

Heat Upgrade System based on a Double-Stage HTHP for Steam Generation

Demosite Overview: Felix Schoeller GmbH & Co. KG



Location: Weißenborn (Saxony, Germany)

Sector: Paper industry

Employees: ~700

Annual production: ~100,000 tonnes of

paper

Energy supply: On-site CHP units (3 gas

turbines, 1 steam turbine)

Steam generation: At 4.5 bar(a) and 8

bar(a)

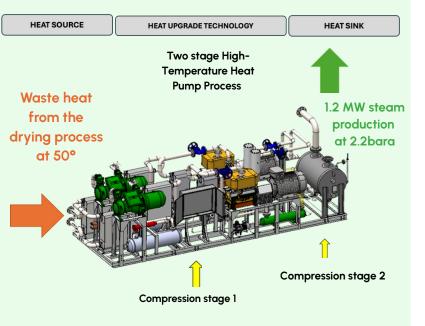
Process details

Heat Source: Waste heat is recovered from the production areas via three air/water-heat recovery systems

Heat sink: Condensate from the paper production process will serve as feedwater for the steam production.

The double stage heat pump will provide slightly overheated steam

In the low temperature circuit the R515B refrigerant is used with a Bitzer screw compressor



In the High temeprature circuit the R1233zd refrigerant is used with a SPH piston compressor

Overheated **steam** is generated for paper production

Funded by

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Partners involved







Technology

Knowledge provider and performance assessment

Expected Impact



Gas Savings

Gas savings of approximately 453,000 m³/year.



CO₂ reduction

Around 231 tonnes of CO₂ emissions are avoided annually.



OPEX Savings

Depending on the energy prices, the OPEX savings account for around 108.000 €/a.



Heat Availability

Waste heat is available for at least 4,800 hours each year at temperature ranges from 45°C to 55°C

□Push2Heat

is an EU-Funded project that aims at addressing the technical, economic, and regulatory barriers that prevent heat upgrade technologies to be widely deployed. It is doing so by scaling up different heat upgrading technologies to optimise their efficiency and economic performance.



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