We will reduce total CO_2 emissions by 12% by the end of fiscal 2010 to help prevent global warming.

■ Concept

The Ricoh Group has set goals that it wants to achieve by the end of fiscal 2010, aiming to lead effective efforts to prevent global warming. Since a reduction in total CO_2 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 fiscal 1990 figure by the end of fiscal 2010, compared with the goal for Japan of a 6% reduction as 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. In addition, the Group is developing Clean Development Mechanism (CDM)[1] projects as a scheme to prepare, as far as possible, for a rapid expansion of business through M&A and increased CO_2 emissions due to the worsening of power generation conditions. Efforts will also be made to reduce greenhouse effect gases other than CO_2 by 10% over the fiscal 1995 level by the end of fiscal 2010. In March 2009, the Group also set mid- to long-term goals of reducing total lifecycle CO_2 emissions by 87.5% by 2050 and 30% by 2020 from the fiscal 2000 level[2].

1. See page 42. 2. See pages 17 and 18.

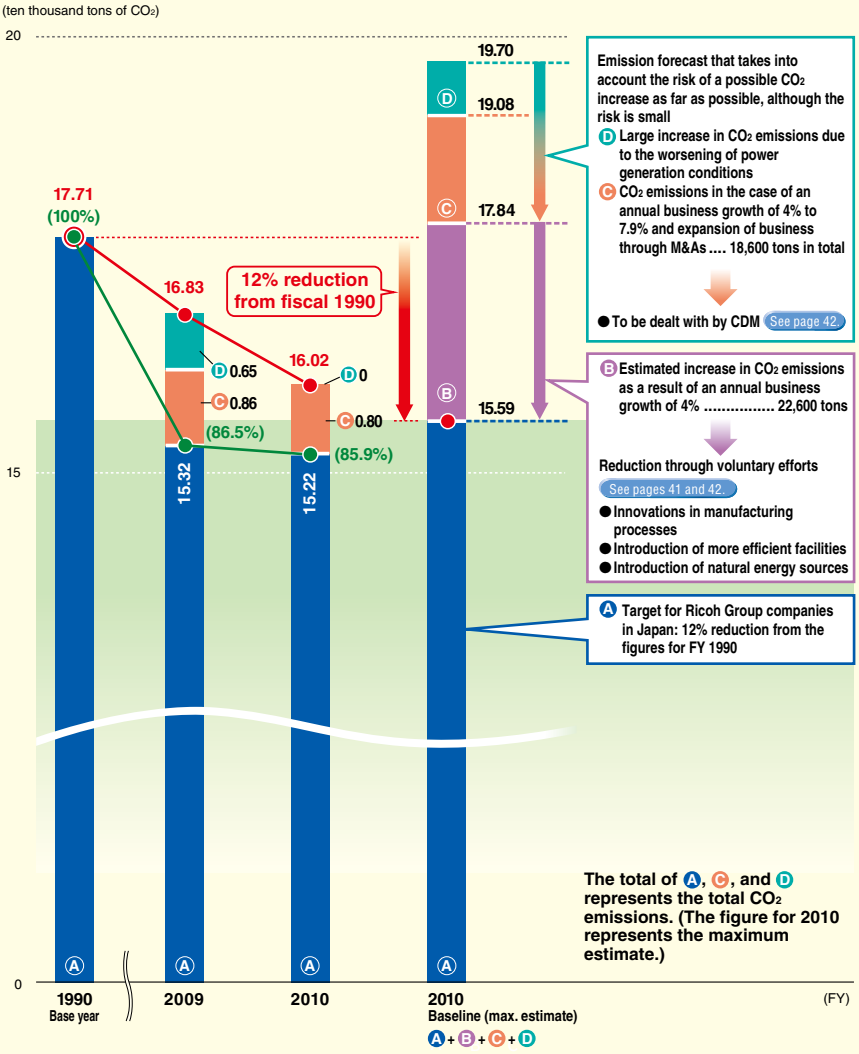
■ Targets for Fiscal 2010

◎ Reduce CO_2 emissions by 12% (Ricoh and manufacturing subsidiaries in Japan, compared to fiscal 1990 figures) by fiscal 2010.

