

# Environmental Management Basic Policy

## The KUBOTA Group Environmental Charter

The KUBOTA Group aims to create a society where sustainable development is possible on a global scale and conducts its operations with concern for preserving the natural environment.

## The KUBOTA Group Environmental Action Guidelines

- The KUBOTA Group takes initiatives for the protection of the natural environment in all its activities.**
  - By setting specific goals on its own initiative while remaining in compliance with all laws and regulations
  - By promoting initiatives at all levels of its operations, from product development to production, sales, distribution and services
  - By taking a proactive stance toward securing understanding of the importance of protecting the environment among its suppliers and actively obtaining their cooperation
  - By promoting activities friendly to the natural environment and its biodiversity
- The KUBOTA Group works to protect the environment and create a symbiotic relationship with the community.**
  - By participating in community beautification and environmental enlightenment activities in its role as a good corporate citizen
  - By engaging in business activities that take full account of environmental protection in the community, including pollution prevention
- The KUBOTA Group undertakes systematic initiatives to protect the environment.**
  - By conducting environmental impact assessments, working to reduce environmental risk, and preventing environmental pollution
  - By working to solve environmental issues, including prevention of global warming, creation of a recycling society and reduction of the release of harmful substances
- The KUBOTA Group implements a thorough program of environmental management.**
  - By introducing environmental management systems and promoting initiatives in everyday operations
  - By proactively monitoring whether the "Plan, Do, Check, Action (PDCA)" cycle is functioning in environmental management activities
  - By promoting enlightenment and educational activities related to the environment and working to heighten awareness of the environment
- The KUBOTA Group is proactive in communicating its environmental perspective.**
  - By issuing timely and easily understandable environmental information
  - By gathering environmental information from a broad range of stakeholders and reviewing as well as upgrading its environmental protection activities

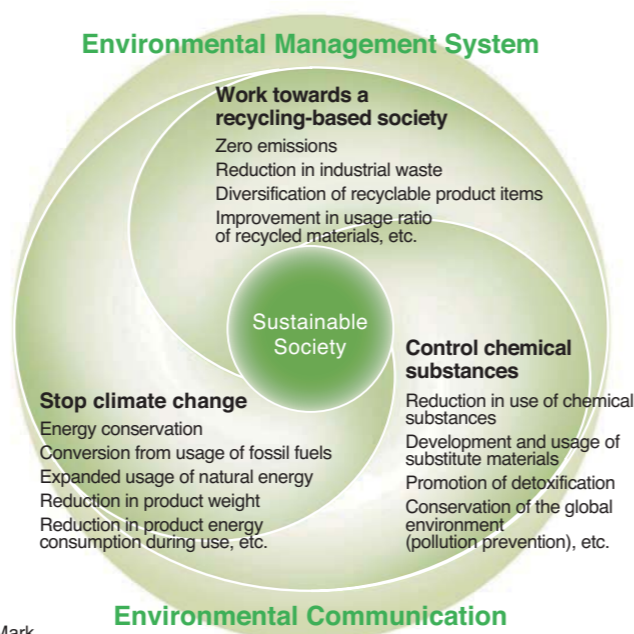
## Basic Direction of Corporate Environmental Management

As the basic direction of environmental management for the KUBOTA Group, which aims to achieve a society wherein sustainable development is possible on a global scale, we have established three objectives, namely to "Stop climate change," "Work towards a recycling-based society" and "Control chemical substances." As the foundation for these efforts, we plan to enhance our "Environmental management system" and "Environmental communication."

## As an "Eco-First Company"

In May 2010, KUBOTA made the "Eco-First Commitment" pledge to the Japanese Environment Minister to carry out environmental preservation measures on a group-wide basis, and was officially approved as an "Eco-First Company." The pledge was made with regard to the following four points, which are being implemented together with our "Medium-Term Environmental Conservation Plan." (P. 42)

- Stop climate change
- Work towards a recycling-based society
- Control chemical substances
- Conserve biodiversity





**Message from the Environmental Conservation Control Officer**

**Kenshiro Ogawa,**  
Managing Executive Officer - GM of Quality Assurance & Manufacturing Headquarters, KUBOTA Corporation

