

We have set higher goals than those set out in the Kyoto Protocol to help prevent global warming.

We will reduce total CO₂ emissions by 12% by the end of fiscal 2010.

■ Concept

The Ricoh Group has set goals that it wants to achieve by the end of fiscal 2010, aiming not only to attain the goals set out in the Kyoto Protocol, but also to lead the efforts to prevent global warming. Since a reduction in total CO₂ emissions is important in preventing global warming, the Ricoh Group companies in Japan have set a higher goal of reducing total emissions by 12% over the figures in fiscal 1990 by the end of fiscal 2010, compared with the goal for Japan of a 6% reduction set out in the Kyoto Protocol. Our group companies are striving to reduce global warming under this goal, which has been set in anticipation of an expansion in the scale of business. To attain this goal, the Ricoh Group is working to innovate its production processes¹, introduce more efficient facilities, and utilize natural energy sources. In addition, the Group is making preparations for the Clean Development Mechanism (CDM)² as a scheme to prepare as far as possible for a rapid expansion of business through M&As and, although unlikely, increased CO₂ emissions due to the worsening of CO₂ emissions conversion coefficients. Efforts will also be made to reduce greenhouse effect gases other than CO₂ by 10% over the level in fiscal 1995 by the end of fiscal 2010.

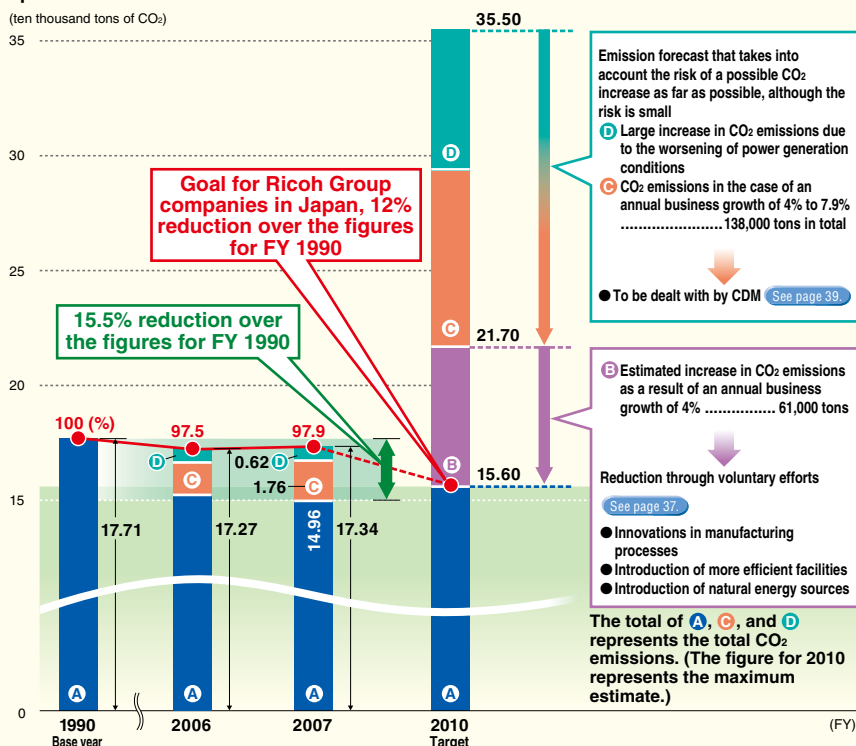
1. See page 39.

2. See page 41.

■ Targets for Fiscal 2007

- Reduce CO₂ emissions by 4% (Ricoch and manufacturing subsidiaries in and outside of Japan, compared to fiscal 2000 figures).
- Reduce CO₂ emissions by 4% (non-manufacturing subsidiaries in Japan, compared to figures in the base fiscal year set at each company).
- Reduce greenhouse gas emissions (except CO₂) in the semiconductor business division by 15% (compared to fiscal 2000 figures).

Scenario for Reductions in Total CO₂ Emissions for Ricoh Group (Production) in Japan up to Fiscal 2010



Segment Environmental Accounting of Energy Conservation Activities at Business Sites (Japan)

Costs			Effects		
Item	Main cost	Costs	Economic benefits	Effect on environmental conservation	
Business area cost	Cost of global warming prevention	¥296.3 million	Item	Benefits	Reduction item
			Reduction in lighting and heating expenses	¥1,113.4 million	CO ₂ emissions (Reduction amount)
					38,260.0 tons

* The amount of reduction in CO₂ emissions is the total of reductions realized through measures taken by respective sites to prevent global warming (including the effects of measures taken in the past).

