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Photo: Solarpraxis AG/Stephan Ganzel

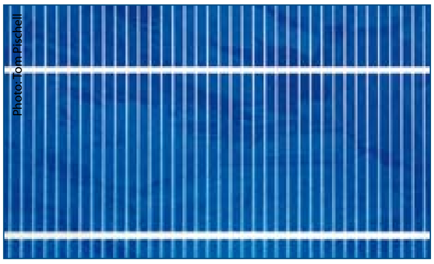
Photo: Tom Pischell


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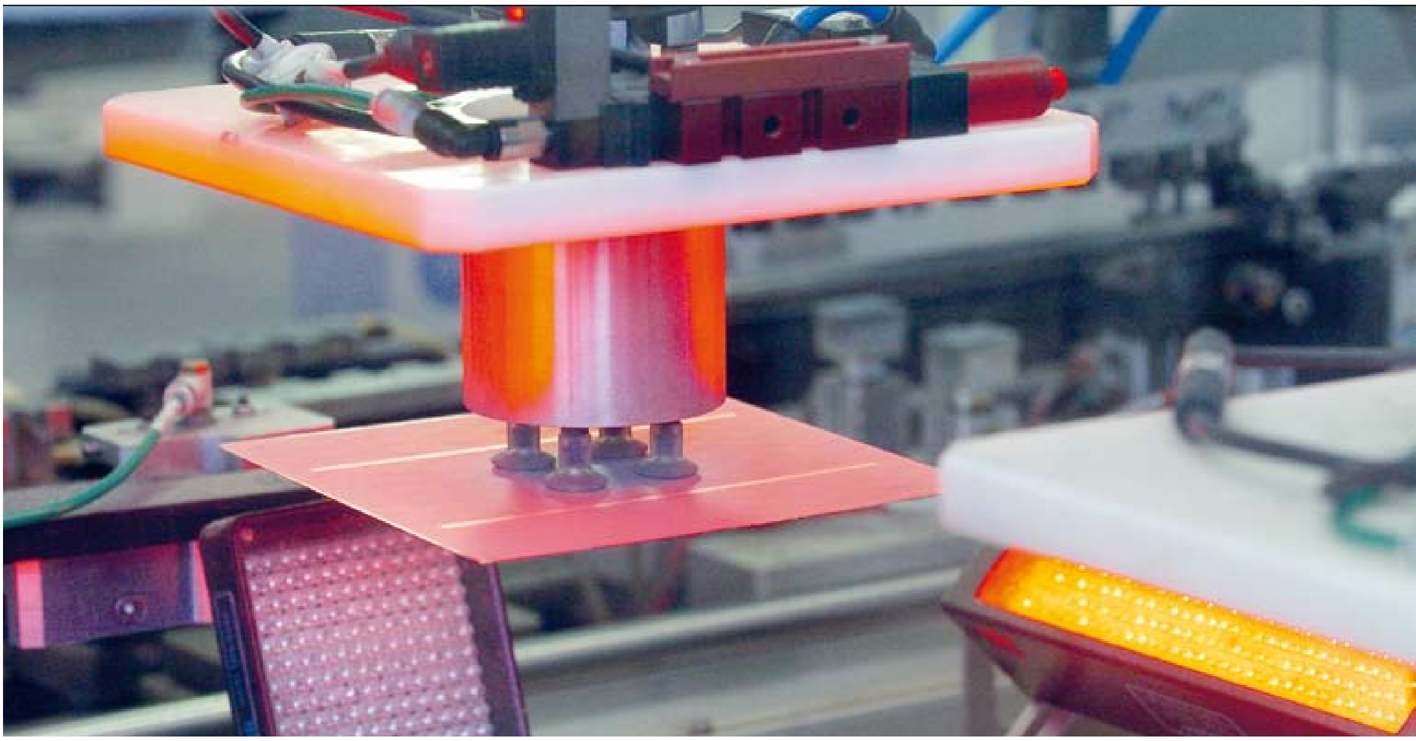


Photo: Aleo Solar AG

The impact of increasing demand was surprising for the industry, and now business is once again buzzing.

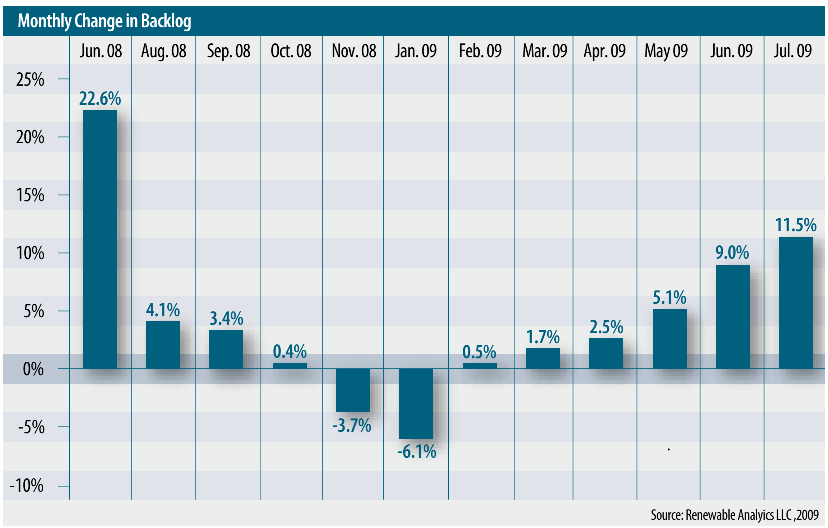
The upturn finally arrives

Solar market overview: All year, the solar industry has been waiting to see the positive impact on demand from lower pricing, and at last it is clear.