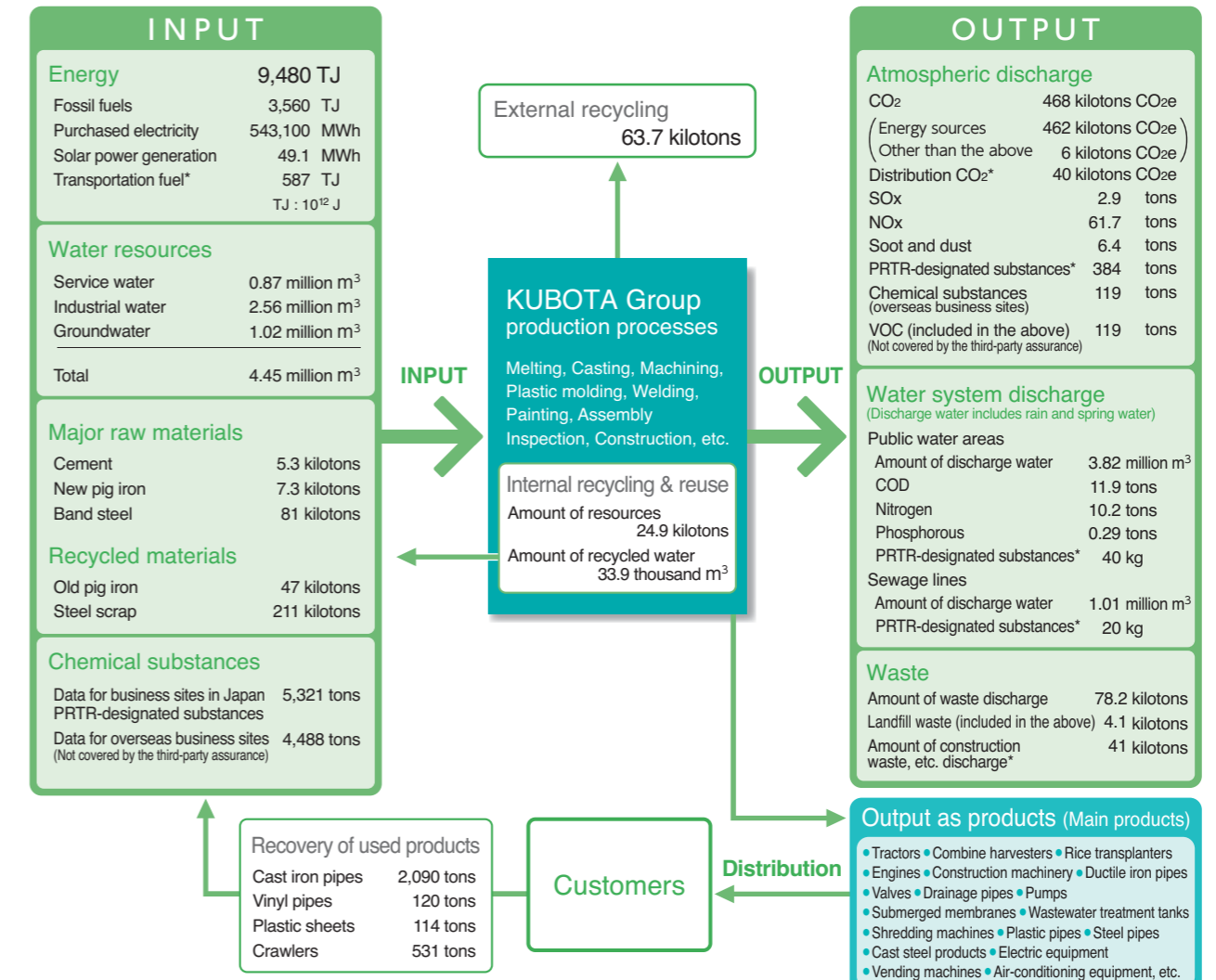
In aiming to achieve a sustainable society, the KUBOTA Group is promoting enhancement of environmental management focused on manufacturing. In recent years with the globalization of management and the expansion of overseas production, reduction of the environmental loads has become a top priority issue for our entire Group, and we are working on Medium-Term Environmental Conservation Plan.

In addition, in order to further enhance the environmental friendliness of products, we launched an internal Eco-Products certification system in 2011. From here on we will also continue contributing to the protection of the global environment by promoting even greater efforts for environmental conservation throughout the entire "manufacturing" process, including technical development to improve the environmental performance of products, production, sales and service.

## Whole Picture of the KUBOTA Group's Business Activities and Environmental Loads

This is an overall summary of the KUBOTA Group's diverse domestic and international business activities and the associated environmental loads. (FY2012 results, global data) The KUBOTA Group has assessed and analyzed the environmental loads and is working on load reduction efforts.

(\*mark indicates data concerning business sites in Japan)



The method of calculation for each indicator is posted on the website (<http://www.kubota-global.net/csr/report/pdf/2012/kanky-web.pdf>) under "Calculation Standards of Environmental Performance Indicators."

The environmental information in this document (KUBOTA REPORT 2012-Business and CSR Activities), in combination with that given on the website (<http://www.kubota-global.net/csr/report/r2012.html>), has received the third-party assurance from KPMG AZSA Sustainability Co., Ltd. Indices covered by this assurance are indicated by the "🔍" symbol.

# Promoting Environmental Management

The KUBOTA Group is working to enhance its environmental management system in order to promote more environmentally-friendly corporate management. The Group is also working to increase environmental awareness among its employees and to improve the standards of its environmental activities by checking its compliance with the rules for environmental conservation and by providing educational programs.

In addition, in terms of KPI (Key Performance Indicators) for the objectives established in the "Basic direction of corporate environmental management," namely to "Stop climate change," "Work towards a recycling-based society" and "Control chemical substances," the Group has formulated "Medium-Term Environmental Conservation Plan" and has been promoting activities to achieve targets on a group-wide basis including overseas business sites since FY2010.

## Environmental Management

Based on rules established by the KUBOTA Group, the Group is working to create environmental management systems and enhance its activities at each business site. In particular, with the globalization of its business in recent years, the Group is focusing on the enhancement of environmental management systems which also include its overseas business sites.

## Compliance with environmental laws and enhancement of risk management

In order to ensure good compliance with environmental laws, the KUBOTA Group has established independent control values for gas emissions, waste water, noise, vibration and other parameters at its business sites. These control values are even more rigorous than the regulation values imposed by local laws and ordinances and they are implemented with thorough controls.

At a group company in Indonesia in 2011, regulated values for water discharge were exceeded, but necessary actions were quickly undertaken and the company is working on improvements to prevent a reoccurrence.

Also, although it falls outside of the time period covered by this report, there was an incidence of exceeding regulated values for water and air quality at a group company in China in February 2012, and countermeasures are currently in progress.

