

# Optimizing Solar Energy Output with Multi-Layer Thermal Protection for Panels and Frames

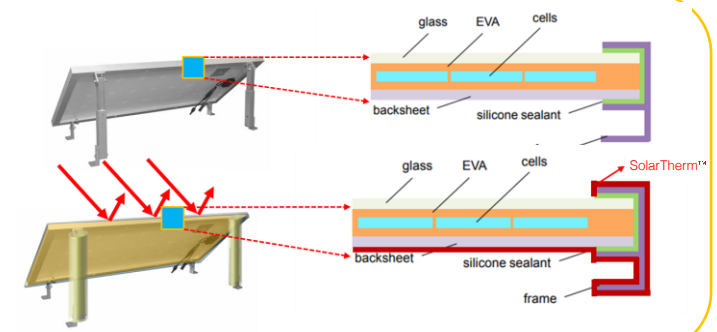
A Novel Three-Layer Coating System to Reduce Heat Buildup and Maximize Solar Module Efficiency

### Problem:

- Solar panels **efficiency drops** by 0.5% for every 1°C temperature increase, leading to up to 25% energy loss in hot regions.
- Existing cooling solutions are **expensive** and focus on airflow rather than addressing the root heat buildup in panels and mounting frames.

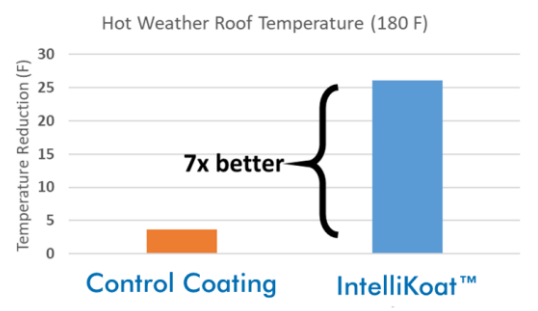
### Solution: SolarTherm™ System

- Thermal Coating for Solar Panels & Frames:** Reduces operating temperature by 15-20°C, increasing solar efficiency by 5-7%.
- Cost-Effective & Scalable:** Easily applied to any installation type (residential, commercial, solar farms) without infrastructure change.
- Extended Longevity:** Reduces heat stress, enhancing panel and mounting frame durability.



### Key Accomplishments:

**Validated by NSF & NREL:** EnKoat's 2-Layer IntelliKoat™ coating system reduced energy costs by 30%, extended roof life. NREL testing shows this 2-Layer coating system is 7x better than the leading competitor at reducing high temperatures.



### Market Impact:

**Applicable to All Installations:** Rooftop solar, commercial solar farms, residential systems.  
**Target Market:** Global solar industry focusing on hot and arid regions where efficiency drops are more pronounced.  
**Sustainability Impact:** Improves energy output, reduces costs, and supports clean energy goals without new infrastructure.

### Team Expertise:

**Dr. Matthew J. Aguayo (CEO) & Dr. Aashay Arora (CTO)** experts in advanced materials and energy efficiency, leading NSF-funded projects, and scaling thermal technologies.

