

IV • Environmental management system

Acquisition and utilization of ISO 14001 certification

ISO 14001 (environmental management system) is something a multinational company cannot do without. ISO 14001 certification is pursued by more reliably carrying out environment improvement activities for various business activities in order to achieve targets.

Environmental action targets

- Acquisition of ISO 14001 certification at all domestic YKK Group companies by the end of fiscal 2003
- Acquisition of ISO 14001 certification completed at major production bases of the world by the end of fiscal 2003

○ Achievements for fiscal 2001

Certification was obtained for ten more bases overseas in fiscal 2001 (total of 25 bases). Range in which certification has been obtained domestically was expanded by two sites. At sites that have obtained certification, employee's awareness of the environment has been enhanced, and positive environmental performance improvement has progressed due to participation of all employees. We also able to achieve good communication by increasing communication with government and business partners.

○ Future initiatives

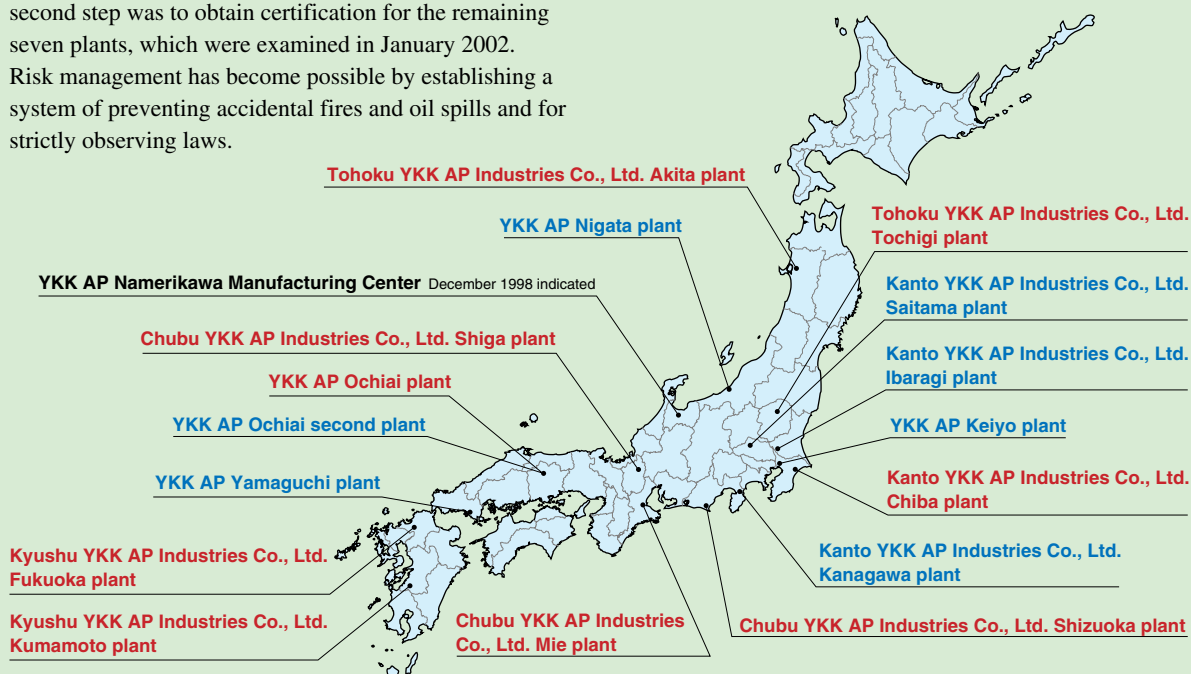
We are in the process of obtaining certification for sites that have not yet obtained certification, primarily sales offices in Japan, and will obtain certification for entire group area by the end of fiscal 2003. We will also work on integrating the environmental management system in order to more reliably carry out environmental activities as a group. We are pursuing certification overseas in accordance with our plan for obtaining certification.

○ ISO 14001 certification obtained for all 17 plants of YKK AP Manufacturing Group

The YKK AP Manufacturing Group has worked on expanding its range of ISO 14001 certification to all 17 manufacturing group plants (see figure) with certification for the YKK AP Namerikawa division.

The first step was to expand to ten plants in June 2001. The second step was to obtain certification for the remaining seven plants, which were examined in January 2002. Risk management has become possible by establishing a system of preventing accidental fires and oil spills and for strictly observing laws.

Sites obtaining certification in June 2001 indicated in **red**
 Sites obtaining certification in January 2002 indicated in **blue**



YKK AP Industries Co., Ltd., merged with YKK AP Inc. on August 1, 2002.

Group internal environmental inspection

YKK Group internal environmental inspection conducted by an in-house expert who provides advice, guidance and support for reinforcing the system of observing laws and regulations and enhancing environmental performance of the entire group

Environmental action targets

- Internal environmental inspection at all major bases the world over

○ Achievements for fiscal 2001

YKK Group internal environmental inspection has been conducted since 1994. At various plants and other places of business, voluntary internal environmental inspection is conducted based on independent group internal environmental inspection items and inspection base on the environmental management system.

