




Construction of the biomass boiler powered by wood chips - The Urban Community of Brest (FR)

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| Keywords | Biomass / wood, district heating, renewable energy sources | |
| Main photos |   | |
| Objectives of the action | <p>The Urban Community of Brest (<i>Brest Métropole Océane</i>) has been striving since a long time to develop different sustainable development measures on its territory and to reduce the use of fossil fuels. Among other measures implemented, the Urban Community decided to take use of waste-to-energy technologies (the WtE plant in Spérnot is providing energy to the equivalent of 22,000 dwellings) and renewable energy sources.</p> <p>The construction of the biomass boiler in Plougastel-Daoulas, the Eastern suburb of Brest, is another sign of this approach. The plant is meant to contribute to the Community's fight against climate change and securitize the provision of energy within the territory. It should also play an important role in the development of the local economic activity in the energy sector.</p> | |
| Description of the action | <p>The biomass boiler powered by wood chips was installed in the centre of Plougastel in late 2007. It is now the largest boiler of this kind in the Brittany Region. The total cost of its construction reached 1,935,724€. The project was supported from the very start by The Urban Community of Brest and the financial support was provided by the Regional Council of Brittany, the County Council of Finistère and the ADEME (French Environment and Energy Management Agency).</p> <p>The energy produced by the boiler is used for hot water and heating in the equivalent of 600 homes (the heating network supplies the town hall, a cinema, two local schools, a nursing home and future dwellings that are going to be constructed as part of housing programmes). The boiler ensures the energy production equal to about 85% of the needs of these buildings. It consumes 2,700 tons of wood per year (platelets are made from wastes coming from the local sawmill company). Running continuously, it has a power of 1.2 MW. The total heat production is approximately 6,000 MWh per year.</p>  <p>The heat is distributed to buildings connected to the district heating network by 1.9 km long pipes and 12 distribution stations. The natural gas is used to meet the remaining 15% of energy needs. The gas boiler works in cases of exceptional need for heating, i.e. during winter days, in the periods of maintenance and in case of failure of the wood boiler.</p> <p>Further projects in the field of biomass-based energy are planned in the Urban Community of Brest. A new wood combined heat and power plant of 23 MW will be added and together with the waste incineration plant, it will increase the sustainable energy supply of the Brest heating network. The development scheme of the network foresees to triple its length before 2020.</p> | |
| Results / Achievements | <p>The use of wood allows to save each year 8 millions kWh of fossil fuel and to avoid 1,600 tonnes of CO₂ emissions. In addition, the energy bill is not a subject to variations in fossil fuel prices, which make it possible to better control the costs of further development.</p> | |
| Friendly advice for replication | <p>A heating network allows improve the energy efficiency, to diversify sources of energy and to produce locally some electricity by cogeneration. We recommend elaborate a master plan to optimise its development. A mapping of heating needs and urban projects is indispensable to establish this plan.</p> | |
| Online information | http://www.mairie-brest.fr/cub/default.htm | |
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