European
Solar Thermal
Industry Federation

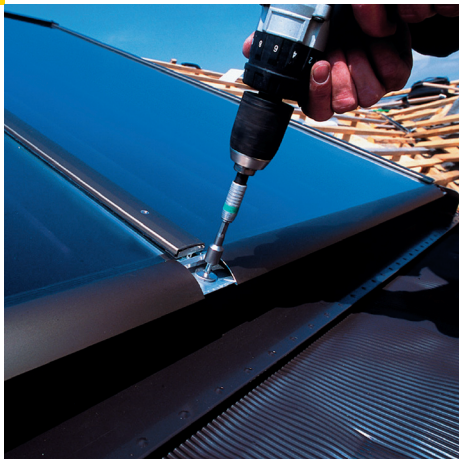
SOLAR THERMAL

Solar Thermal Markets in Europe

(Trends and market statistics 2006)

June 2007

New opportunities and challenges through continuous growth



Our industry has many reasons to be self-confident: a doubling of the EU market in less than three years, a 47% growth rate in 2006, thousands of new jobs, a historical political breakthrough at EU level, and the perspective of two-digit growth rates for many years to come.

And we are proud: every new solar thermal system is a step towards a clean, sustainable and secure heating supply. Many still believe that solar thermal is too small to make a difference. They are wrong.

Imagine you are driving on a highway past a 740 km long queue of large lorries and they are carrying a total of 820.000 tons of heating oil. This is the equivalent of what all solar thermal systems in operation in the EU save every year!

It is a lot, but still less than 1% of the 50% of the EU's final energy consumption that is caused by heating and cooling. Imagine the enormous potential for future growth! Today, the heating and cooling supply is mainly based on oil, gas and electricity, which again relies heavily on fossil fuels and nuclear. Besides their dramatic environmental and security impact, they are finite resources and wars are fought over them. Also, biomass resources are limited and their use as a heating source competes with their use in transport, in electricity production, as food product and as raw material in the industry.

For all these reasons, policy makers, investors and citizens are realising the time for solar energy has come.

Our growth cannot be attributed to just one but to several factors: millions of satisfied customers and increased presence of our industry - especially in the new markets - with new products and marketing strategies. Another key driver is public support, like solar obligations in Spain, training programs in France, and the many financial incentive schemes which exist in most EU countries.

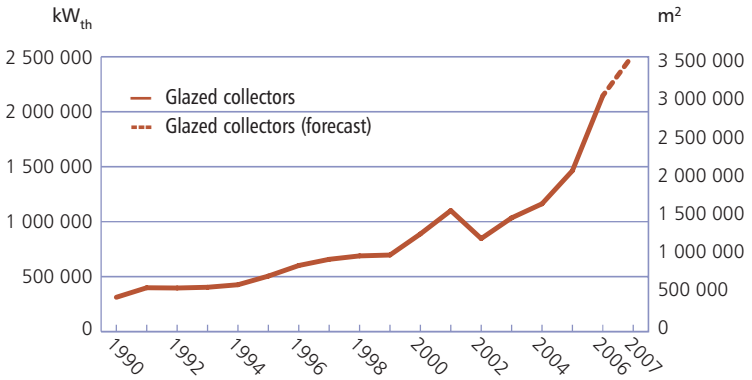
At EU level, solar thermal is entering a new political era (see page 7). ESTIF strongly contributed to this: we shaped ideas, we built up coalitions and we finally succeeded in setting renewable heating and cooling on the European agenda. This encourages us to further increase our information and campaigning activities, at EU and national level.

Growth also brings new opportunities and challenges for the industry: we can leap forward to new dimensions in R&D, automation, supply chain management, marketing, installation and maintenance. Therefore, we need to maintain high quality levels not only of the products, but also of system design, installation and customer care. With the successful introduction of the Solar Keymark, ESTIF also played a crucial role in this field.

