

- HEAT RECOVERY
- BIOMASS
- PRIMARY FUELS
- SOLID RESIDUES
- LIQUID & GASEOUS RESIDUES

## CHP PLANT LINDEN HANNOVER, GERMANY



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### THE TASK

The heat recovery steam generator (HRSG) is fitted into an existing boiler house in which a coal-fired boiler was previously installed. Then, together with the existing No. 1 waste heat boiler, a common steam range will be used which feeds to a new steam turbine having a reheating system. The turbine is intended to be operated in efficient variable pressure operation, so the boiler and the steam lines will be designed in such a way that in the event of the failure of No. 1 waste heat boiler the new boiler can produce its full capacity even at half the pressure. For the most flexible use possible, in particular with widely varying load requirements, the boiler is designed for fast start-up. Due to the long delivery time of the steam turbine, for economic reasons it is planned to start bypass operation already during the erection phase.

### THE SOLUTION

In order to meet these requirements, Standardkessel Baumgarte is supplying a vertically arranged natural circulation boiler with an additional condensate heat exchanger which also feeds the district heat supply system. Besides the HP and the MP parts, the boiler is also provided with a reheater to optimize efficiency.

The steam generator is constructed as a suspended boiler and designed in such a way that the existing steel supporting structure of the old coal-fired boiler can continue to be used.

For the generation of peak current with waste heat operation, the plant is equipped with a flue gas bypass for 100 % flue gas flow. The waste gases from No. 2 waste heat boiler and/or bypass flow into a joint stack.

### SCOPE OF SUPPLY

- 3-Pressure HRSG with Condensate Heat Exchanger
- Flue Gas-bypass Duct incl. Dampers
- Supplementary Steel Structure, Stairs and Walkways
- Aux. Equipment

### ENGINEERING SERVICES

- Approval Engineering
- Planning and Execution Engineering
- Assembly
- Commissioning

<b>Energy Source</b>	GT-Exhaust Gas
<b>Type of Gas Turbine</b>	GE 6 FA+e
<b>GT-Flue Gas Flow</b>	215 kg/s
<b>GT-Exhaust Gas Temperature</b>	590 °C
<b>GT-Electrical Output</b>	77 MW
<b>Steam Capacity HP / RH / MP / LP</b>	93 / 104.6 / 12.8 / 11 t/h
<b>Steam Temperature HP / RH / MP / LP</b>	540 / 544 / 351 / 240 °C
<b>Steam Pressure HP / RH / MP / LP</b>	98.1 / 29 / 31 / 5.2 bar
<b>Feed Water Temperature</b>	152 °C
<b>FG Temp. Boiler Outlet</b>	80 °C
<b>Type of Boiler</b>	Natural Circulation
<b>Year of Commissioning</b>	2011

