

# Solar Thermal Markets in Europe

Trends and Market Statistics 2008  
May 2009



European  
Solar  
Thermal  
Industry  
Federation

## SOLAR THERMAL GROWS STRONGLY IN EUROPE

**In 2008, we saw an impressive development in our market: Solar thermal heating and cooling solutions are gaining favour in more and more countries. While much of the market is in one- and two-family houses, demand by housing companies, office building operators and other commercial users is increasing significantly. Three factors are mainly responsible for the strong growth in solar thermal energy usage:**

- Decision-makers realise that gas, oil and electricity are not a longer-term option: They are increasingly expensive (even despite the current slump due to the economic downturn), oil production has reached its peak and is about to decrease, gas supply to Europe is too much dependent on a single supplier.
- Building codes are more and more requiring the use of renewable energy and solar thermal offers a cost-effective solution. What started in Barcelona in 1999 is becoming a usual practice in countries, regions and municipalities around Europe. In 2009, Germany became the latest country to require renewable heating in new buildings.
- Solar thermal technology is widely available and is supported by a broad range of companies – from small installation companies to the leading heating equipment manufacturers, solar thermal is nowadays offered for all kinds of applications.



Of course, we cannot be fully satisfied with the market development. The adoption rates of solar thermal are still varying strongly between countries. To the solar thermal industry, it means that a lot remains to be done in the countries lagging behind. Where the demand for solar thermal is low, this is often due to the fact that this is not perceived as an attractive option by installers and heating equipment traders. On the other hand: where solar thermal has reached a “critical mass” we see that companies invest further in market development which leads to more buildings being equipped with solar thermal collectors.

The new European Renewables Directive aims at realising the European target of having 20% of all energy demand supplied from renewable sources in 2020. For the first time, heating and cooling – which account for almost 50% of the total energy demand – are covered by a European Directive. It is now up to the 27 Member States to implement the Directive effectively and quickly. ESTIF and its national member associations will support this implementation process. The Renewables Directive will be another driver to accelerate the adoption of solar thermal solutions in the market.

Solar thermal has a good position in the market today – our solutions help consumers and society reduce our carbon footprint and our dependence on scarce, imported fuels. That is why we believe that our sector will be less affected by the current economic turmoil.

May 2009, Uwe Trenkner, ESTIF Secretary General

## EU MARKET

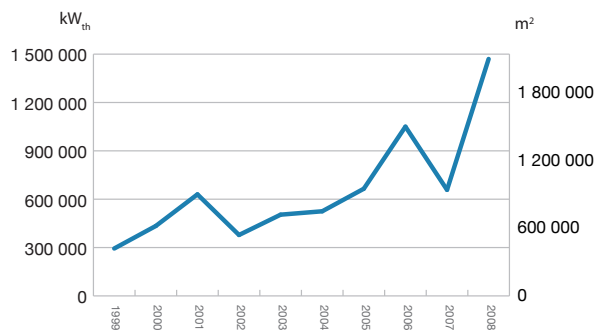
### Solar thermal markets in EU27+ Switzerland (glazed collectors)



The solar thermal market in the EU and Switzerland showed a strong performance in 2008: It grew by 60% to 3,3 GW<sub>th</sub> of new capacity (4,75 mil m<sup>2</sup> of collector area). While the biggest push clearly came from the German market which more than doubled, demand for solar thermal technology grew strongly also in smaller markets. While in comparison the Austrian growth rate of 24% seems almost modest, newly installed capacity per capita now reached 29 kW<sub>th</sub> per 1 000 – beaten only by Cyprus’ 61 kW<sub>th</sub> per 1 000 capita.

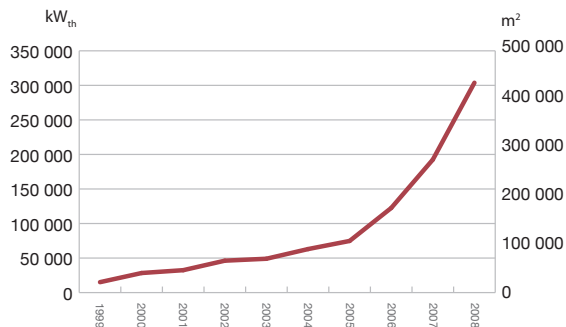
Developments in 2009 are expected to vary strongly throughout Europe. On the one hand, there are countries which are already hit hard by the financial crisis – Spain and Ireland suffer from an abrupt end of their housing boom, while on the other hand early market figures from Germany and Austria indicate a robust market.

