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31

PROJECT

SOLAR PARABOLIC COLLECTOR TO POWER RURAL INDIA



Certain rural areas have high solar resource availability, and with little to no access to electricity service or even resources to purchase a stove. The solar collector prototype proposes a solution to solve these issues and uses sunlight for operation.

Features

- Solar radiation is concentrated into a specific area called focus, where thermal energy is generated
- Use of aluminum parabolic trough reflectors instead of traditional solar collectors provides a better alternative to generate higher temperatures with better efficiency
- The parabolic trough reflector is a solar energy collector designed to capture the sun's direct solar radiation over a large surface area and focus or "concentrate it" onto a small focal point area, increasing the solar energy received by more than a factor of two
- Also, parabolic troughs have a small absorber area and have efficiencies of around 12% with smaller angle of view
- Reduces energy costs over time as they do not use fossil fuels or traditional water heating systems
- In domestic settings, a large number of these troughs can be combined in an array and used to generate electricity in solar thermal power plants
- The device has low adverse environmental impact and low cost