

SPECIAL ISSUE

SOLAR PANELS: A CRISIS “MADE IN CHINA”

ABOUT

The Chinese have long been obsessed with strategic culture, power balances and geopolitical shifts. Academic institutions, think tanks, journals and web-based debate are growing in number and quality and give China's foreign policy breadth and depth.

China Analysis, which is published in both French and English, introduces European audiences to these debates inside China's expert and think-tank world and helps the European policy community understand how China's leadership thinks about domestic and foreign policy issues. While freedom of expression and information remain restricted in China's media, these published sources and debates provide an important way of understanding emerging trends within China.

Each issue of China Analysis focuses on a specific theme and draws mainly on Chinese mainland sources. However, it also monitors content in Chinese-language publications from Hong Kong and Taiwan, which occasionally include news and analysis that is not published in the mainland and reflects the diversity of Chinese thinking.

The French version of China Analysis can be accessed online at www.centreasia.eu.

Introduction by François Godement

On June 4, the European Commission announced that it would impose an initial anti-dumping levy of 11 percent on solar panel imports from China, a rate that is set to rise after two months if talks between China and the European Union do not resolve the issue. This has sparked an immediate and angry response from China. After threatening to take anti-dumping action against Belgian chemical firm Solvay, China has opened one inquiry on red wines from Europe and another on high-end automobile imports. *China Analysis* considers the views expressed by Chinese experts in the past few months on the state of the country's solar panel industry. Clearly, the production glut created by a top-down policy of subsidies has spilled over to Europe, and Chinese industry experts are aware of the mismatch between production and demand within their own market. Some of their own market statistics remain doubtful: given the visibility of individual solar panels all over China, a 2GW market size that puts China behind Italy and on a par with France is hardly believable. That makes Chinese prime minister Li Keqiang's plan to increase the Chinese solar panel market to 35GW within two to three years more plausible. Some progress may be possible simply through carrying out more realistic statistical accounting.

The sobering analysis from China does not solve the European or, indeed, the global dilemma. Even assuming a big drop in price, solar energy requires subsidies either to the producer or to consumers in order to be competitive. Solar

panel production is not labour-intensive, but it relies on economy of scale. Europe and China would be well advised to cut a deal, since solar panels are only one element in a solar industry chain that starts with polycrystalline silicon and ends with installers working for end users. If we want cheap solar energy, we need the cheap Chinese solar panels that have been made possible by huge government support. But a Chinese monopoly on this sector presents the same dangers as, for example, the stranglehold on rare earths that China has achieved in recent years. Chinese negotiators should recognise that this crisis is made in China and begin responding to their foreign partners. They should do away with export tax rebates. They should start to foster alliances between Chinese and European firms, which have very different strengths, instead of trying to build a wholly Chinese supply chain.

1. Solar panels: a crisis “made in China”

Edouard Laurent

Sources:

Li Xiaohui, “Interview with Zhu Gongshan: Suppressing discriminatory fiscal policies towards multi-crystalline silicon producers”, *Shanghai zhengquan bao*, 4 March 2013¹.

Zhu Xianjia, “Interview with Lin Boqiang: The key to rescuing the solar industry is speedy intervention”, *Shanghai zhengquan bao*, 17 January 2013².

He Hui, “The solar industry’s winter: How the support of local governments will turn into bitter alcohol”, *Zhidian*, 15 April 2013³.

Liu Jing *et al.*, “Suntech’s collapse speeds up the recovery of the solar industry”, *Xinhua News*, 28 April 2013⁴.

The atmosphere is gloomy in the city of Baoding. The home of the industrial giant Yingli Green Energy, the city was once considered to be one of the five “solar cities” (光伏城, *guangfu cheng*). But now, Baoding is watching with growing concern the storm devastating the solar sector. Other “solar cities” such as Wuxi and Xinyu have already seen the enterprises of which they were so proud collapse under the weight of market realities. Suntech has gone bankrupt, LDK Solar is highly indebted, and news of solar SMEs going under is frequent. And if last year was hard, Lin Boqiang says that 2013 is likely to be even worse.

At the forum for sustainable investment and development of the solar industry held in Beijing in April 2013, there was much discussion of the reasons behind the industry’s collapse.⁵ The experts all seemed to agree that the problems lay in overinvestment and overproduction, dependency on external markets, and low levels of research and development.