ESTIF makes a difference. We are now preparing to take on new challenges in order to boost solar thermal towards becoming a leading supplier of sustainable energy in Europe.

Gerhard Rabensteiner
President of ESTIF

Solar Thermal Market in EU27+CH



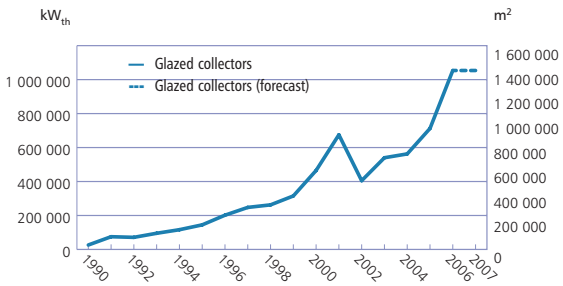
EU Market

With a spectacular growth of 47%, the European solar thermal market in 2006 exceeded everybody's expectations, reaching 2,1 GW$_{th}$ of newly installed capacity (3 million m^2 of collector area). The total capacity in operation reached 13,5 GW$_{th}$, producing over 800.000 toe of clean solar heat and cold.

Several factors contributed to this good result, amongst them continued, often even increased public support in several countries, the dramatic increase of oil and gas prices, the cut-off of the Russian gas supply in January, and the more and more visible signs of climate change.

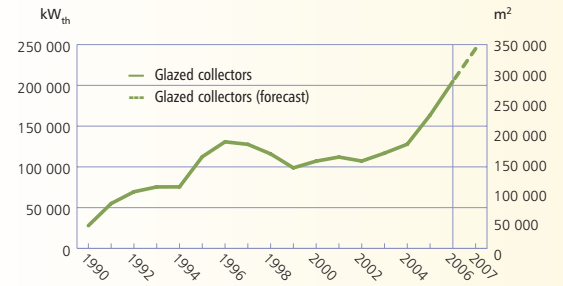
First forecasts for 2007 indicate a somewhat more moderate growth this year. With an expected 17 % growth, the EU market for newly installed capacity would end at 2,47 GW$_{th}$ (2,5 million m^2 of collector area).

Key national markets



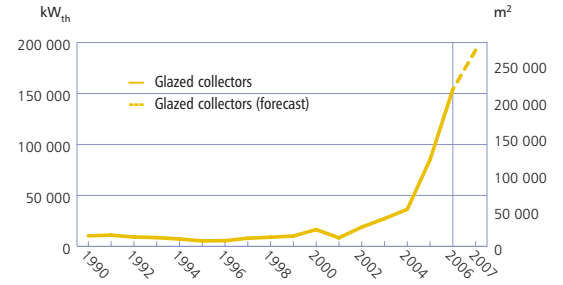
Germany

Despite two subsequent reductions in the specific grants of Germany's "Marktanreizprogramm", the German market out-paced every other national market of significance except for France. 1,05 GW$_{th}$ of new capacity were installed in 2006 (+58%), increasing the capacity in operation to 5,6 GW$_{th}$. To put things into perspective: on a per-capita basis, the German market is exactly half that of Austria: 12,7 vs. 25,2 kW$_{th}$ per 1.000 capita. Much more is expected from this market leader in the future! For 2007, the most recent available forecast is of a market at the same high level as in 2006.



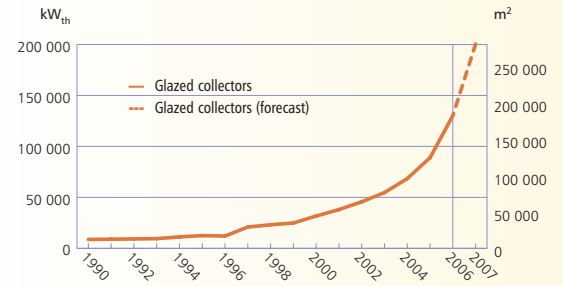
Austria

Austria remains the "continental" leader in solar thermal. In Europe, only Cyprus installs more capacity per capita and year, than the 25 kW$_{th}$ /1.000 capita of Austria. It would not be quite fair, though, to speak of "Austria" as such. The differences between the Bundesländer are significant, with each of them having their own support programme.
A new and very positive trend appeared last year: the number of larger collective systems has increased substantially. While in the past demand was almost exclusively in the one- to two-family house sector, nowadays more and more multi-family houses are equipped with solar thermal systems.
For 2007, the newly installed capacity is expected to increase to 245 MW$_{th}$ (+20%).



