News

First Solar to introduce 400W large-area CdTe thin-film modules

First Solar is planning a major revamp of its next-generation CdTe modules by introducing new production lines capable of producing large-area 'Series 6' modules with 400W output and significantly lower production costs currently achievable with its smaller form factor modules.

The company said that the large-area modules were expected to be produced with around 19% conversion efficiencies with production line equipment development underway.

First Solar noted that production tool orders were perhaps a year away from being placed, using technology and scale of equipment developed in line with flat panel displays, with dedicated 'greenfield' production facilities taking around 18 months to ready for potential ramp in late 2019.

The Series 6 modules were said to offer significant production cost reduction advantages over previous modules, which have remained at US$0.65/W capex level. The large-area modules and new production line technology would also enable higher throughput levels than previously achieved; at around 103MW capacity per line.

First Solar noted that any final decisions on timing of the new technology introduction have yet to be made and will be market demand driven.

Credit: First Solar

First Solar is introducing new production lines to manufacture its 400W large-area 'Series 6' modules.

First Solar news

First Solar launches new Series 5 module

First Solar's Annual Analyst Day event revealed the planned launch of the new Series 5 module, a three-horizontal-stacked module unit the equivalent size and form factor of conventional c-Si 72-cell modules, widely used in utility-scale PV power plant projects.

First Solar said it expected strong interest in the new module format from EPCs and project developers that would have liked to use its thin-film modules in the past but found the non-uniform format, fixings and racking systems to be deterrents. Apart from the claimed higher energy density factor over a c-Si module, Series 5 would seem to bring the company in line with, rather than ahead of, its 72-cell c-Si rival.

The Series 5 module system should initially be available in late 2017, with fleet production line module efficiencies in the 17% range.

Credit: First Solar

First Solar is supplying 230MW of its modules for projects being developed by Silicon Ranch.

Credit: SolarCity

SolarCity's request that its Silevo module be excluded from the scope of the US-China trade case has been rejected.

Leadership transition at First Solar marks new business cycle ahead

First Solar has announced a planned CEO change that underscores a new business model and cycle ahead, with current CEO, James A. Hughes, to step down and be succeeded by Mark R. Widmar.

The company is shifting emphasis back to module sales as part of a mid-term business plan that takes advantage of its restored cost per-watt advantage and two new module products to be introduced in the coming years.

The intention is to increase module sales on a far broader international base, such as India, Japan, Southeast Asia and Latin America, while concentrating less on PV power plant construction, notably in the US.

First Solar said that Alexander Bradley, First Solar's vice president, treasury and project finance, had been appointed interim CFO, effective 1 July 2016, while a permanent CFO replacement was found.

First Solar to supply 230MW modules to Silicon Ranch

First Solar has entered into an agreement with a subsidiary of Silicon Ranch, one of the US' leading solar project developers, to supply 230MW worth of modules for future projects.

This agreement supplements previous arrangements to supply more than 180MW of modules for use in Silicon Ranch projects in humid climate regions across the States.

In addition, First Solar will be providing EPC expertise for the projects which are scheduled to commence in 2017 and early 2018. Some of the earlier scheduled projects may also use First Solar's balance of system equipment, including its single-axis tracker.

The projects should kick off in Q1 of 2017 when First Solar expects to deliver the first batch of modules.

First Solar nets module order for Vietnam solar projects

First Solar has gained a foothold in Vietnam with a provisional deal to supply modules for a series of projects in the Southeast Asian country.

The US thin-film manufacturer has signed a MoU with Vietnamese developer, Thien Tan Group, to provide modules for a pipeline of projects the local firm is planning to build in the country.

The pipeline is of an unspecified size, but First Solar said construction on the first projects would begin before the end of 2016. The projects will be built across several provinces in Vietnam, with Thien Tan Group developing and owning them.

Incidentally, Vietnam has yet to emerge as a significant end market for solar, despite featuring all the usual prerequisites such as growing demand, high power costs and attractive resources.

Solar Frontier updates

Solar Frontier moves closer to US fab call with 150MW module deal

Japanese thin-film manufacturer Solar Frontier has heralded a 150MW module supply deal in the US as a major step towards its final decision on building a factory in America.

Solar Frontier's US arm said it would supply Cypress Creek Renewables with 150MW of its CIS thin-film modules for a portfolio of solar projects in North and South Carolina, and some of the emerging state markets in the US, including Indiana, Montana and Texas.

The deal marked a major step towards Solar Frontier being able to make a final on decision on whether or not to establish a manufacturing hub in the US.

Aside from the company's ability to build up a business base in America, the other major consideration before Solar Frontier decides on whether to commit to a US fab is the success of its new Tohoku plant in Japan.

Turner and Southern Company's 20MW Solar Frontier PV plant purchase is ninth acquisition for pair

Turner Renewable Energy will be one of the new owners of a 20MW thin-film PV plant in the US constructed by Solar Frontier Americas.

Turner Energy and utility holding company Southern Power, a subsidiary of Atlanta-based Southern Company, formed a strategic alliance in 2010 to develop renewable energy projects. The latest acquisition is Calipatria Solar Facility in Imperial County, California.

Power and renewable energy credits will be sold to investor-owned utility San Diego Gas & Electric under a 20 year PPA.

Solar Frontier Americas said the plant will produce around 52,000MWh of electricity annually from its 130,000 CIS thin-film modules.

The latest acquisition brings the pair's renewable assets in operation or development to 340MW across nine projects. Solar Frontier bought a 280MW pipeline of projects in North America in April 2015.