Module spot prices have declined by more than 50 percent since their peak just twelve months ago. In theory, this would have resulted in more rapid growth because of the high elasticity of demand in the solar industry. The level of elasticity of demand is defined as the amount of incremental demand given a certain decline in pricing. The operating thesis of Renewable Analytics (RA) has been that the elasticity of demand in solar is immense and far greater than the market expects, but that it would take longer than expected to manifest. There is always a lag time for elasticity to have an impact because of the nature of human behavior – it takes consumers and manufacturers time to react.

In any commodity industry, buyers will not start to act until it seems that pricing has bottomed. This April, the lowest quoted tier one module prices were still at two euros per watt-peak, and buyers were cautious that pricing may fall further. This was the case, and pricing fell by another 30 to 50 euro cents by June. The final floor in pricing was 1.50 euros per watt-peak before demand started to build.

At the Intersolar North America trade show in San Francisco this past July, demand did not seem to be very strong, with ample inventories in the channel. Now, less than three months later, there are broad shortages of modules, and many manufacturers are sold out for the rest of the year. The impact of demand has taken the industry by surprise. The drivers of



Graphics: Solarpraxis AG/Angelika Boehm

this strong demand are internal rates of return of twelve to fifteen percent plus. It has still been a tough year for the industry, since Q1 and Q2 were quite slow. The first chart illustrates the change in backlog for European PV dealers, based on the RA monthly survey. The change in backlog has been positive since February – but the magnitude of the change was nominal until July, when growth accelerated by 15 percent. Certainly, growth has continued to be quite strong in August and September.

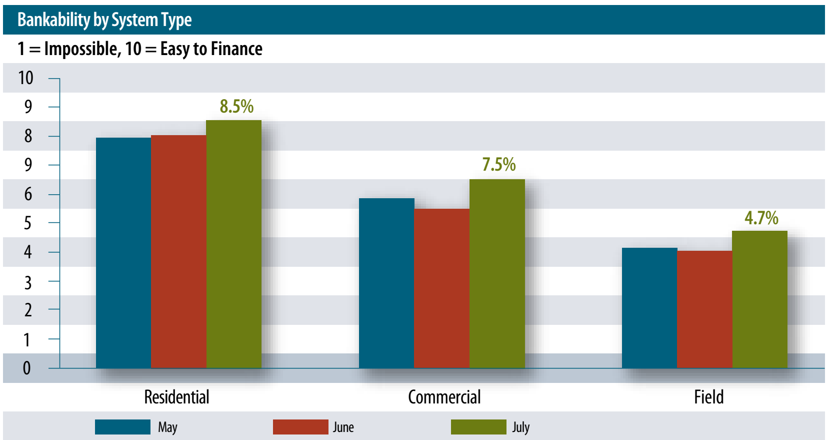
The difficulty in raising debt for projects has been a drag on the market's development this year. The second chart illustrates the difference in raising capital for different sizes of projects. It is quite easy to borrow for a residential installation, but projects above one megawatt are much harder. The reason for this is that banks' liquidity is no longer unlimited. Banks would prefer to lend smaller amounts to more customers, rather than larger amounts to one customer. On top of this, there are fewer banks lending in the market – in early 2008, there were more than ten lenders active in the German large project market; in 2009, more than half of those lenders have disappeared from the market. Earlier this year, First Solar had to help Juwi finance the 53-megawatt Lieberose project in East Germany because it was not possible to find the capital otherwise. RA estimates that if there were ample debt available, the solar market would have been at least 500 megawatts larger in 2009.

Looking ahead to 2010, there are many promising signs. Germany will likely continue to grow by 30 percent or more, and new markets such as India, China, Israel, Turkey, Bulgaria, Belgium, and the U.S. are showing promise.

The U.S. needs to follow the example of the European markets and implement a feed-in tariff (FIT) system. Each of the 50 states in the U.S. has a public utilities commission (PUC). This commission regulates the prices utilities are allowed to charge consumers as well as wholesale pricing of energy. There has been a strong push in California to implement an FIT, but the utilities and the California PUC have done their best to stop the adoption of an FIT in the marketplace, despite the many compelling reasons. The utilities want to maintain their virtual monopoly on the production and distribution of energy to consumers, and the PUC does not want to see the entities that it regulates disempowered. It is California law that all utilities generate 20 percent of their energy from renewable sources by the end of 2010, up from the current level of twelve percent. That is just 15 months away, and it is not going to happen without a substantial FIT.

An FIT would enable a broadly distributed portfolio of PV power plants that utilize grid capacity most efficiently. The current status is that most of the projects in development are located in the Mojave Desert, where land is cheap, but there is not nearly enough transmission capacity for the more than 20 gigawatts of projects that are on the way to being built. State and local governments in the U.S. need to take a longer term view and consider the many positive economic impacts of an FIT, as well as the external costs of coal production that are not factored into the cost of production today. ◆ Brad Meikle

Brad Meikle is the founder and managing director of Renewable Analytics LLC, a supply chain research firm focused on the renewable energy industry.



Source: Renewable Analyics LLC ,2009