## Environmental education

In order to promote environmental management, the KUBOTA Group is systematically conducting education by employee-level to raise awareness of environmental issues and to strengthen environmental management.

In addition, in order to implement assured environmental conservation, the Group is conducting specialized education such as pollution control technology, energy conservation and training of ISO environmental auditors.

## Environmental auditing

Each year environmental audits are conducted by the KUBOTA Environmental Protection Department, based on the internal control system of the KUBOTA Group.

Audits in FY2012 were conducted by means of paper audits and field audits, which focused on production sites, service sites, offices and construction departments of its domestic group and on production sites of its overseas group.

Also, at its domestic and overseas production sites, in addition to environmental audits conducted by the Environmental Protection Department, internal environmental audits are also implemented by the staff of each site.

### FY2012 Environmental audit implementation status

[Number of subject sites and departments]

168 sites and departments

[Number of audit items]

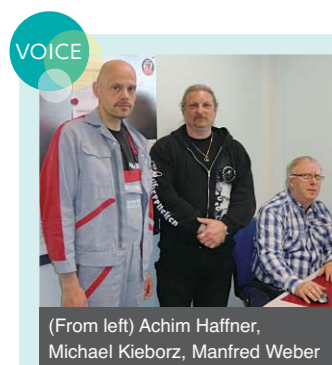
76 items (for production sites)

[Audit details]

- Environmental management system
- Water & Air quality management
- Noise & Vibration management
- Waste material & Chemical substance management
- Climate change prevention
- Response to abnormalities and emergencies



Audit of overseas production site



### Environmental conservation activities at Kubota Baumaschinen GmbH

Kubota Baumaschinen has been manufacturing construction machinery since 1989 in the suburbs of Zweibrücken Germany. We are in charge of the environmental management of the facility. Our company is pursuing an upgrade of its internal system in order to obtain EMAS (Eco-Management and Audit Scheme) certification. In addition, we are also pursuing the introduction of an energy management system at the same time.

As energy saving measures, we are systematically implementing steps including installation of air stop valves on compressors, timer control of lighting and updating of air-conditioning equipment. In FY2012 it was possible to reduce energy consumption (gas) and costs with new installation of effluent treatment equipment.



Effluent treatment equipment

## Medium-Term Environmental Conservation Plan and Targets/Results for FY2012

The KUBOTA Group adopted a Medium-Term Environmental Conservation Plan for the period of FY2010 to FY2013 in order to implement the basic direction of its corporate environmental management, and the Group has been promoting activities to achieve the established targets.

Issues	Actions	Management Indicators	Scope	Base FY	Plan	Do	Check	Action	Plan	Detail Page
					Targets FY2012	Results FY2012	Self-evaluation*2	Achievement Status (reasons for failure to achieve FY2012 targets)	Final target FY2013	
Stopping climate change	Reduce CO <sub>2</sub>	CO <sub>2</sub> emissions per unit of sales	Group-wide	2009	▲7%	▲10.6%	◎	In addition to past measures, the KUBOTA Group achieved its target with steady energy saving activities including reducing unnecessary energy consumption for production equipment, air-conditioning and lighting.	▲10%	43
		CO <sub>2</sub> emissions	Group-wide	2009	▲7%	▲18.7%	◎		▲10%	
	Reduce CO <sub>2</sub> during distribution	CO <sub>2</sub> emissions per unit of sales	Group companies in Japan	2009	▲3%	▲3.2%	○	The Group achieved its target by re-examining distribution centers and improving load efficiency, etc.	▲4%	
Working towards a recycling-based society	Reduce waste	Waste discharge per unit of sales	Group-wide	2009	▲6%	▲8.7%	◎	The Group achieved its target by reducing the discharge of waste materials and by strict garbage separation.	▲8%	44
		Ratio of business sites that have achieved zero emissions	Group production sites	-	60%	39.4%	×	Reason for failure: The Group did not reach its target due to slow progress in recycling at overseas business sites.	70%	
Controlling chemical substances	Reduce PRTR-designated substances*1	Release & transfer per unit of sales	Group companies in Japan	2009	▲6%	▲31.0%	◎	The Group achieved its target by switching to PRTR-free substitute products and improving production processes, etc.	▲8%	45
		Ratio of models with reduced RoHS-designated substances	Group-wide	-	35%	28.0%	×	Reason for failure: The Group did not reach its target due to remaining lead-containing parts that are difficult to substitute.	40%	

\*1 Due to the revision of the PRTR law, the designated substances have been reviewed in 2010.

\*2 Self-evaluation rating symbols: ◎ Target exceeded (by at least 20%) ○ Target reached × Target not reached

Targets were generally achieved in FY2012. FY2013 is the last year of the Medium-Term Environmental Conservation Plan, and the KUBOTA Group will continue to step up its pursuit of measures aimed at reaching its targets by tackling these issues.

## Trends of Management Indicators (KPI) for the Medium-Term Environmental Conservation Plan

Results achieved from FY2009 through FY2012 and target values for FY2013 are shown in the following table.

