

## Environmental Performance



Hino Motors conducts business with the goal of being a company always preferred by customers, based on its corporate mission: “to make the world a better place to live by helping people and goods get to where they need to go — safely, economically and with environmental responsibility — while focusing on sustainable development.” Accordingly, Hino Motors constantly works to respond to environmental issues as a good corporate citizen, recognizing this as among the highest priorities for management, along with the Company’s business operations.

Based on this stance, Hino Motors established its 2020 Environment Initiative Plan in fiscal 2015 as an action plan for the environment effective through fiscal 2020.

By undertaking the environmental initiatives set in this action plan, the Company intends to offer customers environmentally friendly products and services as a manufacturer of commercial vehicles, with a strong commitment to making society a better place for people to live.

In this special feature, we offer a close look at the vision and specific measures that Hino Motors has incorporated in its 2020 Environment Initiative Plan.

## About Hino Motors' Environment Initiative Plan.

Under its Environment Initiative Plan, Hino Motors specifies medium-term environmental initiatives in accordance with its CSR policies and the Hino Credo. Since launching its first Environment Initiative Plan in 1993, Hino Motors has created a new plan every five years, covering a wide scope of environmental measures based on considerations of societal trends. The 2020 Environment Initiative Plan is now the sixth such plan. It reflects the Company's future vision for helping create low-carbon and recycling-oriented societies that exist in harmony with nature. Under the plan, Hino Motors hopes to help society develop more sustainably by supplying vehicles that it has designed with the environment in mind over the entire product lifecycle.

### Features of the Environment Initiative Plan

#### Features of the Environment Initiative Plan

##### Based on considerations of our higher policies

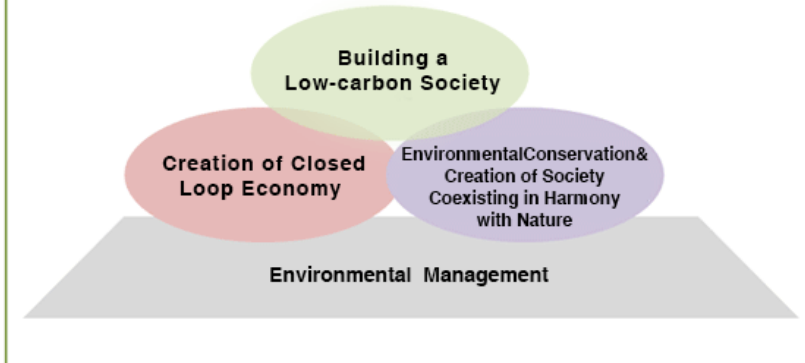
- Basic Principles
- CSR Policies
- HINO GLOBAL Environment Charter

##### Based on considerations of societal trends

- Climatic Changes
- drain on resources, etc

#### Environment Initiative Plan (Covers a five-year period)

##### Designates priority tasks



#### Categorizes initiatives according to each stage of the product lifecycle

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## Initiatives for each stage of the product lifecycle

### Product development

Hino Motors is moving forward with a comprehensive set of environmental initiatives with the aim of manufacturing commercial vehicles that offer the very best environmental performance. With a commitment to helping curb global warming, the Company is developing technologies for improving vehicle fuel efficiency and reducing exhaust gas emissions in compliance with regulations set by countries around the world.

Under its 2020 Environment Initiative Plan, Hino Motors is focusing on developing next-generation trucks and buses that emit less CO<sub>2</sub> when driven, achieve even better fuel efficiency, and can run on electricity. Through these initiatives, the Company intends to help reduce CO<sub>2</sub> emissions from the transport sector, which account for about 17% of all CO<sub>2</sub> emissions from vehicles in Japan\*.

\* Based on data published in 2013 by the Ministry of Environment of Japan



### Manufacturing and logistics

Hino Motors strives to minimize its environmental impact at every stage involved in manufacturing vehicles and delivering them to customers. Accordingly, the Company is implementing measures for achieving the numerical targets it has set for various environmental indicators, including CO<sub>2</sub> emissions, waste matter, and water consumption.