◎ Reduce CO_2 emissions by 10% (manufacturing subsidiaries outside of Japan, compared to fiscal 1998 figures) by fiscal 2010.

◎ Reduce greenhouse gas emissions (except CO_2) in the semiconductor business division by 10% (compared to fiscal 1995 figures) by fiscal 2010.

Scenario for reduction of total CO_2 emissions of Ricoh Group (Production) in Japan up to fiscal 2010



* Note: Results for Ricoh Printing Systems, Ltd. and Yamanashi Electronics Co., Ltd. are included in C.

■ Targets for Fiscal 2020 and 2050

	Target for fiscal 2020	Target for fiscal 2050
Ricoh Group Total lifecycle CO_2 emissions (including emissions of the five gasses converted into CO_2)	30% reduction* (compared to fiscal 2000 figures) *Equivalent to a 34% reduction compared to the fiscal 1990 level (CO_2 emissions in Japan)	87.5% reduction (compared to fiscal 2000 figures)

■ Review of Fiscal 2010

Total CO_2 emissions at production sites in Japan decreased by 9.6% from the fiscal 1990 level. This figure includes the results for Ricoh Printing Systems, Ltd. and Yamanashi Electronics Co., Ltd., which both were incorporated in the Ricoh Group after the 1990 base year (see Ⓐ + Ⓒ, fiscal 2010 results, in Scenario for reduction of total CO_2 emissions for Ricoh Group [Production] in Japan up to fiscal 2010, on page 39). When excluding the results for the two companies and other new businesses that were added later than 1990, the reduction rate is 14.1%, exceeding the fiscal 2010 target of a 12% reduction from the fiscal 1990 level (see Ⓐ in the Scenario). However, we failed to achieve the target for the same year of reducing the total amount of CO_2 emitted by the entire Ricoh Group to 155,875 tons, including emissions related to the bases and businesses added after 1990. To offset the difference (4,279 tons), the Group paid the equivalent Certified Emission Reductions (CER) credits—transferring them to the Japanese government's account—from the total credits the Group has earned through CDM projects.* Outside Japan, CO_2 emissions increased 20.3% over the fiscal 1998 level (see Graph ❸). Given business growth since fiscal 1990, the above figures suggest that efforts to reduce CO_2 emissions, particularly those to improve production processes, have brought steady results. As for greenhouse gases other than CO_2, the semiconductor business division achieved a 45.3% reduction, and the entire Ricoh Group, a 40.1% reduction, over fiscal 1995 levels (see Graph ❹).

* See page 42.

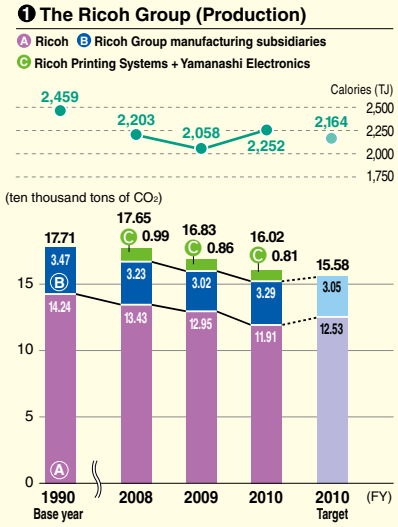
■ Future Activities

Ricoh will continue working to reduce CO_2 emissions at production sites with a focus on innovating production processes to reduce energy consumption in manufacturing in fiscal 2011 and thereafter. Reduction efforts will be focused on CO_2 emissions that are expected to increase due mainly to the supply sector and the parts business in China, which have shown marked growth. Regarding the introduction of high-efficiency equipment and new energy sources, we will take a cost-effective approach by seeking alternatives with high cost-benefit performance and by studying the most effective usage of such systems.

