European
Solar Thermal
Industry Federation

SOLAR THERMAL

Solar Thermal Markets in Europe

(Trends and market statistics 2005)

June 2006

Editorial

The framework conditions for solar thermal are changing rapidly. The price of oil has more than tripled during the last few years. And gas prices in most parts of Europe have followed those of petroleum. The decades of cheap oil and gas have finally come to an end.

Furthermore, big question marks have emerged concerning the future availability of these fuels. Most experts agree that we will reach the peak of oil production within the next decade - some say we are already producing less oil than a few years ago. Whichever way you look at it, the supply of oil will not be able to satisfy the ever growing demand for much longer. And in the gas market, the European consumers were woken up by Gazprom-CEO Miller who demonstrated how easily the world's largest gas exporter can interrupt the European supply network.

At the same time another dangerous trend is becoming more and more evident: climate change is really taking place. An unprecedented number of Hurricanes in the North-Atlantic region, dramatic floods in various parts of Europe and ever more scientific evidence have uncovered the dark side of the fossil fuel conundrum.

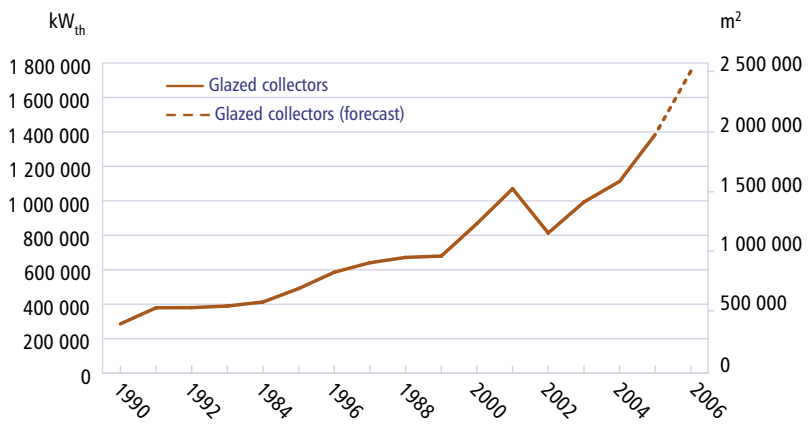
Consumers and policy makers agree that continuing to rely on imported fossil fuels is dangerous. They know that contrary to oil and gas, clean solar energy is inexhaustible and no company or terrorist can easily disrupt its supply. And while the price of oil and gas is certain to rise further, market data show that the costs of solar thermal have decreased with growing markets. As solar thermal is becoming a mainstream heating and cooling technology; mass production and new product developments will further reduce costs.

Most governments support the trend toward solar thermal energy: Through direct financial incentives, through building regulation, through awareness raising campaigns or simply by serving as a good example. The European Parliament has recently set such an example by installing a solar thermal system on one of their new buildings in Brussels. The public support for solar thermal contributes to accelerating the market penetration of solar thermal technologies, which directly benefits European citizens. For more information on support policies, please see page 7.

The market trends we report in this publication are very encouraging. We now have to ensure that the countries that still lag behind in solar thermal energy issues are making the change. ESTIF and its members are at the forefront of this development and together we can make this vision come true.

Ole Pilgaard
President of ESTIF

Solar Thermal Market EU25+[1]



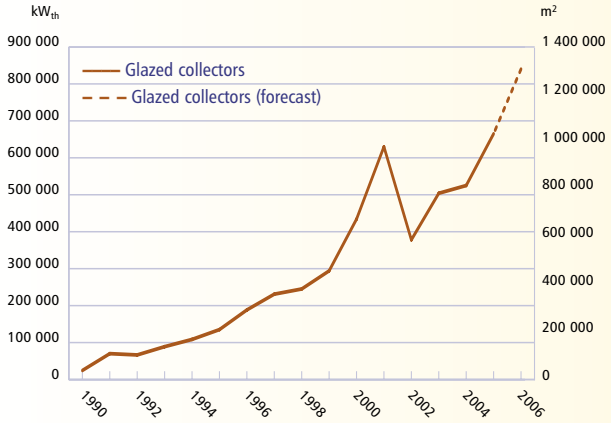
[1] *EU25+ = EU25 + Switzerland*

With a solid growth of 26% in 2005, the European solar thermal market almost passed the 2 millions m^2 mark (1.400 MW$_{th}$ of new capacity).

