

Environmental Management

Environmental Management

Realizing Our Goals to Contribute to a Sustainable Society

Kawasaki drew up our Environmental Charter in order to promote our environmental management activities to fulfill our 2010 Environmental Vision—What Kawasaki Should Be in the year 2010 toward symbiosis with our precious planet verging on a critical tipping point.



Masatoshi Terasaki
Chief Environmental Officer
Senior Executive Vice President

Contributing to Environment & Society

Our New Three-Year Activity Plan Starting from FY2006

Being a member of the manufacturing industry, we at Kawasaki Group regard our mission in conducting business as providing products and technologies that can contribute to the world's welfare. Now in this age when environmental issues such as global warming, depletion of natural resources, and environmental contamination from industrial waste and chemicals are all the more pressing, we feel compelled to focus on the following major themes in conducting our corporate activities: the development/supply of products and technologies that have less of an impact on the environment throughout the life cycle of the products, and that help protect the environment.

Having completed our fourth three-year plan in the fiscal year 2005, this year marks the inception of activities that follow a new plan. During our Fourth Plan, we succeeded in the following:

- Achieving zero emissions (no landfill waste disposal) in all the plants and the main offices of Kawasaki.
- Completing an environmental data management system of Kawasaki and the main subsidiaries.
- Enhancing environmental consciousness among our employees through distribution of the Environmental Handbook.

Moreover, we were able to step forward in the areas of developing environmental management systems in subsidiaries and affiliates, and of reducing hazardous chemical

substances.

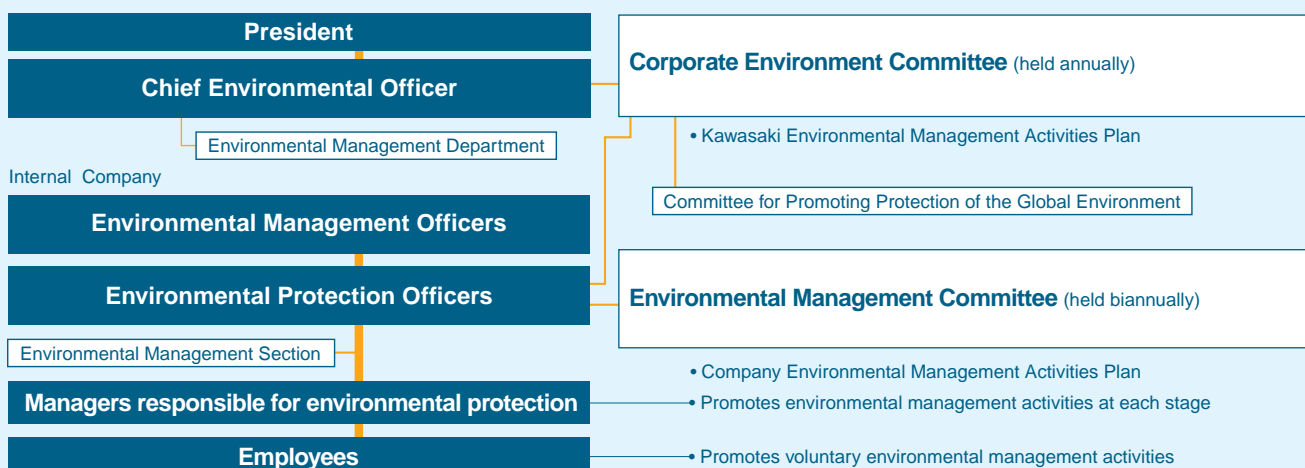
In our new fifth plan, we intend to continue working with the themes including the following as well as working toward achieving the 2010 Environmental Vision we proposed in 2003:

- Developing activities that examine the impact our products have on the environment throughout their life cycle; not only in the manufacturing process but also in their whole lifespan including the stages of use and disposal after use.
- Developing our scope of activities to encompass the entire Kawasaki Group.
- Reviewing and reassessing various environmental risks, and management practices in environmental activity area to ensure and improve our social reliability.

I firmly believe that as our employees enhance their understanding of environmental issues, they will naturally acquire a greater sense of duty to contribute not only at work but in the community and at home as well, and in so doing Kawasaki will consequently exert a more positive influence on the environment as an organization of individuals working in concert to become a corporation in which society can place even greater trust.

