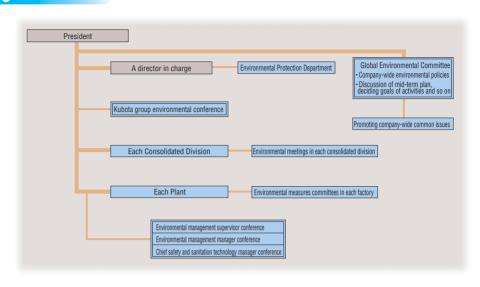
# **Environmental management**

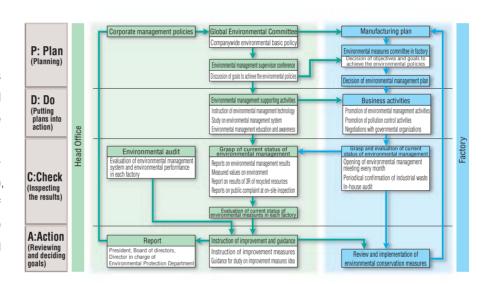
# **Environmental Management Promoting Organization**

At Kubota, we set up the Environmental Protection Department which promotes environmental conservation and saving energy under a director in charge, we also set up the environmental management sections in each factory and plant, in order to cope with global and local environmental issues. We discuss mid-term plan, deciding goals of activities and so on, in Global Environmental Committee.



## Kubota Environmental Management System

Since 1972, all Kubota employees have participated in environmental management activities, based on the TPC (Total Pollution Control) concept. In 1995, we introduced Kubota Environmental Management System (KEMS), in conformance with ISO14001. All of our domestic plants acquired ISO 14001 certificate by the end of fiscal 2000.



# Environmental discussion meeting in each plant (Environmental audit)

At Kubota, we started the system of Central Pollution Patrol, in 1973.

We changed the system into the one based on ISO 14001 standard, and enhanced the audit in 1994.

We changed the name of the system into "environmental discussion meeting in each plant" in fiscal 2003. We conduct the solving-problem-type audit in each plant, extracting environmental risk on a thoroughly-site-oriented basis.

Regarding improvement-necessary items extracted in the discussion meeting, the improvement plan is drafted and conducted steadily in each plant.

In fiscal 2003, we reviewed the checking items of environment-friendly products, and changed them into more satisfactory ones.

All the items were improved in fiscal 2003, exceeding the evaluation of the previous year.

We are increasingly going to raise the level of the environmental management activities of Kubota group, making the audit complete and satisfactory by reviewing the estimate standards and so on.

Evaluation items and the number of improvementnecessary items in environmental discussion meeting in each plant

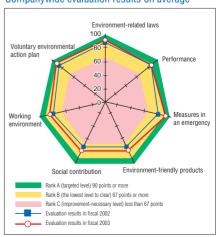
14	Number of improvement-necessary items					
Items	Fiscal 2002	Fiscal 2003				
1. Compliance with environment-related laws	48	35				
2. Environmental performance	79	56				
3. Measures, education and training in an emergency	37	10				
4. Environment-friendly products	43	56				
5. Social contribution and accountability	32	17				
6. Working environment management	73	40				
7. Implementation of voluntary environmental action plan	8	0				
Total	320	214				

# The scene of environmental discussion meeting in each plant





Companywide evaluation results on average



\*Average evaluation results in Kubota's domestic plants

## Status of ISO14001 certificate acquisition

We acquired the certificate in all of Kubota's domestic plants until the end of fiscal 2000. We are now developing the activities in our subsidiaries.

