Realization of a low-carbon society

Reducing Greenhouse Gas Emissions

It is our stated goal to contribute to the prevention of global warming through products and manufacturing that use energy without waste, and we undertake activities to reduce greenhouse gas emissions generated in our manufacturing processes.

Our greenhouse gas reduction target is to achieve an average 10% decrease between fiscal 2009 and fiscal 2013 in our CO_2 basic unit, compared with the fiscal 2008 reference value. The results for fiscal 2011, a turning point, showed a basic unit of 27t-CO_2/¥100 million—against the benchmark 24t-CO_2/¥100 million—indicating that it will be difficult to reach our target. It must be noted, however, that CO_2 emissions hovered around 260,000t-CO_2 in fiscal 2011, a significant year-on-year increase paralleling a recovery in capacity utilization at our facilities.

We also emphasize activities geared toward saving energy in manufacturing and will reinforce efforts to invest in energy-saving equipment, such as photovoltaic power generation equipment and high-efficiency lighting systems, at our factories.

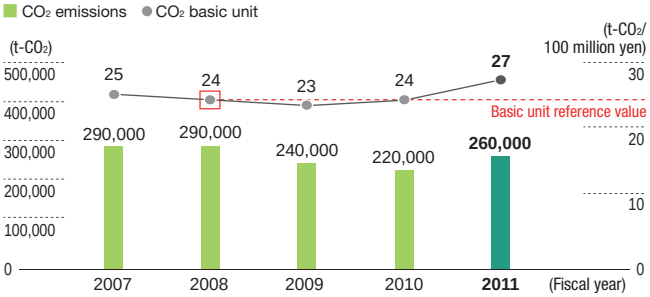
*1 CO_2 basic unit is a measurement obtained by dividing CO_2 emissions by net sales.

*2 CO_2 emissions data is consistent with published data by business (specified emitters), based on the system for calculation, reporting and public disclosure of greenhouse gas emissions under the Law Concerning the Promotion of Measures to Cope with Global Warming.

*3 CO_2 emissions are for KHI and include emissions by Kawasaki Shipbuilding Corporation, Kawasaki Precision Machinery Ltd. (KPM), and Kawasaki Plant Systems, Ltd. (K Plant) before merging into the Company on October 1, 2010.

*4 The parameters for net sales, used in the calculation of the basic unit, are the same as those applied to emissions in *3 above.

Changes in CO_2 Emissions and Basic Unit at KHI



Topics

As a participating company in a partnership program established by Hyogo Prefecture to reduce CO_2 emissions, KHI earned domestic carbon offsetting credits on products made by companies under the KHI Group umbrella. This program takes advantage of Japan's carbon credit system. Specifically, we entered into a joint CO_2 reduction project to replace a heavy oil-fired boiler made by Kawasaki Thermal Engineering with a greener city gas-fired boiler, also made by this subsidiary. The project was recognized by the Certification Committee, established by the Japanese government, and the associated carbon credits were put into KHI's account as of fiscal 2011. The boiler replacement is expected to cut CO_2 emissions by about 2,600 tons by the end of March 2013.

Note: Hyogo Prefecture's CO_2 reduction partnership program is a strategy that utilizes the national carbon credit system to award credits to companies that support initiatives to prevent global warming within the prefecture.

Cutting Energy Consumption

Seeking to achieve greater energy efficiency in our production activities, we promote basic unit management activities companywide. In this context, the basic unit is not the net sales-indexed measurement used to evaluate overall greenhouse gas reduction efforts but rather a control indicator for setting benchmarks in energy usage according to application and for exposing otherwise overlooked factors that cause the basic unit to fluctuate.

We have been somewhat successful in reducing CO_2 emissions through investment in energy-saving equipment. But to achieve sustained reduction in energy consumption, we will implement a companywide system for basic unit management using automatic energy readers that will identify areas of energy waste previously undetected. Once we know where energy is being wasted, we can stop it.

CO_2 Reduction through Investment in Energy-Saving Equipment

We introduced 750kW photovoltaic power generation equipment at Nagoya Works 1 and a similar 100kW system at the Akashi Works. We expect a combined-factory CO_2 reduction effect of about 400 tons per year. The equipment was installed using financial assistance from the New Energy Promotion Council. The installations at Nagoya Works 1 and the Akashi Works bring the number of photovoltaic power generation systems to 10 at six domestic facilities, with total output of around 1,500kW.

We have been upgrading factory and office lighting systems and installed about 15,000 lighting fixtures with energy-saving bulbs in fiscal 2011. Plans for fiscal 2012 call for a similar number of new units, which should trim overall CO_2 emissions by about 1,500 tons per year.

