

SERIES 7 *FT1*
THIN FILM PV MODULE.





A High-Quality Thin Film PV Module. Made in India, for India.

First Solar's Series 7 *FT1* CdTe photovoltaic (PV) modules combine the technological advances of the Series 6 product family with a larger form factor and innovative design features to create a next generation thin film module. Series 7 *FT1* modules are ALMM enlisted, DRC eligible, and BIS compliant and were created specifically for India's ground-mount PV market to optimize balance of system (BOS) costs and reduce the levelized cost of electricity (LCOE) for your PV project.



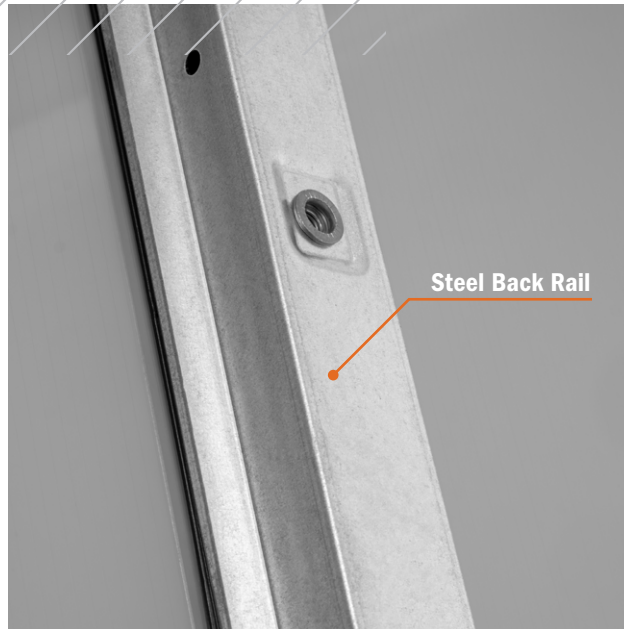
Collaboration in Action

To develop a next generation thin film PV module, First Solar's product engineering team worked closely with Indian customers, independent engineers, engineering, procurement and construction (EPC) companies, logistics partners, and PV BOS providers. By listening to feedback on common installation pain points and sharing conceptual product designs, First Solar engineers created a new back rail mounting design that installs seamlessly on fixed-tilt mounting structures and selective single axis tracker systems. The synergistic design speeds up and facilitates installation, resulting in lower BOS costs.

The collaboration doesn't stop there. By incorporating feedback from our Indian PV ecosystem, First Solar is working diligently to build Series 7 compatibility with a growing list of structures and components to ensure they are optimized for form, function, and cost.



The Series 7 FT1 module builds upon the advantages of the Series 6 family of products and leverages over 20 years of product design experience to create an optimized product that delivers improved efficiency and unmatched lifetime energy performance.



Innovative Design, Optimized Function.

Larger Form Factor = More Watts per Install Operation

With a proprietary manufacturing process and CdTe technology, First Solar's Series 7 PV modules are not constrained by industry-standard cell or wafer sizes. Combined with the added strength of galvanized steel back rails, we are able to increase module size to optimize form and function while maximizing watts per install operation.

This increased size comes without fear of power loss from cell cracking or other performance-related issues prevalent in crystalline silicon modules.






Unique Back Rail Mounting Design.

Series 7 *FT1* modules incorporate galvanized steel back rails with built-in rivet nuts. This novel design enables the elimination of mid- and end-clamps, and requires only four bolts and flat washers to mount each module.

