

2010: Quo Vadis (German) Solar Industry?

The photovoltaic industry is increasingly under pressure: On the one hand, additional capping of feed-in tariffs become more and more probable while on the other hand Chinese suppliers are beginning to crowd the German market with inexpensive yet technically superior modules. Can German manufacturers still hold their ground?

The fact that the German photovoltaic (PV) industry is willing to make concessions in regard to the production of solar power is an absolute novelty. The tariff reduction set forth in the Renewable Energy Bill (EEG) could be cut by a further five percent by mid-2010, according to Matthias Willenbacher, member of the board at the German Solar Industry Association. The tariffs were already reduced at the turn of the year as scheduled – by nine percent for roof systems and eleven percent for large-scale outdoor power plants. An additional step may be possible on July 1 in Willenbacher's opinion.

The reason for this new humility lies in the growing criticism of PV production in Germany, which awakens fears in the industry of a repeat of the recent Spanish debacle. Because the PV market in Spain was growing faster than the government desired, they introduced a production limit to throttle demand. Similarly, Germany is producing many more solar systems than the conservative-liberal government would like to see. Due to the global sales crisis the price of systems has dropped an average of more than 30 percent since late 2008, while government assistance has declined "only" 17 to 21 percent in total. Currently the prospect of high returns is driving multitudes of investors onto roofs and outdoors: According to initial estimates, as much as three gigawatts (GW) were erected in 2009 – twice as much as in 2008. In other countries with feed-in compensation, such as France or Italy, solar energy is growing much less dynamically. There are various reasons for this, including set extension limits, high administrative hurdles and the fact that only

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

WITH SPECIAL SHOW
GLASS TECHNOLOGY LIVE

www.glasstec.de

solarpeq

INTERNATIONAL TRADE FAIR
FOR SOLAR PRODUCTION EQUIPMENT

www.solarpeq.de

DÜSSELDORF, GERMANY
28.09. – 01.10.2010


Messe
Düsseldorf

Messe Düsseldorf GmbH
Postfach 10 10 06
40001 Düsseldorf
Messeplatz
40474 Düsseldorf
Germany

Telefon +49 (0) 2 11/45 60-01
InfoTel +49 (0) 2 11/45 60-9 00
Telefax +49 (0) 2 11/45 60-6 68
Internet www.messe-duesseldorf.de
E-Mail info@messe-duesseldorf.de

Geschäftsführung:
Werner M. Dornscheidt (Vorsitzender)
Wilfried E. Moog
Wilhelm Niedergöker
Joachim Schäfer
Herbert Vogt
Vorsitzender des Aufsichtsrates:
Dirk Elbers

Amtsgericht Düsseldorf HRB 63
USt-IdNr. DE 119 360 948
St.Nr. 105/5830/0663

Mitgliedschaften der
Messe Düsseldorf:



The global
Association of the
Exhibition Industry



Ausstellungs- und
Messe-Ausschuss der
Deutschen Wirtschaft

Öffentliche Verkehrsmittel:
U78, U79: Messe Ost/Stockumer Kirchstr.
Bus 722: Messe-Center Verwaltung

certain technologies such as building integrated systems, for example, are being promoted.

Primarily Chinese producers are pushing their capacities onto the German market. According to the market researcher pvXchange, the international spot market price for crystalline silicon modules from China dropped an average of 40.3 percent to hit 1.76 euros per watt between January and September 2009. European companies are hard pressed to keep pace: In the same time period, they reduced their prices an average of 32.9 percent to 2.14 euros per watt. Nonetheless, PV technology "Made in Germany" is in demand: Warehouses that were full to the brim in summer are long since empty, and lines are running at high speed again. "At present we are fully utilizing our 300 MW capacity," states Schott Solar spokesman, Lars Waldmann.

Too Many Modules

In Germany, solar technology is being built in increasingly more powerful facilities: While the average capacity – according to the Federal Network Agency – was still 8.7 kilowatts (kW) in January, it was already up to 21.6 kW in July. This is an indication that above all agriculturists with large barn and stable power plants have become active. The farmers' enthusiasm for solar energy is no coincidence: Although the production tariffs were cut back on 1 January, solar power plants in good German locations can still generate attractive returns of ten percent and more. "Prices drop with the depression," explains pvXchange managing director, Kai Malkwitz.

