European
Solar Thermal
Industry Federation

SOLAR THERMAL

Now including the 10 new EU Member States

Solar Thermal Markets in Europe

(Trends and market statistics 2004)

June 2005

ESTIF's latest statistics cover 10 new countries, apply new methodology

This year, the annual solar thermal statistics published by ESTIF offer exciting new perspectives.
For the first time, the ten new Member States of the EU are covered. And: The market size is given primarily in kW_{th} (kilowatt-thermal) to allow for easy comparison with the installed capacities of other energy sources.

Showing the real size of solar thermal: statistics in units of energy

Solar thermal has often been ignored in national and international energy statistics. One of the key reasons was the lack of energy-related data: solar thermal was counted in square meters of collector area, which does not fit in with energy statistics. Therefore, solar thermal was often the only energy technology measured in a non-energy unit, or not shown at all.

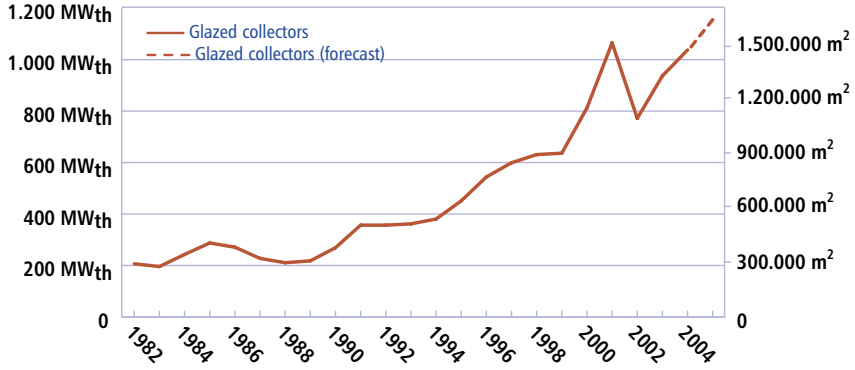
In order to increase the visibility of solar thermal and to show more clearly that this technology can substantially contribute to the overall energy supply, ESTIF will publish statistical data primarily in kW_{th} (kilowatt thermal).

The conversion factor used to calculate the capacity from the collector area has been agreed by experts of the IEA Solar Heating and Cooling Programme and major solar thermal trade associations from Europe and North America. At a meeting in September 2004, a methodology for the conversion was discussed. Based on actual test results and operating conditions specified in the European norm EN 12975-2, the experts from 7 different countries agreed to use a factor of 0,7 kW_{th}/m^2 to derive the nominal capacity from the area of installed collectors .

A more in-depth discussion of the conversion factor of 0,7 kW_{th}/m^2 can be found at www.iea-shc.org and www.estif.org.

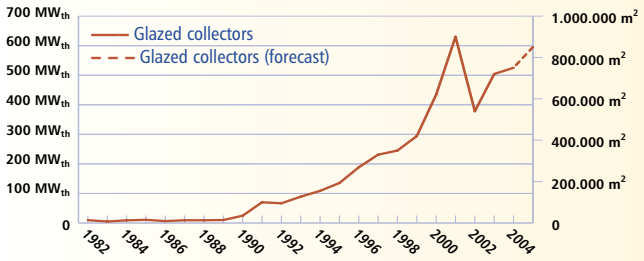
ESTIF encourages all organisations publishing solar thermal statistics to use this conversion factor. Let us spread the news that at the end of 2004 the EU's installed capacity of solar thermal is 9.525 MW_{th}!
For a transitional period, ESTIF will publish data also in square meters of collector area, see page 5.

