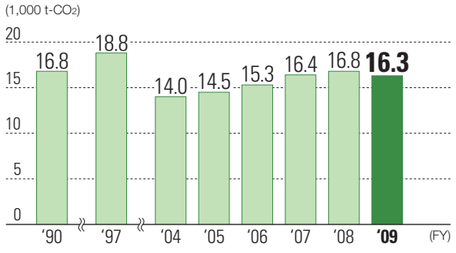
Lowering Environmental Burden at JFE Engineering

Prevention of Global Warming

JFE Engineering has undertaken energy saving activities in its offices. It installed a 50kW solar power system and a 6kW solar-tracking power system at its Tsurumi Works. It is also working to reduce electric power consumption and use of cutting and welding gas in its production department. In FY2009, our CO_2 emissions were 16,300 tons.

JFE Engineering's CO_2 Emissions



Solar Power System installed at the Tsurumi Works

Promoting Recycling

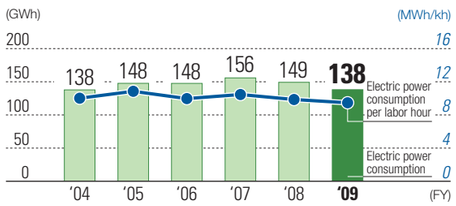
JFE Engineering is working to promote recycling of office waste by, for example, clarifying separation rules and implementing recycling patrols. At construction and manufacturing sites, we are promoting reduction and recycling of industrial waste by means of thorough separation and revising recycling approaches.

Lowering Environmental Burden at Universal Shipbuilding

Stopping Global Warming

Universal Shipbuilding is striving to cut its electric power consumption through efforts like turning off lights during lunch hours, reducing the standby power consumption of welding equipment, upgrading to high-efficiency equipment, and moderating temperature settings for heating and air-conditioning. In FY2009, we used a total of 138GWh of electricity for both production and office areas, 11GWh less than in the year before. We also achieved a slight reduction in electric power consumption per labor hour (MWh/1,000 hours).

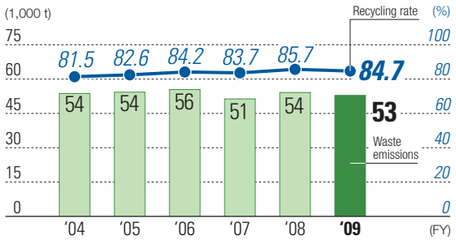
Universal Shipbuilding's Electric Power Consumption



Reducing Waste Generation and Disposal

Universal Shipbuilding's production department is working to reduce its waste generation and disposal through efforts aimed at improving waste separation, recycling, and reuse. These include installing additional waste separation bins and implementing on-site patrols. In our offices, we are promoting better waste separation and using paper that has already been used once to reduce and reuse office waste.

Waste Disposal Volume



Marine Environmental Activities

Reef restoration test in Indonesia (Photo provided by Professor Okamoto, the Tokyo University of Marine Science and Technology)

Using a Steelmaking Byproduct to Restore Marine Environments

JFE Steel uses slag, a steelmaking byproduct, to help protect marine environments.

Coral Reef Restoration Using Marine Blocks®

JFE Steel is developing technology for restoring coral reefs, which are in decline throughout the world due to bleaching and other causes. Marine Block®, developed by JFE Steel, is made of calcium carbonate, the primary material from which reefs are formed. Its porous feature with a rough surface makes it easy for coral to take hold and grow.

At the Japanese island of Miyakojima, Marine Blocks® and implantation devices also made of slag were used and successfully verified that they could support a complete reproduction cycle in which coral larvae took root, developed, and eventually spawned.

Seaweed Beds to Enrich the Ocean

Seaweed serves as an important habitat as well as spawning area for sea life and plays a big part in absorbing CO_2 and emitting oxygen.

Recognizing that seaweed serves these critical purposes, JFE Steel has proposed a project that would use Marine Blocks®, which are conducive to the growth of seaweed, to cultivate seaweed beds.

Fish together with coral growing on a Marine Block®

Coral growing on a Marine Block®

Fish together with seaweed *Ecklonia Cava* thriving on a Marine Block®

Recycling Technology Supporting a Sustainable Society

Amount of fluorescent tubes processed in FY2009 (total tube length is calculated in terms of straight 40W tubes)

20 million tubes

Amount of discarded home electronic appliances processed in FY2009

1.08 million products

Amount of container and packaging plastic (other plastics) successfully bid on in FY2010

100 thousand tons

Recycling Fluorescent Tubes

JFE is moving forward with the recycling of fluorescent bulbs and tubes at three recycling plants located in the cities of Yokohama, Sendai, and Fukuyama. Fluorescent bulbs and tubes have tiny amounts of mercury in them, which we safely remove, and recover along with glass, metal caps, and other parts.

All materials are recycled. Metal caps, crushed glass, and other materials are automatically separated and recycled into raw material for new products of glass, metal, and plastics. Fluorescent powder from which mercury has been removed is processed into ground cover materials, etc. and the mercury itself is transported to a special plant in Germany where it is refined for use in inorganic chemicals, and other products.

Blowing air into a fluorescent bulb to recover fluorescent powder

Glass recovered from fluorescent bulbs and tubes

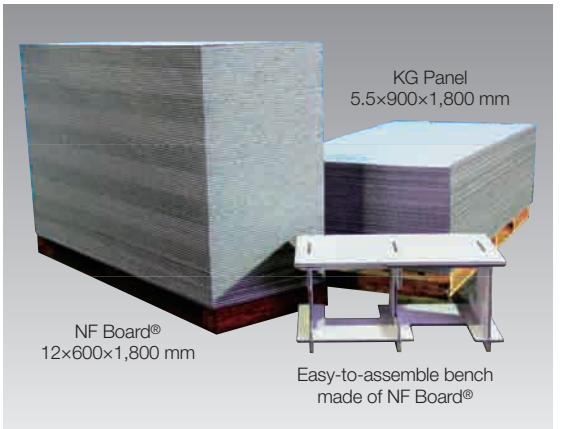
Metal recovered from fluorescent bulbs and tubes

RECO Board (NF Board®, KG Panel)

JFE recycles waste plastic containers and packaging as RECO Board (NF Board®, KG Panel) products.

NF Board® is a concrete forming mold at construction sites, which is much more durable than conventional wooden molds and can be used approximately 20 times. That means NF Board® reduces CO_2 emissions (about 45% lower than the conventional wooden molds), and helps to protect tropical rain forests.

Thin and lightweight, KG Panel is used as a display board for election posters, and many more new applications are under considerations.



RECO Board

Recycling Different Kinds of Used Products

The JFE Group is working to recycle various types of waste materials.

Through our efforts to recycle things as diverse as fluorescent bulbs and tubes, used plastics, used home appliances, and food waste, we are helping to promote a recycling-oriented society in Japan.