## KEY NATIONAL MARKETS – Glazed Collectors



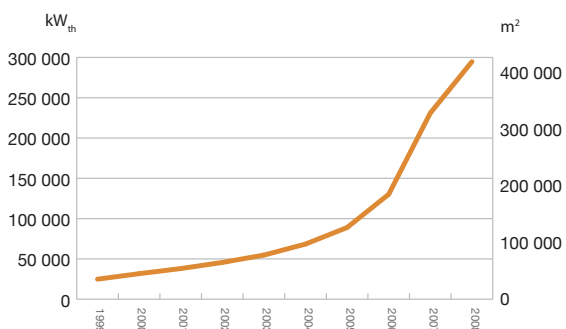
### Germany

Europe's biggest solar thermal market grew to 1,5 GW<sub>th</sub> (2,1 mil m<sup>2</sup> of collector area) – an increase of more than 120% over the admittedly woeful year 2007. The strong growth confirmed earlier predictions, that – under the impression of global challenges such as climate change and the high increase in oil and gas prices – consumers took longer to evaluate all options for reducing their oil, gas and electricity bills. The outstanding growth in 2008 underlines that solar thermal has come out of this evaluation as a big winner. The German solar thermal market is therefore expected to perform relatively well even under the current economic framework conditions.



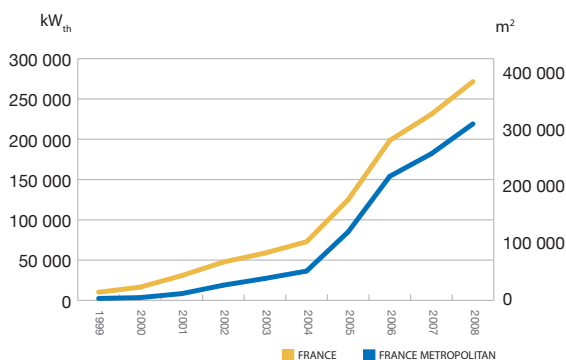
### Spain

With a growth of 58% in 2008, Spain became the second largest market for solar thermal in Europe. Over 300 MW<sub>th</sub> were newly installed last year (434 000m<sup>2</sup>) bringing the total capacity in operation to 988 MW<sub>th</sub> (1,4 mil m<sup>2</sup>). While the solar obligation for new buildings provides a solid support framework, the overall situation of the construction market will likely result in lower growth in 2009. Nevertheless, interest in solar thermal technologies remains very high as can be seen at the major solar and HVAC events in Spain.



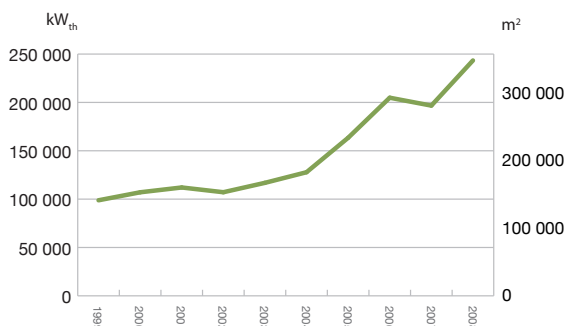
### Italy

Italy, too, had a solid solar thermal year in 2008. Compared with 2007, the market increased by 28% to 295 MW<sub>th</sub> of newly installed capacity (421 000m<sup>2</sup> of solar thermal collectors). But like Spain and France, Italy's solar thermal usage remains below the European average: At the end of 2008, 19 kW<sub>th</sub> (27 m<sup>2</sup>) of solar thermal capacity were in operation per 1 000 inhabitants – the European average was 38 kW<sub>th</sub> /1 000 inhabitants. The strong growth in recent years is partly due to the tax break for investments in solar thermal installations. A government plan to severely cut this scheme was averted at the beginning of 2009, thus keeping alive expectations for a good market development also in 2009.



### France

In 2008, the French solar thermal market increased by 18% to 272 MW<sub>th</sub> (388 000m<sup>2</sup>). 81% or 313 000 m<sup>2</sup> of this market is situated in Metropolitan France, while 75 000m<sup>2</sup> were newly installed in the French overseas departments (Réunion, Guadeloupe, Martinique, French Guiana). A comprehensive support framework in Metropolitan France – established through the Plan Soleil of 2000 – was vital in increasing that market by a factor of 90 in just ten years. Today the French market is the 4<sup>th</sup> largest in Europe, after Germany, Spain and Italy.