Solar Thermal Market in the EU



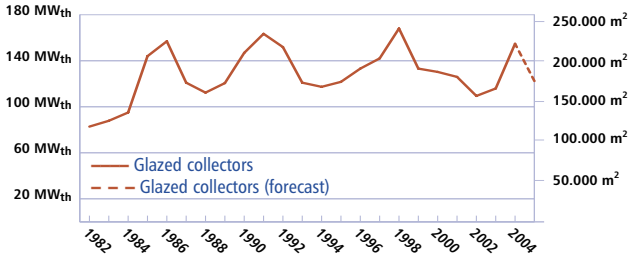
Overall the solar thermal market in the EU showed significant growth (+12%), but at 1.089 MW_{th} of newly installed capacity it still remained well below what would be needed to reach the EU's target for 2010: 70.000 MW_{th} of solar thermal capacity (100 million m^2). The solar thermal capacity in operation reached 9.525 MW_{th} at the end of 2004, which provides 8.164 MWh of clean energy.

Key national markets



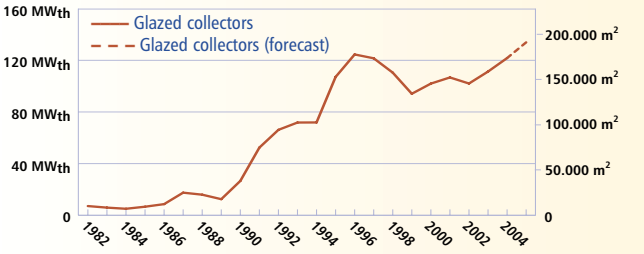
Germany

The traditional lead market for solar thermal in Europe - nearly 50% of the EU's new capacity is installed in Germany - has gone back to a slower growth rate. With 525 kW_{th} the 2004 sales exceeded those of the previous year by 4%. After the strong growth in 2003 this was less than expected and was partly explained with increased feed-in tariff for photovoltaic electricity, which may have lured some customers away from solar thermal. As applications in the national solar thermal incentive program are on the rise again, overall 2005 sales in Germany are expected to reach 10-15% more than in 2004.



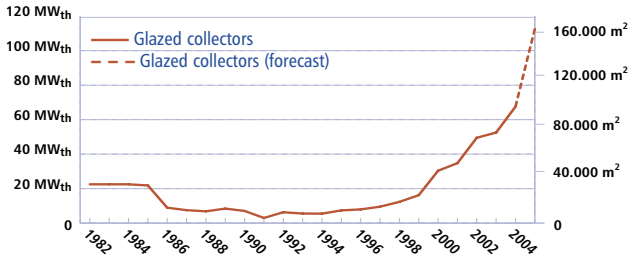
Greece

Propelled by an exceptional year in the replacement market, Greece has edged Austria for second place in the EU's solar thermal market. 151 MW_{th} of new solar thermal capacity were installed in 2004 - an increase of 34% compared to 2003. For 2005 a continuation of the pre-2004 trend is expected, with sales in the area of 119 MW_{th}.



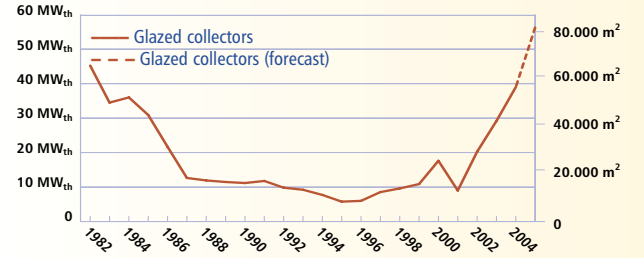
Austria

Steady growth continues to be the trademark of the Austrian solar thermal market. In 2004, 9% more solar thermal capacity was built onto Austrian roofs than in the previous year. With 128 MW_{th} Austria remained behind Greece in absolute terms but drew equal in terms of solar thermal capacity in operation per inhabitant: In both countries 179 kW_{th}/1.000 capita were in operation at the end of 2004. The first months of 2005 showed no change in pace: Austria could reach 140 MW_{th} of new installations by the end of the year.