Issues	Actions	Management Indicators	Units	FY2009	FY2010	FY2011	FY2012	Target Value FY2013
Stopping climate change	Reduce CO <sub>2</sub>	CO <sub>2</sub> emissions per unit of sales	tons CO <sub>2</sub> e/billion¥	5.20	5.13	4.77	4.64	4.68
		CO <sub>2</sub> emissions	kilotons CO <sub>2</sub> e	575	478	445	468	518
	Reduce CO <sub>2</sub> during distribution	CO <sub>2</sub> emissions per unit of sales	tons CO <sub>2</sub> e/million¥	413	418	414	400	397
Working towards a recycling-based society	Reduce waste	Waste discharge per unit of sales	tons/million¥	850	798	750	776	782
		Ratio of business sites that have achieved zero emissions	%	36.7%	46.7%	50.0%	39.4%	70%
Controlling chemical substances	Reduce PRTR-designated substances	Release & transfer per unit of sales	kg/billion¥	7.17	7.14	5.46	4.95	6.60
		Ratio of models with reduced RoHS-designated substances	%	24.1%	24.2%	22.2%	28.0%	40%

\*The figures per unit of sales represent the intensity of environmental impact. \*The denominator is consolidated net sales.

# Stopping Climate Change

To stop climate change, the KUBOTA Group promotes reduction of CO<sub>2</sub> emissions through energy conservation and other activities.

## Background for activities

- Considering business characteristics of the KUBOTA Group, the Group promotes activities to stop climate change with a focus on the production and logistics stages.

## Targets for FY2012

- CO<sub>2</sub> emissions per unit of sales: Reduce by 7% from the FY2009 level
- CO<sub>2</sub> emissions: Reduce by 7% from the FY2009 level
- CO<sub>2</sub> emissions during distribution per unit of sales: Reduce 3% from the FY2009 level (production sites in Japan)

## Priority items for FY2013

- Continuously promote energy conservation measures
- Step up initiatives throughout the Group

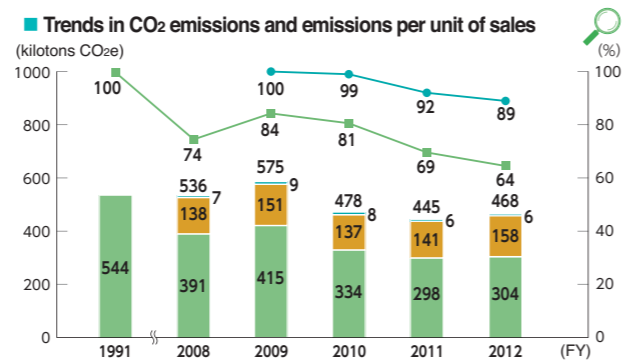
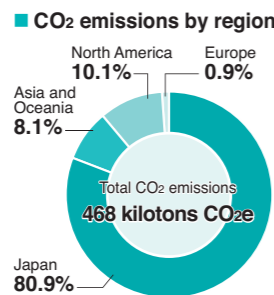
## Reduction of CO<sub>2</sub> emissions

The KUBOTA Group's CO<sub>2</sub> emissions in FY2012 stood at 468 kilotons CO<sub>2</sub>e, down 18.7% from the FY2009 level. CO<sub>2</sub> emissions per unit of sales was also reduced by 10.6% from the FY2009 level. Thus the Group attained the reduction target of 7% for FY2012.

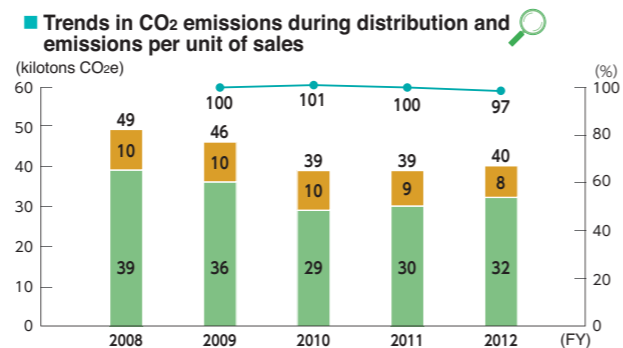
At production sites in Japan, the Group made efforts to identify and reduce unproductive use of energy sources, through energy conservation patrols and visualization of power consumption, etc. At offices, the Group conducted energy conservation activities, such as reducing the number of lights and ensuring control of temperature settings for air conditioning, etc.

At overseas production sites, the Group promoted switchover to inverter-based compressors and pumps, etc., and to high-efficiency lighting appliances.

In FY2013, the Group is seeking to attain its targets through group-wide efforts, including continued energy conservation measures and elimination of unproductive use of energy sources.



- CO<sub>2</sub> emissions from non-energy sources (group-wide)\*1
  - CO<sub>2</sub> emissions (KUBOTA non-production sites and group companies)
  - CO<sub>2</sub> emissions (KUBOTA production sites)
  - CO<sub>2</sub> emissions per unit of sales (group-wide) (compared to FY2009)\*2
  - CO<sub>2</sub> emissions per unit of sales (KUBOTA production sites) (compared to FY1991)\*2
- \*1. Starting FY2012, overseas sites are included in the scope of calculation of CO<sub>2</sub> emissions from non-energy sources.  
\*2. Emissions per unit of sales = CO<sub>2</sub> emissions / sales  
(—●—: Consolidated net sales, —■—: Non-consolidated net sales)



- CO<sub>2</sub> emissions during distribution (group companies in Japan)
  - CO<sub>2</sub> emissions (KUBOTA)
  - CO<sub>2</sub> emissions during distribution per unit of sales (compared to FY2009)\*
- \* CO<sub>2</sub> emissions during distribution per unit of sales = CO<sub>2</sub> emissions during distribution / Consolidated net sales

## Reduction of CO<sub>2</sub> emissions during distribution

The Group's CO<sub>2</sub> emissions during distribution in Japan in FY2012 stood at 40 kilotons CO<sub>2</sub>e. CO<sub>2</sub> emissions during distribution per unit of sales was cut down by 3.2% from the FY2009 level, thus attaining its target. The KUBOTA Group has reduced transportation mileage through reviewing locations of its logistics sites, and has started a new initiative for joint round transportation based on shared use of cargo containers with other companies.