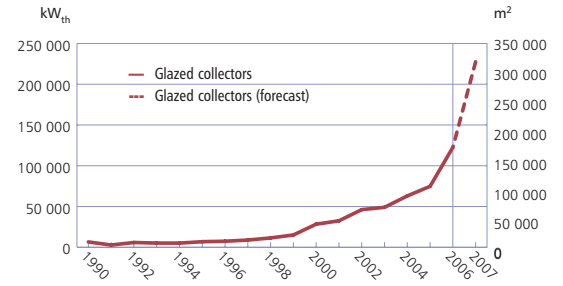
France

The French metropolitan market continues to astonish: after having more than doubled from 2004 to 2005, this market increased another 81% in 2006. The simplicity of the tax rebate introduced in 2004 has significantly contributed to the success of this incentive scheme: because consumers do not have to apply for a grant first, they can decide quickly and with a minimum of administrative overhead afterwards.
The incentives are tied to certain hardware certification, as well as a quality scheme on the part of the installer. Only systems installed by one of almost 10.000 "Qualisol"-installers are eligible for the tax rebate. For 2007, a growth of approximately 25% over the previous year is expected.



Italy

The Italian market is significantly bigger than previously estimated and has a size comparable to France or Spain. This was revealed by a new systematic market survey performed during the first months of 2007 by a panel of independent experts with the support of ESTIF and other market players.
The figures show that the new capacity installed in Italy during 2006 was actually 130 MW$_{th}$ (186.000 m²). As the under-estimation of the market was systematic in recent years, this figure cannot be compared with those of previous years. The diagram to the left includes a retroactive re-evaluation of the market development.
However, even with the corrected market data it will take years of effort from industry and policy makers before Italy can achieve levels per capita comparable to its neighbours Austria and Greece.



Spain

In 2006 the Spanish market increased by over 60% to 123 MW$_{th}$ newly installed capacity. For 2007, a market increase to almost 230 MW$_{th}$ is expected (+85%).
The biggest news last year was the introduction of a nation-wide solar obligation for new buildings. The regulation, which builds on the success of the many municipal "Solar Ordinances", came into force in September and applies to almost any building, either newly constructed or undergoing major refurbishment.
The experience at municipal level has shown a time lag of 1-3 years until a solar obligation is fully effective. Already now, many solar thermal companies have increased their presence in the Spanish market. This proves once again that private investment can be triggered with suitable public policies.

Market Size in terms of capacity (kW_{th})[1]

