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# **Non Conventional Energy devices**

**By**

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# About Technology Futuristic

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Technology Futuristic is in the business of manufacturing, installation and commissioning of renewable energy systems for the last 15 years. Our works and office are in Kolkata, WB, geography of operation are in the state of West Bengal, Orissa, Bihar, Jharkhand and North-east states. We primarily execute EPC contracts for MNRE designated state nodal agencies like WBREDA, OREDA. Following are our area of operation:

- Solar Cooker: Community Cooking System, Butterfly Cookers, Box Cookers
- Solar Steam Generating System: Industrial application, Cooking
- Solar Lantern: CFL, LED, Street Lighting etc.
- Solar Pump
- Portable Bio-gas generator (methanogenic)

Brief profile of the promoters of the company:

**Soumitra De:** B.E. - Chemical Engineer. 25 Years experience in manufacturing of Electrical Switchgears and Ceramic Insulators, FRP etc. 15 Years experience in the field of renewable energy - Solar thermal systems, Biogas. Technical Advisor and valuer/surveyor of High Court- Kolkata, Govt. Undertakings, Banks etc.

**Subhasis Paul:** B-Tech, IIT KGP. Worked in software MNCs like PwC & IBM. 10years experienced in entrepreneurship, construction management and design. 5 years experience in the field of renewable energy - solar thermal, solar photo-voltaic.

**Amitabha De:** MSc Mathematics. Member - Royal Institute of Chartered Surveyor, U.K. Appraisal Institute, USA. 25 Years experience in manufacturing of Electrical Switchgears and Ceramic Insulators, FRP etc. 15 Years experience in the field of renewable energy - Solar thermal systems, Biogas. Technical Advisor and valuer/surveyor of Govt. Undertakings, Banks etc.

# Product – Solar Box Cooker



## Salient Features

- 8-leaves, foldable reflectors directs sunlight in the box
- Thermally insulated glass-top box traps the sunlight and heats the cooking pots
- 3 number cooking pots can be placed in the box
- Aluminum cooking pots are painted black for better heat absorption
- User friendly, easy to use, move and clean
- Sturdy design, safe to operate and durable
- Box Cookers typically reaches a temperature of 150° C
- Because the food does not reach too high a temperature, it can be safely left in the cooker all day without burning
- The cooker can be used to warm food or drink
- No movable part, no monitoring required while cooking
- Useful for urban and rural areas for family cooking
- The cooker takes 2 to 2½ hour to cook

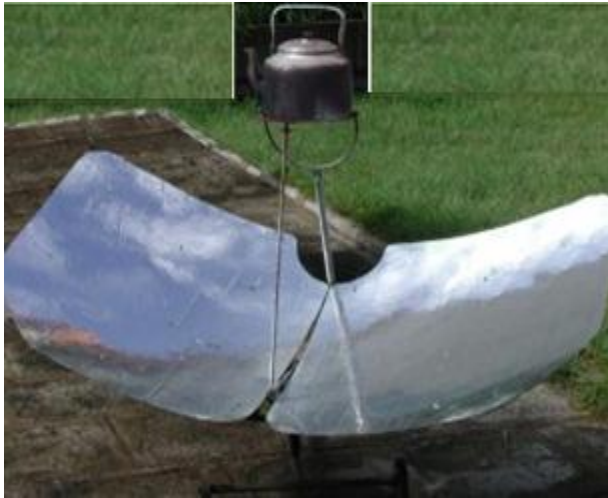


## Benefits

- Clean and reliable energy supply for daily cooking
- Eligible for Certified Emission Reduction (CER) credits
- Saves consumption of coal, wood or charcoal

# Product – Solar Butterfly Cooker

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## Salient Features

- A-symmetric double paraboloid dish to concentrate sun light
- Cooks faster than other types of solar cookers of same size
- User friendly, easy to use, move and clean
- Sturdy design, safe to operate and durable
- Effectively useful from sunrise to sunset
- Uses highly reflective surface to increase efficiency
- Useful for urban and rural areas for cooking for 6 to 8 heads

## Technical Specifications

- Collection Area: 1.62 m<sup>2</sup> (0.81 m<sup>2</sup> per wing)
- Tracking: Bi-directional, manual
- Focus: 0.6m
- Output : Equivalent to 800 Watt
- Cooking capacity: 6 - 8 heads
- Support structure: MS with tracking and rolling arrangements
- Reflector shell: FRP
- Reflectivity: Greater than 85%



## Benefits

- Clean and reliable energy supply for daily cooking
- Eligible for Certified Emission Reduction (CER) credits
- Saves consumption of coal, wood or charcoal

# Product – Community Cooking System



## Salient Features

- Once set in the morning, tracks sun automatically
- Could be used like a regular gas burner on a kitchen platform
- Cooking possible in the kitchen, away from heat of sun
- User friendly, easy to operate and maintain
- Effectively useful from sunrise to sunset
- Uses highly reflective surface to increase efficiency
- Useful for urban, rural as well as tribal areas for use in community kitchen, hostels, hotels, remote camps and the like

