Eco Balance Environmental Impact Analysis

◎Concept of Environmental Impact Analysis

The Ricoh Group considers an important prerequisite to environmental conservation activities to be the measurement of the environmental impact of our business activities based on the Comet Circle. For this purpose, we introduced the Eco Balance system and life cycle assessment (LCA). To more effectively reduce environmental impact, the Eco Balance system identifies environmental impact caused by each business activity, such as manufacturing and the procurement of materials and parts, while LCA elaborately identifies and analyzes the environmental impact made by each process and each product throughout its life cycle.

●The Eco Balance System*

The Ricoh Group's environmental action plans are the end results of the Eco Balance system. This system begins with the identification of the environmental impact made by all parties involved in the Comet Circle, from materials and parts manufacturers and the Ricoh Group itself to customers and recycling companies. Next, a plan of action to reduce the stronger environmental impact caused by all parties and processes is prepared.

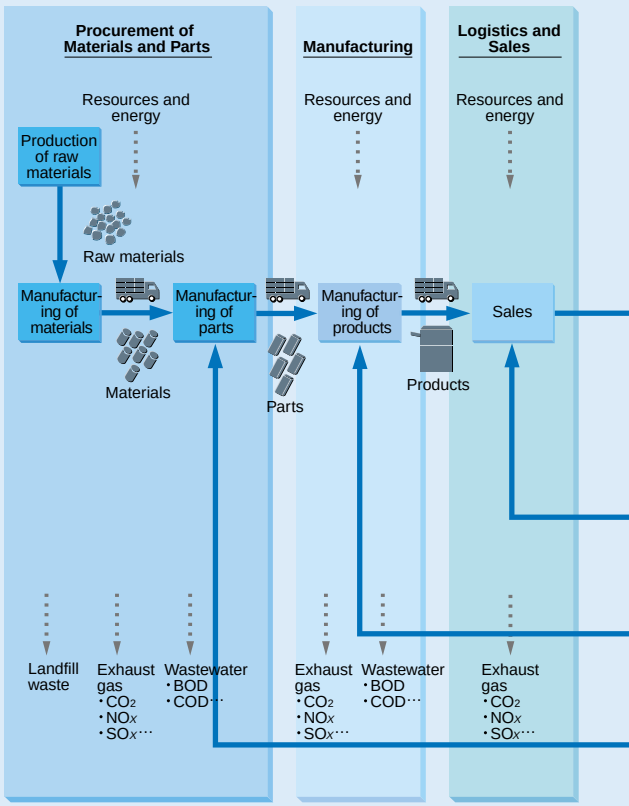
* The Eco Balance system involves the listing of environmental impact input/output data to identify, quantitatively measure, and report the environmental impact made by companies.

●Product LCA[1]

Product LCA is a means of quantitatively identifying the environmental impact made by a product throughout its life cycle and identifying what influences a change in design or manufacturing process would have. The environmental impact data collected from specific areas and used in product LCA are more accurate than those used in the Eco Balance system. Ricoh also conducts research on LCA[2].

1. LCA is a means of quantitatively determining the level of environmental impact generated throughout a product's life cycle, from resource procurement to manufacturing, transportation, usage, maintenance, recovery, recycling, and disposal. Even a partially determined level of impact can be used.
2. See page 20.