■ Targets for Fiscal 2007 and Fiscal 2010

The Ricoh Group's Targets for Reducing CO₂ Emissions (Total Amount Emitted)

		Target for fiscal 2007	Target for fiscal 2010
Japan	Ricoh and Ricoh Group manufacturing subsidiaries	4% reduction (compared to fiscal 2000 figures)	12% reduction (compared to fiscal 1990 figures)
	Ricoh Group non-manufacturing subsidiaries	4% reduction (goals for each company)	—
Outside Japan	Ricoh Group manufacturing subsidiaries	4% reduction (compared to fiscal 2000 figures)	10% reduction (compared to fiscal 1998 figures)

The Ricoh Group's Targets for Reducing Greenhouse Effect Gases Other Than CO₂ (Manufacturing, Total Amount Emitted)

	Target for fiscal 2010
The Entire Ricoh Group	10% reduction (compared to fiscal 1995 figures)

■ Review of Fiscal 2007

CO₂ emissions at production sites increased 3.7% at home and 8.8% overseas over fiscal 2000 levels (see graphs ① and ②). This was because the increased energy consumption caused by the larger production of consumables supplied in Japan and the larger production of products and parts in China more than offset the amount of energy saved by efforts to reduce CO₂ emissions mainly through innovation in manufacturing processes. CO₂ emissions at non-production sites in Japan decreased 3.5% over the previous fiscal year's levels (see graph ③). While Ricoh aims to reduce total emissions by 12% over the figures in fiscal 1990, it achieved a 2.1% reduction in fiscal 2007. In real terms, however, this represents a 10.6% reduction over the figures for fiscal 2000 and a 15.5% reduction over fiscal 1990 levels, because Ricoh will introduce CDM to cope with any increase in CO₂ emissions caused by business growth of over 4% per year and changes in CO₂ emissions conversion coefficients. As for greenhouse gases other than CO₂, the semiconductor business division achieved a 28.2% reduction, and the entire Ricoh Group, a 13.9% reduction, over fiscal 2000 levels (see graph ④).

■ Future Activities

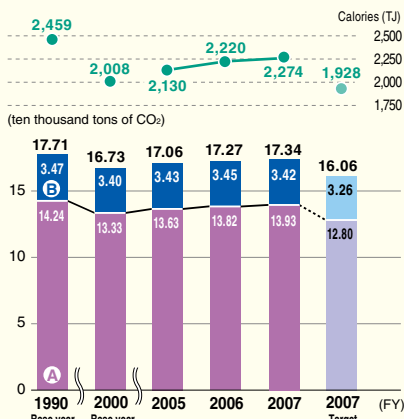
Ricoh will strive to innovate production processes to reduce energy consumption in manufacturing as part of its efforts to continue reducing CO₂ emissions at production sites in fiscal 2008 and thereafter. In particular, efforts will be made to reduce the increase in CO₂ caused by growth of over 4%, especially aiming to reform processes in the supply sector and the parts business in China, which have shown marked growth. Positive efforts will also be made to introduce high-efficiency facilities and new energy sources to make investment more effective and operations more efficient. In fiscal 2006, it became possible to collect detailed data on distribution. The analysis of such detailed data will be promoted so that effective efforts can be made to reduce costs and CO₂ emissions at the same time.

<Japan>

Energy Consumption (CO₂ conversion and calories)

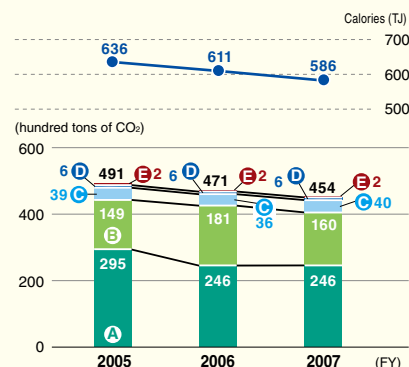
① The Ricoh Group (Production)

① Ricoh ② Ricoh Group manufacturing subsidiaries



② The Ricoh Group (Non-Production)

③ Sales subsidiaries ④ Maintenance and services (Ricoh Technosystems)
⑤ Logistics (Ricoh Logistics System) ⑥ Finance (Ricoh Leasing)
⑦ General services (Ricoh San-ai Service)



Breakdown of Major Energy Consumption

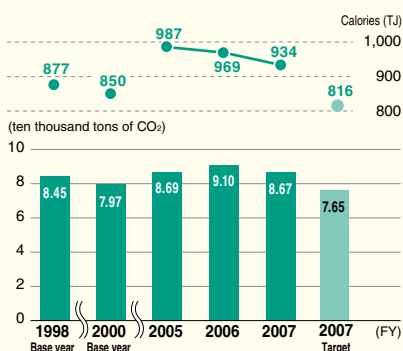
③ The Ricoh Group (production)