Organization for Environmental Management

Environmental Management System



Environmental Charter

(Established in 1999)

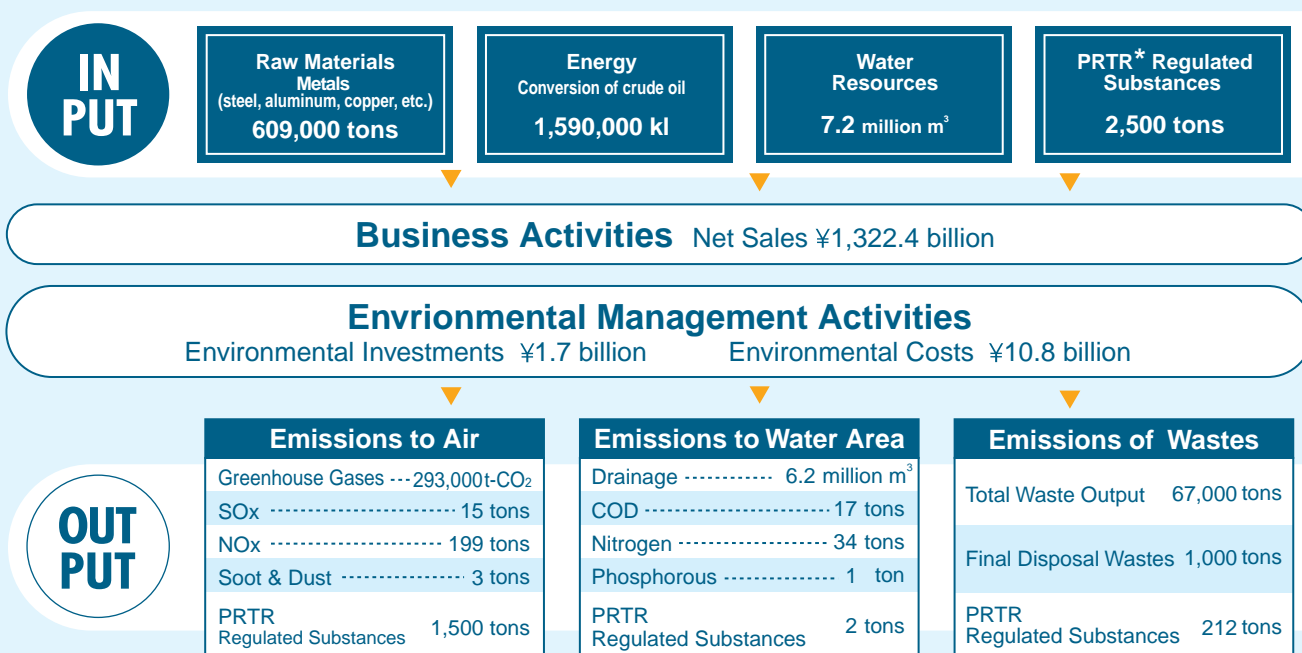
Environmental Philosophy

As a company in key industries related to land, sea and air, Kawasaki is deploying its business activities globally in pursuit of reducing environmental impact and creating a sustainable society. This makes us to commit ourselves to contribute to the sustainable development of society through our environmentally conscious business activities, technologies and products that preserve the global environment.

Conduct Guidelines

1. Recognizing that global environmental protection is a common and serious issue for humankind, Kawasaki will positively volunteer to engage itself in harmonizing with the environment globally. We shall regard this as one of the most important strategies when we deploy our business activities.
2. During its production stages, Kawasaki will endeavor to conserve resources, to save energy, to recycle resources and to reduce industrial waste and will promote the reduction of environmental impacts.
3. In the new product planning (i.e. research and development) and designing stages, Kawasaki will render careful attention throughout the procurement, production, distribution, utilization and material disposal stages in order to minimize the environmental impacts.
4. In seeking solutions to global environmental issues, Kawasaki will do its best to develop and provide new technologies and new products that contribute to environmental protection, energy saving and resource conservation.
5. Notwithstanding its compliance with environmentally related institutional laws, regulations and agreements and voluntary action plans of each industry concerned, Kawasaki will voluntarily institute its own environmental control standards as an appropriate and necessary action in order to strive to improve environmental control levels.
6. Through environmental training and public awareness activities, Kawasaki will strive to enlighten all its employees on global environmental issues and will support individual views, lifestyles and will encourage their participation in the social activities and services.
7. Kawasaki will implement an environmental management system to promote environmental preservation and conservation, and hold regular conferences to review management systems and maintain continual improvement.

