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### Frontier Knitters sets up solar steam process heating system



(Photo courtesy: A.T.E. Enterprises)

Frontier Knitters (P) Ltd., Tirupur have recently set up a 44 m<sup>2</sup> roof-mounted Compound Parabolic Concentrator (CPC) in Tirupur in Tamil Nadu State. This system will generate 1,500 litres per day of hot water at 95 °C. This pre-heated water is used as feed water to the boiler. Steam is used at various stages of manufacturing processes

of garments. To ensure availability of heat on demand, an insulated hot water storage system is also provided. The system was designed and executed by A.T.E. Enterprises Private Limited, Pune. The solar thermal steam system is established with the objective of reducing the carbon footprint of the operations and as a part of sustainable development.

Compound Parabolic Concentrators (CPC) is used in industrial application where medium pressure steam at around 150°C is required as Flat Plate Collectors (FPC) are not efficient enough to deliver water at temperature more than 100 °C. The name CPC may suggest that this collector also belongs to the family of focusing collector, but in fact this is more alike to FPC, due to its mostly fixed orientation and medium temperature water delivery. Considering the temperature demand under 100°C hence CPC was found to be the ideal solution. Since sloping roof was available facing south hence it made installation ideal.

This project is designed to provide an annual diesel savings of about Rs. 3,00,000 and will payback in less than 3 years after accounting for the capital subsidy received from Ministry of New and Renewable Energy (MNRE) and applicable incentive under GEF-UNDP. They have also availed the accelerated depreciation benefit under Section 32 of the Income-tax Act, 1961.

Established in the year 1987, Frontier Knitters, is a coveted manufacturer, supplier and exporter of a quality assortment of sports, men, ladies and kids wear.