	FY 2004	FY 2005	FY 2006	FY 2007
Kerosene (kℓ)	5,989	2,205	1,525	1,389
Heavy oil A (kℓ)	2,748	2,701	2,730	2,706
Town gas (1,000 m ³)	15,339	15,400	15,899	15,789
Natural gas (1,000 m ³)	0	6,079	7,219	7,257
Electric power purchased (1,000 kWh)	295,042	274,273	291,276	296,150

<Outside Japan>

Energy Consumption (CO₂ conversion and calories)

④ The Ricoh Group (Production)

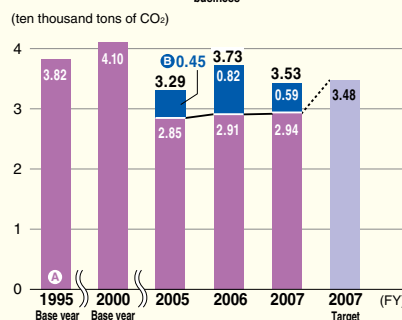


<The Entire Ricoh Group>

Greenhouse Gas Emissions other than CO₂* (CO₂ conversion)

⑤ The Ricoh Group (Production)

① Semiconductor business ② Businesses other than the semiconductor business



* NF₃ and substances that have a global warming effect and designated in the Kyoto Protocol

* Data for the previous years were corrected as shown in the graph.

* The following CO₂ emissions coefficients are used in the graphs above.

①, ②, and ③: Guidelines for accounting and reporting of greenhouse gas emissions from industrial commercial sectors (2003) by the Japanese Ministry of the Environment

④: GHG Protocol

* Data on Ricoh Printing Systems, Shanghai Ricoh Digital Equipment, and Yamanashi Electronics are not included in graphs ① through ④.

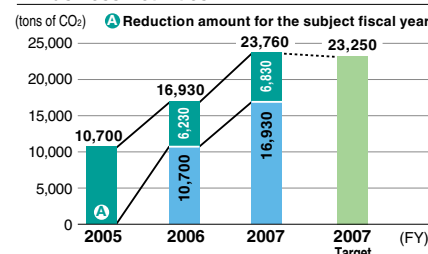
Setting a Target for CO₂ Reduction through Improvements in Business Activities

<Ricoh Group (Japan)>

To ensure that we achieve the goal of reducing CO₂ emissions by 12% by fiscal 2010, it is necessary to make systematic reduction efforts. In 2003, Ricoh estimated growths in business up to 2010, and set a target for CO₂ reduction through improvements in business activities without relying upon CDM at around 61,000 tons. By clarifying a mid-term reduction target,

activities can be implemented systematically, although it may be a long time before the effects appear after we start the project. In fiscal 2007, CO₂ emissions were reduced by about 6,830 tons mainly through innovations in production processes.

Total Reduction in CO₂ through Improvements in Business Activities



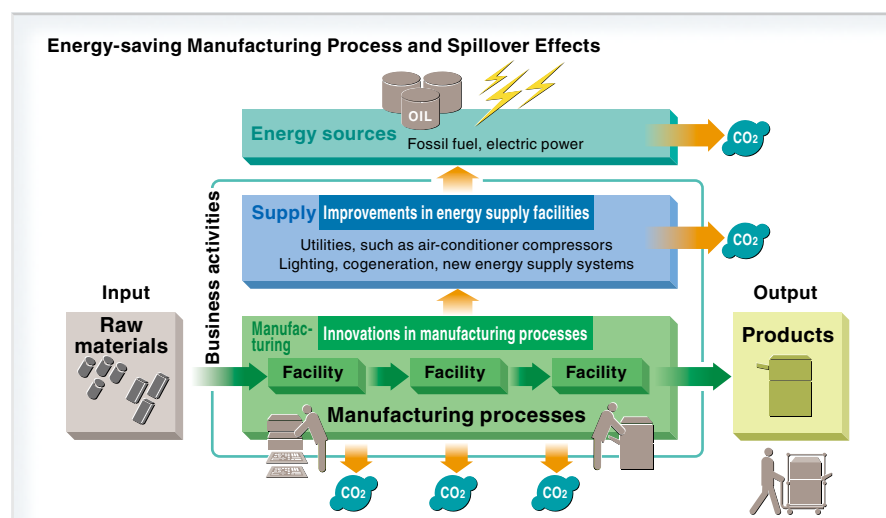
* There were some errors in the form of the graph in the 2007 report. The stacked bar method is applied instead to correctly represent the total.