#### Kubota s domestic plants

Plants	Organizations included by the plants on the left	Main line of business	Certifying organization/Registration number	Date of Certification
Hanshin plant	Marushima factory, Nagasu factory	Manufacturing of ductile iron pipes	LRQA 772498	March 5, 1999
Shin-yodogawa factory in Hanshin plant		Manufacturing of FW pipes	JCQA JCQA-E-0114	January 11, 2000
Keiyo plant (Funabashi)		Manufacturing of ductile iron pipes	LRQA 771890	July 16, 1998
Keiyo plant (Ichikawa)	Gyotoku machining center	Manufacturing of spiral steel pipes and heat transfer pipes	JICQA E097	November 25, 1999
Sakai PVC pipe plant	Ishizu-nishi factory	Manufacturing of plastic pipes and fittings	JUSE JUSE-EG-019	July 23, 1999
Odawara plant		Manufacturing of plastic pipes and fittings, and roofing materials	JUSE JUSE-EG-028	January 19, 2000
III to to	Kubota Met Hirakata Corporation, Kubota Machinery and Construction Corporation	Manufacturing of cast steel products, pumps, valves,	LROA 772527	September 17, 1999
Hirakata plant	Kubota Valve Maintenance Corporation, Kubota System Control Co., Ltd.	construction machinery, and new material products	LNUA 772327	September 17, 1999
Okajima plant	Ohtake ShellCo Corporation	Manufacturing of ductile segments, drainage pipes and other cast iron products	JICQA E105	December 22, 1999
Sakai plant	Sakai costal plant, Naniwa factory	Manufacturing of engines and farm machinery	LRQA 772673	March 10, 2000
Utsunomiya plant		Manufacturing of rice transplanters and combines	LRQA 772846	December 8, 2000
Tsukuba plant		Manufacturing of engines and farm machinery	LRQA 771757	November 28, 1997
Kyuhoji business center	Kubota Retecs Corporation, Kubota Membrane Corporation	Manufacturing of precision machinery products	DNV EMSC-1379	March 19, 1999
Ryugasaki plant	Kubota Vending Services Co., Ltd.	Manufacturing of automatic vending machines	DNV EMSC-1273	November 13, 1998
Shiga plant		Manufacturing of roofing materials and FRP products	JUSE JUSE-EG-031	May 18, 2000
Ohama plant		Manufacturing of ceramic siding, its related parts and its construction materials	JTCCM RE0187	March 1, 2001
Kashima plant		Manufacturing of ceramic siding, its related parts and its construction materials	JTCCM RE0183	March 1, 2001
Environmental engineering consolidated division		Sales, development, design, procurement, manufacturing, construction, service of environmental control plant	LRQA 772707	July 14, 2000

<sup>\*</sup>Hanshin plant (Amagasaki) was combined with Hanshin plant in certificate.

#### Domestic plants of our subsidiaries

Companies	Organizations included by the plants on the left	Main line of business	Certifying organization/Registration number	Date of Certification
Nihon Plastic Co., Ltd.	Head office and plant, Mino plant	Manufacturing and sale of vinyl pipes and various kinds of tarpaulin	JSA JSAE276	October 27, 2000
Kyushu Kubota Chemical Co., Ltd.		Manufacturing and sale of vinyl pipes	JUSE JUSE-EG-118	March 27, 2003
Kanto Kubota Precision Machinery Co., Ltd.		Manufacturing of oil hydraulic parts	LRQA 772963	November 14, 2001

LRQA: Lloyd's Register Quality Assurance Limited, JCQA: Japan Chemical Quality Assurance Ltd., JICQA: JIC Quality Assurance JUSE: Union of Japanese Scientists and Engineers, DNV: Dedt Noriske Veritas AS, JTCCM: Japan Testing Center for Construction Materials JSA: Japan Standards Association

# Number of indication in renewal audit (including regular audit) in the plants acquired ISO14001 certificate Kubota s domestic plants and domestic plants of our subsidiaries

Standards number in ISO14001	4.2	4.3.1	4.3.2	4.3.3	4.3.4	4.4.1	4.4.2	4.4.3	4.4.4	4.4.5	4.4.6	4.4.7	4.5.1	4.5.2	4.5.3	4.5.4	4.6	Total
Requirement	Environmental policy	Environmental aspect	Legal and other requirement	Purpose and goal	Environmental management program	System and responsibility	Training, awareness, and ability	Communication	Environmental management system documents	Documents management	Operation management	Preparation and measures for emergency	Audit and measurement	Violation, correction and preventive measures	Record	Environmental management system audit	Review by executives	Number of serious slight indication
Number of indication	0	1	3	0	0	0	2	0	0	0	9	3	2	1	0	1	1	0 23

## **Environmental efficiency**

We at Kubota have been making efforts to reduce environmental load.

