

**Environmental Performance**

**Environmental Initiatives Plan (Fiscal 2013 Targets and Achievements)**

■ Environment Initiative Plan

Frame	Field	Item	Specific Action Items/Targets, etc.	Fiscal 2013 Achievements													
Building a Low-carbon Society	Development & Design	Develop and promote next-generation vehicle based on energy diversity	<p><b>Electrical Energy</b></p> <ul style="list-style-type: none"> <li>Hybrid vehicle (HV): Develop and market new HV</li> <li>Inductive Power Transfer System (IPS): Develop IPS bus for commercialization</li> <li>Fuel cell (FC): Research and develop fuel-cell automobile</li> </ul> <p><b>Alternative Fuels</b></p> <ul style="list-style-type: none"> <li>New fuels: Research and develop vehicle that will run on GTL(Gas to Liquids) fuel</li> <li>Biofuels: Research and develop vehicle that will run on biofuel</li> </ul>	<ul style="list-style-type: none"> <li>Commenced test runs of electric light-duty trucks in collaboration with Seino Transport Co., Ltd. and Toyota Motor Corporation</li> <li>Developed a medium-sized plug-in hybrid bus equipped with an external power supply function for supplying electricity to evacuation centers and other facilities in times of disaster</li> <li>Hino Motors' small-sized electric buses continued operating on fixed routes in Tokyo's Sumida Ward and the city of Hamura, and began service in the city of Komatsu in Ishikawa Prefecture</li> </ul>													
		Develop top-class fuel efficiency performance in each country/region, and meet standards in each country	<ul style="list-style-type: none"> <li>Develop technologies to meet world's top-class fuel efficiency standards                             <ul style="list-style-type: none"> <li>Japan: Achieve FY 2015 fuel-efficiency standard</li> <li>United States: Meet 2014 new standards for fuel efficiency and greenhouse gases in heavy vehicles</li> <li>Europe: Develop technologies to improve fuel efficiency to meet next round of regulations</li> <li>China: Consistently meet new fuel-efficiency standards</li> <li>Other regions: Promote technologies to meet fuel-efficiency regulations</li> </ul> </li> </ul>	<p>Improved fuel-efficiency performance of heavy-duty trucks so that they meet Japan's fiscal 2015 fuel consumption standards requiring an additional improvement of 5%*</p> <p>Received a 75% eco-car tax rebate for reducing NOx and PM emissions by over 10% compared to 2009 gas emission regulations</p> <p>*Certain types of vehicles are excluded</p>													
	Production & Logistics	Thoroughly conserve energy and reduce greenhouse gas emissions in production activities	<ul style="list-style-type: none"> <li>Act throughout the company to build low-carbon production system</li> <li>Actively Introduce low-CO<sub>2</sub> production technologies, and reduce CO<sub>2</sub> through daily improvements</li> <li>Consider to exploit renewable energy</li> </ul> <p>■ Energy Derived CO<sub>2</sub></p> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td>Global</td> <td></td> <td>20% less than FY 2008</td> </tr> <tr> <td rowspan="2">Japan Group</td> <td rowspan="2">Emissions per unit yield</td> <td>28% less than FY 2008</td> </tr> <tr> <td>24% less than FY 2008</td> </tr> <tr> <td>Hino</td> <td>Emissions</td> <td>Fiscal 2015 output target X active mass</td> </tr> </tbody> </table>	Region	Item	FY 2015 Target	Global		20% less than FY 2008	Japan Group	Emissions per unit yield	28% less than FY 2008	24% less than FY 2008	Hino	Emissions	Fiscal 2015 output target X active mass	<ul style="list-style-type: none"> <li>Global Operations</li> <li>Reduced emissions per unit by 21% compared to FY2008</li> <li>Consolidated Companies in Japan</li> <li>Reduced emissions per unit by 24% compared to FY2008</li> <li>Hino Motors, Ltd</li> <li>Reduced emissions per unit by 20% compared to FY2008</li> <li>Emissions of fiscal 2013 were 218 thousand tons</li> </ul>
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Make transportation more efficient and reduce CO <sub>2</sub> emissions in logistics	<ul style="list-style-type: none"> <li>Promote initiatives to reduce CO<sub>2</sub> emissions in logistics by improving efficiency of transportation.</li> </ul> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td>Japan Group</td> <td>Emission per unit of transport*</td> <td>15% less than FY 2008</td> </tr> <tr> <td></td> <td colspan="2">Set target and promote reduction measures</td> </tr> </tbody> </table>	Region	Item	FY 2015 Target	Japan Group	Emission per unit of transport*	15% less than FY 2008		Set target and promote reduction measures		<ul style="list-style-type: none"> <li>Consolidated Companies in Japan</li> <li>Reduced emissions per unit of transport volume by 18% compared to FY2008</li> <li>Overseas Operations</li> <li>Promoting reduction activities in each country</li> </ul>						
