



SUNTRAK
SYNERGY

Suntrak Synergy

Solar Industrial Heating Solutions

- Industries have a significant requirement for low to medium temperature heat (up to 250 °C) in the form of steam, hot water, hot air and hot oil
- Approximately 30% of the heat energy used in industry is below 100°C and 57% is below 400°C
- Demand is primarily covered by fuel oil, coal (for larger heat loads), biomass, and electricity for cooling
- India spends annually around 1,754,400 kilo liters of furnace oil or its equivalent for meeting 60% of thermal energy in industry for processing the end products

Thermal Requirements

- Solar thermal applications is NOT only for residential water heating purposes
- Technology for harvesting maximum heat energy out of the sun's incident radiation has developed considerably and offers tremendous opportunities for industries to make a shift from furnace oil and electricity driven process applications to solar thermal applications
- Abundant solar radiation available in many regions of India makes solar thermal an attractive proposition for industries
- Simplicity of operations coupled with good safety, ensures minimum maintenance requirements
- Could be retrofitted to the conventional boilers and heaters available in industries.

Solar as a Solution

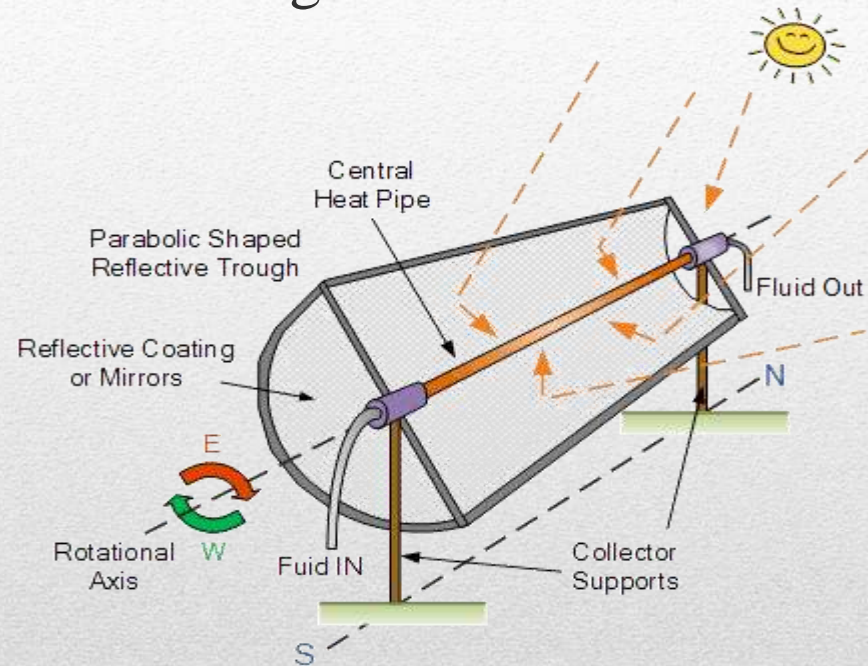
Industries and potential applications for which solar thermal could be used, is summarized below

Industry	Applications
Textile	Bleaching, Drying, Heat Treatment, etc
Plastic/Polymer	Extrusion, Drying, Effluent Treatment, etc
Automobile	Cleaning, Pain Drying, Degreasing, etc
Chemical	Heat Treatment, Drying, Extraction, Galvanizing, Effluent Treatment, Boiling, Distillation, etc
Paper & Pulp	Bleaching, Drying, Kraft Pulping, etc
Service Sectors such as Hotels, Hospitals	Washing, Laundry, Cooking, etc
Food Processing	Concentration, Dehydration, Drying, Pasteurization, Sterilization, etc

Solar as a Solution

Major Components of Parabolic Trough Solar Concentrator (PTSC) are

- Collector (Reflector)
- Receiver (Absorber)
- Tracking System
- Mounting structure



Parabolic Trough Solar Concentrator (PTSC)

- Complete indigenous solution based on practical requirements
- Adapted small PTC for low and mid temperature process heat to consistently deliver the industry requirements which existing technologies failed to deliver
- Revolutionary roof top solution for pre-fabricated sheets found in most industrial houses eliminating need for land and RCC roof
- Extremely low foot weight

Suntrak Synergy Solution

Differentiation

- Indigenous in-house developed low cost and highly efficient Automatic tracking
- Maintenance Free as reflector covered with glass to avoid degradation of reflector efficiency
- Boltable & Modular plug & play construction – Site welding is not required
- Quick and easy integration with existing heating system reducing the down time

Suntrak Synergy Solution Differentiation Contd...



SUNTRAK PTSC INSTALLATIONS

Specification Type	Specification Parameter
Module Size	L 1.76 m x W 1.02 m / L 5.77ft x W 3.54 ft
No. of modules per SET	5
System Size	L 10.2m x W 2m / L 33.5ft x W 6.5ft
System Aperture Area	9 mt ² / 97 ft ²
System Foot Print Area	21.20 mt ² / 228 ft ²
Tracking	Photo-Sensor Micro-Processor based Automatic Single axis E-W
System Weight	20 kg / m ²
Temperature Max	180° C
Pressure Max	10 bar
Energy Output (average)	17,500 kcals / day*
Power Output (average)	15 – 20 kW _{th}
Hot Water @ 60° C (average)	450 – 500 litres / day*
Steam @ 100° C (average)	25 – 30 kg / day*
Absorber Material & Ratio	SS Tube / 94%
Reflector Material & Ratio	Anodized Aluminium / 90%

Key Specifications

Clients Requirement: 1000 liters of Alkali Heating @ 55degree C

Industry: Electroplating of Automobile components

Place: Chennai

Current fuel used: Electrical Heater (5kW)

System Installed: 7 modules fitted in 1 frame (7 sq. mt. system aperture)

Payback/ROI: 1.9 Years

Cost Benefit Analysis— Case Study

Myth 1: Works only for sometime and not a complete solution

Solar is an augmentation to existing system enabling considerable fuel savings

Myth 2: High investment

Look at Return On Investment (ROI) / Payback for the investment to evaluate the solution

Myth 3: Not Proven Technology

Solar Parabolic Concentrator system is existing for past 30 years

Myths with Solar**

**HOT WATER -
COOKING**



**HOT WATER -
COOKING**



**HOT PROCESS
ALKALI FOR
DEGREASING**



**THERMIC FLUID
RESEARCH**



**HOT WATER
RESEARCH**



Some Prestigious Clients

Thank You

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KONTACT Engineers
Renewable, Green & Beyond