

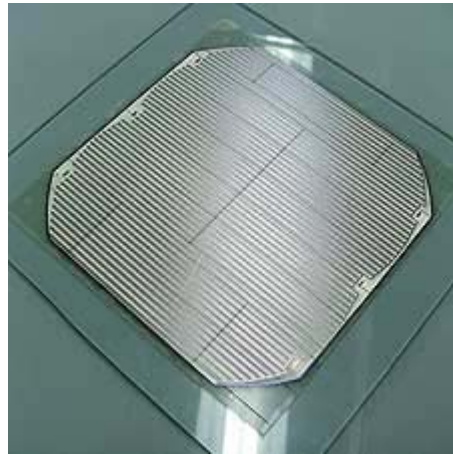
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## Saving the Environment with Solar Cells

### Solar Cell Manufacturing Now More Cost Effective

Solar cells have tremendous environmental benefits due to their ability to convert sunlight into electricity. The principal behind solar cells or photovoltaic cells is simple: photons in sunlight hit solar cells and are absorbed by semiconducting materials, such as silicon wafers, and are then converted into electricity. Solar cells are often encapsulated as a module and electrically connected. Manufacturing of solar cells is expensive and must be done on a large scale to minimize costs.



Fonon Technology International (FTI) has patented a method, [Zero Width Laser Cutting Technology™](#), to reduce the cost of solar cell manufacturing. This patented process increases yield and completely eliminates waste. In manufacturing PV modules, there are a number of layers to consider from the protective glass front, antireflective coating, semiconductor wafer, to a back substrate. Cutting glass, dicing a wafer, edge isolation, coating removal, substrate dicing, and marking can all be accomplished using FTI products.



Wafers have the highest value at the dicing stage and the primary focus of a [BlackStar™](#) is to increase the number of dies, yield per wafer, and to maximize throughput while minimizing the "HAZ" specifically for "power hungry" RF micro devices and low-K wafer substrates.



Wafer marking is a requirement within the semiconductor and solar panel industries to eliminate fault analysis. Integrators will benefit from Laser Photonics', a division of Fonon Technology, [OEM i-Series Fiber Laser marking kit](#) for marking there wafers. As wafers move to components,

the i-Series Fiber Laser Marking Kit is a safe method for wafer marking. The thinnest wafer will not be harmed during the manufacturing process guaranteeing a low-maintenance, fault-free operation in clean-room environments. Currently, [Laser Photonics](#) has sold FiberTower Series systems to solar panel manufacturers for completing the edge isolation process, as well as marking the components.



The [FL600](#) is capable of dry etching patterning on ITO, TCO, TO, anti-reflective coatings on glass and PET plastic film used in the FPD industry, automotive windshields and rear view mirrors, architectural windows, photovoltaic cells, solar panels, and semiconductor applications.

Contact [Fonon Technology International](#), parent company of Laser Photonics, to learn more about products and applications for the solar panel industry. When we work together, we can reduce manufacturing costs, bringing us one step closer to commercial use of free electricity and helping improve the environment.

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