<Japan>

Energy consumption
(CO_2 conversion and calories)

❶ The Ricoh Group (Production)



Breakdown of major energy consumption

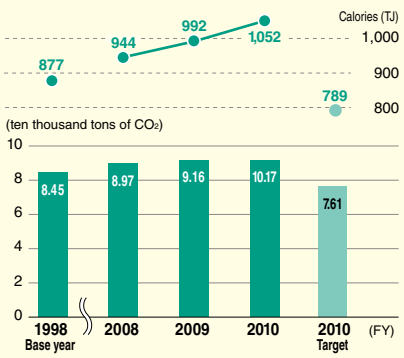
❷ The Ricoh Group (Production)

	FY 2007	FY 2008	FY 2009	FY 2010
Kerosene (kℓ)	1,389	1,404	1,398	1,099
Heavy oil A (kℓ)	2,706	2,945	2,194	1,686
Town gas (1,000 m³)	15,789	14,059	12,678	13,817
Natural gas (1,000 m³)	7,257	6,450	6,374	7,831
Electric power purchased (1,000 kWh)	296,150	313,902	309,490	329,652

<Outside Japan>

Energy consumption
(CO_2 conversion and calories)

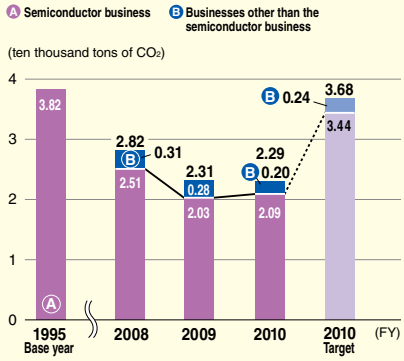
❸ The Ricoh Group (Production)



<The Entire Ricoh Group>

Greenhouse gas emissions other than CO_2* (CO_2 conversion)

❹ The Ricoh Group (Production)



* NF_3 and substances that have a global warming effect and designated in the Kyoto Protocol

* For CO_2 emissions coefficients and global warming coefficients used in the graphs above, the relevant authorities are shown below:
❶ Electric power purchased in fiscal 2010: CO_2 emission coefficients specified for each utility released by the Japanese government on December 27, 2010 (calculated including the Kyoto carbon credits transferred to the government by the utility), based on Order on Calculation and Reporting of Greenhouse Gas Emissions, which was issued in relation to Act on Promotion of Global Warming Countermeasures;
Electric power purchased in fiscal 2009 or earlier: Guidelines for accounting and reporting of greenhouse gas emissions from industrial commercial sectors (draft) by the Japanese Ministry of the Environment;
Fuels: Greenhouse gas emissions accounting and reporting manual (ver. 3.1) by the Ministry of the Environment and Ministry of Economy, Trade and Industry.
❸ Electric power purchased: Official data released by respective governments; Fuels: GHG Protocol
❹ Global warming coefficients: Order for Enforcement of the Japanese Act on Promotion of Global Warming Countermeasures

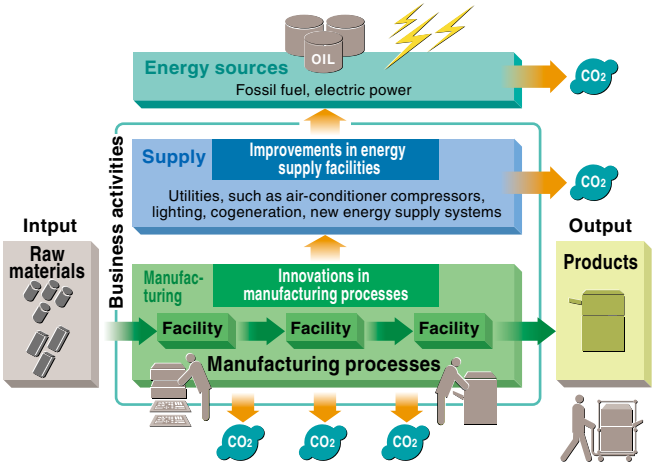
Innovations in Manufacturing Processes, Introduction of High-Efficiency Equipment, Introduction of Natural Energy

