

## **MARKET ANALYSIS FOR THE SOLAR THERMAL ENERGY IN SPAIN IN 2004**

### **1.- Introduction.**

In the year 2004, the Renewable Energies have represented 6,5% of contribution in the consumption of primary energy in Spain, diminishing in 5 tenths to the contribution of the same ones in the year 2003, which was 7%. It is to say we are to a few levels slightly lower than in the year 1999, year in which there approved the Plan of Promotion of the Renewable Energies, with the aim to achieve, that in the year 2010, 12 % of the consumption of primary energy in Spain, it was coming from renewable sources of energy.

The mentioned Plan, it meditates as aim in the horizon of the year 2010 for the Thermal Solar power in Spain, an installed surface of 4.800.000 m<sup>2</sup>, being at the end of year 2004, with a total installed surface, of approximately 700.000 m<sup>2</sup>.

During the year 2004, a whole of 90.000 m<sup>2</sup> has been installed of new solar captators, totalising a surface accumulated of 670.000 m<sup>2</sup> installed.

The perspectives for the year 2005, they are coded in 150.000 m<sup>2</sup> of new installed captators of Thermal Solar power, very far yet of the aims of the PFEERR, since we would need to install 796.000 m<sup>2</sup>/year, from the year 2006, to reach in the year 2010 the 4.800.000 m<sup>2</sup> installed foreseen.

Before this perspective, and in order to reach the aims for the year 2010, the Central Administration has decided to check during the year 2005, the Plan of Promotion of the Renewable Energies PFEERR 2000 - 2010, checking the aims of saying PFEERR, marking on the other hand, the guidelines of the political ones of Energetic Efficiency, and insisting on the idea of that the "more important impediment for the development of the Renewable Energies is the absence of political effective and binding, of management of the demand and of energetic efficiency".

### **2.- Potential market.**

The predictable evolution for the Thermal Solar power in Spain, is going to meet favoured by diverse factors, some contemplated inside the Plan of Promotion of the Renewable Energies, since they are:

- The Europe's highest solar potential.
- The high capacity of reception of the existing market
- The great experience of the manufacturers
- The high technological reached maturity
- The effect reply of the trends of countries of European Union

As well as others not contemplated in saying PFEERR 2000 - 2012, and for that we wait stimulate of a decisive form, the sector of the Thermal Solar power, since they are:

- Review during the year 2005 of the PFEERR 2000-2010 (Review 2005 - 2010).
- Strategy of Saving and Energetic Efficiency 2004 - 2012: Development of a Plan of Action 2005 - 2007

- Transposition of the Board 2002/91/CE on Energetic Efficiency in Buildings or Technical Code of the Building (CTE).

Waiting that the entry into force of the CTE, for January 04, 2006, as well as the rest of happened, increases of manifest form this type of facilities.

In spite of the potential high place available lot, the surface ratio of captation of Thermal Solar power for every 1.000 inhabitants, was placing in 1999 in Spain in 8,7 m<sup>2</sup>/1.000 inhabitants, opposite to the 19,9 m<sup>2</sup>/1.000 inhabitants of the Europe of the 15.

For all this, the forecast for the year 2010, would increase this ratio of 8,9 m<sup>2</sup>/1.000 inhabitants, up to a ratio of 115 m<sup>2</sup>/1.000 inhabitants, which would allow to reach the 4.800.000 m<sup>2</sup> of installed surface.

The forecasts realized by the Institute for Diversification and Saving of the Energy (I.D.A.E.), in the year 1999, date of approval of the PFEERR, and for the horizon of the year 2010, they established the potential market, being based on the following considerations:

1. Supposing a solar contribution of 50%, considering that there should be no type of restriction, the potential market for the Thermal Solar power in Spain, it would place in 27.000.000 m<sup>2</sup>, distributed of the following form:

#### **Hotel sector.**

For the Hotel Sector, these forecasts would place in 1.000.000 m<sup>2</sup>, having in it counts the available seats in this moment, the degree of occupation of the same ones, as well as a solar contribution for the sector of 75%.

