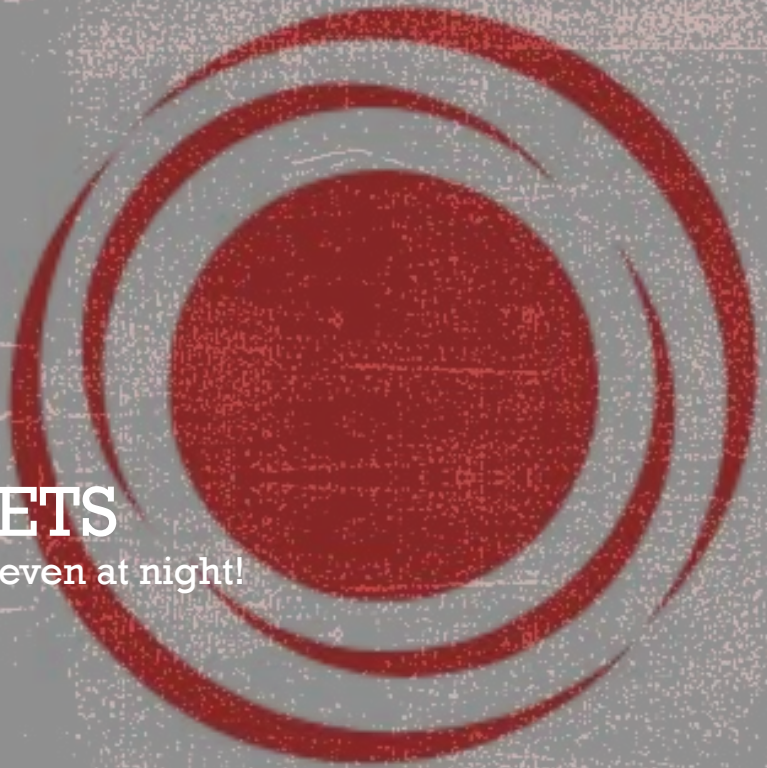


SUN BUCKETS

Cook with the sun, even at night!

PROBLEM

3 BILLION

people cook using solid fuels

4 MILLION

annual deaths due to cooking related illness leading cause of death for children under 5

25%

black carbon emissions
1GT of green house gas emissions

Possible Solution - Solar Cookers

- Sun provides 430000000000000000 Joules of energy to the Earth every hour (that's 18 zeroes!)
- More energy than all of civilization consumes in a whole year!
- Renewable, abundant, can be clean
- Harnessing for cooking - Solar cookers!

Conventional Solar Cookers

Box Cookers

Panel Cookers

Parabolic Cookers

Problems with Conventional Cookers

- Users need to stand outside in the sun to cook
- Conventional cookers incapable of all cooking processes
- Users need to deviate from traditional cooking
- Cannot cook during the night

What is a Sun Bucket?

- A Sun Bucket is a unique solar cooker
- Parabolic dish concentrates light onto inverted Sun Bucket
- Aluminum plate heated by reflected sunlight
- Energy conducts into a salt mix
- Salt melts and retains latent heat

Cook with the sun, even at night.

no fuel, no fire, no emissions

1 **CHARGE**
ON PARABOLIC DISH

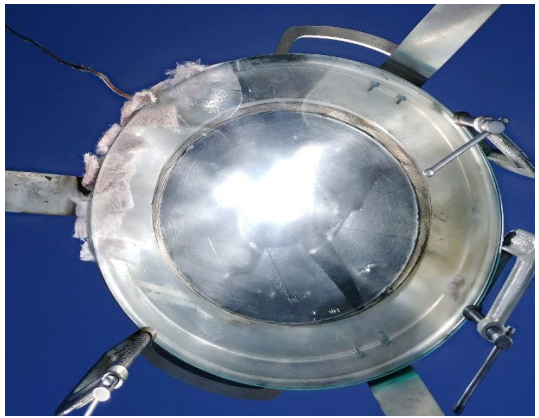
2 **STORE**
FOR 20 HOURS

3 **COOK**
LIKE USUAL

Navajo Nation, near Winslow, AR
USA

Process

Place Sun Bucket on Parabolic Dish Concentrator



Direct the dish to the sun to concentrate sun rays onto heating plate

Remove Sun Bucket and begin cooking

Features

- Portable
- Thermal Storage
- High Operating Temperature: **360℃**
- Charge time: **2 hours**
- Heat retention time: **20 hours**
- Cooking operations: All cooking operations including but not limited to **boiling, steaming, frying**

COMPETITIVE ADVANTAGE`

	Sun Buckets	Direct Solar Cookers	Cooking Fuels (Firewood, kerosene)
Clean Energy	✓	✓	
No Emissions	✓	✓	
Portable	✓		
High Temperature	✓		✓
Thermal Storage	✓		

*We also reduce the need to collect firewood or other resources in the communities we deploy the buckets to, thus providing a safer environment for women or children.

Liquified Petroleum Gas

- Liquefied Petroleum Gas is the dominant fuel used by Indians.
- 89% of Indians use LPG cylinders
- LPG is affordable + clean
- LPG is a non-renewable source of energy

Comparison to LPG (Liquefied Petroleum Gas)

- Average cost of LPG cylinder in India - **₹820**
- Average of **7 cylinders** used per Indian family
- Total cost - **₹5740** per year
- Recommended **2 buckets** per family
- 2 Buckets + Charging System Cost - **₹35000**
- **6 years** to redeem costs through LPG savings

INDIA PROJECT - CASE STUDY

- 10 Sun Buckets distributed in Leh and Udaipur
- Proven- Indian food can be cooked on Sun Buckets
- Proven - All cooking operations can be performed on Sun Buckets (steaming, boiling, frying)
- Proven- regional variants of food could be cooked on Sun Buckets
- Items cooked - Roti, dal, sabzi, rice, pasta, chai, maggi, thukpa, momos etc.

INDIA PROJECT - CASE STUDY

- Average charging time - 2 hours
- Average cooking time -
  - Lunch - 129 minutes
  - Dinner - 141 minutes
- Average meal sizes -

  Dal - 230 g, Rice - 130 g, Vegetables - 450 g, Roti - 16 no.s
- Conclusion: 2 Sun Buckets system provides sufficient energy for family of 4

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