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			International	according to the highest standards in each country	
			*Definition of "unit of transport": multiply freight(in ton) by distance(km)		
	Sales	Thoroughly conserve energy and reduce CO <sub>2</sub> emissions in sales activities	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Achieved reductions by installing low-energy-consumption lighting, preventing compressed air leaks, and other measures ⇒ Decreased total energy consumption per unit by 4.6% compared to the previous fiscal year</li> </ul>	
Collaboration with society	Active communication and contribution to climate change mitigation policies	<ul style="list-style-type: none"> <li>Promote initiatives to build low-carbon society through Japan Business Federation, Japan Automobile Manufacturers Association, etc. <ul style="list-style-type: none"> <li>- Participate in environmental policy debate and framework creation</li> <li>- Integrated initiatives in partnership with JAMA, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Worked with the Japan Automobile Manufacturers Association and participated in its committees, including a safe environmental technologies committee and an environment committee</li> </ul>		
	Integrated CO <sub>2</sub> reduction initiatives in road traffic sector (transportation division)	<ul style="list-style-type: none"> <li>Contribute to initiatives to improve transportation using IT and ITS technologies</li> <li>Promote initiatives to raise awareness of environmentally friendly driving <ul style="list-style-type: none"> <li>- Provide workshops on fuel-efficient driving at Customer Technical Center at Hamura plant, Japan.</li> <li>- Provide workshops at sales companies in Japan and internationally</li> <li>- Expand issuance of environmentally friendly driving certifications to customers</li> <li>- Develop vehicles that perform logistics efficiently, in accordance with customer usage</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Held Eco Drive seminars for customers Number of participants in fiscal 2013 totaled 7,461 in Japan and 14,553 overseas</li> <li>2,996 certificates to customers completing a course in cooperation with the Foundation for Promoting Personal Mobility and Ecological Transportation</li> <li>Proceeded to develop vehicles that achieve high efficiency in distribution</li> </ul>		

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Creation of Closed Loop Economy	Development & design	Further promote recycling design with awareness of effective use of resources	<ul style="list-style-type: none"> <li>Initiatives to create assembled structures that are easy to disassemble</li> <li>Use more parts made using recycled materials</li> </ul>	<ul style="list-style-type: none"> <li>Proactively adopted recycled materials and easily recyclable materials</li> <li>Created manuals for explaining disassembly</li> </ul>																																
	Production & logistics	Reduce discharges from production and logistics, and use resources effectively	<p><b>Amount of Discharges &amp; Final Disposal</b></p> <ul style="list-style-type: none"> <li>Reduce external emissions by raising in-house recycling rates for cutting scraps and discarded soil</li> <li>Reduce final disposal volume to zero at consolidated subsidiaries in Japan</li> </ul> <table border="1"> <thead> <tr> <th>Region</th> <th>Object</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Japan Group</td> <td rowspan="2">Discharges *1</td> <td>Generated per unit yield</td> <td>18% less than FY 2008</td> </tr> <tr> <td>Final disposal</td> <td>Zero *2</td> </tr> <tr> <td>International</td> <td>Waste</td> <td colspan="2">Promote reduction measures according to the highest standards in each country</td> </tr> </tbody> </table> <p>*1: Definition: Discharges to outside company including salable waste. *2: Definition of Zero: Landfill amount including ash after incineration is not more than 0.5%, compared with total waste including recyclable.