## VOICE



Makoto Hioki  
Production KAIZEN Section,  
Tsukuba Plant,  
KUBOTA Corporation

### Introduction of a visualization system for power consumption

At our Tsukuba Plant, we introduced a visualization system for power consumption following the power restriction in the summer of 2011. This system has enabled graphical indication of the plant's maximum hourly power consumption on a large display in the plant office and on the screens of employees' PCs.

Utilization of this system led to peak cut measures, such as stopping some machines and switching over to in-house power generation during consumption peaks. It also enhanced the energy awareness of each employee, and encouraged their continuous and consistent activities, such as turning off switches frequently.

Additional improvement measures are in progress in some production lines, including visualization of power consumption by each machine, thereby identifying points of unproductive use and enabling a review of operating methods of such machines.

We will continue to promote energy conservation activities in order to further improve energy consumption efficiency and reduce CO<sub>2</sub> emissions.



Indication on a PC screen

# Working towards a Recycling-based Society

In working towards the formulation of a recycling-based society, the KUBOTA Group promotes measures for zero emissions and efficient use of water resources.

## Background for activities

- Working towards the formulation of a recycling-based society, the KUBOTA Group promotes activities focused on waste reduction and conservation of water resources.

## Targets for FY2012

- Waste discharge per unit of sales: Reduce by 6% from the FY2009 level
- Ratio of business sites that have achieved zero emissions: 60% (Zero emissions: Ratio of landfill disposal is 0.5% or less.)
- Water consumption per unit of sales: Reduce by 3% from the FY2009 level

## Priority items for FY2013

- Improve recycling ratio through thorough implementation of waste separation
- Reduce water consumption by recycling wastewater

## Reduction in waste discharge and promotion of recycling

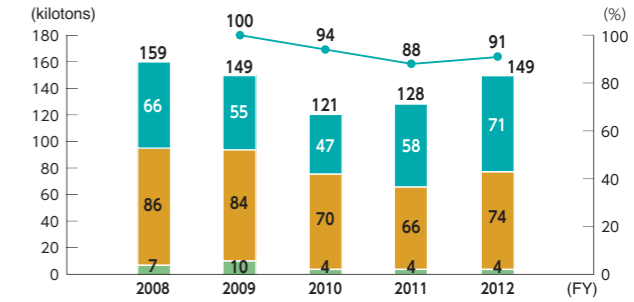
The KUBOTA Group's waste discharge per unit of sales in FY2012 was reduced by 8.7% from the FY2009 level, attaining the preset target. Waste discharge stood at 78.2 kilotons, down 16.9% from the FY2009 level.

The Group has promoted resource recycling within the Group through utilization of waste oil as fuel, recovery of waste crawlers for construction machinery, machining metal dust and polishing dust as iron sources, as well as other measures. The Group will continue to promote recycling in order to reduce waste discharge.



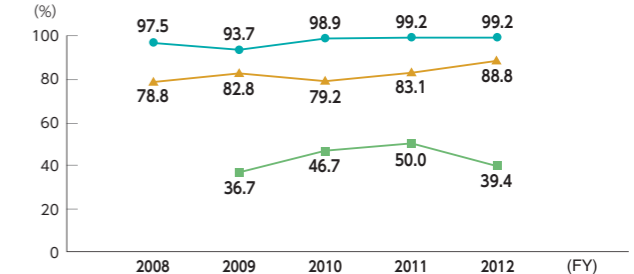
Waste Separation and Collection Station, Utsunomiya Plant

## Trends in waste, etc. discharge (including valuable resources) and waste discharge per unit of sales



- Valuable resources
  - Amount of recycled and reduced waste
  - Landfill disposal\*1
  - Discharge per unit of sales (compared to FY2009)\*2
- \*1. Landfill disposal = Direct landfill disposal + Final landfill disposal following intermediate treatment  
\*2. Discharge per unit of sales = Waste discharge / Consolidated net sales

## Trends in ratio of business sites that have achieved zero emissions, and recycling ratio



- Ratio of business sites that have achieved zero emissions\*1
  - Recycling ratio (in Japan)\*2
  - Recycling ratio (overseas)\*2
- \*1. The ratio of business sites that have achieved zero emissions is calculated using the number of production sites in Japan and overseas as a denominator. (FY2009~FY2011: 30 sites, FY2012: 33 sites)  
\*2. Recycling ratio (excluding volume reduction) (%) = (Sales of valuable resources + recycled waste) / (Waste, etc. discharge - Volume reduction in intermediate treatment) x 100  
The recycled waste does not include heat recovery. The volume reduction in intermediate treatment refers to reduction through dehydration, incineration, etc.

## Zero Emissions

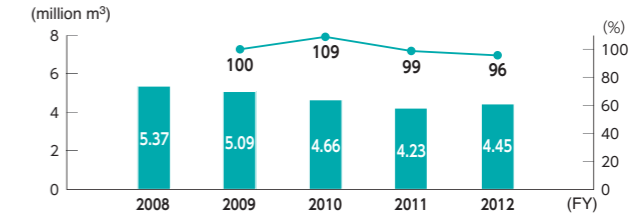
The ratio of business sites that have achieved zero emissions stood at 61.9% for business sites in Japan, and 0% for overseas sites (overall ratio: 39.4%), failing to reach the targeted 60% level. The KUBOTA Group will promote further recycling measures at overseas sites.