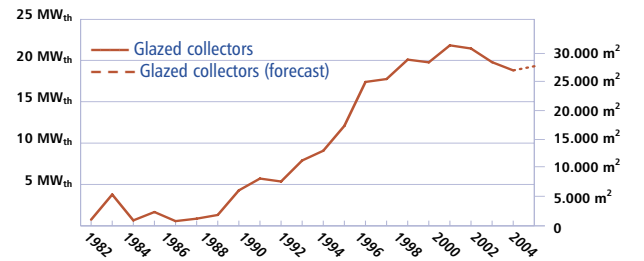
Spain

The Spanish market finally seems to catch fire: 63 MW_{th} of solar thermal capacity was newly added in 2004 - 29% more than in 2003. Based on the solar ordinances in nearly 40 municipalities, solar thermal had been expected to grow more rapidly for several years. With a nation wide solar obligation for new buildings in sight, a further accelaration of the market development seems likely: the 2005 market could finish at 105 MW_{th}.



France

France sustained its 30+ percent growth in 2004. The Plan Soleil helped the market in metropolitan France (without the overseas departments) grow to an all time high of 36 MW_{th}. A considerable tax break for solar thermal systems - 40% of the hardware costs can be reclaimed with the income tax declaration - was introduced in January 2005. The new scheme seems to have further accelerated sales of solar thermal products. New installations in 2005 could pass the 50 MW_{th} mark.



Netherlands

Mediocre numbers sometimes hide interesting developments in different market segments: after the end of the financial incentive in 2003, installations of solar thermal in existing buildings nearly completely stopped. But the increasingly tight energy efficiency requirements led to a considerable growth in the new-built sector: 15%-20% of all new buildings are nowadays being equipped with solar thermal. As the next improvement of the efficiency requirements is to take effect only in 2006, the 2005 market is expected to remain stable at about 2004 levels.

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

	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2004	2002	2003	2004			2004/2003	2005
	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	1.459.842	107.135	116.844	127.816	*126.000*	*1.816*	9%	140.000
BE	33.774	3.460	6.333	10.290	-	-	62%	12.600
CH	246.722	18.502	18.774	21.747	*20.932*	*815*	16%	24.500
CY	315.140	21.000	21.000	21.000	-	-	0%	21.000
CZ	30.380	4.200	4.900	5.950	*5.670*	*280*	21%	7.000
DE	3.922.800	378.000	504.000	525.000	*472.500*	*52.500*	4%	595.000
DK	221.011	9.100	13.300	14.000	*13.300*	*700*	5%	15.400
EE	399	35	105	175	-	-	67%	210
ES	294.256	46.200	49.000	63.000	-	-	29%	105.000
FI	8.386	777	1.400	1.400	-	-	0%	1.400
FR[3]	191.870	18.900	27.230	36.400	-	-	34%	52.500
GR	1.978.690	106.400	112.700	150.500	-	-	34%	119.000
HU	2.975	350	700	1.050	-	-	50%	1.050
IE	5.103	613	840	1.400	*840*	*560*	67%	2.100
IT	311.000	31.500	35.000	40.600	-	-	16%	49.000
LT	1.155	210	280	350	-	-	25%	420
LU	8.050	840	1.050	1.190	-	-	13%	1.400
LV	1.155	210	280	350	-	-	25%	420
MT	10.752	1.750	2.100	2.951	*2.858*	*92*	41%	3.990
NL	198.456	21.000	19.380	18.410	-	-	-5%	18.900
PL	71.764	12.600	18.354	23.100	-	-	26%	24.500
PT	101.465	3.850	4.200	7.000	-	-	67%	9.450
SE	130.038	10.682	13.479	14.041	*12.249*	*1.792*	4%	17.500
SI	68.320	840	770	1.260	-	-	64%	1.400
SK	39.725	3.150	3.500	3.850	*3.465*	*385*	10%	4.200
UK	118.944	12.250	15.400	17.500	-	-	14%	21.000
SUM	9.771.471	813.553	990.918	1.110.329	-	-	12%	1.248.940

Notes

[1] Conversion factor from m^2 to kW_{th} nominal capacity: see page 2.