	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2006	2004	2005	2006			2006/2005	2007
	Total Glazed kW_{th}	Total Glazed kW_{th}	Total Glazed kW_{th}	Total Glazed kW_{th}	*Flate Plate kW_{th}*	*Vacuum Collectors kW_{th}*	Total Glazed %	Total Glazed kW_{th}
AT (Austria)	1 828 139	127 816	163 429	204 868	*202 822*	*2 047*	25%	245 000
BE (Beligum)	72 883	10 290	14 164	24 945	*21 887*	*3 058*	76%	31 500
BG (Bulgaria)	17 570	1 260	1 400	1 540	-	-	10%	1 750
CH (Switzerland)	310 484	21 812	27 392	36 304	*35 248*	*1 056*	33%	45 500
CY (Cyprus)	392 140	21 000	35 000	42 000	-	-	20%	49 000
CZ (Czech Republic)	74 711	8 575	10 885	15 421	*12 943*	*2 478*	42%	21 000
DE (Germany)	5 637 800	525 000	665 000	1 050 000	*945 000*	*105 000*	58%	1 050 000
DK (Denmark)	253 596	14 000	14 875	17 710	*17 500*	*210*	19%	22 400
EE (Estonia)	784	175	175	210	-	-	20%	280
ES (Spain)	491 516	63 000	74 760	122 500	*113 313*	*9 188*	64%	227 500
FI (Finland)	11 545	1 141	1 668	2 380	-	-	43%	3 150
FR (France)	430 920	36 400	85 050	154 000	*146 300*	*7 700*	81%	192 500
GR (Greece)	2 301 040	150 500	154 350	168 000	*164 640*	*3 360*	9%	210 000
HU (Hungary)	4 375	1 050	700	700	-	-	0%	840
IE (Ireland)	11 053	1 400	2 450	3 500	-	-	43%	7 000
IT (Italy)[3]	598 661	68 417	88 941	130 200	-	-	46%	199 500
LT (Lithuania)	1 925	350	350	420	-	-	20%	700
LU (Luxembourg)	11 130	1 190	1 330	1 750	-	-	32%	2 030
LV (Latvia)	2 695	350	700	840	-	-	20%	1 260
MT (Malta)	16 702	2 951	2 800	3 150	-	-	13%	3 850
NL (Netherlands)	222 909	18 410	14 174	10 280	-	-	-27%	12 600
PL (Poland)	117 264	20 230	19 390	28 980	*24 570*	*4 410*	49%	36 400
PT (Portugal)	126 665	7 000	11 200	14 000	-	-	25%	16 800
RO (Romania)	48 370	280	280	280	-	-	0%	350
SE (Sweden)	165 850	14 041	15 835	19 977	*13 878*	*6 099*	26%	23 800
SI (Slovenia)	76 510	1 260	3 360	4 830	*4 410*	*420*	44%	7 000
SK (Slovakia)	50 925	3 850	5 250	5 950	*5 390*	*560*	13%	8 400
UK (United Kingdom)	175 644	17 500	19 600	37 800	*18 900*	*18 900*	93%	49 000
EU27+CH	13 453 805	1 139 247	1 434 508	2 102 535	-	-	47%	2 469 110

Notes

[1] *The relation between collector area and capacity is $1m^2 = 0,7\ kW_{th}$ (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] *As explained on page 3, a new market study has revealed that the Italian market was seriously underestimated for several years. The above given data have been retroactively adapted. The estimate for 2007 is based on the assumption that a new tax reduction will be applied already this year.*

Market Size in terms of collector area (m²)

