

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

● Implementation and utilization of environmental accounting systems

○ Achievements of fiscal 2002

We calculated the money spent on environmental equipment, environmental protection investment and their immediate effects.

For our environmental accounting standards, we conformed to the Ministry of the Environment's Guidelines for the Implementation of Environmental Accounting Systems (MfE: 2002 edition).

The amount invested in environmental equipment for the prevention

of pollution has decreased because we have already completed large expenditures on such items as dioxin pollution countermeasures and the replacement of exhaust water treatment facilities. For energy conservation measures, which will continue to be effective over the long term, we are spending about the same amount on equipment annually.

○ Results of environmental accounting for fiscal 2002

◆ Fiscal 2002 environmental conservation cost (limited to domestic YKK Group)

(Unit: ¥1 million/year)

Item	Contents of main initiatives	Equipment investment	cost	
Cost within business area	Prevention of pollution	Installation of wood scrap burning heat recovery bag filter	172	643
	Conservation of the global environment	Introduction of equipment in accord with energy conservation measures and fuel changeover	242	436
	Recycling of resources	Installation of equipment for recycling measures	66	556
Work area internal cost total		480	1,635	
Upstream/downstream cost	Return waste sash disassembly cost, returnable packing materials	42	78	
Management activities cost	ISO 14001 maintenance/management cost, environmental exhibition, environmental report, environmental analysis, tree planting	11	490	
R&D cost	Development of environment-friendly products	27	490	
Social activities cost	Cooperative volunteer activities with local communities	4	61	
Environmental damage cost		0	0	
Other costs	Inspection and management of fire extinguishing equipment	4	48	
Total		568	2,802	
		Fiscal 2001	592	3,317
		Fiscal 2000	1,345	4,030

Fiscal Year	Environmental equipment investment			Environmental costs		Sales (Unit: ¥100 million)	Total equipment investment (Unit: ¥100 million)
	(Unit: ¥100 million)	Sales ratio (%)	Equipment investment ratio (%)	(Unit: ¥100 million)	Sales ratio (%)		
2002	5.7	0.1	3.6	28.0	0.7	3,857	156
2001	5.9	0.2	2.7	33.2	0.9	3,852	218
2000	13.5	0.3	4.4	40.3	1.0	4,056	307

○ Example of environmental accounting for one type of measure: expected effectiveness of the installation of a root blower

In the final stage of the rolling manufacturing process of metal materials for fasteners, lubricating oil was removed from the surface of the wire using industrial high-pressure air. However, since the high-pressure air holds water and oil and the temperature is low, sometimes the effectiveness of the removal was not good.

In order to fix this problem, we did a comparative investigation to decide on the installment of new equipment, including consideration of air volume and pressure, dryness, moisture, and energy conservation. We found that not only the type of equipment but that the method of installment also has an impact on the effectiveness. By installing a single root blower on each rolling mill and reducing the pipe length, we achieved better quality, energy efficiency, and a reduction in CO₂ emissions.

Equipment investment (¥1,000)	Effective sum (¥1,000/year)	Cost recovery (Years)	Environmental conservation effect (t-CO ₂ /year)	Environmental performance improvement efficiency (t-CO ₂ /¥100 million)
23,700	23,011	1	749	3,160



A root blower is an insulated compressor, so the temperature gets up to 40°C, providing plenty of moisture-free air to dry the wire.

○ Effect

◆ Substantial effect of major environmental activities for fiscal 2002 (range: Domestic YKK Group)

Environmental investment items	Environmental investment (unit: ¥1 million)	Effective amount (unit: ¥1 million/year)	Description
Energy conservation	192	53	Effect of introduction of high-efficiency equipment, modification of production process
Used paper collection	1	12	Improvement of paper recycling collection places, etc. Effect from profit from selling used paper and reducing costs of disposal by incineration
Measures for coping with waste	34	34	Installation of recycling facilities, etc. Effect from reducing landfill disposal costs
Transportation measures	0	150	Increased transportation route efficiency through implementation of terminal points and shifting to rail transport
Reduction of packaging materials	42	10	Effect of packaging method reform, including the use of returnable packing materials for house makers

◆ Effect of environmental conservation for fiscal 2002 (range: Domestic YKK Group)

Items	Impact on the environment (tons/year)					Environmental performance improvement rate (EE value) *2 (tons/¥100 million)		
	Results for 2001 (tons/year)	2002 conversion *1 (tons/year)	Results for 2002 (tons/year)	Amount of reduction	Increase/decrease rate (%)			
Effect on investment resource	CO ₂	305,164	305,560	306,754	-1,194	-0.4	-42.605	
	Amount of water used	19,250,000	19,274,987	19,198,000	76,987	0.4	2,747.574	
	Materials	Aluminum bullion	109,750	109,892	109,374	518	0.5	18.503
		Electrolytic copper	7,820	7,830	9,460	-1,630	-20.8	-58.167
Effect on discharged waste, environment impact	NO _x	536	537	464	73	13.5	2.594	
	SO _x	141	141	131	10	7.2	0.363	
	BOD	43	43	46	-3	-6.8	-0.105	
	COD	25	25	25	0	0.1	0.001	
	Amount of waste disposed of as landfill or by incineration	4,036	4,041	2,875	1,166	28.9	41.622	
	PRTR applicable substances	2,028	2,031	2,129	-98	-4.8	-3.511	
Effect on transport	Transport(CO ₂)	20,081	20,107	16,576	3,531	17.6	126.019	

*1. 2002 conversion: Calculated by taking sales results of fiscal 2001 and 2002 into account based on results of impact placed on the environment for fiscal 2001.

2002 conversion = results of impact placed on the environment for fiscal 2001 multiplied by sales results of fiscal 2002 divided by sales results of fiscal 2001.

*2. Environmental performance improvement rate (EE value): Expresses whether or not impact placed on the environment is reduced (or increased) per ¥100 million of environmental conservation cost.

EE value = amount of reduction / environmental conservation cost (¥2.8 billion for fiscal 2002)
The larger the numerical value is, the better the environment improving effect.

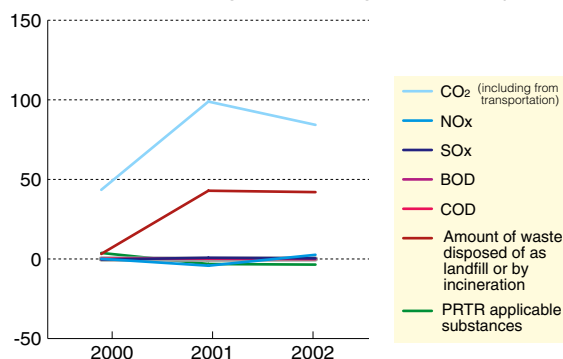
○ Continuing efforts

We are planning for the greatest cost-effectiveness by conducting segment accounting (prediction of affects based on various conditions) for the incorporation of new equipment.

Currently most of our efforts are in energy conservation, but we intend to implement the use of new equipment for other environmental measures.

Furthermore, for each product, by identifying the amount of material waste and financial loss during the stages of the manufacturing process and improving the efficiency of work and effectiveness of materials use, we will be able to implement "material flow cost accounting" which would lower costs while lowering environmental impact.

Transition of environmental performance improvement rate (EE value)



Improvement of efficiency was about the same as the previous year.