

CHALLENGE OF THE GLOBAL SOLAR THERMAL MARKET

CAN EUROPEAN SOLAR THERMAL COMPETE?

This was the key question of the panel discussion at the international conference SMEthermal 2011 in Berlin on 10 February. Representatives from the major solar thermal markets worldwide – China, Turkey, Germany, Brazil and Italy – discussed the challenges of the world market: market barriers and competition on price and quality. SMEthermal is a one-day conference dedicated exclusively to manufacturing of collectors and tanks, new materials and process optimisation. There were 160 participants from 22 countries at the event.

The status quo in Europe is clear: the solar thermal industry is facing a very uncomfortable situation with shrinking markets in Germany, Italy, Austria and Spain. Meanwhile, the music is playing outside Europe in countries like India, China and Brazil. Germany is still the second largest solar thermal market worldwide with 2.1 million m² (1.47 GWth) in collector area installed in 2008 and 1.61 million m² in 2009 (1.13 GWth), but Brazil is now challenging for this second place in the global ranking. The South American country reached an annual market volume of 1 million m² (0.7 GWth) in 2010 for

the first time, whereas in Germany the industry had to cope last year with another drop, this time of 26%. Only 1.15 million m² (0.8 GWth) of new collector area were installed on German roofs in 2010.

Layoffs are one consequence. Others include extreme price pressure, forcing the industry to sell its products below cost prices, and use only half of the production capacities built up in the boom year of 2008. Exports can fill the gap and for example KBB Kollektorbau, a Berlin-based OEM collector manufacturer, has demonstrated that a German-made collector can compete with a locally produced collector in Tunisia or in Chile.

The manufacturer is exporting one-third of its annual production output to countries outside Europe. Stephan Fintelmann, founder and managing director of KBB Kollektorbau estimates that between 80% and 90% of the costs of a flat plate collector comes from materials: 'So the wages of my workers are less important than the price for raw materials'. Hakan Alas, general manager of the biggest collector manufacturer in Turkey, is in full agreement. 'We have a very favourable situation for exporting solar thermal products produced in Turkey. We have the advantage of good raw material supply and high productivity.'

EUROPE TO SERVE NICHES European manufacturers acknowledged that in most cases they are serving a niche market outside Europe. 'There are a few customers for example in Tunisia that pay for high priced products from Europe, but it is a niche. You cannot make large volumes there,' said Riccardo Rompani, product management director for heating products at Riello Group in Italy.

Bosch Thermotechnik reported

the same experience with its flat plate collector factory, which opened in 2009 in China. Ralf Köbbemann-Rengers, head of the company's solar systems R&D department, is convinced that there is a segment for better quality collectors in China, even if it is below 1% of the total volume: 'We have had the first successful experiences mainly in large-scale applications. But we have to adapt our products'.

One niche segment in China is facade installation, said Michael Hsu, who heads business development in Europe for Sunshore, the fifth biggest vacuum tube collector manufacturers in China. 'We can use safety glass in flat plate collectors, which you cannot do with vacuum tubes, so we have a chance in the high price building sector,' said Köbbemann-Rengers.

CHEAP VACUUM TUBES

However, Michael Hsu pointed out that vacuum tube collectors have the advantage of material costs, because glass is a lot cheaper than copper or aluminium: 'Glass is the much better material, because we can produce very cheap, very efficient thermal products with it'.

The speakers compared the typical wholesaler prices of the two technologies. Alas from Ezinc gave a typical wholesaler price for an efficient flat plate collector for larger commercial projects between €70-80/metre² of collector area. Michael Hsu, however, estimated the price of a vacuum tube collector with double glass tubes on the international market at \$50/m² – which is roughly half of the price of a flat plate collector.

This is one side of the coin. The flip side was described by Ezinc general manager Hakan Alas who said that open loop low pressure thermosiphon systems made in China have been gaining

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market share in Turkey in the last three of four years. But this trend has been accompanied by concern over the durability of these systems. 'In areas, where the water is calcareous, the chalk coats the glass tubes and they lose efficiency in a very short time,' he said. Turkish installers complain that the glass tubes are difficult to change and break easy. Hence, he is convinced that the market share of this technology will not be higher than 15%–20%.

NO FAIR COMPETITION

Köbbemann-Rengers reminded the audience that there is no fair competition on the international solar thermal markets. 'We have to pay import duties in China and Brazil. However, Chinese importers can come to European markets without any import taxes, only the products have to meet certain standards like Solar Keymark.'

Hsu confirmed that the costs for the Solar Keymark testing are not a high barrier for the Chinese solar industry: 'The costs for certifying a product with Solar Keymark are not extremely high compared to the great market potential that the certificate opens up in Europe.'

By contrast, the Brazilian market looks locked and barred from the perspective of European manufacturers.

There are hardly any imports, and the Brazilian manufacturers are so busy with their booming national market that they do not export much.

Lucio Mesquita, managing director of Thermosol Consulting in Canada, said taxes on imported solar goods seem rather high: 'The import duties are around 20%, and there are also internal taxes added to the product price. Also the industry exports only on a small scale.'

But the engineering consultant, who also works for several Brazilian tank and collector manufacturers, stressed that manufacturers are all expanding their capacities, so this will change in the future. 'You will find soon more Brazilian collectors on the world market,' said Mesquita.

COMPARING PRICES

The European solar thermal industry is in a dilemma. Politicians criticise that the net retailer solar system prices are not going down, compared with the price for collectors and tanks which have steadily fallen in the past 10 years.

The share of the installation costs of a solar water heater in Germany, Italy, Portugal or Spain is 37%–50% of the total retailer price. But it seems that the European manufacturers see no problems with this.

'In Italy there are a lot of old houses with sloping roofs, where installation is very difficult. The installers are not motivated to risk the climb on the roofs, if their margin is not high,' said Riello's Rompani.

This situation seems even more extreme in Turkey. From the low average system prices of €700 for a 180 litre double-circuit solar water heater, the installer claims 37%.

'The installers earn good money in Turkey,' said Alas.

'We have several customers that install 3000-4000 solar systems a year, buying 10,000 collectors every year and they will never think about starting collector production, because it is much more profitable for them to install.'

However, in Brazil the situation seems completely different. The system price for a 200 litre unit of about €600 differs little from the price in Turkey, but the share of the installation is only 10%.

'There was no heating industry established before the solar thermal industry started, so the manufacturers had their own installers sell their products,' said Mesquita.

The consultant sees a completely different situation in Europe. The solar thermal system suppliers compete in the already existing distribution chain of the traditional heating sector.

'We are now stuck at that point, because it is very hard to change this established chain,' said Mesquita, who sees this issue as a major barrier in central European markets.

Köbbemann-Rengers from Bosch Thermotechnik, one of Europe's biggest heating boiler manufacturers, does not agree with Mesquita that plumbers have been spoiled by the heating industry's high margins over many years. He added that there is also competition between installers.

As a logical consequence of this, if end customers do not ask for reductions or compare various offers, solar thermal system prices will stay high in Germany and other countries, even if the industry succeeds in significantly reducing component costs.

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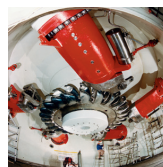


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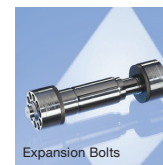
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