



Solar Thermal



Solar thermal technology is used for conversion of heat energy to produce electricity, to heat water for process heat, to cook food, drying fruits or vegetables and to clean water for rural / urban areas. Pakistan Council of Renewable Energy Technologies (PCRET) has been working in the field of Solar Thermal for more than 30 years. The organization has developed various Solar Thermal products through extensive R&D and absorption of latest technologies for provision of clean water, hygienic food and environment friendly cooking fuel. Some of these products are:

1. Solar Thermal Power plants for generating electricity,
2. Solar Water Heater for water heating,
3. Solar Cookers for cooking food,
4. Solar Dryers of fruits or vegetables,
5. Solar purifiers for clean water.

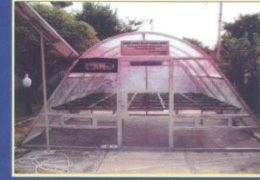
Solar Cooker

Cook food at the temperature varies from 150 - 300 °C.
Cooking time as per ordinary cooking.
Can Save 10 LPG cylinders or 3,5 Ton of fuel wood / year,
No recurring expenses on fuel,
Reduction of Deforestation.



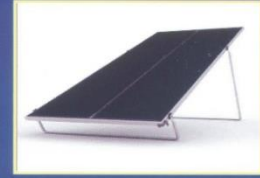
Solar Dryer

Solar dryers are use for drying fruits and vegetables,
It reduce loss of food during or after harvesting,
Clean way of preserving and drying food
Environmental friendly



Solar Water Purifier

Solar water purifier water with solar energy,
One sq-m area can give 4 - 5 liters / per day of clean water,
Inexpensive source of water



Solar Water Heater

Solar Water heater can heat water for process heat domestic and commercial use,
One sq-meter produce 100 per / d, Reduced energy bills,
Reduction in deforestation.



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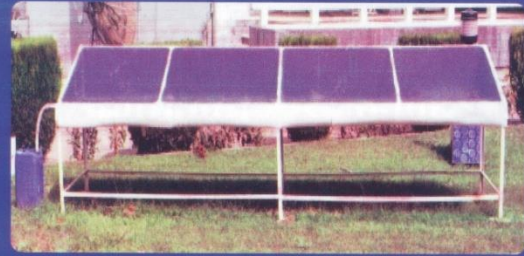


Solar Desalination

Clean Water with Solar Energy



Solar Desalination is a simple and low cost technology which produces clean and drinkable water from saline and contaminated water. The contaminated water pass through the desalinator and evaporated with solar radiation and clean water is collected at the output which is free of contamination and bacteria. The water then can be used for irrigation and drinking purposes. The shortage of clean and drinkable water is damaging health and socio-economic growth in remote areas of the country particularly among coastal belt of the country especially in Balochistan, Sindh and southern Punjab. Scarcity of water is seriously effecting the human life Underground water present is highly saline due to sodium chloride and other salts. Saline water is not only unsuitable for washing and cleaning but also causes many stomach diseases and hypertension.



Benefits

- Removal of salt and mineral (e.g., Na, Ca, As, Fl, Fe, Mn)
- Removal of Bacteria Parasites
- Removal of Heavy Metals Pb, Cd, Hg
- Removal of water borne diseases
- One square meter surface produces 4 liters clean water in winter and 6 Liters in summer
- Stills can effectively purify seawater and even raw sewage
- Natural bicarbonate buffering produces excellent taste compared to the boiled water

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Solar Dryer



Solar drying is a natural drying procedure for fruits, vegetables and crops in a controlled atmosphere with improved yield. It removes excess moisture from the product before its storage, so that their quality will not deteriorate during storage and insect infestation will be reduced. Similarly, large quantities of excess vegetable and fruits, now being wasted, could be solar dried in a controlled manner for use during off-season.

Type of Solar Dryers and capacity

- Solar Natural Dryer 10 - 20 kg
- Solar Dryer Cabinet Type 10 - 20 kg
- Solar Tunnel Dryer 100 - 150 kg
- Solar Green House Dryer 500 - 1000 kg
- Hybrid Solar Dryer (Glazed collector) 100 - 500 kg
- Hybrid Solar Dryer (Unglazed collector) 100 - 500 kg

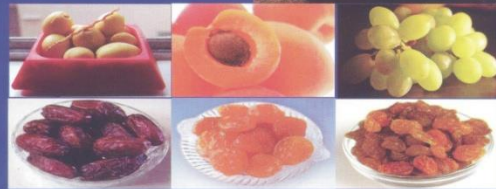
Drying of fruits and vegetables



First in Pakistan Solar Green House Dryer



First in Pakistan Solar Tunnel Dryer



Benefits

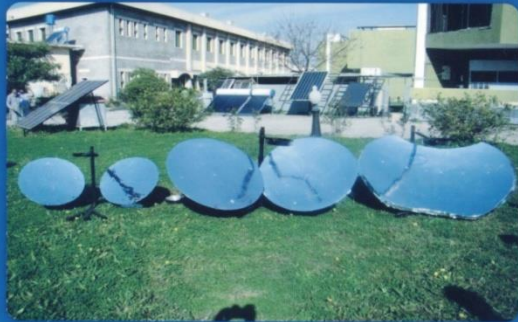
One sq-meter of solar dryer can dry 7 - 8 Kg fruits or vegetables, Products are dried in closed cabinet, therefore food is more hygienic, retain nutritional values and stored for longer time.

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Solar Cooker

Cooking solution
without conventional fuel



Solar cooker convert heat from solar energy to cook food. The temperature varies from 100 - 300°C can cook any type of food as compared to conventional cook stove. About 80% of the wood is consumed for cooking or heating purposes in developing countries and more than 2 billion people are facing scarcity of fuel wood. This device can save forest and environment

One family size cooker can save 10 LPG cylinder or 3.6 ton of fuel wood per annum,
No recurring expenses on fuel,
Device can reduce in deforestation,
Environment friendly.

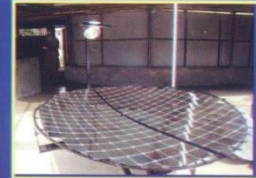
Double Dish Type Solar Cooker

Model : STCC-SP3F/17
Temp Range : 100-200 °C
For cooking all type of food
in sitting position



Single Dish Type Solar Cooker

Model : STC-IC-2.7M/18
Temp Range : 200-300 °C
For indoor / Outdoor Cooking



Box Type Solar Oven

Model : STBC-IC/17
Temp Range : 100-150 °C
For outdoor/indoor food
warming and baking



Evacuated tubes types Solar Cooker

Temp Range : 200-300°C
Portable cooker for picnic
and outdoor events



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