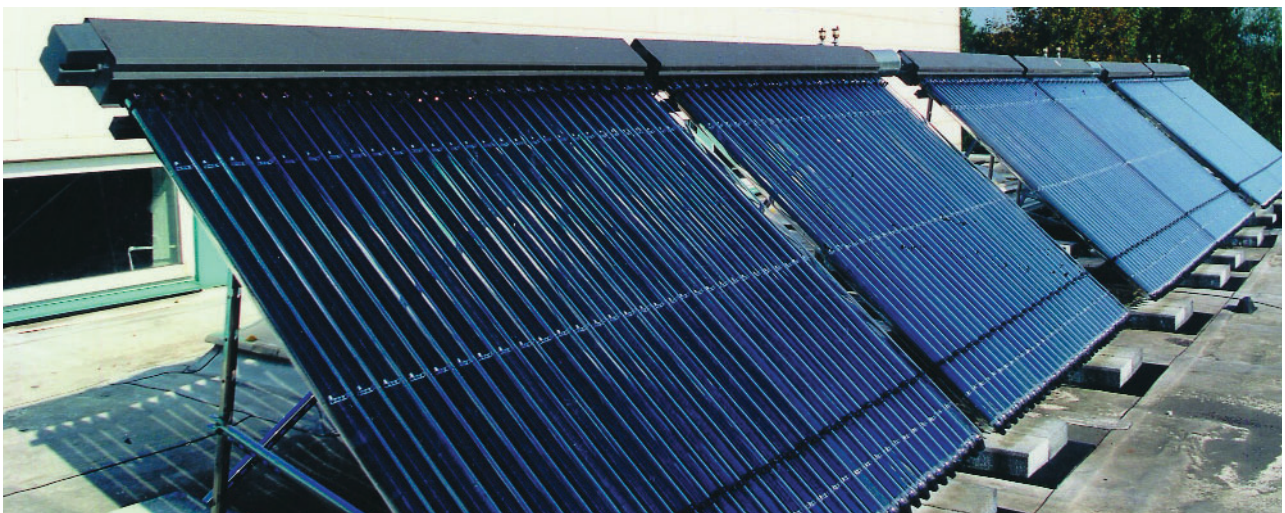
[2] "In operation" capacity: it is calculated assuming an average lifetime of 20 years (15 years for systems installed until 1989). Most current systems are designed to work longer, but individual systems can have a shorter lifetime for reasons such as demolition or change of use of the building, poor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

[3] France: the data refer to metropolitan France only and therefore exclude substantial markets in the Overseas Territories. In 2004, the market in metropolitan France reached the level of the Overseas Territories. For 2005 it is forecasted that, for the first time, the market in metropolitan France will be larger than in the Overseas Territories.

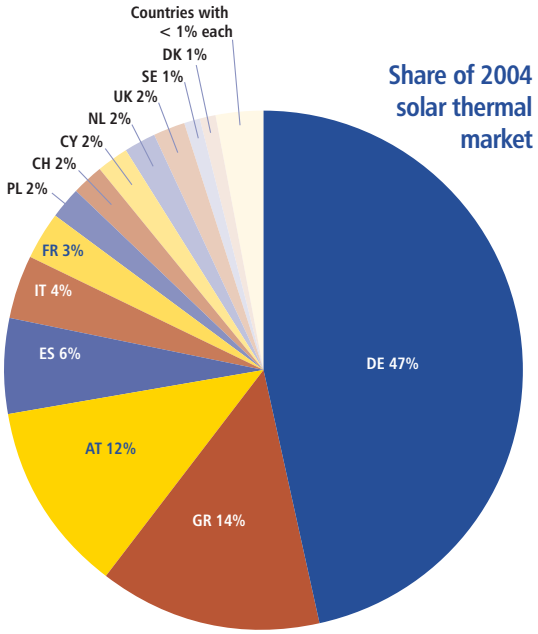
The sources are the national solar thermal trade associations. In countries where there are neither such associations nor other national solar thermal statistics, the figures are based on information from market experts.