We discussed the introduction of an index of environmental efficiency in fiscal 2003. The purpose of it was reinforcing our activities regarding improvement of ecological productivity based on numerical values, evaluating use efficiency of environmental load and efficiency of our environmental management ac-

tivities

We adopt the relationship between typical environmental load and economy as an index from fiscal 2004. And we also discuss the application of it to grasping goals and progress of our efforts numerically, and to realizing maximum environmental load reduction with minimum expenses. We are also going to totally grasp the whole environmen-

tal load of our businesses, and going to verify whether we could reduce whole environment load, by expressing a various kind of environmental loads in a unified index.

<sup>&</sup>quot;Shin-yodogawa environmental plant center was combined with Environmental engineering consolidated division in certificate

#### **Environment-related education**

It is important for us to improve our one-and-all employees' environmental awareness in order to promote environment-friendly business activities. It is important to "know for the first time" in environmental issues as it is well said. We at Kubota promote to make our employees be aware of environmental issues periodically in in-house education by rank.

We also implement deliberate specialty education in order to cope with environmental issues correctly. We improve our employees' abilities, increase the number of employees who have qualifications, and surely conserve environment by them.

We started easy explanation of environmental issues for all of our employees using the intranet in fiscal 2003.

We also hold field trips in order to study the activities of other advanced companies, and cooperate with other organizations in environmental education, in an environmental month of June and a saving energy month of February.

We are going to increasingly improve both quality and quantity of the education based on environment promotion midterm plan in fiscal 2004.

#### Environment-related education results in fiscal 2003

Environment-related education results in fiscal 2003							
			Environment-relate			fiscal 2003	
Classifi- cation	N	Name of education		Number of times	Number of participants	Outline	
	Orientation for new employees				50	Outline of global environmental issues	
Education	General course (	neral course (1) Environmental conservat			61	Global environmental issues and activities required for corporations	
by rank	Intermediate edu	cation	Environmental conservation	1	26	Our company's activities, environmental management in workshops	
	for foremen		Saving energy	1	26	Theory and application of saving energy technologies	
	Environmental m	nanagement bas	ic education	1	7	Environment-related laws and regulations, our company's activities	
	Environmental m	anagement tec	hnological education	1	24	Theory and practice of environmental management technologies	
	Education for worki		Class 1	1	4	Dust, organic solvent, chemical substances, and metals	
Specialty	environment measu	rement engineers	Class 2	2	27	Laws relating to labor sanitation, analysis	
Specialty education	Training education for	in-house environm	ental auditors of ISO14001	7	139	Standards of ISO14001, environmental aspect and environmental influence	
	General education	n of ISO14001		2	30	Outline of ISO14001	
	Saving energy te	chnologies and	I their application	1	11	Saving energy law, saving energy technologies and their application	
	LCA course			1	3	Technique of LCA and case study	
	Explanation of gl	obal warming		9	-	What is global warming?	
						What is greenhouse gas?	
						Status in the world and Japan	
						What is Kyoto conference?	
						What is Kyoto mechanism?	
						Status of measures in Japan	
						What are carbon tax and environmental tax?	
Explanation						Our company's activities	
of environmental						What should we do individually for global warming prevention?	
ssues through the intranet	Explanation of so	Explanation of soil pollution measures				Mechanism of soil pollution measures	
	·					Soil pollution survey	
						Hazardous substances and risk	
						Measures removing pollution and so on	
	Explanation of w	aste treatment		4	-	What is waste?	
	,					Treatment standards of industrial waste	
						How to commission agents to treat industrial waste?	
						How to use manifest?	
Evente in	Environmental month	Ako plant of Sumit	omo Osaka Cement Co.,Ltd	1	14	Waste treatment technologies and facilities	
Events in special	Saving energy		aikin Industries, Ltd.	1	12	Examples of saving energy and the system	
month and field trip	month	· ·	Nitto Denko Corporation	1	6	Examples of saving energy and the system	
	"Environmental p	policies and en	vironmental	1	5	Field trip in environment-related facilities in Sakai plant	
Cooperation with other	management sys	tem" organized operation Agen	by Japan cy (JICA)			Explanation of status of our company's activities	
organizations			, ,	1	1	Investigation of biotope in Keiyo plant (Funabashi)	
in education	Investigation for a graduation thesis of a student of Tamagawa University					, , , , ,	

