Solar Panel with Heatsink

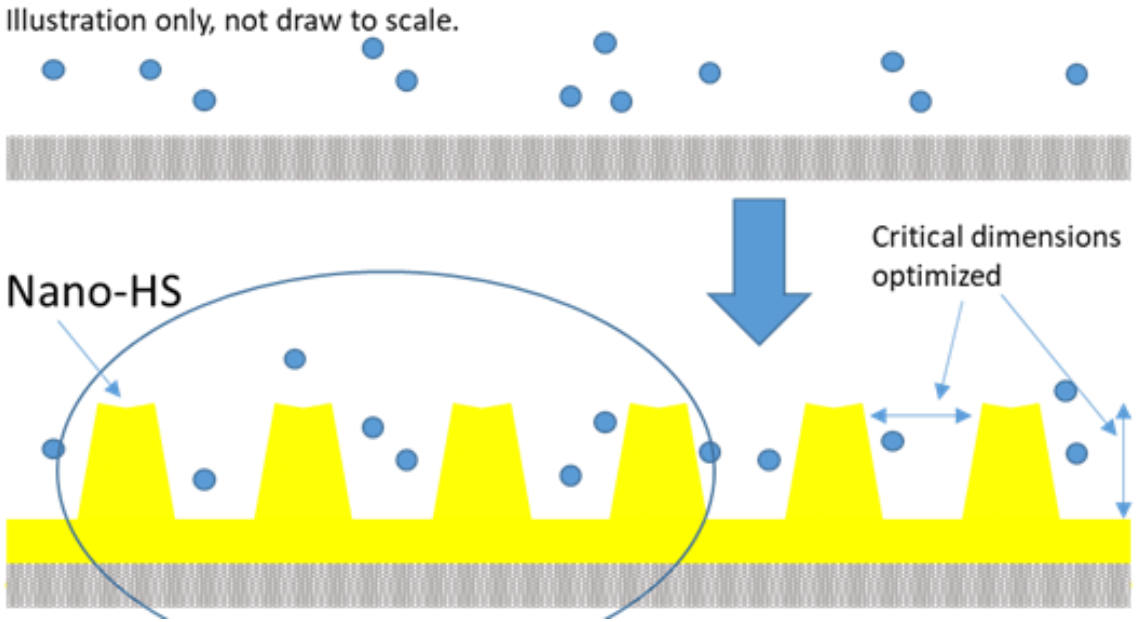
Team: Cool Tech Solar,
American Made Network Partner:

HELIENE PHOTOVOLTAIC MODULES IBT Service

NREL NATIONAL RENEWABLE ENERGY LABORATORY

Goal: The levelized cost of energy (LCOE) of solar needs to be reduced by another 50% by 2030.

Problem/Challenge: Solar panel temperature raise lowers electricity production and reduce service lifetime, both lowers LCOE.



Solution *– Solar panel with heatsink on backsheet, help to reduce LCOE by:*

1. *Increases surface area for heat dissipation*
2. *Reduce peak temperature -> Increases CE*
3. *Reduce peak temperature -> Extends lifetime of the solar panel*
4. *Added protection -> Extends lifetime of the solar panel*

=> reduce LCOE

Team *–*

- *An experienced R&D team with both academia researchers, national laboratory partners, industrial partners and manufacturer.*
- *America made network connectors partner with us for materials development and characterizations.*
- *Enthusiastic team members from three different generations*
- *Team members with excellent innovation and industrial implementation record, including: Univ. Profs, Fellow IEEE and Fellow of National Academy of Inventors.*

Set: Optimize and fabricate solar panel module prototype and compare to conventional solar panel to demonstrate Nano-HS solution

- *Build prototype solar panel module*
- *Complete backsheet with heatsink materials/reliability/lifetime tests*

Go: Produce solar pane with Nano-HS using manufacture pilot line, i.e. demonstrate a manufacturable process to enable adoption of Nano-HS for existing solar panel.

- *Complete process development for manufacture*
- *Continue optimize Nano-HS materials, including improve backsheet*
- *Produce solar panel through joint development with manufacture partners*

Original inset baseline image credit: Trina Solar