### Austria

Due to three decades of public support for solar thermal, the Austrian market is known for its steady growth. In 2008, the newly installed capacity increased to 243 MW<sub>th</sub> (ca. 350 000 m<sup>2</sup>), 24% more than in 2007. The total capacity in operation at the end of 2008 reached 2,3 GW<sub>th</sub> (3,2 mil m<sup>2</sup>), or 390 m<sup>2</sup> per 1.000 inhabitants. And Austria is further increasing its lead: with 42 m<sup>2</sup> per 1 000 inhabitants the rate of new installations was 1,6 times that of Germany and more than 4 times the 9,5 m<sup>2</sup> per 1 000 of the European average (EU27 + Switzerland).



## MARKET SIZE IN TERMS OF SOLAR THERMAL CAPACITY (kW<sub>th</sub>)

	In Operation <sup>2</sup>	Market (=Newly Installed)					Market Growth
	2008	2006	2007	2008		2008/2007	
	Total Glazed kW <sub>th</sub>	Total Glazed kW <sub>th</sub>	Total Glazed kW <sub>th</sub>	Total Glazed kW <sub>th</sub>	Flat Plate kW <sub>th</sub>	Vacuum Collectors kW <sub>th</sub>	Total Glazed %
AT (Austria)	2 268 231	204 868	196 700	243 392	240 532	2 860	24%
BE (Belgium)	188 263	31 125	45 500	63 700	57 400	6 300	40%
BG (Bulgaria)*	22 120	1 540	1 750	2 800	-	-	60%
CH (Switzerland)	415 786	36 304	45 802	59 500	57 050	2 450	30%
CY (Cyprus)*	485 240	42 000	45 500	47 600	-	-	5%
CZ (Czech Republic)	115 570	14 280	17 500	24 500	18 550	5 950	40%
DE (Germany)	7 765 800	1 050 000	658 000	1 470 000	1 330 000	140 000	123%
DK (Denmark)	292 796	17 710	16 100	23 100	21 700	1 400	43%
EE (Estonia)*	1 379	210	245	350	-	-	43%
ES (Spain)	987 816	122 500	192 500	303 800	289 800	14 000	58%
FI (Finland)*	17 705	2 240	2 800	3 360	2 310	1 050	20%
FR (France) <sup>3</sup>	1 136 870	198 450	231 000	271 600	260 400	11 200	18%
GR (Greece)	2 707 740	168 000	198 100	208 600	205 450	3 150	5%
HU (Hungary)*	17 675	700	5 600	7 700	5 950	1 750	38%
IE (Ireland)	52 080	3 500	10 500	30 527	22 209	8 318	191%
IT (Italy)	1 124 361	130 200	231 000	294 700	252 700	42 000	28%
LT (Lithuania)*	3 003	420	490	588	-	-	20%
LU (Luxemburg)*	15 750	1 750	2 100	2 520	1 960	560	20%
LV (Latvia)*	5 005	840	1 050	1 260	-	-	20%
MT (Malta)*	24 752	3 150	3 850	4 200	-	-	9%
NL (Netherlands)	254 339	10 280	13 930	17 500	15 750	1 750	26%
PL (Poland)	255 973	28 980	47 703	90 742	62 874	27 868	90%
PT (Portugal)	223 265	14 000	36 400	60 200	56 000	4 200	65%
RO (Romania)*	66 010	3 850	4 550	5 600	-	-	23%
SE (Sweden)	202 445	19 977	17 826	18 769	10 171	8 598	5%
SI (Slovenia)*	96 110	4 830	8 400	11 200	9 800	1 400	33%
SK (Slovakia)*	66 675	5 950	6 300	9 450	8 400	1 050	50%
UK (United Kingdom)	270 144	37 800	37 800	56 700	33 075	23 625	50%
<b>EU27 + CH</b>	<b>19 082 903</b>	<b>2 155 454</b>	<b>2 078 996</b>	<b>3 333 959</b>	<b>-</b>	<b>-</b>	<b>60%</b>

### Notes

The data are usually provided by the national solar thermal associations. Countries marked with an \* are ESTIF estimations.

