

Biomass boiler installation: Mairie les Mureaux

Development Plan (Mairie les Mureaux, France)

Overview: The city of Les Mureaux, located 40km west of Paris, has approximately 31,000 inhabitants. The city sought help from the BioenNW project to determine the feasibility of building a new biomass boiler for the city and to connect this to, and link, the city's district heat networks (DHN).

The proposed scheme would affect seven areas of the city, all of which are undergoing a phase of redevelopment.

Proposed project:

Following a study on energy strategy for these seven areas, Les Mureaux decided to proceed with the following:

- The connection of two 2 DHNs totalling 24 GWh
- The expansion of the DHN to new areas to reach a further 4,000 houses
- The construction of a 5.8 MW biomass boiler and retain combined heat and power (CHP)
- The demolition of the existing boiler in the Grand Ouest area once the new biomass boiler is operational

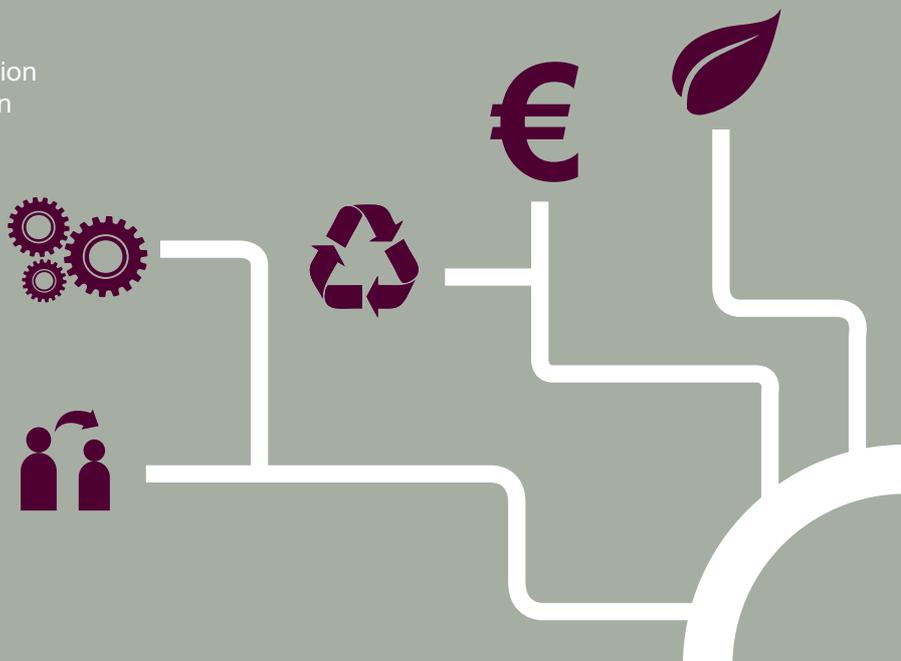
The proposed project would see the construction of a biomass boiler on the Musiciens site within the city of Les Mureaux. The biomass boiler would be linked to the two DHNs (which will be connected) in Grand Ouest and Les Musiciens.

The necessary heat requirement is 5.8MW which provides 72% of the city's heat needs from biomass. This would enable the city to reduce its CO₂ emissions by 72%. Both heat lines will be equipped

with filters designed to stop micro-particles. The emission levels generated by the biomass wood boiler would then be far lower than the threshold emission level required by law. The guaranteed emission levels are (11% of CO₂ from dry gas):

- Dust: 10mg/Nm³ guaranteed instead of 100
- CO: 200 mg/ Nm³ guaranteed instead of 250
- NOx: 400 mg/ Nm³ guaranteed instead of 500

The wood would be sourced locally, within a 100km radius of the proposed biomass boiler in Les Mureaux.



The feedstock supplier will be required to present all information pertaining to the biomass feedstock on an annual basis.

The biomass boiler is currently under construction. It will be operational in April 2015.

DHN development:

Work on the connection of the two DHNs will take place in parallel to the construction of the biomass boiler.

The network required extension and this should take place in four phases. The first phase to connect the two networks has already taken place (at the same time as the build of the biomass boiler) and was completed by 2015. The second phase near the Becheville district will be completed later in 2015. The third and fourth phases will start work by January 2017. All four phases will require a total of 6,659 m of new network piping to connect the two networks and the new customers.

Refurbishment of the existing DHN:

The length of the existing DHNs are:

- 2,542m for Grand Ouest and Vigne Blanche (including 1,764m of old network)
- 1,075m for Les Musiciens

- As part of the connection work, 201m of existing pipes were to be replaced in 2014 by larger pipes on the Musiciens DHN. The total remaining existing network – approximately 2,300m – will be replaced over the duration of the 24 year contract of Délégation de Service Public.

Financing:

The required investment for the project is estimated to be in the region of €8.5million (excluding taxes).

This development plan has been produced through BioenNW – a €7.9m strategic initiative of the European Union INTERREG IVB North West Europe Programme (2011-2015). BioenNW is led by the European Bioenergy Research Institute at Aston University, UK and sees 11 partners working together to deliver small-scale bioenergy schemes throughout North West Europe.



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