

Environmental Initiatives Plan (Fiscal 2011 Targets and Achievements)

■Environment Initiative Plan

Frame	Field	Item	Specific Action Items/Targets, etc.	Fiscal 2011 Achievements
	Development & Design	Develop and promote next-generation vehicle based on energy diversity	<p><Electrical Energy></p> <ul style="list-style-type: none"> Hybrid vehicle (HV): Develop and market new HV Inductive Power Transfer System (IPS): Develop IPS bus for commercialization Fuel cell (FC): Research and develop fuel-cell automobile <p><Alternative Fuels></p> <ul style="list-style-type: none"> New fuels: Research and develop vehicle that will run on GTL(Gas to Liquids) fuel Biofuels: Research and develop vehicle that will run on biofuel 	<ul style="list-style-type: none"> Began sales of Hino Dutro light-duty trucks equipped with next-generation hybrid systems Marketed Hino Ranger hybrid medium-duty trucks compliant with Japan's 2010 exhaust emission regulations Participated in a Japanese government project to trial an Inductive Power Transfer System (IPS) bus between Tokyo's Toyosu district and the Tokyo Big Sight conference center Introduced Japan's first small-size electric bus service in the city of Hamura and Tokyo's Sumida Ward with the aim to establish fixed routes
		Develop top-class fuel efficiency performance in each country/region, and meet standards in each country	<ul style="list-style-type: none"> Develop technologies to meet world's top-class fuel efficiency standards -Japan: Achieve FY 2015 fuel-efficiency standard -United States: Meet 2014 new standards for fuel efficiency and greenhouse gases in heavy vehicles -Europe: Develop technologies to improve fuel efficiency to meet next round of regulations -China: Consistently meet new fuel-efficiency standards -Other regions: Promote technologies to meet fuel-efficiency regulations 	<ul style="list-style-type: none"> Increased the number of vehicles that will meet Japan's heavy-duty vehicle fuel consumption regulations in fiscal 2015, and produced vehicle lineups eligible for new eco-car tax rebates Promoted development of technologies that improve fuel consumption to effectively respond to global demand
			<ul style="list-style-type: none"> Act throughout the company to build low-carbon production system Actively Introduce low-CO₂ 	<p>■Global Operations</p> <ul style="list-style-type: none"> Reduced emissions per unit by 4% compared to

Production & logistics

Thoroughly conserve energy and reduce greenhouse gas emissions in production activities

- production technologies, and reduce CO₂ through daily improvements
- Consider to exploit renewable energy

Energy Derived CO₂

Region	Item	FY 2012 Target
Global	Emissions per unit yield	4% less than FY 2008
Japan Group		
Hino	Emissions	12% less than FY 1990 (Average from FY2008 to FY2012)

- FY2008
- Consolidated Companies in Japan
- Reduced emissions per unit by 9% compared to FY2008
- Hino Motors, Ltd
- Reduced emissions per unit by 4% compared to FY2008
- Average emissions for the fiscal 2008-2011 period were 17% lower than the FY1990 level

Make transportation more efficient and reduce CO₂ emissions in logistics

- Promote initiatives to reduce CO₂ emissions in logistics by improving efficiency of transportation.

Region	Item	FY 2012 Target
Japan Group	Emission per unit of transport*	12% less than FY 2008
International	Set target and promote reduction activities	

*Definition of "unit of transport": multiply freight(in ton) by distance(km)

- Consolidated Companies in Japan
- Reduced emissions per unit of transport volume by 13% compared to FY2008
- Overseas Operations
- In the process of compiling CO₂ emissions results from distribution operations

Sales

Thoroughly conserve energy and reduce CO₂ emissions in sales activities

- Continual improvement at Japanese and international sales offices; thoroughly conserve energy through lateral deployment of case studies
- ⇒Create and execute plan to reduce energy consumption per unit by at least 1% per year

Reduced emissions by introducing energy-saving lights and restricting air conditioning use