Environmental Impact of Our FY2005 Business Activities



*PRTR: Pollutant Release and Transfer Register

Environmental Management

Toward Our 2010 Environmental Vision: What Kawasaki Should Be in the Year 2010

Achievements and Appraisal of Environmental Management Activities

(Evaluation Criteria) A: Achieved; B: Mostly Achieved; C: Not yet achieved

	2010 Environmental Vision (What Kawasaki Should Be in the Year 2010)	4th Environmental Management Activities Plan (FY 2003 to 2005)	Achievements of 4th Environmental Management Activities Plan (FY 2003 to 2005)	5th Environmental Management Activities Plan (FY 2006 to 2008)
Environmental Philosophy	<ul style="list-style-type: none"> - Actions by all employees are taken with concern for the environment, not only at work, but also in their local communities and homes, in accord with our Environmental Philosophy, which declares our commitments to the realization of a sustainable society. 	<p>Provision of comprehensive education and training programs for promoting environmental consciousness</p> <ul style="list-style-type: none"> - Publication of the Environmental Handbook in FY2004 - Use of IT to promote the environmental consciousness of all employees - Continued education activities about environmental issues for employees 	<ul style="list-style-type: none"> - Environmental Handbook was published as scheduled - Planning of e-learning was completed - Educational activities were carried out through our publication of internal news 	<p>Raising the level of environmental awareness of employees in the Kawasaki Group</p> <ul style="list-style-type: none"> - Promoting the construction of an environmental education system through the use of IT - Continuation of activities to provide information to educate employees in environmental issues
Environmental Management	<ul style="list-style-type: none"> - Implementation of an Environmental Management System (EMS) and actions are taken based on this EMS by all employees. - Incorporation of environmental considerations into the business management of each internal company enhances their environmental management levels. - An environmental management information system is created. 	<p>Environmental management to increase social trust</p> <ul style="list-style-type: none"> - Support for promotion and development of EMS for affiliates - Establishment of techniques for analyzing environmental management activities - Provision of management-related environmental information to management - Utilization of Information Technology for acquiring and managing environmental data 	<ul style="list-style-type: none"> - Planning for development of EMS among our domestic subsidiaries - Fell short of developing methods for analysis - Implemented and still being carried out - Utilization of Information Technology was completed 	<p>Promotion of environmental management to increase the social trust of the Kawasaki Group</p> <ul style="list-style-type: none"> - Promoting the development of EMS among our subsidiaries around the globe - Promoting risk review activities to reassess environmental risks [Execution with the treatment of liquid waste from our manufacturing works as a theme] - Establish an environmental risk management system - Development of an environmental management information system [Apply the Information Technology for acquiring and managing environmental data into environmental management]
Environmentally Conscious Products	<ul style="list-style-type: none"> - Design for Environment (DfE) is used for all products to enhance their environmental efficiency. - Products are offered that help protect the environment, thus contributing to the environment, society and businesses. 	<p>Contribution to the sustainable development of society through technologies and products that help protect the environment</p> <ul style="list-style-type: none"> - Application of DfE(product assessment, LCA, etc.) for major products - Promotion of green procurement systems in order to expand the use of green goods - Enhancement of supply of products that promote environmental protection and reduce environmental impact 	<ul style="list-style-type: none"> - Applied product assessment to all fields - Expanded and enhanced in fields such as consumer-oriented products - See pages 21 to 28 for examples of this 	<p>Contribute to the sustainable development of society through technologies and products conducive to environmental impact alleviation</p> <ul style="list-style-type: none"> - Reduction of environmental impact throughout the product lifecycle - Increase in providing green products
Environmentally Conscious Production	<ul style="list-style-type: none"> - Administrative penalties and administrative provisions are avoided, and voluntary control standards based on the needs of society are established to improve environmental control levels. - Every production activity is free of irrationality and waste to enhance the efficient utilization of resources and energies. - Total greenhouse gas emissions in FY2010 is reduced by 6% relative to the FY1990 level. - Total waste production in FY2010 is reduced by 10% relative to the FY2000 level. - Maintenance of zero emissions (recycling rate 100%) is realized in all works. - The use of hazardous chemical substances is reduced. 	<p>Compliance with environmental laws, regulations, and agreements</p> <ul style="list-style-type: none"> - No administrative penalty, administrative provision, etc. - Setup of voluntary control standards that addresses social needs <p>Promotion of environmental impact alleviation in production activities</p> <ul style="list-style-type: none"> - Examination of programs for measuring and reducing the amounts of resources and energy input in production processes - Reduction in total emissions of greenhouse gases to the FY1990 level - Reduction in total waste emissions by 5% relative to the FY2000 level - Realization of zero emissions in all works by the end of FY2004 - Implementation of hazardous chemical substances reduction program 	<ul style="list-style-type: none"> - See page 19 - Put into effect but some divisions were on the way to furnish all items as voluntary control standards - Put into effect in some divisions - Underlying condition of increased greenhouse gases due to an increase in business - Increased in FY 2005 - Achieved in all sectors but Kawasaki Shipbuilding Corporation - Completed the drafting of the plan and put reduction activities into practice 	<p>Compliance with laws, regulations, and agreements related to the environment</p> <ul style="list-style-type: none"> - No administrative penalty, provision, etc. - A reassessment of voluntary control standards complying with revisions and records of related laws, regulations, and agreements <p>Promotion of environmental impact alleviation in production activities</p> <ul style="list-style-type: none"> - Further examination of problems for measuring and reducing the amounts of resources and energy input in production processes [Establishment of measures for reducing greenhouse gases based on a review of energy-saving activities] - Reduction in total emissions of greenhouse gases to the FY1990 level - Reduction in total waste emissions by 8% relative to FY2000 level - Continue to achieve zero emissions (no landfill waste disposal) and expand this activity throughout the entire group <p>Implementation of hazardous chemical substances reduction program</p> <ul style="list-style-type: none"> - 15% reduction of the total emitted amount of VOC relative to base year - 20% reduction of the handled amount of hazardous chemical substances relative to base year - Drafting of a plan for the disposal of waste containing PCBs
Environmental Communication	<ul style="list-style-type: none"> - Kawasaki Environmental Reports that comply with the needs of society are published. - Communication with stakeholders is promoted. - The entire corporation and all employees are committed to environmental improvement in local communities. 	<p>Improvement of social trust in Kawasaki for sustainable development</p> <ul style="list-style-type: none"> - Information disclosure of environmental data - Promotion of communications with stakeholders - Positive cooperation in environmental activities of national and local governments 	<ul style="list-style-type: none"> - Carried out successfully - Fell short of reaching sufficient levels of communication - Carried out successfully 	<p>Improvement of social trust based on the environment</p> <ul style="list-style-type: none"> - Disclosure and enhancement of environmental data - Promotion of communication with shareholders - [Improve the social trust with the release of <i>KAWASAKI REPORT 2006-Environmental and Social Responsibility</i>] - Positive cooperation in environmental activities with national and local governments

