HOW TO COOK
WITH SOLAR ENERGY

GETTING STARTED

- **Start early, plan ahead**
  On a Sunny day two meals can be solar cooked: Start cooking by 9 in the morning for a noon meal. And at noon for an evening meal. It takes you just two minutes one to put the food out to cook, and one to bring it in after it is cooked.

- **Find a place outdoors that will get several hours of sunlight** and protected from strong wind.

- With the cooking shiny side up, pull the two side “arms” forward to fit into slots in front. If windy, put large rocks behind the sides and under the front flap.

- Put the food in the pot, the lid on the pot on a pot holder and the whole lot into a transparent plastic (PP/PE) bag.

- Put in the centre of the cookit. Close the bag with a telephone wire string or tuck the open end of the bag under the pot holder, so there is just a little air inside the bag around the pot.

- Adjust the front flap so there is a small shadow under it (low when the sun is low, higher when the sun is high).

- Now the food will cook with no further attention. It is OK to quickly check the food once, but it won’t burn or need stirring.
HOW DO SOLAR COOKERS WORKS?

1. SUNLIGHT is the fuel.
   A solar cooker needs an outdoor spot that is sunny for several hours. Solar cookers don’t work at night or if the day is cloudy.

2. DARK SURFACES get very hot in sunlight.
   Food cooks best in black pots with tight lids to capture the heat.

3. A TRANSPARENT HEAT TRAP
   Around the dark pot lets in the sunlight, then holds in the heat. This is a plastic bag or large glass bowl (cookit) or an insulated box with a window (box cooker).

4. SHINY REFLECTORS
   Capture extra sunlight from an area three times as big as the pot.

SOLAR COOKERS: WORK TEMPERATURE

IDEAL FOR COOKING, NOT BURNING FOOD
People have cooked with fire for millennia, a process which requires them to watch and stir food to protect it from burning and sticking to the pot.

FOOD SAFETY
Germs, viruses and parasites that cause illness are killed at 65°C (149°F). This is called pasteurisation. Food cooks at 80-90°C (180-195°F), so when it is fully cooked it is also free of disease-causing organisms. Most solar cookers have gentle cooking temperatures just above this, so foods keep more of their flavour, moisture, and nutrients, and rarely burn or get overdone. Cooking gently for many hours makes meats especially tender.

Soon after food is put into the solar cooker in the sun, temperatures quickly rise past 49°C (120°F), making the pot uncomfortably hot to touch and preventing the growth of existing germs.

ITC HOTELS
RESPONSIBLE LUXURY
## Cooking Speed Factors

<table>
<thead>
<tr>
<th>Faster</th>
<th>Slower</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Sun" /> High in the sky</td>
<td><img src="#" alt="Sun" /> Low</td>
</tr>
<tr>
<td><strong>1. The Sun</strong></td>
<td>To cook under these conditions you may need to preheat food over a fire or stove before putting it into a solar cooker or partly cooking it in the cookit and quickly finishing it over a fire.</td>
</tr>
<tr>
<td><img src="#" alt="Sun" /> Strong Sunlight</td>
<td><img src="#" alt="Cloud" /> Cloudy and windy</td>
</tr>
<tr>
<td><strong>2. Weather</strong></td>
<td><strong>3. Pots</strong></td>
</tr>
<tr>
<td>With black lids and small thin walls</td>
<td>White or shiny, large thick walls</td>
</tr>
<tr>
<td><img src="#" alt="Pots" /></td>
<td><strong>4. Food</strong></td>
</tr>
<tr>
<td><img src="#" alt="Small quantity" /> with small pieces and little or no water added</td>
<td><img src="#" alt="Large quantity" /> Large pieces and lots of water (e.g., soups, beverages)</td>
</tr>
</tbody>
</table>

As always, if any cooked food cools to room temperature for several hours it may spoil. After sunset in cloudy conditions food keeps hot for only a short while in the cookit, that is between one to two hours in the solar box. However, any cooked food that cools off and stays at room temperatures for four or more hours should be heated again to full cooking temperatures to prevent the possibility of food poisoning.

Measuring the air temperature inside the solar cooker with an oven thermometer gives only a rough measure of food temperatures. After an hour or more, temperatures inside the cooking pots are generally hotter than the air temperatures outside the pot. The pot lid is usually the hottest part.
Solar cooking allows great flexibility and extra cooking under this technique won't damage the food. With solar cooking, food seldom overcooks more so it does not require to be stirred. Food cooks fastest when the sun is highest (midday). Solar cookers do NOT work for breakfast, on cloudy days or for cooking after sunset.

The average cooking times for four pounds (two kilos) of food on a sunny day are shown above.