Based on the early estimates of the 2006 market, ESTIF clearly expects another market growth of 20+ percent for the whole year. Several large manufacturers have reported a doubling of the production in the first months of 2006 as compared to the previous year. The dominance of the German, Austrian and Greek market is not diminishing. However, some of the high-potential markets are slowly catching up (see page 6).

A very interesting and positive development is the growing market share of combisystems that produce not only domestic hot water but also support space heating and therefore lead to higher energy savings. This system type is typically used in Northern and Central Europe: in Austria they already have a market share of 35%.

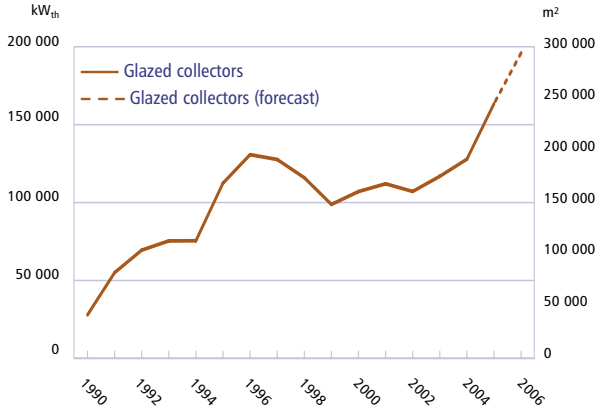
Key national markets



Germany

665 MW$_{th}$ of new capacity were installed (950.000m^2) in Germany during 2005 – a growth of 27% compared with the previous year. And despite a reduction in the Market Incentive Programme in March 2006, consumers continue to invest in solar thermal technology as never before. ESTIF expects that 2006 will finish with a similar growth figure.

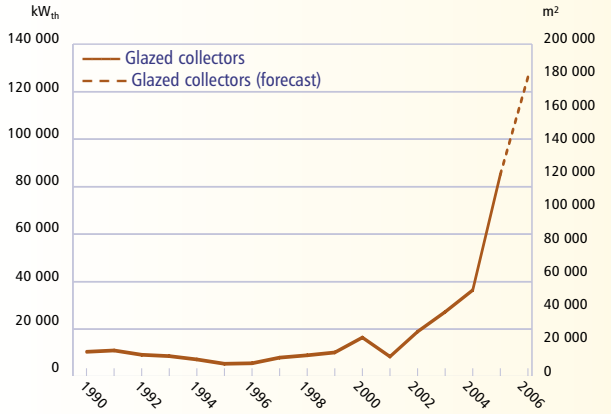
In summer 2005, the financial incentive scheme was changed in order to give a higher incentive to combisystems and a somewhat lower incentive to domestic hot water systems. As expected, this has led to an increase in the average system size installed: in the first 4 months of 2006, the applied for collector area averaged 11,4 m^2 per system, up from 10,1 in 2005 and 9,7 in 2004.



Austria

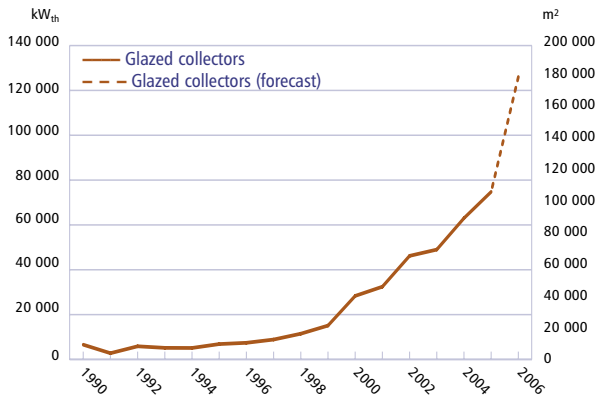
In 2005, Austria experienced similar market growth as their northern neighbours (+28%) and another +20-30% seems likely in 2006. Overall, 163 MW$_{th}$ of new capcity was added in 2005 (233.000m^2). In terms of capacity per inhabitant, Austria has claimed sole possession of the second position in Europe – after world champion Cyprus. 199 kW$_{th}$ were in operation per 1.000 inhabitants in 2005.