Traditional solar thermal statistics:
Market size in terms of collector area (m^2)[1]

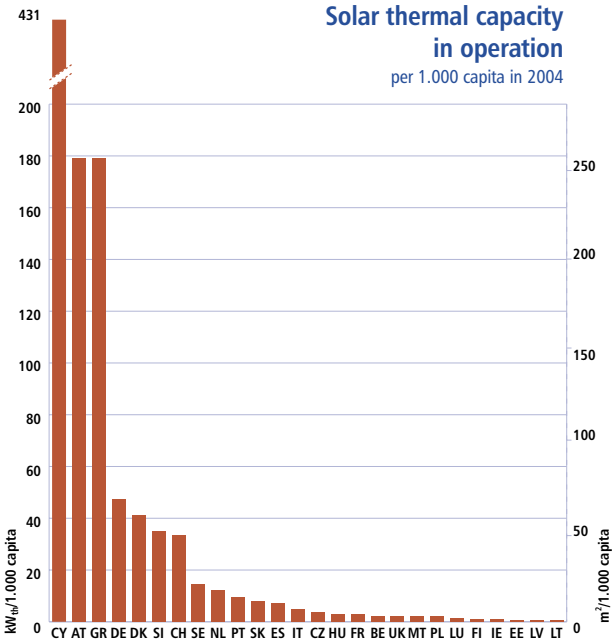
	In Operation[2]	Market (=Newly Installed)					Market Growth	Market Forecast
	2004	2002	2003	2004			2004/2003	2005
	Total Glazed (m^2)	Total Glazed (m^2)	Total Glazed (m^2)	Total Glazed (m^2)	*Flat Plate (m^2)*	*Vacuum Collectors (m^2)*	Total Glazed (%)	Total Glazed (m^2)
AT	2.085.488	153.050	166.920	182.594	*180.000*	*2.594*	9%	200.000
BE	48.249	4.943	9.047	14.700	-	-	62%	18.000
CH	352.460	26.431	26.820	31.067	*29.903*	*1.164*	16%	35.000
CY	450.200	30.000	30.000	30.000	-	-	0%	30.000
CZ	43.400	6.000	7.000	8.500	*8.100*	*400*	21%	10.000
DE	5.604.000	540.000	720.000	750.000	*675.000*	*75.000*	4%	850.000
DK	315.730	13.000	19.000	20.000	*19.000*	*1.000*	5%	22.000
EE	570	50	150	250	-	-	67%	300
ES	420.366	66.000	70.000	90.000	-	-	29%	150.000
FI	11.980	1.110	2.000	2.000	-	-	0%	2.000
FR[3]	274.100	27.000	38.900	52.000	-	-	34%	75.000
GR	2.826.700	152.000	161.000	215.000	-	-	34%	170.000
HU	4.250	500	1.000	1.500	-	-	50%	1.500
IE	7.290	875	1.200	2.000	*1.200*	*800*	67%	3.000
IT	444.285	45.000	50.000	58.000	-	-	16%	70.000
LT	1.650	300	400	500	-	-	25%	600
LU	11.500	1.200	1.500	1.700	-	-	13%	2.000
LV	1.650	300	400	500	-	-	25%	600
MT	15.360	2.500	3.000	4.215	*4.083*	*132*	41%	5.700
NL	283.508	30.000	27.686	26.300	-	-	-5%	27.000
PL	102.520	18.000	26.220	33.000	-	-	26%	35.000
PT	144.950	5.500	6.000	10.000	-	-	67%	13.500
SE	185.769	15.260	19.255	20.058	*17.498*	*2.560*	4%	25.000
SI	97.600	1.200	1.100	1.800	-	-	64%	2.000
SK	56.750	4.500	5.000	5.500	*4.950*	*550*	10%	6.000
UK	168.920	17.500	22.000	25.000	-	-	14%	30.000
SUM	13.959.245	1.162.219	1.415.598	1.586.184	-	-	12%	1.784.200