⇒Decreased total energy consumption per unit by 8.8% compared to the previous fiscal year

Active communication and contribution to climate change mitigation policies

- Promote initiatives to build low-carbon society through Japan Business Federation, Japan Automobile Manufacturers Association, etc.
- Participate in environmental policy debate and framework

Worked with the Japan Automobile Manufacturers Association and participated in its committees, including a safe environmental technologies committee and an environment committee

	Collaboration with society		creation -Integrated initiatives in partnership with JAMA, etc.	
		Integrated CO ₂ reduction initiatives in road traffic sector (transportation division)	<ul style="list-style-type: none"> Contribute to initiatives to improve transportation using IT and ITS technologies Promote initiatives to raise awareness of environmentally friendly driving -Provide workshops on fuel-efficient driving at Customer Technical Center at Hamura plant, Japan. -Provide workshops at sales companies in Japan and internationally -Expand issuance of environmentally friendly driving certifications to customers -Develop vehicles that perform logistics efficiently, in accordance with customer usage	<ul style="list-style-type: none"> Held Eco Drive seminars for customers Number of participants in fiscal 2011 totaled 7,117 in Japan and 937 overseas Issued 3,781 certificates to customers completing a course in cooperation with the Foundation for Promoting Personal Mobility and Ecological Transportation Proceeded to develop vehicles that achieve high efficiency in distribution

Frame	Field	Item	Specific Action Items/Targets, etc.	Fiscal 2011 Achievements														
	Development & design	Further promote recycling design with awareness of effective use of resources	<ul style="list-style-type: none"> Initiatives to create assembled structures that are easy to disassemble Use more parts made using recycled materials 	Continued to expand usage of recycled resin materials														
			<Amount of Discharges & Final Disposal> <ul style="list-style-type: none"> Reduce discharges at source, e.g. by improving yields Reduce waste by encouraging reuse within the company Encourage use of valuable materials within Hino Group Zero final disposal to landfill <table border="1"> <thead> <tr> <th>Region</th> <th>Object</th> <th>Item</th> <th>FY 2012 Target</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Japan Group</td> <td>Discharges *1</td> <td>Generated per unit yield</td> <td>16% less than FY 2008</td> </tr> <tr> <td>Final disposal</td> <td colspan="2">Zero *2</td> </tr> <tr> <td>International</td> <td>Waste</td> <td colspan="2">Set target and promote reduction activities</td> </tr> </tbody> </table> <p>*1: Definition: Discharges to outside company including salable waste. *2: Definition of Zero: Landfill amount including</p>	Region	Object	Item	FY 2012 Target	Japan Group	Discharges *1	Generated per unit yield	16% less than FY 2008	Final disposal	Zero *2		International	Waste	Set target and promote reduction activities	
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Creation of Closed Loop Economy

Production & logistics

Reduce discharges from production and logistics, and use resources effectively

ash after incineration is not more than 0.5%, compared with total waste including recyclable.

<Packaging Materials>

- Enable use of returnable racks in more countries
- Expand use of returnable racks for spare parts

Region	Item	FY 2012 Target
Japan Group	Use per unit of shipment volume	34% less than FY 2008
International	Set target and promote reduction activities	

<Water Usage>

- Actively introduce water-saving technologies
- Conserve water through continual improvement

Region	Item	FY 2012 Target
Japan Group	Water use per unit yield	18% less than FY 2008
International	Set target and promote reduction activities	

[Packaging Materials]
■ Consolidated Companies in Japan

- Reduced amount of packaging materials used per unit of shipment volume by 45% compared to FY2008

■ Overseas operations

- Currently compiling results

[Water Usage]
■ Consolidated Companies in Japan

- Reduced water usage per unit by 20% compared to FY2008

■ Overseas operations

- Set targets in each country and proceeded to make reductions

Sales & recycling

Enhance global promotion of effective use of resources

Promote global compliance with automobile recycling laws

- Develop tools and offer information globally on efficient disassembly methods
- Promote initiatives within group to expand use of used parts
- Japan: Maintain top recycling level, and respond appropriately to revisions to law
- China & emerging economies: Respond appropriately to regulations of each country

