

# First Solar Update

Bill Huber  
Head, Advanced Research

October 20<sup>th</sup>, 2022



LEADING THE WORLD'S  
SUSTAINABLE ENERGY FUTURE





## First Solar: Today

- Western Hemisphere's largest solar manufacturer.
- Differentiated thin film technology designed and developed in America.
- Higher lifetime energy, with lower levelized cost of electricity (LCOE).
- Financially stable with industry leading bankability.
- Lowest carbon PV technology and lowest life cycle environmental footprint.

# Series 6 Plus & New Series 7 Modules

## Series 6 Plus.



Aluminum under-mount frame

**3.3GW ramping to >10GW annual US manufacturing capacity by 2025**

**Responsible solar manufacturing using fair labor practices**

**Market-leading Sustainability and cradle-to-cradle recycling**

**Same proven thin-film CdTe semiconductor with industry-leading warranted degradation rate (0.3%/yr)**

**40+ Year Useful Design life (Series 6 DNV Class A Durability)**

## Series 7 TR1.



Dual steel back-rails  
Taller module optimized for Tracker applications

# US Manufacturing

Main Campus: PGT1  
(Perrysburg, OH – Series 6)



2019: PGT2  
(Series 6)



Coming in 2023:  
PGT3 (Series 7)



The New York Times

**First Solar says it will spend up to \$1.2 billion to expand U.S. production.**

The solar panel maker will build a factory in the Southeast and expand three Ohio plants, creating nearly 1,000 jobs.

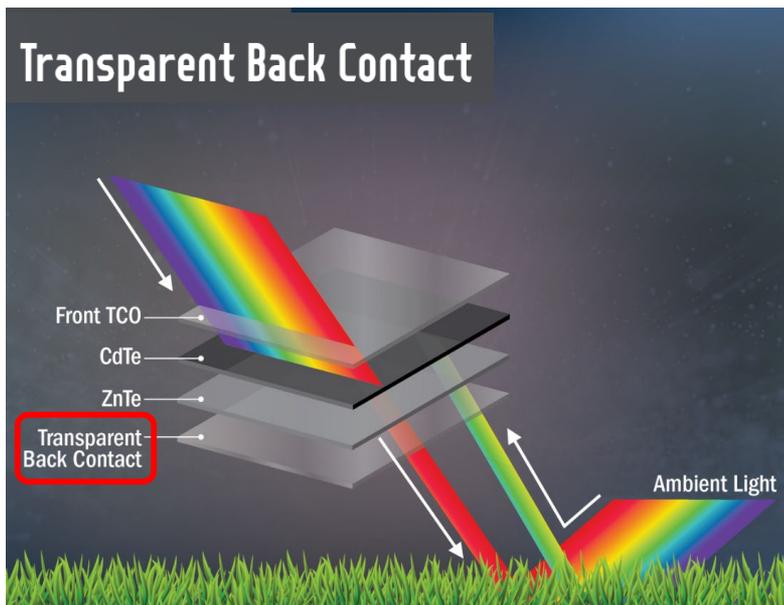
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- >10 GW/year of US Mfg. by 2026
- >21 GW/year globally.

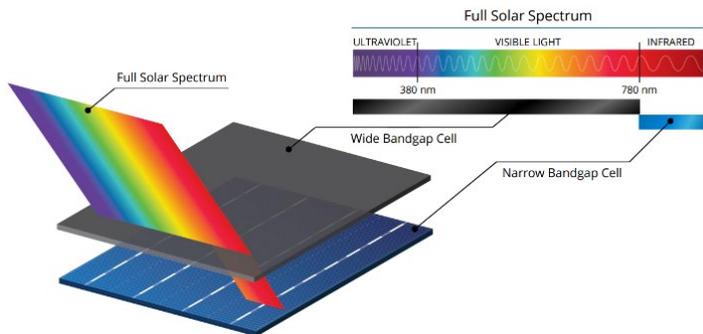
# Coming Soon! Bifacial CdTe



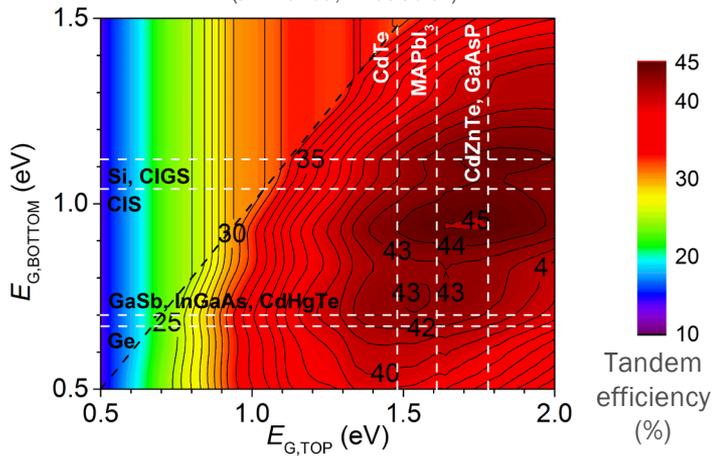
- Key Enabler: Transparent Back Contact @ ~theoretical entitlement
- Roadmap to improved bifaciality.



# CdTe Tandems



(JP Mailoa, First Solar)



# Needs from CdTe Community

1. Passivated back contact.
  - Improve efficiency.
  - Improve bifaciality.
  - Reduce CdTe thickness.
2. Higher throughput metrology/characterization of interface quality.
3. Novel device architectures.



# One more thing...

- We're hiring!!!
  - [www.firstsolar.com/careers](http://www.firstsolar.com/careers)
- New equipment / space.





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# First Solar Across the Globe

