

## Contribution to the Realization of a **Low Carbon Society**

As environmental problems such as global warming and climate change have become more conspicuous and serious, there have been active discussions for reaching a global agreement on a long-term goal of "halving greenhouse gas emissions by 2050." The Japanese government recently declare to the international community the target of reducing Japan's greenhouse gas emissions by 25% by 2020, on the condition that all developed nations will work together to build a fair and effective framework and agree to set an ambitious target. Over the long term, the Japanese government is considering establishing a target of cutting emissions by 80% by 2050.

In line with this trend, the Energy Saving Act\* was revised on April, 2010. As a result, energy consumption now has to be managed and controlled by each company, not by each factory or office. Many municipal governments have also tightened their regulations about energy saving and environmental protection. Furthermore, some measures to encourage people to purchase energy-saving products have been introduced. Among them is the eco-point system for people purchasing consumer electronics, cars and housing. In short, there has been an accelerating move toward realizing a low carbon society in which greenhouse gas emissions can be reduced without sacrificing sustainable growth.

As the OKI Group aims at contributing to society through its products and services based on its corporate philosophy, the realization of a low carbon society is one of its important agendas. In conjunction with the development and popularization of IT, the

energy saving use of IT as well as energy saving by IT has become more and more important. The OKI Group, as a business group that has been deeply involved in IT, has actively promoted

\* The Energy Saving Act: The Act on the Rational Use of Energy

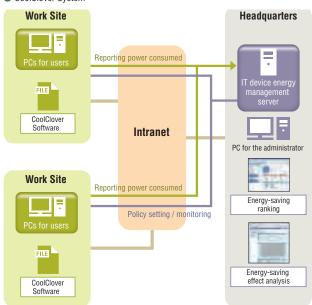
### Promotion of Green IT

As the number of IT devices has dramatically increased with the spread of IT, the energy saving use of IT devices (Green of IT) has become an important challenge. The OKI Group has been active in saving power used for its products such as automated teller machines (ATMs), info-telecommunication devices and printers. We have also conducted an environmental assessment for each product in the design phase by comparing it to its predecessors. In fiscal 2000, we introduced the OKI Eco Product Certification Program (see Page 36) through which the energysaving feature of each product is clarified.

The utilization of IT helps make business processes more efficient, and improve the productivity and energy efficiency of economic and social activities. Such energy saving through the effective use of IT (Green by IT) has also attracted considerable attention. The OKI Group has made various R&D efforts in order to utilize its technologies in offices, retail stores and transportation systems that have been fallen behind other sector in energy conservation. More specifically, OKI has developed and offered energy management systems for office/commercial buildings and IT devices that allows the visualization of energy consumption.

For example, CoolClover, OKI's energy management system for IT devices, achieves the energy-saving use of IT devices such as PCs. If a non-operation state of a device continues, the system detects it and makes the device go to an energy-saving mode. PCs connected to CoolClover need to have the dedicated control software installed in them. The system calculates the power consumed by each PC based on its operational status and sends the calculated data to the server. In this way, the power consumed by the entire office as well as the power saved can be managed. The system also allows the flexible setting of different recovery times for different PC users without sacrificing their convenience, controls the power consumed by their PCs by predicting how long they leave their desks during working hours. It is notable that the system enables the energy management of individual PCs and the entire office concurrently. Two technologies are used in CoolClover, sensor network technology to collect information and inferencing technology to make situational judgments based on the collected data. Believing that these two technologies can be utilized in many different fields, OKI is currently studying on possible applications thereof.

### CoolClover System

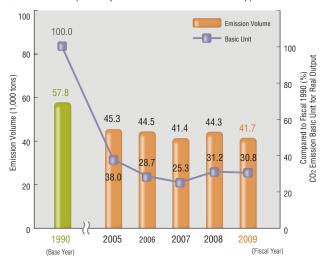


# The OKI Group's Environmental Efforts in Business Activities

While pursuing energy efficiency through products and services (Green IT), the OKI Group is also committed to reducing greenhouse gases such as carbon dioxide (CO2) emitted from its business activities. The OKI Group has already started various activities to meet the target for the Kyoto Protocol first commitment period. We made a 69.2% improvement of the basic unit for CO<sub>2</sub> emission with respect to real output\* during fiscal 2009. It means that we have already achieved a goal set in the Voluntary Action Plan on Measures to Fight Global Warming of the Japanese electric and electronics industry, "improving the basic unit for CO2 emissions with respect to real output in fiscal 2010 by 35% or more compared to that in fiscal 1990." Our other efforts to combat global warming include carbon offset activities through forestation (in Europe and Southeast Asia), production reforms, and the replacement of aging infrastructure facilities, let alone appropriate responses to the revision of the Act on the Rational Use of Energy.

Global warming is a major issue that should be addressed by people around the world in the long run. The OKI Group will continue to address this issue through its products and business activities.

#### CO2 Emissions(from Major Production Sites of the OKI Group)



\* Basic unit for CO2 emission with respect to real output: CO2 emission / real output (real output = nominal output / Bank of Japan's Domestic Corporate Goods Price Index for electrical machinery and equipment with fiscal 1990 as the base year)

### Column

### **Enhancing Investment in LED (Light-emitting Diode)**

LED has recently attracted considerable attention as an environmentally-friendly light-emitting material. While no harmful substances, such as mercury, are used in LED, LED lamps consume about half the power of fluorescent lamps and do not generate much heat. A pioneer in using LED technology, the OKI Group developed the world's first printer using LED as a light source in 1981. Since then, the group has contributed to the improvement of LED technology. In 2006, it developed Epi Film Bonding (EFB) technology\*

The group also succeeded in high volume production of LED print heads using this technology

In April 2010, the group's new production facility in Takasaki, Gunma began operation. The facility was acquired in order to increase the group's production capability for LED print heads for non-impact printers\*<sup>2</sup> and develop new businesses utilizing LED technology. The new facility has a clean room with a high-level degree of cleanliness. Covering approximately twice as large a space as other clean rooms, the facility is expected to achieve a fourfold boost in the group's LED print head production capability. Located close to Takasaki Office, the group's R&D base for printers, the new production facility is expected to contribute to closer coordination between R&D and production for developing innovative products.

<sup>\*1</sup> Epi Film Bonding technology enables thin film materials to be bonded utilizing intermolecular bonding force. It allows the production of higher-density and higher-layer semiconductors, leading to various high-speed and low-power compound devices.

<sup>\*2</sup> Non-impact printers do not operate by striking heads against ribbons.