



**Sustainable Solutions  
in  
Energy & Environment**

December, 2009

**Vision**



To be a globally respected  
high performance  
organization offering  
sustainable solutions  
in energy and environment

December, 2009



## Renewable Energy Growth Unit

“ To be a pioneering player developing solutions & integrating Cooling & Heating with Solar energy by driving down cost”

## About The Business



- About Renewable Energy Growth Unit
  - Provides turnkey solutions in the areas of cooling and heating utilizing solar energy.
  - The growth unit is in operation since Jan,2008
  - Presence of the division
    - Manufacturing base is located at Hadapsar, Pune.
    - The growth unit is implementing 8 demo projects across India for leading five star hotels , an auto company , a garment unit and research institutes.

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## Thermax + Solar = Advantage Customer



- **Core Strengths**

Thermax banks on its major strengths – the company's extensive and varied experience with industrial processes its expertise in application R&D, and its trained and dedicated manpower.

- **Integration for Customer Benefit**

Thermax's core strengths in Heating and Cooling can offer single point optimized solution to meet total requirements with turnkey execution.

- **Customer Partnerships**

As a B2B solution provider in the core areas of energy and environment, Thermax is committed to the development of sustainable alternatives for the industry to manage resources productively and without waste.

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## Product Offering



- **Thermax Solar Dish**

Fixed Point Focus

Medium Temperature ( 100 to 150 Deg C ) application

Simple for fabrication and construction

Indigenously developed

Variable aperture – Dual Axis Tracking

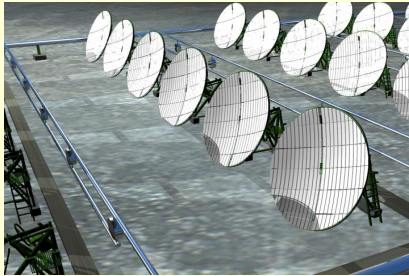
**Thermax has adopted Scheffler technology for medium temp process heating and cooling applications**

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## Product Offering –



- Thermax Solar Dish



- ☑ **Modular**
- ☑ **Maximum indigenization**
- ☑ **Low structural cost**
- ☑ **Commercially proven for non-power applications**
- ☑ **High Efficiency for heating & cooling applications**

Temperature Range	100-150° C
Efficiency Range	45-60%

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## Technology Details



- **Unique Features**

PLC based control system for Daily Tracking

Modular Design, easy and safe O&M

Concentration Ratio of more than 100

Focus –

Focus diameter – 135 to 170 mm

Receiver diameter – 406 mm

- **Solar Thermal Applications**

### Heating

- Centralised Cooking
- Laundry
- Milk Pasteurisation
- Make up water heating
- Furnace Oil Heating

### Cooling

- Comfort Cooling
- Process cooling
- Dehumidification
- Heating

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## Project #1: Turbo Energy Ltd ,Chennai



- Site: Chennai, Tamil Nadu
- Number of Reflectors - 60
- Size of reflectors – 16 m<sup>2</sup>
- Total area of reflectors – 960 m<sup>2</sup>
- Status – Commissioned
- Medium – High Pressure Hot Water
- Application – Solar AC

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## Project #1: Turbo Energy Ltd ,Chennai



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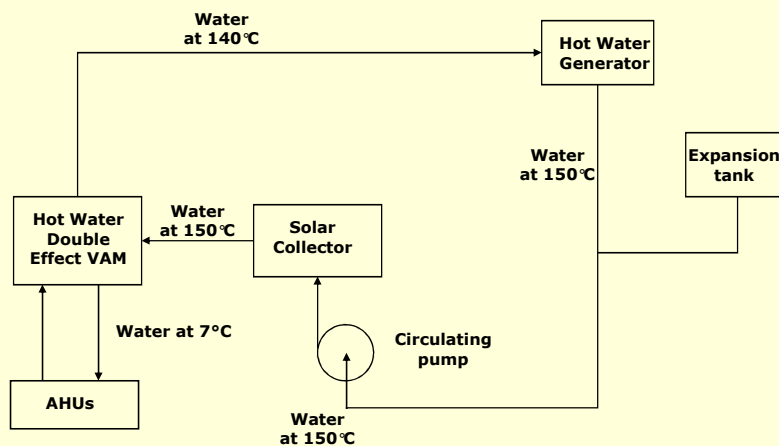
## Benefits



