The experience of successful commercial development of solar flat plate water heaters in household sector has established the fact that the solar energy is economic today in its thermal form. However, ***for convenient utilization of solar energy in industrial sector,*** higher temperatures from 100 degree centigrades to 200 degree centigrades are needed. A group of ex IITians with research support from IIT Mumbai achieved a landmark when they successfully installed and commissioned a large solar concentrator that could generate process heat at about 200 degree centigrade, Dr. Shirish Kedare an authority in research, design, construction and project management of various aspects of concentrating solar collectors, had taken the lead in achieving this remarkable task.

Joining hands with Mr. Ashok Paranjpe another IIT alumni, Dr. Kedare formed a company Clique Developments Ltd. and developed ARUN dish- a solar concentrator system. ARUN uses solar grade mirrors as reflectors. The system automatically tracks the sun from morning to evening using a proprietary electronic tracking system. The receiver is placed at the focus of the paraboloid concentrator. The innovative dish design and the automatic two-axis tracking system ensure the highest thermal energy output per sq.m. of collector area compared to any other solar concentrators in India. The other benefits to name a few include - -

- Fossil fuel saving of about 70-80 liters per day per dish
- The dishes can be mounted at locations with space limitations.
- Highest Temperature and Pressure Delivery: ARUN can operate up to 400degree centigrades (oil) and 25 bar (steam)
- Reduced CO2 emissions and carbon credit gains: CO2 emissions can be reduced to the tune of almost 60-70 tons per year
- The system is easily scalable for higher thermal needs by adding multiple dishes
- Safety Parameters: ARUN has built-in automatic Safety control system that has been thoroughly tested under various conditions.

Dr. Shireesh B. Kedare
Director

Mr. Ashok Paranjpe
Director

Clique Developments Ltd.

M/s Clique Development Ltd. as collaborating organization installed the system at Mahanand Dairy, Latur under the Ministry of New and Renewable Energy (MNRE) sponsored R & D project. The system installed could supply heat for pasteurization of about 30,000 to 35,000 lit of milk daily. As a result, the existing furnace oil boiler need not be fired in sunny days and saves 80 to 100 lit of furnace oil per day or about 20,000 to 30,000 lit of furnace oil annually.The other clientle include Mahindra Vehicles Manufacturers , M/s Turbo Energy Ltd. National Thermal Power Corporation Ltd, Hotel ITC Maurya and M/S B.G.Chitle Dairy.

The potential applications of ARUN include cleaning and degreasing operations and paint drying in Automobile Industry, affluent treatment, galvanizing, solvent extraction in Chemical Processing Plants, cooking, bathing, washing, sterilization , laundry, comfort cooling in Service Industries like hospitals and for perishable food, marine and horticultural products in space cooling and cold storage units. In short sky is the limit for M/S Clique Development Ltd. to do business and serve mankind hand in hand.

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