

Solar Thermal Markets in Europe

Trends and Market Statistics 2010
June 2011



European
Solar
Thermal
Industry
Federation

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The ESTIF Secretariat would like to thank its member associations and other entities for their valuable contributions in providing data.



Disclaimer:
Please note that all figures presented in this brochure are based on data available at the time of publication.
For some countries, the data provided are only ESTIF estimations.
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Editorial



The 2008 financial crisis and the subsequent economic recession, affecting in particular the construction sector, have produced their full effect on solar thermal in 2010. This second consecutive decrease of nearly 13% following a 10% drop in 2009 dealt us a severe blow since companies had adjusted their production capacities to the peak sales of the decade in 2008. In 2010, companies have implemented strict manufacturing capacity reduction; we even

observed a concentration in the industry in some countries and, for the first time in a decade, there have been redundancies.

Often crises lead to revolutions, I do not think that a revolution is needed; however, we certainly need to adapt our strategies, products and/or the way we market solar thermal to a competition, which now also comes from other renewable energy sources. We probably expected to benefit from a renewable boom because of the combined implementation of the binding renewable targets and the higher energy performance standards; but this process is only beginning with the last National Renewable Energy Action Plan (NREAP) delivered in early 2011 and the implementation of the Energy Performance of Buildings Directive (EPBD) still ongoing.

This 2011 edition of the ESTIF "Solar Thermal Markets in Europe" contains a detailed analysis of the prospects for solar thermal according to these National Action Plans. As usual, you will also find reports on all European markets with a focus on a representative selection. The market categories we created last year (Germany, markets - between 200 and 500 000 m² - between 50 and 200 000 m²) have proved their relevance and allowed a better understanding of the European market dynamics.

As managing director of a solar thermal specialized company, and as President of ESTIF, I know the importance of reliable market data. I intend to consolidate ESTIF's expertise in this field.

Finally, I would like to take this opportunity to invite all the solar thermal community to join me in Marseille on 20/21 October for the conference jointly organized by ESTIF and ENERPLAN: ESTEC 2011. By participating in this conference, you are directly contributing to the future success of ESTIF and therefore the solar thermal industry in general. Particularly, in these times our industry needs a strong voice at European level! This year we will focus, among other topics, on the Southern European and Mediterranean markets. I look forward to welcoming you in Marseille.

Good reading and best regards,

Robin M. Welling
President of ESTIF

What have we achieved for the European solar thermal industry in 2010?

Members of the solar thermal community, whether panel/systems or component manufacturers, certification bodies, test labs or service providers, ESTIF has fought for you in 2010!

ESTIF, in collaboration with the Solar Keymark network, has backed the creation of the **Solar Certification Fund**, to finance projects of general interest for solar standardisation, quality as well as the promotion of the Solar Keymark and its acceptance.

ESTIF has obtained from the European Commission the mandate for CEN to work on the necessary standard to implement the **CE marking under the Construction Product Directive** for our products. This should reduce considerably the need for specific testing and certification.

ESTIF has greatly influenced the elaboration process for the **energy labelling of space and water heating appliances** so that solar thermal can reap the full benefit of this new regulation.

ESTIF has organized, in close collaboration with the other renewable heat organisations, the **second annual conference of the Renewable Heating & Cooling Platform** in Budapest.

ESTIF has initiated an **ambitious programme to improve national market surveys, with the support of a consultancy specialized in worldwide market intelligence (BSRIA)**, and financed a pilot project in Switzerland which will now become permanent.

ESTIF has performed an **extensive analysis of the role of solar thermal in the NREAPs** and communicated its recommendations to the European Commission for a **better monitoring of the implementation of the RES directive**.

ESTIF has **extended its network of national associations to Hungary** and thus consolidated its presence in emerging solar thermal markets.

ESTIF has organised or **participated in several events, conferences, workshops involving the European Parliament, the Council and the Commission to promote solar thermal**.

Should you have any questions in connection with these topics, if you wish to learn more about our activities, or if you would like to join and support ESTIF please do not hesitate to contact us.

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Solar Thermal Markets in EU 27 and Switzerland (glazed collectors)

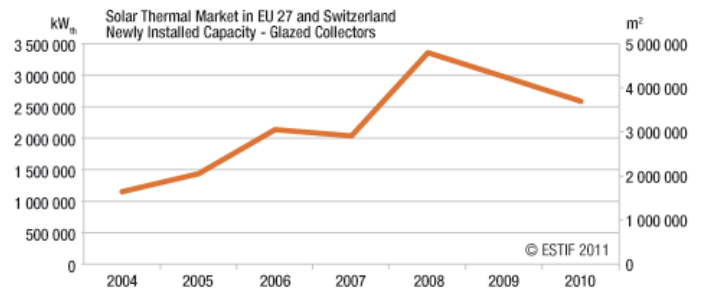
In 2010, the European solar thermal market totalled 2 586 MW_{th} (3 694 940 m²) of newly installed capacity, decreasing by an estimated 13% in comparison with 2009. Although it is the first time in over 10 years that the market has declined in two successive years, it still remains above the 2007 level. 2008 being such an exceptional year it was almost inevitable that a decrease would follow. The effects of the 2008/2009 financial crisis are still being felt with very low renovation rates and collapse of new build developments, preventing the solar thermal sector from taking full advantage of the European trend towards more demanding standards for the energy performance of buildings.

Despite a vigorous campaign by ESTIF and its national associations, stressing the necessity of stable financial incentive frameworks, the negative impact of unpredictable policy decisions on financial support is still affecting some markets, e.g. in Germany, Portugal and the United Kingdom. As a result, the stop-go cycle or postponement of investment decisions have adversely affected sales and undermined confidence.

In this economic climate it is difficult to provide a reliable forecast for 2011; the first quarter was encouraging but sales fell in April in some important markets. Solar Thermal markets have failed to react to favourable new measures such as the Renewable Heat Incentive in the United Kingdom, the new incentive scheme in Poland, the fully operational Markt Anreiz Program in Germany, combined with a return to economic growth and high fossil fuel prices.