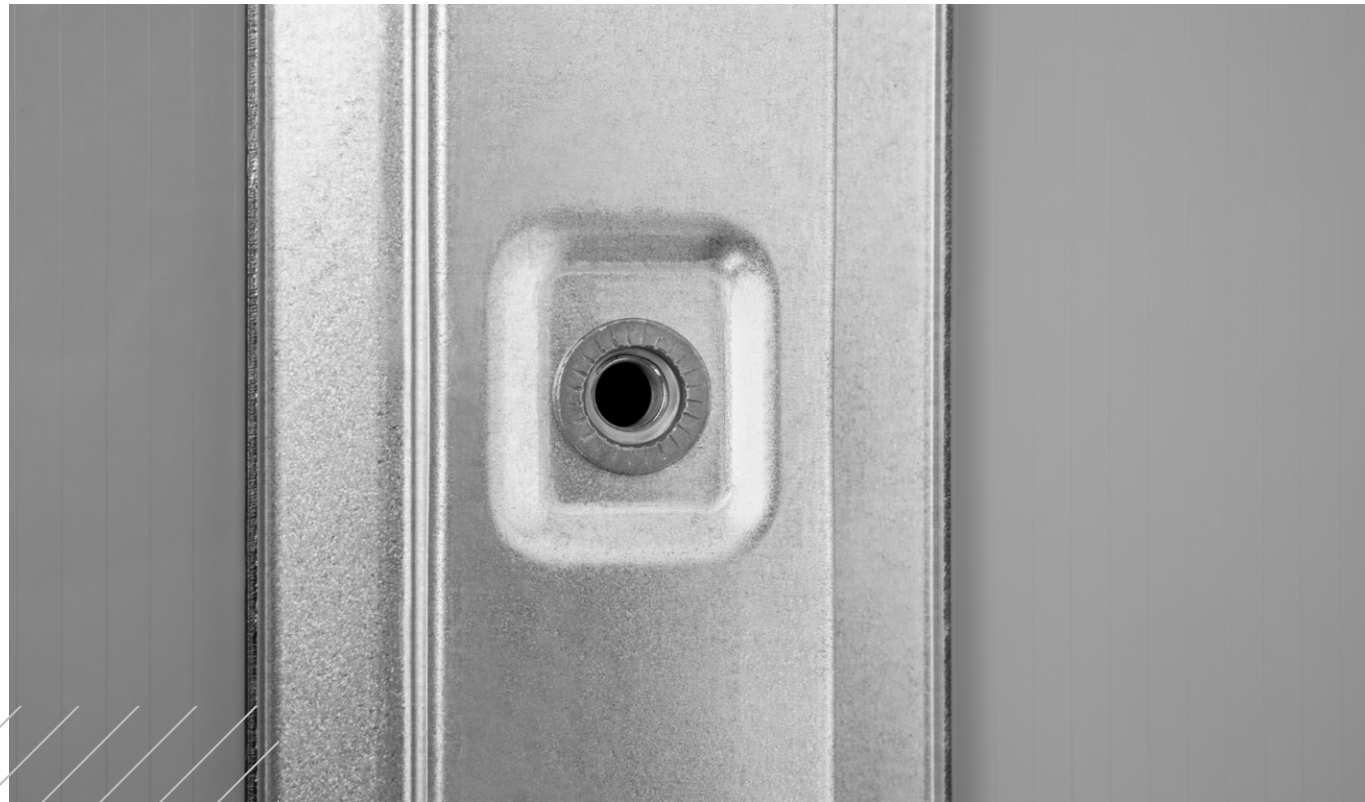
First Solar's engineers continuously work with ecosystem partners and the Series 7 platform to bring digitization and automation that will further reduce BOS and installation costs.





