

## Environment

# How Sichuan is positioned to take advantage of the boom in solar power

Sichuan is stepping up its polysilicon production, and bringing down the price of solar power products.

By Pete Sweeney

Given the across-the-board energy price hike the Chinese central government announced in June, implemented in the context of record oil prices and inflationary pressure, it's no surprise alternative energy technologies are moving to the front and center of business and research policy conversations. Indeed, the Chinese National Reform and Development Commission asserted that part of the justification for the rate increase was the need to subsidize renewable energy technology adoption.

Solar power, in particular, is heating up. According to a recent Reuters report, the sector, already profitable, is starting to see large inflows of investment from players like Intel and IBM. The world needs more energy, and coal-driven China not only needs more energy, it particularly needs cleaner energy. And it needs it now. According to the World Bank, domestic energy demand is growing at a steady 10% per year, despite the fact that China's energy consumption per capita still remains far below OECD company standards; should China's population "catch up" with OECD consumption levels, Chinese energy demand will quadruple.

Earlier in June, Chengdu hosted the first Western China Photo-voltaic Industry & New Energy Development Forum. According to Julian Wong, who researches alternative energy policy in China and publishes his findings (and his perspective) in his blog, [greenleapforward.com](http://greenleapforward.com), Sichuan stands to benefit both environmentally and economically from the current situation. Not only is Sichuan a centre for polysilicon production, the key ingredient in 90% of modern solar modules, it also holds significant deposits of the cadmium, selenium, and other metals needed to produce the "thin film" solar modules, an alternative to polysilicon currently enjoying a surge in demand driven by polysilicon production bottlenecks. Sichuan is also home to numerous solar power arrays, although the bulk of Chinese renewable energy still comes from wind.

"China is a solar power success story," Wong argues, and is well-positioned to hold on to its existing lead. "China's trying to set up polysilicon plants in half the usual time, so by 2009 or 2010 polysilicon will go back into oversupply," which should put downward pressure on pricing of solar components. Wong notes that Chinese firms like

Trina Solar and Apollo Solar (both of which do business in Sichuan) are competitive, vertically integrated, and listed on international exchanges. The conference, says Wong, represents Sichuan's attempt to "leapfrog" Jiangsu and Hebei province as the largest solar power manufacturing hub in China. As such, it is off to a good start; the conference managed to book some 14.5 million renminbi in new investment contracts.

However, to date, this green momentum has yet to create a strong local market. While many homes in China's southwest do use locally manufactured passive solar power for water heating and the like, Wong notes that China still exports most of its solar products, which is particularly ironic for Sichuan given that the bulk of the most energy-deprived Chinese citizens live in the West, including in Sichuan. At the conference, Shi Dinghuan (石定寰), chairman of the Chinese Renewable Energy Industries Association (CREIA) lamented that China ships out its clean energy and keeps the pollution (including coal fired plants, and presumably, the toxic waste generating by mining and factory operations) behind.

The reasons may be policy related. While oil prices are subsidized, and unsafe mining processes are overlooked, solar and wind power cannot compete against conventional energy in terms of price point. However, the Chinese government may well be serious this time about encouraging China to move towards renewable energy, and supporting domestically designed and produced solar power modules seems a logical part of that strategy. Indeed, while the earthquake was an unqualified disaster, rebuilding the province may well mean shifting the power mixture towards renewables. The China Renewable Energy Society recently sponsored a design competition for solar-powered schools in Sichuan; whether and how such designs might be implemented remains to be seen.

The sector should be seeing more M&A activity in the near future, both domestic and internationally. Given the nature of its supply chain, its demand

for ongoing research, and its need to expand market access as production bottlenecks clear, the Chinese solar sector has already started to reach abroad. In fact, Suntech Power, probably the most well-known Chinese solar firm, has already begun acquiring Japanese assets, in particular MTK, a photo-voltaic component manufacturer. Solartech, a Hong Kong firm, is setting up manufacturing in Malaysia. Vertically-integrated Trina, which already enjoys inward investment from giants like Merrill Lynch, is currently seeking an M&A strategist to join its team. Yingli Solar listed on NASDAQ last year.

One hopes that these investments will create value both for investors and for the people of Sichuan, who need more power, need cleaner power, and need it now.