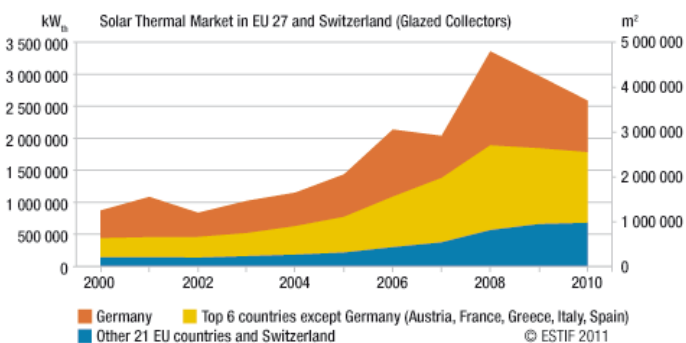
The analysis of the consolidated NREAP submitted by the 27 member states for solar thermal indicates that over the next 10 years solar thermal should on average grow at a rate of 15% per annum. Let's hope that this does materialize in the market!

During 2010, the estimated solar yield was 17.3 TWh allowing a contribution of nearly 12 Million tons of CO₂ saved thanks to solar thermal. The European solar thermal industry with an annual turnover of 2.6 Billion Euros employs approximately 33 500 persons (1 full time job for 80 kW_{th} newly installed capacity). A large share of this turnover is concentrated in local small and medium businesses which are selling, planning, installing and servicing solar thermal systems.



The European markets by categories

Last year, for the first time, we introduced an analysis of the European markets divided into three categories according to size. It was interesting to note that some markets within each group presented similar features. In this edition, the three categories are as follows: 50 to 200 000 m², above 200 000 to 500 000 m², and above 500 000 m² of newly installed capacity of glazed collectors.



The trend already observed last year is confirmed: the overall European market reliance on Germany is diminishing. The largest market represents now only one third of the total European market (33% of the EU 27+ Switzerland). It can also be noticed from the graph that the dramatic changes in the German market have contributed strongly to the fluctuations in the EU solar thermal market. The relative share of Austria, France, Greece, Italy and Spain is also decreasing; opposite trends are emerging with Spain facing strong market decrease and Italy consolidating its level. The smaller categories consist of countries with very different profiles, the average concealing very different situations, which will be detailed in the country per country analysis.

Germany, still driving the European market

The German market dropped by almost 29% in 2010. This decrease, combined with the 23% downturn in 2009, brings the market almost back to its 2007 level, with 805 MW_{th} of newly installed capacity (1 150 000 m²).

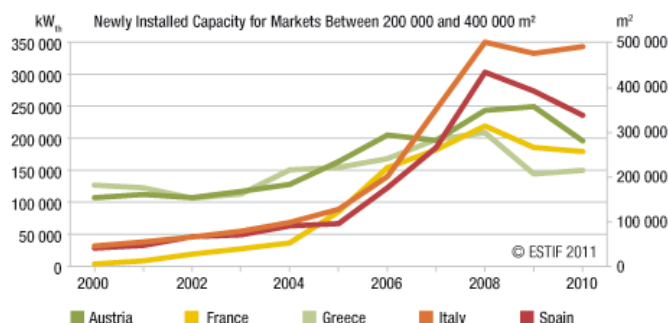
The factors responsible for this situation are well known. The contradictory declarations and indecisions in connection with the financing of the “Marktanreizprogramm (MAP)” have had a devastating effect. At a time of harsh competition with other renewable investments, collapse of the construction sector, low fossil fuel prices and credit restrictions, the German government has undermined consumer and investor confidence in solar thermal. It is extremely disappointing that this example of bad practice comes from a country which has been a leader in introducing the right regulatory framework with the renewable obligation (Wärme Gesetz), generous incentives (MAP) and support for

R&D (German Solar Technology Platform, DSTTP). This is even more disappointing since independent analyses have shown that financial incentives for solar thermal are overall beneficial to the economy (Institut für Wirtschaftsforschung (ifo) “*Steuerliche Folgewirkungen eines Programmförder stopps im Rahmen des Marktanreizprogramms für erneuerbare Energien im Wärmemarkt*” June 2010). Let’s hope that this political debate will have at least confirmed to policy makers that the industry was right in advocating the virtuous circle triggered by well designed financial incentives.



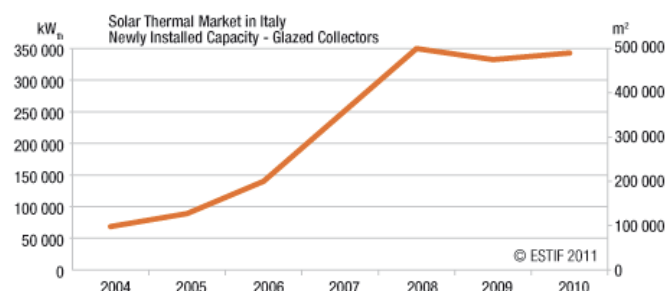
Solar Thermal Markets between 200 000 and 500 000 m²

During 2010, the Italian, Spanish, Austrian, French and Greek markets behaved very differently. While the Italian market confirmed its 2009 level (around 500 000 m²), the Spanish market continued to decline, increasing the gap between the second and third European markets in terms of newly installed capacity. In previous years, Austria managed to successfully overcome the market downturn but is now following the trend set by its northern neighbour, with a significant decrease of 21%. France also experienced a second year of decline, though more modest than in Spain (-3,4%). Finally, the Greek market recovered after a bad performance in 2009, in spite of the difficult situation faced by the country.



