

PROJECT PROFILE: Waste-to-energy, Germany

Frankfurt (Main)

Waste-to-energy



Doosan Lentjes delivered on a turn-key basis four new waste-to-energy process lines for the Frankfurt waste-to-energy plant. This included the demolition of the existing plant and refurbishment of adjoining thermal power plant.

DELIVERABLES

- Installation of four new incineration lines comprising counter-reciprocating grate, boiler and flue gas cleaning system (Circoclean® technology)
- New turbine generator plant and district heat converter

CHALLENGES

- Handling the installation of new equipment when plant was still in operation
- Subsequent demolition of old and construction of new WtE lines while maintaining plant in operation
- Just-in-time delivery of equipment due to space restriction

BENEFITS

- Turnkey delivery in extremely restricted space
- Continued disposal services despite plant refurbishment
- New plant with higher capacity to meet increased disposal demands

Efficient electricity generation for north-west Frankfurt

The AVA Frankfurt Nordweststadt four-line waste incineration plant was built in 1964. By 2003, the main plant equipment had reached the end of its lifecycle and Doosan Lentjes was awarded the mechanical and electrical contract to renew the plant and refurbish the adjoining thermal power plant.

The refurbishment involved the phased demolition of four existing incineration lines and the installation of four new lines.

Each line comprises a modern counter-reciprocating grate incinerator, boiler and flue gas cleaning system, using the most modern Circoclean® flue gas cleaning technology. The adjoining thermal power station was also fitted with a new turbine generator plant and district heat converter.

The plant is now equipped to efficiently generate electricity and supply the northwest of Frankfurt with thermal energy.



Key Project Data

Customer	MVA Nordweststadt
Location of plant	AVA Nordweststadt, Frankfurt am Main, Germany
Award date	2003
Main fuel	municipal solid waste
Total plant capacity	Max. 704,000 t/a (Permit: 525,600 t/a)
Number of lines	4
Waste incineration capacity	nom. 4 x 20 t/h
Thermal capacity	4 x 57 (max. 63) MW _{th}
Nominal heating value	10.3 MJ/kg
Steam pressure	60 bar
Steam temperature	500°C
Thermal power plant (3 lines only)	
Capacity turbo-generator	37.4 MW _e nominal, 41.4 MW _e max.
District heating	ca. 99 MWt



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Doosan Lentjes is a global provider of processes and technologies for energy production from renewable and fossil fuels. Our specific areas of expertise include circulating fluidised bed boilers, key technology for the generation of energy from waste, and flue gas cleaning systems. We have been pioneering energy solutions for 90 years and convert millions of tonnes of waste into valuable energy each year.

Doosan Lentjes is part of a powerful combination of companies united under the Doosan Group to deliver complementary technologies, skills and value to customers the world over.

Doosan Babcock

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