Environmental Management

Environmental Accounting

An environmental accounting for FY2005 is represented below. The graphs show yearly changes of environmental investments, environmental costs, and economic effects. The effects of reductions in environmental impact appear on page 18. We continue to promote investments as planned to prevent global warming, but since we showed a tendency toward the increase in the amounts of greenhouse gas emissions, we are examining further measures to address this.

Environmental Accounting Calculations for FY2005

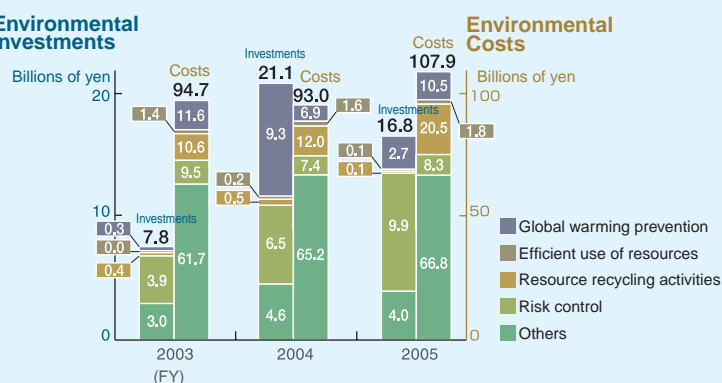
— These figures were compiled in accordance to the Environmental Accounting Guideline released by the Japanese Ministry of the Environment.
— Coverage: Kawasaki Heavy Industries, Ltd., and our three main subsidiaries. — Period: April 1, 2005 to March 31, 2006.

