

Advanced nations need to reduce their environmental impact to one-eighth the fiscal 2000 levels by 2050.

Based on this perception, the Ricoh Group has established an Action Plan and is promoting sustainable environmental management.

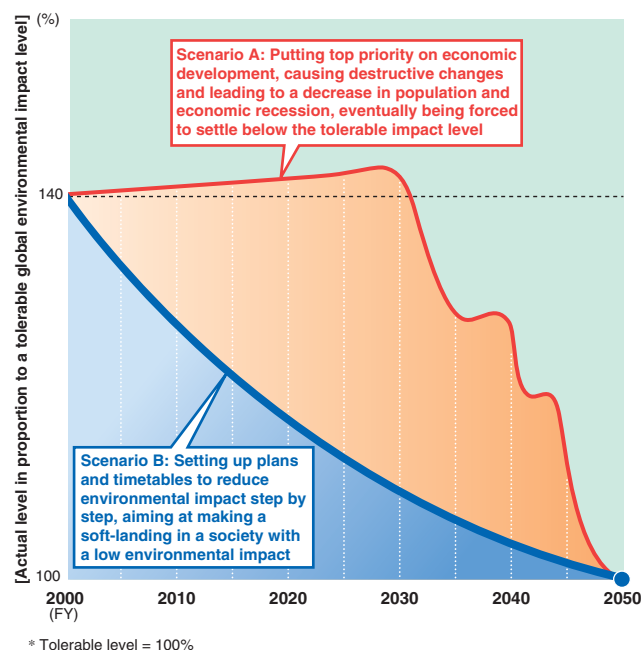
Importance of actions that are based on a long-term vision

To conserve the global environment and achieve a sustainable society, it is necessary to limit environmental impact created by human activities to a level that is within the Earth's self-recovery capabilities. To meet this requirement, we must first envision the ideal society and global environment; then we must create a long-term vision to realize our ideals and aggressively promote environmental conservation activities. Global environmental conservation is a challenge for which there is no second chance, and it is highly probable that we will never be able to build our vision if we act on short-term goals. With this perception in mind, in developing the Environmental Action Plan that was implemented in fiscal 2005, we gathered and analyzed a variety of information to allow us to envision human society in 2050 and assessed its impact on our businesses. We concluded that it was necessary to set up specific action plans under the Extra-Long-Term Environmental Vision, a perception that advanced nations need to reduce their environmental impact to one-eighth of the fiscal 2000 levels by 2050.

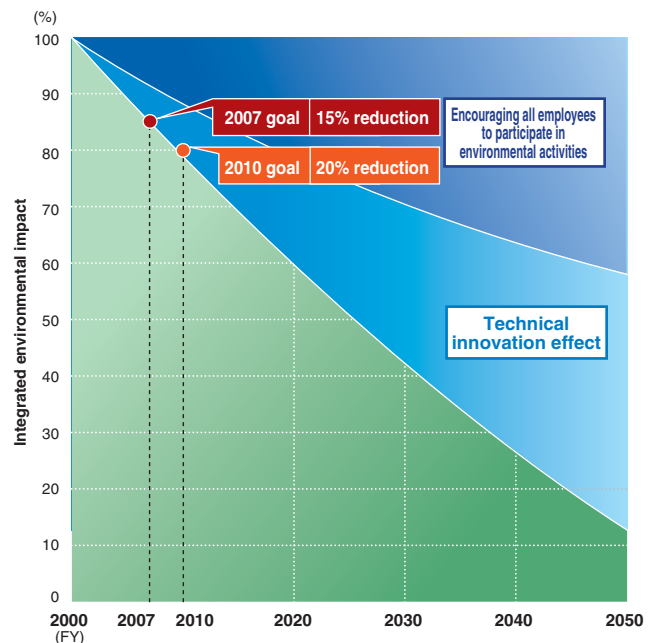
Social changes towards 2050 and how the Ricoh Group intends to cope with the changes

What will our society be like in 2050? The world's population will have reached nine billion. Mineral resources may have run out. Restrictions may be imposed on the use of land. On the other hand, energy sources may have shifted from oil to alternative energies in the hope of preventing global warming. These might lead to substantial changes in social and business models. To prepare for a new era in which we may no longer be able to use the abundant virgin materials and fossil fuels that we have used to date, the Ricoh Group is trying to develop environmental technologies that require fewer resources and new product materials that are alternatives to oil. Based on the perception of future social changes and the prospect of the impact such changes are likely to have on our businesses, we have set up an Environmental Action Plan depicting measures we should take today to prepare for the future. We believe that a quick response to a drastically changing society will strengthen our business competitiveness.