- 1) The relation between collector area and capacity is  $1\text{m}^2 = 0,7\text{kW}_{\text{th}}$  (kilowatt-thermal)
- 2) Capacity "in operation" refers to the solar thermal capacity built in the past and deemed to be still in use. ESTIF assumes a time of use of 20 years for all systems installed since 1990. Most products today would last considerably longer, but they often cease to be used earlier, e.g. because the building is torn down, or the use of the building has changed.
- 3) The figures shown here relate to France as a whole. 219 MW<sub>th</sub> (313 000m<sup>2</sup>) of this were newly installed in Metropolitan France, while 53 MW<sub>th</sub> (75 000m<sup>2</sup>) were installed in the overseas departments (DOM).

## MARKET SIZE IN TERMS OF COLLECTOR AREA (m<sup>2</sup>)

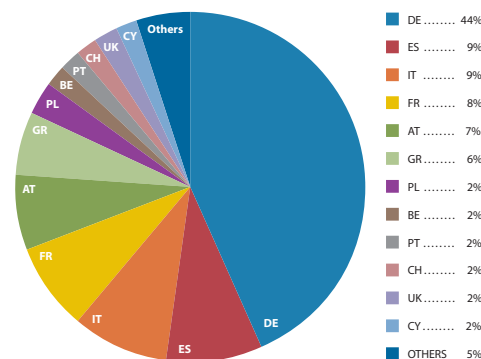
	In Operation <sup>2</sup>	Market (=Newly Installed)					Market Growth
	2008	2006	2007	2008		2008/2007	
	Total Glazed m <sup>2</sup>	Total Glazed m <sup>2</sup>	Total Glazed m <sup>2</sup>	Total Glazed m <sup>2</sup>	Flat Plate m <sup>2</sup>	Vacuum Collectors m <sup>2</sup>	Total Glazed %
AT (Austria)	3 240 330	292 669	281 000	347 703	343 617	4 086	24%
BE (Belgium)	268 947	44 464	65 000	91 000	82 000	9 000	40%
BG (Bulgaria)*	31 600	2 200	2 500	4 000	-	-	60%
CH (Switzerland)	593 980	51 863	65 432	85 000	81 500	3 500	30%
CY (Cyprus)*	693 200	60 000	65 000	68 000	-	-	5%
CZ (Czech Republic)	165 100	20 400	25 000	35 000	26 500	8 500	40%
DE (Germany)	11 094 000	1 500 000	940 000	2 100 000	1 900 000	200 000	123%
DK (Denmark)	418 280	25 300	23 000	33 000	31 000	2 000	43%
EE (Estonia)*	1 970	300	350	500	-	-	43%
ES (Spain)	1 411 166	175 000	275 000	434 000	414 000	20 000	58%
FI (Finland)*	25 293	3 200	4 000	4 800	3 300	1 500	20%
FR (France) <sup>3</sup>	1 624 100	283 500	330 000	388 000	372 000	16 000	18%
GR (Greece)	3 868 200	240 000	283 000	298 000	293 500	4 500	5%
HU (Hungary)*	25 250	1 000	8 000	11 000	8 500	2 500	38%
IE (Ireland)	74 400	5 000	15 000	43 610	31 727	11 883	191%
IT (Italy)	1 606 230	186 000	330 000	421 000	361 000	60 000	28%
LT (Lithuania)*	4 290	600	700	840	-	-	20%
LU (Luxembourg)*	22 500	2 500	3 000	3 600	2 800	800	20%
LV (Latvia)*	7 150	1 200	1 500	1 800	-	-	20%
MT (Malta)*	35 360	4 500	5 500	6 000	-	-	9%
NL (Netherlands)	363 341	14 685	19 900	25 000	22 500	2 500	26%
PL (Poland)	365 676	41 400	68 147	129 632	89 820	39 812	90%
PT (Portugal)	318 950	20 000	52 000	86 000	80 000	6 000	65%
RO (Romania)*	94 300	5 500	6 500	8 000	-	-	23%
SE (Sweden)	289 207	28 539	25 465	26 813	14 530	12 283	5%
SI (Slovenia)*	137 300	6 900	12 000	16 000	14 000	2 000	33%
SK (Slovakia)*	95 250	8 500	9 000	13 500	12 000	1 500	50%
UK (United Kingdom)	385 920	54 000	54 000	81 000	47 250	33 750	50%
EU27 + CH	27 261 289	3 079 220	2 969 994	4 762 798	-	-	60%

## Shares of the EU Market (Newly Installed Capacity)

With 2,1 mil m<sup>2</sup> of newly installed capacity, the German domestic market increased its share of the European market (EU27 + Switzerland) to 44% in 2008. Spain, Italy and France overtook Greece, which was in second position in 2007. Together, these six countries currently account for 84% of Europe's solar thermal market (for comparison – these countries account for only 54% of Europe's population and 61% of its GDP).

