

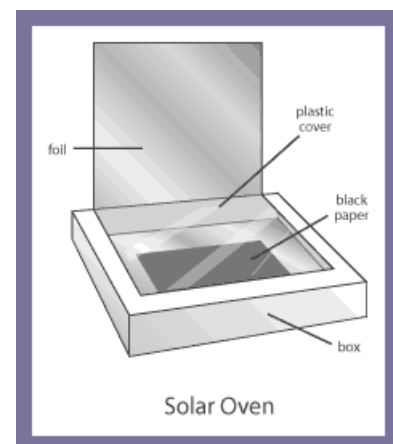
Solar Cooking - Background Information

Solar Power

There are two types of solar power;

- Photovoltaic solar power: the energy created by converting solar power into electricity using photovoltaic solar cells (solar panels)
- Solar thermal energy, or direct solar power: the energy created by converting solar energy into heat.

Solar cooking does not require any electricity but uses solar thermal energy to cook the food. This means that you can use a solar oven anywhere that has lots of sun.



Solar Cookers

Solar cookers are used around the world to cook food and pasteurize water for safe drinking. They use a free, renewable energy source and do not pollute the environment. Solar cookers are particularly useful when other sources of fuel are unavailable or to prevent the use of fossil fuels.

There are different types and variations of solar cookers but the basic principles of all solar cookers are:

1. **Concentrating sunlight:** Foil, mirrors, or reflective metal, is used to reflect the sunlight so that it is concentrated and the energy is stronger.
2. **Converting light to heat:** Parts of the inside of the cooker are colored black. Black surfaces absorb and retain heat, which is important for keeping the cooker hot.
3. **Trapping heat:** Isolating the air inside the cooker from the air outside the cooker makes an important difference. A plastic cover creates a greenhouse effect within the oven to make sure that the heat is allowed in but can't escape out.

The Environmental Benefits of Solar Cooking

Solar cookers prevent deforestation.

Cooking is the main source of demand for wood fuel worldwide, and can be a major cause of deforestation. Deforestation contributes to climate change, floods and soil erosion, increasing environmental degradation, and increasing poverty and hunger. Each solar cooker in sunny, arid climates can save one ton of wood per year. With solar cookers families often reduce fuel wood needs by half.

Solar cookers prevent pollution.

Burning fuels such as wood and gas pollutes the air and contributes to climate change. Solar cookers provide a pollution-free alternative. Cooking and heating on open fires or stoves without chimneys leads to indoor air pollution. Every year, indoor air pollution is responsible for the death of 1.6 million people. 56% of all indoor air pollution-attributable deaths occur in children under five years of age.

Check out this interesting presentation about the benefits of solar cooking and different solar cooking designs. (The intent of the presentation is to advocate for solar cooking in the developing world.)

<https://www.youtube.com/watch?v=xI5q7WN4kRg>