- Japan: Achieved a 94% recycling rate for automotive shredder residue (ASR) in fiscal 2011
- Overseas: Began preparations to comply with end-of-life vehicle (ELV) regulations

Frame	Field	Item	Specific Action Items/Targets, etc.	Fiscal 2011 Achievements
			Introduce vehicles with lower gas emissions to help improve urban air quality in each country and region	<ul style="list-style-type: none"> • Ensured all Hino vehicles comply with

Development & design	Reduce gas emissions to help improve urban air quality in each country and region	<p>-Japan: Continue to bring vehicles to market that comply with Post New Long-term Regulations Research and develop new technologies to comply with new exhaust regulations starting in 2016</p> <p>-United States: Bring vehicles to market that comply with US10</p> <p>-Europe: Research, development, and compliance with new EURO6 regulations</p> <p>-China: Promote introduction of EURO5 level</p> <p>-In general: Introduce low-emission vehicles (EURO3 or 4 level)</p>	<p>Post-Revised Long-Term Emission Regulations in Japan</p> <ul style="list-style-type: none"> Established basic technologies to prepare for the next period of exhaust regulations in Japan effective from 2016 Proceeded to develop technologies for reducing exhaust emissions in accordance with environmental conditions in various countries in order to provide locally compliant vehicles in a timely manner 											
	Expand and enhance management of chemicals contained in products	<ul style="list-style-type: none"> Promote global management of chemicals in products <p>-Thoroughly manage multiple chemical substances contained in products</p> <p>-Develop technologies to substitute substances with lower environmental impact, and promote substitution</p>	Improved efficiency of in-house chemical substance management systems in response to changes in international chemical substance regulations											
	Production	Reduce substances that impact the environment in production activities	<ul style="list-style-type: none"> Reduce usage of paints and paint thinner in painting processes, etc. promote reduction of VOCs through constant improvement <p>Body Painting</p> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2012 Target</th> </tr> </thead> <tbody> <tr> <td>Hino</td> <td>VOC Emissions per surface area painted</td> <td>Not more than 24 g/m² (Average for all lines)</td> </tr> <tr> <td>International</td> <td colspan="2">Activities to reduce VOC emissions in each country</td> </tr> </tbody> </table> <p>Other Paintings</p> <table border="1"> <tbody> <tr> <td>Japan/Intl.</td> <td>Activities to reduce VOC emissions</td> </tr> </tbody> </table>	Region	Item	FY 2012 Target	Hino	VOC Emissions per surface area painted	Not more than 24 g/m ² (Average for all lines)	International	Activities to reduce VOC emissions in each country		Japan/Intl.	Activities to reduce VOC emissions
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	Collaboration with society	<p>Commitment to biodiversity</p> <p>Promote contributions to society that help create society coexisting in harmony with nature</p>	<ul style="list-style-type: none"> • Give consideration to local ecosystems in each country and region • Raise employees' awareness of protecting ecosystems, and encourage volunteering (Promote activities based on Japan Business Federation Declaration of Biodiversity) 	<p>Implemented initiatives to enhance ecosystems surrounding company sites in each country and region where the Group operates</p> <ul style="list-style-type: none"> • Held cleanups and weeded fields using goats • Conducted mangrove tree planting in Thailand with 120 employees • Cleaned up a sea turtle spawning area in Pakistan
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Frame	Field	Item	Specific Action Items/Targets, etc.	Fiscal 2011 Achievements
		Strengthen and promote group environmental management	<ul style="list-style-type: none"> • Activities to ensure top level of environmental performance in each country and region • Comply with environmental laws in each country and region, and enhance activities to prevent environmental risk • Introduce area management organizations at production sites outside Japan, and promote rational initiatives • Improve level of environmental management through mutual audits by each company at 	<ul style="list-style-type: none"> • Compiling reports for regular publication on environmental performance and improvement initiatives at affiliated companies • Began collecting data at production plants in Southeast Asia on their environmental load at the distribution stage, including CO₂ emitted during distribution and volume of packing materials • Promoting eco-factory activities around the world • Developing environmental risk assessment methods for the entire Group together with affiliated companies • Holding Environment Council meetings in the Southeast Asian region

