

Solar Concentrators

There are a lot of ways to use the sun! Solar panels are a staple in solarpunk artwork, but when your goal is to make heat or light, converting sunlight to electricity and back again actually wastes a lot of the energy. Here are a few low(ish) tech alternatives that might be a better fit for the circumstances in your story or artwork:

Reflectors

- ******https://solarcooking.fandom.com/wiki/Category:Solar_cooker_plans - there are a ton of ways to cook with sunlight, there's a vibrant DIY community and hundreds of designs to fit almost any circumstance, requirement, or starting materials.
 - Two interesting variants to call out: there are some designs that allow for fairly traditional ovens (most of these are more of a replacement for a camping stove than a kitchen oven, but even that can be done: [This system](#) appears to use a series of reflective troughs on the roof to heat a transfer fluid running through a tube and conveys that down to a fairly traditional convection oven. While a [Scheffler reflector](#) is a huge mirrored dish positioned outside a building to [bounce light through a hole in a wall into an oven](#).

solar furnaces solar steam power solar steam generation

Lenses

[Fresnel Lenses](#) are a type of large, flat lens designed to focus light. They use a circular pattern of cuts which simulate the surface angles of a much thicker lens while remaining quite thin. This allows for a huge surface area and very low mass, making them very useful in everything from light houses to rear-projection televisions. There are a variety of interesting projects built around these lenses:

- [A 3D printer for sintering sand into glass objects](#)
- [A solar rig for smelting zinc or aluminum](#)
- It seems likely that these could be used for solar forging, glassblowing, or perhaps even CNC sheetmetal cutting with enough focus to narrow the kerf and reduce warp. There are a variety of videos online of people using fresnel lenses from a rear-projection TV to burn through steel skillsaw blades and to melt sand into glass cabochons.

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