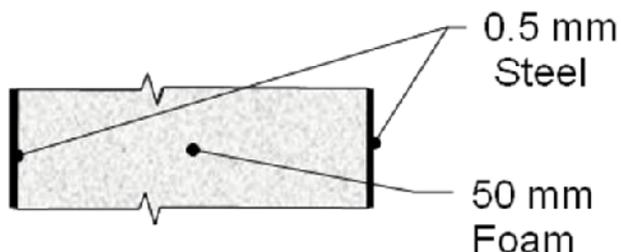


The Best Solar Panel

A low cost hybrid combines a low BOM (Bill of Materials) cost with high annual savings. These give a payback of half that of flat plate PV, the market share leader.

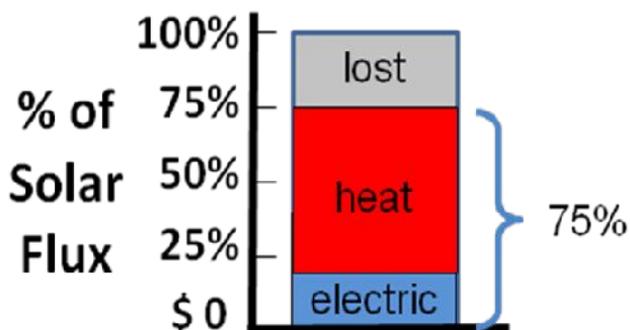
But is this the best solar panel? What limits how good a solar panel can be?

First, the Focused Sun hybrid uses sandwich fabrication, the most efficient structure. Improved sandwich fabrication is possible. Better adhesives, thinner face sheets or a cheaper core could reduce costs, but not by much. While it's possible to squeeze more costs out of a structure, any improvements are likely small ones.



Sandwich fabrication, the most efficient structure, gives the lowest BOM cost

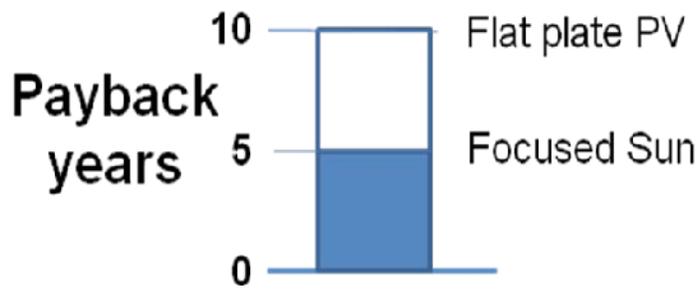
Second, hybrids capture 75% of the sun's energy. Since the sun's energy flow is fixed, any improvements must capture a higher percent of the sun's energy. Energy loss in a hybrid is about 25%. To get more savings, those energy losses must be reduced. For example, better insulation of the absorber could prevent some heat loss. But better insulation costs more, it increases the BOM costs. The trade-off between better insulation and less heat loss says that improvements will be slight.



Hybrid panels capture the most solar energy

What about higher efficiency PV cells? Results from the National Laboratory for Renewable Energy (NREL) shows that higher efficiency PV is on its way. But even if these new cells cost the same as current PV cells, it only changes the mix of electricity to heat not the amount of energy collected.

The most economic solar panels are those with the lowest costs and highest savings. A Focused Sun hybrid uses sandwich fabrication giving it a very low cost. As a hybrid, it has close to the highest annual savings by capturing both heat and electricity from the sun. Low cost plus high savings give the best solar panel available.



The best solar panel has the lowest costs together with the highest savings