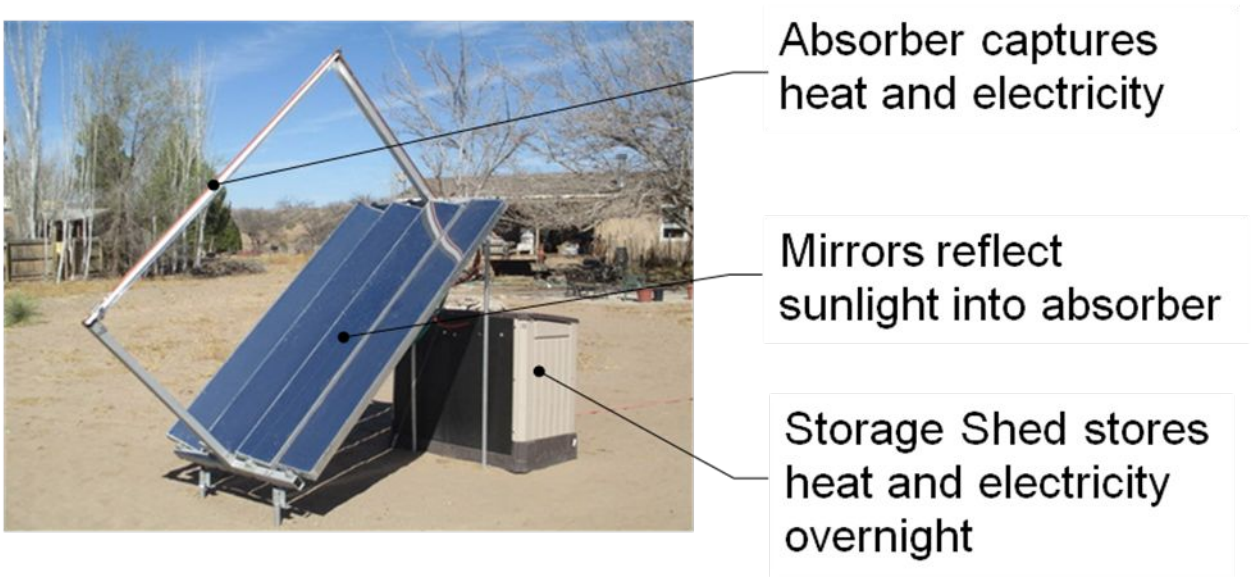
Focused Sun Hybrid

To better address the promise of a hybrid solar panel, Focused Sun has developed a low-cost hybrid panel. Like other hybrids, it uses mirrors to reflect sunlight into its absorber. Bonded to the absorber are photovoltaic cells that convert solar energy to electricity. Coolant pumped though the absorber cools the cells so they operate more efficiently.

Each module comes with a “storage shed” that stores heat and electricity for when the sun isn’t shining. Electricity is stored in batteries in the shed and heat is stored in an insulated water tank. A small computer, called a micro-controller, tracks the sun as it changes position through the day. At night or in bad weather, the mirrors are protected by rotating them to face down.



Like other hybrids, our hybrid captures nearly 75% of the sun’s energy. As in a flat plate PV system, a quarter of this energy is electricity. Unlike flat plate PV, three quarters of it the captured energy is heat. Instead of throwing away most of the sun’s energy, it is captured. In many cases, its captured heat is as valuable as its electricity.

The module faces south and its mirrors are tilted at an angle equal to the latitude of the installation. While this orientation and tilt collects the most energy, other orientations from east facing to west facing can still capture the bulk of the sun’s energy.

This installation above is a ground mount where the collector and its shed and installed at grade level. However, the panel is light enough at 3 pounds per square foot (15 Kgf/m^2) to mount on a roof.