MESSAGE

Tackling Global Environmental Challenges through Technology and Business

Toward Realizing a Low-carbon Society through Global Collaborative Creation

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Global environmental problems have become increasingly acute with the progress of global-scale industrialization and urbanization. The international community has begun to tackle issues that extend beyond national borders, such as global warming, resource depletion, and ecosystem destruction, with the UN playing a central role.
Sustainable development over the long run requires raising environmental awareness and acting together with diverse stakeholders, but how does the Hitachi Group view global environmental problems and take them on?
Koji Tanaka, Executive Vice President of Hitachi, Ltd., discusses this.

Hitachi's Contribution to Society through Its Business

Society today faces various challenges, but the most serious one is the global environment. The growth of society has resulted not only in global warming but also in resource depletion, air pollution, water shortages, ecosystem destruction due to development, and other problems. Therefore, companies that have supported development through their economic activities share in the responsibility for finding solutions.

Under its Corporate Credo of "contributing to society through the development of superior, original technology and products," Hitachi has been contributing to society through technology and business for over 100 years.

At one time, such a corporate culture was seen as a relic of the past, but as shown by increased environmental, social, and governance investment and the like, contributing to solving the problems

of global society has been reevaluated as corporate value. Hitachi believes that worldwide trends are moving in this direction.

Hitachi's corporate culture and attitude have remained the same and will not change in the future, but it further its efforts on global environmental issues. Of particular importance is avoiding further progression of global warming, which affects worldwide climate and to that end promoting carbon reductions in all areas of society.

Reducing CO_2 Emissions with IT × OT

Hitachi is engaged in environmental management in a wide range of business areas, but its efforts toward reducing carbon dioxide (CO_2) emissions are particularly effective in the fields of electricity and industry. In these fields, Hitachi has primarily been pursuing product-oriented efforts, including energy-saving devices and industrial equipment for power systems, high-efficiency power plants, and provision of low-carbon energy systems. In the future, in addition to these effects, the key will be reducing the CO_2 emissions of entire systems to which this equipment connects.

Solutions that employ state-of-the-art digital technologies will further promote carbon reductions, for example, use of the Internet of Things (IoT) to make the whole power grid smarter while balancing the supply and demand of electric power, or improving the efficiency of entire industrial plants, and the use of artificial intelligence to find operating methods that make more efficient use of equipment.

Many of these solutions are created through collaborative creation with customers. Hitachi offers the IoT platform Lumada, which utilizes various technologies in the fields of information technology (IT) and operational technology (OT) for social and industrial infrastructure that the company has cultivated over the years. Hitachi's goal is to integrate the control technology that actually drives worksites with technologies for analyzing and utilizing data to accelerate the collaborative creation of solutions.

Starting with the motors that were its founding product, Hitachi has created product groups that have improved efficiency and reliability over its long history by repeatedly evolving through technological innovation. Hitachi combines the rich knowledge provided by OT with big data obtained by utilizing the IoT in many products, facilities, and systems that have been incorporated into social and industrial infrastructure over a long time. For example, one of Hitachi's strengths is that it can provide value from the customer's point of view, such as improvement of energy efficiency based on on-site customer operations.

Through the collaborative creation of solutions utilizing digital technology, Hitachi will realize reduced CO_2 emissions together with reduced energy costs for customers and increased production efficiency. Furthermore, sharing know-how globally will increase the number of cases that match local characteristics. Hitachi believes that further advancement of collaborative creation will accelerate global efforts to solve environmental problems.

Innovation through New Industry–Academia Partnerships

From a long-term perspective, technical innovation is indispensable to reducing CO_2 emissions. The mission for corporations is to promptly commercialize the results of state-of-the-art scientific research that leads to dramatic energy savings and improved efficiency and to widely disseminate these results to society.

As a global open laboratory working on future social issues from a long-term perspective, Research & Development Group of Hitachi, Ltd. aims to lead innovation through collaboration with research organizations around the world. Also, at joint laboratories established with the University of Tokyo, Kyoto University, and Hokkaido University, Hitachi researchers have taken up residency and are

Joined Hitachi, Ltd. in 1974. Appointed General Manager, Hitachi Works, Power Systems in 2006; Vice President and Executive Officer in 2007; Executive Vice President and Executive Officer in 2011; and Representative Executive Officer, Executive Vice President and Executive Officer, Assistant to the President (Nuclear Energy, Power, Energy Solutions, Industry & Distribution, Water) in 2016. He is concurrently serving as President of the Hitachi Global Foundation.

engaging in open innovation alongside academia. The hope is that these activities will become new model cases of industry–academia collaboration, academic–industrial collaborative creation, and the creation of innovation leading to the realization of solutions to social issues.

Creating a Sustainable Society through a Long-term Vision

Hitachi established Hitachi Environment Foundation in 1972 (called the Pollution Research Center at its initial establishment) and has been ahead of the times in supporting research on environmental issues and promoting and spreading environmental conservation activities. In 1974, along with the newspaper publisher Nikkan Kogyo Shimbun, Ltd., Hitachi established the "Environment Prize" to honor research, technology development, and other activities toward environmental conservation that have achieved outstanding results. The activities of such foundations have made significant contributions to the improvement of social environmental awareness. The five Hitachi foundations, including the Hitachi Environment Foundation were combined in 2015 into the Hitachi Global Foundation, where I serve as President, and further activities supporting environmental conservation and building a sustainable society will continue in the future.

To build a sustainable society for the future, major changes must be made in the form of society. Hitachi has formulated "Hitachi Environmental Innovation 2050" with a target year of 2050 to reconfirm that a long-term vision is necessary to solve environmental problems, and furthermore to demonstrate both inside and outside the Hitachi Group its determination to lead such initiatives as a global company over the long term.

Through its Social Innovation Business involving collaborative creation with global stakeholders—including group companies, partner companies, corporate customers, and individual customers—Hitachi will continue addressing environmental issues and strive to realize both improved quality of life and a sustainable society.