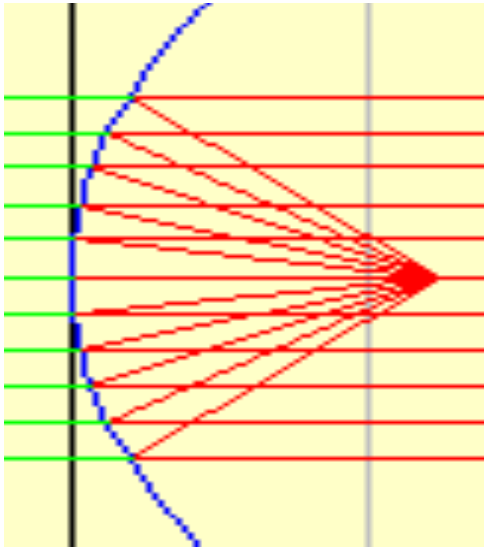
Parabolic Solar Trough

Section: Red A

Use for Parabolic Solar Trough

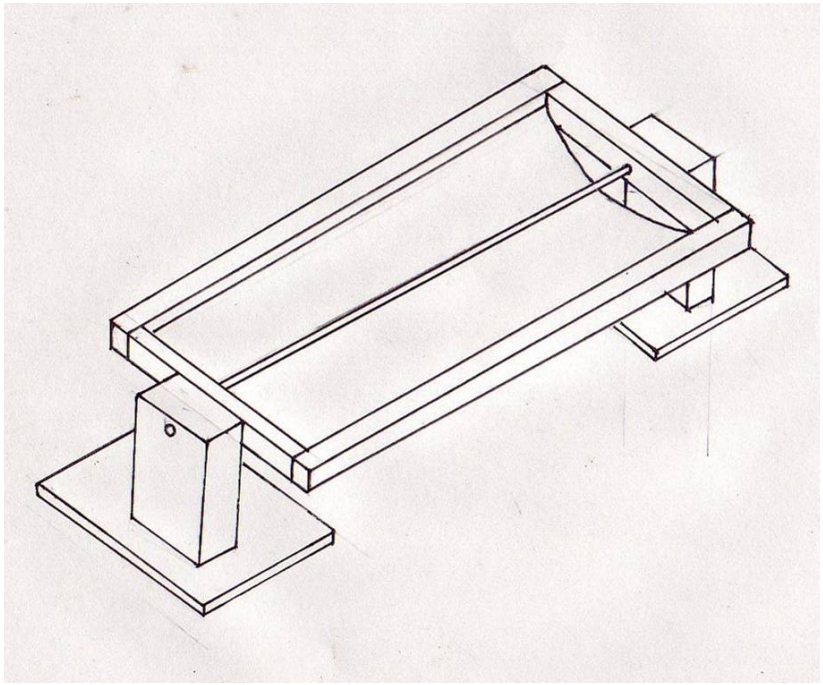
- Energy from sun is 1000 w/m^2
- Parabola focuses energy on a point
- Typical temperatures: 250 – 400°C



Current Designs

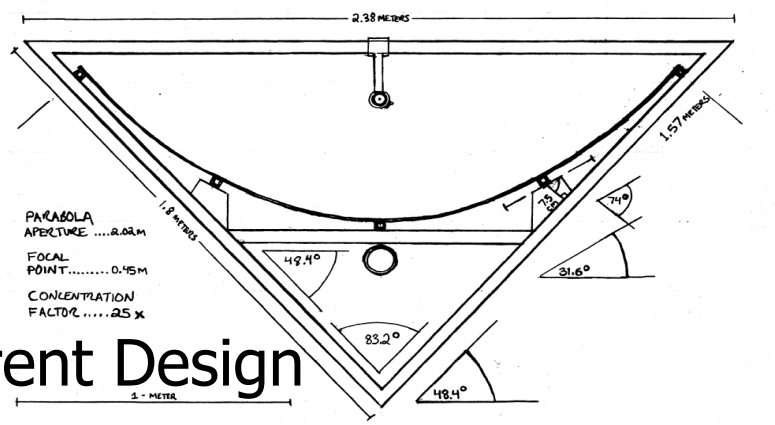
- Built on welded metal frame
- Large number of members in frame
- Hard to pivot

Our Design - Assembly

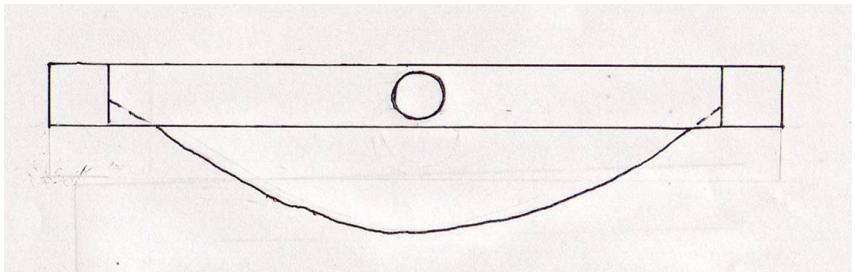


- Replace Welded Steel with wood
- Fewer members
- Easy to assemble
- Easy to pivot

Our Design - Geometry



Current Design



Our Design

- Alignment on focus
  - Located along top member
  - Acts as pivot point
- Allows for fewer pieces and easier mobility

Our Design - Thermodynamics

- Collection area about 2 m^2 = 2000 watts
- 25x intensity
- Coated Aluminum can reach 95% reflectivity
- Glass surrounded copper tube

Market and Customer Needs

- 3rd World off-grid areas (2 Bil. People)
- Low Per Capita GDP
- United Nations Environment Program (UNEP)
- UNEP Collaborating Centre on Energy and Environment (UCCEE)

Our Design - Innovation

- Capable of peak production when properly focused
- With tracking system trough continuously focused on sun