#### **Residential sector.**

In the Domestic Sector, corresponding to the existing park of housings, the forecasts would be of 20.000.000 m<sup>2</sup>, removed of the following form:

- One-family Housings, 7.000.000 m<sup>2</sup>
- Multifamily Housings, 13.000.00 m<sup>2</sup>

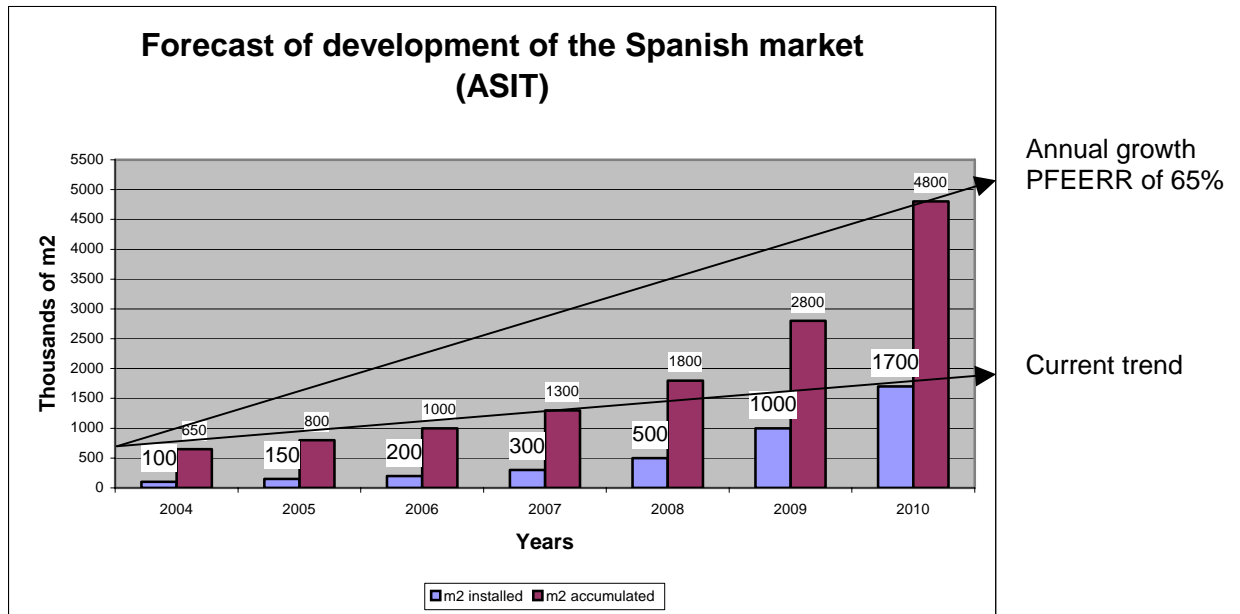
For the same sector, and including the Domestic Sector of new construction, as well as other facilities, as swimming pools, residences, etc, the forecasts are:

- Collective Housings, including residences, colleges, etc, 300.000 m<sup>2</sup>
- Domestic of new construction, supposing that during the horizon of the PFEERR, 250.000 housings /year were constructed, 5.000.000 m<sup>2</sup>
- Other applications, including swimming pools, and application of low temperature in the industry, etc, 500.000 m<sup>2</sup>

#### **Industrial sector.**

The Industrial Sector contemplated inside the PFEERR, it is going to have a specific limited weight, opposite to the Residential Sector and of Services, which it is the one that has a major level of expectations, the forecasts being able to be estimated in approximately 50.000 m<sup>2</sup> for the horizon of 2010.