	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2006	2004	2005	2006			2006/2005	2007
	Total Glazed m²	Total Glazed m²	Total Glazed m²	Total Glazed m²	*Flate Plate m²*	*Vacuum Collectors m²*	Total Glazed %	Total Glazed m²
AT (Austria)	2 611 627	182 594	233 470	292 669	*289 745*	*2 924*	25%	350 000
BE (Beligum)	104 118	14 700	20 234	35 636	*31 267*	*4 369*	76%	45 000
BG (Bulgaria)	25 100	1 800	2 000	2 200	-	-	10%	2 500
CH (Switzerland)	443 548	31 160	39 132	51 863	*50 354*	*1 509*	33%	65 000
CY (Cyprus)	560 200	30 000	50 000	60 000	-	-	20%	70 000
CZ (Czech Republic)	106 730	12 250	15 550	22 030	*18 490*	*3 540*	42%	30 000
DE (Germany)	8 054 000	750 000	950 000	1 500 000	*1 350 000*	*150 000*	58%	1 500 000
DK (Denmark)	362 280	20 000	21 250	25 300	*25 000*	*300*	19%	32 000
EE (Estonia)	1 120	250	250	300	-	-	20%	400
ES (Spain)	702 166	90 000	106 800	175 000	*161 875*	*13 125*	64%	325 000
FI (Finland)	16 493	1 630	2 383	3 400	-	-	43%	4 500
FR (France)	615 600	52 000	121 500	220 000	*209 000*	*11 000*	81%	275 000
GR (Greece)	3 287 200	215 000	220 500	240 000	*235 200*	*4 800*	9%	300 000
HU (Hungary)	6 250	1 500	1 000	1 000	-	-	0%	1 200
IE (Ireland)	15 790	2 000	3 500	5 000	-	-	43%	10 000
IT (Italy)[3]	855 230	97 738	127 059	186 000	-	-	46%	285 000
LT (Lithuania)	2 750	500	500	600	-	-	20%	1 000
LU (Luxembourg)	15 900	1 700	1 900	2 500	-	-	32%	2 900
LV (Latvia)	3 850	500	1 000	1 200	-	-	20%	1 800
MT (Malta)	23 860	4 215	4 000	4 500	-	-	13%	5 500
NL (Netherlands)	318 441	26 300	20 248	14 685	-	-	-27%	18 000
PL (Poland)	167 520	28 900	27 700	41 400	*35 100*	*6 300*	49%	52 000
PT (Portugal)	180 950	10 000	16 000	20 000	-	-	25%	24 000
RO (Romania)	69 100	400	400	400	-	-	0%	500
SE (Sweden)	236 929	20 058	22 621	28 539	*19 826*	*8 713*	26%	34 000
SI (Slovenia)	109 300	1 800	4 800	6 900	*6 300*	*600*	44%	10 000
SK (Slovakia)	72 750	5 500	7 500	8 500	*7 700*	*800*	13%	12 000
UK (United Kingdom)	250 920	25 000	28 000	54 000	*27 000*	*27 000*	93%	70 000
EU27+CH	19 219 722	1 627 495	2 049 297	3 003 622	-	-	47%	3 527 300

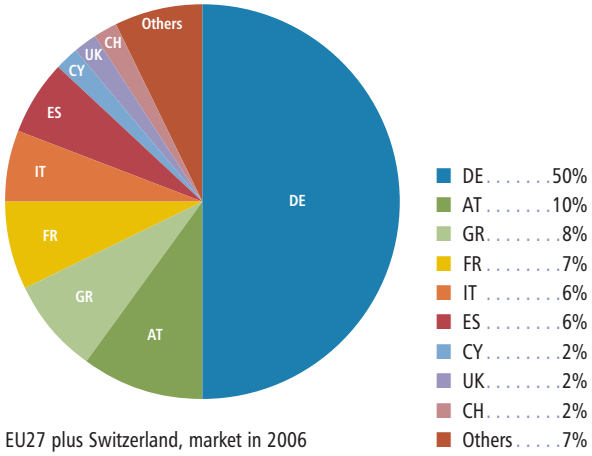
Shares of the EU market (newly installed capacity)

While the European market grew very dynamically in 2006, there was only little change in the composition of the market itself. There was only one new entry in the top markets, which contributed at least 2% each to the overall EU market: the United Kingdom overtook Poland and Switzerland for the 8th spot.

Last year, one out of two kilowatts of new capacity in Europe was installed in Germany. Its share of the European market increased from 47% to 50%. Austria and Greece both lost slightly on their market shares, as their growth rates of 25% and 9%, respectively, remained well below the European average of 47%.

The French and Spanish markets continued to grow at above-average rates (81% and 64%) and thus increased their relative contribution to the overall EU market. The Mediterranean countries Greece, France, Italy, Spain and Cyprus account for 29% of the newly installed capacity in 2006.