The enormous growth in Germany together with its very dominant position hides the fact that some of the smaller markets have developed extremely positively as well. With 130 000m<sup>2</sup> newly installed collector area in 2008 (+90%), Poland has confirmed its position as the 7<sup>th</sup> largest market in Europe. Sales in Belgium increased to 91.000m<sup>2</sup> bringing it into 8<sup>th</sup> position.

Share of the European solar thermal market



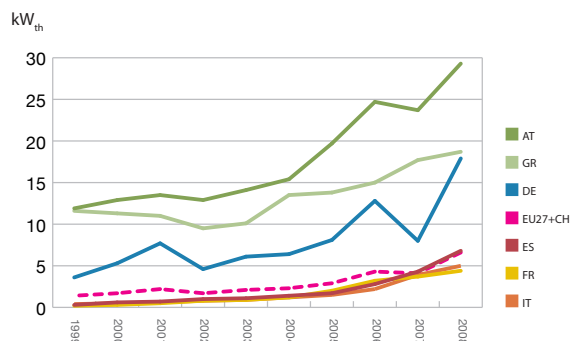
## Development of Per-Capita Market (Newly Installed Capacity per Capita)

Out of the six major markets, Austria is the clear leader regarding domestic sales per inhabitant. In 2008, 42m<sup>2</sup> were newly installed per 1 000 inhabitants. At 26 m<sup>2</sup> per 1 000 inhabitants, Germany is almost at the same level as Greece, which achieved 27m<sup>2</sup>.

This indicator is probably the best instrument to compare the relative market developments in countries. It not only shows the trend of each country, but – due to its relation to the number of inhabitants – also allows for easy comparison between markets.

Spain seems to follow the overall EU-average (close to 10 m<sup>2</sup> per 1 000 inhabitants), Italy and France have dropped slightly against this average, at 7 and 6 m<sup>2</sup> per 1 000 capita, respectively.

Development of market per 1000 capita

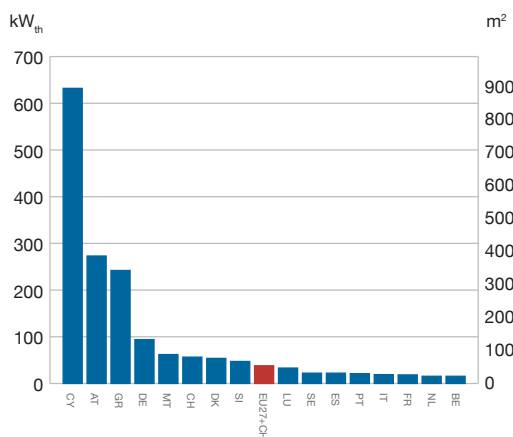


## Solar Thermal Capacity in Operation per Capita

The chart to the right shows the total solar capacity “in operation” per 1 000 capita. The figures relate to all installations built in the past and deemed to be still in operation (ESTIF assumes a life-time of 20 years for systems installed after 1989) and today's population size.

It shows very clearly that the usage of solar thermal is not very much related to the climatic conditions in one country. Southern countries like Cyprus and Greece come in at 1<sup>st</sup> and 3<sup>rd</sup> place, but countries in similar latitudes – such as Spain, Portugal or Italy stay below the European average of 38 kW<sub>th</sub>/1 000 inhabitants (54m<sup>2</sup>/1 000 inhabitants). At the same time, countries like Austria and Germany prove that being a Central European country does not prevent them from being at the top. The overall market framework – including, but not limited to public support mechanisms – have a stronger effect than the climatic conditions.

Solar thermal capacity in operation per 1 000 inhabitants in 2008



## THE ECONOMIC VALUE OF THE SOLAR THERMAL INDUSTRY

Solar thermal creates economic benefits on two different levels: it reduces the costs associated with burning imported fossil fuels or using electricity for heating and cooling. And it creates jobs and economic wealth in the production, marketing, sales and maintenance of solar thermal systems.

