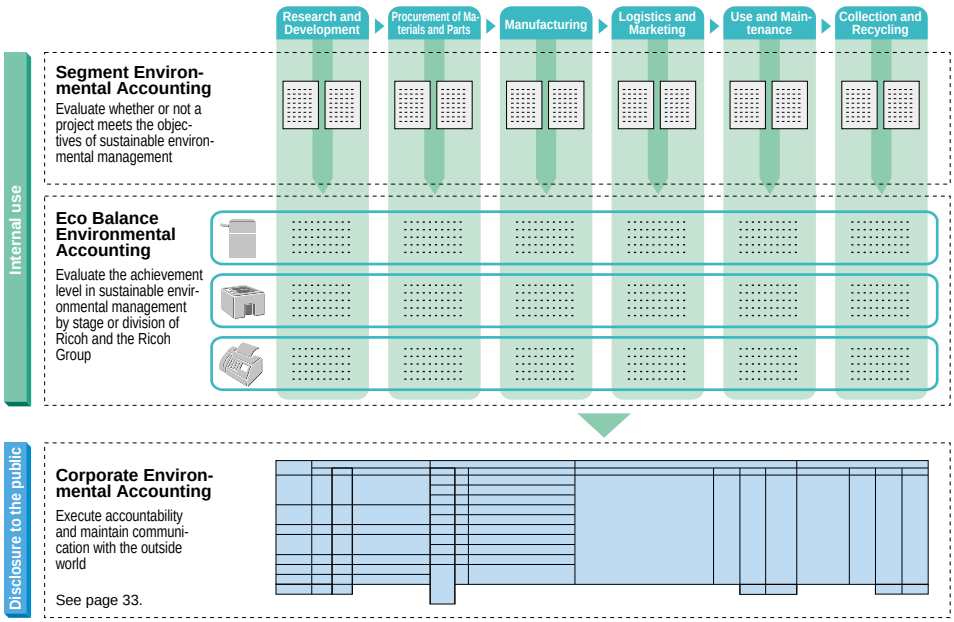
We aim to establish an environmental accounting system to evaluate sustainable environmental management and support managerial decision making.

Thanks to its environmental accounting system, which was disclosed for the first time in 1999, the Ricoh Group has built up a good reputation. However, it is necessary to further improve this environmental accounting system as a managerial decision-making tool. We will internally utilize the Segment Environmental Accounting and the Eco Balance Environmental Accounting System to promote sustainable environmental management. From now on, we will make an effort to improve and enhance the environmental accounting system so that the system may be used as a sustainable environmental management indicator to accurately evaluate environmental conservation activities.

Environmental Accounting in the Ricoh Group



Ricoh Group's Corporate Environmental Accounting

Guidelines of the Ministry of the Environment		Ricoh's System	
Cost	**Effect**		**Indicator**
Environmental conservation cost (environmental cost and environmental investment)	Effect on environmental conservation (amount)	Consolidation of environmental impact Reduction in social costs calculated in terms of money value (converted amount) EPS ver. 2000	Sustainable environmental management indicator (See right page.)
	Economic benefits (in terms of money value) Substantial effect	Calculation of expected effects Calculation of incidental effects (See page 34.)	

Segment Environmental Accounting

This is an internal environmental accounting tool to select an investment activity, or a project, related to environmental conservation from among all processes of operations, and to evaluate environmental effects for a certain period. The effect of investment on environmental conservation will be calculated based on the concept of "Return on Investment" (ROI). The calculation result is used internally for decision making in sustainable environmental management. Ricoh Group companies and divisions, such as its recycling business division, increasingly utilize segment environmental accounting for their operations.

* For cases of segment environmental accounting, refer to pages 39, 43, 53 ,57, and 61.

Eco Balance Environmental Accounting

This is an internal environmental accounting tool to support PDCA for sustainable environmental management activities. The Ricoh Group conducts environmental accounting for each process and overall operations based on environmental impact data on each process, as obtained from "the Sustainable Environmental Management Information System."[1] Now, we are examining the applicability of the results of this Eco Balance Environmental Accounting to performance evaluation by division, as well as the utilization of these results in establishing and controlling the progress of "the Year 2010 Long-Term Environmental Goals"[2] and "the Environmental Action Plan."[3]