## Conservation of water resources

The Group's water consumption per unit of sales in FY2012 was reduced by 3.9% from the FY2009 level, reaching the preset target. Water consumption stood at 4.45 million m<sup>3</sup>, down 12.6% from the FY2009 level.

In coming years, the KUBOTA Group plans to introduce wastewater recycling equipment mainly at overseas production sites, thereby further reducing its water consumption through reuse of wastewater and relieving water pollution loads.

## Trends in total water consumption and consumption per unit of sales



- Total water consumption
  - Water consumption per unit of sales (compared to FY2009)\*
- \* Water consumption per unit of sales = Water consumption / Consolidated net sales

# Controlling Chemical Substances

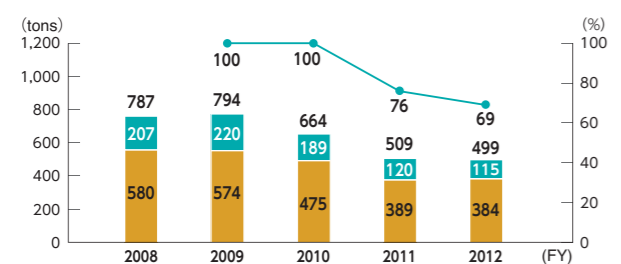
The KUBOTA Group undertakes continuous measures to ensure appropriate control of chemical substances and to attain preset reduction targets.

Background for activities	Targets for FY2012	Priority items for FY2013
<ul style="list-style-type: none"> <li>VOC* make up more than 99% of the overall release of PRTR-designated substances. The KUBOTA Group promotes improvement of manufacturing processes and installation of recovery equipment in order to reduce VOC release.</li> <li>Based on international agreements, manufacturers are required to reduce the risks of chemical substances contained in their products.</li> </ul>	<ul style="list-style-type: none"> <li>Release and transfer of PRTR-designated substances per unit of sales: Reduce by 6% from the FY2009 level</li> <li>Ratio of models with reduced RoHS-designated substances: 35%</li> </ul>	<ul style="list-style-type: none"> <li>Reduce release of VOC through switchover to VOC-free items and process improvement</li> <li>Effective response to the REACH Regulation</li> </ul>

## Reduction of PRTR-designated substances

The release and transfer of PRTR-designated substances per unit of sales in FY2012 was reduced by 31.0% from the FY2009 level, attaining the preset target. Total release and transfer was reduced by 44.4% from the FY2009 level. The KUBOTA Group will continue to promote the reduction of PRTR-designated substances through switchover to PRTR-free substitutes, operation of thinner recycling equipment and improvement of manufacturing processes, etc.

Trends in release and transfer of PRTR-designated substances\*, release and transfer per unit of sales



\* Total amount of declarable substances that are handled at an annual volume of 1 ton or more (0.5 ton or more for Specific Class I designations) at each site (Group production sites in Japan)  
 \*2. Release and transfer per unit of sales = Total release and transfer / Consolidated net sales

## Response to regulations related to chemical substances

The EU's REACH Regulation\* requires registration of chemical substances and provision of information regarding substances of very high concern contained in articles. In order to respond to the REACH Regulation and other regulations related to chemical substances, the KUBOTA Group has established and enforced rules to identify the chemical substances contained in its products and ensure their appropriate control. Since FY2011, the Group has categorized chemicals contained in products into the three control levels listed below. The Group also undertakes researches on chemicals contained in products on a global basis, with support from its suppliers.

- Control levels -
- 1. Substances to be Prohibited; Should not be contained in products
- 2. Substances to be Restricted; Should not be contained in products under certain conditions and applications
- 3. Substances to be Controlled; Their presence in products should be recognized

## Reduction of chemical substances contained in products

EU's RoHS Directive\* and ELV Directive, and similar laws and regulations in other countries and regions, are targeted at electrical and electronic equipment and/or automobiles. Although the most of industrial machinery provided by the KUBOTA Group is not included in the scope of these regulations, the Group has promoted proactive measures to reduce the use of the six RoHS-designated substances (lead, mercury, cadmium, hexavalent chromium, PBB and PBDE) in a planned manner. The ratio of models with reduced RoHS-designated substances\* in FY2012 stood at 28.0%, failing to reach the preset target of 35%. However, the Group managed to improve the ratio of components free of RoHS-designated substances used for one representative model of its tractors from 67% in 2006, when the Group initiated the reduction activities, to 98% in FY2012.

\* Ratio of the value of shipped products that contain RoHS-designated substances (lead, hexavalent chromium, mercury, cadmium, PBB and PBDE) in amounts equal to or less than the threshold limits (except products used for applications exempted from the RoHS Directive and ELV Directive) against the total value of products shipped in FY2012 (excluding plants, facilities, construction, services and software development).

## Promotion of green procurement

For the purpose of providing products that are friendly to the global and local environment, the KUBOTA Group is seeking to procure products with reduced environmental impacts from eco-friendly suppliers. In order to effectively promote eco-friendly sourcing activities, the Group presents its policy for green procurement in the KUBOTA Group's Green Procurement Guidelines, to request the understanding and cooperation of suppliers.