- Free and clean source of Energy – Solar
- Energy Saving in the form of Electricity, Fossil fuels etc.
- Carbon Trading
- Financial Assistance available from MNRE, Govt . of India.
- 80% Depreciation Benefit can be availed from 1<sup>st</sup> year on investment

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## Project #1 - Scheme



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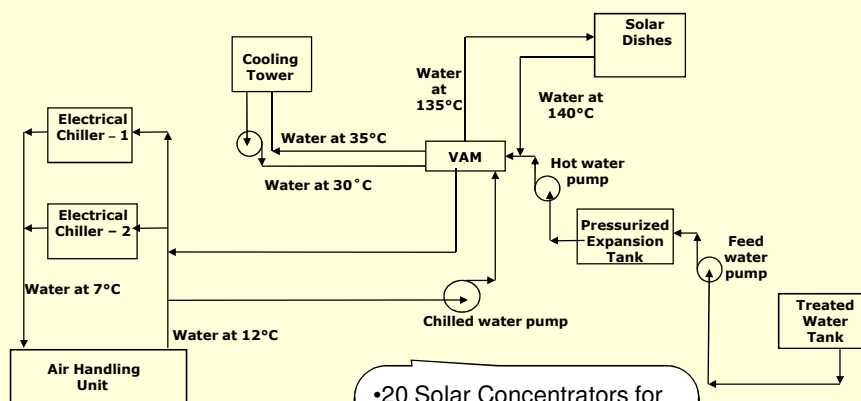
## Project #2: Magneti Marelli, Gurgaon



- Site: Gurgaon, Haryana
- Number of Reflectors - 20
- Size of reflectors – 16 m<sup>2</sup>
- Total area of reflectors – 320 m<sup>2</sup>
- Status – Under Implementation
- Medium – High Pressure Hot Water
- Application – Solar AC

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## Project #2 - Scheme



- 20 Solar Concentrators for hot water generation
- 30 TR Hot Water Driven Vapor Absorption Machine

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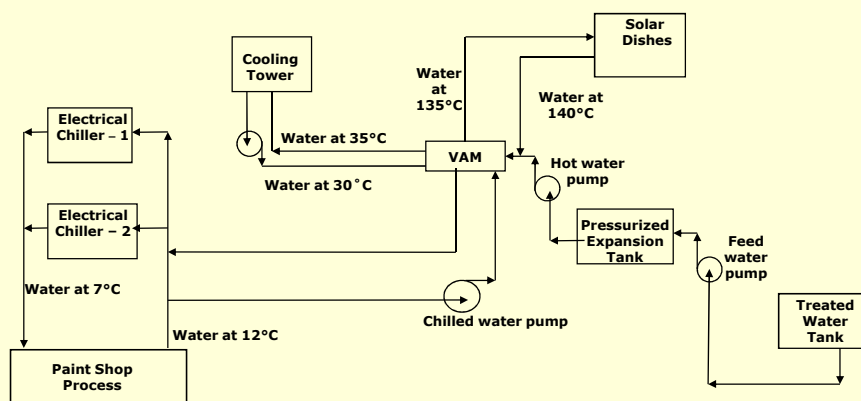
## Project #3 : Mahindra & Mahindra



- Site: Pune, Maharashtra
- Number of Reflectors - 70
- Size of reflectors – 16 m<sup>2</sup>
- Total area of reflectors – 1120 m<sup>2</sup>
- Status – Under Implementation
- Medium – High Pressure Hot Water
- Application – Process Cooling for Paint Shop

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## Project #3 - Scheme



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**Thank You**

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