Millions of Yen

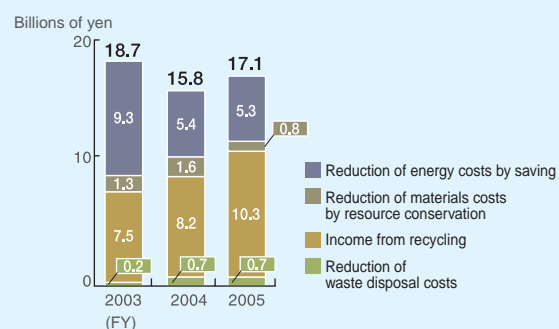
Item		Environmental Investments	Environmental Costs	Economic Effects	
Business area costs	Global warming prevention (Energy conservation, reduction of greenhouse gas emissions, ozone layer protection, etc.)	267	1,046	Reduction of energy costs by saving 527	
	Efficient use of resources	6	181	Reduction of materials costs by resource conservation 80	
	Resource recycling activities	Resource recycling activities	10	793	Income from recycling 1,032
		Waste disposal costs	2	1,260	Reduction of waste disposal costs 73
	Risk control (pollution control, compliance measures)	995	829	—	
	Subtotal	1,279	4,109	1,712	
Comparisons w / previous FY		78%	148%	108%	
Upstream/downstream costs		339	3,514	0	
Management activity costs		0	454	—	
Research and development (R&D) costs		15	2,301 ^{**1}	—	
Social activity costs		3	161	—	
Environmental damage compensation costs		41	251	—	
Total		1,677 ^{**2}	10,790	1,712	
Comparison w/previous FY		80%	116%	108%	

Item	Total	Item	Proportion
Total investments in FY 2005 ^{**3}	22,648	Percentage of investments (Environmental investments ^{**2} / Total investments ^{**3})	7%
Total R&D costs in FY 2005 ^{**4}	11,806	Percentage of R&D costs (Environmental R&D costs ^{**1} / Total R&D costs ^{**4})	19%

Environmental Investments



Economic Effects



Environmental Impact Data

Kawasaki is taking aggressive measures toward reducing the environmental impact of our activities. In order to support these activities, we compile annual environmental impact data and officially disclose these results.

Coverage: Kawasaki Heavy Industries, Ltd., and our three main subsidiaries.

Environmental Performance Category		Unit	Environmental Impact Data (FY 2005)	Comparison w/Previous FY		
Environmental Impact from Material/Energy Input	Total material input: Metals (steel, aluminum, copper, etc.)	ton	608,670	+26%		
	Amount of recycled materials	ton	7,232	+8%		
	Total energy consumption	Electricity	TJ*	3,300	-1%	
		Fuel	TJ	2,870	+14%	
		Total	TJ	6,170	+6%	
	Renewable energy consumption	TJ	0.159	—		
	Water consumption	m ³	7,197,158	-2%		
	Amount of recycled water	m ³	350,236	+70%		
	Input of recycled resources and parts	ton	199	+694%		
Amount of hazardous material handled	ton	2,531	+26%			
Upstream Environmental Impact	Green purchasing	¥millions	829	-18%		
Environmental Impact from Refuse Output	Emissions to Air	Greenhouse gas emissions	t-CO ₂	292,902	+6.5%	
		Ozone depleting substance emissions	ODP ton	0	—	
		SOx emissions	ton	14.5	+6.3%	
		NOx emissions	ton	199	+45.9%	
		Soot and dusts emissions	ton	2.5	-2.2%	
		VOCs emissions	ton	1,888	+14.3%	
		PRTR regulated substance emissions	ton	1,524	+28%	
		Concentration of restricted substances	SOx	ppm	Compliant	—
			NOx	ppm	Compliant	—
			Dust	g/m ³ N	Compliant	—
		Dioxins	ng/m ³ N	Not applicable	—	
			Benzene	mg/m ³ N	Not applicable	—
	Noise and vibration	dB	Compliant	—		
	odor	m ³ /min	Compliant	—		
	Emissions to Water and Soil	Total drainage	m ³	6,189,290	+80%	
		PRTR regulated substance discharge	ton	2	-17%	
		Eutrophication substance discharge	COD	ton	17	+6.8%
			Nitrogen	ton	34	+20%
		Phosphorous	ton	1	+6.4%	
	Density of emitted substances under drainage control	mg/L	Compliant	—		
	Emissions of Wastes	Total amount of wastes	ton	67,033	+5.2%	
		Reused resources	ton	36,870	+10%	
		Recycled resources	ton	24,804	+4.6%	
Resources subject to thermal energy recovery		ton	2,583	-16%		
Incinerated wastes		ton	1,494	-26%		
Final disposal wastes		ton	1,015	-20%		
Reduction of intermediately treated wastes		ton	191	-17%		
Specially controlled industrial waste (internal figures)		ton	1,008	-1.7%		
PRTR substance transfer	ton	212	+18%			
Downstream Environmental Impact	Measures to reduce environmental impact of products	—	See pages. 21 to 26	—		
	Products and technologies to protect environment	—	See pages. 27 to 28	—		
Environmental Impact from Transportation	CO ₂ emissions during transport	t-CO ₂	1,020	+26%		
	NOx emissions during transport	ton	4.7	-4%		
	Number of eco-vehicles introduced	units	25	-17%		