Austria is also the leading market for solar combisystems, which already have a 35% market share. Many of these systems are backed-up by biomass boilers.



France

The French market in 2005 was extremely impressive with a growth rate of more than 100%. The market in Metropolitan France increased to 85 MW$_{th}$ (122.000m^2). Consumers embraced the new French support scheme which was introduced in 2005, and which switched financial support from direct investment incentives to a 40% tax rebate which is recovered with an income tax declaration. Therefore consumers do not have to apply for incentives before installing a system. Furthermore, the new scheme also accepts Solar Keymark'ed products thus opening the French market to more competition. The government also increased the tax rebate to 50% of the hardware costs starting in 2006. At this growth rate, one has to take very seriously the French industry minister's recent announcement that by 2010 France wants to be the leading solar thermal market in Europe.



Spain

Growth in what is considered one of the high-potential markets in Europe still does not match the front-runners. With "only" 19% growth, the market in Spain was again outpaced by the likes of Germany and Austria. 75 MW$_{th}$ of capacity were newly installed in 2005 (107.000m^2).

The big news for solar thermal is the new national solar obligation, which came through a revision of the Technical Building Code (CTE): From September 2006 onwards, almost all new buildings are required to cover 30-70% of their domestic hot water demand with solar thermal energy. The effects of the CTE on the solar thermal market will be probably noticeable after 1 or 2 years. Spain is the first EU country to pass a national solar thermal obligation. An English translation of relevant parts of the CTE can be found on www.estif.org

New solar thermal statistics:
Market size in terms of capacity (kW_{th})[1]

	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2005	2003	2004	2005			2005/2004	2006
	Total Glazed (kW_{th})	Total Glazed (kW_{th})	Total Glazed (kW_{th})	Total Glazed (kW_{th})	*Flat Plate (kW_{th})*	*Vacuum Collectors (kW_{th})*	Total Glazed (%)	Total Glazed (kW_{th})
AT	1 623 271	116 844	127 816	163 429	*162 414*	*1 015*	28%	196 000
BE	47 938	6 333	10 290	14 164	-	-	38%	15 400
CH	274 114	18 774	21 747	27 392	*26 230*	*1 162*	26%	32 900
CY	350 140	21 000	21 000	35 000	-	-	67%	42 000
CZ	46 130	7 140	8 575	10 885	*9 240*	*1 645*	27%	14 000
DE	4 587 800	504 000	525 000	665 000	*595 000*	*70 000*	27%	840 000
DK	235 886	13 300	14 000	14 875	*14 700*	*175*	6%	17 500
EE	574	105	175	175	-	-	0%	210
ES	369 016	49 000	63 000	74 760	*71 960*	*2 800*	19%	126 000
FI	9 786	1 400	1 400	1 400	-	-	0%	1 750
FR	276 920	27 230	36 400	85 050	*81 620*	*3 430*	134%	126 000
GR	2 133 040	112 700	150 500	154 350	-	-	3%	164 500
HU	3 675	700	1 050	700	-	-	-33%	700
IE	7 553	840	1 400	2 450	-	-	75%	3 500
IT	361 400	35 000	40 600	50 400	*48 300*	*2 100*	24%	63 000
LT	1 505	280	350	350	-	-	0%	420
LU	9 380	1 050	1 190	1 330	-	-	12%	1 750
LV	1 855	280	350	700	-	-	100%	840
MT	13 552	2 100	2 951	2 800	-	-	-5%	3 150
NL	212 629	19 380	18 410	14 174	-	-	-23%	15 400
PL	96 264	18 354	23 100	24 500	-	-	6%	28 000
PT	112 665	4 200	7 000	11 200	*10 850*	*350*	60%	14 000
SE	145 873	13 479	14 041	15 835	*11 984*	*3 851*	13%	17 500
SI	71 680	770	1 260	3 360	*3 150*	*210*	167%	5 950
SK	44 975	3 500	3 850	5 250	*4 620*	*630*	36%	6 563
UK	137 844	15 400	17 500	19 600	*12 600*	*7 000*	12%	25 200
SUM	11 175 465	993 158	1 112 954	1 399 129	-	-	26%	1 762 233

