



Solar Energy on Social Houses Promoted by AGESS, Italy

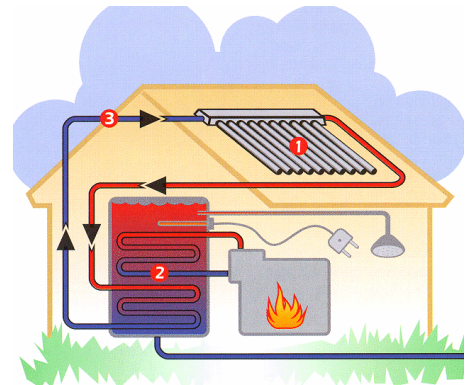
Summary

The project obtains an installation of a solar thermal plant. The solar collection system has been installed on the roof of a social housing building in Forlì (Italy). There are 12 hosting families or in this case disadvantage people living in the building. The building has been equipped with two solar thermal collectors covering a 20 m² surface, with two boilers and a computerized system to keep record of the produced energy.

The project goal was to provide hot water to the disadvantaged people living in the building by exploiting a cheaper and cleaner energy source.

The project objectives were also to spread knowledge of alternative energy systems (solar energy in this case) and link the use of renewable energy sources to social and economic benefits of non-profit housing.

The partners involved have cooperated in finding the best available technologies and the most suitable expertise in this field to successfully implement the project. The partners are the agency AGESS who is the initiator of the project, involving the local non-profit housing association (called ACER – Azienda Casa Emilia Romagna) and the municipality of Forlì (which owns the building). Financial support has been offered by the Italian Ministry of Environment.



End-user area

- New buildings
- Refurbishment of buildings
- Transport and mobility
- Financial instruments
- Industry
- Legal initiatives (regulations, directives, etc)
- Planning issues
- Sustainable communities
- User behavior
- Education
- Other

Target Audience

- Citizens
- Households
- Property owners
- Schools and universities
- Decision makers
- Local and regional authorities
- Transport companies
- Utilities
- ESCOs
- Architects and engineers
- Financial institutions
- Other

Technical

- Energy efficiency
- Heating
- Cooling
- Appliances
- Lighting
- CHP
- District Heating
- Solar energy
- Biomass
- Wind
- Geothermal
- Hydro power
- Other

Context

- **Socio-economic reasons:** The solar system has been implemented in one of the buildings in a social housing area of the city of Forlì (Italy). The target group is the families living in building owned by the non-profit housing association. They will get the benefits from the project outcome which is cleaner and lower energy consumption.
- **Technical reasons:** From a technical point of view, the installation of a 20 sqm solar collector plant will bring hot water to the living in the building. The yearly estimated energy contribution is 9.042 KWh of solar energy.



Objectives

The project pursues different objectives: first of all it is intended to spread the use of renewable technologies (solar collectors in this case), bringing them closer to common people in their everyday life.

Secondly, the application of solar collectors in a social housing building brings the environmental and economic benefits of solar energy to disadvantaged people.

Finally, the project has allowed the local administration (Municipality of Forlì) to ask for a public funding from the Italian Ministry of Environment which offers financial contributions to public administrations willing to increase the percentage of renewable technologies on their territories.

Process

In the project a 20 sqm solar collectors has been installed on the roof of a social housing building in the city of Forlì (Italy). The target end-users of the project are 12 families containing disadvantaged people living in the building. The solar collectors replace electricity for the production of hot water.

Main phases of the project:

- Choice of suitable solar thermal plant and technologies
- Estimation of possible energy savings (32.000 MJ/year)
- Application of financial support from the Environment Ministry (up to 30% of the project eligible costs)
- Installation of 20 m² of solar collectors on the roof of the chosen building
- Presenting the project as best practice to be repeated in other similar buildings (publication of the project on the agency AGESS website, on the agency newsletter, etc...)

No particular problems were encountered during implementation.

Financial resources and partners

The total cost for the implementation of the project is 70 kEuro. The sources of funding have been the municipality of Forlì and ACER. The Italian Ministry of Environment has supported the project with 30% of the total budget from a public funding.

The partners in the project are the energy agency AGESS and the local social housing association (ACER).

The former (AGESS) is the initiator of the project "installing solar thermal collectors on social houses". They have also been exploiting the funding opportunities offered by the Italian Ministry of Environment. AGESS has also drawn up the application form to obtain the ministerial funding on behalf of the social housing association ACER (which manages the building). Finally the energy agency has carried out enquiries to find the most suitable expertise, some professional technicians and the equipment to be installed.

ACER has agreed to experiment with alternative technology on the social houses they manage. They have arranged an agreement with the municipality of Forlì (which is the real owner of the building) to carry on the project.

Results

The energy saved by the solar plant is estimated to about 32.000 MJ or barely 9 000 kWh per year. 12 families will benefit from the outcome of this project. The result is published in the newsletter n. 19/2005 of the agency AGESS (see also <http://www.agenziaagess.com/newsletter/NEWSletter%20n19.pdf>) and will soon published in ACER's newsletter as well.

One of the most relevant side effects of the project is its repeatability. The successful experience in Forlì inspired another social housing building located in Savignano (in the Forlì-Cesena Province) to apply for co-funding from the Environmental Ministry. The work was started in mid October 2005. Another 12 families will thus enjoy the benefits of solar thermal energy.



The economic and energy features of the project are summarized in the table below:

TECHNICAL DATA	
Location	Social housing buildings in Forlì (Via Schuman-Via Accursio); Lat. 44°14 ¹ ; Long. 12°02 ¹ ; Alt. 34 m asl
Collector surface	20 sqm.
Orientation and inclination	30° East/ South-East
Collector	Evacuated glass collectors
Produced Solar Energy (MJ per year)	32.551 MJ.
Hot water per capita average daily consumption	~ 66 L.
Estimated energy saving	31.984 MJ.

Lessons learned and repeatability

Even if solar energy has not succeeded in really penetrating the local market in Italy yet, the repeatability potential of this project and the economic support offered by the Environment Ministry can substantially help spreading this kind of clean energy over the regional and national territory. The implementation of such projects can bring people closer to alternative energy sources and has shown to be quite easy to carry out.

The really strong point of the project is the multiple advantages it can bring both in terms of environmental contribution and of social benefit to the disadvantaged people living in social houses.

No particular problems were encountered for this project and it can therefore be replicated all over Europe. The costs of solar thermal collectors are affordable (cheaper, for example, than those of solar photovoltaic cells), which gives the possibility to implement this kind of project even without the ministerial aid offered by the Italian Ministry.

Contact for more information:

Project Web Site: #if applicable#

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Printed reports or other literature available: AGESS Newsletter n. 19 of June/July 2005 (also available on the internet: <http://www.agenziaagess.com/newsletter/NEWSletter%20n19.pdf>)

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