KUBOTA Group's Green Procurement Guidelines and Appendix

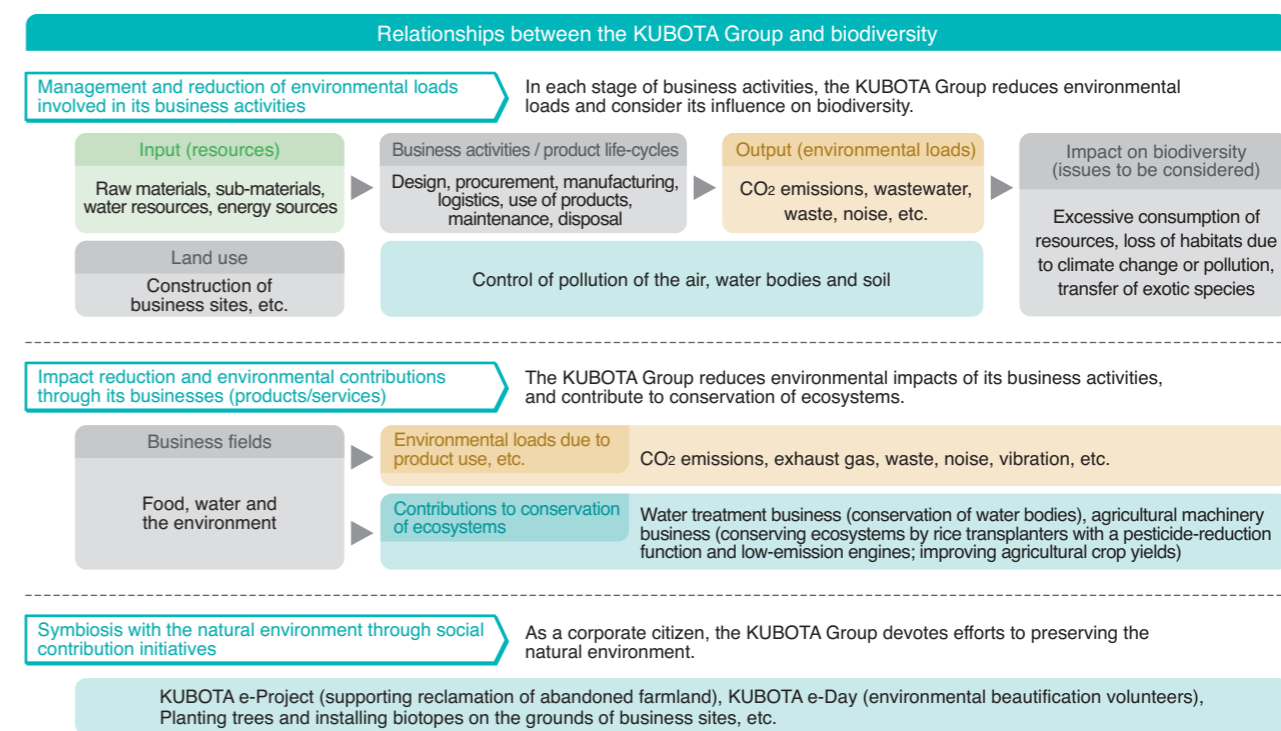
● KUBOTA Group's Green Procurement Guidelines: <http://www.kubota-global.net/environment/procure.html>

# Conservation of Biodiversity

Conservation of biodiversity is set as one of the targets for the KUBOTA Group's "Eco-First Commitment." In its business activities and social contribution initiatives, the Group endeavoring to ensure that care is taken to conserve biodiversity and protect the natural environment.

Background for activities	Targets for FY2012	Priority items for FY2013
<ul style="list-style-type: none"> <li>Because business activities of the KUBOTA Group deal with food, water and the environment, the Group enjoys the benefits of nature in each activity, while influencing animals, plants and ecosystems. It is therefore necessary that the Group gives consideration to conservation of biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce environmental loads involved in business activities, appropriately control environmental risks, and protect the natural environment around its business sites.</li> <li>Protect the natural environment through the KUBOTA e-Projects as part of its social contributions</li> </ul>	<ul style="list-style-type: none"> <li>Continue contributions to biodiversity through reduction of environmental impacts such as CO<sub>2</sub> emissions and waste, and through eco-friendly products and services</li> <li>Continue with the KUBOTA e-Project</li> </ul>

The following diagrams illustrate relationships between the KUBOTA Group and biodiversity.



## Frontline Report Planting activities to solidify river banks in Thailand

SIAM KUBOTA Metal Technology Co., Ltd. in Thailand produces castings for engines and tractors. Since its foundation, the company has designated June of every year as the Month for the Environment in order to foster employees' recognition of environmental conservation and enhance communication with local communities. In June 2011, staff of the company participated in a local planting activity to solidify river banks as one of the events for the Month for the Environment. In this planting activity, the staff planted *Vetiveria zizanioides*, a gramineae family plant that is highly effective in preventing soil loss. River bank protection using plants excels protection with concrete or asphalt with respect to conservation of biodiversity, maintenance of landscapes and control of land surface heat, etc. In particular, planting of *Vetiveria zizanioides* is expected to highly contribute to conservation of biodiversity, because this plant that is cultured widely in Asian tropical areas will provide homes to insects and small animals, and facilitate the growth of wild plants and flowers among *Vetiveria zizanioides*. Other events for the month included tree planting on the site grounds and at nearby facilities and beautification of old facilities for a local primary school, etc. The company staff will continue to undertake similar activities in order to contribute to conservation of the local environment.



Staff during the planting activity

*Vetiveria zizanioides*

# Environmentally-Friendly Products

One of the ways the KUBOTA Group is making its products more environmentally-friendly is by working to reduce environmental loads throughout the product life-cycle.