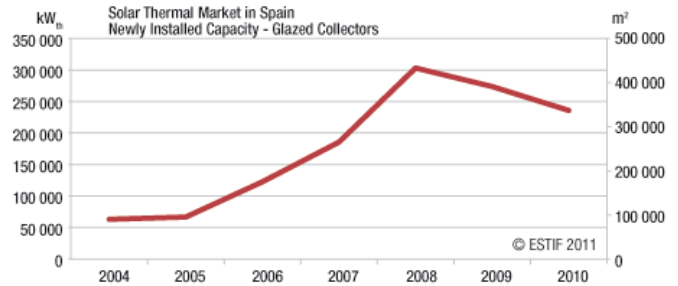
Italy

In 2010, Italy confirmed its position as the second largest market in Europe, with 343 000 kW_{th} (490 000 m²) of newly installed capacity, almost returning to its 2009 level with an increase of 3.2%. The extension of the 55% tax rebate on solar thermal installations (and various energy efficiency measures in existing buildings) helped foster the steady market increase. The tax rebate is confirmed at least until the end of 2011, when it may be replaced by a financing mechanism, akin to a feed-in tariff scheme, in support of renewable heat production. Italy has also ambitious plans for the future, according to its National Action Plan. In 2020, Italy should be the largest solar thermal market.



Spain

For the second year in a row the Spanish market has contracted, remaining at 235 760 kW_{th} (336 800 m²) of newly installed capacity. As in Germany, the decrease in two consecutive years has negated the 2008 outstanding results, and the newly installed capacity is now close to the 2007 levels. This is a set-back for a market for which there were high expectations, due to several years of 50% growth. While the construction sector is foreseen to remain stagnant, the introduction of an incentive for energy production with large systems is at the moment seen as the cornerstone for re-launching the third largest market in Europe.



Austria

The Austrian market has faced a strong decline during 2010, i.e. 21.4% and the newly installed capacity reached only 195 928 kW_{th} (279 898 m²). In practical terms, this means that the market contracted to the same level as 2007 in one single year. In such a developed market this decline is surprising but is also a direct consequence of the market maturity, as consumers now need motivational factors such as an increase in oil/gas prices, revamped support mechanisms, or product innovations, etc. Otherwise, they will postpone a decision until the right moment or the right opportunity. A modest increase is still expected in the near future, even if support schemes remain unchanged. An Austrian market survey of solar thermal sales in the first quarter of 2011 showed positive signs for market recovery - an increase of 20 percent, compared with the first quarter of 2010, was reported by solar companies.



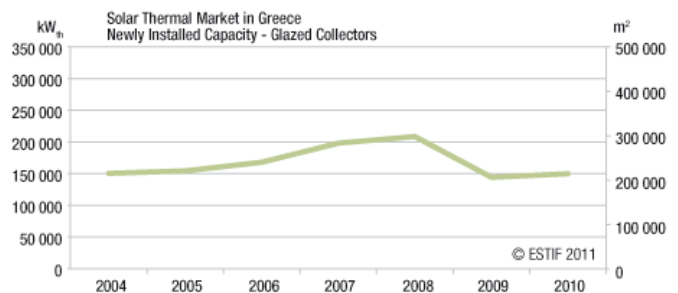
France

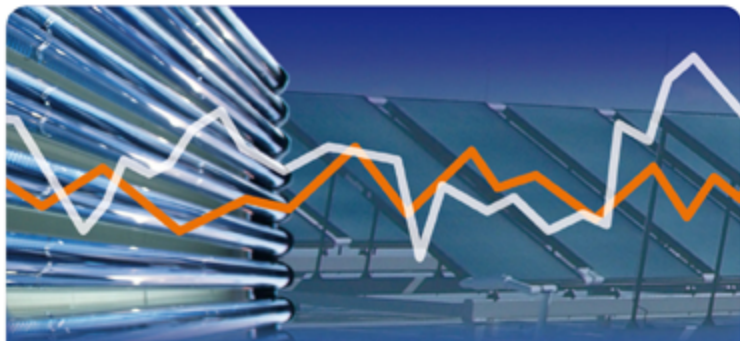
The numbers featured in this publication refer only to the market in France Metropole (mainland). The newly installed capacity in France in 2010 was 179 200 kW_{th} (256 000 m²) which represents a reduction of 3.4%. Although differently structured today, the French market also contracted for the second year in a row to the same levels as 2007. While the number of systems for hot water production in multi-family houses (collective) is increasing, it is decreasing in the more common individual applications.



Greece

There is surprisingly good news from the Greek market in 2010. Contrary to initial expectations and, in spite of the country's problems, the newly installed capacity for solar thermal products has slightly increased in 2010. With a growth of 3.9% the market has now reached 149 800 kW_{th} of newly installed capacity (214 000 m²). This is partly due to the support scheme available, covering energy efficiency measures and replacement of older heating equipments. Also relevant is the general sensitivity to energy price increases and the strong awareness of solar thermal advantages, being economically attractive as it provides payback periods of up to 5 years.





Looking to enter new solar heating markets or expand your sales?

Need an overview of the development in certain countries?

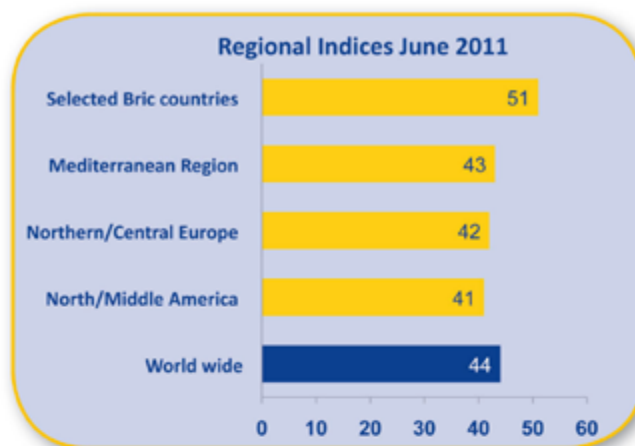
Require in-depth analyses of growth opportunities worldwide?

**Get your
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copy!**

Your compass through the global solar heating and cooling sector

Global and regional indices: first results

The international solar thermal industry has been less satisfied with the current business situation than last year. The global ISOL Index June 2011 decreases by three to 44 points, compared to the Index level of 2010.



Higher scores in sunny regions:
The figure above shows the ISOL Index June 2011 for selected geographical and political regions.

- The chosen BRIC countries - Brazil, India and China – lead the ranking with an ISOL Index of 51 points.
- The Mediterranean countries experience the strongest decrease – 6 points – as a result of the difficult economic situation in Greece, Portugal and Spain.
- The North/Central Europe Index is less than world average, with the Czech Republic showing a particularly low country index.
- North/Middle America reach the lowest score globally because of the dissatisfying market situation in the USA and Canada.