</p> <p><b>Packaging Materials</b></p> <ul style="list-style-type: none"> <li>Enable use of returnable racks in more countries</li> <li>Expand use of returnable racks for spare parts</li> </ul> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td>Japan Group</td> <td>Use per unit of shipment volume</td> <td>48% less than FY 2008</td> </tr> <tr> <td>International</td> <td colspan="2">Calculate the amount of packaging materials used and expand activities to reduce them</td> </tr> </tbody> </table> <p><b>Water Usage</b></p> <ul style="list-style-type: none"> <li>Actively introduce water-saving technologies</li> <li>Conserve water through continual improvement</li> </ul> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td>Japan Group</td> <td>Water use per unit yield</td> <td>22% less than FY 2008</td> </tr> <tr> <td>International</td> <td colspan="2">Promote reductions and manage objectives in each country</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Reduce usage of paints and paint thinner in painting processes, etc.</li> <li>promote reduction of VOCs through constant improvement</li> </ul>	Region	Object	Item	FY 2015 Target	Japan Group	Discharges *1	Generated per unit yield	18% less than FY 2008	Final disposal	Zero *2	International	Waste	Promote reduction measures according to the highest standards in each country		Region	Item	FY 2015 Target	Japan Group	Use per unit of shipment volume	48% less than FY 2008	International	Calculate the amount of packaging materials used and expand activities to reduce them		Region	Item	FY 2015 Target	Japan Group	Water use per unit yield	22% less than FY 2008	International	Promote reductions and manage objectives in each country		<p><b>Waste Generated and Final Disposal</b></p> <ul style="list-style-type: none"> <li>Consolidated Companies in Japan <ul style="list-style-type: none"> <li>Reduced amount of waste generated per unit by 21% compared to FY2008</li> <li>Achieved a final disposal rate of 0.15%</li> </ul> </li> <li>Overseas operations <ul style="list-style-type: none"> <li>Set targets for waste matter in each country and proceeded to make reductions</li> </ul> </li> </ul> <p><b>Packaging Materials</b></p> <ul style="list-style-type: none"> <li>Consolidated Companies in Japan <ul style="list-style-type: none"> <li>Reduced amount of packaging materials used per unit of shipment volume by 48% compared to FY2008</li> </ul> </li> <li>Overseas operations <ul style="list-style-type: none"> <li>Promoting reduction activities in each country</li> </ul> </li> </ul> <p><b>Water Usage</b></p> <ul style="list-style-type: none"> <li>Consolidated Companies in Japan <ul style="list-style-type: none"> <li>Reduced water usage per unit by 35% compared to FY2008</li> </ul> </li> <li>Overseas operations <ul style="list-style-type: none"> <li>Set targets in each country and proceeded to make reductions</li> </ul> </li> </ul>
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Sales & recycling	<p>Enhance global promotion of effective use of resources</p> <p>Promote global compliance with automobile recycling laws</p>	<ul style="list-style-type: none"> <li>Develop tools and offer information globally on efficient disassembly methods</li> <li>Promote initiatives within group to expand use of used parts</li> <li>Japan: Maintain top recycling level, and respond appropriately to revisions to law</li> <li>China &amp; emerging economies: Respond appropriately to regulations of each country</li> </ul>	<ul style="list-style-type: none"> <li>Japan: Achieved a 94% recycling rate for automotive shredder residue (ASR) in fiscal 2011</li> <li>Overseas: Promoted compliance with end-of-life vehicle (ELV) regulations</li> </ul>																																	

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Environmental Conservation & Creation of Society Coexisting in Harmony with Nature	Development & design	Reduce gas emissions to help improve urban air quality in each country and region	<ul style="list-style-type: none"> <li>Introduce vehicles with lower gas emissions to help improve urban air quality in each country and region               <ul style="list-style-type: none"> <li>- 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</li> <li>- United States: Bring vehicles to market that comply with US10</li> <li>- Europe: Research, development, and compliance with new EURO6 regulations</li> <li>- China: Promote introduction of EURO5 level</li> <li>- In general: Introduce low-emission vehicles (EURO3 or 4 level)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Researched technologies for reducing exhaust emissions and developed component technologies for future engines in preparation for the next period of stricter exhaust regulations in Japan, effective from 2016</li> </ul>											
