

## Energy

### Energy consumption in fiscal 2004 totals 2,371 PJ

The steel industry is Japan's largest energy-consuming industry, accounting for about 11% of the country's final energy consumption. Although energy consumed by the industry in fiscal 2004 increased 1.5% over the previous year, to 2,371 PJ, it was down 4.4% from the base year of the JISF's voluntary action program for environmental protection (the goal: a 10% reduction in energy consumption in fiscal 2010 from fiscal 1990).

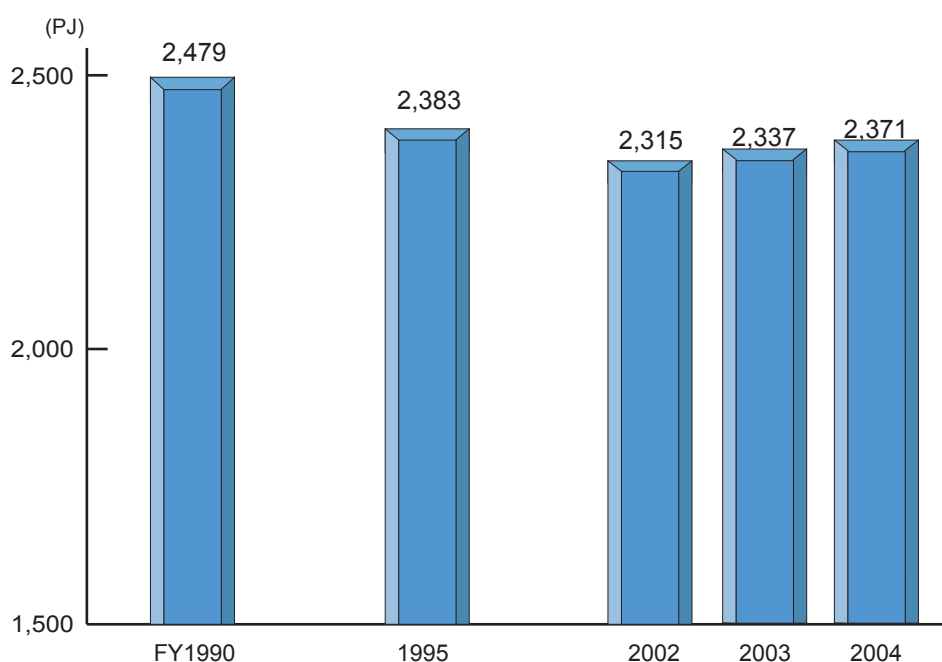
While energy-derived CO<sub>2</sub> emissions in fiscal 2004 were up 1.3% over the previous year, at an estimated 184.70 million tons, they were down 5.2% compared with the level of the base year.

Japanese steelmakers recover exhaust energy and make effective use of it within their works.

Gases discharged from coke ovens, blast furnaces, and basic oxygen furnaces are recovered as byproduct gases and used as fuel for reheating furnaces and power plants. Energy recovered in 2005 reached 783 PJ. Also recovered is exhaust energy, excluding byproduct gases, from such equipment as coke dry quenching (CDQ) units and top pressure recovery turbines (TRTs). Energy thus recovered is used as steam or electric power. These energy resources recovered in fiscal 2004 amounted to 123 PJ.

Furthermore, much of the electric power consumed by steelmakers is supplied by their own captive power generation plants. In 2005, they consumed 66.2 billion kWh of electricity, and 47% of this wattage, or 31.2 billion kWh, was generated by captive plants.

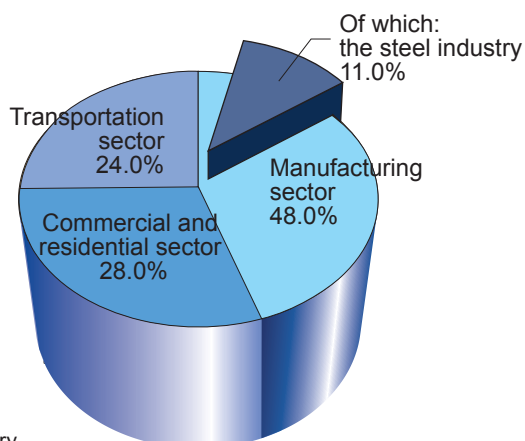
#### • Energy Consumption by the Steel Industry



Source: "Results of the Fiscal 2004 Follow-up to the Keidanren Voluntary Action Plan on the Environment — Section on Global Warming Measures —," Nippon Keidanren (Japan Business Federation)

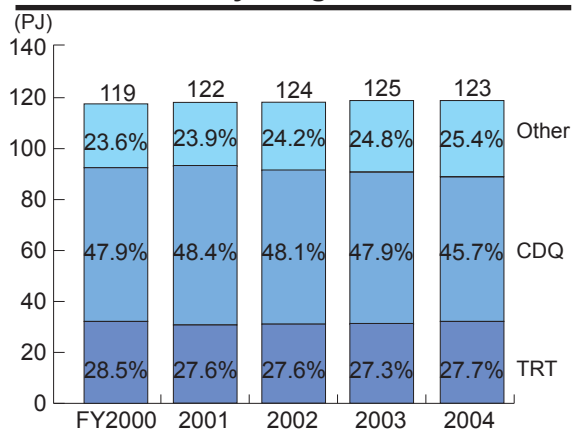
Note: PJ stands for petajoules ( $10^{15}$  joules). 1 cal is equivalent to 4.18605 joules. 1 PJ is equivalent to approx. 25,800 kl of crude oil.

### Breakdown of Final Energy Consumption in Japan and by the Steel Industry (Fiscal 2003)



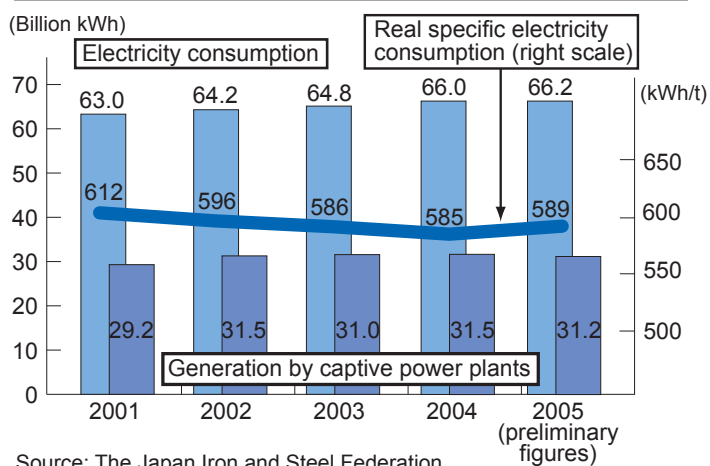
Source: Ministry of Economy, Trade and Industry

### Recovery of Exhaust Energy Generated by Integrated Steelworks



Source: The Japan Iron and Steel Federation

### Electricity Consumption by the Steel Industry and Generation by Its Captive Plants



Source: The Japan Iron and Steel Federation