### Background for activities

From the perspective of the product life-cycle, the KUBOTA Group is taking measures for stopping climate change, working towards a recycling-based society, and control of chemical substances.

### Targets for FY2012

Introduction of an internal certification system for Eco-Products, and start of certification

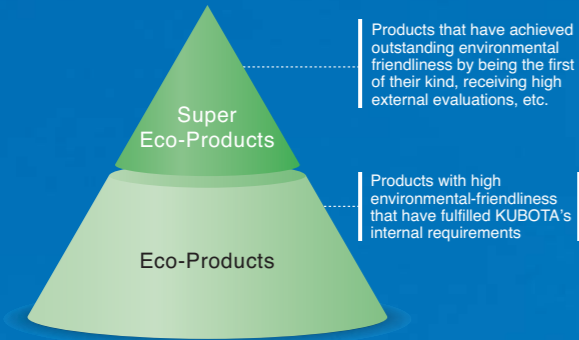
### Priority items for FY2013

- Increase internally certified Eco-Products
- Promote information provision on the corporate website, etc.

## Internal certification system for Eco-Products (Products for Japanese market)

In FY2012, the KUBOTA Group introduced an internal certification system for Eco-Products, for the purpose of recognizing products with highly eco-friendly qualities. Products that satisfy specific requirements for energy conservation, resource conservation, recycling and reduction of environmentally hazardous substances, etc. are certified as Eco-Products, and labeled as such.

Example of an Eco-Product label



### Evaluation items

- Stop climate change**
  - Work towards a recycling-based society**
  - Control chemical substances**
  - Other**
- 1. Energy saving (CO<sub>2</sub> reduction)**  
Reducing energy consumption during production, construction and use, etc.
  - 2. Resources saving**  
Reducing weight, volume and use of rare metals, etc.
  - 3. Recycling**  
Using recycled plastics and rare metals, etc.
  - 4. Reducing environmentally hazardous substances**  
Reducing RoHS-designated substances, reducing gas emissions, etc.
  - 5. Information disclosure**  
Notes about energy-saving operations, recycling and disposal, etc.

## In FY2012 the following 18 products were certified as Eco-Products.

### Super Eco-Products

#### Ethylene cracking tube MERT/Siit-MERT/X-MERT series



Achieved 50% cut in fuel consumption to remove coke (carbon) that is deposited during thermal cracking operations in ethylene plants.



Coke that is generated in an ethylene cracking tube has various negative influences, comparable to arteriosclerosis in the body. The MERT series prevents accumulation of coke by improving the flow of raw materials, thereby contributing to increased operating efficiency of the plant.

Makoto Hineno  
Manager, Materials R&D Group,  
Materials Technology Dept., KUBOTA Corp.

#### Vending Machine for Canned and PET Bottled Beverages, Heat Pump Model in 2011

(30 Items, Three Rows, PET Bottle-Enabled, R134a refrigerant)



Achieved 53% cut in annual power consumption, compared to 2008 conventional models.



We developed a new KUBOTA method for the industry's first heat pump system and a high-insulation case structure. According to our own research findings, our 30-item machine for 2011 achieved the number-one "super energy efficiency" in the Japanese market.

Akira Nanbu  
Leader of Team 1, Product Development Group  
Vending Machinery Engineering Dept., KUBOTA Corp.

## Eco-Products

### Farm & Industrial Machinery Domain

○ indicates the key reason for certification.



Tractor  
Zero Kingwell Series

Energy conservation



Riding Rice Transplanter  
Welstar Racwel Series  
(EP55, EP65, EP67, EP87)

Energy conservation



Combine Harvester  
Aerostar Raclead Series  
Wider reaping Part of 2-rows Combine  
(ER215, ER217, ER220)

Energy conservation



Electric Power Tiller  
"New Midy Sairento"  
(TME 10)

Zero exhaust gas



Swing Mower  
"Karu-Max"  
(GC-K501, GCK401EX)

Energy conservation



Swing Mower  
"Karumo Deluxe"  
(GC-K300D)

Reduced rice washing water



Automatic Commercial-Use  
Rice Cooker  
Rice Robo N Series  
(excluding KR451N)

Energy conservation



Construction Machine  
Mini Backhoe  
(U-40-6)

Low noise

### Water & Environment Domain



Earthquake-resistant  
Ductile Iron Pipe  
"GENEX"  
(DN75 - 250)

Longer lifetime



Pump  
Double Suction Volute Pump  
(DV-LJ)

Energy conservation

Resource conservation



Pump  
Vertical Mixed Flow Pump  
(DF-VE)

Energy conservation

Resource conservation



Sewage Manhole Pump System  
Non-Clog Submersible Pump (KS-N)  
Control Panel (HiCoPa)

Energy conservation

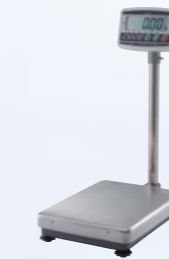
Resource conservation



Sewage Treatment Facility Equipment  
Gravity Belt Thickener  
(SNM-02X - 15X)

Energy conservation

Resource conservation



Weighing Machine  
Digital Platform Scale  
(KL-100NX Series)

Energy conservation



Vending Machine for Canned  
and PET Bottled Beverages,  
Heat Pump Model in 2011  
(36 Items, 30 Items, 25 Items, 20 Items)  
R134a refrigerant

Energy conservation



Air Handling Unit  
Desiccant Air Handling Unit  
(DES-3L - 47L)

Energy conservation