

Bonn, 8 October 2014

## Integrating more renewable energy in district heating networks

Study investigates potential of bio and solar energy

The German government has set the target of covering 14 per cent of the heat market from renewable energy sources by 2020. The BINE Projektinfo brochure “Making district heating renewable” (13/2014) describes the potential makeup of a district heating supply transformation. Researchers have investigated the energy sources most suitable in this regard from a technical and scientific perspective. Citing results from model regions and best practice examples, the researchers have developed strategies for the future.

In the “Transformation strategies for district heating supply” study, the researchers looked at the potential effects of integrating wood-origin biomass, biogas and biomethane as well as solar thermal and geothermal energy on the efficiency of heating networks. Findings included: Many renewable energy sources and low temperature waste heat in combination with heat pumps were found to reach their capacity limits at supply temperatures greatly above 100 °C. In nine existing networks investigated, biomass and geothermal energy were found to be the renewable energy sources accounting for the greatest share of heat generation.

For the model regions of Ulm and Jena, the researchers developed strategies for the transformation of district heating supply. With in excess of 50 per cent of heat generation covered by renewable resources, Ulm has already become a forerunner in this area. In Jena, this value could be achieved by 2030 if the total heating requirement is reduced due to renovation works. The Stadtwerke Jena-Pößneck municipal utility companies are currently reviewing new options for the city’s energy supply in the “Integrated energy and heating concept 2050”.

The researchers have also developed a decision tree for operators of district heating networks. Operators can use this tool to investigate how they can increase the proportion of renewable energy sources in their supply systems. The “Transformation strategies for district heating supply” study was conducted by the IFEU institute, GEF Ingenieur AG and the AGFW (German energy efficiency association).

**Contact**  
**Uwe Milles**  
presse@bine.info

BINE information service  
Kaiserstraße 185-197  
53113 Bonn  
www.bine.info