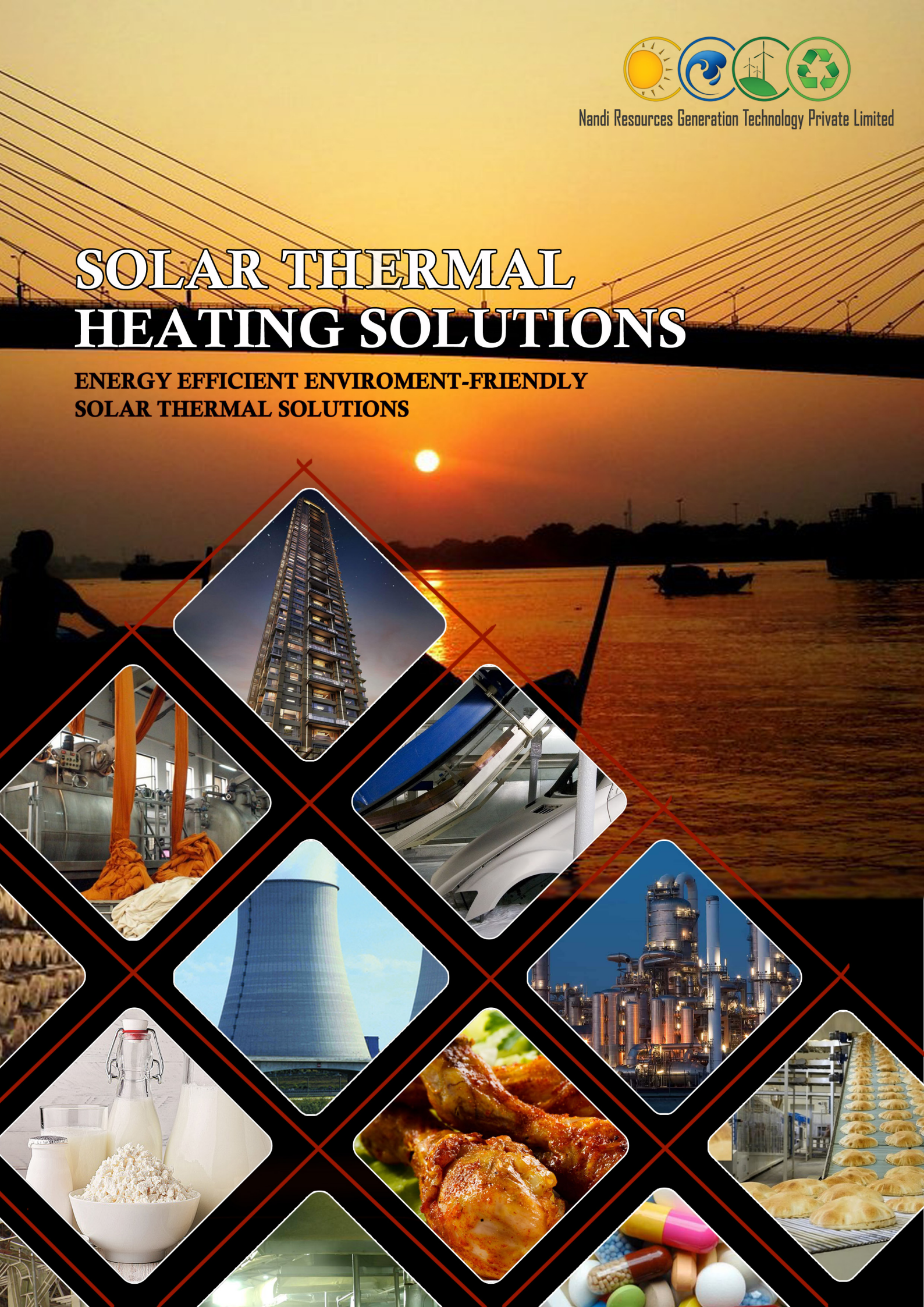
Nandi Resources Generation Technology Private Limited

SOLAR THERMAL HEATING SOLUTIONS

ENERGY EFFICIENT ENVIROMENT-FRIENDLY SOLAR THERMAL SOLUTIONS



NRG Thermal Non-Imaging Collector

NRG Thermal, the non-imaging collector from Nandi Resources Generation Technology Pvt. Ltd., caters to heating applications up to 95° C. Secondary reflector which is placed beneath the evacuated tubes ensures maximum solar radiation capture across seasonal variations. Thus, NRG Thermal is best suited for industrial and various heating applications.

SALIENT FEATURES

- Solar grade parabolic shaped secondary reflector › 90% reflectivity
- Product complies to DIN, EN-12975 and ITW
- Seamless integration with existing system
- Mountable on ground as well as flat or inclined roofs
- Proven technology, modular design with No tracking requirement
- Forced circulation system
- Reduced footprint with light weight design

BENEFITS

- MNRE, Government of India provides subsidy up to 30% of Project Cost or Rs. 3600/m² of reflector area (whichever is lower).
- Tax benefit : Accelerated depreciation benefit up to 50% in the first year & 50% in the second year.
- Attractive payback period with fuels like HSD, FO, LPG and electricity.
- Maintenance free: No dedicated manpower required.
- Zero energy cost.