Innovations in manufacturing processes to achieve the goal of CO_2 reduction

<Ricoh Group (Global)>

To achieve the goal of reducing CO_2 emissions in Japan 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 to each for reducing CO_2 emissions. Focusing on innovations in manufacturing processes may save energy at downsized production lines and also 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 have been put in operation, while the size of toner filling devices has been dramatically reduced. In addition, innovative processes have been realized, including changes in the toner crush lines and thermal sheet painting methods. These technologies are being successively introduced into production lines outside Japan, with the aim of achieving the ambitious goal of reducing total CO_2 emissions by 10% (compared to the fiscal 1998 level) at manufacturing subsidiaries outside of Japan.

Energy-saving manufacturing process and spillover effects

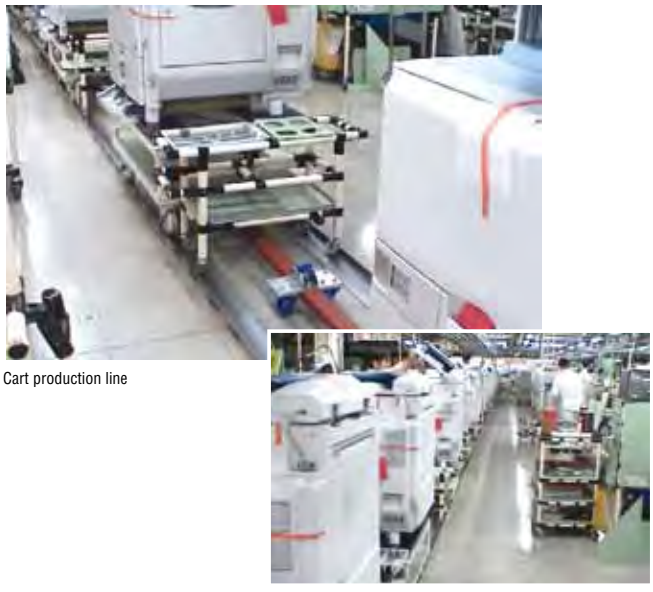


Highly productive, low environmental impact and highly flexible manufacturing—Ricoh's original cart production line

<Ricoh Co., Ltd. (Global)>

As of 2011, the Ricoh Group's production system is spread over 29 (major) production sites in five global regions: Japan, the Americas, Europe, China, and the Asia-Pacific region. The year 1985, when the Ricoh Gotemba Plant began operating as a core production site for imaging equipment such as copiers and printers, was a period of expansion for OA equipment, and mass production was started as conveyor lines that gave high production efficiency through automation were installed at production sites. However, copiers subsequently acquired many additional functions, including printing, scanning, and network functions, and in response to diversifying customer needs there was a large increase in the variety of copier models, with the industry entering a period of high-mix low-volume production. The conveyer manufacturing system was suitable for low-mix high-volume production, but not for production equipment model changes or high-mix low-volume production. In 1999, Ricoh began gradually eliminating fixed conveyor lines and introducing a layout-free production system capable of responding flexibly to production volume and equipment model changes. In an example of this, the "cart production line," multiple carts are lined up in a row and powered by air cylinders. The carts move along the production line carrying products. Because huge, high-energy consuming conveyors are not required, this system has brought huge reductions in environmental impact and energy costs;* moreover, because the layout can be freely changed, the formation can be rearranged on a case-by-case basis to suit equipment models and production volumes. In-process inventory, lead time, space, and maintenance are all reduced by 70–80%. In addition, because of the reduction in space, reductions in air-conditioning and lighting costs are also achieved. This cart production line has been improved to be used as a model for introducing the layout-free production system in other production sites around the world.

