Preserving Ecosystems and Environmental Communication

Having made the preservation of ecosystems a pillar of our environmental vision, the entire Hitachi Group is now taking action. We are also working to deepen stakeholders’ understanding of our environmental activities by disclosing information, and we are encouraging two-way communication to improve those activities.

Preserving Ecosystems

We have made the preservation of ecosystems a pillar of our environmental vision and incorporated it into our Action Guidelines for Environmental Conservation. In fiscal 2013, we conducted the Business Assessment on the Preservation of Ecosystems. We were also active outside the company, taking part in the Ecosystems Focus Area of the World Business Council for Sustainable Development (WBCSD). We will continue working to raise awareness and knowledge in the company and to promote ecosystem preservation throughout the entire Group, while laying the groundwork for ecosystem preservation programs through activities outside the company.

Corporate Relationship with Ecosystems

Corporations depend on “ecosystem services,” or the benefits received from ecosystems, including materials such as fibers and wood, and the ability of the ecosystem to maintain the quality and quantity of air, water, and soil. To continue receiving these benefits and to restore ecosystems, we believe that we can contribute to ecosystem preservation through both business and social activities. Specifically, for contributions through business, we are promoting designs and production that reduce the impact on ecosystems throughout the product life cycle (material procurement, production, transportation, use, collection and disassembly, and appropriate disposal), as well as increasing the number of products and services for direct preservation of ecosystems through water and air purification. Viewing chemical substance management as part of ecosystem preservation, we continue to ensure that it is carried out correctly. For contributions to society, we encourage tree planting and ecological surveys of rare plants and animals by employees through volunteer programs, along with other programs that preserve ecosystems.

Corporations and Ecosystems
Encouraging Action

Following the first edition of the Hitachi Group Guide to Preservation of Ecosystems issued in fiscal 2011, we issued a second edition in fiscal 2012, presenting employees with our thinking on the relationship between corporate activities and ecosystems, while introducing trends and examples of initiatives being taken around the world. To further improve our employees’ understanding, in fiscal 2013 we carried out the Business Assessment on the Preservation of Ecosystems at 229 factories and offices in and outside Japan. This is the start of a program of self-assessment on the relationship between business operations and ecosystems. Through these assessments, we hope to encourage actions that will help preserve ecosystems from many aspects, including design, procurement, manufacturing, transportation, and product use. We intend to stimulate thinking about the development of new products and services related to ecosystem preservation as well. For contributions to society through nature conservation and by studying the impact on and benefits to local ecosystems, we are developing a deeper appreciation of ecosystem preservation. We will continue to review this assessment program and improve each Group company’s initiatives.

In fiscal 2013, we again held internal training sessions within the Group on preserving ecosystems, and we invited experts from NGOs and government agencies to describe policy trends and thinking. We also held discussions on using Business Ecosystems Training (BET), new course materials developed by the WBCSD for teaching company employees about the relationship between corporate activities and preserving ecosystems.

Contribution to the Development and Spread of Learning Materials for Employees

For the BET learning materials developed and released by the WBCSD in February 2012, Hitachi prepared Japanese-language versions of all modules and of the instructor manuals and made them available on the Web. The biodiversity working group of four Japanese electrical and electronic industry associations,*1 of which Hitachi is a member, developed an educational tool, Let’s Study Biodiversity, that demonstrates the relationship between the environmental protection programs from companies in these industries and the global Aichi Biodiversity Targets.

Laying the Groundwork for Ecosystem Preservation by Society

Employee Participation in IT for Ecosystem Preservation at the IT Eco Experimental Village

The IT Eco Experimental Village, established in Hadano, Kanagawa Prefecture, in April 2011, is being used for trials and studies to determine how IT can be used to promote ecosystem preservation. The site is a satoyama (natural woodland) area of approximately 7,000 m² on the outskirts of the city, consisting of fallow farmland, bamboo groves, and forests, etc. In cooperation with the local community, local government, and schools, rice fields are being restored, helping to preserve the ecosystem in this area. IT systems are being used to gather information on flora and fauna. In fiscal 2013, the third year of the program, some new initiatives were launched. For example, information on the natural environment (photos, voice data, location information, etc.) is being compiled in a

*1 JEMA (Japan Electrical Manufacturers’ Association), JEITA (Japan Electronics & Information Technology Industries Association), CIAJ (Communications and Information Network Association of Japan), and JBMIA (Japan Business Machine and Information System Industries Association)
database, using various Hitachi technologies such as the Hitachi voice SNS "talkfield" application for smart devices, and a system using AR technology for on-site visualization. We are now studying the best ways to take advantage of this information. We are also active in the Research Group for Future City Design, an industry-academia-government collaboration led by Yokohama National University, which is conducting research on urban innovations for solving global environmental issues. The IT Eco Experimental Village is being used for field studies and analysis on how to build and use the next-generation integrated ICT platforms that will be essential to future city design.

*1 Hitachi voice SNS "talkfield": A digital social service using a dedicated application to post and share voice messages among users.
*2 AR technology (Augmented reality technology): Technology that superimposes layers of digital information over a real-world environment that's displayed in real time.
*3 AR-based On-site Visualization System: A product from Hitachi Solutions that uses AR technology. It presents location-based information along with live images and operational data on an Android device.
*4 ICT: information and communication technology

![Planting rice with people from the local community](image1)

![Field survey using "talkfield"
](image2)

**Participation in the IPBES International Workshop (Representing the WBCSD)**

In September 2013, the Asia-Pacific Regional Workshop on Regional Interpretation of the IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services) Conceptual Framework and Knowledge Sharing was held in South Korea. As the sole participant from industry, Hitachi reported on corporate initiatives for ecosystem preservation in the WBCSD. The results of the symposium discussions were summarized and made public in an official United Nations document (IPBES/2/INF/12), in which it was proposed that the WBCSD approach to ecosystem preservation by industry be incorporated into the IPBES. This document was presented at the IPBES second plenary session held in Antalya, Turkey, in December 2013.