Distribution of the solar thermal market and installed capacity in Europe



The enlargement of the European Union has not substantially changed the unbalance in the European solar thermal market. Germany, Greece and Austria still dominate the market in absolute numbers. The picture has completely changed however, when looking at the solar thermal capacity in operation per inhabitant: Cyprus, where more than 90% of all buildings are equipped with solar collectors, leads Europe with 431 kW_{th}/1.000 capita - more than twice as much as in Austria and Greece, which both come in at 179 kW_{th}/1.000 capita. Despite very low sales figures in recent years, Slovenia reaches a remarkable 6th spot with 34 kW_{th}/1.000 capita.

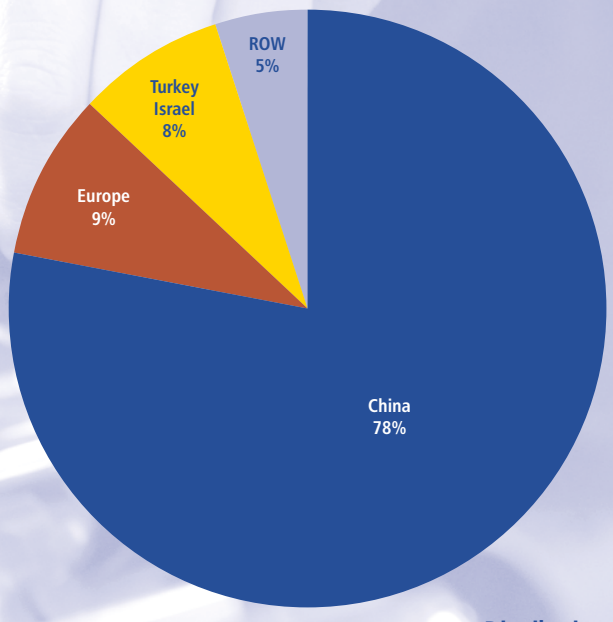


EU leading in technology but not in market

In most renewable energy technologies, the EU is the leading market worldwide. And market leadership means technology leadership.

In solar thermal, Europe is leading in most technological areas. However, the EU still holds only a small fraction of the world market. China dominates the world market, with annual domestic sales of well over 10 millions m^2 (7GW_{th}). In Israel and Japan the share of solar thermal per inhabitant is much larger than in Europe.

Solar thermal is a future oriented technology. In the next decade, the global solar thermal market will develop to new dimensions. If Europe wants to keep and extend its technological strength in this area, the domestic European market must grow throughout the Union.



Distribution of Solar Thermal Market World Wide
(newly installed capacity in 2004)

ESTIF calls for a European Directive to promote Renewable Heating and Cooling

The statistics show a strong unbalance among countries. If the whole EU was at the same level per capita as Austria today, the annual market would be over 10 millions m^2 , with a capacity in operation of 82.000 MW_{th}. This could provide more then 70 TWh of solar thermal energy, which is now being produced by burning fossil fuels or using electricity.
Despite this huge potential for energy savings, media and policy makers in many countries and at EU level often underestimate solar thermal and other renewables in the heating and cooling sector: roughly 50% of the EU's final energy is consumed for heating purposes, but policies to support renewable energies have so far focused mainly on the electricity sector.

In 2001 a European Directive to promote electricity from renewable sources, was approved. It contains national targets, elements of a positive policy framework and an obligation on the member states and the European Commission to monitor the progress. The implementation of this Directive has led to considerable growth of renewable electricity in several Member States. In 2003, a similar Directive targeted at renewables in the transport sector (biofuels) was agreed.
For renewable energy sources in the heating and cooling sector (RES-H: solar thermal, bioheat, geothermal), a European legislative framework is still missing.

For this reason, ESTIF together with EREC (European Renewable Energy Council) has initiated a campaign for a European Directive to promote Renewable Heating and Cooling. In April 2005, a declaration for such a Directive was published, supported by over 40 organisations representing millions of EU citizens and hundreds of thousands of jobs.