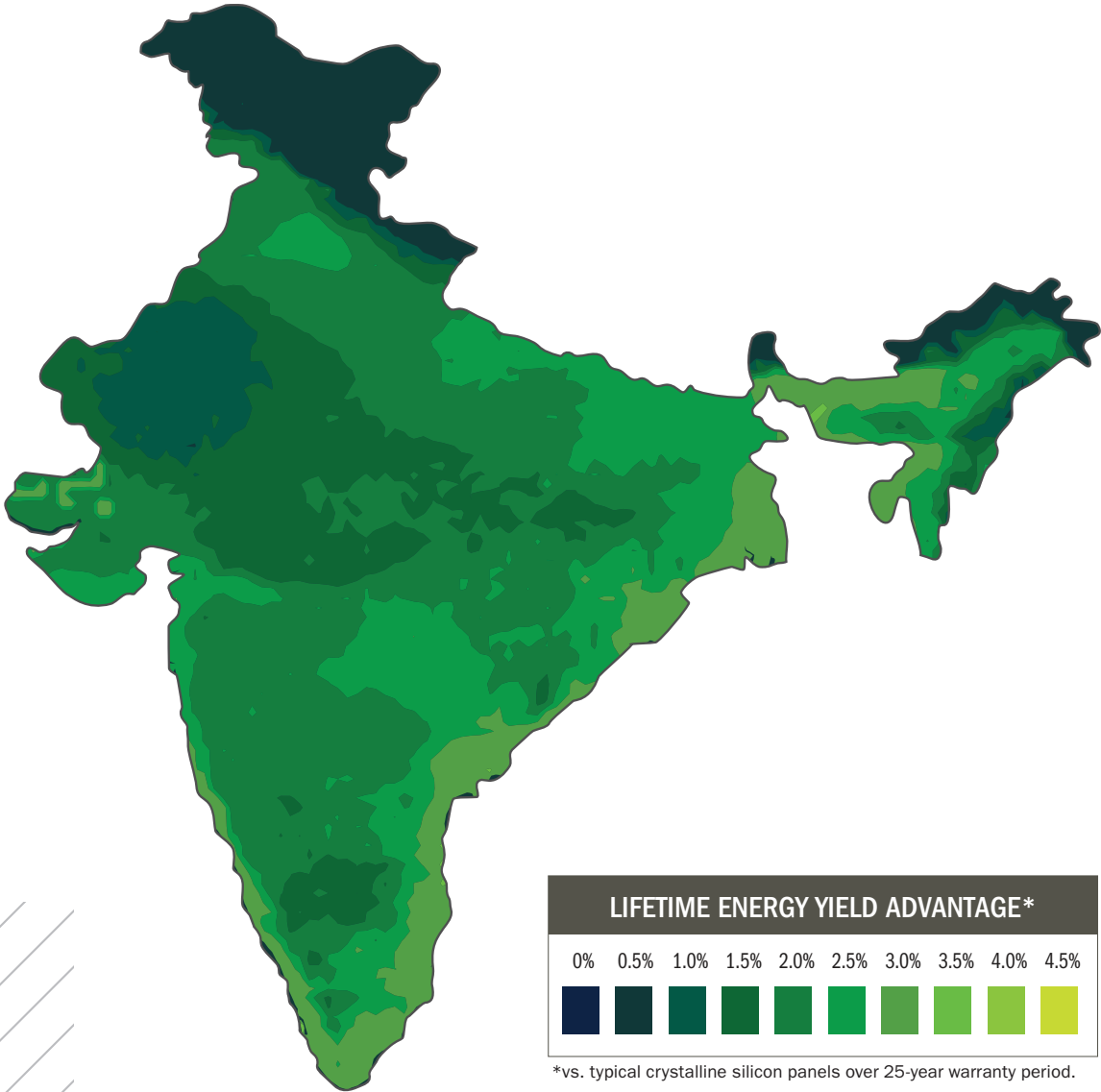
Utilizing galvanized steel rails instead of aluminum frames allows for larger form factors with added strength and rigidity, and a higher percentage of domestically-sourced materials.

Series 7 *TR1* does not include a sunny-side frame that can trap dirt and pooled water, so this innovative design also improves energy performance through reduced soiling and natural rain runoff.



More Lifetime Energy per Nameplate Watt.

Series 7 FT1 modules feature the industry's best 0.3% warranty-backed annual degradation rate. This ensures they will retain at least 90% of their original performance over their 25-year warranty period, compared to approximately 87% for typical crystalline silicon modules.



*vs. typical crystalline silicon panels over 25-year warranty period.

