

## **ARUN<sup>®</sup> system and its applications (Ref: cliquesolar.com)**

### *A Fresnel Paraboloid Concentrator with Cavity Receiver for Industrial Process Heat*

ARUN dish is a Fresnel paraboloid solar concentrator with a point focus. It can handle various heat transfer fluids including steam, hot oil, hot water or even hot air at temperatures up to 350°C and pressures up to 25 bar. The low area required for installation makes it ideal for industries with space constraints.

ARUN is currently being used for various industrial process heating applications like steam generation for process heating in various industries including laundry, food processing, auto, dairy, pharma, chemical, hospitality, amongst others. It has also been installed for comfort cooling, industrial canteen cooking, sterilization, milk pasteurization, effluent evaporation, etc. Clique Solar provides a one-stop turnkey solution from design, product development, installation, integration with existing system, commissioning as well as life-long operations & maintenance of the system.

Industries such as Food Processing Industries (Dairy Industry, Sea Food Processing Industry, and Sugar Industry), Textile Processing Industry, Pharmaceutical Industry, Pulp & Paper Industry, Chemical Industry, Auto Component Industry etc. have large requirement of thermal energy in their manufacturing plants. These can be supplemented by Arun concentrator.

Clique Solar is a pioneer in developing solar technology for industrial process heating and comfort cooling applications. Its patented ARUN dish is a result of ground-breaking research at IIT Bombay and thorough testing. The Ministry of New and Renewable Energy (MNRE) supported this development effort.

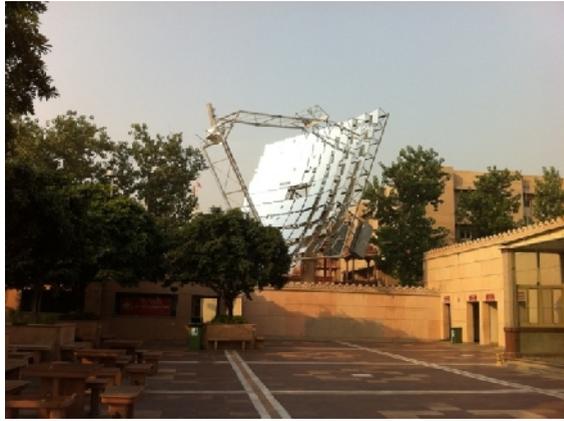
### **Images of Installations at different sites**



ARUN 160 at Mahananda Dairy supplying heat anytime of the day with pressurized water storage at 20 bar(g) installed and commissioned in 2006 and smoothly operating till now



Two dishes of ARUN160 for 50TR space cooling with steam system at 10 bar(g) at NETRA, NTPC, Greater NOIDA near Delhi



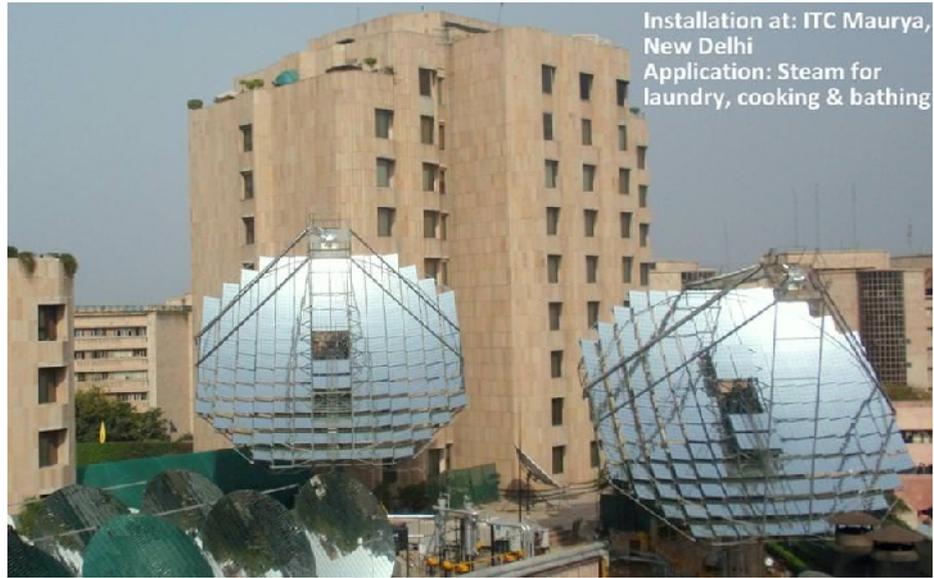
Two views of ARUN 100 with steam system at 5 bar(g) for cooking at Akshardham Temple at Delhi



Two dishes of ARUN160 for 50TR space cooling with pressurized water system at 10 bar(g) at Turbo Energy near Chennai



Two ARUN 160 dishes supplying steam at 5 bar(g) for pasteurization at Chitale Dairy, Bhilawadi near Sangali



Installation at: ITC Maurya,  
New Delhi  
Application: Steam for  
laundry, cooking & bathing

Two dishes of ARUN160 for Laundry and cooking with steam system at 7 bar (g) pressure at ITC Maurya, Delhi



Installation at: Mahindra (MVML), Chakan  
Application: Hot water for degreasing

ARUN 160 at automobile plant of Mahendra, Chakan, near Pune with pressurized hot water for degreasing