Notes

[1] *Converted from the solar thermal collector area with the factor 0,7 kWth/m2 (see www.iea-shc.org for more details)*

[2] *"In operation" capacity: it is calculated assuming an average lifetime of 20 years (15 years for systems installed until 1989). Most current systems are designed to work longer, but individual systems can have a shorter lifetime for reasons such as demolition or change of use of the building, poor maintenance.*

[3] *France: the data refer to metropolitan France only and therefore exclude substantial markets in the Overseas Territories.*

The sources are the national solar thermal trade associations. In countries where there are neither such associations nor other national solar thermal statistics, the figures are based on information from market experts.

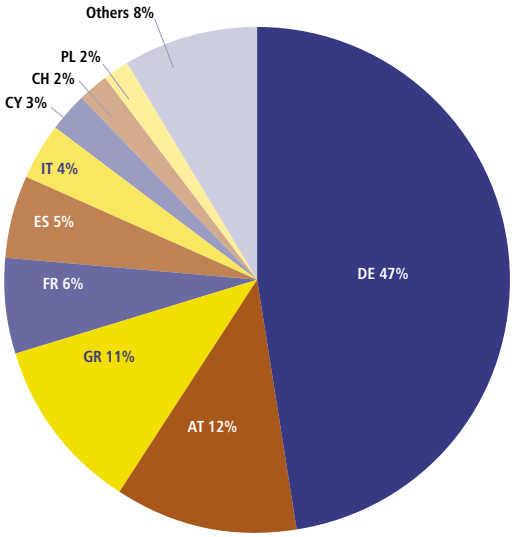
Traditional solar thermal statistics:
Market size in terms of collector area (m^2)

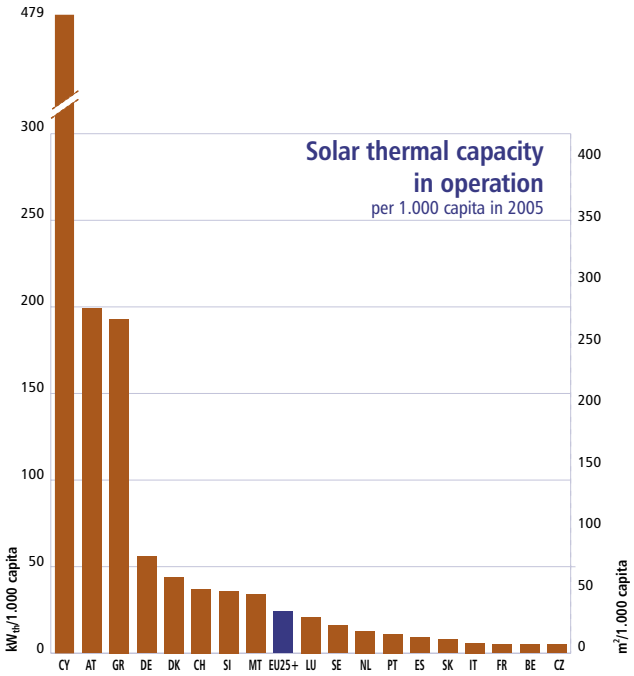
	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2005	2003	2004	2005			2005/2004	2006
	Total Glazed (m^2)	Total Glazed (m^2)	Total Glazed (m^2)	Total Glazed (m^2)	*Flat Plate (m^2)*	*Vacuum Collectors (m^2)*	Total Glazed (%)	Total Glazed (m^2)
AT	2 318 958	166 920	182 594	233 470	*232 020*	*1 450*	28%	280 000
BE	68 483	9 047	14 700	20 234	-	-	38%	22 000
CH	391 592	26 820	31 067	39 132	*37 472*	*1 660*	26%	47 000
CY	500 200	30 000	30 000	50 000	-	-	67%	60 000
CZ	65 900	10 200	12 250	15 550	*13 200*	*2 350*	27%	20 000
DE	6 554 000	720 000	750 000	950 000	*850 000*	*100 000*	27%	1 200 000
DK	336 980	19 000	20 000	21 250	*21 000*	*250*	6%	25 000
EE	820	150	250	250	-	-	0%	300
ES	527 166	70 000	90 000	106 800	*102 800*	*4 000*	19%	180 000
FI	13 980	2 000	2 000	2 000	-	-	0%	2 500
FR	395 600	38 900	52 000	121 500	*116 600*	*4 900*	134%	180 000
GR	3 047 200	161 000	215 000	220 500	-	-	3%	235 000
HU	5 250	1 000	1 500	1 000	-	-	-33%	1 000
IE	10 790	1 200	2 000	3 500	-	-	75%	5 000
IT	516 285	50 000	58 000	72 000	*69 000*	*3 000*	24%	90 000
LT	2 150	400	500	500	-	-	0%	600
LU	13 400	1 500	1 700	1 900	-	-	12%	2 500
LV	2 650	400	500	1 000	-	-	100%	1 200
MT	19 360	3 000	4 215	4 000	-	-	-5%	4 500
NL	303 756	27 686	26 300	20 248	-	-	-23%	22 000
PL	137 520	26 220	33 000	35 000	-	-	6%	40 000
PT	160 950	6 000	10 000	16 000	*15 500*	*500*	60%	20 000
SE	208 390	19 255	20 058	22 621	*17 120*	*5 501*	13%	25 000
SI	102 400	1 100	1 800	4 800	*4 500*	*300*	167%	8 500
SK	64 250	5 000	5 500	7 500	*6 600*	*900*	36%	9 375
UK	196 920	22 000	25 000	28 000	*18 000*	*10 000*	12%	36 000
SUM	15 964 950	1 418 798	1 589 934	1 998 755	-	-	26%	2 517 475