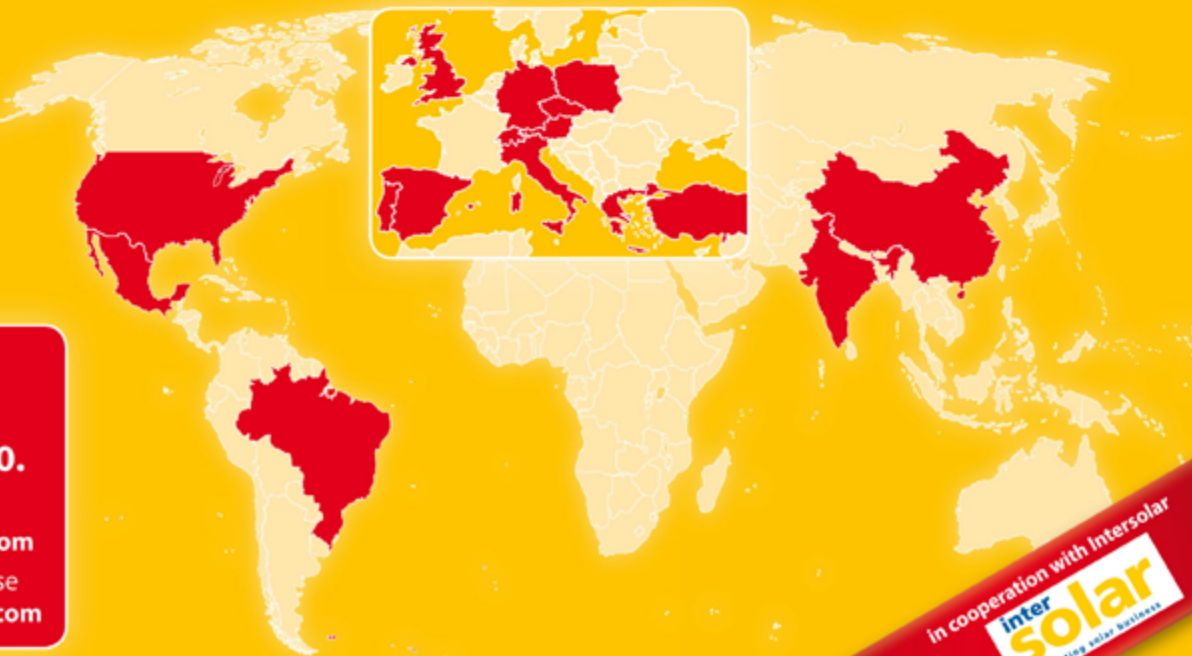
The ISOL barometer features...

The country indices of 16 key solar thermal markets, plus in-depth analyses of the potentials and barriers found in these selected countries.

The ISOL Index is the only business index covering the international solar thermal sector.

Countries in the focus of ISOL Navigator

250 companies from 16 key markets filled in the ISOL Index survey (worldwide: 300 companies)



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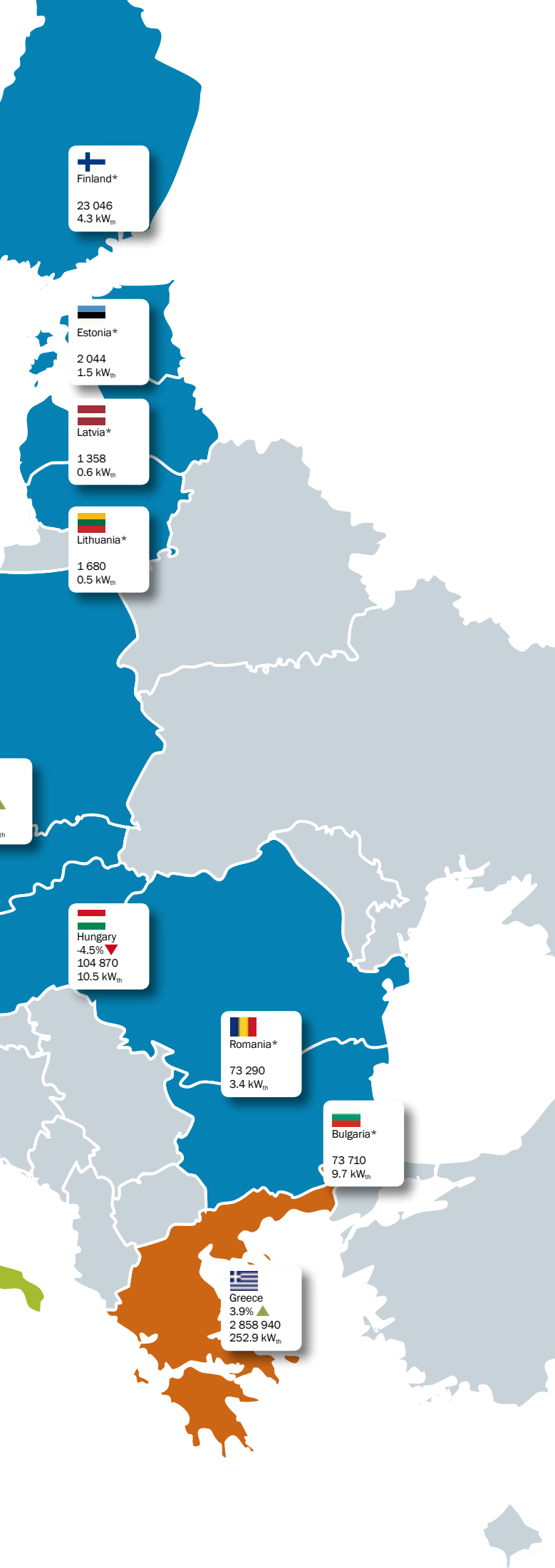
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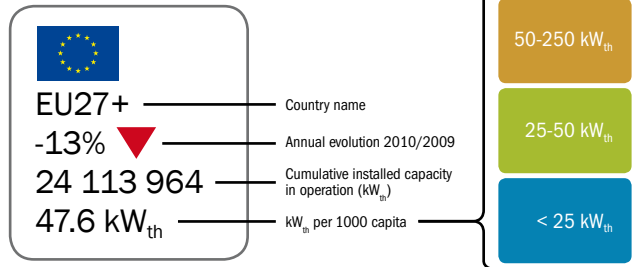
Solar Thermal Markets at a Glance