		Expand and enhance management of chemicals contained in products	<ul style="list-style-type: none"> <li>Promote global management of chemicals in products               <ul style="list-style-type: none"> <li>- Thoroughly manage multiple chemical substances contained in products</li> <li>- Develop technologies to substitute substances with lower environmental impact, and promote substitution</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Enhanced information management of chemical substances contained in vehicles and complied with substance regulations at an early stage</li> </ul>											
	Production	Reduce substances that impact the environment in production activities	<ul style="list-style-type: none"> <li>promote reduction of VOCs through constant improvement</li> </ul> <p><b>Body Painting</b></p> <table border="1"> <thead> <tr> <th>Region</th> <th>Item</th> <th>FY 2015 Target</th> </tr> </thead> <tbody> <tr> <td>Hino</td> <td>VOC Emissions per surface area painted</td> <td>Less than FY 2012</td> </tr> <tr> <td>International</td> <td colspan="2">Develop initiatives to reduce the amount of VOC output according to the highest standards in each country</td> </tr> </tbody> </table> <p><b>Other Paintings</b></p> <table border="1"> <tbody> <tr> <td>Japan/Intl.</td> <td>Activities to reduce VOC emissions</td> </tr> </tbody> </table>	Region	Item	FY 2015 Target	Hino	VOC Emissions per surface area painted	Less than FY 2012	International	Develop initiatives to reduce the amount of VOC output according to the highest standards in each country		Japan/Intl.	Activities to reduce VOC emissions	<p><b>Body painting</b></p> <ul style="list-style-type: none"> <li>■ Hino Motors, Inc.               <ul style="list-style-type: none"> <li>• Achieved 22 grams of VOCs per square meter of painted surface area</li> </ul> </li> <li>■ Overseas Operations               <ul style="list-style-type: none"> <li>• Currently compiling results</li> </ul> </li> </ul> <p><b>Other Painting-related Initiatives</b></p> <ul style="list-style-type: none"> <li>• Carrying out activities to reduce emissions of VOCs</li> </ul>
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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"> <li>Give consideration to local ecosystems in each country and region</li> <li>Raise employees' awareness of protecting ecosystems, and encourage volunteering (Promote activities based on Japan Business Federation Declaration of Biodiversity)</li> </ul>	<ul style="list-style-type: none"> <li>Implemented initiatives to enhance ecosystems surrounding company sites in each country and region where the Group operates               <ul style="list-style-type: none"> <li>- Conducted mangrove tree planting in Oume</li> <li>- Held cleanups and weeded fields using goats in Hidaka and Koga</li> <li>- Cleanup at the coast in Indonesia</li> </ul> </li> </ul>												

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Environmental Management	Management	Strengthen and promote group environmental management	<ul style="list-style-type: none"> <li>• Activities to ensure top level of environmental performance in each country and region</li> <li>• Comply with environmental laws in each country and region, and enhance activities to prevent environmental risk</li> <li>• Introduce area management organizations at production sites outside Japan, and promote rational initiatives</li> <li>• Improve level of environmental management through mutual audits by each company at production sites in Japan</li> </ul>	<ul style="list-style-type: none"> <li>• Compiling reports for regular publication on environmental performance and improvement initiatives at affiliated companies</li> <li>• Made progress in eco-factory initiatives at affiliated companies in and outside Japan</li> <li>• Held a Global Environmental Council at headquarters for factories of six subsidiaries outside Japan</li> <li>• Held onsite interactive trainings and seminars and group inspection conferences for factories in Japan to provide opportunities for factory workers to mutually improve their capabilities by teaching each other and learning from each other</li> </ul>
