THEME

# We will pursue "manufacturing that makes the Earth smile.'

Ideal Global environment We aim to realize a low-carbon society, a sound material-cycle society, and a society coexisting with

# **I** Promotion of Environmental Management

### Establishment of 2020 Environmental Vision (What Kawasaki Should Be in the Year 2020)

Under our Group Mission "Kawasaki, working as one for the good of the planet," the KHI Group has established "Kawasaki Business Vision 2020" as well as the "2020 Environmental Vision," which seeks to optimize our relationship to the environment in 2020 in terms of integrating environmental and business considerations.

Following the Environmental Philosophy of our Environmental Charter, the 2020 Environmental Vision seeks to achieve three things: a low-carbon society, a sound material-cycle society and a society that coexists with nature. As a foundation for these, a fourth item, "Establishment of Environmental Management Systems," is set as basic policy with the goal of helping to build a sustainable society.

To achieve that vision, we have set out an Environmental Management Activities Plan every three years. We have set targets for the three years beginning in 2010 as our seventh Environmental Management Activities Plan period.

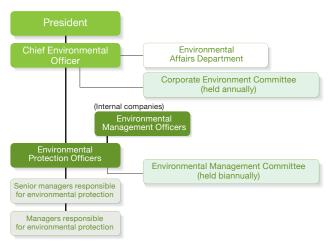
# <<2020 Environmental Vision>> Three Points of Entry onto the Path Toward Realization of a Sustainable Society Contribute to the prevention of global warming by means of our products and manufacturing that use energy without waste. We engage in manufacturing that uses resources without waste in order to recycle and fully utilize limited resources Through manufacturing that is in harmony with the global environment, we are contributing to minimization of environmental impact and conservation of the ecosystem Building a Foundation for Environmental Management Building a foundation for environmental management that will realize the 2020 **Environmental Vision**

#### Flow of Environmental Management



## **Environmental Management Organization**

The KHI Group appoints a Chief Environmental Officer (the director for environmental issues) and deliberates and makes decisions on a variety of important matters in its Corporate Environment Committee, which the Chief Environmental Officer chairs. We additionally appoint Environmental Management Officers, Environmental Protection Officers, senior managers responsible for environmental protection and managers responsible for environmental protection for the organization of each internal company to allow each division to voluntarily carry out the Environmental Management Activities Plan decided on, and we establish an organizational system under which members can work together to advance environmental activities.



# Achieving the 2020 Environmental Vision

We have set the seventh Environmental Management Activities Plan (FY2010-2012), which starts off our 2020 Environmental Vision, and Priority Initiatives for FY2010, and are working toward realizing our vision.