1. See page 27. 2. See page 13. 3. See page 15.

Corporate Environmental Accounting

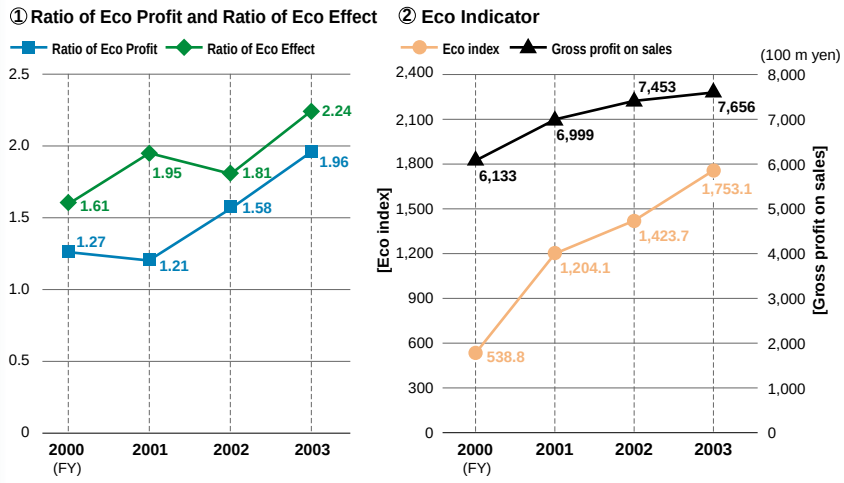
This is a tool to inform the public of relevant information compiled in accordance with the Environmental Accounting Guidelines of Japan's Ministry of the Environment. The Ricoh Group takes the necessary portion from the Eco Balance environmental accounting data, and calculates the cost and effect (in quantity and monetary value) of its environmental conservation activities based on its own formulas and indicators. The calculated results are disclosed to the public after being verified by a third party organization. We will continue to improve the accuracy of the information to be disclosed and will make a positive effort to make it comparable to already-standardized documents, such as financial statements.

Review of Corporate Environmental Accounting in Fiscal 2003

Review of Corporate Environmental Accounting

The ratio of eco effect, an important indicator measuring the effect on cost in environmental conservation activities, was substantially improved in fiscal 2003 (see graph ①). This improvement is attributable to significant growth in sales of recycled products and other environmentally conscious products. The environmental conservation cost, however, is at the same level as that in fiscal 2002. The ratio of eco profit remained stable, growing 20–30% every year since the current environmental action plan started in fiscal 2002 (see graph ①). By the end of fiscal 2004 (the year the plan ends), this percentage is predicted to be approximately twice that of when the action plan started. The fiscal 2003 Eco-Index, which indicates the level of sustainable environmental management for the entire business, jumped 46% from that in fiscal 2001 thanks to an approximate 30% reduction in environmental impact through Groupwide zero-waste and chemical substance reducing activities. Gross profit on sales grew approximately 10% from that in fiscal 2001 (see graph ②). Like the ratio of eco profit, gross profit on sales is predicted to be twice that in fiscal 2001. An overview of the corporate environmental accounting data (see next page) shows that the Ricoh Group's total environmental conservation cost increased only slightly since the previous year. This proves, however, that more environmental conservation costs were incurred for environmental activities involved in products and social contribution toward environmental conservation than in environmental activities done by business sites because product recycling costs and social activity costs increased while costs from business areas and environmental management activities decreased. The economic benefits on environmental conservation cost improved in almost all items. The effect on cost for product recycling in particular improved significantly, resulting in a surplus. The amount to profit by R&D on products increased to roughly 1.5 times that in fiscal 2002. This is believed to be the result of the emphasis that the Ricoh Group has placed on the development of environmentally conscious products over the past several years. In addition, although environmental conservation effects significantly improved in terms of the amount of final waste disposed and chemical substances emitted, CO_2 emissions fell only slightly and remain a challenging issue in the prevention of global warming in the future.

Changes in Ricoh Group's Sustainable Environmental Management Indicators



Ricoh Group's Sustainable Environmental Management Indicators

Sustainable environmental management indicators	Results in fiscal 2003	Calculation formula
REP : Ratio of Eco Profit	1.96	Total economic benefit (30.29) /Total environmental conservation cost (15.43)
REE : Ratio of Eco Effect	2.24	{Total economic benefit (30.29) + Amount of reduction in social costs (1.24+3.07)}/Total environmental conservation cost (15.43)
Eco Index	1,753.1	Gross profit on sales (¥765,600,000 thousand) /Total environmental impact (436,703)
RPS : Ratio of Profit to Social cost	122.4	Gross profit on sales (765.6) /Total social cost (6.256)

* Monetary units are indicated in billions of yen unless otherwise indicated.

