CO₂ emissions by optimizing transportation efficiency. In the future, we will contribute to resolving social issues such as energy management in the era of electric vehicles, including through the optimization of electric vehicle charging.



Development of Automated Driving Technologies

Through joint development with our various partners, we will accelerate initiatives geared toward the realization of automated driving and implement measures to verify and promote the benefits of improved safety, efficiency, and autonomous driving not only in logistics but also in various other applications.

Application	Details of Initiatives
<p>Expressways and Heavy-Duty Trucks</p> 	<ul style="list-style-type: none"> • The Company is participating in the Japanese government's "RoAD to the L4" project to accelerate the implementation of advanced mobility-as-a-service initiatives such as autonomous driving. The project entails research, development, and social implementation for advanced mobility services such as Level 4 automated driving. In cooperation with logistics companies and heavy-duty truck manufacturers, we will contribute to efforts toward the practical application of high-performance trucks, including platooning on expressways, and social implementation initiatives from 2026 and beyond. • Isuzu is proceeding with the commercialization and market launch of a 2020 model GIGA truck equipped with all-speed adaptive cruise control and a lane keep assist system, while researching automated driving technologies exclusively for heavy-duty trucks, with some of these technologies being utilized in the development of mass-produced vehicles.
<p>Low-Speed Driving and Parking at Ports</p> 	<ul style="list-style-type: none"> • Isuzu will participate in the Ministry of Land, Infrastructure, Transport and Tourism's demonstration test project for the automation of incoming off-site trailers at ports, which is part of the ministry's efforts to realize AI terminals that support people. The project aims to improve the working environment for drivers of incoming off-site trailers and to maintain the transportation capacity of shipping containers. • Isuzu is verifying the safety of operating automated incoming off-site trailers in restricted off-road areas and helping to develop an environment in which automated trailers can be introduced at ports by contributing to the identification of technological issues and challenges in their practical implementation.
<p>Manufacturing Sites and Transportation</p> 	<ul style="list-style-type: none"> • From end of August 2022 to end of October 2022 an automated driving experiment was conducted on one route of the granulated slag transportation course at Kobe Steel, Ltd.'s Kakogawa Works using a vehicle capable of Level 4 limited-area automatic driving based on UD Trucks Corporation's heavy-duty truck Quon. • Isuzu will promote the creation and practical application of solutions that utilize autonomous driving technologies through co-creation with UD Trucks.
<p>Restricted-Zone Buses</p> 	<ul style="list-style-type: none"> • The Company will promote the automated operation of large route buses in restricted zones by conducting demonstration tests while utilizing the technology of start-up companies, with the aim of contributing to increased passenger traffic and improved people flow efficiency by eliminating driver shortages. • Demonstration tests were conducted for one month from March 2022 in a closed space along the connecting bus route between the domestic and international terminals of Fukuoka Airport. Since June 2023, Isuzu has been taking part in operator-led evaluations of the safety and convenience of the autonomous driving of restricted zone buses, efforts to identify operational and service issues, and demonstration tests for autonomous driving in rainy weather. • Isuzu will realize the automated operation of route buses on ordinary roads in the future, contributing to securing means of transportation in rural areas.
<p>Urban Area Delivery Vehicles</p> 	<ul style="list-style-type: none"> • The Company began demonstration tests of automated vehicle operation in urban areas at the Fujisawa Plant premises from 2020 and began subsequently expanding testing areas from 2021 onward. • Collaboration with Isuzu Technical Center of America, Inc. was strengthened in 2022 to promote the development of cutting-edge technologies.

Development and Application of Advanced Safety Technologies

Application of Advanced Safety Technologies in the New Model N-Series

With the aim of eliminating fatalities and injuries from traffic accidents, we have applied advanced safety equipment and enhanced driver-support functions in the new model N-Series.

▶ Pre-Crash Brakes*

When the vehicle determines that there is a possibility of collision with an oncoming pedestrian, the system alerts the driver and applies emergency braking to help mitigate damage.



▶ Emergency Driving Stop System (EDSS)*

This system brings the vehicle to an emergency stop when the device detects an abnormality in the driver's behavior or if the driver suddenly becomes ill or otherwise unable to continue driving safely while the vehicle is in motion and manually engages the EDSS switch.



▶ Cruising between Vehicles at All Speeds*

The system contributes to the reduction of driver fatigue and safer driving by controlling acceleration, deceleration, starting, and stopping at all speeds to maintain a set distance between vehicles.



▶ Variable Light Distribution LED Headlamps*

When driving with high beams, the camera detects the light from cars ahead or oncoming traffic and automatically shades the areas where the light hits. The headlamps improve nighttime visibility when driving with high beams, thereby contributing to safe driving.



▶ Lane Keeping Assistance*

A camera is used to detect the white lines on both sides of the lane in which the vehicle is traveling, and the system electrically assists and controls steering to help the driver to keep within their lane and prevent lane departure, thereby reducing driver fatigue and contributing to safe driving.



▶ Traffic Sign Recognition Function / Traffic Sign-Linked Speed Limiter*

The function recognizes traffic signs and displays them on the instrument panel, preventing drivers from overlooking traffic signs. The speed limiter helps reduce accidents caused by speeding by limiting the vehicle's speed to the maximum limit shown on the traffic sign detected by the sign recognition function.



▶ Driver Status Monitor

A camera mounted in the center of the instrument panel monitors the driver for signs of distraction or open eyes, as well as driving posture. When the system detects a lack of attention to the road ahead, it issues a warning and alerts the driver. If excessive drowsiness is detected, the system activates the air conditioner and alerts the driver by running cool air, thereby contributing to the avoidance of accidents that result from driving while drowsy or similar causes.



▶ Front Blind Spot Monitor*

If the system detects pedestrians or bicycles immediately in front of the vehicle and determines that there is a possibility of a collision when the vehicle departs, an alert is sent to the driver via the instrument panel.



* A Japan-first for light-duty trucks (3.5-ton gross vehicle weight, 2-ton capacity cab-over trucks) based on research by Isuzu