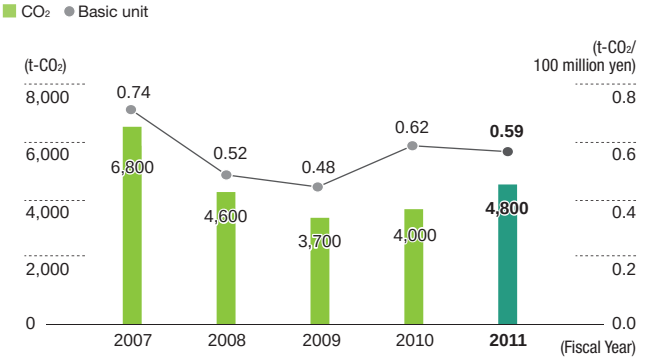
Photovoltaic power generation equipment with 750kW output installed at Nagoya Works 1

Environmentally Conscious Logistics Processes

KHI promotes energy-saving activities and data tracking to curb CO_2 emissions from logistics processes. Evaluating the Company's freight traffic on the basis of freight ton-kilometers carried (freight weight x distance), truck transport accounts for about half, with the balance of the freight carried by train or ship, which exerts less impact on the environment. In fiscal 2011, CO_2 emissions reached 4,800t-CO_2 and the basic unit improved 5% over fiscal 2010, to 0.59 point.

We will strive to cut CO_2 emissions even further by boosting the load factor for truck transport and considering a modal shift from truck to other modes, such as train.

CO_2 Emissions from Logistics Processes



*5 CO_2 basic unit is a measurement obtained by dividing CO_2 emissions by net sales.

*6 CO_2 emissions in logistics processes are calculated from our position as a specified consignor (a Japanese legal designation applied to consigners that ship 30 million ton-kilometers of freight or more per year), under the revised Energy Saving Law.

*7 CO_2 emissions from logistics processes are for KHI and do not include emissions by Kawasaki Shipbuilding Corporation and other subsidiaries before they merged into the Company on October 1, 2010.

*8 The parameters for net sales, used in the calculation of the basic unit, are the same as those applied to emissions in *7 above.

Energy-Saving Efforts in the Office

Energy saving is not a pursuit consigned to production facilities alone. KHI encourages energy-saving initiatives, especially efforts to conserve electricity, in administrative divisions, including office buildings. Targets include computers and other office equipment as well as lights and air-conditioning, and measures are in place to eliminate waste wherever and whenever possible.

Concrete Examples

- Put electronic equipment, including computers and copiers, on power-saving settings
- Use minimum lighting in corridors and elevator halls
- Turn lights off during lunch break
- Institute no-overtime day and use partial lighting after the end of normal work hours
- Set air-conditioning at an energy-saving temperature, in line with Cool Biz and Warm Biz government initiatives
- Restrict supply of warm water in washrooms

Selected Results from Head Offices (Tokyo and Kobe)

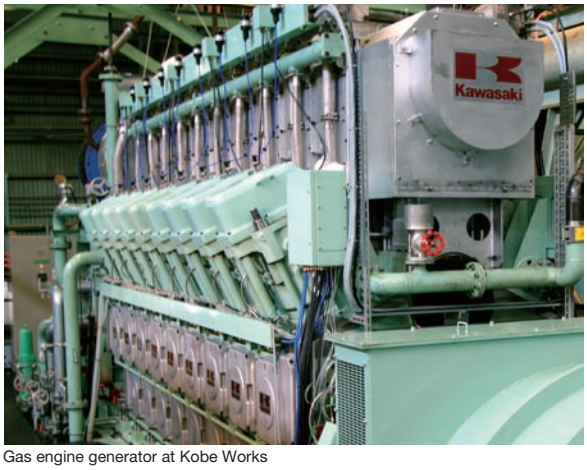
Fiscal Year	2009	2010	2011
Office paper (1,000 sheets)	6,994	7,323	7,039

Electricity Consumption at Head Offices (Tokyo and Kobe)

Fiscal Year	2009	2010	2011
Electricity (MWH)	1,054	1,026	1,025

Cogeneration Systems at Facilities

We seek to optimize heat and electricity through the use of cogeneration systems. We have realized efficient application of on-site energy at the Akashi Works and the Gifu Works through the installation of a gas turbine cogeneration system developed in-house and at the Kobe Works through the installation of a similarly developed gas engine generator and binary turbine generator. Always in pursuit of lower CO_2 emissions, KHI not only manufactures power-generating equipment but uses it in its own operations as well.



Gas engine generator at Kobe Works