

# Kobelco Eco-Solutions

## An Environmental Solution Company that Meets the Requirements of the Times

As an environmental solution company that meets the needs of the current age, Kobelco Eco-Solutions Co., Ltd. contributes to society by offering technologies that help protect the global environment and improve living conditions.



### Main Products and Services

#### Water Treatment

- City water, sewage and industrial water treatment plants and equipment
- Ultrapure and pure water production equipment, industrial water processing and wastewater treatment systems
- Recycling systems for sewage sludge, foodstuffs, and other organic waste

#### Cooling Towers

- Industrial cooling towers
- Cooling towers for district heating and cooling
- Super-low-noise cooling towers

#### Waste Treatment and Recycling

- Municipal waste incineration and melting plants (fluidized-bed gasification and melting furnace, stoker-type incinerator, fluidized-bed incineration furnace, plasma melting furnace)

- Bulky waste and other recycling facilities
- PCB waste treatment plant

#### Process Equipment

- Glass-lined equipment
- Polymerizers and reactors
- Separation and refinement equipment
- Powder equipment
- High-purity hydrogen oxygen generators

#### Environmental Analysis

- Water and sewage quality inspection
- Water quality testing at factories and research centers
- Measurement of industrial wastes (PCB, metals, organic matter, etc.)

### Business Review

#### Construction of Plant for Glass-lined Equipment in Vietnam

Kobelco Eco-Solutions has decided to establish a manufacturing base overseas, making it the first Japanese glass-lined equipment manufacturer to do so. It has begun construction of a plant in Long Duc Industrial Park, Vietnam, taking a partial equity stake in the venture. The site of the Long Duc Plant covers 10,000 square meters, with the plant occupying 3,000 square meters. Construction is proceeding smoothly and operation is slated to begin this autumn.

Local production will enable us to respond to the increased demand for glass-lined equipment in Southeast Asia and to supply Japan. Under the slogan "Japanese quality from Vietnam," the new plant will contribute to the development of Japan and Southeast Asia's pharmaceutical, fine chemical and electronic materials fields.



Plume abatement cooling towers



Water electrolysis high-purity hydrogen oxygen generator



Conception drawing of completed Long Duc Plant in Vietnam

## “Only 1” Products & Technologies



### Water Treatment Facilities

Kobelco Eco-Solutions offers a full array of water treatment facilities, including water and sewage treatment plants, industrial water and wastewater treatment plants, sludge treatment plants, and pure and ultrapure water production plants. It also operates a water supply business, selling pure and ultrapure water.



### Sewage Biogas Facility

Working with local authorities and gas companies, we have developed a gasification facility that is capable of refining biogas produced by sewage sludge to the same quality as city gas. We began injecting sewage biogas into city gas pipes in October 2010.



### Fluidized-Bed Gasification and Melting Furnaces

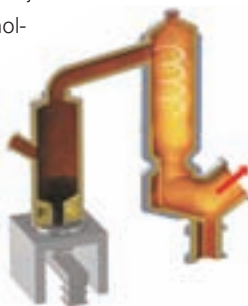
These furnaces are friendly to the environment as they make use of the energy in waste to carry out processes from incineration to ash melting for volume reduction and conversion into slag. This helps reduce the burden on final disposal sites as well as decreases CO<sub>2</sub> and other emissions.

### Order for Waste Treatment Plant in Kofu-Kyoto Region

In June 2012, Kobelco Eco-Solutions and Kobelco Eco-Maintenance Co., Ltd., a Kobe Steel Group company, forming a business group with three business partners, won an order via open competitive bidding for a project to develop and operate a waste treatment plant from the Kofu-Kyoto Waste Treatment Plant Administrative Association (*Kofu Kyoto Chiiki Gomishorisetsubi Jigyo Kumiai*).

The Kobe Steel Group submitted a proposal for reducing fuel consumption by means of a fluidized-bed gasification and melting furnace, delivering Japan's highest standard of high-efficiency power generation, providing major CO<sub>2</sub> emissions reduction and offering proprietary anti-pollution measures. On that basis, it was selected as the winning proposal.

As a leading waste treatment plant manufacturer, Kobelco Eco-Solutions has received orders for 14 projects in Japan, including this project, and two projects abroad. We will continue to use technology accumulated over the years to contribute to environmental preservation and the formation of a recycling-based society.



Gasification and melting furnace

### Vietnam Subsidiary Receives Orders for Water Treatment Systems

Kobelco Eco-Solutions' Vietnam subsidiary, Kobelco Eco-Solutions Vietnam Co., Ltd. (KESV), received an order for a water treatment system (using reverse osmosis membrane) and a wastewater treatment system from YKK Vietnam Co., Ltd. for their second plant in Vietnam. KESV also received a second order from LOTTE Vietnam Co., Ltd. for the expansion of their anaerobic wastewater treatment plant.

KESV was established by Kobelco Eco-Solutions in November 2010 to build water treatment systems that will be needed as a result of Vietnam's plan to build and expand numerous steelworks and power plants and upgrade industrial parks.

KESV will play a central role in the further pursuit of industrial water treatment, water infrastructure development and public-private partnership projects in Vietnam. Kobelco Eco-Solutions will further accelerate the expansion of the water treatment business by building and operating industrial water and wastewater treatment systems for industrial parks.



Water treatment systems delivered by KESV