*TJ: terajoules (10¹² J)

Environmental Management

Environmental Management System (EMS)

Kawasaki is working on activities to incorporate environmental management throughout its entire Kawasaki Group. We are also working to further improve the degree of environmental management through things like improving communication with local residents, internal and external environmental auditing, and educating all of our employees in environmental issues.

Development of EMS

All the domestic production bases of Kawasaki and its main subsidiaries have acquired ISO 14001 certification. We now aim to make other bases of entire Kawasaki Group than the above develop some EMS to maintain and improve the brand value of Kawasaki.

ISO 14001 Certification Acquisition Kawasaki and its Main Subsidiaries

Internal Company		Date acquired	Registration
Kawasaki Heavy Industries	Rolling Stock & Construction Machinery Company	Rolling Stock Division	2002 LRQA
		Construction Machinery Division	2000 JICQA
		Steel Structure & Industrial Equipment Division	1999 JICQA
	Aerospace Company		2002 BSK
	Gas Turbines & Machinery Company	Gas Turbine Division	2000 LRQA
		Machinery Division	2000 NK
Environmental Control Plant Division		1999 NK	
Consumer Products & Machinery Company		2000 DNV	
Subsidiaries	Kawasaki Shipbuilding Corporation	Kobe Works	2002 NK
		Sakaide Works	2000 DNV
	Kawasaki Precision Machinery Ltd.		1998 DNV
	Kawasaki Plant Systems, Ltd.		2001 NK

LRQA : Lloyd's Register Quality Assurance
 JICQA : JIC Quality Assurance
 NK : Nippon Kaiji Kyokai (ClassNK)
 BSK : Bouei Choutatsu Kiban Seibi Kyoukai
 (Defense Procurement Framework Establishment Association of Japan)
 DNV : Det Norske Veritas

As of April 1, 2006

Development of EMS for Other Subsidiaries

As far as other domestic subsidiaries are concerned, 27 companies have already acquired ISO14001 certification.

The following overseas subsidiaries have already acquired the ISO14001 certification.

Subsidiaries	Country	Date acquired	Registration
Kawasaki Motors Manufacturing Corp.	USA	2003	DNV
Kawasaki Robotics, Inc.	USA	2006	DNV
Nantong COSCO KHI Ship Engineering Co., Ltd.	China	2003	DNV
Kawasaki Precision Machinery Ltd.	UK	2001	LRQA
Flutek Ltd.	Korea	2005	KMA

KMA: KMA Registrations & Assessments Inc.

Improvement of the Degree of Environmental Management through 3 Levels of Environmental Auditing

Environmental auditing is very important for confirming whether environmental activities are going according to plan and considering subsequent coping measures. We execute the three levels of environmental auditing listed below.

Environmental Auditing Systems

Environmental Management Hearings	Internal Auditing	External Auditing
The Environmental Management Department in our company's organization conducts hearings to follow up on the environmental management within our company and divisions.	Carries out its actions within our company and divisions based on the environmental management system governed by ISO14001.	Auditing based on the environmental management system of ISO14001 dictated by an organization registered as a third-party auditor.