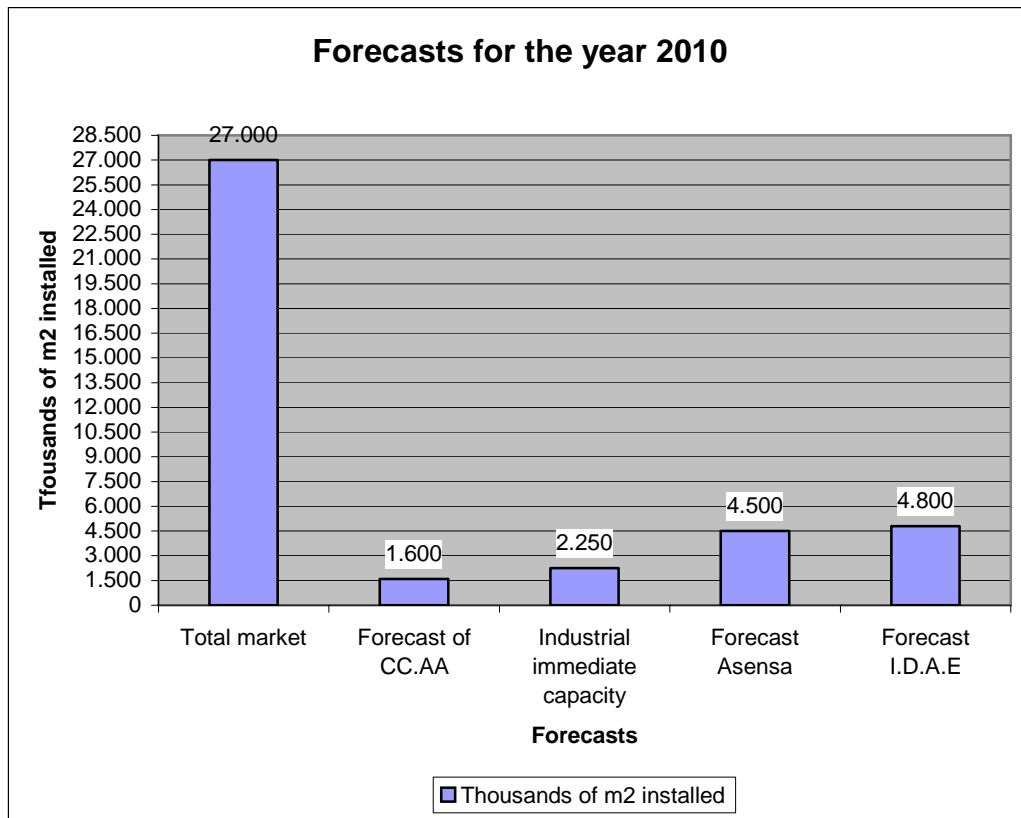
The forecasts of development of the Spanish market, we can see them reflected in the following graph, in which we can see the trend of growth contemplated in the PFEERR, with growths of 65%, opposite to the current trend.



2. Along the Horizon of the PFEERR, the industrial capacity of the Sector is established to three levels:

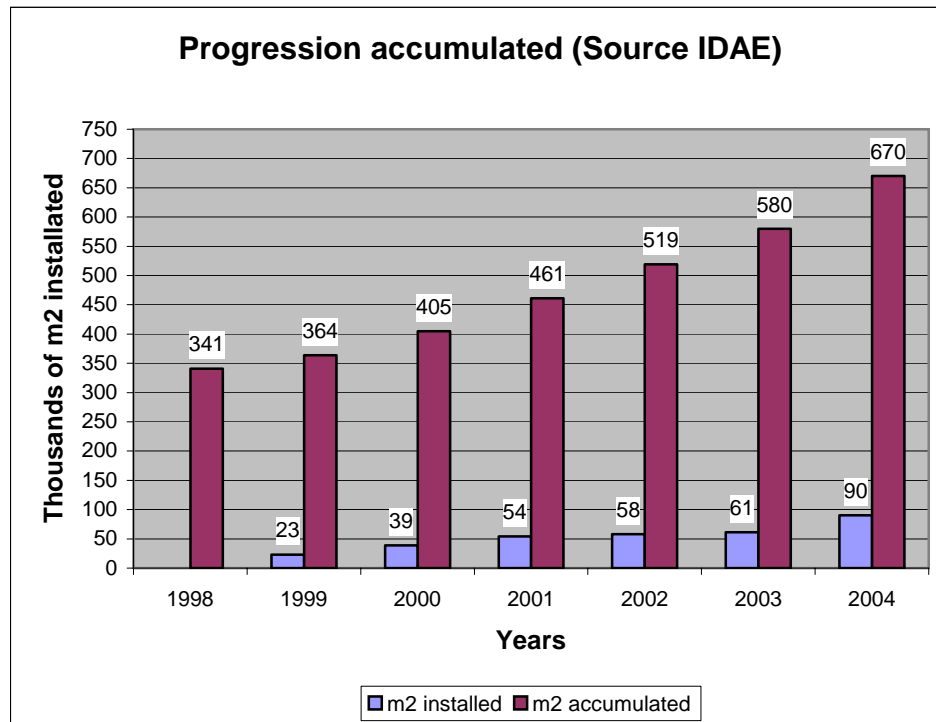
- Industrial Capacity with reference to 1999, 650.000 m<sup>2</sup>
- Industrial immediate Capacity 2.250.000 m<sup>2</sup> (it does not need additional investments, only to optimise the available equipment and to extend shifts), according to the National Association of the Solar Power and Alternatives (ASENSA).
- Capacity in the short term, 4.200.000 m<sup>2</sup> (it needs economic investment to extend the capacity of production).

