

Prevention of Global Warming

The Hitachi Chemical Group positions the issue of global warming as a serious challenge for us and is taking wide-ranging measures to reduce total energy consumption and the emission of carbon dioxide (CO₂), hydrofluorocarbons (HFCs), sulfur hexafluoride (SF₆), and other greenhouse gasses.

Reduction of CO₂ Emissions from Energy Consumption

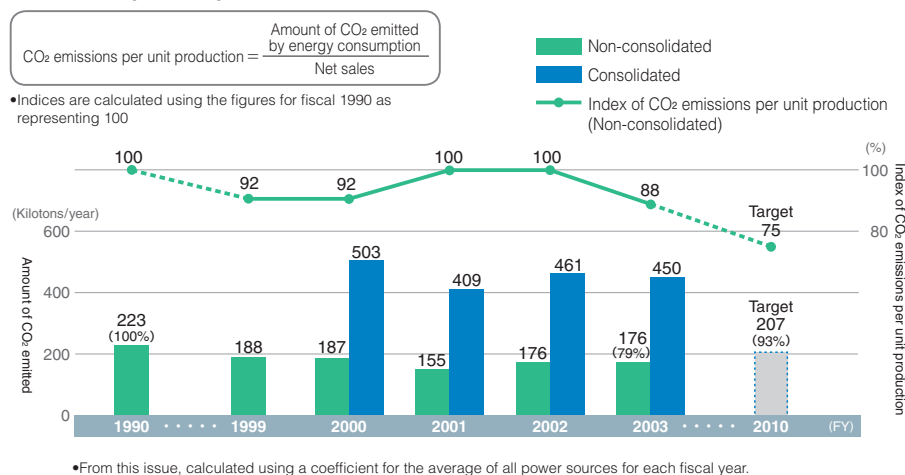
In our efforts to reduce CO₂ emissions, the Hitachi Chemical Group has set two target figures to be achieved by fiscal 2010: the actual amount (absolute figure) of CO₂ emitted, and the index of CO₂ emissions for energy consumption per unit production.

In fiscal 2003, Hitachi Chemical reduced the amount of CO₂ emissions to 79% of the 1990 level, achieving its target for 2010 (93%) far ahead of schedule. Even though production was higher than the previous year, we were able to successfully reduce CO₂ emissions through adopting a variety of measures, including concerted use of high-efficiency facilities, a reduction of fuel consumption by using co-generation equipment, and the installation of waste heat recovery systems.

We brought down the index of CO₂ emissions for energy use per unit production in fiscal 2003 to 88% of the 1990 level through increasing the proportion of energy-saving electronics-related products

in total production, and various other measures. The Hitachi Chemical Group will continue its efforts to reduce CO₂ emissions for the 2010 target (75% of the 1990 level) by installing large-scale energy-saving equipment and by altering the type of products and their manufacturing methods.

Amount of CO₂ emitted and index of CO₂ emissions per unit production



Reduction of other Greenhouse Gas Emissions

In April 2003, the Hitachi Chemical Group successfully terminated its use of HFCs after developing a new HFC-free manufacturing process. While SF₆ is still in use for experimental purposes, installation of a high-efficiency recovery system in fiscal 2003 reduced annual emissions in the same year to 0.3 tons, down from 0.9 tons in the previous year.

Approaches at Manufacturing Works

Energy-saving Measures Through Installation of High-performance, Small-sized Through-flow Boilers (Shimodate Works, 2003)

At Hitachi Chemical's Shimodate Works, significant combustion efficiency improvements have been made in order to reduce energy consumption. After switching water-tube boilers to the through-flow type (as suggested by an ESCO* consultancy), the Works were able to control the number of boiler units in operation according to the load. This increased overall efficiency from 84% to 91%. In addition, the through-flow boilers enabled the Works to use inverter controls for the blowers, preventing the lower efficiency levels that could occur at times of low loading. The Shimodate Works is continuing its efforts to further reduce energy consumption and CO₂ emissions through a variety of measures, including improvement of production equipment efficiency, reduction of energy consumption levels by machines to maintain operation, and switching fuel types for combustion units.

Installation of Waste Energy Recovery Facility (Yamazaki Works, 2003)

At the Yamazaki Works, efforts to prevent global warming have been made mainly by switching equipment units to types with higher energy efficiencies. Since 2003, when the Works installed waste heat recovery boilers which can recover waste heat as steam, the waste heat, which used to be emitted into the atmosphere from direct-combustion type deodorizing furnaces at a film manufacturing plant, has been used as a heat source for other manufacturing processes. This enabled the Works to reduce the use of heavy oil boilers and in turn save about 900 kiloliters of crude oil per year, the equivalent of a reduction of 2,400 tons of CO₂ emissions. As a next step to further reducing CO₂ emissions, we are switching from the direct-combustion type of deodorizing furnace to a regenerative deodorizing type, which is even more effective in energy saving.

* ESCO: Energy Service Company. A business that offers services to help improve energy-saving and guarantee the resulting energy efficiency.



Through-flow boiler to control flow rates



Boiler of direct-combustion type deodorizing furnace to recover waste energy at a film manufacturing plant

Next Step

In fiscal 2003, we were able to achieve good results in reducing CO₂ emissions by using ESCOs to install large-scale equipment units, such as high performance, small-sized, through-flow boilers and waste heat recovery systems. We are continuing to identify other areas where we can install large-scale units with high energy-saving performance to further reduce CO₂ emissions.