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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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MES-RES: Municipal measures to promote energy savings - Zaragoza - Spain

(project supported by SAVE)

A variety of measures have been promoted to save energy in urban planning. Tasks have focused on the planning process, on technical improvements and criteria that may be introduced, by means of compulsory measures or economic incentives for energy efficiency.

Target Groups	Sector	Field
<ul style="list-style-type: none"> - Local authority - Energy utilities 	<ul style="list-style-type: none"> - Buildings (including municipal properties) 	<ul style="list-style-type: none"> - Demand Side Management - Labelling - Information

ANALYSIS

CONTEXT

The project is based on the assumption that the residential sector is responsible for 40% of primary energy consumption in Europe, with consequent important economic and environmental consequences. It starts from the consideration of the importance of the existing information in the realm of rational use of energy in buildings, the growing interest in more environment-conscious urban settlements within national and international planning frameworks and the focus on local activity to achieve sustainable development. It was structured to achieve the following objectives:

- To Identify key moments and activities for municipal action in the development process to encourage or enforce consideration of energy efficiency.
- To define the possible routes for municipal action.
- To test the results of the analysis process.
- To disseminate the achievements, to act as an inspiration guide for pro-active authorities and a tool to promote widespread construction of less energy intensive and less polluting buildings whilst improving the comfort of their users.

PROJECT DESCRIPTION

The initiative was structured as a collaborative action between experienced consultants, architects, engineers and municipal Administrations in order to explore the possibilities that the latter have in applying energy efficiency criteria to their actions within land planning and building development market regulation.

The proposed work approach, based on information gathering and appropriate schemes development has been carried out by the project co-ordinator to develop a methodological framework describing the urban land development process.

This framework aims to define terms of reference, key areas for investigation and, in this way, to enhance comparability throughout the project. Tasks set up were the following:

1. Description of the urban land development process.
2. Identification, analysis and development of technical/architectural key points.
3. Identification, analysis and development of fiscal/financial key points.
4. Economic analysis of scenarios.
5. Application in the towns of Zaragoza, Bologna and Leicester.
6. Conclusions and recommendations.
7. Project administration and dissemination.

COST AND BENEFITS

In the case of Spain, two main actions have been the result of the application of the identified steps and are being developed in the city of Zaragoza within year 2000:

Construction of over 2,000 new homes named Parque Goya Residence with a high energy efficiency level based on a specifically developed urban plan.

Revision of the existing General Development Plan. There is a scope for the application of technical and financial aspects of Mes-Res, involving the Public Planning Department of the Municipality.

These actions were planned in a larger time period (between 1996 and 2000) in order to face the energy efficiency items within an integrated and multi-disciplinary planning approach and are addressed to aspects as adequate street layout (for an optimised orientation of buildings), respect of minimum distances between buildings, percentages of glazing surface according to the orientation of the facade, recommendations about minimum insulation levels and wide implementation of passive cooling techniques.

Financial and fiscal measures have been also a crucial point taken into account, complementing an effective application of all the mentioned actions: these were oriented to promote discounts on real estate tax and reductions in the amount due of tax on construction work.

Depending on the type of buildings and technologies/techniques adopted, energy savings were estimated up to 60%.

PARTNERSHIP

MAIN STAKEHOLDERS

Main stakeholders of this project at the European level have been the cities involved in the project: Zaragoza in Spain, Bologna railway area in Italy as well as Leicester in the UK and other organisms as it is detailed below.

As it can be seen the project agglutinates an interesting and effective joint effort of many different partners from the political, academic and technology area.

- Institut Cerd (Spain): Project co-ordinator and leader of the work in Spain
- Geohabitat (Spain)
- University of Zaragoza (Spain)
- Softech (Italy): Co-ordinator of the work in Italy
- Municipality of Bologna (Italy)
- De Monfort University (U.K.): Co-ordinator of the work in the U.K.
- Leicester City Council (U.K.)

COMMUNICATION STRUCTURES AND NETWORKS

The main communication system was set up all throughout the project management and at local level between Public Administration and the Consultants/engineering who were carrying out the project. This communication was crucial to guarantee a correct application of the various measures which were being studied and applied.

RECOMMENDATIONS

The second phase of Residencial Parque Goya has incorporated energy saving principles from MES-RES as compulsory, but it has only included the broader sustainable urban development criteria as voluntary recommendations. The reasons for this limitation include the will to maintain coherency between phases 1 and 2, the impossibility of assuring reasonable extra costs for the implementation of certain technologies and the shortage of specialised professionals in techniques of environmental protection and recycling.

Regarding to the applications of long term MES-RES criteria, they are being implemented into the strategic urban plans, as the General Urban Plan of Zaragoza (PGOU), and there are still further challenges to be overcome when introducing the whole of these measures in the mentioned plan which are in course of improvement.

In Spain, the municipality was stimulated to take initiatives for actions at two levels of the planning process:

- General or Structural Plans
- Local Development Plans

At both levels, compulsory and/or voluntary measures, with or without financial incentives, can be introduced and MES RES has tried to systematise them into a common procedure scheme.

Technical measures and intervention should include:

- Distribution of streets, orientation and typology of land plots and minimum distances between maximum heights of buildings.
- Insulation levels and glazing standards.
- Minimum area of south-oriented passive solar elements.
- Guaranteed minimum performance of solar thermal installations.
- Incorporation of collective solar systems for the production of DHW and PV panels for the production of electricity.
- Inclusion of other environmental aspects in urban planning and construction projects.

In connection with financial measures, there are two fundamental aspects to be stated:

- Local financial incentives, subsidies and/or rebates provide an effective support mechanism for achieving more widespread adoption of energy saving practice in building construction. They do not necessarily represent a major cost of revenue to the municipality and may be implemented without budget provision, and thus target the main objection of property developers, which is the extra cost using non-standard building solutions.
- The incorporation of this type of incentive requires specific work from the interested municipality.

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