3. The estimation of the Autonomous Communities is coded in 1.600.000 m<sup>2</sup>, being Andalusia, with 1.000.000 m<sup>2</sup>, the Community with major push.



### 3.- Evolution of the Thermal Solar power in Spain.

The evolution of the Thermal Solar power in Spain, we can see reflected in the following graph:

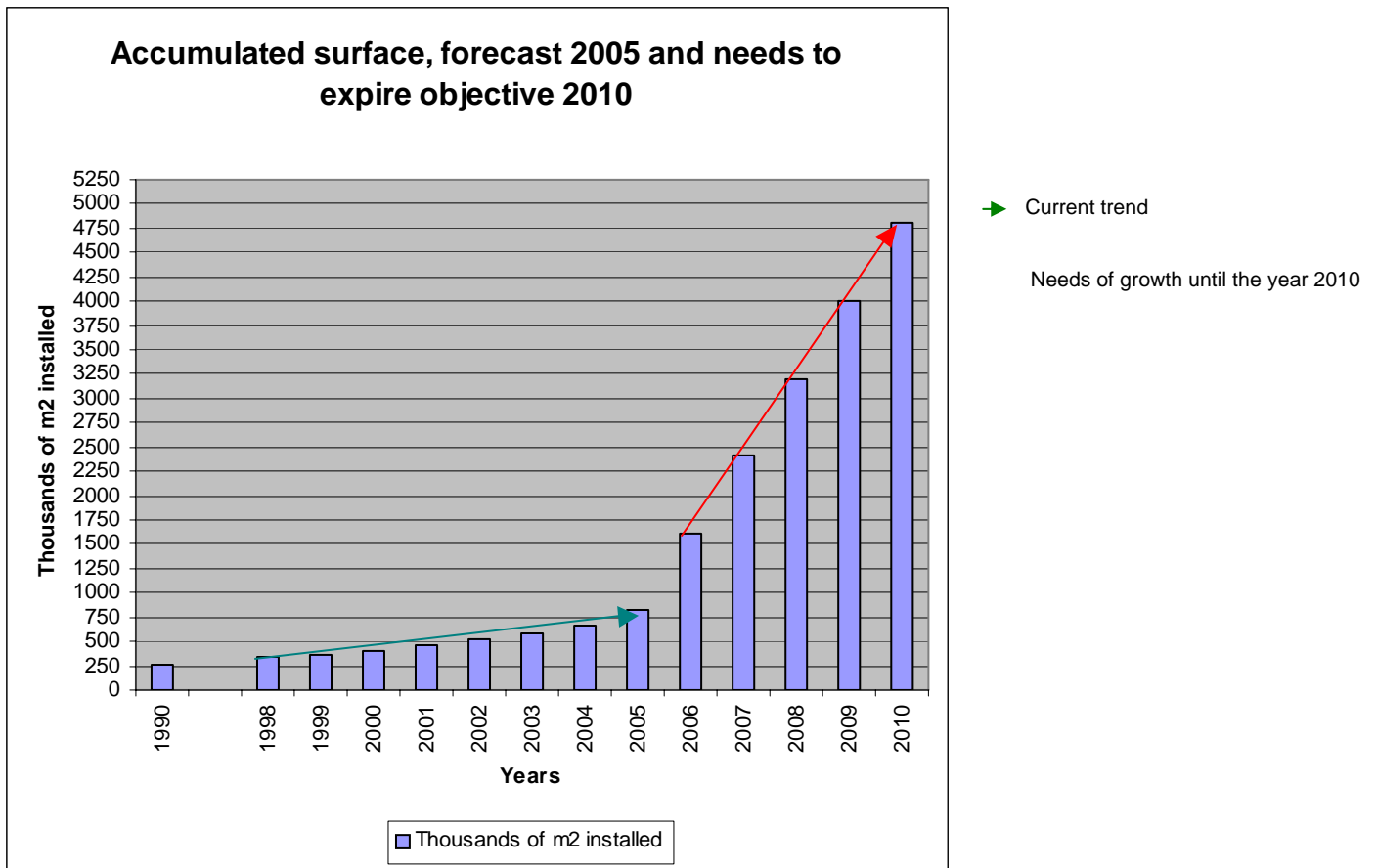


Departing from a situation in 1998 of 341.000 m<sup>2</sup> from solar installed panels (value accumulated of this year and previous), until the year 2004 with 670.000 m<sup>2</sup> from solar accumulated panels, from those who this year installed 90.000 to themselves m<sup>2</sup> new.

After an average of growth in the last 6 years around 15% (until the year 2003), during the year 2004, the market of the Thermal Solar power has experienced a growth around 50% with regard to the year 2003.

This degree of growth of 50%, it is below the estimated one in the PFEERR of 65%, to obtain the aims of the year 2010, coded in 4.800.000 m<sup>2</sup>.

The perspectives for the year 2005, there is coded in 150.000 m<sup>2</sup> of new installed captators of Thermal Solar power, which represents 66% of growth with regard to the year 2004, very far yet of the aims of the PFEERR, since we would need to install 796.000 m<sup>2</sup>/year, from the year 2006, to reach in the year 2010 the 4.800.000 m<sup>2</sup> installed foreseen.



This great growth, it should be obtained, with the measurements contemplated by the Administration for the year 2005:

- Review during the year 2005 of the PFEERR (2005 - 2010).
- Strategy of Saving and Energetic Efficiency 2004 - 2012: Development of a Plan of Action 2005 - 2007
- Transposition of the Board 2002/91/CE on Energetic Efficiency in Buildings or Technical Code of the Building (CTE) and his entry into force on January 04, 2006.

