

## 2.18. Non-Conventional Sources of Energy

The Government of Tamil Nadu, in turn, set up Tamil Nadu Energy Development Agency (TEDA) in February 1985, which was registered as a Society under the Society Registration Act. TEDA acts as the nodal agency of State Government and Government of India for the promotion of renewable energy schemes in Tamil Nadu.

Tamil Nadu Energy Development Agency (TEDA) has been implementing a number of schemes for utilising the alternative energy sources with the assistance from the State and Central Governments. As a result of these efforts, the total installed capacity of power from renewable energy sources (including small hydro) is 3835 MW, (as on 31.3.2007) which is about 37% of total installed capacity of 10255 MW in India. These sources also form 27% of the total grid capacity of TNEB, whereas the all India average for renewable energy is 7.5% only. Thus, Tamil Nadu continues to be the premier State in the country not only in power generation from renewables but also a trendsetter in the use of renewable energy sources, setting an example to the other States in the country. The break up for installed capacity of the various sources in the State are as follows:

### Installed Capacity of Renewable Energy Sources

(Achievement as on 31.03.2007)

Sl.No	Source / system	All India	Tamil Nadu
1	2	3	4
1	Wind Power	7092	3475.00
2	Biomass Power	525	72.50
3	Bagasse Cogeneration	616	194.00
4	Small hydro (Upto 25 MW)	1975	87.70
5	Waste to energy	43	4.25
6	Solar Photovoltaic	3	0.17
7	Gasifier	1	1.00
<b>Total</b>		<b>10255</b>	<b>3835</b>

Source: Tamil Nadu Energy Development Agency

Wind power development has been the most successful renewable energy programme in Tamil Nadu due to conducive policies

of the Government and extensive wind resources available in the State. Assessment studies carried out have resulted in the identification of some very good wind potential sites such as Muppandal in Kanniyakumari district having a plant load factor in the range of 30-32% against the normal range of 22 to 25%. Hence, Tamil Nadu continues to maintain the topmost position with 50% of the total installed capacity under this source in the country.

In Bagasse based cogeneration also, Tamil Nadu is leading the country with an installed capacity of 337 MW from 16 Private Sugar Mills and 3 Co-operative Sugar Mills. The exportable surplus is 194 MW, which is 31.5% of the total capacity in the country. Tamil Nadu has also made good progress in the field of biomass power adding 60.5 MW during the last five years, totalling now 72.5 MW. The State has further made a good beginning in waste to energy projects with four new projects totalling 4.25 MW, producing power from poultry litter, sago waste and vegetable waste (Koyambedu).

### ***Promotional Role of TEDA***

TEDA has been organizing seminars and exhibitions to propagate the use of renewable energy and promote energy conservation among industries and other institutions besides taking part in programmes organized by other agencies. TEDA has conducted intensive publicity campaigns in all the districts in the State, specifically for the benefit of representatives of local bodies, industrialists, NGO's etc. Consequently, many Panchayats were made aware of the benefits of Solar Street Lights, Home Lights, Biomass Gasifiers and Toilet Linked biogas plants. They have shown keen interest to install them and reduce their recurrent energy charges. Further under Central funding, the District Level Renewable Energy Advisory Committee under the District Collector has been formed in all the 30 districts, to carryout promotional activities at the District level. TEDA also operates its promotional activities through mobile exhibitions, as well as through formation of Renewable Energy Clubs

which have been set up in 112 Engineering Colleges, providing Rs.25,000/- per college. The goal of the State is to maintain the share of grid connected power of non-conventional energy at a reasonable level of 500 MW capacity addition per year and to undertake energy plans for cluster of villages to meet their total energy needs under the modified Integrated Rural Energy Programme covering all the rural districts of the State.

### ***Integrated Rural Energy Programme (IREP)***

It is proposed to implement the modified Integrated Rural Energy Programme (IREP) in rural areas of all the districts in the State with the costs being shared by the Centre and State on a 50:50 basis. The objective is to provide for the minimum energy needs of rural people in selected clusters of villages with the most cost effective mix of various renewable energy sources and options for meeting their requirements of sustainable agriculture and rural development.

### ***Assistance to Tamil Nadu Energy Development Agency***

An outlay of Rs.51.00 lakh is proposed during 2008-09 for ongoing schemes of TEDA being implemented for strengthening and developing renewable energy technologies and utilizing alternative energy sources like Solar, Wind and Bio-Energy.

### ***Publicity***

Tamil Nadu Energy Development Agency (TEDA) has been conducting awareness campaigns on renewable energy throughout the State through exhibitions, seminars, workshops, business meets, training programmes, production of short films and video cassettes on success stories on use of renewable energy sources, advertisements in hoardings and posters at important locations, demonstrations in model villages where renewable energy gadgets are used etc. An outlay of Rs.18.82 lakh has been proposed during 2008-09.

### ***Village Energy Security Plan***

Village Energy Security Plan is a Centrally Sponsored Scheme introduced with the objective of meeting the total energy needs of un-electrified and remote hamlets using locally available renewable energy sources. It is proposed to implement this scheme in 125 hamlets in the state with a Central contribution of 90% and a State share of 10% of the total cost.

### ***Schemes for Energy Conservation***

Schemes for conserving non-renewable energy such as installation of solar water heating systems in government institutions, replacing conventional street lights with compact fluorescent lamps in local bodies, installation of Solar Powered Refrigerators in Primary Health Centres etc. will be implemented during 2008-09 with an outlay of Rs.34.26 lakh. Solar Education Kits will be supplied to Higher Secondary Schools with an outlay of Rs.17.00 lakh.

Further, additional State Subsidy has been proposed to encourage the public to use Renewable energy sources devices such as Wind Mill Water Pumps, Solar Street Lights, Solar Home Lights, Solar Dish Cookers, Bio-mass Gasifiers, Improved Crematorium with Gasifiers and Toilet Linked Biogas plants etc. An outlay of Rs.37.64 lakh has been proposed for such schemes that will lead to conservation of conventional energy and reduction of environmental pollution.

### ***Assistance for Installation of Micro Water Turbines (5 KW)***

It is proposed to install 25 Nos. Micro Water Turbines (5 KW capacity) at a subsidy of Rs 2 lakh each for power generation from perennial streams in remote villages. This scheme is meant for Village Panchayats with an outlay of Rs.9.50 lakh during 2008-09.

### ***Plan Outlay for 2008-09***

An outlay of Rs.1.73 crore has been approved for Non-Conventional Sources of Energy Sector for the year 2008-09.

