

# THE CONTRIBUTION OF PORTUGUESE SOLAR THERMAL PROGRAM ON THE COUNTRY ENERGY EFFICIENCY

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## ABSTRACT

The solar radiation available all over the year is a strong reason to promote the utilization of this resource and during the year 2009, a new program based on a 50% subsidy, was promoted by the Portuguese government. As expected, a significant number of new installations were realized. In 2009 the state program provided the installation of more than 50,000 systems. The program can be considered a success on the Portuguese solar thermal collector market.

## SOLAR THERMAL GOVERNMENTAL PROGRAM



Initially the program was only for small systems. A set of characteristics were defined to cover all solutions. The relevant documentation of suppliers was verified by LNEG, who contributed also in the energy assessment for each solution using LNEG SolTerm software.

At the end of 2009, the program was extended to associations with social mission, who chose the more convenient solution based on a ranked proposals according to solar fraction, technical characteristics and cost per kWh, assuming a life time period of 20 years.

## GOVERNAMENTAL PROGRAM RESULTS

Due to the great success of the program, not all the adjudicated systems (176,000m<sup>2</sup>) were installed during 2009, transferring to 2010 the installation of part of that area (Fig. 1)

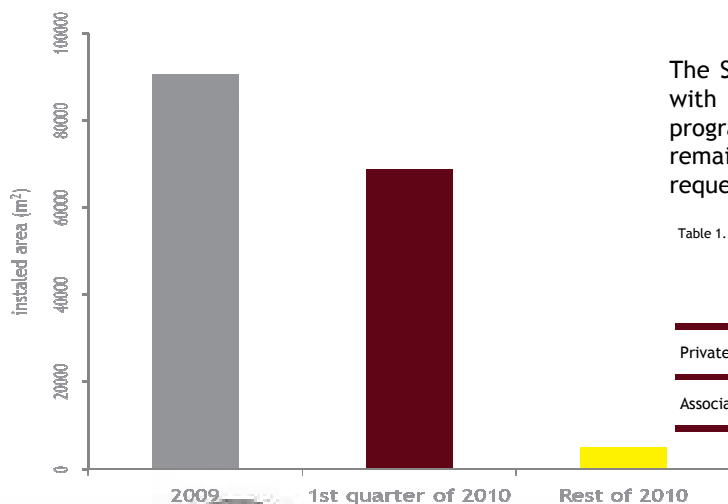


Fig. 1. Distribution facilities under the measure of government granted in 2009 for the domestic sector



The Solar Thermal Program, was created in 2 March 2009 with 95 millions €. Almost 87% of the existing value for the program was allocated to residential systems and the remaining value was not enough for all applications (1358 requests) submitted by associations (Table 1).

Table 1. Total of orders/requests for private and associations under the encouraging solar thermal systems governmental measure.

	Request	Area (m <sup>2</sup> )	Subsidy (€)
Private	50,223	176,283	82,451,099.00€
Associations	1,358	78,764	28,599,480.00€
Total	51,581	255,047	110,050,579.00€

## DEVELOPMENTS AND CONCLUSION

The promotion of solar thermal energy, using governmental subsidies has proved a highly successful result. The budget of this measure allowed the adjudication of 176,000m<sup>2</sup> of solar collectors, in 2009, doubling the facilities installed during the previous year (Fig. 2). In early 2010 it was not sure that the measure would continue, but recently 9.5million€ were made available until October 15<sup>th</sup> 2010. The result of these measures was the development of a strong solar collector market in Portugal. Although limited at the subsidy side, those measures being kept in 2010, complemented with the mandatory installation of solar collectors in all new buildings, are providing a base for the sustainable development of this market.

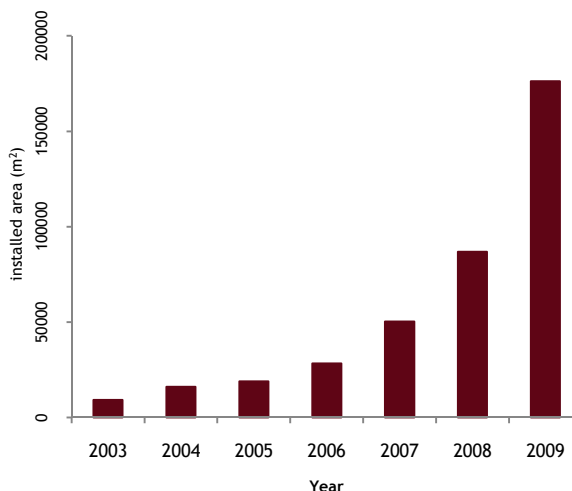


Fig. 2. Evolution of solar thermal collectors market in Portugal