# Team Cool Power boosts PV output 10%

Problem: PV modules heat up reducing power output

- Sunlight heats up PV modules causing a voltage drop that reduces the power produced

- NOCT--normal operating cell temperature for PV is 45 C; PV manufacturers assume ~25 C of heating

- Cooling a module by 25 C boosts PV output by ~10%

- Heat energy captured by cooling fluid is greater than the total electrical power

Solution: Cool Power device cools PV modules by 25 C, increasing PV output

Conceptual Sketch
Cool Power Device(s)
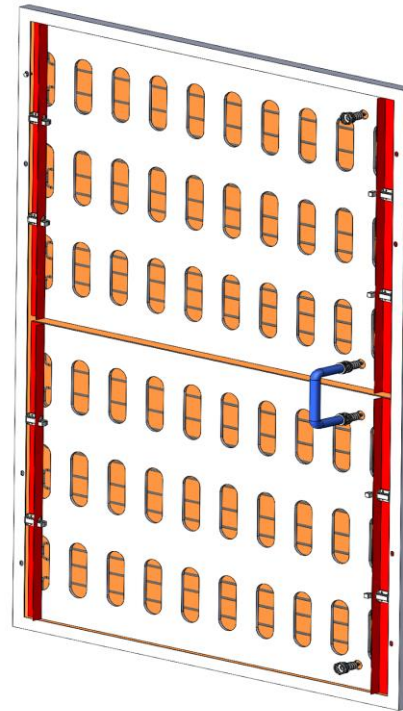
- Maximize heat transfer—with high surface area & high fluid/mass flowrate

- Lightweight and low cost; no metal in heat exchanger

- Device "clips on" to back of PV module frame

- 2 device per PV module version shown—for easy handling & fast installation

- Not shown in sketch: cut-out section for junction box