

First Solar Makes The Right Move By Abandoning Its Bet On Silicon Panels

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Trefis Team

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[First Solar](#), the largest U.S. solar manufacturer, will abandon its foray into the high-efficiency silicon-based solar modules that it began developing in 2013 as a hedge against the competitiveness of its proprietary thin film Cadmium Telluride (Cd-Te) technology. [The firm noted that](#) it will take a one time non-cash charge of between \$90 million to \$110 million this year in this regard, while its operating costs could reduce by about \$8 million to \$10 million annually. Below, we take a look at some of the possible reasons for the exit and why its likely to be beneficial to First Solar.

[Trefis has a \\$65 price estimate for First Solar](#), which is about 35% ahead of the current market price.

TetraSun Panels Were Off To A Slow To Start

When First Solar first entered into the silicon module space by acquiring start-up TetraSun in early 2013, the firm's most efficient solar panel offered efficiency of just about 13%, while many of its multi-crystalline silicon competitors were able to churn out top-end panels with efficiencies of close

to 16%, putting First Solar's panels at a significant disadvantage. However, the roll-out of First Solar's silicon modules was riddled with delays – likely due to its novel copper metallization technology – and large-scale manufacturing never really took off, with the firm allocating just about 100 MW in capacity in early 2015 focusing on the Japanese market.

First Solar's Cd-Te Tech Has Improved Considerably Over The Last Few Years

Interestingly, during this period, First Solar was able to make significant progress with its core thin-film based technology, recording performance improvements that significantly outstripped all other commercial technologies, including silicon. For instance, First Solar posted a fleet-wide average module efficiency of roughly 16.2% as of Q1 2016, marking an improvement of more than 3% in less than 3 years, putting the efficiency of its panels roughly in line with multi-crystalline panels. First Solar expects to achieve 19.5% module efficiency by 2017, potentially giving it an meaningful edge over most multi-crystalline panels.

Focusing On Cd-Te Can Give First Solar A Long-Term Edge

Overall, we believe the move to cease production of silicon panels should allow First Solar to devote its resources entirely to its Cd-Te technology, which has been showing a lot of promise, rather than getting distracted by a technology that doesn't really offer it a unique advantage over other silicon manufacturers. For instance, First Solar's Cd-Te thin-film panels have a higher theoretical upper limit for efficiency compared to silicon-based panels, and considering First Solar's recent track record of efficiency gains, it's possible that it could eventually offer industry-leading efficiencies. Separately, Cd-Te panels already have an edge over silicon-based panels when it comes to total energy yield.