PROJECT REPORT ON

"STUDY OF PARABOLIC TROUGH COLLECTOR FOR TAPPING SOLAR ENERGY"

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ABSTRACT

The solar energy has been the most favorite renewable energy source in the present times. It is noted for its high reliability than other systems and allows more energy generation than other renewable resources. But the overall capacity is limited due to its high need of space and low efficiency in flat plate and evacuated tube units. Also the capacity in terms of temperature reached and the heated capacity of fluid is limited in the flat plate and evacuated tube units. This reduces its utilization in commercial areas reducing its reach in the emerging and high potential markets.

In this project, an attempt has been made to increase the temperature of the fluid used in the system using a parabolic reflective surface. A prototype of a module of parabolic trough collector is made and its performance is studied. The data is analyzed under various different absorber tube designs and flow rate of the fluid. The fluid used is water and a suitable computer model is used compare the design against the model and results are plotted.