Innovations in Manufacturing Processes

Innovations in Manufacturing Processes to Achieve the Goal of CO₂ Reduction

<Ricoh Group (Global)>

To achieve the ambitious goal of reducing CO₂ emissions by 12% of the fiscal 1990 level by fiscal 2010, the Ricoh Group's energy-saving production process committee, which is made up of people in charge of the Group's major production sites in Japan, checks the manufacturing processes of those production sites, identifies energy losses, and assigns a quota on reducing CO₂ emissions. Focusing on innovations in manufacturing processes may save energy at downsized production lines and have a spillover effect on associated equipment, such as air conditioners and air compressors, at production lines. To date, downsized production lines for organic photoconductors used in copiers have been put in operation, while the size of toner filling devices was been dramatically reduced. In addition, innovated processes have been realized, including changes in the toner crush lines and thermal sheet painting methods.



Process Innovation in Thermal Media Production Lines

<Ricoh Thermal Media (Wuxi) Co., Ltd. (China)>

A new manufacturing process with less environmental impact is in operation at Ricoh Thermal Media (Wuxi) Co., Ltd. (RTM) in Wuxi, China, which started operation in July 2007. Under the conventional method for manufacturing thermal paper, the energy used in the drying process, which is necessary for painting chemicals in many layers, accounted for 70% of the total energy used in all of the processes and imposed a considerable burden. RTM applied a new production method that significantly reduced the burden caused by the drying process and reduced energy con-

sumption by about 60% compared to that in conventional manufacturing processes. In addition, improved stability in quality was achieved because the manufacturing process became more efficient, while less space is needed for facilities, resulting in reduced costs. RTM intends to export this manufacturing process to thermal media production sites in Japan, Europe, and the U.S.



Ricoh Thermal Media (Wuxi) (Wuxi, China)

Introduction of High-efficiency Equipment

Introduction of New Compressors

<Ricoh UK Products Ltd. (U.K.)>

Ricoh UK Products Ltd. (RPL), a manufacturing subsidiary in the U.K., has been working on energy conservation for three compressors since fiscal 2002. The energy consumed by the compressors accounted for 40% of the total energy consumption at the plant.

RPL began its energy conservation endeavors with the installation of high efficiency cooling pump motors. This was followed with the introduction of efficient use of facilities by reducing

site air pressure, selecting the optimum size of the compressor to be used (based on daily production plans) and external air intakes. A small variable-speed compressor to drive the blow molding machines was introduced in 2005. This allowed the site air pressure to be reduced and minimized the weekend demand on the central compressor house. In 2007, a large fixed speed compressor was replaced with a high efficiency variable speed compressor. This unit has increased the site compressed air system efficiency by a further 20%. These efforts have resulted in an annual reduction of CO₂ emissions by 400 tons. In recognition of these and other activities to improve energy efficiency, in December 2007 RPL was accredited as an energy-efficient company and received nomination for National energy manager of the year within the Energy Efficiency Accreditation Scheme (EEAS). The EEAS is managed by the Carbon Trust, a government-funded independent company in the U.K.



RPL employees receiving an Excellent Energy Saving Office Award and an award presenter, Dame Ellen MacArthur (Center)

Introduction of Dry Cooler

<Ricoh Industrie France S.A.S. (France)>

Ricoh Industrie France S.A.S. (RIF), a manufacturing subsidiary in France, introduced dry coolers into the cooling system for its toner production lines in December 2007. Cool water to remove heat from the toner materials and plastic bottles manufacturing process can be generated with high efficiency by means of air fans. Whenever the outside temperature is below 4°C, which is the case for approximately 100 days/year in the Alsace area, a set of air fans takes over the production of cool water instead of the chiller units, thus reducing the electrical consumption drastically.



Dry Cooler cooling device for toner production line

A 135,000 kWh saving leading to a cost reduction of 100,000 euros is expected annually.

Introduction of Natural Energy

Purchasing Green Power

<Ricoh (Japan)>

Since 2002, Ricoh has purchased wind-generated energy under the Green Power Certification System operated by Japan Natural Energy Company Limited. In March 2004, Ricoh started purchasing biomass green power as well. As a result, CO₂ emissions are reduced by about 357 tons and 100 tons each year via wind power generation and biomass, respectively.