Rival thin-film firm First Solar will provide O&M for the Calipatria plant.

Finance & legal

SolarCity's Silevo modules to be included in China-US trade case

SolarCity's request that its Silevo modules be excluded from the scope of the US trade case against Chinese products has been rejected in the preliminary ruling.

The company had argued that its 'Triex' cells are an exempt thin-film technology, but SolarWorld, the petitioner in the case, argued that the cells have a crystalline silicon substrate and should be added.

In a statement prior to the preliminary ruling, a SolarCity spokesperson commented that as numerous a-Si thin-film

Credit: Singulus

Singulus has reported an annual loss despite solar-related sales increasing by over 30%.

layers are applied to the c-Si substrate, this renders them outside the scope of Orders.

Any Silevo products imported from China to the US would have to pay duties upfront at customs reducing competitiveness. SolarCity's facility in New York will produce Silevo products by volume making their inclusion in the case dependent on where its cells are produced.

A final decision will be made on 23 June.

Silevo ruling prevents thin-film China trade loophole, says Commerce Department

The potential loophole for China-based manufacturers to circumvent US trade duties by applying a single thin-film layer to their products has been dismissed by the Department of Commerce's ruling against SolarCity's Silevo products.

The department argued that had it excluded Silevo's monocrystalline silicon substrate thin-film cells from the scope of Chinese trade duties, any single thin-film layer product could follow suit.

Silevo had its pilot line in China until it was relocated to California. The company has moved to downplay the impact of any final ruling, scheduled for June.

"The impact of the ultimate ruling will be limited," said Jonathan Bass, SolarCity's VP for communications, "but it's unfortunate that SolarWorld is trying to make solar technology more expensive for customers."

Petitioner SolarWorld welcomed the ruling which highlighted that hybrid products fall within the scope of the order.

Parent company owes Hanergy Thin Film over US$630 million

Distressed PV thin-film producer Hanergy Thin Film finally issued a profit warning and business update in late February that revealed the extent of the dependence on its parent company and its dire financial position.

Hanergy TF said in a financial statement that its parent company, Hanergy Holdings, and other affiliates, owed the company more than US$630 million from past transactions of which around US$334 million was overdue.

Revenue in 2015 from connected transactions with Hanergy Holdings and other affiliates was said to have only amounted to around US$25.7 million in 2015, down 96% from around US$766 million in 2014.

Turnkey a-Si thin-film production line deals signed with Chinese companies via the parent company have since all been cancelled, leaving only US$25 million in revenue for Hanergy TF with other business transactions.

Singulus still expects loss in 2016 despite strong revenue guidance from major orders

Singulus Technologies has reported a loss of €34.5 million (US$39.4 million) in 2015, while forecasting a small expected loss in 2016 on sales guided to be in the range of €115-130 million, compared to €83.7 million in 2015.

Sales increased 25.3 % in 2015, primarily due to two major orders in its solar division. Solar division sales in 2015 accounted for 59.9% of the total (€50.1 million), compared to 22.6% (€15.10 million) in 2014.

Order intake in 2015 increased to €96.6 million, up from €60.6 in 2014. The order backlog at the end of 2015 stood at €26.6 million, compared to € 14.0 million at the end of 2014.

Singulus had liquidity in the amount of €19 million at the end of 2015. Order backlog at the end of 2015 stood at €26.6 million, compared to €14 million at the end of 2014.

CIGS thin-film cells

ZSW takes CIGS thin-film cell to 22% conversion efficiency

The Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW) has set a new European record of 22% conversion efficiency for a CIGS thin-film cell, verified by Fraunhofer ISE.

The new efficiency record was made using 0.5cm² cells and a series of optimized processes on a laboratory coating machine using the co-evaporation method.

"The technological potential is far from tapped out at 22% efficiency," said Michael Powalla, ZSW board member and head of the photovoltaics division. "It will be possible to achieve up to 25% in the next few years."

ZSW noted that it was now only 0.3 percentage point behind the current world record for a CIGS cell.

Avancis likely customer for 300MW Singulus selenization system order

Singulus Technologies has said that it is close to closing a major contract for a new advanced selenization system, based on its 'CISARIS' platform for CIGS thin-film production.

CIGS thin-film producer Avancis, a previous customer of Singulus, is planning the first 300MW phase of production at a new facility in China and is highly likely to be the customer.

Avancis is currently the only CIGS producer with plans to add 300MW of new capacity in China, especially following the financial woes and lost contracts of Hanergy Thin Film.

Singulus noted that the initial order for production tools required for a 300MW plant in China could be worth "a high double-digit million euro amount" and that it expected to receive confirmation of the order "soon".

Manz retains turnkey CIGS thin-film technology

PV and electronics equipment manufacturer Manz AG has decided to keep its turnkey CIGS thin-film technology after almost a year of undertaking a strategic review, due to lack of orders.

In December, 2011 Manz signed an agreement to take over the CIGS innovation line from Würth Solar but the interest from potential customers failed to materialise during a period of overcapacity in the solar sector and plummeting prices of conventional silicon-based PV modules.

The decision to retain its CIGS technology is based on the potential to better penetrate the Chinese solar market via a 30% stake in Manz being offered to Shanghai Electric Co.

CEO and founder Dieter Manz said: "With Shanghai Electric, we have found a partner with long-term interests...Our future Chinese partner thus will provide additional stability in the company as a financially strong anchor investor together with me as major shareholders."