Ricoh Group's Corporate Environmental Accounting in fiscal 2003

Environmental conservation costs are classified by seven types of operations in accordance with classifications defined in "The fiscal 2002 Environmental Accounting Guidelines from the Ministry of the Environment."

Costs refer to expenditure on environmental conservation activities (in a broad sense), and consist of environmental investments and environmental costs (in a narrow sense).

● Environmental investments
These investments correspond to "investments in fixed assets" in financial accounting. The amount of environmental investments is distributed as environmental costs over the service life of fixed assets in accordance with depreciation procedures.

● Environmental costs
These environmental costs correspond to the "period cost" in financial accounting. (Depreciation cost of envi-ronmental investments is included.)

Monetary unit: ¥100 million (Exchange rate: $1 = ¥113.09 €1 = ¥132.65)

Item	Costs: Environmental Investments	Costs: Environmental Costs	Costs: Main Costs	Economic Benefits: Monetary Effects	Economic Benefits: Category	Economic Benefits: Item
Business area costs	4.8	20.7	Pollution prevention cost ····· ¥471 million Global environmental conservation cost ····· ¥347 million Resource circulation cost ····¥1,248 million	15.0	a	Energy savings and improved waste processing efficiency
				39.7	b	Contribution to value-added production
				86.9	c	Avoidance of risk in restoring environments and avoidance of lawsuits
Upstream/ Downstream costs	0.5	74.5	Cost of collecting, disassembling, and recycling used products	85.4	a	Sales of recycled products, etc.
				[23.8]	S	Reduction in society's waste disposal cost
Administration costs	0.6	35.9	Cost generated by the division in charge of environmental conservation; cost to establish and maintain an environmental management system	13.2	b	Effects of media coverage and environmental education
Research and development costs	0.8	11.7	Research and development costs for environmental impact reduction	54.3	a	Contribution to gross margin through environmental research and development
				[6.9]	S	Reduction in user's electricity expenses thanks to an improved energy saving function and product performance
Social activity costs	0.1	9.9	Costs of preparing environmental reports and advertisements	8.4	b	Publicity from environmental advertisements, etc.
Environmental remediation costs	0.6	1.4	Costs of restoring soil and environment-related reconciliation	—	—	None
Other costs	0.0	0.2	Other costs for environmental conservation			
Total	7.4	154.3		302.9	Sum of a:154.7, b:61.3, and c:86.9.	
				[30.7]	Total S's	

a: Substantial effect
b: Expected effect
c: Incidental effect
S: Social effect
(Customer benefits)

• **Environmental investment rate: 1.9%**
[= environmental investment (7.4) /total capital investment (390.6)]

• **Environmental R&D cost rate: 1.3%**
[= Total environmental R&D cost (11.7) /Total R&D cost (925)]

Economic benefits refer to benefits that were obtained by environmental conservation activities and which contributed to the profits of the Ricoh Group in some form. Economic benefits are classified into four categories as follows:

● Substantial effect (a)
This means economic benefits that fall into either of the following two cases:

1) Cash or cash equivalent is received as a benefit. This corresponds to "realized gain" in financial accounting.
2) The amount of savings in such costs that would have occurred if environmental conservation activities had not been conducted. This amount is not recognized in financial accounting.

● Expected effect (b)
The expected amount of contribution in the case that expenditure on environmental conservation activities is assumed to have contributed to profits for the Ricoh Group. If environmental conservation costs are assumed to be costs that are indispensable for the Ricoh Group to conduct its operations, for example, it can be safely said that such cost contributed to profit in some form. In practice, the expected effect is computed by a certain formula for each item.

● Incidental effect (c)
Expenditure on environmental conservation activities can help avoid the occurrence of environmental impacts. Therefore, it can be safely said that the expenditure contributed to the avoidance of such damage of environmental impact that would have taken place without the expenditure. In practice, the incidental effect is computed by multiplying the expected amount of damage by an occurrence coefficient and impact coefficient.

● Social effect (S)
Social effect means such effect that is generated by expenditure on environmental conservation activities not for the Ricoh Group but for society. In practice, social effect means the amount of reduction in the expense of electric power and waste disposition that is enabled through environmentally conscious products for customers.

* For the computation formulas, see page on the right.