TECHNICAL SPECIFICATIONS

Reflective area - 3.4 m²

Aperture area - 3 m²

Shadow free footprint requirement - 6.5 m²

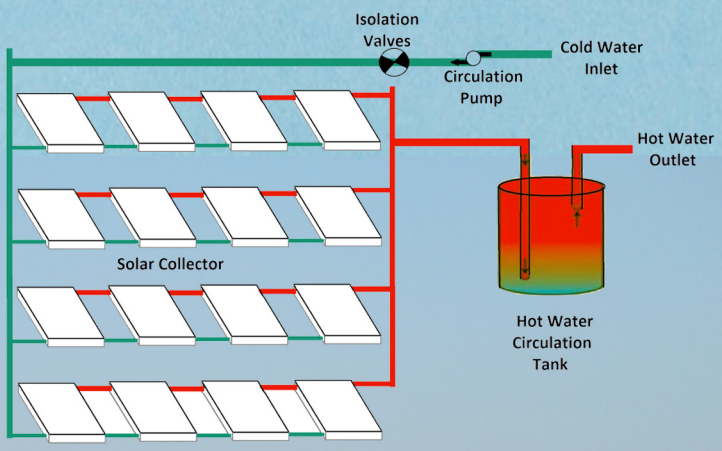
Dead weight of collector - 54 kg

Receiver - U-shaped Cu tube with Aluminum heat transfer plate enclosed in an evacuated glass tube with highly selective (Al/AlN) absorber layer on inner tube

Collector Stand - Mild steel with galvanized coating

Customized installation angles to suit location

SCHEMATIC DIAGRAM



NRG Thermal Parabolic Trough

The solar parabolic trough from Nandi Resources Generation Technology Pvt. Ltd., is a parabolic concentrator assembly consisting of a reflector, glass covered receiver tube placed at the focal point of parabolic pro le, automatic single axis tracking system and support structure. Solar radiation concentrated on receiver tube heats working fluid owing through the tube. This product is suitable for steam generation up to 18 kg/cm² (g) pressure or for pressurized hot water generation up to 210° C.

SALIENT FEATURES

- Indigenously developed technology through extensive R&D
- Automatic single axis tracking
- Boltable construction - site welding not required
- Reduced footprint with light weight design
- Flexibility in terms of working fluid usage
- Seamless integration with existing system
- Mountable on ground as well as flat roofs
- Solar grade parabolic shaped Aluminum reflector › 90% reflectivity, imported from Germany

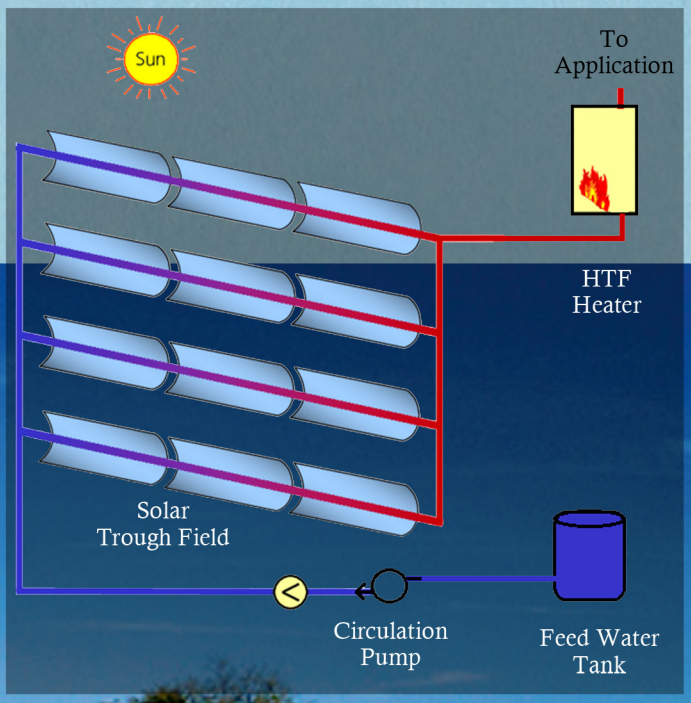
BENEFITS

- MNRE, Government of India provides subsidy up to 30% of Project Cost or Rs. 500/m of reflector area (which is lower)
- Tax benefit : Accelerated depreciation benefit up to 50% in the first year & 50% in the second year.
- Attractive payback period with fuels like HSD, FO, LPG and electricity.
- Zero energy cost.

