

IEA SHC Publishes 2016 Edition of its Seminal Report – *Solar Heat Worldwide*

June 2016. The International Energy Agency, Solar Heating and Cooling Programme (IEA SHC) released the 2016 edition of its report on the global status of the solar thermal heating and cooling market. As the 2014 solar thermal market felt the impact of slowing markets in China and Europe, the largest world markets, growth was seen in two important areas – large-scale solar thermal systems and solar heat in industrial processes. And, solar heating and cooling still remains by far the solar technology with the largest total capacity (435 GW_{th}) compared to PV (227 GW_{th}) and solar thermal power (5 GW_{th}).

“It’s important to remember that 47% of the world’s energy demand is for heating”, states Ken Guthrie, Chairman of the IEA Solar Heating and Cooling Technology Collaboration Programme (IEA SHC) *“so the huge potential for solar heating and cooling will continue to expand as already seen with many large-scale applications, solar district heating, solar heat in industrial processes, and solar cooling.”*

Ken Guthrie added, *“A new addition to this year’s report is data on solar thermal cost and levelized costs of heat (LCOH). This new data is valuable because it analyzes economic performance indicators and cost ranges at the system level in major solar thermal markets worldwide.*

The IEA SHC’s annual statistics report, *Solar Heat Worldwide*, collects data from 61 countries, representing more than 63% of the world’s population and over 95% of the global solar thermal market. The vast majority of the total capacity at the end of 2014 was in China (289.5 GW_{th}) and Europe (47.5 GW_{th}), which together accounted for 82% of the total capacity, and thus significantly impacted the global market as their markets saw a decline between 2013 and 2014 of -18% and -3% respectively. From the top 10 markets in 2014 positive growth was reported from Greece (+19.1%), Mexico (+18.2%), India (+7%), Brazil (+4.5%) and the United States (0.9%)

Top 5 List for 2014

New installed water collectors (MW_{th}): China (36,680), Turkey (1,332), Brazil (1,009), India (826), USA (707)

New installed water collectors (kW_{th}/1,000 inhabitant) Israel (35), China (27), Palestinian Territories (24), Denmark (23), Australia (20)

Total water collectors in operation (MW_{th}): China (289,520), USA (16,996), Germany (12,780), Turkey (12,730), Brazil (7,712)

Total water collectors in operation (kW_{th}/1,000 inhabitant)
Austria (419), Cyprus (412), Israel (400), Barbados (318), Greece (278)

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Most (94%) of the solar systems installed provide domestic hot water (small-scale and large-scale systems). However, megawatt-scale solar thermal applications for district heating and solar heating and cooling in the commercial and industrial sector is a growing market. The two largest solar thermal systems are in Denmark and supply heat to district heating networks. The two largest solar cooling systems are in Singapore and the United States. And, the world's largest solar process heat system is installed in Chile at a copper mine.

In terms of technology, evacuated tube collectors are the clear market leader accounting for 80% of the newly installed capacity in 2014. This is driven by the dominance of the Chinese market. In China, 90% of all new installations are evacuated tube collectors while in Europe it is the opposite with 76% being flat plate collectors.

The number of jobs in the fields of production, installation and maintenance of solar thermal systems was estimated to 730,000 worldwide in 2014. The worldwide turnover of the solar thermal industry was US\$ 24 billion.

This report is the most comprehensive of its kind and is referenced by many international organizations including the IEA, REN21 and IRENA and national governments. The report is free to download at <http://www.iea-shc.org/solar-heat-worldwide>.

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About the International Energy Agency's Solar Heating and Cooling Programme (IEA SHC):

- IEA SHC was established in 1977.
- Its objectives are co-operative research, development, demonstration and exchange of information regarding solar heating and cooling systems.
- 21 countries, the European Commission and five organizations are IEA SHC members.
- Additional information: www.iea-shc.org

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