**WEB**

Report on Asia-Pacific Workshop
http://isp.unu.edu/events/2013/ipbes_workshop_korea.html

IPBES Second Plenary Session Report (IPBES/2/INF/12)
http://www.ipbes.net/images/K1353757.pdf

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**Environmental Report**

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Environmental Education

Hitachi Group Training is offered to all Group employees with a view to raising awareness and aiding understanding of environmental issues.

Activities and Results

In fiscal 2013 we trained employees who work in air and water quality or waste management to provide them with basic knowledge and to inform them of recent amendments to laws and operational procedures. In addition to Hitachi Group training, individual companies and units provide education tailored to their own business area. For general education, we offer Internet-based e-learning courses in three languages: Japanese, English, and Chinese. To date 157,379 employees worldwide (97 percent of target employees) have taken this course.

Environmental Education and Training System

Next Steps

From fiscal 2014, we will continue with environmental education training to enhance the knowledge and skills of staff in charge of factory management.
Environmental Communication

We have published reports every year on our environmental protection initiatives, their results, and our plans. The Hitachi Group Environmental Report, issued each year in Japanese starting in fiscal 1998, was first published in English in fiscal 2000 and in Chinese starting in fiscal 2005. In fiscal 2011, this report was combined with the Hitachi Group Corporate Social Responsibility Report as the Hitachi Group Sustainability Report, in response to the global need for a sustainability report. The Sustainability Report 2013, issued for fiscal 2013, was awarded a Prize for Excellence in the 17th Environmental Communication Awards sponsored by the Japanese Ministry of the Environment and others. This is the second consecutive award, following the Sustainability Reporting Award for the fiscal 2012 report. We also cooperate with SRI\(^1\) ratings and other environmental surveys.

\(^1\) SRI: Socially Responsible Investment. An approach to investing where shares are selected partly on the basis of criteria related to CSR.

Website Communication

In addition to the Sustainability Report, the Environmental Activities section of the Hitachi website provides more detailed information about the main environmental services and activities of the Hitachi Group. In fiscal 2013, two new sections were added—“Working to secure societies future through innovation and environmental technology” and “To Create a Sustainable Future”—to visually introduce our environmentally conscious products and services, as well as pages introducing the 34 business sites certified in the Eco-Factories & Offices Select program.

External Environmental Awards

We received outside recognition for our environmental activities again in fiscal 2013, including many awards, among them were the Energy Conservation Grand Prize 2013 for a next-generation smart factory project at Omika Works, and awards for our Heat Pump Water Heater “EcoCute”, and other products and services. Click on the following link for the list of awards received in fiscal 2013.

WEB External environmental awards
http://www.hitachi.com/environment/activities/data/commendation.html
Dissemination of Information through Exhibitions and Forums

Valuing the opportunity for direct dialogue with stakeholders, we participate in environment-related exhibitions. In Japan, we presented a special exhibit on the theme of Hitachi’s Solutions for Social Issues at the Hitachi Innovation Forum (October 2013). Outside Japan, we took part in the International Greentech & Eco Products Exhibition & Conference (IGEM) in Malaysia in October 2013, the China International Green Innovative Products & Technologies Show 2013 in Guangzhou in November 2013. In addition, we presented booths on environment-related themes at the Hitachi Social Innovation Forum held in Rio de Janeiro, Brazil (November 2013), in New Delhi, India (December 2013), and in Riyadh, Saudi Arabia (February 2014).

We also provided opportunities for discussions with stakeholders on environmental issues. The theme of our 5th Eco-Engineering Forum,1 which was held in Washington, D.C., USA in October 2013, was shale gas. At the WBCSD, we discussed ecosystem preservation and electric power projects.

*1 Eco-Engineering Forum: An event jointly sponsored by the American Association for the Advancement of Science and the Brookings Institution

Worldwide Environmental Partnerships

We are promoting environmental communications, holding social contribution activities on environmental themes, and deepening exchanges with local stakeholders. In fiscal 2013, we carried out environmental education and tree planting as well as cleanup activities in regions around the world.

WEB Environmental Communication
Forest Preservation (Philippines)
For an area around Subic Bay, we have been commissioned by a local government agency to help preserve a 1,700 m² area of forest. In fiscal 2013, our employees planted 200 mahogany saplings. In recognition, the company received a Good Corporate Governance Award from the local government. (Hitachi Terminals Mechatronics Philippines Corporation)

Environmental Education (USA)
The company designed and built an outdoor classroom for local elementary school children to learn about the environment. A rock garden, human sundial, vegetable garden, and other items were created and used as learning tools for environmental classes, furthering students' knowledge and understanding of the environment. (Hitachi Computer Products (America), Inc.)

Tree Planting (China)
Approximately 100 employees and their family members planted 50 fern pines, able to withstand strong winds, with the goal of increasing greenery and creating “life surrounded by green.” (Hitachi Air-conditioning & Refrigerating Products (Guangzhou) Co., Ltd.; Hitachi Compressor Products (Guangzhou) Co., Ltd.)

Clean Nogawa Strategy (Japan)
The source of the Nogawa River, a class A river with a major influence on local ecosystems, is on the grounds of the Central Research Laboratory of Hitachi, Ltd. Every year since 2011, we have taken part in the Clean Nogawa Strategy for preserving this river. This program is sponsored by the local region. In 2013 our employees helped clean up the riverside, working under the early summer sun. (Central Research Laboratory, Hitachi, Ltd.)