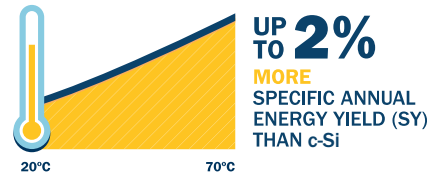
Superior Temperature Coefficient & Spectral Response

Series 7 FT1 modules feature an exceptional temperature coefficient of $-0.32\%/^{\circ}\text{C}$. In hot climates, that means they can produce up to 2% more annual energy compared to c-Si panels. In humid climates, the modules are less sensitive to the reductions of specific wavelengths of available light. The result? Superior spectral response and up to 4% more annual energy in high humidity conditions compared to c-Si panels.

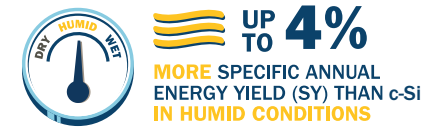
Superior Shading Response

A distinct cell design renders Series 7 FT1 modules less sensitive to power loss from row-to-row and other shading conditions. When standard c-Si panels are exposed to shading, disproportionately large sections of the panels (both shaded and non-shaded) shut off due to their electrical design. In Series 7 FT1 modules, only the shaded area is impacted.

SUPERIOR TEMPERATURE COEFFICIENT



BETTER SPECTRAL RESPONSE



BETTER SHADING RESPONSE



REDUCED SOILING & BETTER SNOW-SHEDDING



Inherent Immunity to Cell-Cracking, LID and LeTID

Hidden damage from installation and other high-wind events can cause power loss from cell cracks in c-Si panels that can get progressively worse over time.

First Solar's thin film modules utilize a semi-conductor that is just a few microns thick, which conforms to substrate surfaces and does not fracture under stress or impact. Unlike c-Si modules, this unique property of First Solar's thin film technology makes them inherently immune to cell cracking. This is backed by the industry's first and only product warranty that specifically covers power loss from cell cracking when the module glass is intact. Plus, our advanced thin-film technology has inherent immunity to Light Induced Degradation (LID) and Light and Elevated Temperature Induced Degradation (LeTID) failure modes that affect c-Si modules.

These important differences provide First Solar customers with added peace of mind, lower financial risk exposure and enhanced insurance risk profiles - especially for projects in regions prone to extreme weather.

Industry-Leading Long-Term Reliability ●

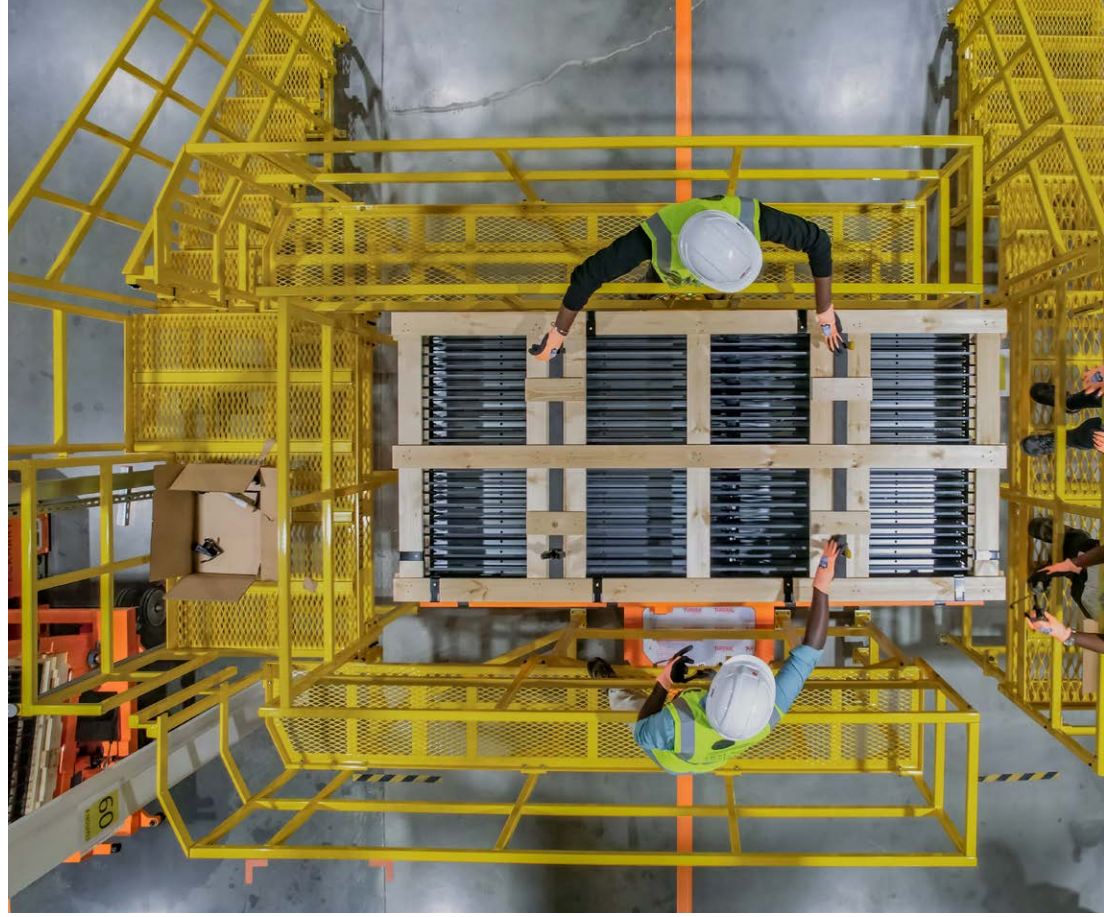
First Solar's manufacturing architecture is controlled by a single set of global specifications for Bill of Materials (BoM) components. A highly automated manufacturing process with in-line metrology produces 100 percent of our modules, end-to-end, under one roof. The outcome is a tightly controlled, consistently manufactured, high-quality product.