TECHNICAL SPECIFICATIONS

- **Reflective area -** 6.41 m²
- **Aperture area -** 5.9 m²
- **Shadow free footprint requirement -** 12.5 m²
- **Dead weight of collector -** 200 kg
- **Receiver -** SS 304 with selective absorber coating (black) enclosed in anon-evacuated glass tube with anti-reflective coating
- **Collector Stand -** Mild steel with anti rust 3 coat paint / galvanized

SCHEMATIC DIAGRAM

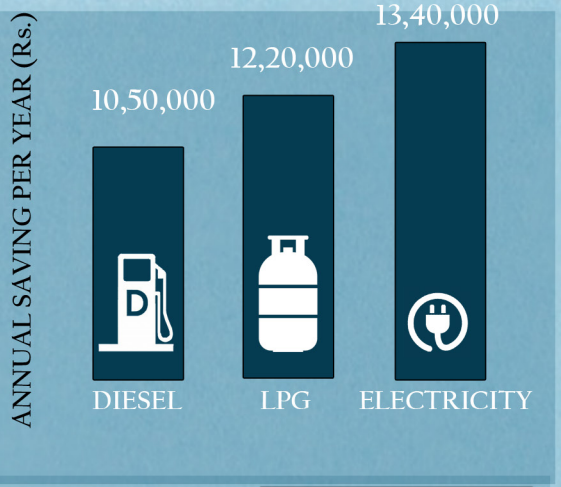


SOLAR THERMAL VS SOLAR PHOTOVOLTAIC

- Solar thermal technologies convert solar energy into heat and conversion efficiencies of different Solar thermal technology lie in the range of 40-60%.
- Solar Photovoltaic converts solar energy into electricity and conversion efficiencies of different PV technology lie in the range of 15-16%.
- For industrial Heating Solar thermal is more area efficient.

THE UNTAPPED POTENTIAL OF SOLAR THERMAL

If existing 1,00,000 kCal/he thermal system is supplemented by solar energy, annual saving ranges from Rs. 10.5 to 13.4 lacs, depends on fuel used. It also provided an opportunity to reduce oil import and carbon footprint.



100000 kCal/hr SOLAR THERMAL

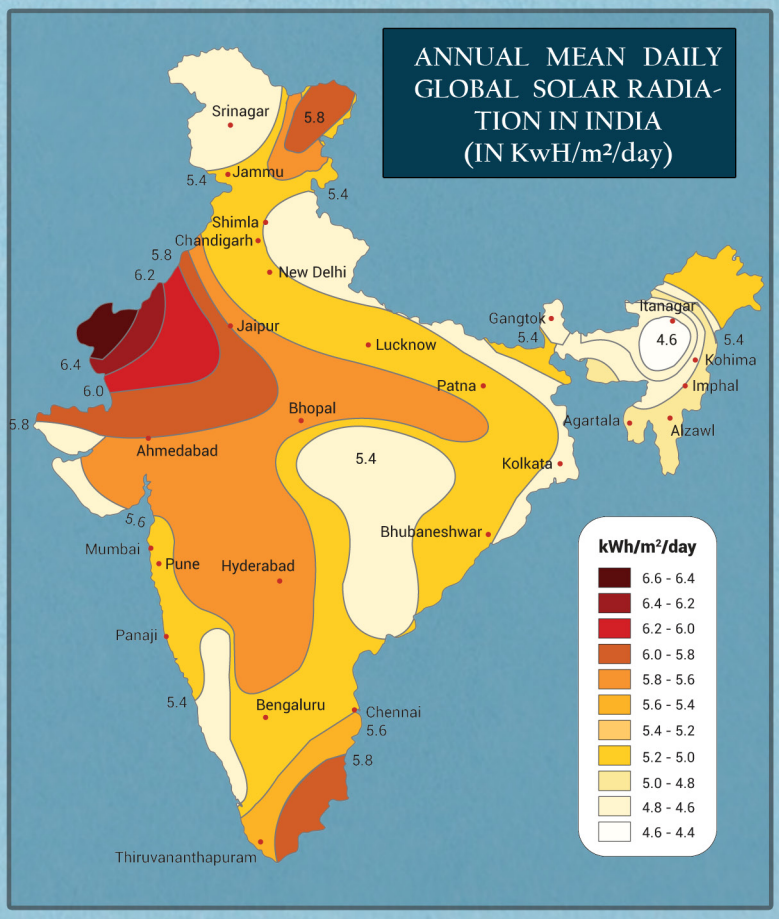
OIL IMPORT

SAVE

85 BARRELS OIL PER YEAR

EFFICIENCY OF TECHNOLOGY (%)

SOLAR THERMAL	40 - 60%
PV	15 - 16 %



CO_2 EMMISSION TONS PER YEAR

REDUCE CO_2

38.6 | 33.6 | 134

BY SUBSTITUTION OF

DIESEL | LPG | ELECTRICITY

Nandi Resources Generation Technology Private Limited

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