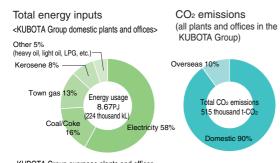


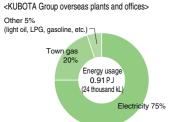
# Global Warming Prevention

In accordance with the government's Measures to Prevent Global Warming, KUBOTA has been promoting its own "Kubota Group Global Warming Prevention Activities" which was launched in fiscal 2005. Focusing on improvements in energy efficiency, we are developing activities across the KUBOTA Group that aim at a one percent annual reduction in CO<sub>2</sub> emission per unit output.

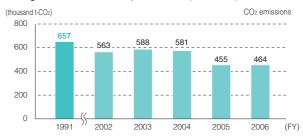
# ■ Total energy inputs and CO<sub>2</sub> emissions

In fiscal 2006, total domestic energy inputs for the KUBOTA Group were 8.67 PJ, while total CO2 emissions totaled 464 thousand t-CO2. This level of CO2 emissions indicates a 2.0% increase from fiscal 2005, brought about mostly due to the expanded target range within the KUBOTA Group, but is still an overall decrease of 29% from the fiscal 1991 level.





#### Changes in CO<sub>2</sub> emissions (KUBOTA Group domestic plants and offices)



#### \* Calorific conversion coefficient

- Fuel: Calculated using the coefficients in the Net Calorific Value Table by Energy Source (revised March
- Fuel: Calculated using the coefficients in the net Calorifie value lable by Energy Source (revised March 30, 2001) released by Japan's Agency for Natural Resources and Energy. Electricity: Calculated using a conversion ratio of 9.83 MJ/kWh based on the Enforcement Regulations for Japan's Law Concerning Rational Use of Energy (revised December 27, 2002). Calculated using the coefficients in the Enforcement Regulations for Japan's Law Concerning Rational Use of Energy (revised March 29, 2006). • Fiscal 2006

#### \* CO2 emission coefficient

- Calculated as CO<sub>2</sub> converted weight (ton-CO<sub>2</sub>) = Carbon converted weight (ton-C) x 3.664 using the • Up to fiscal coefficient in the Report on Survey of Carbon Dioxide Emission (1992) released by Japan's Environ
- Calculated using the coefficient in the Guidelines for Calculating Greenhouse Gas Emissions from Enterprises (tentative draft: version 1.5) (July 2003) released by Japan's Ministry of the Environment. • Fiscal 2006
  - Fuel: Calculated using the coefficient in the Ministerial Ordinance Regarding the Calculation of Greenhouse
    Gas Emissions that Accompany Business Activities of Specified Emission Producers (March 2006
    Japan's Ministry of Electricity: Calculated using the emission coefficient (for fiscal 2005) of each electric power supplier
- Calculating CO<sub>2</sub> emissions for fiscal 2006 based on the same coefficient as the previous period would have resulted in a total of 470 thousand t-CO<sub>2</sub>.
- \* Calorific unit: [PJ] = 1015 [J]
- \* The aggregate range of targets on CO2 emissions (KUBOTA Group domestic plants and offices) is being gradually expanded.

KUBOTA domestic production plants and offices are included in the aggregate range prior to fiscal 2002, while production plants and offices of domestic subsidiaries are included for fiscal 2002 and 2003. After fiscal 2003, non-production plants and offices of both KUBOTA and its subsidiaries are included as well, and the number of targeted plants and offices is currently being increased. Values prior to fiscal 2006, however, have not been recalculated.

### Targets for reducing CO<sub>2</sub> by fiscal 2011

Upon the enforcement of the Kyoto Protocol, the Japanese government established its own "Kyoto Protocol Target Achievement Plan" which established the target of Japanese industries reducing CO<sub>2</sub> emissions by 8.6% from 1990 levels by the year 2010.

Even though KUBOTA's domestic production plants and offices have already exceeded that target, we will be working on a further 1% reduction annually in CO<sub>2</sub> emissions per unit output, as set out in our "Kubota Group Global Warming Prevention Activities".