		Promote environmental activities in collaboration with business partners	<ul style="list-style-type: none"> <li>• 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</li> <li>• Sales in Japan: Promote environmental activities by sales companies via each Environmental Management System.</li> <li>• Sales outside Japan: Act continually to raise awareness of the environment</li> </ul>	<ul style="list-style-type: none"> <li>■ Suppliers <ul style="list-style-type: none"> <li>• Began improving and employing in-house chemical management systems to account for stricter global chemical substance regulations</li> </ul> </li> <li>■ Consolidated subsidiaries in Japan <ul style="list-style-type: none"> <li>• Implemented environmental improvement activities at 221 business sites across Japan to facilitate improvements and upgrades. Certified 216 dealers as Eco-Management Dealers (three dealers were added compared to the previous year)</li> </ul> </li> <li>■ Overseas Sales Operations <ul style="list-style-type: none"> <li>• Shared environment-related data monthly with overseas sales offices</li> <li>• Held events to promote environmental awareness during World EnvironmentMonth in June</li> </ul> </li> </ul>
		Promote global CO <sub>2</sub> management	<ul style="list-style-type: none"> <li>• Plan and promote CO<sub>2</sub> management in all business activities</li> </ul>	Carried out activities according to reduction scenarios at all business sites in Japan and overseas, and made improvements on a total unit output basis
		Promote environmental management ECO-VAS in product development	<ul style="list-style-type: none"> <li>• Ensure management of environmental targets during development using vehicle environmental assessment system (ECO-VAS)</li> </ul>	<ul style="list-style-type: none"> <li>• Promoted life-cycle assessments according to vehicle types</li> </ul>
		Promote "sustainable-plant" activities	<ul style="list-style-type: none"> <li>• Plant designs in harmony with nature. ⇒ Actively introduce low CO<sub>2</sub> production technologies, and promote continual improvement, exploit renewable energy, and forest creation in and around plants.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased bus models subject to life cycle assessment</li> </ul>
			<ul style="list-style-type: none"> <li>• Systematic environmental education that raises employees' awareness of the environment</li> <li>• Continually survey employees' environmental awareness, and raise awareness in accordance with results</li> <li>• Roll out group activities for</li> </ul>	<ul style="list-style-type: none"> <li>• Implemented online environmental education, carried out graded training programs, and provided education and tests on ISO internal environmental audits</li> <li>• Designed graded training</li> </ul>

		<p>Enhance and promote environmental education</p>	<p>Environment Month in partnership with Toyota Group</p>	<p>courses</p> <ul style="list-style-type: none"> <li>• Conducted an environmental awareness survey</li> <li>• Distribution of president message to employee and affiliated companies.</li> <li>• Held environmental exhibitions and presented various awards</li> <li>• Implemented an in-house eco-point system and presented related awards</li> </ul>
		<p>Actively disclose environmental information and enhance communication</p>	<ul style="list-style-type: none"> <li>• Enhance provision of information on product environmental technologies in each country and region (e.g. exhibiting at expos)</li> <li>• Continually publish CSR reports and other documents in each country and region, and publish at more sites</li> <li>• Enhance environmental communication in each country and region</li> </ul>	<ul style="list-style-type: none"> <li>• Exhibited environmental technologies for electric commercial vehicles and other vehicles at the Tokyo Motor Show, Tokyo Truck Show, and Automotive Engineering Exposition.</li> <li>• Received the 11th Ministry of Economy, Trade and Industry Minister's Prize by the Japan Society for the Promotion of Machine Industry for a NOx and PM post-processing system designed for small- and medium-sized diesel vehicles and requiring no carbamide</li> <li>• Issued CSR reports at four consolidated subsidiaries in Japan and overseas</li> <li>• Carried out interactive events with community residents at consolidated subsidiaries in Japan and around the world</li> </ul>