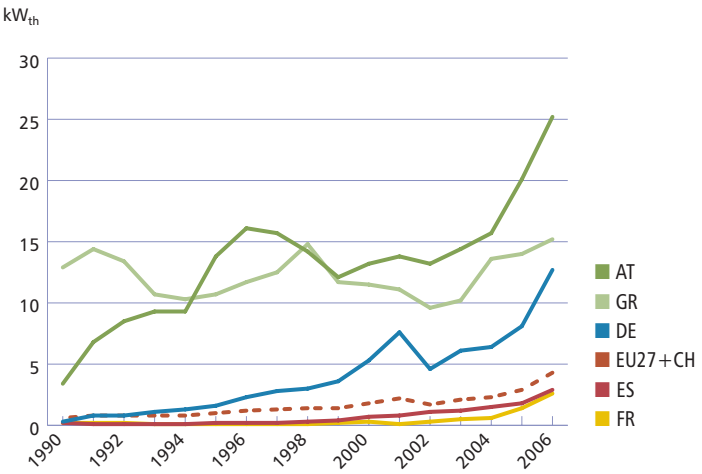
Shares of the European solar thermal market



EU27 plus Switzerland, market in 2006

Development of per-capita market (newly installed capacity per capita)

Development of market per 1.000 capita



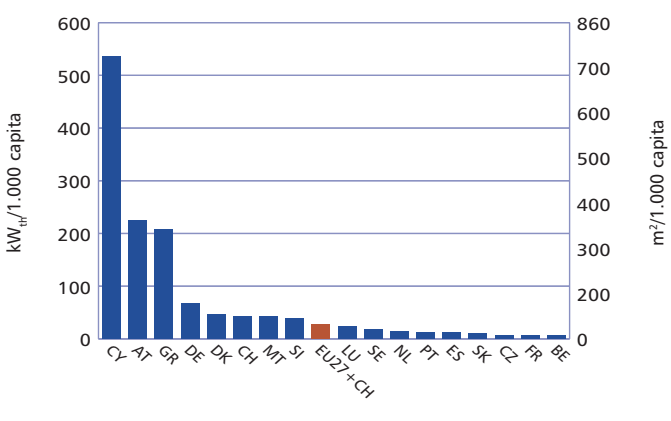
Besides the absolute market volumes, the newly installed capacities per capita are an interesting indicator of the strength of the solar thermal market in one country. The chart on the left shows the development of the annual installations of new capacity per capita (in kW_{th} per 1.000 capita). This perspective reveals the big advance of the Austrian solar thermal market: with 25,2 kW_{th} per 1.000 capita, the relative market was twice that of Germany and almost 6 times stronger than the European average of 4,3 kW_{th} per 1.000 capita. This also shows very clearly that there is a large near-term market potential: Spain and France, which have grown very well in the last few years are still at only 10-12% of the per-capita market of Austria.

Solar thermal capacity in operation per capita

The imbalance of the solar thermal penetration between countries is even more striking when looking at the capacities in operation per capita. This figure relates the capacities built in the past and deemed to be still in operation (ESTIF assumes a life-time of 20 years for systems installed after 1989) to the size of the population. Here the "real champions" can be identified: Cyprus with more than 530 kW_{th} per 1.000 capita is the distant leader. Austria with 225 and Greece with 208 are in second and third place. The average installed capacity in the EU27 and Switzerland was 27 kW_{th} per 1.000 capita.

Solar thermal capacity in operation

per 1.000 capita in 2006



A NEW POLITICAL ERA HAS BEGUN

The Summit of the EU Heads of State on 9 March 2007 unanimously adopted a binding target to cover 20% of the overall EU energy consumption with renewable energy sources by 2020. This is almost a tripling compared to the current share. Crucial for solar thermal: the European strategy for renewable energies now fully integrates the heating and cooling sector. Solar thermal is no longer on the margins of political attention.

ESTIF is proud to have contributed to this political success. Together with our partner associations of the European Renewable Energy Council, we were the first to launch the idea of a 20% target by 2020 in 2004. When we asked for it to be binding many believed this to be politically too ambitious. ESTIF was the initiator and leader of the campaign for stronger policies to promote renewable heating & cooling. These sectors are now on the political agenda throughout Europe and can no longer be neglected, as they had been for decades.