#### 4.- Exploration of the future market in Spain

The Plan of Promotion of the Renewable Energies 2000 - 2010 (PFEERR), he contemplates an important takeoff in the use of the Renewable Energies in Spain, based fundamentally on the following aspects:

- Environmental.
- Energetic.
- Socio-economics.

With reference to the Environmental and Energetic aspects, of all it is known the benefits that for the society there bears the use of these technologies.

With reference to the aspects socio-economics, the development and use of the Thermal solar power, contemplated in the PFEERR, ride prepared the whole series of advantages, which are going to do that in the next years, the development and

implantation of this technology, it manages to reach in the year 2010, the foreseen aims. Between these aspects socio- economics, we can stand out:

- Creation of qualified employment.
- Strengthening of the industrial fabric.
- Development of own technologies.
- Improvement of the competitiveness.

In Spain, the sector with major potential demand, he is in the Residential Sector and of Services, owed fundamentally to the high demand of housings of the first and second use, as well as, for the bet that the hotel sector is demonstrating.

Apart from these four revitalizing aspects of the use of the Thermal Solar power in Spain, a fifth factor is going to appear in scene, and is going to be a determinant, to reach the aims of the PFEERR.

This fifth factor, it is going to be the publication during the year 2005, and his entry into force on January 04, 2006, of the new Technical Code of the Building (CTE), as well, as all the legislation and regulation, that one should adapt to the same one, forcing for Law to the use of the Thermal Solar power in this sector.

