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The Chinese challenge to global Photovoltaic markets

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Bonn, Würzburg, 10 April 2012. In the year that the United Nations propagates "Sustainable Energy for All" and stresses the importance of "green growth", some people should be happy: Those working in the renewable energy sector. But that is obviously not the case, at least not in the Photovoltaic (PV) industry. About a dozen US firms in the sector have been closed during the last twelve months and some of the remaining ones have officially instigated trade and dumping complaints against Chinese competitors. Some German firms also went bankrupt recently and Q-Cells, once the leading producer of photovoltaic cells in the world, just declared insolvency last week. Even in the Chinese PV industry, nobody seems to be happy either. Many Chinese PV-cell and module producers interrupted production at the end of last year, a number of silicon producers is said to have stopped production in March this year. SunTech, one of the big Chinese players in the industry, was in dire straits at the end of last year. However, just recently, we read that global PV installations thrived in 2011 and also in the first quarter of 2012.

What is wrong with this industry that firms are in crisis while the sector still grows fast?

It is not easy to decipher developments of the global Photovoltaic market for a number of reasons:

Firstly, numbers are perplexing. Some industry reports say that global cell production in 2011 was 29.6 GW while demand was about 27.4 gigawatt (GW). Other reports claim that the aggregated Chinese cell production alone amounted to 37 GW. While the former would imply a roughly 7 per cent discrepancy between supply and demand, the latter indicates Chinese production alone by far exceeded global demand. What would we expect in times of oversupply? We would expect production capacity growth to stagnate if not decline. Again, the reported numbers are shocking. Allegedly, Chinese manufacturers are planning to expand production capacities to 69 GW in 2012. While growth in production capacities could slow down compared to 2011 (only 19 per cent (sic!) instead of 57 per cent in 2011), it is still difficult to

comprehend why enterprises would expand in face of already existing huge overcapacities.

Secondly, the market experiences short cycles of busts and booms. Hardly any market has been as volatile as the Photovoltaic market over the last decade. Prices for purified silicon skyrocketed around 2008 just to drop dramatically once some Chinese competitors successfully entered the market and smashed the earlier existing international oligopoly. The financial crisis seemingly threatened the sector's development, but then the announcement of dramatic feed-in tariff cuts in Germany actually led to a short-lived installation boom in this major PV market as investors wanted to register their installations before the respective deadlines. Market predictions have proven difficult, not least because the market is still depending on policy support. Even the half-hearted introduction of a feed-in tariff in China in the summer of 2011 was able to trigger an installation boom in this country in autumn last year. Until then, China had no installation record of greater significance.

Thirdly, interpretations vary considerably. From the US perspective, market developments were fine until 2010. Though the US imported more cells and modules than they exported, they still profited from China's PV industry boom due to China's growing imports of machinery and purified silicon. The trade balance has shifted recently and the US manufacturers see their chances to regain hold in the sector disappear. Now they accuse the Chinese manufactures of practising unfair competition (dumping) and the Chinese government of providing unfair subsidies. From the Chinese perspective these complaints are irritating as they suggest strategic support by the Chinese central government. From the Chinese perspective this does not reflect reality. At least in the past, the PV manufacturing industry was just treated by the central government like many other labour intensive export industries.

The picture becomes clearer once the Chinese local governments are zoomed in. Local governments hoped to gain advantage from supporting one of the "new" industries, especially as the generous

policy support for PV installations abroad (namely in Germany) promised comfortable margins for Chinese manufacturers. Initially the business opportunities were limited due to the high prices of purified silicon. But the situation changed around 2008 when Chinese producers were able to master the technological hurdles. Immediately, entrepreneurs and local cadres grasped the opportunity. Numerous production lines were imported, huge production capacities built up in order to exhaust the competitive advantages of low labour costs, lower environmental and social standards as well as economies of scale in production. Repeating the experiences of other industries, overcapacities soon emerged, competition became fierce. But the necessary shakeup of the market did not happen. Local governments are reluctant to close enterprises that potentially can boost local development. Local governments are reluctant to close enterprises also because this would imply unemployment and – potentially – local protests. Subsidies? No! They just defend against changing policies abroad and competition from all the other producers in China. And aren't the governments in the US and Europe also giving favourable loan and investment conditions to their

local manufacturers? Dumping? No! As an enterprise in China you have to sell even at very low prices in order to convince the local government that you are still in the business, that you are still an employer and thus important.

So here is where the systems clash. When the sector faces sluggish development or even decline, the different economic systems become apparent. While US and European firms face rather rigid regulations and procedures related to credits, insolvency and bankruptcy, their Chinese counterparts enjoy softer budget constraints as government and banks are willing to support their survival as long as they are important for the local economy and a future boom of the national PV installation market is likely. They would not call this subsidy, they would not call it dumping. As entrepreneurs in the Chinese system they do not feel comfortable or privileged. But they will have the longer staying power. If you want to change this for the PV manufacturing sector, you have to change the Chinese economic system. In any case, this would take longer than most PV enterprises in Europe or the US could survive.



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