

## Press Release

# Swaminarayan Akshardham Mandir adopts solar energy for cooking

- The Mandir has installed **ARUN®100** solar concentrator dish to fulfill its steam requirement in cooking
- Most efficient Concentrated Solar Thermal (CST) technology
- ARUN exclusively made for fulfilling the heat requirement in the domain of Industrial Process Heating and Comfort Cooling

01 November 2012, New Delhi: **Swaminarayan Akshardham Mandir in New Delhi** and **Clique Solar**, a pioneer in developing solar technologies for Industrial Process Heating (IPH) and Comfort Cooling applications, launched ARUN®100 at the Mandir premises.

The opening was blessed by Pujya Ishwarcharan Swamiji on behalf of Param Pujya Pramukh Swami Maharaj (inspirer and creator of Swaminarayan Akshardham) and in launched in the presence of MNRE officials lead by MNRE joint secretary, Dr. Tarun Kapoor.

ARUN®100 solar thermal system will provide enough steam to cook an equivalent of 3500-4000 meals (consisting of rice, vegetables and dal) in the Mandir daily.

**Conveying Param Pujya Pramukh Swami Maharaj's blessings on this dedication ceremony, Pujya Ischwarcharan Swamiji said,** "BAPS Swaminarayan Sanstha and Swaminarayan Akshardham is committed towards serving the society through energy conservation with such technologies. As part of this ongoing effort we have installed the ARUN solar steam generating system. Like a true devotee, the ARUN dish stands on one leg praying to the Sun God for his blessings. By capturing solar energy and converting it into enough steam, a majority of our everyday cooking requirements are fulfilled. This pollution-free and environment-friendly system is in harmony with the environmental ethos and activities of BAPS Swaminarayan Sanstha and Swaminarayan Akshardham."

**Speaking at the inauguration of ARUN®100, Mr Ashok Paranjape, Managing Director, Clique Solar said,** "The potential of solar energy is huge, but adoption by organizations depends upon how well a given solar technology overcomes the challenges they face. Our focus has always been on identifying and addressing these challenges. The ARUN technology is India's most efficient solar thermal technology. It solves the user's three most important challenges – accuracy of thermal output given the inherent variability of solar radiation, space requirement and economics."

MNRE has provided immense support in taking the ARUN Concentrated Solar Thermal (CST) technology to the industry by way of providing financial assistance for R&D (including this project), as well as granting subsidies to the users that have installed the ARUN dish.

### Key Facts

- Clique Solar launches new technology in domain of Concentrated Solar Thermal – ARUN
- ARUN 100 makes its debut at Swaminarayan Akshardham Mandir - to cook an equivalent of 3500-4000 meals in the Mandir daily
- ARUN focused for Industrial Process Heating and Comforting Cooling – IPH and C
- ARUN is indigenously designed
  - Double axes tracking system of sun with an accuracy of more than 99.5% to intercept maximum sunlight
  - Needs ground space of 3mx3m
  - Can operate up to 400°C (oil) and 25 bar (steam).

**Supporting the launch of ARUN®100 at Swaminarayan Akshardham Mandir, Shri Tarun Kapoor, Joint Secretary, MNRE said,** “Quest for renewable energy cannot be unidirectional. We need expansion in both aspects – technology & applications of the technology. This is a great initiative by Akshardham that has been well supported by Clique Solar. Through technical expertise and innovation, Clique Solar has developed the solar thermal technology further, and also demonstrated the various possible applications of solar energy through its other installations across the country. This will help MNRE’s cause of achieving widespread adoption of solar energy. MNRE has always, and will continue to support such projects through its various programs.”

ARUN®100 is part of the ARUN series of solar thermal systems which has been indigenously designed and developed by Clique Solar, a Mumbai based solar technology company. Currently Clique Solar offers two variants of the ARUN dish to its clients having reflector areas of 169 sq.m. and 104 sq.m. These are called ARUN®160 and ARUN®100 respectively.

ARUN dish works on the principle of a parabola. It uses an ingenious, two-dimensional, fresnelized mirror arrangement scheme to get the parabola effect. It automatically tracks the sun from sunrise to sunset on both East-West and North-South axis with an accuracy of more than 99.5% to intercept maximum sunlight. The innovative dish design ensures the highest thermal energy output per sq.m. of collector area compared to any other solar concentrator in India.

The receiver of ARUN is designed to operate at temperatures up to 400°C. Thus, it works as a solar boiler, substituting the consumption of conventional fuels such as Furnace Oil, High Speed Diesel (HSD), Piped Natural Gas (PNG), coal, etc. which are polluting and becoming increasingly expensive. The dish is mounted on a single pole and occupies a ground area of 3m x 3m – making it possible to be erected in locations with space constraints. Having installed the ARUN system for varying applications in diverse industries such as dairy, automobile, chemical, etc, Clique Solar has become particularly skilled in integrating the solar thermal system with the existing industrial processes.

The developmental efforts of Clique Solar have been supported by IIT Bombay and The Ministry of New and Renewable Energy (MNRE).

### **About Clique Solar**

Clique Solar is in the domain of Solar Concentrated Technology and works towards addressing needs of the industrial and commercial sectors in the space of heating and cooling with its indigenous and commercially proven solar concentrating technologies.

The inquisitive and curious minds led by Dr Shireesh B Kedare and Mr Ashok Paranjape, have been working relentlessly towards making energy self-sufficiency part of reality around us. The vision and thought is reflected in our innovation – ARUN® dish. After spending over a decade in understanding and aligning needs of the companies with rigorous engineering, the team has launched a viable solar concentrator system – ARUN - a Fresnel paraboloid solar concentrator system. It has received developmental support from the Ministry of New and Renewable Energy (MNRE) and I.I.T. Bombay.

Contact Ambuj Dixit / Sameer Satija  
+91 98191 50036 / +91 86910 22352  
[ambuj@cliquesolar.com](mailto:ambuj@cliquesolar.com) / [sns@cliquesolar.com](mailto:sns@cliquesolar.com)