Two Scenarios for Reducing Global Environmental Impact



Integrated Environmental Impact Reduction Goals

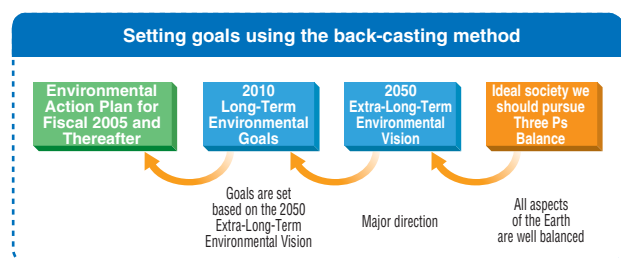


Setting targets using the back-casting method to attain final goals

The Ricoh Group uses the back-casting method to set targets. In this approach, we first set final goals and then determine target values as milestones on the journey to those goals. Setting the Three Ps Balance as its final goals, the Ricoh Group created the Extra-Long-Term Environmental Vision. Based on this vision, we determined the Year 2010 Long-Term Environmental Goals, which aim to reduce environmental impact by 20% by fiscal 2010. Under the Environmental Action Plan, which started in fiscal 2005 according to the

Year 2010 Long-Term Environmental Goals, we strive to achieve the target of reducing environmental impact by 15% by fiscal 2007 on the estimation that our business will expand by 8% or more a year. We adopted “integrated environmental impact”^{*} as an index for target values and aim to reduce it in terms of absolute values. Integrated environmental impact is obtained by integrating all environmental impact caused by CO₂ emissions, resource use, use of chemical substances, etc. ^{*}See Page 54.

How to Set Environmental Goals



Consideration in Preparing an Environmental Action Plan



OPINION

Opinions of the Intellectuals (1)

WWF Japan

Ricoh Group's Extra-Long-Term Environmental Vision will serve as a reference to assess its consistency on sustainable environmental management.

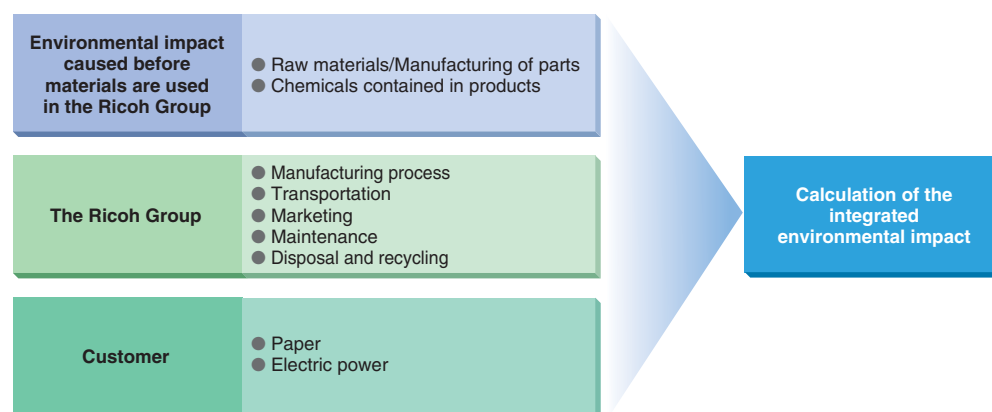
Ricoh Group's Extra-Long-Term Environmental Vision is highly accredited because of the measures it adopts: making predictions of the future global environment and setting up the appropriate long- and medium-term environmental conservation goals using the back-casting method. More than that, it looks at the whole life cycle and sees the environmental impact as a whole to make future predictions. This avoids a one-sided point-of-view, in which, for example, we succeed in reducing toxic chemicals while there is an increase in greenhouse gas emissions. Since the back-casting method creates lead time for the measures to bring in results, this means that it is possible to compile plans based on the concept of prevention. This can lead to the development of environmental technologies ahead of time. The Ricoh Group's Extra-Long-Term Environmental Vision is a long-term vision looking far ahead into the future, to the year 2050. We believe this vision will serve as a reference to assess the Ricoh Group's consistency in environmental management. We hope that the Ricoh Group will review its vision occasionally to take in new scientific findings through examination by outside experts and continue to make efforts to keep the vision consistent with the reality of the global environment.

Reducing the environmental impact of all business activities in terms of absolute values

If reduction of CO₂ and resource conservation is promoted separately, environmental impact reduction goals might be achieved in a defined area, but the environmental impact might increase more than the amount reduced in other areas or processes. To ensure that environmental impact is reduced, we have to first identify the environmental impact of all business activities and then determine, from a comprehensive viewpoint, the kind of initiatives that should be taken at each stage of business.

Also, goals set based on units and factors alone, which are efficiency-based relative indices, might not be effective for environmental conservation in practical terms. Therefore, it is important to set goals using “absolute values” for environmental impact as well. Thinking this way, the Ricoh Group aims to reduce the integrated environmental impact of its entire business activities by absolute values.