As the reduction of greenhouse gases according to post-Kyoto Protocol benchmarks becomes a growing international concern, Hino Motors is giving priority to cutting its CO<sub>2</sub> emissions, particularly in its manufacturing operations. Accordingly, the Company is aiming to make a greater contribution in the fight to curb global warming through activities laid out in its 2020 Environment Initiative Plan.



## Sales and after-sales service

Hino Motors is carrying out proactive environmental initiatives at the local and customer levels. The Company not only considers the environment in connection with the local dealers that serve its customers, but also offers support to customers at the vehicle usage stage so that they can use Hino vehicles in ways that are more environmentally friendly.

Under its 2020 Environment Initiative Plan, Hino Motors is aiming to help its dealers operate in harmony with the local environment. Through its Eco-Management Dealer certification system,\* the Company is assisting its dealers in fully complying with environmental laws and regulations and reducing their environmental impact across a broad range of factors, including CO<sub>2</sub> emissions. Hino Motors also helps customers lower their CO<sub>2</sub> emissions by offering Eco-driving seminars and other programs.

\* An in-house environmental management system for certifying dealers in the Hino Motors Group



[Click here for more information about the 2020 Environment Initiative Plan](#)

### Product development

## Promoting the development of environmentally friendly trucks and buses



### Shin Endo

Senior managing director, Member of the Board in charge of product development

At the vehicle development stage, improving environmental performance—particularly reducing CO<sub>2</sub> emissions—ultimately comes down to improving fuel efficiency. That also leads to lower fuel costs for customers, which is a very important objective to pursue.

We are working to reduce vehicle fuel consumption by designing conventional truck and bus engines to be more efficient, and at the same time, adopting hybrid systems that use other energy sources like electricity. Along with these efforts, we are conducting research on ways to reduce vehicle weight and air resistance, which have a direct effect on fuel consumption, as well as methods for reusing the heat generated by diesel engines.

To conduct research and development across such a broad range of projects, it is important to be very efficient in optimizing and making comprehensive improvements to engines, electronic control systems, and other technologies. For that reason, Hino Motors has adopted a model-based development method in an attempt to cut down on the development times and costs.

Meanwhile, Hino Motors is making use of diverse sources of energy in every part of the world.

We are exploring ways to use all kinds of new energy sources, including hydrogen for use in fuel cells, renewable energy like biomass fuel, and natural gas, depending on their availability and related circumstances in the countries and regions where we operate.

While taking into account suggestions from vehicle users, we are pursuing development with a view to supply vehicles tailored to each of the countries and regions where they are sold.

To help promote recycling-oriented societies, we are placing importance on recycling in our development and production operations, while also utilizing renewable energy. For example, by procuring surplus hydrogen produced by steel refineries and chemical plants and using it for fuel cells, we can help promote a global recycling network. Those kinds of activities can also be beneficial for promoting harmony with nature in society, which is another one of our goals.

By maintaining our commitment to these initiatives, we hope to help make the world a better place as a leading manufacturer of environmentally friendly commercial vehicles.

## Manufacturing and logistics

### Working to manufacture and ship vehicles in an environmentally friendly manner



#### Kazuharu Tanaka

Senior managing director in charge of production and logistics

In our environmental measures at the manufacturing and logistics stages, we give great importance to building friendly relations with the local communities where we operate while also considering the global environment.

As part of the 2020 Environment Initiative Plan, Hino Motors is pushing ahead with a diverse range of measures organized under the three main concepts of low carbon, recycling, and harmony with nature. Furthermore, in response to various trends around the world, including far-reaching negotiations at the Conference of Parties meeting on climate change, we are envisioning how Hino Motors can contribute to society as a manufacturer of commercial vehicles. Specifically, under our category of low carbon, we are focusing on measures to reduce CO<sub>2</sub> emissions in order to help fight global warming.

In that context, it is important to understand what kind of environmental measures can be implemented in the Company's manufacturing processes, and to what extent the world's latest environmental technologies can be applied. We also must determine the levels Hino Motors has reached in connection with these matters.

