

We strive to reduce the environmental impact of our products across their lifecycle by creating solid partnerships with suppliers.

■ Concept

The Ricoh Group promotes green procurement activities that place emphasis on partnerships with suppliers. Green procurement refers to the procurement of raw materials, parts, and products with less environmental impact. Parts and products so designed are manufactured in plants that are advanced in environmental conservation. The purpose of green procurement is to reduce the environmental impact over the entire lifecycle of Ricoh products and to reduce the costs to the Ricoh Group and its suppliers by using resources and energy effectively. Moreover, by establishing these activities, we aim to contribute to global environmental protection and reinforce management practices of the Ricoh Group and its suppliers. The basic policies for our activities until fiscal 2010 are to reduce the environmental impact of procured parts; to maintain and update the chemical substance management systems (CMS); and to collect

information on the environmental impact in order to comply with the REACH Regulation. We have also introduced our own paper procurement standards and rules regarding the composition ratio of recycled pulp, and we perform procurement activities by paying full consideration to biodiversity conservation.

■ Target for Fiscal 2010

◎ Work with suppliers to reduce their CO₂ emissions.

■ Review of Fiscal 2009

Activities for reducing CO₂ emissions contribute not only to the prevention of global warming but also to reduction of costs, leading to the reinforcement of suppliers' management practices. Based on this recognition, Ricoh is actively working with its suppliers to upgrade their operational processes and reduce CO₂ emissions. In fiscal 2009, Ricoh's procurement division cooperated with Ricoh

Engineering Co., Ltd. (REC), a Ricoh Group company providing facility management services, to assist model suppliers with their efforts to reduce CO₂ emissions. We also formulated the Regulations of Ricoh Group Products Made of Wood to develop a system for preventing the procurement of timber to be used in manufacturing our products—not limited to paper products—from forests with high conservation value from the viewpoint of protecting biodiversity.

■ Future Activities

Based on the know-how and experience accumulated through the joint activities with model suppliers, we will compile guidelines on how suppliers can improve their processes to reduce CO₂ emissions. Through these guidelines, we can be even more active in accumulating information and sharing it with suppliers in order to help them continue with their efforts to reduce CO₂ emissions.

Establishment of Regulations of Ricoh Group Products Made of Wood

<Ricoh Group (Global)>

In February 2010, the Ricoh Group established the groupwide Regulations of Ricoh Group Products Made of Wood. The new rules were developed based on the 2003 Environmental Standards for Paper Product Procurement to expand control over the procurement of wood raw material beyond that used in paper products. And they were to be applicable to the entire group.

These wood raw material procurement rules apply to two groups related to products under the Ricoh or Ricoh Group company brands, namely, paper products (plain copier paper, heat-sensitive paper, etc.) and articles/materials made from wood (manuals and instructions, packaging materials, cushioning materials, pallets, etc.) provided along with any lines of products¹. Through this application, the rules aim to help protect HCVFs², or forests with significant and critical value in terms of global environment and biodiversity conservation, by avoiding the use of wood sourced from these critical forests as material for the Ricoh Group products. The rules mainly provide for the prohibition of the use of wood sourced from HCVFs as raw material and for requirements to be met by suppliers, including provision for the suspension of business with non-compliant suppliers. The Ricoh Group will use these new rules to exert control over wood material procurement for products made from wood, mainly paper products, thereby ensuring that the Group's procurement process contributes to the conservation of HCVFs.

1. Recycled materials, including used paper, leftover wood material and wood chips, are excluded, as it is difficult to trace the original sources of such materials.
 2. High conservation value forests (HCVFs), as defined here, fall under any of the following categories:
 - Old growth forests; • Primary forests/virgin forests; • Natural forests containing habitats of endangered species; or • Forests for which multiple environmental groups claim protective measures need to be taken mainly from the perspective of biodiversity.
- * For the outline of Procurement Rules Regarding Wood Raw Material for Ricoh Group Products, please refer to the specific section of our website at:
<http://www.ricoh.co.jp/ecology/biodiversity/pop01.html>

Green procurement activities in partnership with suppliers

Ricoh's support for suppliers' environmental conservation activities is provided in three areas: resource conservation and recycling, pollution prevention, and energy conservation and prevention of global warming. As part of this support, we have assisted suppliers in building the foundations of their environmental conservation activities, namely environmental management systems (EMS) and chemical substance management systems (CMS), since fiscal 1998. However, the results of analysis of greenhouse gases generated during the lifecycle of Ricoh products show that the emissions during upstream production, including in the production of materials and parts, account for a large share of total emissions.

