

Renewable Energy: Make a Solar Cooker!

A one-year field test in South Africa revealed that using a solar stove, an average family can save 30 litres of kerosene, 30 kg of LPG and about 1 tonne of firewood per year, which comes to an estimated 1 tonne of carbon dioxide reduction annually.

This startling statistic, when combined with the fact that we receive 10-15,000 times more solar energy on the Earth than we use, opens up amazing possibilities for the use of the sun's energy to meet our needs.

Today, fuel wood accounts for almost a fifth of the world's primary energy consumption. Each year about 2 billion tonnes of wood are burnt mainly for cooking purposes. Yet, today, we are facing a crisis with our fast diminishing forest cover and a fuel wood shortage for more than 2 billion people around the world.

Why Solar Cooking?

Apart from the obvious advantages of time and money saved, solar cooking produces no smoke, and thus no pollution. It does not release greenhouse gases like burning of other types of fuel does.

It cooks healthy food with minimal oil. It eliminates risks like fire and burns. Best of all, it uses a renewable energy source that can be freely harnessed by almost anyone using basic equipment.

It also has the potential to create a new industry with jobs for local communities.

A Simple Solar Oven

You can make a solar cooker quite easily at home. This one will work in any season as long as the sun is out.

You need: Two Styrofoam cups, 30 x 30 cm aluminum foil, piece of construction paper, glue, black poster paint, elastic band, plastic cling wrap, and a big chunk of Styrofoam or a cardboard box packed with dirt to insulate the cooker.

1. Paint the inside of one of the Styrofoam cups with black poster paint. This will be the cooking chamber, and the black paint will absorb sunlight and cause it to warm up. Add the food to the bottom of the cup. Chop it into small pieces. Vegetables and fruit work best. Don't attempt to cook meat in the solar cooker.
2. Cover the cup with cling wrap, and pull it tight; hold it in place with an elastic band around the rim of the cup.

3. Use the aluminum foil to collect sunlight. In order to stiffen it, tape or glue it to a piece of construction paper. Make sure the shiny side is up, and try to avoid getting any wrinkles in it. Then wrap it around your cup, so that the foil faces inwards, and fasten with tape. Trim the top edge.
4. Put this inside a second cup, to hold the tube securely in place, and to provide a little more insulation for your oven.
5. Now put your 'oven' into an insulator-you could use a Styrofoam chunk with a hole cut out the size of the cup or a box filled with dirt. The idea is to use something that will keep the heat in. You could also bury it in the ground if the weather is not cold. Make sure the collector foil is unwrinkled and pointing at the sun.

Now sit back and be amazed at how hot the cooking chamber gets!