100% Traceable QA/QC Program

First Solar's Product Reliability Monitoring program sets the benchmark for quality and reliability and Series 7 *FT1* modules follow the same thorough testing as the Series 6 family of modules. As part of the program, random module samples are pulled from each factory and are subject to a full range of extended durability tests, including Thermal Cycling, Humidity-Freeze Open Circuit, Damp Heat, Long Sequential testing, and more. Series 7 *FT1* is tested and certified to IEC standards and beyond to deliver reliable lifetime performance.









Made in India, for India.

Series 7 FT1 modules are designed specifically for India's ground-mount PV market. They are manufactured at First Solar's newest and most advanced global factory, located in Tamil Nadu, India. This new factory accelerates delivery times for domestic projects and utilizes a responsibly managed supply chain that is not dependent on silicon - virtually eliminating the risks of forced labor and supply chain interruptions. Plus, First Solar's Series 7 FT1 modules are ALMM enlisted, DRC eligible, and BIS compliant.

A Differentiated Solar Technology

For 25 years, First Solar has been committed to delivering a high quality, responsibly-produced solar product to a global marketplace. First Solar's thin film PV solar technology is developed and designed in the USA, with about \$2 billion in cumulative R&D investment.

First Solar's vertically-integrated manufacturing process is able to transform a sheet of glass into a fully functional PV module in about four hours. In contrast, most c-Si panels manufactured in China take several days across several locations to produce their panels using conventional ingot, wafer, cell and module processes.





Responsible Solar for More Peace of Mind.

From raw material sourcing and manufacturing through end-of-life module recycling, First Solar's approach to technology embodies sustainability and a responsibility towards people and the planet. This is why First Solar has a long history of establishing benchmarks in recycling, responsible supply chain management, transparency, and the carbon and water footprint of its technology.

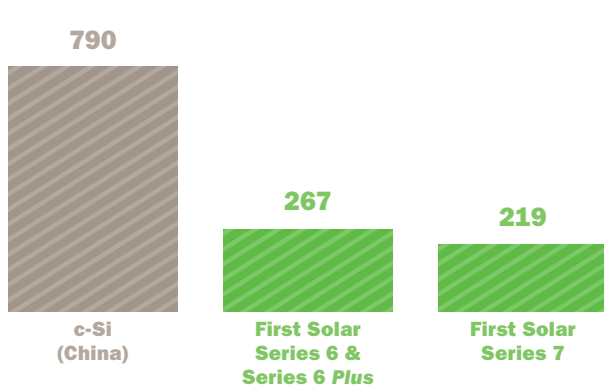
Lowest Environmental Footprint in the Industry

Due to our resource-efficient manufacturing process, First Solar modules have the lowest carbon and water footprint and fastest energy payback time in the industry. Our Series 7 modules have an even lower environmental footprint with a carbon and water footprint that is nearly 4X lower than conventional crystalline silicon panels manufactured in China and an energy payback time that is approximately 5X faster.



