Industry and Market Trends 2017

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Solrico – global solar market research network focusing on the solar thermal sector
What is the Global Status Report?

▶ Annual policy advocacy report about the status of all renewable energies including efficiency on 325 pages (including 80 pages endnotes)

▶ Launch around the world in several events plus press releases in 12 languages with the key message: **Transformation is picking up speed in the power sector, but urgent action is required in heating, cooling and transport**

▶ 70,000 downloads over the year
What is worth reading in the GSR?
RANKING OF THE LARGEST FLAT PLATE COLLECTOR MANUFACTURERS
Ranking of the largest flat plate collector manufacturers worldwide

- Sunrain, China
- Greenonetec, Austria/China
- BTE Solar, China
- Five Star, China
- Bosch Thermotechnik, Germany
- Dimas, Greece
- Solimpeks, Turkey
- Viessmann, Germany
- Thermosolar, Germany
- Solahart, Australia
- Eraslanlar, Turkey
- Nobel, Bulgaria
- Vaillant, Germany
- Delpaso Solar, Spain
- Modulo Solar, Mexico
- Haier, China
- Cosmosolar, Greece
- Ariston, Italy
- Hewalex, Poland
- BDR Thermea, Spain
- Emmvee, India

Collector area produced in 2017 [m²]

Source: Manufacturers’ information market survey by solrico in January/February 2018
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Market development 2017 in the largest markets

Source: Global Status Report 2018
Strategic industry cooperations

Sources: Greenonetec, Absolicon, Arcon-Sunmark

gazeta.uz
RECORD YEAR OF NEW SHIP INSTALLATIONS
Record year of new SHIP plants 2017

635 SHIP systems (end of 2017)

125 SHIP systems (end of 2012)

+110 SHIP systems in 19 countries in 2017 from 35 different SHIP suppliers

Source: Solar-payback.com
SHIP Supplier World Map on solar-payback.com

Supplier ready-to-offer: 15
Collector producer ready-to-offer: 13
Supplier with references: 18
Collector producer with references: 35
### Drivers for SHP market

- Economic competitiveness (India, Mexico)
- Large and committed supply chain
- Direct subsidies (India, France, Germany)
- Cleaner air by compensation of steam coal boilers

### Barriers for SHP market

- Low awareness for SHIP among industry
- Little visibility of existing systems
- Low fossil fuel prices
- Industrial customer ask for short payback times

**“The market is huge. More SHIP plants should be installed to replace the coal and gas boilers to reduce the carbon emissions”**

**“Every project is a customer education process and requires project specific engineering”**

Survey among SHIP Suppliers Feb/March 2018
CONCENTRATING TECHNOLOGIES INCREASINGLY USED FOR SOLAR HEAT
### New capacity 2017 installed with solar concentrating collectors

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>MW&lt;sub&gt;th&lt;/sub&gt; installed in 2017 (Total: 143 MW&lt;sub&gt;th&lt;/sub&gt;)</th>
<th>Aperture area converted: 1 m² = 0.7 kW&lt;sub&gt;th&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oman (Glasspoint)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>China (Vicot)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Italy (two R&amp;D projects)</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>India (various suppliers)</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Mexico (Inventive Power / Citrus)</td>
<td>2.8</td>
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</tbody>
</table>

Survey among SHIP Suppliers Feb/March 2018
INCENTIVES FOR
SOLAR DISTRICT HEATING IN EUROPE
“Solar district heating is the most cost-effective way to decarbonise the building sector”

An increasing number of countries support installation and modernisation of district heating networks with a high share of renewables:

- **Austria**: Since 2000 the Austrian Energy and Climate Fund large-scale solar district heating plants up to 10,000 m² with 20 to 40 % of the investment costs depending on the size of the plant. Climate Fund

- **France**: Since June 2015 Ademe offers tenders which subsidise collector fields above 500 m² for district heating when at least 50 % is covered by solar, biomass or waste heat. Ademe

- **Italy**: Since January 2016 the national subsidy scheme Conto Termico subsidises collector fields up to 2,500 m² (beforehand only up to 1,000 m²). Conto Termico

- **Netherlands**: Since 2016 the SDE+ programme supports solar fields above 140 kW_th (200 m²) with a solar heat tariff depending on the tender round to bridge the gap between market and production price. SDE+

- **Germany**: Since 1 July 2017, utilities and cooperatives receive grants covering up to 60 % of the cost of feasibility studies and up to 50 % of the investment in new district heating networks, when at least 50 % are covered by solar, biomass or waste heat. MAP

- **Slovenia**: Public tenders for co-financing district heating using renewable energy sources for the period 2017 to 2020. Solar collector fields are funded with 350 EUR/m² for flat plates and 500 EUR/m² for vacuum tube collectors up to a size of 10 MW_th (14,000 m²) Co-funding
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Next is Poland (NFOŚiGW, the National Fund for Environmental Protection and Water Management) and the Balkan countries (World Bank and European Bank of Reconstruction and Development).
SOLAR THERMAL AIR-CONDITIONING STILL A NICHE MARKET
New commercial solar thermal cooling plants 2017/2018

IKEA in Singapore cool is two sales floors, a small office and a warehouse partly with 2,475 m² flat plate collectors power 880-kW absorption chiller (250 RT) (February 2018).

Soft Loan to Fund EUR 4 Million project for air conditioning and warm water for a military hospital in Nicaragua (4,450 m² flat plate collectors and 1 MW cooling capacity).

Gujarat State Electricity Corporation cools his office (1,575 m² vacuum tube collectors, 150 tons of refrigeration) in western India (August 2017).

A 700 kW Fresnel system provides solar steam for process heat and air conditioning to tobacco manufacturer Japan Tobacco International in Jordan since late 2017.

Photos: S.O.L.I.D., Industrial Solar, VSM Solar
Solar thermal cooling makes absolute sense when both hot water/heating and cooling demand is covered over the year

- Yazaki, Italy, commissioned 9 systems in commercial buildings including solar hot water preparation in Italy and Spain)

Potential to reduce electricity consumption and to avoid electricity peak loads

- Fahrenheit, Germany: 10 kW sorption chiller at a waste heat recovery company in Dubai and TVP Solar, Switzerland: 34 TR chiller at headquarters of a logistic company in Kuwait with evacuated flat plate collectors).

China’s ambitious target (13th Five-Year-Plan): solar thermal energy to cover 2% of the cooling load in buildings by 2020. Two huge solar thermal air conditioning systems announced.

- 40,000 m2 of flat plate solar collectors working with lithium bromide absorption chillers cooling public buildings with a floor space of 200,000 m2
- 10,000 m2 of collector area should heat and cool the Xiaoya office and industry complex in Jinan.

Source: Survey among technology suppliers March 2018
Thanks for your attention!

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