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Promoting Energy efficiency to Local Organisations
through dissemination Partnerships in Europe
Best Actions for Collaboration in Countries
for a High efficient Use of energy in Structural funds

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A biomass district heating in Molins de Rei -

Catalonia - Spain

Main objective of this project is heat production from biomass in order to distribute hot water to a residential complex called La Granja located in Molins de Rei (Catalonia). The project was promoted in 1997 and it was finally operative in January 2001.

Target Groups	Sector	Field
<ul style="list-style-type: none"> - Local authority - Domestic consumers 	<ul style="list-style-type: none"> - Energy supply - Buildings (including municipal properties) 	<ul style="list-style-type: none"> - Renewable energy - Information

ANALYSIS

CONTEXT

This Plan was conceived and driven in 1997 by the Town Council of Molins de Rei, the EMSHTR (Hydraulic Services and Waste Treatment Municipal Entity), ICAEN (Catalonian Energy Institute) and Efiensa Company: this group set up the specific Company Molins Energia S.L. created to build and maintain an heat generation from biomass system to distribute hot water to 695 new houses included in a residential complex through a district heating network.

In 1999, the three public organisms of the group launched a Call for Tenders to select a private enterprise to be included in Molins Energia S.L. Company and assume the construction and the management of the power plant. The contract was awarded to a joint venture called Biomassa Aprofitament Energètic, S.L. and formed by Hidrowatt S.A. and d'Alges Sabadell S.A.

PROJECT DESCRIPTION

La Granja in Molins de Rei Project consist of a centralised heat and hot water network by biomass for 695 new private and public housing. This is the first experience carried out in Catalonia related to a neighbourhood central heating supplied by renewable energies.

In this sense it had a very important promotional effect at local and wider level due to the complex of innovative and environmental sustainable elements included in it.

This project was articulated around three basic elements:

- Design, engineering and set up of power station fed with biomass and propane gas boilers, pumping equipment, accumulation deposit and management and monitoring system.
- A Distribution network (pipes)
- Design and management of the inner heating systems for each of the district house.

In this way, users are benefited from a collective installation with individualised service which is the key element of the success of this initiative.

This positive and highly environmental concept was the guide for all the promotional activities which were connected to the design and setting up of the project, by involving future users and all identifies stakeholders.



SOURCE: WWW.ENERBUS.COM/PUBLICACIONES/DEMO77.PDF

COST AND BENEFITS

EVALUATION IN TERMS OF COST AND BENEFITS

Hot water service of the Molins de Rei power station started in February 2000 first with natural gas boilers. The biomass boiler was put into operation in January 2001 providing hot water to 250 houses. In November 2001, the power station had consumed 500 tons of biomass which represented a saving of 165 tons of oil per year and has avoided 380 tons of CO₂ released into the atmosphere.

Moreover, within 2003, it is foreseen that a total of 695 houses will be connected to the distribution network and the foreseen biomass consumption will rise to 2,200 tons per year while heat production to 6,800 MWh/year. This will entail a saving of 730 tons of oil per year and it will also avoid 1,700 tons of CO₂ released into the atmosphere.

Global amount invested in this project has accounted for 1,622,733 Euro from which 456,700 Euro were granted by the European Commission through the Thermie Programme, by the Ministry of Energy and Industry through the PAEE Programme and by the Regional Government for Energy (Direcció General d'Energia i Mines de la Generalitat de Catalunya).

Therefore, almost 30% of the total investment has been co-funded by public entities.

PARTNERSHIP

MAIN STAKEHOLDERS AND COMMUNICATION STRUCTURES AND NETWORKS

Main stakeholders involved in this project have been Molins de Rei Town Council, EMSHTR (Hydraulic Services and Waste Treatment Municipal Entity), ICAEN (Catalonian Energy Institute) and Efiensa Company, which formed Molins Energia S.L. Society together with a joint venture called Biomassa Aprofitament Energètic, S.L. (formed by two companies: Hidrowatt S.A. and d Alg es Sabadell S.A.)

Molins de Rei Town Council, EMSHTR (Hydraulic Services and Waste Treatment Municipal Entity), ICAEN (Catalonian Energy Institute) were the three public entities which promoted the project. Molins Energia S.L. is the owner of the power plant, and therefore it is in charge of its management.

Direct beneficiaries were the new owners or tenants of the residential district (private and public housing) which were also specially aware about the particular characteristics of their heating system.

One of the most important elements of this project has been the attention put in the information to the users, who can control, by specific devices within their houses their energy consumption.

This participation in the awareness and management of energy resources can be considered a very innovative and stimulating element of spreading consciousness about these issues.

RECOMMENDATIONS

Some important lessons can be learned from the main elements characterising this project.

First of all it is important to underline how the collaboration and commitment of public institution and private initiatives are key factors for the success of a similar initiative.

It is still very difficult that a RES or RUE project at sub-urban level like this one (a district biomass heating system) could be conceived and developed only by a private Company, because some initial extra costs of the plant, together with the fear of offering a non-standardised product (biomass heated houses, in this case) clearly prevent building contractors to adopt these solutions.

Within this project, the opportunities offered by public co-financing (easier in the case of public housing promotions) have largely contributed to overpass this obstacle and to favour the implementation of an innovative housing concept which could largely influence similar initiative at local or regional level specially where some fuel collection conditions could be met.

This clear public commitment (specially at City Council level) provokes also a very high multiplier effect in terms of impact of citizens attitude towards environmental/energy saving issues.

A second positive element to be considered is in the special attention given to encourage user's participation to the house energy management, by the design and installation of user's friendly devices within each of the houses served by the district heating network and also by the general but technically correct information given about the functioning of the whole system.

By the mean of those two activities the involvement of the population of the area, was ensured since the beginning and represent a crucial factor of a growing of common environmental consciousness.

TO KNOW MORE

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USEFUL INFORMATION

List of Internet sites

/ www.enerbus.com/publicacions/demo77.pdf

THIS CASE HAS BEEN REALISED BY

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