Data for 2010



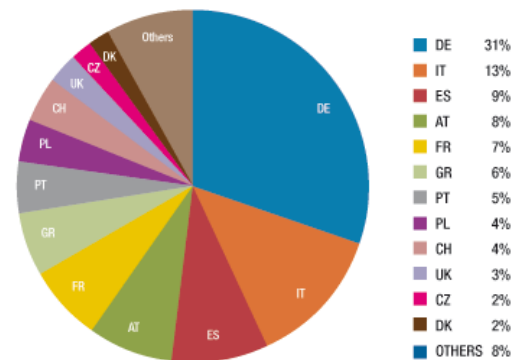


Key

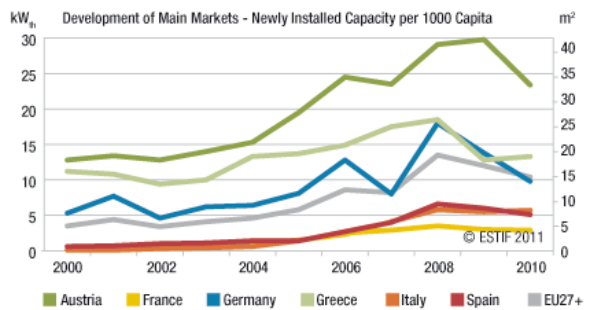
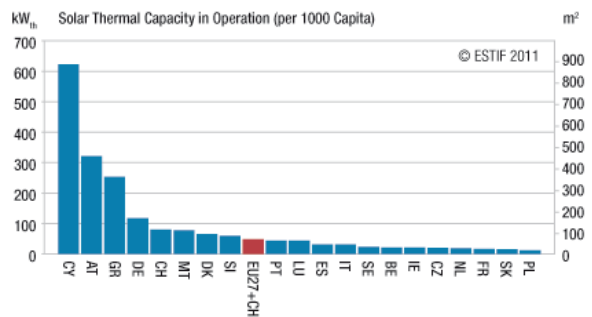


Note:
The data are usually provided by national solar thermal associations or other national sources. Countries marked with an * are ESTIF estimations and are therefore not sufficient to set a percentage variation in the market.

Shares of the European Solar Thermal Market (Newly Installed Capacity)



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Your Entry in the World of Solar Thermal Energy

The *solarthermalworld.org* is a global knowledge-based web portal offering the latest news and background information on the development of the international solar thermal sector.

The website includes different features:

Webinars

News

Background Information

Information by Region, Market Sector and Pillar

Directory of Companies

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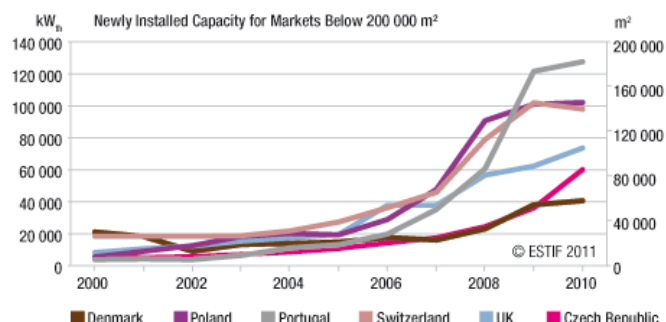
Latest Updates on the EU RES 2020 Directive

Database of Incentive Programmes

Calendar of Events

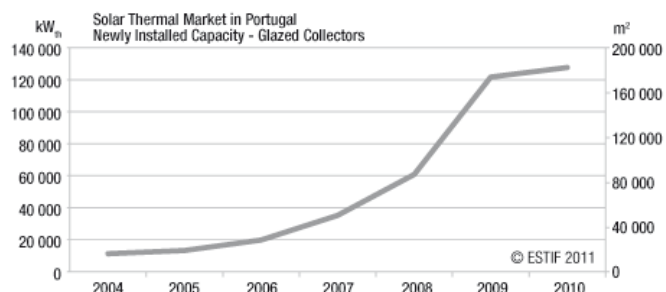
Solar Thermal Markets Below 200 000 m²

Overall, markets below 200 000 m² and above 50 000 m² grew by 8.8%. Their combined increase of 40 000 m² does not quite compensate for the decrease recorded in larger markets. However, it illustrates a different dynamic, triggered by new support schemes in some cases or possibly an increased awareness of solar thermal.



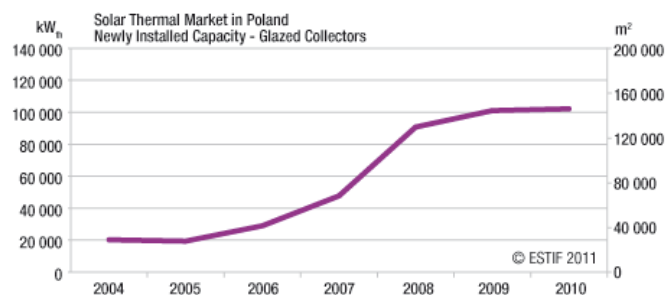
Portugal

During 2010, the Portuguese solar thermal market still benefitted from the support scheme launched in 2009. A substantial number of installations done in the first half of the year had been contracted under the “Medida Solar Térmico”. This was the main reason behind a further increase in the market which grew by almost 5% to over 100 MW_{th} newly installed (102 134 kW_{th} corresponding to 182 271 m²). Although a new support mechanism for large installations began in 2010; its positive impact should be felt mostly in 2011.