For all this, the expectations of development and implantation of this technology in Spain, are optimistic, being the facilities designed by elements, those of major future, being estimated in 75% of the whole, the 25% remaining one, they will correspond to one-family facilities, that is to say, installation of compact teams.

## 5.- Prices of the Spanish market.

The prices of market of the Thermal Solar power in Spain, can estimate for two types of facilities type:

Type of Installation	Estimated Unitary Price
Compact team, with two flat captators and 1 tank of accumulation of 300 liters.	2.500 €/Ud
ST installation for elements	600 €/m <sup>2</sup>

## 6.- Suppliers.

### Manufacturers:

- Isofotón. [www.isofoton.com](http://www.isofoton.com)
- Pasch – Solel. [www.barcelona.pasch.es](http://www.barcelona.pasch.es)
- Saclima – Solahart. [www.saclima.com](http://www.saclima.com)
- Viessmann. [www.viessmann.com](http://www.viessmann.com)
- Termicol. [www.termicol.com](http://www.termicol.com)
- Chromagen. [www.chromagen.com](http://www.chromagen.com)
- Ecofotónica. [www.ecofotonica.com](http://www.ecofotonica.com)
- Giordano Solar S.L. [www.giordano-solar.com](http://www.giordano-solar.com)
- Promasol. [www.promasol.com](http://www.promasol.com)

### Associations and Institutions:

- Asociación Solar de la Industria Térmica (ASIT). [www.asit-solar.com](http://www.asit-solar.com)
- Asociación de Profesionales de las Energías Renovables de Catalunya (APERCA). [www.aperca.org](http://www.aperca.org)
- Asociación de Productores de Energías Renovables (APPA). [www.appa.es](http://www.appa.es)
- Centro Nacional de Energías Renovables (CENER). [www.cener.com](http://www.cener.com)
- Instituto para la Diversificación y Ahorro de la Energía (I.D.A.E.). [www.idae.es](http://www.idae.es)
- CIEMAT. [www.ciemat.es](http://www.ciemat.es)
- ENERAGEN. [eneragen@idae.es](mailto:eneragen@idae.es)
- Agencias de Energía
- Institutos Energéticos.
- Asociación Empresarial de Energías Renovables y Ahorro Energético de la Región de Murcia (AREMUR). [www.fremm.es](http://www.fremm.es)
- Asociación Nacional de la Energía Solar y Alternativas (ASENSA). [www.asensa.org](http://www.asensa.org)

### National installers:

Confederación Nacional de Empresarios Instaladores y Mantenedores(CNI).  
[www.cni-instaladores.com](http://www.cni-instaladores.com)

Companies associated with CNI:

- Asociación Provincial de Instaladores y Mantenedores de Albacete (APIMA). [www.apima.info](http://www.apima.info)
- Agrupación de Industriales de Fontanería y Saneamiento de Alicante (AIIFS). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación Provincial de Calefacción y Aire Acondicionado de Alicante (APEC AA). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación de Fontanería y Calefacción de Asturias (AFONICAZA). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Gremi de Instalació, Ventilació i Aire Condicionat de Barcelona (GREMI). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación Provincial de Instaladores de Burgos (APROIMBU). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación Provincial de Empresarios Siderometalurgia de Ciudad Real (APES). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Agrupación de Instaladores de Servicios para la Construcción de Lleida ( AGRISEC). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación Madrileña de Instaladores y Mantenedores de Servicios Edificación (AMIMSE). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación de Empresas Instaladoras de Menorca (FONGAME). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Gremio Regional de Instaladores de Frío y Calor de Murcia (FREMM). [www.fremm.es](http://www.fremm.es)
- Asociación Provincial de Instaladores de Sevilla (FEDEME). [www.fedeme.com](http://www.fedeme.com)
- Asociación Valenciana de Climatización y Frío Industrial (AVICLIMA). [www.cni-instaladores.com](http://www.cni-instaladores.com)
- Asociación de Instaladores y Mantenedores de Vizcaya (AIMVI). [www.cni-instaladores.com](http://www.cni-instaladores.com)