

1. Department: Electricity

2. a) Sector: Energy

b) Sub-Sector: Non-Conventional Energy Sources.

3. No. of Scheme: NRSE-8

4. Name of the Scheme: Establishment of Solar Thermal Energy Systems in Andaman & Nicobar Islands.

5. OBJECTIVE OF THE 9TH FIVE YEAR PLAN :-

The Andaman & Nicobar Islands lie between 6 degree and 14 degree North Latitude and receive Solar Energy in abundance. The clear atmosphere over the islands, due to very less air pollution off sets the adverse effects of more numbers of rainy days in these islands. The Solar Energy could effectively be utilised for providing low grade thermal energy in the form of Solar Water Heating, Solar driers, Solar stills etc., so as to reduce the consumption of costly imported HSD oil presently used for power generation. An expert team headed by the Secretary, DNES, during their visit to these islands in September '88 recommended that Solar Thermal Energy could effectively be utilised for meeting the various low grade thermal energy requirements.

Till now we have installed around 20000 LPD capacity of Solar Water Heating Systems in different utilities in these islands on a demonstration phase and the performance is very encouraging.

It is proposed to provide more Solar Water Heating Systems in different establishments such as hospitals, hotels, messes, hostels etc., as the use of Solar Water Heating Systems in Govt. establishments has been made mandatory by Govt. of India. It is also proposed to install Solar Stills of various capacities at different locations for meeting the requirements of distilled water for storage batteries and also for meeting the drinking water requirements of isolated islands, which have no sources of fresh water. It is proposed to propagate the use of solar air driers of various capacities for drying of cash crops like copra, arecanut, spices, fish etc., of these islands' farmers for getting a better end product. It is proposed to establish a low pressure steam generating system for providing wet steam for the laundries in hospitals / isolation wards. It is also proposed to establish a 10 meter square capacity Solar Thermal Seasoning Plant near some Govt. saw mill so as to improve the quality of life of timbers used for various construction purposes in these islands. Apart from these, it is proposed to explore the possibilities of establishing a 25/50 KW electric power generating system based on solar high grade thermal energy in a small isolated island. The utilisation of Solar Thermal Energy is expected to reduce the dependency on diesel oil presently used for this purpose either directly or indirectly and these will also help in preserving the islands' environment.

6. Approved outlay for the 9th Five Year Plan: Rs.45.00 Lakhs.

7. Principal Targets for the 9th Five Year Plan:

- I). Purchase of 20 units of Solar Water Heating System of capacity 100/200/500 litre / day and its installation at interested beneficiaries premises at a subsidy of 50% of cost in addition to MNES subsidy.
- II). Purchase / fabrication of 3 Nos. Solar Drier of various capacities for drying of fish, copra, arecanut, chilies, spices etc.
- III). Purchase of 50 Nos. Solar Stills of 2-5 LPD capacity for meeting distilled water requirements of solar power plants.
- IV). Conducting feasibility study for purchase and installation of Solar Steam Generation System for use in hospitals for laundry purpose and for other industrial uses.
- V). Purchase and installation of 1000 lts. capacity per day Solar Stills / Desalination Plants for meeting drinking water requirements of isolated islands.