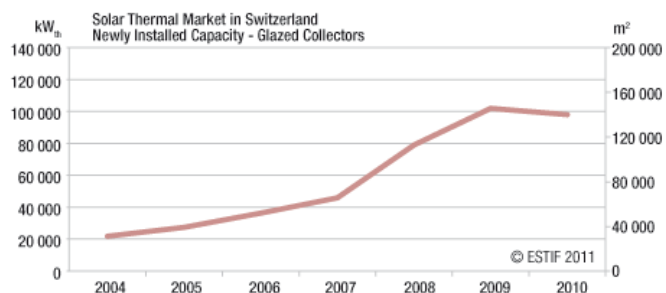
Poland

The Polish market has enjoyed a steady growth over recent years, despite the absence of financial incentives. Therefore, expectations were high with the introduction of the NFOŚiGW (national environmental fund) in August 2010. However, these did not materialize and, over the whole calendar years, only a very small increase (1.1%) was reported with the newly installed capacity reaching 102 134 kW_{th} (145 906m²). This small increase is considered to be the result of the premature announcement of the programme (inhibiting sales), a slow start and the perceived complexity of the process. The start of other programmes (including 16 regional development ones) was also delayed. With these programmes in place, the prospects for 2011 are very positive.



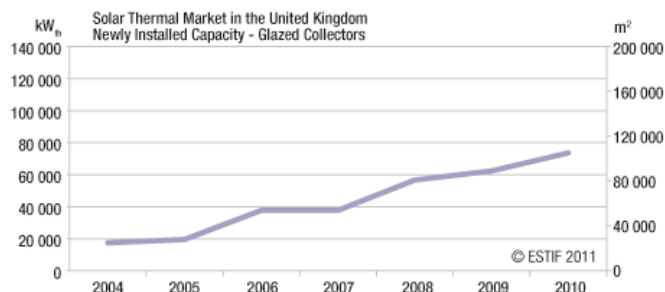
Switzerland

After several years of steady growth, the Swiss market has decreased (-3.9%), with the total installed capacity remaining at 98 000 kW_{th} (140 000m²). The initial expectations were that the market was on track for sustained growth, as most of the framework conditions were identical. Surprisingly, the market followed the negative trend of other major markets, i.e. lack of new/different stimulus. The outlook is nonetheless positive, as there are now financial incentives and tax rebates available in every canton and the sector also benefits indirectly from the federal building renovation subsidy programme.



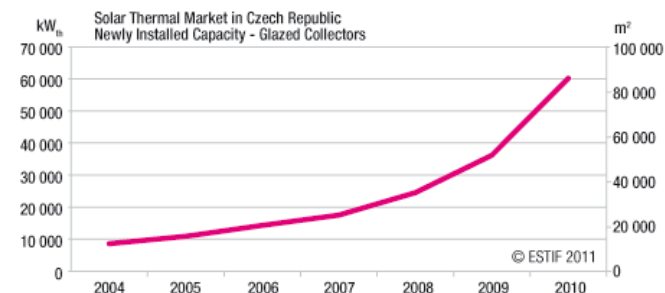
United Kingdom

In 2010, there was considerable market turmoil in the UK. Several manufacturers suffered from the withdrawal of the Low Carbon Buildings Programme and the lack of clear information on the new Renewable Heat Incentive (RHI) affected sales. However, sales rose with the market reaching 73 640 kW_{th} of newly installed capacity (115 100 m²). This represents an important increase in the market of approximately 29%. A combination of factors, namely the start of RHI and the Code for Sustainable Homes, may drive the market up, building on the 2010 developments.



Czech Republic

The solar thermal market in the Czech Republic has expanded thanks to the support programme “Green savings”. Most of the installations supported by this programme were completed in 2010, pushing the market up to a record 60 200 kW_{th} (86 000 m²), which represents almost 35 000 m² more than in 2009. Due to the high number of requests in 2010, the funds for this programme have already been allocated and some of these installations had to be scheduled for 2011.



Denmark

Once again the Danish solar thermal market increased, owing to the large systems being installed in the country. These large systems, used for pre-heating solar thermal plants integrated into district heating networks, have been on the ascent over recent years and 44 100 m² have been installed in 2009 (an increase of 61%). The total market grew by 6.6%, which reflected a total newly installed capacity of 40 670 kW_{th} (58 100 m²).



Market Size in terms of Solar Thermal Capacity (KW_{th}) and in terms of Collector Area (m²)

	In Operation ²		Market (=Newly Installed)						Annual Evolution of the Market
	2010		2008	2009	2010				2010/2009
	Total Glazed		Total Glazed	Total Glazed	Total Glazed	Flat Plate	Vacuum Collectors	Total Glazed	Total Glazed
	m ²	kW(th)	m ²	m ²	m ²	m ²	m ²	kW(th)	%
Austria	3 836 509	2 685 556	347 703	356 166	279 898	268 093	11 805	195 929	-21.4%
Belgium	328 148	229 703	62 200	50 700	38 301	31 306	6 995	26 811	-24.5%
Bulgaria*	105 300	73 710	25 500	8 000	8 400	7 750	650	5 880	-
Cyprus	715 022	500 515	60 000	34 709	30 713	28 931	1 782	21 499	-11.5%
Czech Republic	308 376	215 863	35 000	51 669	86 000	70 000	16 000	60 200	66.4%
Denmark	525 146	367 602	33 000	54 500	58 100	57 700	400	40 670	6.6%
Estonia*	2 920	2 044	500	450	500	100	400	350	-
Finland*	32 923	23 046	4 100	4 000	6 000	4 000	2 000	4 200	-
France ⁴	1 573 900	1 101 730	313 000	265 000	256 000	247 000	9 000	179 200	-3.4%
Germany	13 824 000	9 676 800	2 100 000	1 615 000	1 150 000	1 035 000	115 000	805 000	-28.8%
Greece	4 084 200	2 858 940	298 000	206 000	214 000	212 500	1 500	149 800	3.9%
Hungary	149 814	104 870	32 000	22 000	21 000	14 700	6 300	14 700	-4.5%
Ireland	131 489	92 042	43 610	32 221	24 918	14 525	10 393	17 443	-22.7%
Italy	2 671 730	1 870 211	500 000	475 000	490 000	427 500	62 500	343 000	3.2%
Latvia*	1 940	1 358	210	180	200	100	100	140	-
Lithuania*	2 400	1 680	300	200	200	50	150	140	-
Luxemburg*	31 600	22 120	3 600	4 700	4 500	3 500	1 000	3 150	-
Malta*	45 860	32 102	6 000	5 500	5 000	5 000	0	3 500	-
Netherlands	447 595	313 317	25 000	45 260	40 834	40 834	0	28 584	-9.8%
Poland	655 890	459 123	129 632	144 308	145 906	110 480	35 426	102 134	1.1%
Portugal	672 697	470 888	86 820	173 762	182 271	182 018	253	127 590	4.9%
Romania*	104 700	73 290	8 000	14 900	15 500	8 500	7 000	10 850	-
Slovakia	121 750	85 225	13 500	13 500	15 000	12 800	2 200	10 500	11.1%
Slovenia	175 300	122 710	16 000	22 000	19 000	15 000	4 000	13 300	-13.6%
Spain	2 106 866	1 474 806	433 000	391 000	336 800	315 300	21 500	235 760	-13.9%
Sweden	323 735	226 615	26 813	21 309	20 699	13 567	7 132	14 489	-2.9%
Switzerland	895 492	626 844	112 833	145 640	140 000	130 000	10 000	98 000	-3.9%
United Kingdom	573 220	401 254	81 000	89 100	105 200	75 600	29 600	73 640	18.1%
EU27 + Switzerland	34 448 521	24 113 964	4 797 321	4 246 774	3 694 940	-	-	2 586 458	-13.0%