Strong growth but still unbalanced

A closer look at the share of national markets in Europe reveals that the imbalance between different countries has not changed substantially. The astonishing 134% growth in France was met by a higher than forecasted performance of the two largest markets: Germany +27%, and Austria +28%. Together with Greece, these countries still represent over 70% of the EU market.

The EU has reached an average capacity in operation of 24 kW_{th}/1.000 inhabitants. However, the national values range from 479 in Cyprus and 199 in Austria to less than 1 kW_{th}/1.000 inhabitants in the Baltic countries and Hungary.





If the whole EU was at the same level per capita as Austria today, the annual EU market would be over 13 millions m^2, with a capacity in operation of circa 9.000 MW_{th}. This capacity would produce circa 7.800 GWh of energy, effectively substituting large amounts of conventional fuels such as oil and gas or electricity.

estec 2007

On 19-20 June 2007, estec2007, the 3rd European Solar Thermal Energy Conference, takes place again in Freiburg (Germany), just before the opening of Intersolar 2007, the largest solar trade fair in Europe.

Around 400 important players in the international solar thermal industry, research sector and policy makers will gather together at estec2007 to exchange information and ideas on the latest developments in solar thermal energy.

Topics will include:

- Solar thermal vision: potential and cost reductions
- Solar thermal markets
- Public policies for solar thermal
- Standards and certification
- Quality assurance in the fields of products, system design and installation
- Monitoring of solar thermal systems
- Key technological issues
- Financing solar thermal growth

All solar thermal stakeholders are warmly invited to take part in estec2007. For more information: www.estec2007.org

Solar thermal taken seriously by the EU institutions

ESTIF is pleased to note that solar thermal has gained unprecedented political attention at EU level: after many years of neglect, the EU institutions are now taking solar thermal heating and cooling seriously. The disparities in the solar thermal markets of different EU countries show that political action should be taken at EU level to guarantee that the countries lagging behind start a serious market development.

In February 2006, the European Parliament adopted with an overwhelming majority a resolution asking the European Commission to table a Directive proposal to promote Renewable Heating and Cooling. The resolution also suggested an outline of the contents for the Directive.

Immediately after the vote, EU Energy Commissioner Andris Piebalgs announced to the Parliament his intention to follow this recommendation. Then in May, Mr Piebalgs gave his strong political support to the launch of the European Solar Thermal Technology Platform, which he called "vital to secure the competitiveness of our industry".

