Heating plant Oelper, Brunswick – Combined heat and power plant (CHP)

Characteristics:

- 2 gas engines: Deutz TCG 2020 V12
- Fuel: Biogas (1,000 m³/h)
- Electrical output: 998 kW_{el}
- Electrical efficiency: 41 %
- Thermal output: 1,070 kW_{th}
- Thermal efficiency: 43 %
- Gas pipeline:
  - Length: ca. 20 km
  - Nominal width: DN 250
  - Pressure range: 300 – 1,000 mbar

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Scope of Work:

- Basic evaluation
- Pre-design planning
- Design planning
- Permit application
- Detailed planning
- Tender procedure and awarding of contract
- Construction site management and commissioning support

Description:

The two CHP-units utilize the biogas from the biogas plant of Hillersee PW III of the Brunswick Wastewater Board, which is 20 km away. Approx. 1,000 m³ of biogas per hour are transported via the 20-km-long biogas network of the BS Energy to the location in Oelper.

A gas supply agreement between the Wastewater Board and the BS Energy regulates all financial and legal affairs.

The waste heat from the CHP-unit is fed into the existing district heating network of the BS Energy and provides heat to the Physical and Technical Federal Agency (Physikalisch-Technische Bundesanstalt), the Federal Agricultural Research Centre (Bundesforschungsanstalt für Landwirtschaft) as well as various households in Brunswick.

The generated electricity is fed into the public grid of the local utility company and funded according to the EEG (German Renewable Energy Act) including renewable resources and the Technology Bonus.