Internal environmental inspection has been conducted at our overseas plants as well since 1997 in order to enhance environmental performance for the entire group including overseas operations.

Internal environmental inspection was conducted at 4 domestic plants and 3 overseas plants in fiscal 2001.

Although positive environment improvement activities were conducted in general, ISO 14001 certification has yet to be obtained. Systematic environmental management is thought to be necessary.

These results have been reported to the Environmental Policy Committee and are being used for reexamination of group environmental activities.

○ Future initiatives

Together with integrated domestic ISO 14001 certification, internal environmental inspection is to be conducted in all domestic areas including office, development and sales facilities.

Internal environmental inspection has been conducted at 14 plants in 10 countries: Indonesia, Germany, America, China, Italy, Taiwan, Spain, Turkey, England and France.

Reliable environmental performance improvement is planned for the whole group by continuing to conduct internal environmental inspection at bases throughout the world.

○ Overseas internal environmental inspection

Overseas internal environmental inspection was conducted at 3 plants in 2 countries, England and France, in June in fiscal 2001. With our fastening business, a system that respects local culture and thinking was constructed at overseas companies as well, and environmental conservation activities are conducted according to the Group's policy.

Thus, inspections were conducted for the following objectives:

- (1) Provide advice and support for constructing and utilizing an ISO 14001 environmental management system.
- (2) Provide advice, guidance and support for enhancement of environmental performance, reinforcement of law observance system and avoiding environmental risk through inspection results and preparation for environmental inspection.

Actual inspection was conducted in accordance with the following procedure:

- Summary of previous on-site inspection points based on document examination
- Point check by on-site interview and patrol and corrective advice

- Quantitative assessment of document examination and environmental facilities walk-through inspection results, report by graphs/photographs
- Pointing out points that need improvement and preparation and implementation of corrective plan
- Report to top management, advice to overseas company, follow up at site

We now have the opportunity to reconsider our system of observing laws and regulations. We were also able to check how all employees work for technological and economic improvement from the perspective of the environment for energy saving activities, waste countermeasures, management of toxic substances and environmental risk countermeasures.



Internal environmental inspection at plant in England

Environmental accounting

Along with clarifying money invested in environmental activities and utilizing it for environmental management decision in order to conduct environmental investment more efficiently and effectively, we publish environmental accounting data as material that reveals our corporate posture to the public.

Environmental action targets

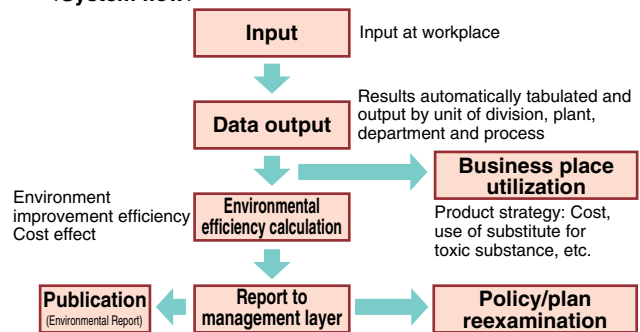
- Environmental accounting system

○ Results for fiscal 2001

Environmental equipment investment, environmental conservation cost and short-term effect have been calculated. Environmental accounting standards conform to Guidelines for Implementing and Environmental Accounting System [2002 version] put out by the Japanese Ministry of the Environment, March 2002.

○ Environmental accounting system overview

<System flow>



○ Results of environmental accounting for fiscal 2001 (April 2001 - March 2002)

◆ Fiscal 2001 environmental conservation cost (limited to domestic YKK Group)

(Unit: ¥ 1 million/year)

Item	Contents and effect of main initiatives	Equipment investment	Cost
Cost within business area	Prevention of pollution	Special measures against dioxins exhaust cooling equipment (waste heat boiler) exchange	118 / 773
	Conservation of the global environment	CFCs equipment survey and management, energy saving measures	292 / 358
	Recycling of resources	Establishment of Kurobe Recycling Center, industrial water piping modification, Ni recovery/ concentration equipment	129 / 635
Work area internal cost total		539	1,766
Upstream/downstream cost	Return waste sash disassembly cost	0	66
Management activities cost	ISO 14001 maintenance/management cost, environmental exhibition, environmental report, environmental analysis, tree planting	22	673
R&D cost	Development of environment-friendly products	14	776
Social activities cost		0	0
Environmental damage cost	Inspection and management of fire extinguishing equipment	0	0
Other costs		17	36
Total		592	3,317
		Fiscal 2000	1,345 / 4,030

	Environmental equipment investment			Environmental expenses		Sales (Unit: ¥100 million)	Total equipment investment (Unit: ¥100 million)
	(Unit: ¥100 million)	Sales ratio (%)	Equipment investment ratio (%)	(Unit: ¥100 million)	Sales ratio (%)		
Fiscal 2001	5.9	0.2	2.7	33.2	0.9	3,852	218
Fiscal 2000	13.5	0.3	4.4	40.3	1.0	4,056	307

○ Examples of segment environmental accounting by measure (expected effect of introducing high-efficiency, compact once through boiler)

As the equipment at our Fastening Products Division ages, we are considering replacing the heavy oil-burning water tube boiler. We did a comparison study that sets conditions for the new equipment as heat recovery of drain water and blow water, cleaning of exhaust and an energy-saving type that uses dyed warm soft water (60°C). We found the amount of CO₂ discharged and recovery period of investment cost to differ largely according to the type of fuel used. As a result of taking stress of the process that uses steam into account, as the combination with the best environment improvement efficiency, we decided to introduce 12 low-sulfur A heavy oil-burning (0.04% sulfur) and 6 kerosene-burning high-efficiency compact once through boiler, and distributed it among the various buildings of the plant.