# Reducing CO<sub>2</sub> at KUBOTA domestic production plants and offices

The total CO<sub>2</sub> emissions from KUBOTA domestic production plants and offices in fiscal 2006 was 390 thousand t-CO<sub>2</sub>, a 41% reduction from fiscal 1991.

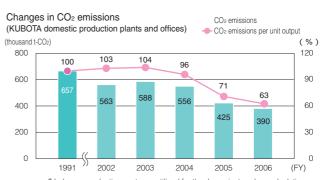
CO<sub>2</sub> emissions per unit output showed a dramatic improvement over targets, having been reduced by 11% from fiscal 2005 levels and 34% compared to fiscal 2004 levels.

In 11 out of the 14 targeted plants and offices, CO<sub>2</sub> emissions per unit output for each production plant and office achieved the target level of reducing per unit output at least 1% over the prior year.

### Outline of the "Kubota Group Global Warming Prevention Activities"

Target	CO <sub>2</sub> emissions per unit output* 1% annual reduction					
Period	Nine years, from FY2005 through FY2013 (Gradual reduction based on government policy)					
Targeted plants and offices		KUBOTA		Subsidiaries		
		Production plants and offices	Non-production plants and offices	Production plants and offices	Non-production plants and offices	Distribution Division
	Domestic					
	Overseas	-			-	-

\* CO2 emissions per unit output = CO2 emissions / Manufacturing quantity



\* In-house production costs are utilized for the denominator when calculating CO<sub>2</sub> emissions per unit output at production plants and offices

# Examples of energy-saving activities

## **Energy Saving Month activities**

During Energy Saving Month in fiscal 2006, KUBOTA promoted group-wide activities that included subsidiaries as well in continuation of the objectives of the previous year. Specifically, there were awareness activities such as information dissemination using the intranet and energysaving flags and posters, energy-saving patrols at production plants and offices, and such activities that placed import on energy-saving measures as those below.

- (1) Implementation of countermeasures to compressor air leaks, steam leaks, and water leaks
- (2) Reduction in standby power requirements by turning off equipment and lighting, etc., when not required or when not in production
  (3) Improvement in equipment efficiency by cleaning and replacing filters
- for air-conditioning, etc.



In February 2006, we visited an outstanding energy-saving factory (Hitachi Industrial Systems Co., Ltd's Narashino Plant) with KUBOTA Group Energy Conservation Promotion Managers.

The tour included a view of the their production site compressor control system operation, their use of inverters in production equipment, and the content of their energy conservation activities that employ an electric power monitoring system, etc., as well as offering information about their techniques for conserving energy, etc., in the factory.



Energy-saving patrols at our Hirakata plant

Presentation at an outside company's outstanding energy-saving factory

# **Environmental conservation activities** related to distribution

In an effort to reduce the CO2 and air pollutant emissions that accompany the transport of products, KUBOTA is promoting modal shift by switching from trucking to rail transport and shipping. We are also employing the effective utilization of collective transports and return trips, the improvement of load efficiency, and the introduction of ecodrive support equipment, etc. Reduction of waste as well is being targeted through the lowered use of packaging materials and a decrease in the amount of CO2 emitted during the manufacturing and disposal of packaging material.

# Fiscal 2006 results (KUBOTA Group domestic production plants and offices)

Net product transported		374.37 million ton-km		
Total CO <sub>2</sub> emissions in product transport		50,389 ton-CO <sub>2</sub>		
	KUBOTA domestic production plants and offices	39,892 ton-CO <sub>2</sub> (26% reduction from FY2003)		
Modal shift rate		35%		

- \* Targets domestic Japan product transport
- \* Modal shift rate = (volume of rail and marine transport) / total volume of transport (trucking, railway, marine cargo)

#### Modal shift for FW pipes and improvement of load efficiency



Modal shift using the return trip of a Japan Railways containe for Osaka to Tokyo transport



Improvement of load efficiency by collectively transporting smaller diameter pipe

#### Examples of packing improvement for export tractors





Reduce the amount of packing materials being disposed of by changing from crates to pallets and using returnable units





Reduce the use of packing materials by changing from metal-frame skids to "jig tires'