The European Commission is working to present a proposal for a new Directive on all renewable energies in 2007 which will include solar thermal. This Directive will have to be adopted by the European Parliament and European Council.

A new political era for solar thermal has begun, but targets and European legislation alone do not push markets. The solar thermal industry must make sure that specific measures are implemented at local and national level throughout Europe, transforming the targets into solar systems producing renewable heating and cooling and saving large amounts of oil, gas, biomass and electricity.

Many national governments are not aware that solar thermal can deliver a substantial part of the renewables target. We must convince them by showing them examples of the leading solar markets such as Austria, Cyprus and others that are following. Some countries are also discussing solar obligations for new buildings which follow the Spanish model. We must support and assist them in adopting best-practice legislation. There will be more discussions about financial incentives, training and awareness-raising campaigns as well as quality assurance schemes. ESTIF will actively participate in these debates, helping to transfer best-practice policies from one country to another.

ESTTP

European Solar Thermal Technology Platform

The solar thermal market in 2030 will radically differ from today's. The market size will have multiplied, the sector will employ hundreds of thousands of employees and solar thermal technology will be as widespread in use as dishwashers today. With this, the demand for new technologies and market strategies is changing rapidly. The European Solar Thermal Technology Platform (ESTTP) is at the forefront of these changes and aims at developing a comprehensive roadmap for the sector, covering both technological issues (R&D needs) and non-technological issues (market deployment).

With the solar thermal roadmap, the ESTTP aims at strengthening the awareness of the huge potential of solar thermal technologies in contributing to a sustainable energy infrastructure and to increase R&D activities in this sector. Furthermore, the acceleration of the development of solar thermal technology and the creation of conditions for a broad dissemination of advanced solar thermal technologies are also among its tasks.

Technology platforms such as the ESTTP have been created by the relative sectors to bring together stakeholders in specific technological fields to strengthen Europe's leading position in this field. These technology platforms will play a decisive role in influencing Europe's research and development policies. As this must also be carried out at national level, a number of national Solar Thermal Technology Platforms have also been set up, which will be working in close cooperation with the ESTTP.

To become a support group member or to join one of the working groups of the ESTTP, please see www.esttp.org for more information.

ABOUT THE EUROPEAN SOLAR THERMAL INDUSTRY FEDERATION

The European Solar Thermal Industry Federation represents almost 100 members consisting of manufacturers, service providers and national associations, which collectively hold 95% of today's solar thermal market.

It is our mission to achieve high priority and acceptance for Solar Thermal as a key element for sustainable heating and cooling in Europe. We are working for the implementation of all steps necessary to realise the high potential of Solar Thermal. Within this mission ESTIF also supports research and development through the creation of the European Solar Thermal Technology Platform. The great potential of solar thermal is shown in the creation of new job opportunities in the manufacturing and installation sectors of solar thermal collectors.

Key Activities:

- Representing the sector at EU level
- Campaigning for an EU directive to promote renewable heating and cooling
- Promoting best practice policies for solar thermal at EU, national and service level
- Promoting the abolition of any barriers to trade in solar thermal products and services
- Managing the secretariat of the European Solar Thermal Technology Platform
- Organising major events such as the European Solar Thermal Energy Conference, estec2009

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

Ten excellent reasons to join ESTIF:

- Take advantage of the key solar thermal network in Europe
- Gain privileged access to ESTIF market information and data
- Strengthen the voice of solar thermal vis-à-vis the European institutions
- Increase your visibility through a free web link on ESTIF's homepage
- Receive discounts on ESTIF events and publications
- Influence the European policies to increase the share of solar thermal
- Benefit from first hand information on standards and certification, and the direct access to CEN
- Get support from ESTIF staff when dealing with EU institutions
- Stay informed with ESTIF's regular newsletter covering solar thermal in Europe
- ESTIF is already working for you. Join ESTIF today and gain even more benefits

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