

Impact of the Japanese Disaster on the PV Industry

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The magnitude 9.0 earthquake that struck Northeast Japan on March 11 and the tsunami that followed later killed thousands and devastated huge parts of the country. In the process, multiple nuclear reactors at the Fukushima Daiichi Nuclear Power Station were damaged; two of them have already partially melted down, and the cooling system at a third has failed.

Despite the extreme gravity of the situation in Northern Japan, much of Japan's industrial heartland in the central part of the country did not suffer significant damage, and have power and water at normal levels. With the exception of M. Setek's facilities, Japan's solar manufacturing industry appears to be mainly intact.

- The three largest polysilicon producers in Japan are Tokuyama, Mitsubishi and M. Setek:
 - Tokuyama's facilities are in Yamaguchi prefecture in the western part of the country.
 - Mitsubishi's plant is in Yokaichi in Mie Prefecture in middle of Japan.
 - However, M. Setek's factory is in Soma Fukushima, an area hard hit by the disaster.
- The largest wafer producers in Japan are Kyocera and TKX. Both companies' facilities are in Kansai in central Japan. M. Setek is the third-largest PV wafer focused maker, and its factory is also in Fukushima.
- The three largest cell makers are Sharp, Kyocera and Sanyo. All three companies have their main facilities in Kansai or close by in the middle of Japan.

M. Setek, which is now owned by AUO, announced that it is stopping production at its Fukushima plants. Its facilities were not damaged by the tsunami, but are stopping operation due to lack of electricity and water. AUO stated that production would resume in about a week.

M. Setek's customers will likely be inconvenienced. And the entire Japanese economy will be limping along for a while, which may cause some minor shipment and short-term pricing issues for PV components. Even so, Solarbuzz does not expect Japan's tragedy to have any major impact on the PV supply chain, since Japan now accounts for less than 10% of worldwide polysilicon, wafer and cell production capacity. Solarbuzz is forecasting that manufacturing capacity will be more than sufficient supply in all upstream segments, which should absorb any supply constraints.

However, Japan's disaster could have much broader implications on the debate about how to balance renewable, nuclear and conventional energy sources. How much influence it might have will, unfortunately, probably be tied to how serious the situation is with the damaged reactors. Pictures of citizens being checked for

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radiation, and the struggle by technicians to keep the reactors from melting down amidst explosions is certainly not good public relations for the nuclear power industry. There is no silver lining in this horrific situation. But Japan's disaster may become an important point in the debate on the true cost of various electricity generating technologies. It may help swing the pendulum further away from nuclear and more towards solar and other renewables.

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