For manufacturers, however, the time of big profits is over. In spite of mass production expansion and technological progress, manufacturing costs have not dropped anywhere near as much as sales prices for the modules. This has shrunk their margins. "The price level is not satisfactory," comments Waldmann. And there's no trend reversal in sight. Since the global module supply is larger than

the demand, the industry has no chance to push higher prices through for the time being. While it's true that the boom in Germany is diminishing the huge supply fabricated by manufacturers during the crisis, it will not disappear entirely. According to market researcher iSupply, 8.55 GW worth of modules were produced in 2009, but only 5.16 GW installed. This leaves 3.39 GW for the international industry to depreciate.

The situation is not likely to relax in 2010: It is expected that 14.56 GW of modules will be manufactured globally and only 8.34 GW installed. And markets continue to develop slowly. Whether France, Italy or Greece, none of the Mediterranean countries will even come close to the GW limit with their annexes. In China and Japan the installation numbers also bob around in the lower three-digit MW region. According to experts, only the USA is on its way to becoming a true mass market: For 2010, the European PV Industry Association (EPIA) expects installations of at least one GW there. But even with that a huge amount of modules will remain for Germany, as Bernd Schüßler, spokesman for Photon magazine emphasizes.

Equipment from Germany

The companies could produce less in order to alleviate pressure – this, however, seems to be taboo. Thin-film market leader First Solar intends to manufacture 1.55 GW in 2010 – 550 MW more than in the previous year. And, after slowed growth in 2009, the Chinese PV concern Suntech plans to increase its production by as much as 900 MW to 1.6 GW of crystalline modules. With their combined 3.15 GW, these two companies alone could saturate the German market, which will – assuming the government goes easy with the EEG – account for three GW in 2010.

If Berlin curbs annexing with massive additional cuts in solar subventions, the pressure on the industry will intensify. German companies could easily get crushed between the price-aggressive

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

WITH SPECIAL SHOW
GLASS TECHNOLOGY LIVE

www.glasstec.de

solarpeq

INTERNATIONAL TRADE FAIR
FOR SOLAR PRODUCTION EQUIPMENT

www.solarpeq.de

DÜSSELDORF, GERMANY
28.09. – 01.10.2010

competitors from the East and West under these circumstances. Particularly the Chinese have a decisive competitive advantage: "Companies such as Suntech and Yingli can produce more cost-effectively than their European competitors," explains Jess Pichel, an analyst at the US investment bank, Piper Jaffray. This is possible due to lower salaries, as well as a technological advantage in regard to innovation and productivity. "China's top manufacturers produce with state-of-the-art fabrication technology from Germany," states Pichel. And the Asians pit their advantage mercilessly in the battle for market shares. Several companies have already announced massive price reductions for 2010.

While it does hold true that US and Chinese rivals are inflaming competition, the German solar industry is not entirely blameless for their difficult situation: "Several companies lost sight of their costs during the boom phase," explains Götz Fischbeck, an analyst with BHF Bank in Frankfurt. They received, for example, sufficient supplies of raw materials at relatively low prices during the silicon shortage thanks to long-term contracts with chemical companies. The Asian newcomers, by contrast, were forced to purchase silicon at much higher prices on the spot market and thus to keep other costs at a minimum in order to operate profitably. "The Chinese are now profiting from this."

So far the German solar industry has not found a suitable answer for the invigorated Asians. The first reaction was to demand measures against alleged price dumping, and quality, social and environmental standards. Meanwhile, however, the industry has recognized that these are false levers. One should not carry the supposed quality advantage in front of oneself like a monstrosity according to Andreas Hänel, head of system supplier Phönix. Instead, one should press for more innovations and quickly cut costs.

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

WITH SPECIAL SHOW
GLASS TECHNOLOGY LIVE

www.glasstec.de

solarpeq

INTERNATIONAL TRADE FAIR
FOR SOLAR PRODUCTION EQUIPMENT

www.solarpeq.de

DÜSSELDORF, GERMANY
28.09. - 01.10.2010

Innovations Again in Focus

Q-Cells, who with a loss of close to one billion euros in the first three quarters of 2009 is among the biggest losers of the financial crisis, proceeds: The company plans to introduce a multi-crystalline "next-generation solar cell" in 2010 that transforms at least 17 percent of sunlight into electricity. Their current multi-cells manage 15.5 to 16.4 percent. At the same time, Q-Cells subsidiary Solibro is creating furore in the thin-film field with the development of a module of copper, indium, gallium and selenium (GICS) that features an efficiency factor of 12.3 percent. No other thin-film panel achieves higher efficiency. "We're doing everything we can to advance our technological leadership," states Q-Cells technologist Peter Wawer. Meanwhile, Solarworld, located in Freiburg, is establishing a "technology campus unparalleled in Europe". Next to the already completed wafer technical school, a new cell and module research centre is being set up with the intention that "tomorrow's technologies" be developed here as of 2010.