Wind Power Generation Certificate



Biomass Power Generation Certificate

Introduction of Solar Panels in the New Plant

<Ricoh Numazu Plant (Japan)>

Electricity generated via solar power is used for the waste water treatment facility at the toner mass production plant in Ricoh Numazu Plant, which started operation in October 2006. Using special technology, this facility has 1,080 solar panels on three exterior walls of the building, generating approximately 148 MW annually, which is used as a power source for treating waste water. This facility reduces CO₂ by about 56 tons each year.



Waste water treatment facility with solar panels on the exterior

Introduction of Natural Energy at Sales Subsidiaries

<Ricoh Group (Europe)>

Ricoh's sales subsidiaries in Europe have actively promoted a switch to natural energy sources. In January 2007, three business sites of Ricoh Europe (Netherlands) B.V. a regional sales headquarters in Europe switched all sources for electricity to green energy. Ricoh Nederland B.V., a sales subsidiary in Netherlands, followed.

In addition to the head office of Ricoh Europe PLC in London, where natural energy has



Certificate to certify exclusive use of natural energy

been introduced, it is estimated that all of the efforts combined will reduce annual CO₂ emissions by approximately 1,300 tons.

Approach for CDM Project

The CDM* allows advanced nations to conduct projects to combat global warming in developing countries, thereby helping those countries comply with their commitment to reduce greenhouse gas emissions specified under the Kyoto Protocol. If businesses in advanced nations reduce greenhouse gases through projects in developing countries, they may have that reduction reflected in their own CO₂ reduction goals under certain rules, and ultimately such reduction is used by the governments of their countries to meet national targets. Developing countries benefit from this mechanism as well since they are given opportunities to receive investments and technology transfers. Ricoh

estimates the maximum increase in CO₂ caused by rapid business expansion associated with M&A and external factors such as changes in CO₂ emissions conversion coefficients at 138,000 tons, and is preparing for CDM to mitigate the increase. When selecting CDM projects, Ricoh takes cost performance into account. In addition, by using networks that were created through environment-conscious social contribution activities with environmental NPOs, Ricoh tries to choose projects that contribute to the conservation of ecosystems and improvement of living standards of the local people. In terms of the organizations that execute projects, Ricoh assesses their

commitment to corporate social responsibility. In January 2008, a 30,632-ton credit for emissions was issued for wind power generation projects in India, which is the first credit issued to Ricoh.

* CDM: Clean Development Mechanism

The Ricoh Group established the following criteria for the selection of CDM projects.

- (1) Projects should be valuable from the perspective of biodiversity and ecosystem conservation.
As for afforestation projects, they should be recognized by environmental NGOs.
- (2) Projects should be socially recognized by every stakeholder.

CDM Projects Promoted by Ricoh

Project name	Progress of projects		
	Approval of methodology	Registration with the UN	Issuance of credit/quantity permitted in the credit (CO ₂)
Wind power generation <India>	_____	December 15, 2006	January 22, 2008/30,632 tons
Bagasse electricity generation <El Salvador>	_____	November 30, 2007	Monitoring under way
Environmental afforestation <Ecuador>	February 15, 2007	Preparation of project design under way	

Wind Power Generation <India>

The rapid economic growth in India has caused concern about the increased number of low cost, coal-fired power stations that satisfy the growing need for power. Responding to this concern, Ricoh is taking part in a number of wind power projects carried out in various parts of India in order to switch from fossil fuel to wind energy to generate electricity.



Bagasse Electricity Generation Project <El Salvador>

El Salvador is giving priority to electricity generation from bagasse as a CDM project of the UN, aiming to reduce its dependence on fossil fuel. CO₂ emissions from sugar refining, which is one of the major industries of El Salvador, can be reduced by switching from fossil fuel-fired power generation to bagasse (pulp left after the juice has been extracted from sugar cane) power generation to supply energy to refining factories. Under this project where Ricoh takes part, generators capable of producing a total of 45 MW were introduced in 2002 through 2005. In addition, Ricoh helped improve energy utilization efficiency by introducing a cogeneration system and has created a system of selling surplus electricity through electric power companies.

Environmental Afforestation <Ecuador>

Although the Choco Manabi region in Ecuador is famous worldwide for its biodiversity, forests were cut down by stockbreeders, but afterwards the deforested areas were abandoned as the livestock business in Ecuador went into a recession. Under the project, seeds to grow seedlings for reforestation purposes are collected, local people are employed to conduct afforestation, and virgin forests are maintained and managed. It is difficult to measure the CO₂ absorption levels in afforestation projects, which makes it difficult to obtain the approval of the UN CDM Executive Board. This project was the first afforestation project that was invested in solely by an individual Japanese corporation, where the CDM Executive Board approved the methodology. It is also the world's first case approved among the projects for which the main purpose is biodiversity conservation.