# **Environmental Management Activities Plan**

#### The Seventh Environmental Management Activities Plan (FY2010-2012) Priority Initiatives for FY2010 Realization of a low-carbon society Contribute to the prevention of global warming by means of our products and manufacturing that use energy without waste. Global warming prevention measures Global warming prevention measures ① Reduce CO<sub>2</sub> emissions from our own production activities (1) Reduce CO<sub>2</sub> emissions from our own production activities · Make CO<sub>2</sub> more tangible to promote energy-saving activities Group-wide Make CO<sub>2</sub> emissions tangible and verifiable (inc. responding to Revised Energy · Create a verification system Saving Law) · Take Group-wide CO<sub>2</sub> reduction measures (energy-saving capital investment) Take Group-wide CO<sub>2</sub> reduction measures (energy-saving capital investment) · Promote energy savings from logistics as a specified consignor Strengthen voluntary reduction initiatives of each department and follow (2) Acquire emissions credits with KHI Group products and technologies ②Acquire emissions credits with KHI Group products and technologies · Create a system to acquire emissions credits with KHI Group products and Give indirect support for activities of each department for reducing CO2 with UN technologies in Japan and abroad (e.g., CDM) CDM program, etc. ③ Purchase emissions credits from trading market · Take measures in case we do not meet CO<sub>2</sub> reduction targets ③ Purchase emissions credits from trading market · Examine cost burden of purchasing portion of reduction targets not achieved Acquire emissions credits by endowment or donation Acquire emissions credits by endowment or donation Group-wide target By FY2012, reduce our average amount of CO<sub>2</sub> basic unit (=CO<sub>2</sub> emissions per net sales) for FY2008-2012 by 10% · Study forest conservation activities, use of green electric power, etc. compared to FY2007 Realization of a sound We engage in manufacturing that uses resources without waste in order to recycle and fully utilize limited resources. material-cycle society Activities to reduce total waste emissions Activities to reduce total waste emissions ①Activities to reduce three substances with greatest waste emissions (metal (1) Promote resource savings and 3R (reduce, reuse, recycle) scrap, waste oil, wood scrap) ②Zero emissions activities, increasing recycling rate @Promote resource savings, 3R Group-wide target By FY2012, reduce waste basic unit (=waste emissions per (3) Maintain and enhance zero emissions net sales) by 12% compared to FY2002, maintain zero (4) Promote implementation of electronic manifests emissions Decide on proper treatment plan for PCB wastes and follow through Decide on proper treatment plan for PCB wastes and follow through ①Follow through on JESCO commissioned processing ②Follow through on processing trends and number of processed units of equipment containing low-density PCBs ③ Promote proper treatment of PCB-contaminated soil Through manufacturing that is in harmony with the global environment, we are contributing to minimization of environmental impact and conservation of the ecosystem Activities to reduce chemical substances Activities to reduce chemical substances Set reduction targets and promote activities (both design and production initiatives) (1) Perform critical point follow-through in departments stepping up reduction Group-wide target Set controlled chemical substances reduction target for measures in seventh plan FY2010-2012 compared to average for FY2003-2005 · Learn and organize usage status, clarify issues and set targets Environmental contributions through products and technologies Environmental contributions through products and technologies (1) Activities to reduce environmental impacts over product life cycle (1) Activities to reduce environmental impacts over product life cycle · Select model products and examine evaluation techniques · Prepare foundation for performing product life cycle assessment 2 Make products greener, promote environmental consciousness in products · Report environmental contributions from products and technologies (2) Make products greener Respond thoroughly to laws and regulations (RoHS Directive, REACH Regulations, etc.) Promote green procurement (set a green purchasing rate and take measures to Reduce impact on and conserve biodiversity achieve it) · Decide on biodiversity action guidelines and promote conservation Activities to protect biodiversity ① Promote initiatives within works Establishment of environmental Building a foundation for environmental management that will realize the 2020 Environmental Vision Build an EMS at KHI Group Build an EMS at KHI Group (1) Decide on and promote plan for building EMS at consolidated subsidiaries in Group-wide target Finish building EMS at consolidated subsidiaries in Japan Japan and abroad and abroad that are key production bases by FY2012 2 Collect major environmental data for entire Group (energy, waste, chemical Thoroughly comply with environmental laws and regulations substances, etc.) · Prevent recurrence of environmental accidents, etc. Thoroughly comply with environmental laws and regulations ①Activities of Environmental Law and Regulation Compliance Status Review

②Follow up on environmental law revisions, etc., and expand Group-wide

①Awareness-raising activities for KHI Group employees (environmental

②Disclose environmental data within and beyond Group (issue environmental

Practice environmental communication

news, CSR report, etc.) ③ Company forest restoration program

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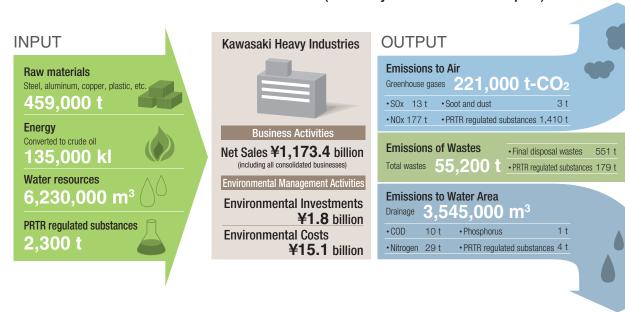
Practice environmental communication

· Promote environmental dialog with all stakeholders

# **Material Balance of Business Activities and Environmental Accounting**

This is a summary of environmental impacts and environmental accounting in our business activities for FY2009. In the manufacture of various products, we are making efforts to reduce the input amounts of the raw materials, energy and water that we use, as well as reduce the emissions of substances that are harmful to the environment.

Material Balance of Business Activities for FY2009 (Summary of Environmental Impact)



### Environmental Accounting Calculations for FY2009

- · These data were compiled in accordance to the Environmental Accounting Guideline released by the Ministry of the Environment.
- Coverage: Kawasaki Heavy Industries, Ltd.
  Period: April 1, 2009 to March 31, 2010

ltem		Environmental Investments	Environmental Costs	Economic Effects	
	Global warming prevention		553	1,423	Reduction of energy costs 240
Business area costs	Efficient use of resources		153	199	Reduction of materials costs 50
	Resource	Resource recycling activities	61	783	Income from recycling 1,004
	recycling activities	Waste disposal costs	9	178	Reduction of waste disposal costs 54
	Environmental risk control		747	1,134	_
	Subtotal		1,523	3,717	1,348
	Comparisons w/ previous FY		94%	83%	61%
Upstream/downstream costs		90	2,777	0	
Management activity costs		0	2,853	_	
R&D costs		47	5,497	_	
Social activity costs		29	199	_	
Environmental damage compensation costs		115	80	_	
Total		1,804	15,123	1,348	
Comparisons w/ previous FY		80%	107%	61%	