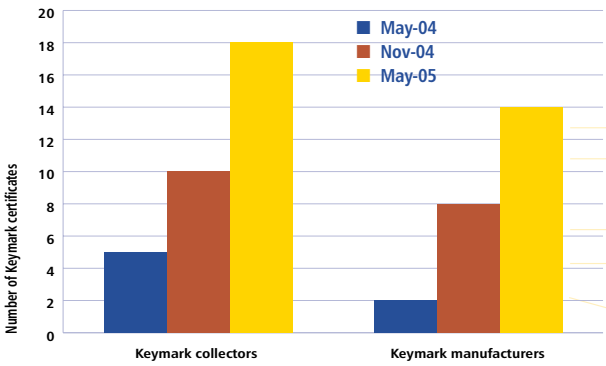
With this declaration the organisations call for an ambitious target of 25% renewable share of the heating and cooling demand in the EU. National targets for each RES-H technology should be defined. Member States should enact support policies strong enough to achieve the targets. Due to the very different climatic and legal situations in the Member States, no harmonised support system at EU level is proposed, but the Directive should contain clear policy options compatible with EU law. Member States should be obliged to produce more detailed and comparable renewable heating statistics and to regularly report about the progress towards the targets.

More info:
www.erec-renewables.org/publications/RES_heating_cooling.htm

Solar Keymark on the way to mainstream

The Solar Keymark is the European quality label for solar thermal products. It certifies conformity with the relevant EN standards for solar thermal products: EN 12975 (collectors) and EN 12976 (factory made systems). It has been established in 2003 and is since then getting more and more recognition.
At the time of printing, many more products are being tested according to the Solar Keymark. Moreover, in early 2005 the first factory made system was awarded a Solar Keymark according to EN 12976. The number of certification bodies empowered by CEN to award the Solar Keymark grew from one in 2003 to three in early 2005. The number of accredited test labs grew from 10 to 13 in the last 12 months. 6 of them already performed tests for a Solar Keymark.
For a voluntary quality mark, this is a quite remarkable dynamic. Behind it, there is the growing recognition from the industry of the value of the Solar Keymark as a marketing tool and, even more important, as a way to avoid the costs of repeated testing and certification.

Solar Keymark development 2004-2005



As France now accepts products with the Solar Keymark as eligible for the national support scheme, the Solar Keymark is today accepted in the vast majority of European countries.

More information at:
www.solarkeymark.org

ESTIF - THE VOICE OF THE EUROPEAN SOLAR THERMAL SECTOR

Today ESTIF has over 60 members - manufacturers of solar thermal products, national or regional solar thermal associations, research and testing institutes and other service providers. Together, they represent the broad majority of the European solar thermal market. They have joined ESTIF because they share the same vision: the full exploitation of the huge solar thermal potential in Europe.

ESTIF is a founding member of the European Renewable Energy Council (EREC) and shares its headquarters in the heart of the EU area in Brussels.

10 Reasons to join ESTIF today

- Influence European policies to increase the share of solar thermal
- Strengthen the voice of solar thermal vis-à-vis the EU and other international institutions
- Benefit from insider information on standards & certification, and direct access to CEN
- Get support from ESTIF staff when dealing with EU institutions
- Become an insider! Take advantage of the key solar thermal network in Europe
- Gain privileged access to ESTIF market information and data
- Stay up-to-date with ESTIF's regular newsletter covering solar thermal in Europe
- Increase your visibility through a free web link on ESTIF's homepage
- Receive discounts on ESTIF events and publications
- ESTIF is already working for you. Don't wait longer, join ESTIF today!

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ESTIF

ESTIF Contact Details

Tel/fax: +32-2-546 19 38 / 44
info@estif.org
www.estif.org

Postal address in 2005:
Rue du Trône 26, B-1000 Bruxelles

Postal address from 2006:
Rue d'Arlon 63-65, B-1040 Bruxelles