Objectives

Residential buildings are one of the most important energy consuming sectors in Europe. Nevertheless new residential construction has not given to energy consumption the importance that it deserves, and builders and developers have, generally speaking, always used the minimum cost approach to this problem. Public administrations have developed minimum compliance standards for buildings that guarantee that they are not very energy consuming, but the results obtained, although reasonable, are still far from what technology can provide at a reasonable cost. Moreover some technological solutions, that being a little more expensive can provide substantial energy savings, have not been taken into account because of the difficulties of builders and developers to put a slightly higher price in the dwellings,
with the promise of a reduction of the energy expenses in the future. Spanish project finished the monitoring of the SAV, heating and EMS systems of the first block built. A second monitoring phase is expected to be carried out in the second available block, where an additional installation for that purpose was designed and installed. The quantitative results of this supervision will determine the degree of success of the REMMA solution.

Additionally, a user satisfaction follow-up had been done and many inputs of the user acceptance and perception of the advantages of active and passive energy savings feature were reached.

The objective of the project is to integrate, in real home configurations, different elements directly related to the management of the energy consumed in the residential sector of a European macroregion, which is the Mediterranean area. The purpose is also the constitution of a sample of what can be standard building practices in these areas within five years.

Project Remma aggregates, at least, five relevant elements that improve dramatically the energetic performance of residential buildings, in three big Mediterranean developments (Spain, Italy and Portugal) that, together, amount for almost 340 dwellings. Those elements are:

- low energy design, that takes advantage of climate conditions of the region;
- optimised envelope materials and components, using two advanced elements, a low-k brick and a special window, that improve radically the energetic performance of the main envelope materials in residential buildings;
- a heating and ventilating approach compatible with the previous low energy design and the materials described, that completes the building performance.
- solar hot water system, that takes advantage of the high sun exposure available in this region,
- an energy management system conceived to coordinate and optimise the previous elements.

Besides the testing aspect of the project, the demonstration effect within each countries' building sector will be very strong, thus showing the energy saving effectiveness of various options (design, materials, renewable energy sources, energy management systems, etc.). It is also to be considered that housing is a social need covered by each countries' Public Administration; the use of energy saving elements and tenants' quality of life systems can thus have direct effects in a public and social scale.

Direct results of this project will be the effective transfer of know-how among the four countries involved. The real construction of dwellings, using materials and equipment developed in an other European country, implies a very effective transfer of know-how. This transfer is especially valuable due to the fact that the know-how of materials and equipments transferred is original, useful, low costs, is repeatable, and simple. Moreover, this type of initiative involves actors belonging to different sectors and countries, and impulses the cross-fertilization of ideas between them, sharing a common aim: energy consumption optimization and CO2 emission reduction.
Programme(s)

ENG-THERMIE 1 - Programme (EEC) for the promotion of energy technology in Europe (THERMIE), 1990-1994

Topic(s)

2.1 - BUILDINGS

Call for proposal

Data not available

Funding Scheme

DEM - Demonstration contracts

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