An example of explanation of waste treatment through the intranet



An example of explanation of soil pollution measures through the intranet



Number of employees acquiring environment-related qualifications

	Air	54
	Water	68
Pollution control managers	Noise	92
	Vibration	70
	Dioxins	5
Environment	Concentration	2
measurement engineer	Noise and vibration	1
Environmental	Examiner	3
management system examiner	Assistant examiner	2
Energy management engineer	Heat	42
Energy management engineer	Electricity	40
Working environment	Class 1	69
measurement engineer	Class 2	68

Scope: Kubota's domestic plants and domestic plants of our subsidiaries

### **Environmental risk management**

At Kubota, each of our plants has its own self-imposed regulation standards, stricter than those of municipal regulations, regarding emission to environment, and also controls emissions, to prevent air pollution and water pollution and to obey the environment-related laws.

In this way, we have been improving our environmental performance continuously.

We surely implement inspection and necessary maintenance of equipments, and work based on working standards completely in order to prevent environmental problems from occurring, and to minimize environmental risk in our business activities, obeying laws and regulations. We also conduct regular training for trouble or emergency to minimize effluent of pollutants in case of environmental accident, making accident manual.

Moreover, we promote companywide activities thoroughly for crisis such as serious environmental accident and so on, including review and reinforcement of the preparation organization for serious environmental accident in advance, and the organization for environmental accident in emergency.

We have reinforced our environmental risk management by conducting companywide environmental audit in all the plants including subsidiaries to extract environment-related serious risk and to cope with it thoroughly.

In our environmental risk, chemical substances control is the most influential one

So we promote to reduce the use, emission and transfer of hazardous chemicals from now on. And we control them thoroughly to prevent environmental problems from occurring.

An example of training for trouble or emergency (Sakai plant) Status of training at a general warehouse of dangerous objects (February 18, 2004)



(1) A worker spilled about 20l of harmful chemicals out of a general warehouse.



②Workers prevented the chemicals from spreading over the ground by anti-oil sand and oil catcher in an emergency box

#### Complying with laws

#### (1) Status of air quality control

All the air quality items do not exceed the standards.

#### (2) Status of water quality control

All the water quality items do not exceed the standards

#### (3) Status of noise and vibration emission control

Measured values of noise exceed the standards in one plant in fiscal 2003. There was no complaint because there were no houses near the border line of the site. We promote noise reduction increasingly in this plant. Measured values of vibration do not exceed the standards in all the plants.

#### (4) Status of controlling pollution by hazardous chemicals

We measure the contamination by organochlorine compounds in the groundwater regularly at the observation wells in our plants. As a result, there was no problem in groundwater contamination by organochlorine compounds.

#### (5) Inspections by government and municipal offices

Forty-five inspections regarding air pollution, water pollution and industrial waste were conducted in fiscal 2003. As a result, there was no problem, not exceeding the regulated standards. We promote our daily management increasingly to eliminate pointing out.

#### (6)Accident regarding environment

We were not charged nor fined with environmental pollution in fiscal 2003. An accident occurred, in which the paint painted on a roof spilled from it with rainwater into an adjusting pond in the night during painting construction. We informed the authorities concerned of it, and treated it immediately. We also informed the whole plants of its measures to prevent it from occurring again. Though fourteen accidents such as leaking oil and so on were occurred in our plants, we treated them properly based on the procedures of measures in trouble or emergency. As a result, there was no influence outside the company.

#### (7)Complaint regarding environment

There were two noise complaints about the warning sound of facilities and engine noise of trucks on standby. We improved them immediately to prevent them from occurring again.

#### (8)Providing information on environment and safety measures for our products and materials

We made the MSDS and provide it to our customers. We also provide the information regarding environment and safety measures of our products such as emergency measures and so on, to the distribution companies for the accident in distribution.

## **Environmental accounting**

Environmental accounting is necessary for the people concerned inside and outside of our company to understand the status of our environmental conservation activities. We try to grasp and analyze quantitatively as much as possible the cost of environmental conservation in our business activities, and the effect obtained from the activities. Then we reflect the results to our business activities. And we also disclose the results to the people concerned.

We disclose our environmental accounting to make people understand the activities of whole Kubota group from this fiscal year, grasping data of our domestic subsidiaries.