Notes:

Data usually provided by solar thermal associations or other national sources.

Countries marked with an * are ESTIF estimations and are therefore not sufficient to set a percentage variation in the market.

1) The relation between collector area and capacity is 1m² = 0.7kW_{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 product life 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 demolished, or the use of the building has changed.

3) The figures presented are the latest available information at the end of May 2011. In some cases these may be updated later, which means that the figures for one given year may be subsequently revised.

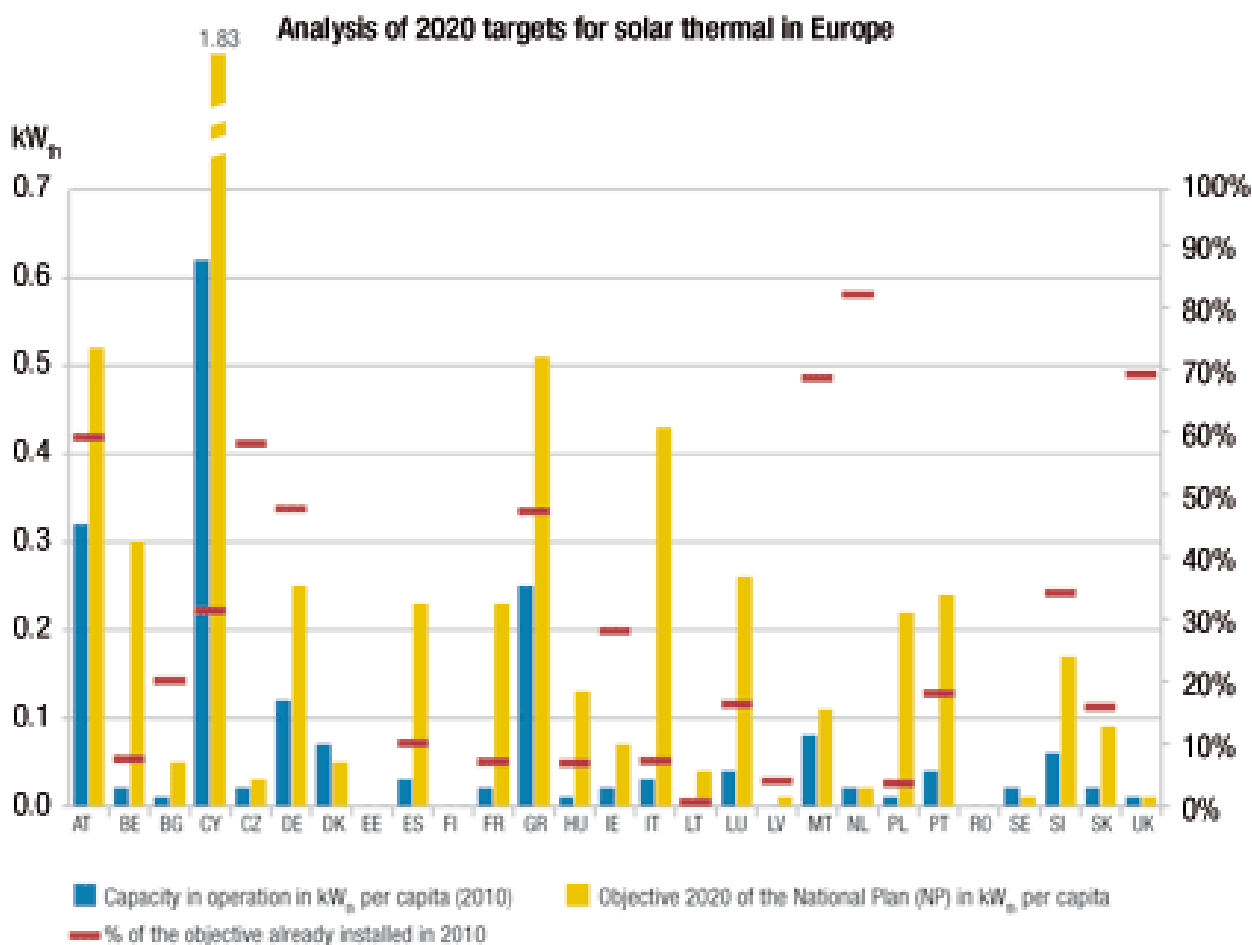
4) The figures shown here relate to Metropolitan France (mainland). In previous years this information has also included an estimate for the overseas departments, which were not taken into account in this year's statistics. As a reference, in 2009 it was considered that the overseas departments amounted to 49 MW_{th} (70,000 m²).