Compliance with Laws & Regulations

Violations, and Accidents, during the Past 5 Years

FY	2001	2002	2003	2004	2005
Judicial/Administrative Penalties	0	0	0	0	1*
Administrative Measures	0	0	0	0	1**
Administrative Warnings	1	3	0	0	0

■ Judicial/Administrative Penalties: Punishment by judicial or administrative authorities.
 ■ Administrative Measures: Receiving instructions for improvements, etc., in written form.
 ■ Administrative Warnings: Receiving verbal directives concerning business practices.

e.g.

* A small amount of oil leakage onto the surface of the sea at Kobe Works

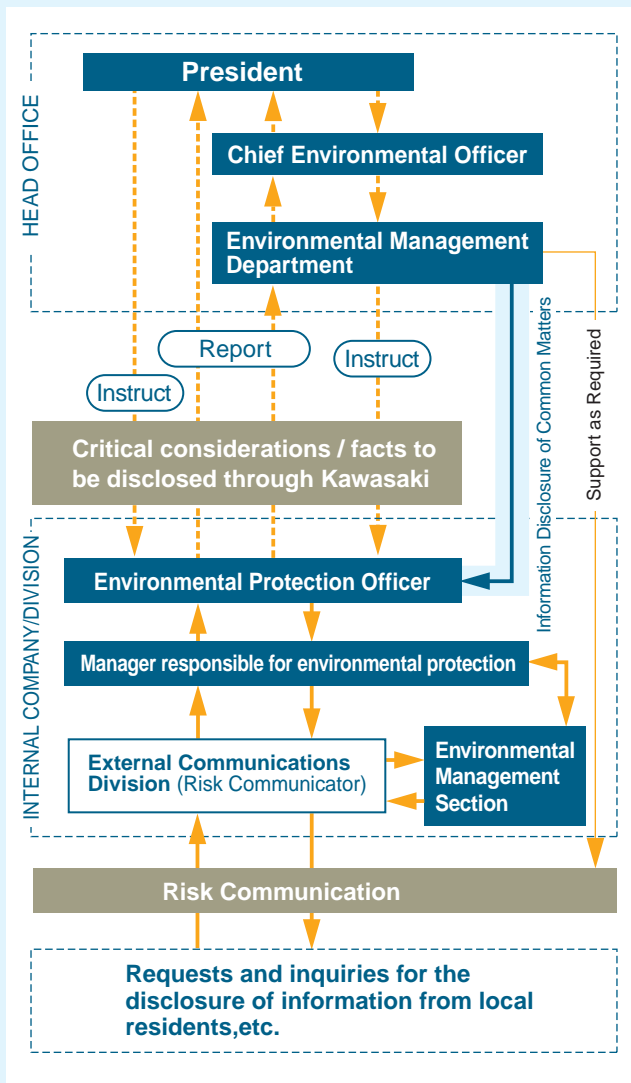
** Countermeasures against the pollution of the soil in Yachiyo Works to follow governmental directions

Risk Management

Kawasaki aggressively deals with risk management. On the environmental issues, we endeavor to prevent environmental troubles/accidents before they occur, by the activities not only based on the EMS developed in Kawasaki but additional considerations/ reviews.

We provide a risk communication system as shown below:

Risk Communication System

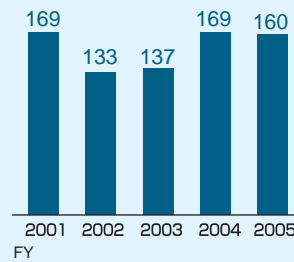


Environmental Education

Kawasaki promotes environmental education with the goal of improving environmental awareness. We also periodically hold internal environmental auditing training based on ISO 14001. In FY 2005, 160 members were newly registered and joined as ISO 14001 internal auditors.

The numbers of our other qualified managers are shown below:

Number of Newly Registered ISO auditors



Number of Qualified Pollution Control Manager

Air	81
Water	54
Noise	36
Vibration	22
Others	17
TOTAL	210

Number of Qualified Energy Managers

Heat	36
Electricity	21
TOTAL	57

Educational Activities for Environmental Awareness

Kawasaki has devoted its efforts to improve the environmental awareness of its employees by encouraging all of them to take action concerning the environment not only at work but in the community and at home as well.

We transmit to our employees the information both of outside and inside of our company which contributes to the abovementioned purpose, by various kinds of measures.



Environmental News
(released 4 times a year)



Serialized issues on the in-house
magazine (published quarterly)