Investing in green energy has proven not to be sustainable. Wang Yan, director of an investment fund in Chengdu, says that the immense success of Suntech’s founder Shi Zhenrong has given rise to a “myth of easy money” (一夜暴富的神话, *yiyebaofu de shenhua*). This, together with the massive government support provided to the industry, has made the solar sector an extremely fashionable place for investment in the past few years.

Beijing has made a national priority of the development of the solar power industry, which is one of the government’s “seven strategic and emerging industries” (七大战略新兴产业, *qida zhanlüe xinxing chanye*). So, local governments have given huge support to the sector, with the aim of encouraging the establishment of high-tech industry with high added value in their regions. Wang Yan says that investors’ excessive optimism bears some of the blame for the sector’s problems, but so does the intervention of political authorities in the economy, which has helped to disconnect investment from real demand.

Overcapacity has killed any prospect of profit in the industry. In 2012, global production capacity of solar modules was about 70GW⁶, while actual global demand did not exceed 36GW⁷. Many entrepreneurs, following the government’s directions, have entered and overcrowded a market still in its infancy.

Beijing has praised the merits of the solar industry mainly to encourage the development of a promising domestic industry, rather than to respond to Chinese market demand. Wang Yan says that from the outset, Chinese industries were aware that their dependency on outside markets was a weakness. Today, Chinese enterprises produce about 64 percent of the solar modules sold globally. Last year, Chinese enterprises had a production capacity of close to 50GW, a figure that completely dwarfs China’s domestic demand, which was a little over 2GW⁸.

This reliance on external markets has become a source of international friction. Following antidumping and countervailing duty investigations, the US Department of Commerce set tariffs for silicon solar cells produced in China which may rise as high as 254 percent of the cells’ value⁹. Three months after the US decision, the European Commission imposed an 11.8 percent duty on solar technologies from China, which may increase to 47.6 percent if no progress is made in the remaining two months of negotiations¹⁰. The EU and China seem to be

⁶ Rani Molla, “Five charts that show the massive growth of solar in 2012”, *GigaOM*, 25 December 2012, available at http://gigaom.com/2012/12/25/5-charts-that-show-the-amazing-growth-in-solar-in-2012-charts/?utm_source=social/.

⁷ Julia Chan, “GTM Research: Yingli takes top producer spot”, *PV-Tech*, 2 May 2013, available at http://www.pv-tech.org/news/gtm_research_yingli_takes_top_producer_spot.

⁸ “China Balance of Systems Market Report”, NPD Solarbuzz, 2012, available at <http://www.solarbuzz.com/reports/china-balance-systems-market-report>.

⁹ GTM Research, *PV News*, Vol. 31, No. 11, November 2012, p. 3.

¹⁰ Imports of Chinese photovoltaic technologies reached €21 billion in 2011, which makes this anti-dumping case the most important in history. See Joshua Chaffin, “Fresh accusations in China dumping case”, *Financial Times*, 4 February 2013, available at <http://www.ft.com/intl/cms/s/0/caf2b486-6eb9-11e2-8189-00144feab49a.html>; EU Prusun, “EU to register Chinese solar imports with immediate effect”, press release, 5 March 2013, available at http://prosun.org/index.php?option=com_cc_newsletter&view=detail&id=21&sbid=41&tmpl=newsletter; Leslie Hook, Scheherazade Daneshkhu, and Peter Spiegel, “China takes aim at France with EU wine export probe”, *Financial Times*, 5 June 2013, available at <http://www.ft.com/intl/cms/s/0/9229031a-cdb1-11e2-8313->

¹ Li Xiaohui is a journalist at *Shanghai zhengquan bao*. Zhu Gongshan is a member of the People’s Consultative Assembly and Chairman of the board at GCL-Poly, the country’s first producer of crystalline silicon.

² Zhu Xianjia is a journalist at *Shanghai zhengquan bao*. Lin Boqiang is a former economist at the Asian Development Bank, the director of the Chinese research centre in economics at Xiamen University, and one of the most renowned Chinese analysts in the energy sector.

³ He Hui is a journalist for *Zhidian* and *Economic Journal*.

⁴ Liu Jing is journalist at *Xinhua*.

