

Pfaffenau waste incineration plant

Waste to energy



The Pfaffenau waste incineration plant in Simmering (11th district) was opened in September 2008. Since then, it has annually converted 250,000 tonnes of mixed waste (residual and bulky waste) into clean energy.

SETUP

- 200 deliveries of residual and bulky waste for thermal treatment daily
- Grate stoker incinerator with multi-stage flue gas cleaning and wastewater treatment
- Extraction back-pressure turbine for power and heat generation, connected to district heating network

ENERGY RECOVERY

Two waste handling cranes are used to mix the waste to achieve a uniform heating value and place it into the feed hoppers of the two incinerators.

After one hour in the waste incinerator at a minimum temperature of 850°C, approximately 27% of the waste by mass are left over as incineration residue. These noncombustible components, such as slag, ash, scrap and stones, are taken to the incineration residue treatment plant.

The hot flue gas is used to generate steam in the waste heat recovery boiler. The steam, which has a pressure of 40 bar and a temperature of 400°C, powers a steam turbine, generating electricity. The steam that is left over after the turbine is

converted into district heat by means of heat exchangers, which is then fed into the district heating network. In this way, approximately 76% of the energy contained in the waste is recovered, generating approximately 65 GWh of electricity and 410 GWh of district heating.

FLUE GAS SCRUBBING

Thanks to a four-stage flue gas cleaning process – consisting of an electric filter, a two-stage wet scrubbing process, an activated carbon filter and a denitrification system – the incinerator has emission values that are far below the permitted maximum levels.

The scrubbed flue gas is released into the atmosphere through an 80-metre chimney stack.

INCINERATION RESIDUE

At the incineration residue treatment facility, the slag is sieved and demetalised. The recovered scrap iron and non-ferrous metals are used in the steel industry. The remaining slag is mixed with the ash from the combustion process as well as cement, sand and water to create slag ash concrete, which is deposited at the Rautenweg landfill.



FACTS AND FIGURES

- Opened in September 2008
- Capacity: approx. 250,000 tonnes a year
- 2 combustion lines
- Electricity for approx. 25,000 households
- Heat for approx. 50,000 households

WKU

The plant's owner "Wiener Kommunal-Umweltschutzprojektgesellschaft mbH" (WKU), responsible for the planning, construction and operation of the Pfaffenau waste incineration plant, was founded in 2002 as a 100% subsidiary of the City of Vienna.

TOURS

- Every first Saturday of the month
- 5 to 15 participants
- Visits for groups up to 30 people can be arranged outside the usual times
- Arrange a visit:
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