

## Waste incineration facilities in residential and commercial areas

With Japan's high-tech incineration facilities, waste incineration has won trust as safe and sound technology, and when planning construction of such facilities, communication with the surrounding residents about risks is smooth, enabling swift progress in plans to construct incineration facilities in urban and residential areas. Some of the incineration plants are shown in the photographs below.



### ● Shibuya Incineration Plant / Tokyo (Example)

In Tokyo, a metropolis in Japan, there exists a mixed commercial and residential area where a large amount of waste is generated. In August 2001, an incineration plant was constructed near Shibuya Station in the center of a high-density urban district. The facility was constructed with a high technology with a capacity of 200t/day, which cleared strict gas emission regulations for NO<sub>x</sub>, SO<sub>x</sub>, smoke, dioxin and other gases. Shibuya Incineration Plant is small compared to other waste treatment facilities in Tokyo, and it uses a swirling flow fluidized-bed incinerator. Fluidized-bed furnaces fluidize sand layer on the floor of a tubular furnace with air to maintain high temperature, which leads to efficient incineration of waste.



Operation of the incineration plant is managed from the central control room under automatic control (Shinagawa Incineration Plant)

The waste reservoir is separated from the crane operating room by a glass plate and there is no odor. One bucket can drop in waste brought in by one mobile packer. (Kita Incineration Plant)



This incineration plant is equipped with a steam turbine generator that generates a maximum of 4,200kW, which is used in the plant. Excess electricity is sold to Tokyo Electric Power Company. The generator uses high-temperature water of 1Gcal/h, 130°C, with the maximum steam flow and pressure of 23.1t/h and 3.82MPa. (Shibuya Incineration Plant)

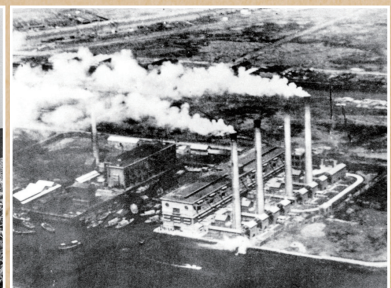
Source: Clean Association of TOKYO 23

### Column

**A** long with the high economic growth of the 1960s, waste volume in Japan increased to cause a strain on landfill plots and dioxin problems from incineration. As Japan's landmass is limited, a reduction of waste volume and quick disposal in landfill became essential. However, urbanization and resident consciousness made it difficult to construct the plants needed to make this possible. Improvement in gas emission treatment enabled resident trust to be won, and heat recovery is now being sought from the operation.



Strain on landfill plots due to increased waste volume and diversified waste categories



Incineration furnace emitting smoke and gas, causing serious problems with dioxin

Source: 100-year History of Cleaning Operations in Tokyo