⁵ He Hui’s article in *Zhidian* brings together the main contributions to discussion at this forum.

playing tit for tat. First, Beijing announced the launch of an antidumping study on crystalline silicon, then the EU launched an inquiry on Chinese solar-grade glass panels, and China responded by opening an anti-subsidies investigation against European wines¹¹. A trade war between the two partners would have a negative effect on both countries' solar sectors, which are complementary in many areas.

The main problem for China is the positioning of Chinese industries within the solar value chain. China is replaying the “theatre of the absurd” (荒诞剧, *huangdan ju*) of its steel and tire industries and of its wind technologies. In these instances, overinvestment led to a disconnection between supply and demand. Entrepreneurs flooded the market with low-cost products, with the objective of achieving economies of scale. In this way, they trapped themselves into producing low value-added goods. This is happening again within the solar industry, where Chinese producers specialise

The immense success of Suntech has given birth to a “myth of easy money” which, coupled with massive government support, has made the solar sector one of the most fashionable investments over the past few years.

in silicon wafers and solar cells manufacturing as well as in assembling solar modules. Critics say that China is a mere “fetcher and carrier” (“搬运工”, *banyun gong*) and “assembler” (“组装机”, *zuzhuang gong*) in the global solar industry¹².

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One of the major challenges of the solar sector in China will be to gradually penetrate more technologically advanced segments of the value chain. Tong Xingxue, President of LDK Solar, summed up the situation: “multi-crystalline silicon is the processor of the photovoltaic industry” (多晶硅是光伏行业的芯片, *duojinggui shi guangfu hangye de xin pian*)¹³. However, China still imports more than half of the polysilicon it uses, even though polysilicon is the central element of the solar industry. If the country's enterprises do not invest more in mastering silicon purification technologies, they risk falling into a “technological void” (技术空心化问题, *jishu kongxin hua wenti*). There is still a gap between Western and Chinese enterprises in terms of technological progress. This is illustrated by the price differential between multi-crystalline silicon made in the US, which is sold for \$12.57 per kilogram, and its Chinese equivalent, which is twice as expensive.

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¹¹ Solar panels are covered in a thin layer of protective glass, with special physical qualities and no ferrous elements. This is because this type of glass must let most of the light spectrum go through to maximise the conversion of photons into electricity. This type of glass is called solar-grade glass.

¹² “Suntech suffocating from its debts. Buffett faces the incurable disease of photovoltaic” (“尚德们”重债压身 巴菲特难治“光伏病”), *Qindao Daily*, 15 April 2013.

¹³ See “Suntech's collapse speeds up the recovery of the solar industry”.

Zhu Gongshan, Director of GCL-Poly, says that the crystalline silicon sector has been discriminated against by Chinese authorities because of its high energy consumption. Fiscal policies have disadvantaged local enterprises as compared to their international counterparts. Silicon producers do not receive the same fiscal and financial support as module producers. For this reason, the development of module producers has been held back and their competitiveness has been reduced, bringing into question the development of the entire industry.

The biggest controversy surrounds the best way to rescue the solar industry. Liberal commentator Lin Boqiang thinks the timing of any rescue operation is key. He says that speedy intervention is essential. He believes the best way to keep the industry alive is to expand the domestic market. The planned increase in installed capacity to 35GW by 2015 should help with this. Future policies should also focus on R&D, the solar market, and equipment manufacturers. The government needs to create market conditions to promote competition, so that only competitive companies are able to survive.

Zhu Gongshan suggests developing the highest value-added segments of the value chain: crystalline silicon, inverters, and equipment manufacturing. He advises abandoning fiscal policies that discriminate against the crystalline silicon sector. Solar technologies benefit from the highest VAT export tax refund, 17 percent, since unlike crystalline silicon, they are considered to be high-tech products. Zhu says that to allow the Chinese photovoltaic industry to be competitive, crystalline silicon should also get this tax exemption.

Wang Yan lists five measures that should be applied as quickly as possible to ensure the sector's development. The domestic market needs to be developed and mergers and acquisitions must be encouraged. Outdated production facilities should be upgraded. State intervention should be limited and protectionism should be abandoned. All the authors agree that the future of the global solar industry is in the balance. Will the sector be Chinese, or European, or will it survive at all? The answer, whatever it is, will be a result of political choices.

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