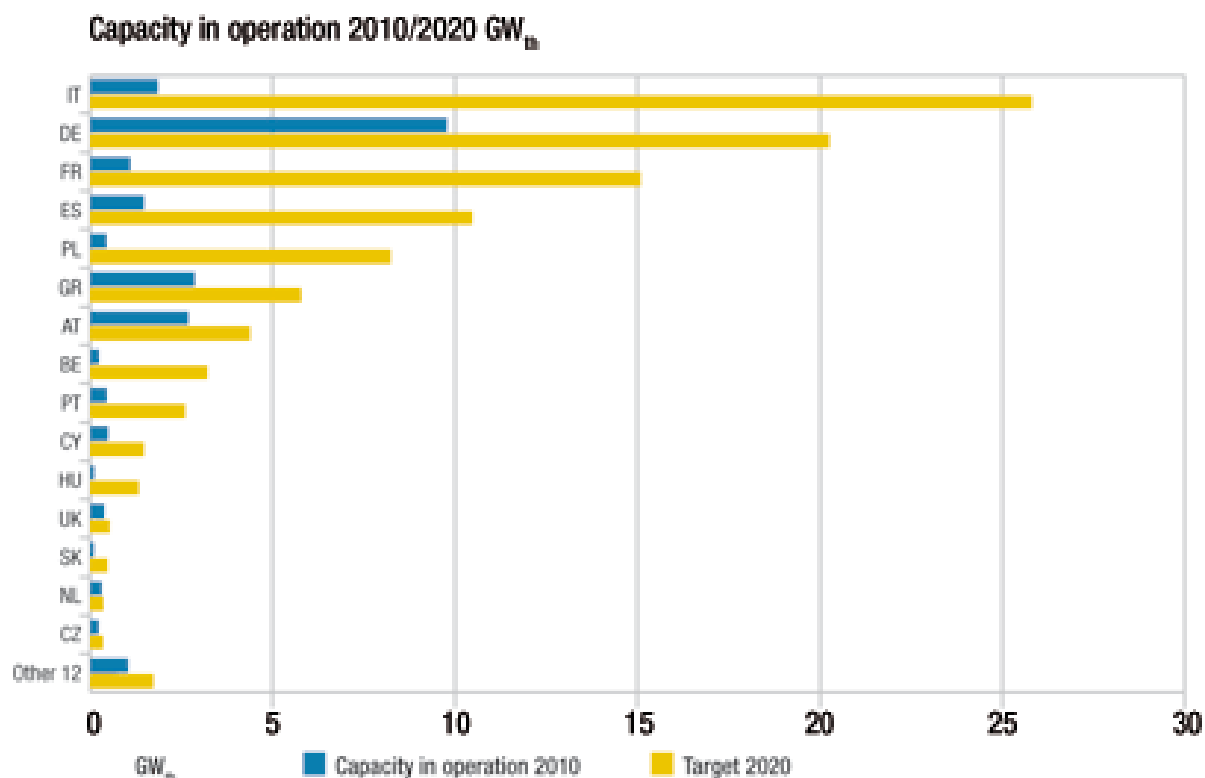
The RES Directive, the 2020 targets and the National Renewable Energy Action Plans

In June 2009, the European Parliament and Council adopted the Directive on the promotion of the use of energy from Renewable Energy Sources (RES). This directive provides the necessary legislative framework to ensure that the **target** of 20% renewable energy in Europe becomes a reality by making it mandatory **that by 2020 each member state incorporates a share of renewable in its energy mix**. Only the overall renewable target is legally binding. This Directive closes a legislative gap, **for the first time, heating and cooling accounting for half of the final energy demand will be covered by a European directive promoting renewable energies**.

This is expected to create a positive climate for the long-term development of solar thermal technologies in Europe. The Directive 2009/28/EC requires **each Member State to adopt a National Renewable Energy Action Plan**. These plans set out Member States' national targets for the share of energy from renewable sources consumed in transport, electricity and heating and cooling in 2020 and adequate measures to achieve these targets. By February 2011, all the 27 Member States had submitted a National Renewable Energy Action Plan (NREAP).

Solar Thermal in the National Renewable Energy Action Plans (NREAP)





The National Renewable Energy Action Plans (hereafter the Plans) clearly show that in most European countries the solar thermal market is still in its infancy. Four countries (Estonia, Finland, Latvia, and Romania) do not include solar thermal at all. Five others (Bulgaria, Denmark, Netherlands, Sweden, and United Kingdom) provide extremely low targets. In the case of Denmark, these do not even match the actual progression of the installed capacity known to us. This discrepancy can sometimes be explained by political reasons, such as in the case of the United Kingdom where the Plan was submitted before the final adoption on the Renewable Heat Incentive.

According to the Plans the geopolitics of solar thermal would be dramatically modified in 2020 in absolute terms, the five major markets would be Italy, Germany, France, Spain and Poland. Austria and Greece, current solar thermal superpowers, would be relegated to 6th and 7th position respectively. The data when analysed per capita (per inhabitant), provides a more accurate view where Cyprus is still leading, followed by Greece, Austria and Italy and, more surprisingly, by Belgium. Interestingly, in 2020 the cumulated solar thermal capacity in Europe should correspond to the intermediate scenario (Advanced Market Development) as foreseen in the study on the Potential of Solar Thermal in Europe published by ESTIF in 2009.

Solar Thermal in 2020: Comparative Scenario

		2020				
		2006	BAU	AMD	NREAPs	RDP
Spec. Collector Area	kW _{th} /inhab	0.03	0.14	0.21	0.2	0.56
	m ² /inhab	0.04	0.2	0.3	0.29	0.8
Total Installed Capacity	GW _{th}	14.17	67.9	101.9	102.2	271.6
	Million m ²	20.25	97	145.5	146	388
Solar Yield (ST energy production per year)	TWh/a	0.05	0.9	1.7	-	2.7

BAU: Business as Usual scenario
 AMD: Advanced Market Deployment scenario
 NREAP: National Renewable Energy Action Plan
 RDP: Full R&D and Policy scenario

Further data and analysis on the NREAP available from the ESTIF secretariat

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