Because of this, the Ricoh Group began to support and encourage suppliers to practice CO₂ reduction activities in fiscal 2007 by utilizing the know-how acquired by Ricoh through its efforts to reduce CO₂ emissions during the production process.

Establishing CMS at suppliers

<Ricoh Group (Global)>

To help establish a chemical substance management system (CMS)* across its entire supply chain, the Ricoh Group commenced a program to train and certify suppliers' employees as CMS examiners in fiscal 2005. In addition to internal audits facilitated by their own companies, certified examiners will conduct audits upstream at second- and third-tier suppliers that deal with important processes involving environmentally sensitive substances and will support them in establishing a CMS. As of the end of March 2010, there were 1,262 certified CMS examiners at 695 suppliers and CMS was in place at 2,271 sites of 902 first-tier suppliers, as well as at 207 second- and third-tier suppliers with important processes involving environmentally sensitive substances. The suppliers' CMS is checked every two years for certification renewal, and in fiscal 2009, 415 suppliers completed the renewal procedure.

* See page 32.

Using RICO2RET—a tool for calculating CO₂ emissions during parts manufacturing

To reduce the environmental impact of its products effectively, Ricoh has developed the Ricoh CO₂ Reduction & Evaluation Tool (RICO2RET) to calculate and visualize the CO₂ level emitted during the manufacturing process for parts, and is promoting the use of this tool at suppliers' sites to expedite a reduction in CO₂ emissions. With this tool, the volume of CO₂ emissions can be obtained for each process or for the manufacture of one single part or for each separate facility used for processing, by simply entering the required information, such as the type and quantity of parts materials or manufacturing supplies, and the amount of energy consumed by the use of production equipment, air conditioners, and lighting fixtures. By visualizing the CO₂ level emitted at each stage of the parts production process in this way, the tool allows suppliers to quickly identify any necessary improvement points in the production process.

TOPIC

Supporting CO₂ Reduction Activities at Suppliers

The Ricoh Group and its suppliers are working in unison on CO₂ emission reduction projects.

Chiyoda Integre Co., Ltd., a supplier for the Ricoh Group and manufacturer of OA equipment and PC components, introduced RICO2RET in late 2007. "This tool enabled us to clarify the substantial environmental impact that non-production equipment such as lighting and air conditioners have. Based on these findings, we quickly established a CO₂ reduction target of 6% down from the August 2006 level by the end of February 2011, and started to develop specific action plans," said Mr. Hiroshi Oguchi, Manager of the Quality and Environmental Management Department of the Development Center.

To achieve the goal, an internal project was launched to promote the company's CO₂ reduction activities in July 2008, and Ricoh's Procurement Control Center and Ricoh Engineering Co., Ltd. have been providing support for this.

"Recognizing that reducing CO₂ emissions will contribute to process improvements, cost reductions, and quality enhancements, we have introduced a wide range of activities in quick succession, including measures to improve yield rates, equipping inverters with compressors, and reducing the number of fluorescent lights in use. Notable successes include a reduction in the environmental impact of our clean room. With the support of the Ricoh Group, these efforts have brought considerable benefits: annual reductions in CO₂ emissions of 200 tons and in operational costs of 8 million yen. Air conditioners operating 24/7 in a clean room that produces precision machinery such as hard drives is the industry norm. However, our measurements have proved that turning off the air conditioners during non-operating hours, such as at night and on holidays, and turning them on again 20 minutes before production starts can maintain the same level of cleanliness in the clean room as the conventional method," said Mr. Satoshi Yamamoto.

Toshiaki Nakamura of REC who supported this project said: "Generally speaking, new machinery is introduced following a



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carefully thought-out plan to meet quality requirements. But once the installation is complete, it is rare for an environmental or energy assessment to be carried out at the production site without revealing worrying problems. However, effective energy-saving activities require onsite evaluation, measurement, and analysis to identify where waste can be eliminated and to reveal the causes of waste. These form the most important element in these activities. We are delighted to see that Ricoh's internally developed solutions have helped achieve successful results at our partner company. I have personally learned a lot from this project, which has allowed me to support activities on a different type of shop floor from Ricoh's."

Initially implemented in the branch and factory in Tokyo, the company has expanded the project since 2009, encompassing its branches and factories in Toyohashi and Osaka. "As the next step, we are planning to develop a standard manual for CO₂ reduction activities to make them part of our everyday operations," said Mr. Takashi Aoki.



Under the improved arrangements, the air conditioners come on again 20 minutes before the start of the day and the cleanliness level is then verified