At the moment of writing this text, the European Commission is working on the impact assessment of different options for a renewable heating and cooling directive. ESTIF expects that a Directive proposal might be published in winter 2006/2007. While many aspects of the content are still at an early stage of discussion, it is already clear that a Directive would not introduce a EU-wide promotion scheme, but rather set targets and positive framework conditions, leaving to the Member States the choice of the appropriate measures to boost market development.

It is therefore a positive signal that in several EU countries stronger measures to promote solar thermal and other forms of renewable heating and cooling are being discussed and implemented. However, ESTIF wants to highlight the issue that several other Member States are still not giving renewable heating and cooling the appropriate political attention and support. It will therefore be crucial to intensify the communication of the high potential and benefits of solar thermal in these countries.

By the end of 2006, ESTIF will publish an Action Plan for Solar Thermal in Europe, including analyses and proposals on best practice policies to promote solar thermal.

EU wide trend towards solar obligations

A growing number of municipalities, regions and countries are making the use of solar thermal obligatory in new buildings and in those undergoing major renovation. These obligations – often referred to as the "Barcelona Model" – are finding support from administrations from different sides of the political spectrum because they are well justified:

- New buildings will still be used when oil and gas will be scarce and precious.
- The return on investment of solar thermal systems is substantially better if solar is integrated from the early stages of planning.
- Furthermore, the obligation on new buildings creates a minimum critical mass within the market, thus leading to lower costs and higher use of solar also in the voluntary market of existing buildings.

A solar obligation was first introduced in Israel in 1980, with the aim of reducing the dependency on energy imports. In 2006 the city of Barcelona revised its solar obligation of 2001; thereby closing loopholes, improving technical parameters and enlarging the number of buildings subject to the obligation. In some Austrian regions, the subsidy for private citizens building new residential houses for their own use is being linked to an obligation to install solar thermal heating.

However, the most exciting news of 2006 was the adoption of the new Technical building Code (CTE) by the Spanish government, requiring that at least 30-70% of the domestic hot water demand is covered by solar or other renewable energy forms. A few weeks later Portugal adopted a framework law with a similar content, though the technical parameters must still be specified.

While the general principle of a solar obligation on new buildings is simply a necessity to meet the energy challenges of the 21st century, the different approaches so far employed concerning some technical parameters will probably lead to an open discussion on the best methods for regulation. The main point is how do we ensure both high quality and energy production from the system without putting too strong a burden on the builder/owner of the building. ESTIF intends to follow this discussion closely and define a common position of the European solar thermal sector.

ABOUT THE SOLAR THERMAL INDUSTRY

Solar thermal replaces imported energy sources with domestic jobs. The sun does not send any bill and does not affect foreign policy.
With a turnover close to 2 billion€, the sector employs more than 20.000 people in Europe.
From the industrial point of view, solar thermal technology is based on very simple principles. The trend towards high-efficiency systems and the automation of the production process leads to ever more sophisticated products and high-tech manufacturing methods.
Over half of the turnover is related to marketing, distribution, design and installation of the systems. Correspondingly, solar thermal is a job machine for the local and national development, as most of these jobs are inherently local.

European companies have a technological lead in the whole value chain. Substantial development of the domestic market volume and further R&D activities are necessary to maintain this.

About ESTIF

The European Solar Thermal Industry Federation represents manufacturers, service providers and national associations. Our 80 members hold more than 95% of the European market.
ESTIF is a founding member of the European Renewable Energy Council (EREC).
ESTIF's mission is to achieve high priority and acceptance for Solar Thermal as a key element for sustainable heating and cooling in Europe and with immediate effect to work for the implementation of all steps necessary to realise the high potential of Solar Thermal.

Key activities of ESTIF:

- Representing the sector at EU level
- Campaigning for a EU Directive to promote Renewable Heating and Cooling
- Promoting best practice policies for solar thermal at EU, national and local level
- Promoting the abolition of any barriers to trade in solar thermal products and services
- Publishing solar thermal statistics and market information
- Managing the Secretariat of the European Solar Thermal Technology Platform
- Organising major events such as estec, the European Solar Thermal Energy Conference
- Providing further services and information to its members

ESTIF Contact Details

Renewable Energy House
Rue d'Arlon 63-65
B-1040 Bruxelles

Tel: +32 2 546 19 38
Fax: +32 2 546 19 39
info@estif.org
www.estif.org