Effect on environmental conservation means the effect of activities to prevent and control the occurrence of environmental impacts and to eliminate and remove such environmental impacts. The Ricoh Group reports the amount of reduction in the emission of substances with serious environmental impacts for the current year as compared with the previous year (emissions in the previous year – emissions in the current year).

This is the quantity of substances with environmental impacts that were emitted by the Ricoh Group in the current fiscal year.

● Conversion Coefficient
This is a weighting coefficient that is used in identifying environmental impact by totaling and weighting various types of environmental impact expressed in different units (CO_2 = 1). Values of coefficients are based on the Swedish EPS method.

● Converted Quantity of Reduction/Converted Value of Impact
Converted quantity of reduction is obtained by multiplying environmental impact reduction by conversion coefficients and converted value of impact by multiplying total environmental impact by the coefficients. In other words, these values refer to the degree of seriousness of such environmental impact reduction and total environmental impact that are converted into figures in t-CO_2.

● Social Cost Reduction Values/Social Costs
Social cost reduction values represent financial figures obtained by converting the converted quantity of reduction into money and social costs by converting the converted value of impact into money. Computations are made using the factor of 108 Euro/t-CO_2 of EPS Ver2000.

Effect on Environmental Conservation				Environmental Impact			
Environmental Impact Reduction (t)	Conversion Coefficient	Converted Quantity of Reduction	Social Cost Reduction Values	Total (t)	Conversion Coefficient	Converted Value of Impact	Social Costs
Environmental impact reduction at business sites							
CO_2 426.7	1.0	427	0.06	CO_2 285,771	1.0	285,771	40.94
NO_x 7.4	19.7	146	0.02	NO_x 181	19.7	3,570	0.51
SO_x 5.0	30.3	151	0.02	SO_x 9	30.3	271	0.04
BOD –9.8	0.02	–0	–0.00	BOD 32	0.02	1	0.00
Final waste disposal amount 646.6	104.0	67,250	9.63	Final waste disposal amount 843	104.0	87,705	12.56
PRTR substance emissions (Ricoh standards per substance)		18,825	2.70	PRTR substance emissions (Ricoh standards per substance)		59,385	8.51
Environmental impact reduction through products CO_2 10,758.4 (t) NO_x 8.8 (t) SO_x 7.0 (t) Final waste disposal amount 29,228.0 (t) Calculation for companies in Japan only							
		86,799	12.43			436,703	62.56

Data coverage
- **Companies: 89 Ricoh Group companies (refer to page 4).**
- **Period: From April 1, 2003 to March 31, 2004 (for costs and total environmental impact).**

* Social cost is calculated using the factor of 108 Euro/t-CO_2 (14,326 yen/t-CO_2).

* Environmental impact reduction represents the difference between figures in fiscal 2002 and fiscal 2003.

(1) Formula of Substantial Effect

Reduction in heat, light, and water cost	Heat, light, and water expenses in the previous year – heat, light, and water expense in the current year
Reduction in waste disposal cost	Waste disposal expenses in the previous year – waste disposal expenses in the current year
Sales value of valuable materials	Sales value of valuable materials sorted from waste
Sales of recycled products and parts	Sales of recycled products and parts
Subsidies	Environmental subsidies from the government, etc.
R&D profit contribution amount	Product gross margin × gross margin contribution rate calculated using environmentally conscious points

(2) Formula of Expected Effects

Contribution to value-added production	(Production output – raw material costs) × business area cost/manufacturing costs
Effects on media coverage	Area of newspaper advertisement/newspaper page area × advertisement cost per page
Effects of environmental education	Number of people attending internal environmental education seminars × seminar fee for outside participants
Publicity from environmental advertisements	Number of visitors to environmental Web site × unit price of the sustainability report

(3) Formula of Incidental Effects

Amount of incidental effects	Standard amount × occurrence coefficient × impact coefficient
Items to be calculated	Areas of improvement to prevent pollution
Standard amount	Amount set aside for lawsuits, suspension of operations, and restoration
Coefficient	Occurrence coefficient and impact coefficient to be set according to occurrence frequency and affected extent

(4) Formula of Social Effects (customers' economic benefits from using products)

Total electric power	Electric power consumption of a product × number of products sold
Electric power cost reduction effect	(Total electric power for old models – total electric power for new models) × electric power unit cost
Waste disposal cost reduction effect	(Weight of collected products – weight of final waste) × outside disposal unit cost