

# Hitachi's Initiatives in Environmental Preservation

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### 1. Introduction

Hitachi, Ltd. and its group companies are active in numerous fields – not only information and telecommunication systems, but also electronic devices, power and industrial systems, digital media and consumer products, materials and even financial services. Our goal is to create new value in wide-ranging fields and fundamental credo is “to contribute to society through the development of superior, original technology and products”. Guided by this credo, we have selected the following three environmental themes in order to carry out our Environmental Vision of pioneering sustainability:

- Prevention of global warming
- Conservation of ecosystems
- Resource recycling

To achieve these goals we unveiled our long-term plan called Environmental Vision 2025 in December 2007. Under this vision, we will promote further reductions in CO<sub>2</sub> emissions through the usage of our products reaching 100 million tons annually in fiscal 2025.

### 2. Initiatives

We believe that we can help reduce CO<sub>2</sub> emissions on two broad fronts involving our ICT operations. These are the provision of power-saving ICT equipment to our customers and resource reductions via the use of ICT systems. To provide power-saving ICT equipment, we are promoting a power conservation plan called the Harmonious Green Plan. Under this plan, we will also reduce data center power consumption. There are various ways in which ICT systems can help reduce the use of resources. A prime example is the work style reform we are implementing at Hitachi.

### 3. Harmonious Green Plan

The goal of the plan is to reduce CO<sub>2</sub> emissions from ICT equipment by 330,000 tons over the next five years. To achieve this goal, we are developing and applying power-saving technologies across a wide spectrum of levels from the component level through the product and operational levels. At the component level, we are employing power-saving components. At the product level, initiatives include developing efficient cooling methods and effectively combining storage media to reduce power consumption. At the operational level, we are developing virtualization technologies and technologies for optimally controlling power consumption according to the task being performed. We have already launched some products incorporating these technologies such as power-saving blade servers, storage systems, and router switches.

### 4. CoolCenter50 Project

We have another project to reduce environmental burden named CoolCenter50 Project. The goal of the project is halving power consumption at our data centers over five years. Data centers are equipped not only with ICT systems but also with other equipment like air conditioners. As we are developing solutions to lower overall power consumption at data centers, our solutions include airflow and thermal analysis for more efficient air conditioning.

### 5. Work style reform program

One example of our efforts to reduce CO<sub>2</sub> emissions with ICT systems is our ongoing work style reform program. This program involves the 50,000 employees at Hitachi. The main tool is a thin client PC, which has no hard disk drives to bolster information. Another feature of the program is that employees are free to sit where they like, rather than sitting at his/her designated desk. This working style increases the amount of time our employees can spend with clients by up to 30%. Floor space efficiency increases by the same percentage. This contributes to reduction of transportation and paper consumption. All these changes should reduce CO<sub>2</sub> emissions. However, we need a method to quantify the benefit.

### 6. SI-LCA (System Integration - Life Cycle Assessment)

That is why we developed SI-LCA, a new method for assessing systems over their life cycle. SI-LCA evaluates the environmental impact of systems and services throughout their lifecycles. When new systems are introduced, they yield positive benefits such as a reduction in the movement of people and things and lower resource consumption. However, the use of ICT equipment also has negative consequences: system manufacturing requires resources, and ICT equipment requires power. SI-LCA evaluates both positive and negative impacts at each of the 10-lifecycle stages such as design stage, shipment stage, transportation stage, etc. According to our SI-LCA evaluation, the adoption of our new work style has reduced emissions by 22% in total over the entire lifecycle. The SI-LCA is a general-purpose program and the application is not limited to the work style reform.

The use of leading-edge ICT systems will support our global development and help prevent global warming. However, further advances will require multinational cooperation and the standardization of evaluation methods. We believe that ITU can take a major role in these fields and we will strongly support that in coming years.