* Air cylinders are used to move the carts, enabling a reduction in electricity consumption of 99% compared with conventional conveyor line motors.



Cart production line

Introducing a new solar power generation system
<Ricoh Electronics Inc. (The United States)>

Ricoh Electronics Inc. (REI, headquarters in Tustin, California), a manufacturing subsidiary in the U.S., has completed the installation of a rooftop solar power generation system which will annually supply up to 10% (about 350,000 kWh) of electricity used by the headquarters facility. Using the system, the company will be able to reduce its CO_2 emissions by 98.1 tons and its electricity costs by at least 56,000 dollars per year.

REI is located in sunny Southern California, a highly suitable place for the installation of a solar power generation system, so on the rooftop of the headquarters, about 1,000 panels are now installed. The cost of installation is about 60% covered by incentives offered by the federal and state governments, and the company aims to recoup the remaining cost within six years.

Many people participated in the completion ceremony held on February 9, 2011, including the Mayor of Tustin, Jerry Amante, Consul General Junichi Ihara of the Consulate-General of Japan in Los Angeles, and employees of REI and SPG Solar Inc., which cooperated with REI in the installation of the system. Several of Ricoh's customers and suppliers also attended the ceremony to celebrate the completion of the installation.

● Comment from then President Yoshinori Yamashita of REI

As for the introduction of a solar power generation system in this time of economic stagnation, there were criticisms and objections both within and outside the company. I, however, said to opponents, "This is the right time for us to do it," for the following three reasons:

(1) Ricoh should show its commitment to the environment as a leading environmental company all the more because it is difficult to do so now.

(2) Because other companies are refraining from making environmental investments, the price of solar panels, the production of which has been increased by manufacturers, is decreasing.

(3) By making investments in the system while the federal and state governments are offering generous subsidies, we can shorten the time required to recover our costs.

For me, the introduction of the system was a very strategic decision for both the environment and our business.

* News release (Nov. 9, 2010)
http://www.ricoh.com/release/2010/1109_1.html
* The Ricoh Group's natural energy utilization
http://www.ricoh.com/environment/office/energy/04_01.html

After the ceremony, participants went up onto the rooftop to observe the solar power generation system in action.

Consul General Junichi Ihara making a speech at the completion ceremony

Yoshinori Yamashita, president of REI, received a letter of thanks from Mayor Jerry Amante in commemoration of the completion.

CDM projects and use of carbon credits
<Ricoh Group (Global)>

As part of efforts to achieve the goal of reducing total CO_2 emissions in Japan by 12% by fiscal 2010 from the fiscal 1990 level, the Ricoh Group has been preparing for and is implementing Clean Development Mechanism (CDM) projects in order to offset the possible increase of its CO_2 emissions that could be caused by a rapid business expansion resulting from M&A transactions or by other external factors. Under the CDM scheme, if businesses in advanced nations reduce greenhouse gases through projects in developing countries, they may have that reduction reflected in their own CO_2 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. By the end of fiscal 2010, the Group had received in total a 73,179-ton Certified Emission Reductions (CER) credit for investing in wind power generation projects in India.

Out of that amount, a 4,279-ton credit[1] was transferred on June 2011 to the Japanese government's account to offset the difference between the fiscal 2010 target of total CO_2 emissions in Japan and the actual result.[2] In fiscal 2010, another 1,650-ton credit was paid by Ricoh Europe PLC (RE), the Group's European headquarters, to implement "carbon balanced printing,"[3] RE's new program that enables customers to completely offset CO_2 emissions caused by their use of printers. The Group will increase its carbon credits to allow the Group members to use the credit scheme effectively for business and other activities, including RE's carbon balanced printing and "carbon offset lease," promoted by Ricoh Leasing Company Ltd.

1. Fiscal 2010 total CO_2 emissions target: 155,875 tons; Actual result: 160,154 tons
See pages 30 to 40.
2. Credit ID numbers: IN-000-000-027-139-579 to IN-000-000-027-143-857
3. See page 52.