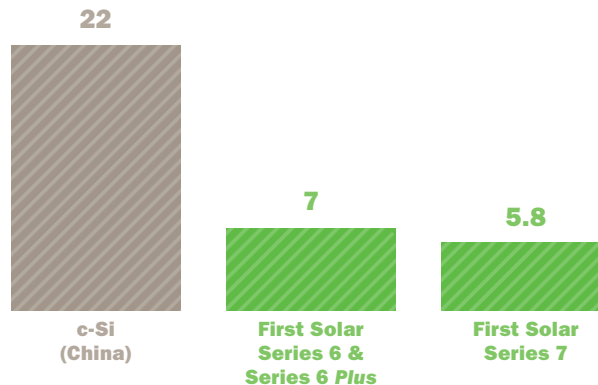
LOWEST CARBON FOOTPRINT

(gCO_{2eq}/Wp)



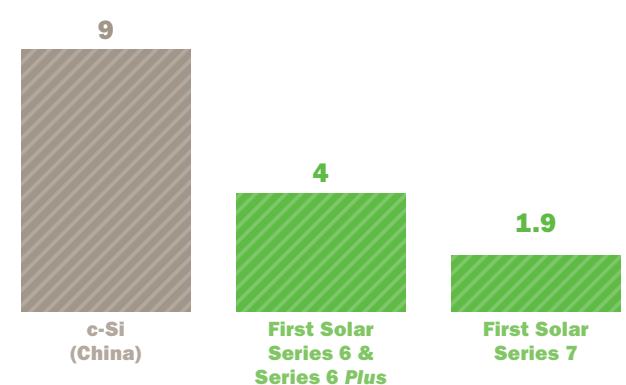
LOWEST WATER FOOTPRINT

(Liters/Wp)



FASTEST ENERGY PAYBACK TIME

(Months)



Responsible Sourcing with Zero Tolerance for Forced Labor

Since allegations of forced labor in the Chinese solar supply chain emerged in 2020, customers increasingly value our comprehensive approach to responsible sourcing and supply chain due diligence. Our integrated manufacturing process and tightly controlled supply chain helps eliminate risks associated with outsourcing and the multiple supply tiers of conventional crystalline silicon solar manufacturing.

First Solar's supply chain sets the benchmark for responsible sourcing. It is the only one of the world's 10 largest solar manufacturers to be a member of the Responsible Business Alliance (RBA), the world's largest industry coalition dedicated to supporting the rights and well-being of workers and communities in the global supply chain.



High-Value Recycling Services

First Solar has a unique and long-standing leadership position in PV recycling as the only solar manufacturer with global in-house PV recycling capabilities and experience operating high-value PV recycling facilities on a worldwide and industrial scale going back to 2007.

Our proven recycling process achieves high reuse rates of more than 90 percent of glass and allows for closed-loop semiconductor recovery for use in new modules.

First Solar is Your Proven Energy Partner. ●

Founded in 1999, First Solar is a leading American solar technology company and global provider of responsibly produced eco-efficient solar modules advancing the fight against climate change. First Solar is unique among the world's ten largest solar manufacturers for being the only US-headquartered company and for having no manufacturing footprint in China.

First Solar's Series 7 *FT1* thin film PV modules represent the next generation of solar technologies, providing a competitive, high-performance, lower-carbon alternative to conventional crystalline silicon PV panels.

Let's Connect

Contact us to see how First Solar Series 7 *FT1* modules can deliver more return on your energy investment.

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LEADING THE WORLD'S
SUSTAINABLE ENERGY FUTURE



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