

# Intelligently combined

## PUBLIC UTILITIES COMBINE 2 CHP UNITS WITH A HEAT PUMP



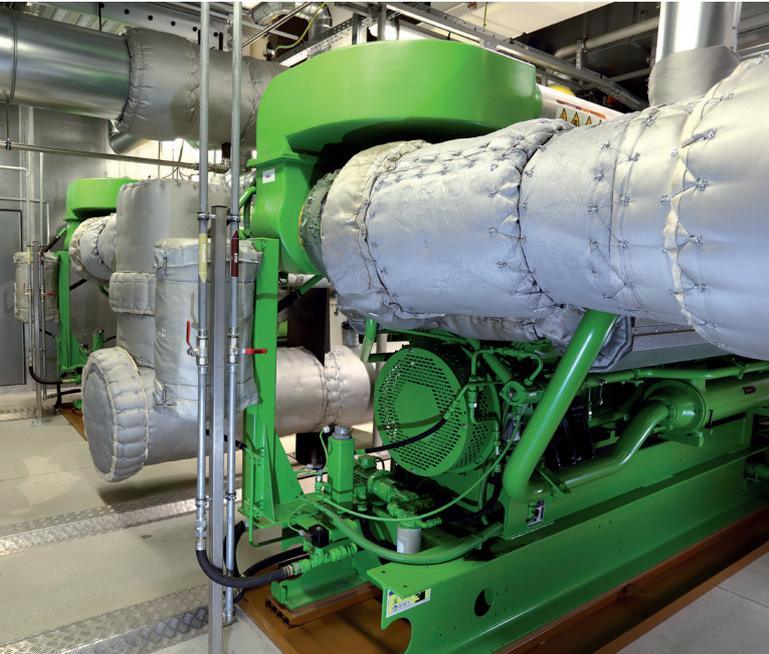
*The Municipal Utilities in Bad Lauterberg (Harz region) use a heat pump coupled to two CHPs for the district heating network – with an impressive total efficiency rating of 87 percent. This system supplies 200 households in the spa town of Bad Lauterberg with highly efficient, low-emission heat.*

### **Sophisticated solution for the district heat network**

By the end of 2013, it was high time to modernize the energy and district heat system in Bad Lauterberg. Four aging CHPs

from 1991 were thus quickly replaced by two high-performance avus 1000a plants from 2G, which feature very long service lives. The clever thing about the new solution: the additional installation of a heat pump takes advantage of the heat radiation from the two plants as well. The total 160 kW of radiated heat which the two combined heat and power plants produce in the installation room is drawn in through the recirculation system by a fan from the two cooling batteries so that it can then be re-cooled and discharged into the installation room. The

heat pump is installed on the second level of the generation plant, as is an energy storage unit, which the energy gained from the cooling batteries is fed into.



**The CHPs meets a wide range of requirements.**

The heat pump springs into action once a temperature of 28 °C has been reached in the storage unit, thus routing the thermal energy which this process has generated (amounting to approx. 200 kW) through a control system and into the return line of the Bad Lauterberg Municipal Utilities' district heating network. This increases the temperature level in the return line from 60 °C to 63 °C. The plant's total efficiency level is a handsome 87 percent, and the efficient, low-emission heat it produces benefits 200 households. Executive board member and head of project management Ludger Holtkamp is enthusiastic about the innovative yet complex project: "The project we completed with the Municipal Utilities of Bad Lauterberg showed once again what a wide range of energy requirements can be fulfilled using combined heat and power technology. Supplying the district heating network creates the ideal conditions for the combination of CHP and heat pump."



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2 x avus 1000a  
Natural gas  
2 x 1.063 kW electrical  
2 x 1.208 kW thermal  
Engine room installation