Equipment investment cost (¥100 million)	Effective sum (¥100 million/year)	Cost recovery (Years)	Environmental conservation effect (t-CO ₂ /year)	Environmental performance improvement efficiency (t-CO ₂ /¥100 million)
1.3	0.35	3.7	2,394	1,842



We also considered reduction of SO_x

○ Effect

◆ Substantial effect of major environmental activities for fiscal 2001 (range: Domestic YKK Group)

Environmental-investment items	Environmental investment (unit: ¥1 million)	Effective amount (unit: ¥1 million/year)	Description (Countermeasures, comparison with current status, calculated effect, etc.)
Energy conservation	279	93	Effect of introduction of high-efficiency equipment, modification of production process
Used paper collection	4	13	Used paper storage facilities, etc. Effect is profit from selling off and reduction of cost of incineration by recovery.
Measures for coping with waste	48	35	Construction of recycling wing, introduction of compactor, etc. Effect is reduction of cost of disposal as landfill.
Transportation measures	0	48	Shift from transportation by truck to train (even for transporting less than 800 km)
Reduction of packaging materials	33	39	Effect of wire skids and improvement of packaging method for homemakers.

◆ Effect of environmental conservation for fiscal 2001

Items	Stress on the environment					Environmental performance improvement rate (EE value) *2 (tons/¥100 million)		
	Results for 2000 (tons/year)	2001 conversion *1 (tons/year)	Results for 2001 (tons/year)	Amount of reduction	Increase/decrease rate (%)			
Effect on investment resource	CO ₂	325,747	309,363	305,164	4,199	1.4	126.600	
	Amount of water used	21,579,000	20,493,666	19,250,000	1,243,666	6.1	37,494.140	
	Materials	Aluminum bullion	116,649	110,782	109,750	1,032	0.9	31.114
		Electrolytic copper	7,622	7,239	7,820	-581	-8.0	-17.527
Effect on discharged waste, environment stress	NO _x	418	397	536	-139	-35.0	-4.191	
	SO _x	173	165	141	24	14.4	0.714	
	BOD	50	47	41	6	13.7	0.196	
	COD	21	20	25	-5	-25.4	-0.152	
	Amount of waste disposed of as landfill or by incineration	5,734	5,446	4,036	1,410	25.9	42.497	
	PRTR applicable substances	2,026	1,924	2,028	-104	-5.4	-3.132	
Effect on transport	Transport(CO ₂)	20,147	19,134	20,081	-947	-5.0	-28.560	

*1. 2001 conversion:

Calculated by taking sales results of fiscal 2000 and 2001 into account based on results of stress placed on the environment for fiscal 2000.

2001 conversion = results of stress placed on the environment for fiscal 2000 multiplied by sales results of fiscal 2001 divided by sales results of fiscal 2000.

*2. Environmental performance improvement rate (EE value):

Expresses whether or not stress placed on the environment is reduced (or increased) per¥100 million of environmental conservation cost.

EE value = amount of reduction / environmental conservation cost (¥3.3 billion for fiscal 2001)

The larger the numerical value is, the better the environment improving effect.

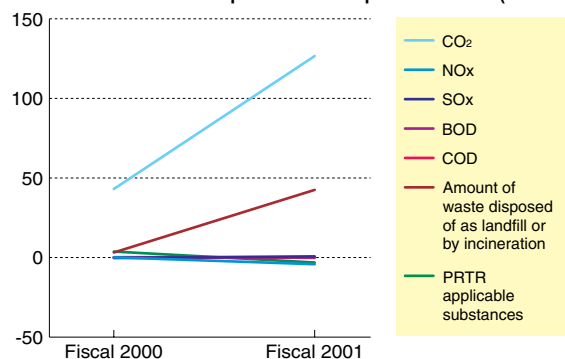
○ Future initiatives

The environmental accounting report has the following three features:

1. Effect of resource investment and transportation is incorporated into environmental conservation effect.
2. Gives examples of segment environmental accounting by measure.
3. Gives change in environmental performance improvement rate (EE value) over the years.

A possible theme for the future is the need to enhance convenience for environmental accounting data users in and outside the group including management and rank-and-file workers. We would therefore like to establish internal usage techniques, promote indexed management of environmental accounting data, accurately assess environmental accounting data users, and enhance comparison potential and reliability.

Transition of environmental performance improvement rate (EE value)



Efficiency of CO₂ and waste disposal reduction has been enhanced.