Item	Total
Total investments in FY2009	57,964
Total R&D costs in FY2009	36,076
Item	Proportion
Percentage of investments (Environmental investments 1,804/ Total investments 57,964)	3%
Percentage of R&D costs (Environmental R&D costs 5,497/ Total R&D costs 36,076)	15%

Millions of Yer

# **Environmental Management Activities**

We are striving to build an environmental management system (EMS) for the entire Kawasaki Group. In order to prevent environmental trouble from occurring, we are also making efforts to implement environmental risk management and employee education on the environment.

### Further Development of EMS

All the production bases of Kawasaki Heavy Industries in Japan have acquired ISO14001 certification. Currently. we are promoting the development of EMS at our subsidiaries in Japan and abroad, and continuing activities with the aim of establishing an EMS, including compliance with environmental laws and regulations.

Among our subsidiaries in Japan, K-TEC Corporation, Kawasaki Engineering Co., Ltd. and Fukae Powtec Co., Ltd. newly completed to develop EMS. Forty-four of 51 of these companies had completed the EMS establishment by FY2009.

Of the 13 overseas companies where we are seeking to develop EMS. Wuhan Kawasaki Marine Machinery Co.. Ltd. completed in FY2009. For the remaining seven companies that do not yet develop, based on local laws and regulations, we will clarify objectives according to business conditions and scale and set timeframes and otherwise implement incremental efforts for EMS development by the end of FY2009.

### **Compliance with Laws & Regulations**

In FY2009, there were no violations (Judicial/Administrative Penalties , Administrative Measures or Administrative Warnings [3]), accidents or citizen complaints at any KHI

Judicial/Administrative Penalties: Punishment by judicial or administrative authorities Administrative Measures: Receiving instructions for improvements, etc., in written

Administrative Warnings: Receiving verbal directives concerning business practices

## Activities of Environmental Law and Regulation Compliance Status Review Committee

Prompted by an environmental violation at the Akashi Works in February 2009, we set up an Environmental Law and Regulation Compliance Status Review Committee, which did on-site studies of compliance with environmental laws and regulations at all 11 works of Kawasaki Heavy Industries in FY2009.

This has helped to eliminate the causes of environmental accidents and citizen complaints and there were no violations in our workplaces in FY2009.

#### Education

### E-learning

We completed our PC-based environmental education (Environmental E-learning) for affiliated companies in April 2010 (attended by about 5,500 persons, an attendance rate of 92%). For the KHI Group as a whole in Japan domestic area, about 17,000 persons have taken the training (final attendance rate of 95%), and we have finished training in the Group over a period of two years. Over the two years since FY2008, we have also given environmental education to about 3.700 production workers, such as site workers who cannot easily take PC-based E-learning, with an attendance rate of 49%.

#### Raising Awareness about the Environment

We are conducting publicity activities with the goal of raising the environmental awareness of every individual employee. We are conducting these awareness-raising activities continuously to promote conduct that is considerate of the environment not only in the workplace. but also in local communities and households.







Message from the President" about

News (released

'Eco Mind" in ou Group magazine

#### **Cultivating Qualified Managers**

In order to enhance our environmental management efforts. we are also focusing on the cultivation of individuals who have legal qualifications required by laws and regulations related to the environment.

Number of Qualified Pollution

oontrol Managoro				
Air	71			
Water	73			
Noise, Vibration	44			
Others	22			
Total	210			

 Number of Qualified Energy Managers and Newly Registered Internal Environmental Auditors

Energy Managers	52	
Internal Environmental Auditors	164	



# Achieving a Sustainable Society

# **Measures to Prevent Global Warming**

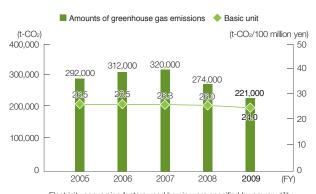
We "contribute to the prevention of global warming by means of our products and manufacturing that use energy without waste" as we work to achieve a low-carbon society.

One of our basic goals is to reduce total emissions of greenhouse gases that occur from our own production activities, but to make sure our improvements also increase productivity, we have established a basic unit target as well, and use these two indicators to reduce emissions.

#### Topic

We work to reduce our own CO<sub>2</sub> through capital investment and productivity increases, and are examining the use of credits for CO<sub>2</sub> reductions from our products and technologies to make up for any shortfalls toward our targets. Specifically, we participate in the domestic credit program as a joint reductions business, seeking to acquire domestic credits involving KHI Group products and technologies.