#### Regarding environmental conservation cost

The cost decreased by 1.57 billion yen compared with the previous year, to 7.17 billion yen on unconsolidated basis in fiscal 2003. The research and development cost was 4.56 billion yen in it, approximately 63% of the whole cost. The plant investment cost decreased by 760 million yen compared with the previous year, to 400 million yen.

The cost and plant investment were 110 and 10 million yen respectively in our subsidiaries.

#### Regarding environmental conservation effect and economic effect

Regarding environmental conservation effect, each amount of each item generally decreased compared with the previous

Especially, discharged and landfill amount of waste decreased by 11% and 62% respectively compared with the previous year, to the amount of 89% and 38% of the previous year respectively, by reducing waste and recycling.

The breakdown of economic effect is as follows:

Saving energy measures effect: 480 million yen

Zero emission measures effect: 670 million yen

Environmental conservation measures effect in distribution: 100 million yen.

#### Activities from now on

We consider the environmental accounting as the indispensable tool for environmental corporate management, in order to sustain our business and development, grasping the investment effect and cost-performance.

We make an effort to conduct our environmental conservation activities, and to disclose our environmental information.

#### Environmental conservation cost

Unit: million yen

Classification	Contents of main activities	On unconsolidat	ted basis	On consolidated basis		
Classification	Contents of main activities	Invested amount	Cost	Invested amount	Cost	
Coat for manufacturing		180	2067	190	2155	
Pollution prevention cost	Cost for prevention of air pollution, water pollution, soil contamination, noise, vibration and so on	(65)	(756)	(67)	(773)	
Global environmental conservation cost	Cost for global warming prevention and so on	(113)	(258)	(121)	(264)	
Resource recycling cost	Cost for elimination, reduction, and recycling of waste	(2)	(1053)	(2)	(1118)	
Upper- and down-stream cost	Cost for collection and recycling of products	0	12	0	16	
Management activity cost	Cost for preparation and operation of EMS, tree planting and cleaning, and environmental information dissemination	0	462	0	477	
Research and development cost	Research and development of reducing environmental load in products, and environment-conserving equipments	216	4564	216	4564	
Social activity cost	Cost for supporting local society and various kinds of foundations	0	43	0	43	
Environmental remediation cost	Levied money on Sox emission	0	19	0	19	
Total		396	7167	406	7274	

Unit: million ven

Total amount of plant investment during the said period (on unconsolidated basis)	6785
Total amount of cost of research and development during the said period (on unconsolidated basis)	22400

#### Environmental conservation effect

Contents of effect	Items	Reduced amount	Ratio compared with the previous year
Effect from resources used for our business activities	Energy used (in terms of heat PJ)	-0.70	93.3%
Effect from resources used for our business activities	Water used (10 thousand ton)	-56	91.7%
	CO <sub>2</sub> emitted (10 thousand ton)	-3.2	94.6%
	NOx emitted (ton)	- 4.7	95.9%
Effect on environmental load and waste generated	Sox emitted (ton)	-6.7	67.0%
from our business activities	Emitted and transferred amount of substances subject to PRTR (ton)	- 108	93.5%
	Discharged amount of waste (ton)	- 11800	89.2%
	Amount of landfill waste (ton)	- 4840	38.0%

#### Cost reduction by environmental conservation

Unit: million vor

•		Offic. Hillion yen
Classification	Contents	Annual effect
Saving energy measures	High-efficiency operation of compressors and reduction of primary pressure, reduction of electric power contracted by electric management, and others	477
Zero emission measures	Reducing and recycling industrial waste	200
	Sold amount of valuable substances	467
Environmental conservation measures in distribution	Modal shift, reducing packing materials, and so on	97
Total		1241

- 1. The period is from April 1, 2003 to March 31, 2004.
- 2. Summing up covers Kubota's plants, factories, research and development departments, and eight domestic subsidiaries. (Kubota Precision Machinery Co., Ltd., Kunto Kubota Precision Machinery Co., Ltd., Kubota Precision Ma
- 4. The labor cost and depreciation cost are included in the cost. The depreciation cost is calculated based on the same standards of our financial accounting, summing up the properties obtained since 1998.
- Compound cost was calculated by dividing it proportionally.
- 6. Only what was measurable was summed up in cost reduction. Cost reduction based on estimation was not summed up