Reduction Areas of Environmental Impact (Eco Balance)



OPINION

Opinions of Intellectuals (2)

AGS Promotion Office, The University of Tokyo * AGS (Alliance for Global Sustainability)

For global sustainability, it is essential to achieve one's commitments based on a global vision.

The idea of starting sustainable environmental management from making future predictions on how our society will be and what kind of services will be required in such a society, and then establishing an action plan based on the back-casting method, is characterized by a system of self-management and goal achievement, and we highly value that idea. The Ricoh Group explains its specific environmental action plan as developing and selling further improved energy-saving machines and equipment, which is a valuable approach that is easy for the general public to understand. Although we are well aware that the Ricoh Group's direct influence is limited in our vast social system, we hope that Ricoh will keep on sending a convincing message for global sustainability that it is essential that each individual, business, and nation assumes their responsibilities based on a global vision.

We presume that the next challenge for the Ricoh Group will be to set a time frame for integrating the two paths: the path that leads to the goal of sustainable environmental management set by the back-casting method, and the other path currently taken by their businesses. Although the two paths may head in the same direction, it may require a great leap to reach higher ground. We believe that Ricoh will achieve their goal.

<http://www.globalsustainability.jp/en/top.php>

Achieving goals on the sustainable environmental management level and contributing to reducing the environmental impact of society as a whole

To continue its efforts to reduce environmental impact from a long-term perspective on the basis that environmental impact should be reduced to a level that the Earth's self-recovery capability can deal with, the Ricoh Group needs to continue business and grow as a company by promoting sustainable environmental management that generates economic value through environmental activities. There are three stages in the Ricoh Group's environmental conservation efforts. After the Passive Stage and the Proactive Stage, we are now working towards the Responsible Stage. In the Passive Stage, we coped with social pres-

ures by dealing with laws and regulations and competing with other companies. In the Proactive Stage, however, we began to take voluntary actions to reduce the environmental impact of our business activities and products with a sense of mission as a global citizen. Currently, the Ricoh Group is pursuing economic value while aggressively reducing the environmental impact of its business activities through activities conducted by all employees and the development of environmental technologies to realize sustainable environmental management. Further, in developing environmental technologies, we will not remain within the range of our current business sectors but aim at contributing to reducing the environmental impact of society as a whole.

Three Steps in Environmental Conservation Activities (From Passive Stage to Proactive Stage and Responsible Stage)

	Passive Stage	Proactive Stage	Responsible Stage
Purpose	Coping with social pressures <ul style="list-style-type: none"> • Laws and regulations • Competition • Customers 	Carrying out its mission as a global citizen <ul style="list-style-type: none"> • Self-imposed responsibility • Voluntary planning • Voluntary activities 	Simultaneously achieving environmental conservation and profits
Activities	Passive measures to meet laws and regulations, competing with other companies, and satisfying customer needs	<ol style="list-style-type: none"> 1. High-aiming, aggressive activities to reduce environmental impact <ul style="list-style-type: none"> • Energy conservation • Resource conservation and recycling • Pollution prevention 2. Improved awareness of all employees 	Environmental conservation activities \neq QCD activities* Ex.: Reduced number of parts Reduced number of process steps Improved yield and operation rate
Tools		<ol style="list-style-type: none"> 1. ISO 14001 2. LCA 3. Volunteer Leader Development Program 	<ol style="list-style-type: none"> 1. Strategic goal management system 2. Environmental accounting 3. Sustainable environmental management information system

*Activities to improve quality, control costs, and manage delivery times.

OPINION

Opinions of Intellectuals (3)

Dr. Kohmei Halada, Independent Administrative Institution National Institute for Materials Science (NIMS)

To be a global business leader, it is necessary to take into consideration more advanced strategies through long-term plans.

The Ricoh Group must be commended as a responsible member of the global community for adopting the back-casting method, which involves first predicting how the world should be in year 2050, and then setting long-term and shorter term targets towards the years 2010 and 2007, because this establishes a new style for coping proactively with global environmental problems including global warming and depletion of resources. This means that Ricoh itself is progressing from merely making the conventional passive commitment to "caring for the environment" and a relative commitment as a "front runner" to being a responsible social member with problem-solving capabilities. I hope that other companies will start adopting this method and set their targets from the same perspective. On the other hand, being a pioneer means that you face new problems, since new solutions always bring with them problems to be solved. In particular, although the forecast for 2050 sets a goal of reducing the environmental impact to one-eighth of what it is today, which seems basically adequate, this figure is the goal for the whole world and I wonder whether an advanced business leader like Ricoh should be satisfied with the global average. I would like to suggest that to be a global business leader, Ricoh ought to take into account more advanced predictions by making long-term plans and other measures.