

Study Visit Report: Best practices on biomass strategies

1. General comments

The study visit was organized on 6-7 July 2016, as part of the first meeting of the project BIO4ECO, in the CTFC (Solsona, Spain). The priority of the project is to reduce the current dependence of solid fuels and promote the use of natural raw materials as an energy source or as a base for the creation of new products and processes.

The BIO4ECO partners come from Slovenia, Bulgaria, Abruzzo (Italy), Romania, North Karelia, Latvia, France and Catalonia.

2. Purpose of the activity

The main purpose of the study visit was to show to partners and stakeholders best practices on biomass strategies, by visiting different local uses of biomass in Berguedà and in the industrial area of Barcelona.

Catalonia has great potential in forest biomass. The study visit was in line with the development and implementation of the Catalan strategy to promote the energy use of forest and agricultural biomass promoted by the government, an essential piece in the context of the bioeconomy and the reduction of carbon emissions.

3. Implementation of the study visit

3.1. Association of Berguedà municipalities promoting biomass investments at local scale – 6th July

The Berguedà is one of the most forest regions in Catalonia, and the energy from biomass is projected as one of the opportunities for this region in the future. On the one hand, by the economic benefits that can result from the use of this energy and, secondly, the management of forests that should accompany this development.

Timber is not auctioned to the highest bidder as normally, but it is previously classified on the stump, deciding the target industry of each timber assortment prior to its use in order to optimize the economic performance of the forest resources.

The harvest operations are paid according to a variable scale in order to motivate the productivity and capacity to get value add timber assortments.

The project, pioneer in Spain, provides power to 13 heating facilities (with a total of 4.3 MW and 1.500 t/year estimated woodchips consumption) in seven municipalities and to an industrial district in Berga, through two biomass boilers (2.3 MW power each one; 3.500 t/year total estimated woodchips consumption). The project is tendered by a Consortium of Municipalities in Berguedà.

Thermal oil, hot water and steam, will be the services that businesses will enjoy integrated in the new network. This versatility is possible by the use of thermal oil at high temperature, and various exchangers that will serve each of the costumers.

The project involves the installation of two biomass boilers of 2.3 MW each, which heat a synthetic oil capable of reaching 300°C to supply power to the Valldan industrial district through two networks, one with high temperature (thermal oil), and another with hot water.

Woodchips used as biofuel in all facilities comes from a consortium made up of 7 municipalities of the Berguedà, which thus will increase in value their forest resources and create local jobs. Moreover, the consortium will manage directly the power supply network to its customers.

Thus a local virtuous circle of resources and demand closes; a true renewable energy mile project.

www.mmbbiomassa.cat/Inici.aspx

bioenergyinternational.es/primera-red-centralizada-de-alta-temperatura/

issuu.com/avebiom/docs/bie_32_p (pages: 8-10)

3.2. Biomass CHP at the Marina industrial district in Barcelona – 7th July

Ecoenergies Barcelona is the project company created for the design, construction and operation of the network of heat and cold which supplies thermal energy in Barcelona and L'Hospitalet de Llobregat.



Ecoenergies Barcelona offers its energy services (90°C hot water, 5°C cold water, -10°C industrial cooling) in an area of 15,000,000 m² (the exhibition centre, Europe Square, La Marina, Gran Via de L'Hospitalet, Zona Franca, etc.) to various types of customers (residential, industrial, commercial, etc.) through a network of pipes that supplies thermal energy to the connected buildings of the customers.

- Heat production: valorisation of plant residues arising from the maintenance of the parks and gardens of Barcelona, with a complement of **forest biomass**
- Cold production: **use of residual cold** from the regasification process in the Port plant (up to 30MW)
- The network will use, in addition, the heat generated by thermal solar panels of the connected buildings
- Substantial improvement of energy efficiency and significant reduction of emissions of CO₂, NO_x and PM₁₀

www.ecoenergies.cat/barcelona-energy/ressources/files/1/28011,Referencia-Ecoenergies-11.04.12-Ca.pdf

www.ecoenergies.cat/barcelona-energy/ressources/documents/1/55979,SKMBT_C45214040113190.pdf