Environmental Management	Management		production sites in Japan	
		Promote environmental activities in collaboration with business partners	<ul style="list-style-type: none"> Suppliers: Compliance with laws by suppliers, and enhance management of substances that impact the environment contained in parts, raw materials, secondary materials, production equipment, etc. Request for environmental performance activities Sales in Japan: Promote environmental activities by sales companies via each Environmental Management System. Sales outside Japan: Act continually to raise awareness of the environment 	<p>- Suppliers - Began improving and employing in-house chemical management systems to account for stricter global chemical substance regulations</p> <p>■ Consolidated subsidiaries in Japan</p> <ul style="list-style-type: none"> Implemented environmental improvement activities at 223 business sites across Japan to facilitate improvements and upgrades Certified 214 business sites as Eco-Management Dealers, increasing the number of sites by 2 compared to the previous year, and raising the certification rate to 96% <p>■ Overseas Sales Operations</p> <ul style="list-style-type: none"> Shared environment-related data monthly with overseas sales offices Held events to promote environmental awareness during World Environment Month in June
		Promote global CO ₂ management	<ul style="list-style-type: none"> Plan and promote CO₂ management in all business activities 	<p>Carried out activities according to reduction scenarios at all business sites in Japan and overseas, and made improvements on a total unit output basis</p> <p>Note: To compare with results from the previous fiscal year, the impact of the earthquake in Japan and flooding in Thailand may have been excluded in certain cases</p>
			<ul style="list-style-type: none"> Ensure management of 	<p>Completed eco-vehicle assessment system (Eco-VAS) initiatives for new light-duty trucks</p>

<p>Promote environmental management ECO-VAS in product development</p>	<p>environmental targets during development using vehicle environmental assessment system (ECO-VAS)</p>	
<p>Promote "sustainable-plant" activities</p>	<ul style="list-style-type: none"> Plant designs in harmony with nature. ⇒ Actively introduce low CO₂ production technologies, and promote continual improvement, exploit renewable energy, and forest creation in and around plants. 	<p>Introduced technologies to reduce CO₂ emissions during factory construction</p>
<p>Enhance and promote environmental education</p>	<ul style="list-style-type: none"> Systematic environmental education that raises employees' awareness of the environment Continually survey employees' environmental awareness, and raise awareness in accordance with results Roll out group activities for Environment Month in partnership with Toyota Group 	<ul style="list-style-type: none"> Implemented online environmental education, carried out graded training programs, and provided education and tests on ISO internal environmental audits Designed graded training courses Conducted an environmental awareness survey Distribution of president message to employee and affiliated companies. Held environmental exhibitions and presented various awards
	<ul style="list-style-type: none"> Enhance provision of information on product environmental technologies in each country 	<ul style="list-style-type: none"> Showcased Hino Motors' next-generation hybrid systems and environmental technologies at the Tokyo Motor Show, Automotive Engineering Exposition, 2011 Tokyo Truck Show, and the Technical Review

		<p>Actively disclose environmental information and enhance communication</p>	<p>and region (e.g. exhibiting at expos)</p> <ul style="list-style-type: none"> • Continually publish CSR reports and other documents in each country and region, and publish at more sites • Enhance environmental communication in each country and region 	<p>of Hino Motors</p> <ul style="list-style-type: none"> • Issued CSR reports at four consolidated subsidiaries in Japan and overseas • Carried out interactive events with community residents at consolidated subsidiaries in Japan and around the world
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