Amounts of Greenhouse Gas Emissions (CO<sub>2</sub> equivalent)



- Electricity conversion factors used herein were specified by power utility companies. (Electricity conversion factor for FY2008 was used to compute those of FY2009.)
- CO<sub>2</sub> emissions from ship testing on the water have been separately managed from CO<sub>2</sub> emissions at our works since EY2009

## **Waste Reduction Activities**

Our waste reduction activities take advantage of the characteristics of each works, while the Group as a whole takes initiatives on items common to all works.

#### Common activities at all works

- Activities to reduce three substances with greatest waste emissions (metal scrap, waste oil, wood scrap)
- Promote resource savings, 3R
- Maintain and enhance zero emissions
- Promote implementation of electronic manifests

Amount of Waste Produced and Recycling Rate



### **Efforts for Reducing Chemical Substances**

As part of our efforts for reducing chemical substances, we are working to realize reduction targets set at every site for major VOC, dichloromethane and heavy metals.

Amounts of Chemicals Subject to Reduction Handled and Emitted (t/year)

	Substance	FY2009	Increase or decrease from FY2008
	Toluene	305	-7.0%
Major	Xylene	719	-5.4%
VOC	Ethylbenzene	324	+7.6%
	Total	1,348	-3.0%
	Dichloromethane	51	+2.0%
Heavy metals	Lead	2.4	-33.3%
	Hexavalent chromium	22	+10.0%
	Cadmium	0.12	0%

Amount of major VOC and dichloromethane is the amount emitted, while that of heavy metals is the amount handled.

# **Consideration for the Environment in Our Products**

ULCAN 900 Classic

The KHI Group believes that one of the pillars of our Group Mission is to contribute to the environment through our products. We will make thorough efforts in implementing product assessments and complying to overseas laws and regulations and voluntary regulations in industry, and will continue to promote consideration for the environment in our products in the entire KHI Group.

#### Main Efforts of the KHI Group

### **Implementing Product Assessment**

For newly developed and designed products, as well as for particularly important products, we implement product assessment for resources conservation, energy saving, and recycling with the goal of reducing the environmental impacts of products during their life cycles. Because specific evaluation techniques vary depending on the type of product, each division draws up "Product Assessment Rules" suitable for the characteristics of its products.

# Responding to the ELV Directive , the RoHS Directive and the REACH Regulation

Since 2000, the ELV Directive, the RoHS Directive and the REACH Regulation have strengthened laws and regulations related to chemical substances in the EU, and it has become necessary to have a system to determine information about the chemical substances included in our products throughout our entire supply chain for some of our products.

Each division collects information on chemical substances through a process of "green procurement" (see p. 26), and our Motorcycle & Engine Company has built the "Kawasaki Material Data System" and prepared to respond not only to the REACH Regulation, but to other substance control laws as well.

ELV Directive: End of Life Vehicles Directive
 RoHS Directive: Directive on Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
 REACH Regulation: Regulation on Registration, Evaluation, Authorisation and

## Efforts of the Motorcycle & Engine Company

#### Cleaning Exhaust Gas

As in the year before, in FY2009 we continued to clean the exhaust from motorcycles sold in Japan, making exhaust system improvements to conform with 2007 domestic emissions regulations. During the year, we launched the VULCAN 900 Classic, a large-displacement cruiser model

with exceptional environmental performance.

In addition to an electronically controlled fuel injection system, the model has an  $O_2$  sensor, which detects the density of oxygen in emissions to precisely control how much fuel is injected. The result is the optimal air/fuel ratio for the catalyst to function efficiently. The honeycomb catalyst also has a larger capacity, which enhances cleaning of harmful substances contained in emissions.

#### Promotion of 3R

Since October 2004, we have been steadily operating an autonomous motorcycle recycling system in cooperation with three other motorcycle manufacturers and 12 importers in Japan. Using this system, we have achieved a recycling rate of 87.6% in its sixth fiscal year.

Furthermore, for our new models of motorcycles, we are endeavoring to consider design for environment, including reducing materials and recycling, from the development phase. We conduct preliminary evaluations of our efforts related to reducing, recycling and reusing (3R) at the beginning of each of the design, prototyping and mass-production stages. In particular, through the use of materials that are easy to recycle, we are seeking to increase recyclability, and have achieved a potential recycling rate of over 90% for every model, with the majority of models scoring over 95%.

# Elimination and Reduction of Environmental Substances of Concern

For new motorcycles sold in Japan, we have already been achieving the voluntary reduction targets of environmental substances of concern (lead, mercury, hexavalent chromium and cadmium) established by JAMA. In addition, we have also achieved the voluntary reduction targets for older motorcycle models that we have continued selling.

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