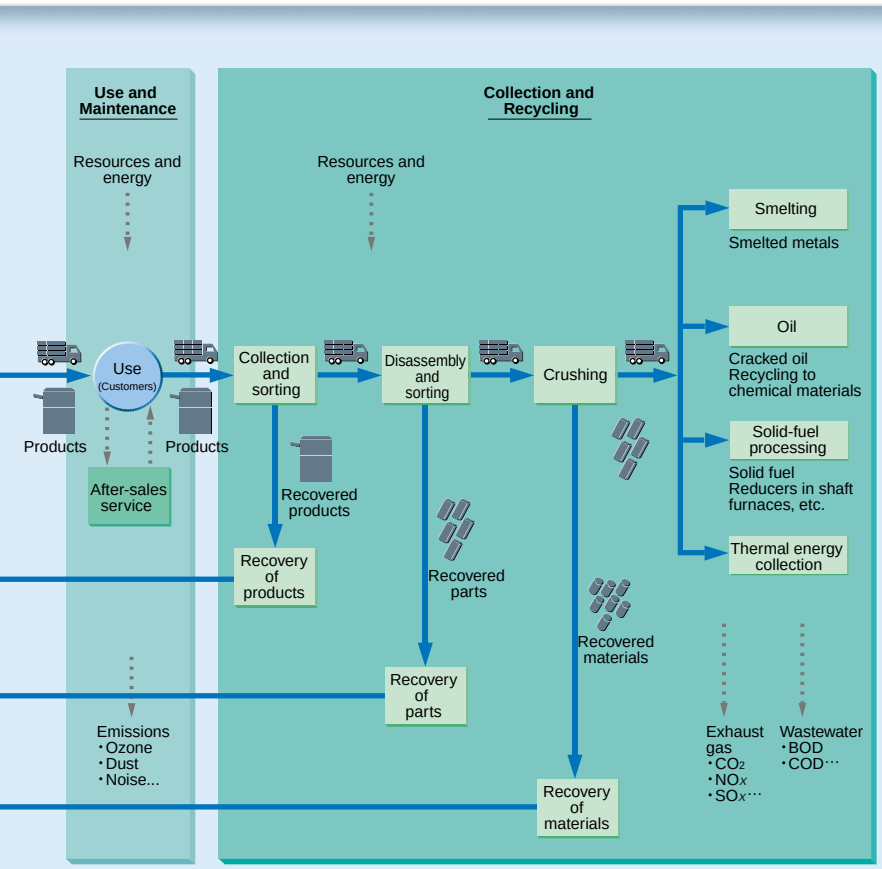
Eco Balance of Overall Corporate Activities



LCA of the imagio MF 6550 (Type III Environmental Impact Disclosure)*

Environmental Impact Item			Preliminary Process	Manufacturing	Transportation
Input		Power (kWh)	7730(MJ)	29.1	0
		Fossil fuel (MJ)		89.4	381
	Water usage	Tap water (ℓ)	—	10.7	0
		Industrial water (ℓ)	—	0	0
		Underground water (ℓ)	—	0	0
	Resource input	Principal resource (kg)	—	Metal 116 Plastic and rubber 38.8 Glass 2.2 Others 45.1	0
		PRTR substances (g)	—	72.2	0
		Volatile organic substances (g)	—	0	0
Output	Emission into air	CO_2 (kg-C) Power consumption/others	250	4.63/1.72	0/7.0
		SO_x (g) Power consumption/others	3460	7.86/8.58	0/31.5
		NO_x(g) Power consumption/others	711	9.89/5.49	0/79.2
		PRTR substances (g)	—	0	0
		Volatile organic substances (g)	—	0	0
	Water discharge	Amount (ℓ)	6560	10.7	0
		BOD (g)	7570	0.58 or less	0
		COD (g)	—	0.40 or less	0
		PRTR substances (g)	—	0.0129	0
	Recovered resources (kg)		—	1.44	14.9
	Waste	Incineration (kg)	—	0.0585	0.845
		Landfill (kg)	—	0.0011	0

*See page 35.



Use and Maintenance	Recycling and Disposal
3460	13.6
2350	—
0	0
0	0
2340	0
Copier paper 12200 Toner 85.0 Photosensitive materials 4.07 Developer 10.0 Maintenance materials 27.9 Others 27.4	0
1390	0
73.6	0
288/43.2	1.10/0
420/11.0	1.22/0
576/47.5	1.77/0
1370	0
73.6	0
2340	0
5.18 or less	0
3.13 or less	0
0.101	0
13.8	176.5
2.88 37.9	8.51

◎Environmental Impact Information

The idea of “no improvement without measurement” prompted Ricoh Atsugi to introduce a power monitoring system as well as a waste measuring system. The power monitoring system helps divisions conserve energy by allowing them to check how much electricity each division is consuming in real time. Under the waste measuring system, checks are made on the type and quantity of collected resources from each division that generates waste. This data is then compared against target values on a monthly basis, and immediate improvements can be made. The two systems are smoothly integrated into the Ricoh Group’s environmental impact information system* for the timely collection and analysis of environmental impact information. The systems are scheduled to cover the entire Ricoh Group in the future.

* See page 17.

Power monitoring system

Waste measuring system