

District heating supplied 84% by renewables

Cities are constantly on the lookout for solutions that will enable them to reduce their environmental footprint by using locally available renewable energy sources. This is especially true of district heating and water heating systems. EDF subsidiary Dalkia develops installations and solutions for cities that make extensive use of renewables. The Vandœuvre-lès-Nancy district heating network is a case in point. Since 2009, the new boiler plant has operated with over 80% renewable energy: 62% of the heat produced is derived from household waste from the Nancy area and 22% from biomass, which comes from local forestry resources. The new multi-energy boiler plant heats the equivalent of 13,000 households in densely populated neighbourhoods without burning any coal or fuel oil.



Ultimately, recovering household waste as energy and burning local biomass avoids 20,000 tonnes of CO₂ emissions a year. With Dalkia and its s.e.e.v. company, which is in charge of the Vandoeuvre district heating network, the Nancy urban authority is confirming its goal of taking action against global warming. That goal was reiterated in 2012 with the Regional Climate, Air & Energy Plan. The plan focuses on thermal renovation of housing and fosters the installation of low-carbon heating networks.

KEY FIGURES

Over **80%** renewables

20,000 tonnes of CO₂ avoided annually compared with the previous solution following discontinuation of the use of coal and heavy fuel oil

Best available technology in off-gas filtration (multi-cyclone filter and bag filter)

265 m² of photovoltaic solar panels generating 30,000 kWh of electricity a year

Source: Dalkia.

INTERESTING FACTS

BOILER PLANT

- **1 exchange substation** to recover 20 MW of power supplied by the Nancy household waste-to-energy plant in Ludres.
- **1 biomass boiler (8 MW)** equipped with a 1 MW economiser, which supplies 22% of the heating for the network.
- **4 natural gas/domestic heating oil boilers** with unit power of 20 MW used to cover peak demand and as backup, supplying 16% of the energy used by the network.
- **1,500 m³** of biomass storage, enough to cover four days' consumption.



LOCAL WOOD-ENERGY SECTOR BOOSTED

The 18,000 tonnes of biomass consumed annually by the boiler plant come from local forestry and industry sources within a radius of less than 80 km. These resources are prepared in and shipped from the Dalkia biomass facility at Velaine-en-Haye, less than 10 km from Vandoeuvre. The platform ensures long-term availability and secure supplies of biomass materials of a high quality (grade, moisture content, etc.).

NANCY HOUSEHOLD WASTE-TO-ENERGY PLANT IN LUDRES

62% of the energy delivered by the network. **7 km** of network between the Nancy household waste-to-energy plant in Ludres and the s.e.e.v. boiler plant.

NETWORK

Low-temperature network since **2008**

(105 °C maxi)

21.8 km

133 substations

13,000 dwelling-equivalents

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