During their innovation offensive, the companies can draw on solar scientific input from renowned facilities such as the Fraunhofer Institute for Solar Energy Systems (ISE) in Freiburg, or the Centre for Solar Energy and Hydrogen Research (ZSW) in Stuttgart. The researchers at these facilities have developed various new cell concepts in the past few years that are waiting for industrial implementation. Manufacturers can find state-of-the-art manufacturing equipment to this end more or less directly in front of their factory doors: German suppliers are in demand around the world for their machines, robots and solutions for turnkey solar plants and could help their neighbouring comrades-in-arms to significantly advance their production technology with their offerings.

Turnkey supplier Schmid, for example, has developed a print-and-etch technology with which the crystal layer can be manipulated directly on the surface of crystalline silicon cells so that more

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

WITH SPECIAL SHOW
GLASS TECHNOLOGY LIVE

www.glasstec.de

solarpeq

INTERNATIONAL TRADE FAIR
FOR SOLAR PRODUCTION EQUIPMENT

www.solarpeq.de

DÜSSELDORF, GERMANY
28.09. - 01.10.2010

electricity is generated there. "In this way the efficiency factor can be increased by up to 0.9 percent," states Schmid technologist Helge Haverkamp. In the meantime, Centrotherm could help the German solar industry climb the thin-film Olympus, as the only company worldwide already offering turnkey lines for CIGS modules. The local industry is apparently striving for global technological leadership in this thin-film segment that experts believe have the highest efficiency potential: Next to Solibro, various German companies are now specialising in these copper-based panels. From 28 September to 1 October 2010, PV manufacturers can get an impression of the machine and equipment manufacturers' product ranges at "solarpeq – International Trade Fair for Solar Production Equipment". Companies that offer production technology for thin-film or crystalline photovoltaic – whether machines and equipment for the manufacture of solar products or component and raw material suppliers – present themselves here.

The solar industry's interest in modern equipment "made in Germany" may well already have increased short-term: Manufacturers have recognised that they must promote innovation with complete commitment in order to quickly reduce their costs. Otherwise they will not be able to stand up to their US and Asian competitors.

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

WITH SPECIAL SHOW
GLASS TECHNOLOGY LIVE

www.glasstec.de

solarpeq

INTERNATIONAL TRADE FAIR
FOR SOLAR PRODUCTION EQUIPMENT

www.solarpeq.de

DÜSSELDORF, GERMANY
28.09. – 01.10.2010

Photo credits

- 1.) Modules from China: Chinese freighters loaded with solar technology head into the port at Hamburg with increasing regularity. (Photo: www.mediaserver.hamburg.de/C.Spahrbier)
- 2.) Ready for export: China's leading module manufacturer, Suntech, produces primarily for the German market. (Photo: Suntech)
- 3.) Inexpensive labour: Due to the low labour costs, many Asian solar cells are still manufactured manually. (Photo: Jiangyin Shine Science and Technology)
- 4.) Brightly polished: German manufacturers score highly on the global market due to the high quality of their modules. (Photo: BMU/transit/Busse)
- 5.) Empty warehouse: Many German manufacturers were out of stock at the end of 2009 due to high demand. (Photo: Inventux)
- 6.) Twinkling landscape: Recently, numerous modules were fabricated in large-scale outdoor power plants, for example in Solarpark Liebrose near Cottbus. (Photo: First Solar/juwi)
- 7.) Politicians go hands-on: Brandenburg Prime Minister, Matthias Platzeck, and former Federal Minister of Transportation, Wolfgang Tiefensee, install the last module at Solarpark Liebrose in August 2009. (Photo: juwi)

You will find the appropriate images for this professional article online at:

www.solarpeq.com > Press Service > Professional Articles (left-hand navigation)

Press Contact solarpeq 2010

Sebastian Pflügge/Corinna Kuhn

Phone: +49-(0)211-4560-464 or -598

Fax: +49-(0)211-4560-87464

Email: PflueggeS@messe-duesseldorf.de or

KuhnC@messe-duesseldorf.de