Accordingly, by gaining an understanding of how Hino Motors compares with its rivals around the world, the employees will become aware of where to focus our efforts.

We are aiming to generate synergistic effects and produce major results by drawing on the expertise we have at our factories and the know-how we have built up over many years in order to incorporate the latest environmental technologies and make full use of them.

While continuously carrying out such improvements and incorporating them in our 2020 Environment Initiative Plan, we will give importance to building organizations that constantly grow and developing human resources who can lead such organizations as we move forward with the plan.

At Hino Motors, logistics operations are closely tied to manufacturing operations. Although over 80% of the Company's vehicle parts are shipped from outside of its factories, we can reduce CO<sub>2</sub> emissions at the logistics stage if we can reduce the number of shipments by more efficiently loading the parts in trucks.

For that reason, we understand the necessity of considering logistics in our plans for optimizing all production processes. For example, by disassembling parts rather than assembling them before shipments, we can transport them more efficiently and easily, thereby improving transport efficiency.

To do that, we work with the Company's development and design departments, sharing views on how to make each part easier to transport and to manufacture while also maintaining its intended performance.

Beyond the production and logistics stages, we are also working with our servicing operations to reduce the amount of shipments at the vehicle disposal stage by striving to minimize the volume of parts disposed after being periodically replaced.

Our employees are aware of the circumstances surrounding the Company's environmental initiatives and are working towards the same goals while sharing their expertise. At the same time, Hino Motors' management is closely following related trends in society with a broad vision, and it is providing clear direction to employees on the way forward. While driving this cycle of activities, we are committed to accomplishing the goals set in our 2020 Environment Initiative Plan.

## Sales and after-sales service

### Making dealers more environmentally friendly and helping customers reduce the environmental impact of using vehicles



#### Masanari Watanabe

Managing officer in charge of sales and after-sales service

At Hino Motors, we work to make our sales outlets environmentally friendly, ensuring that they comply with environmental laws and regulations, and help them do their best to eliminate any noise, odors, or other problems that could annoy local residents.

These efforts reflect our goal to have our worksites operate in harmony with their respective communities. As way to promote these objectives, Hino Motors created its Eco-Management Dealer certification system.

To become certified, dealers must pass inspections covering 160 items for environmental management. The dealers must also pass inspections every year to maintain their certification.

Through these activities, our dealers have made progress in reducing the CO<sub>2</sub> emitted and waste generated by their worksites and service garages. Under the 2020 Environment Initiative Plan, dealers will also be expected to assist customers in lowering their CO<sub>2</sub> emissions.

Over the lifecycle of trucks and buses, more than 90% of CO<sub>2</sub> is emitted while the vehicles are driven—that is, the customer usage stage.

Therefore, we can make a significant contribution to reducing CO<sub>2</sub> emissions if we take effective measures at that stage.

At Hino Motors, we established its Customer Technical Center in order to offer opportunities for customers to test drive our vehicles, try out our latest safety functions, and learn how to save energy while driving.

At the center, we offer seminars on fuel-efficient driving intended to reduce running costs. After participating in the seminars, customers have been able to reduce their fuel costs by over 30% compared to beforehand.

These seminars and our safe-driving seminars have become very popular with customers. Indeed, over 50,000 customers have visited the Customer Technical Center since it was opened in 2005.

Furthermore, our dealers in various places are holding seminars on fuel-efficient driving and offering advice to customers on driving methods that best suit the purpose of the vehicles.

This support for “Eco-driving” encourages customers to use vehicles in an environmentally friendly manner, which also contributes to safer driving because sudden acceleration and abrupt stops are avoided.

Hino Motors’ trucks and buses have earned an excellent reputation among customers as top-performing vehicles in terms of fuel efficiency and safety. Looking ahead, I believe it will be increasingly important to organize activities for helping customers learn even more about the functions of our products so that they can maximize vehicle performance.

In accordance with our 2020 Environment Initiative Plan, we intend to help customers safely use the vehicles we supply for a long time, while ensuring that our dealers operate in a manner that is friendly to the environment. In these ways, we hope to support transportation activities in communities everywhere through our sales and after-sales service operations going forward.