Today, solar thermal already provides more than 40 000 full-time jobs in Europe (approximately 1 full-time job per 80 kW<sub>m</sub> of newly installed capacity). European manufacturers have a clear technological lead when it comes to solar thermal. Nowhere has the technology been developed further than in Europe. Collectors and products developed here are usually tested against the strict European Standards (EN 12975 for collectors and EN 12976 for factory-made systems). Many non-European countries are looking to adopt similar standards and the successful Solar Keymark certification scheme which ensures that a product complies with the EN standards.

Holding and extending this technological lead is important for the European Solar Thermal industry. By developing new applications such as solar cooling or solar heat for industrial processes the industry is already working on systems of tomorrow. Renewable energy industries have become leaders in market and job growth. The total annual turnover of the European solar thermal industry has recently overtaken the 3 billion Euro mark.

A major share of this turnover supports local SMEs, which are selling, planning, installing and servicing solar thermal systems. These jobs are inherently local and here to stay for the long-term. This is why the solar thermal industry can rightfully claim: "We replace imported fuels with local jobs".



## EUROPEAN SOLAR DAYS

On 15-22 May 2009, Europe celebrated for the second time the Solar Days. More than 7 000 events took place in 15 countries, organised by solar companies, heating and electric installers, local and regional governments, energy agencies, schools and church communities and ordinary citizens who share the belief in a better future by using more solar energy.

The European Solar Days are co-ordinated by the European Solar Thermal Industry Federation (ESTIF) in close co-operation with the European Photovoltaic Industry Association (EPIA). They bring together major players from the solar thermal and solar electric sectors throughout Europe.

More than 50 000 people participated in the 2009 events and for 2010 the celebrations will extend to even more countries with ever higher numbers of events:

- At solar companies: Open days, guided tours of manufacturing plants, technical visits, solar festivals and parties
- Educational: solar days at schools, info days at local energy agencies, in town halls and local businesses
- Showcasing: Solar trade shows, solar exhibitions and conferences
- Formal celebrations: Inauguration of new solar thermal installations, opening ceremonies of additional production capacities

For further information, including links to the national organisers, please go to [www.solardays.eu](http://www.solardays.eu)



# Join ESTIF

## The Voice of Solar Thermal in Europe

The European Solar Thermal Industry Federation (ESTIF) represents over 100 members consisting of manufacturers, service providers and national associations, which together cover 95% of today's solar thermal market.

Our mission is to achieve high priority and acceptance for solar thermal as a key element for sustainable heating and cooling in Europe and to work for the implementation of all steps necessary to realise the high potential of solar thermal.

As part of its mission ESTIF also supports Research and Development activities through the co-ordination of the European Renewable Heating and Cooling Technology Platform.

Currently, over 40 000 people are already employed in the European solar thermal sector and the great potential of solar thermal is reflected in the creation of new job opportunities in the manufacturing and installation of solar thermal systems in Europe.

### Key activities

Representing the sector at European level

Promoting Solar Thermal Heating and Cooling in Europe to achieve the target of 1m<sup>2</sup> of collector area for every European in 2020

Shaping policies and contributing to the implementation of the Renewable Energy Directive at national level

Opening markets for solar thermal products and services

Organising public campaigns and major solar thermal events like the European Solar Days or the biennial European Solar Thermal Energy Conference



European Solar Thermal Industry Federation

## 10 excellent reasons to join ESTIF

Join ESTIF and become part of the voice that speaks for you in Europe. Choose the membership which suits your organisation best and take an active role in the future of solar thermal in Europe.

1 **Take advantage** of the key solar thermal network in Europe

2 **Gain privileged access** to ESTIF market information and data

3 **Strengthen** the voice of solar thermal vis-à-vis the European institutions

4 **Increase your visibility** through a free web link on ESTIF's homepage

5 **Get discounts** on ESTIF events and publications

6 **Influence European policies** to increase the share of solar thermal energy

7 **Benefit from first hand information** on standards and certification

8 **Get support** from ESTIF staff when dealing with EU institutions

9 **Stay informed** with ESTIF's regular newsletter covering solar thermal in Europe

10 **ESTIF is already working for you.**

Join ESTIF today and gain even more benefits.

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