## Technical Specifications

- Reflector Area: 6m<sup>2</sup> to 9m<sup>2</sup>
- Cooking capacity: 25 - 60 heads
- Collector Type: Paraboloid Dish
- Reflective Material: MIRO-SUN® Weatherproof Reflective 90
- Mounting: Polar mounted
- Daily Tracking: Polar axis @ hour angle
- Azimuth Tracking: Declination axis @ declination angle
- Output : Equivalent to 800 Watt
- Support structure: MS with tracking and rolling arrangements

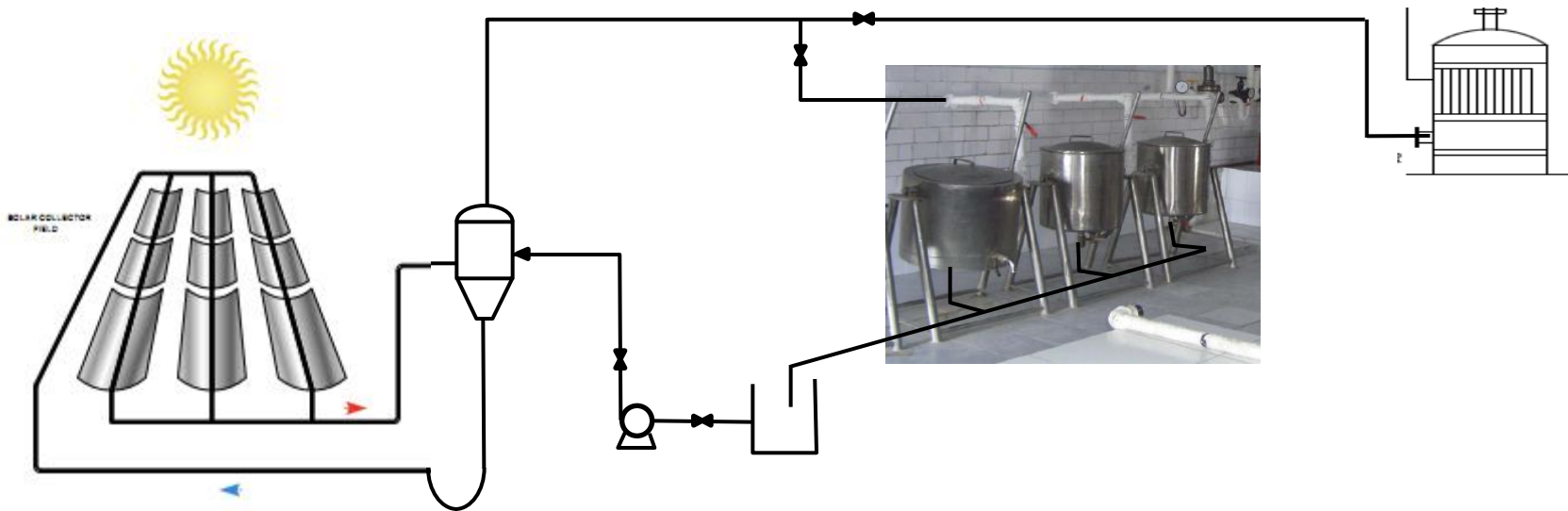
## Benefits

- Clean and reliable energy supply for daily cooking
- Eligible for Certified Emission Reduction (CER) credits
- Saves consumption of coal, wood or charcoal





# Product – Concentrated Parabolic Solar Cooking (CPSC)



- ❖ CPSC can be deployed for cooking in large establishments where hundreds or thousands of people are served.
- ❖ CPSC is indirect cooking method where cookers are separated from solar energy collection equipment. A heat transport medium is used to bring the collected energy into the cooking area.
- ❖ The preferred heat transport medium is water (steam).
- ❖ A number of parabolic solar concentrators or batteries of parabolic solar troughs are deployed to heat water and form steam, which can be effectively used for large-scale cooking in community kitchens.
- ❖ An automatic tracking system for the concentrators track the sun daily.
- ❖ The CPSC system is a partial energy delivery system; it cannot act as a standalone system. A boiler to generate steam is provided to eliminate the need for a separate cooking arrangement.

# Product – Solar Lantern

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Solar lantern are useful for studies, cooking, dining and various other household works. It is also useful in small shops, workshops, health centers, wayside eating place, farm house, security gate, boats and many other places.

During power failure, this lantern can be used immediately



Solar Lantern comes fitted with:

- ❖ Charge controller
- ❖ Sealed maintenance free battery
- ❖ Green LED charging indicator
- ❖ Red LED low charge indicator
- ❖ 5 watt or 7 watt CFL
- ❖ Extra, extendable LED lights – single or double
- ❖ Mobile charger unit
- ❖ Fuse for short circuit protection
- ❖ 2 years warranty for lantern & 1 year for battery



# Product – Solar Pump

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**Solar Domestic Pumps:** These low cost, high efficiency, highly reliable, positive displacement pumps are ideal for rural domestic use. Working voltage 12 & 24 VDC direct from one 80 - 100 watt PV panel, Maximum vertical lift is 20m approximately and flow between 5 to 12 LPM. Solar Current Booster can increase the flow capacity by additional 30%.



**Solar Submersible Pumps:** These highly reliable pumps can operate directly from 24 & 36 VDC, 150 watt PV panel. Maximum vertical lift is 100 m and flow around 440 LPH.