

Steam Cooking System for 4000 people using Scheffler Dishes at SRM University, Kattankulathur, Chennai.

Location: SRM university, Chennai.

Type of Installation: Scheffler Dishes

Configuration: 703 m² (19 m² x 37 Nos.)

Supplier: M/s Thermax Limited, Pune.

Application: Cooking

Year of Installation: 2012

Beneficiary Details: SRM University, Kattankulathur, established in 2006. The SRM University (Sri Ramaswamy Memorial University) is a co-educational private university in the state of Tamil Nadu, India.

The establishment has implemented 703 m² capacity Concentrated Solar Project for the purpose of cooking. The plant is installed on the roof top of the campus building at the SRM University, Kattankulathur, Chennai.



SRM university, Kattankulathur

System Details: SRM University has implemented the Scheffler based system for the purpose of cooking application in the campus. The total system has 19 m² of collector area and 37 no's concentrators are installed. The system was commissioned in February 2012 by M/s Thermax Limited, Pune. Prior to the implementation of the CST system the establishment was using LPG for cooking purpose. The system is integrated with CST & LPG. The project is set up at a cost of Rs. 1.15 Crore Rupees with grant availed from MNRE of the order of Rs. 29.99 Lakh Rupees.



Solar Heat based Cooking System



Array of Scheffler Dishes

Timings & System Application Details: The cooking system is started from 11.30 AM to 4.30 PM. The amount of food being cooked per day is (a). Rice 150 kg (b) Dal 100 kg (c) Vegetables 250 kg and (d) Milk 300 liters. The system is operating properly and has benefited the University

in terms of saving around 17,739 kg LPG per year. The system is currently functioning well. The system is used for approximately 6 hours per day and around 300 days in a year.

Steam Generation: 1500 kg/d **Operating Temperature & Pressure:** 130-140°C; 2.5 kg/cm²

Type of Fuel Saved: LPG **Quantity of Fuel Saved:** 17,739 kg per year

Functionality & Key Issues of Non-Operation: Operational

Status of Equipment: System components are in good condition

O & M Issues & Beneficiary Perception: System is functioning well and so far no operational problems or breakdowns have occurred. The system is properly maintained.

Financials in Detail: The project is set up at a cost of Rs. 1.15 crore with a MNRE grant of the order of Rs. 29.99 Lakh. The plant saves around Rs. 84.26 Lakh per year on cost of purchasing LPG. The plant has an operating IRR of 21.08 % and payback period of 4 years and 1 month as compared to an IRR of 14.58 % and a payback period of 5 Years 2 Months without subsidy.

Cost of System: Rs. 1.15 crore

MNRE Subsidy: Rs. 29.99Lakh

IRR & Payback with Subsidy: 21.08 %
& 4 Years and 1 Month.

IRR & Payback without Subsidy: 14.58 %
& 5 Years and 2 Months.

Overall System Performance: Good

Date of Visit: 27-04-2013

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Cooking of Rice with Solar Heat