

2.17. Power Development

The sustainable growth of an economy critically depends upon the macro economic environment coupled with infrastructural development. As such, power development is one of the key inputs for the overall economic development of a state. The growth of the economy and its global competitiveness hinges on the availability of reliable and quality power at competitive rates. It has been estimated by the World Bank that the demand for power will grow by nearly twice the rate at which the economy grows. Therefore, adequate provision has to be made for augmenting power supply to bridge the gap between demand and supply as well as to meet the increasing future demand. Keeping this in view, due importance has been given to power sector in the Plan periods in Tamil Nadu.

The Tamil Nadu Electricity Board (TNEB) occupies the third rank in the list of top three State Electricity Boards (SEBs) in the country, along with Maharashtra and Gujarat, in terms of the size of its operation gauged by the generating capacity at its command, the amount of energy sold and the number of consumers serviced. Tamil Nadu ranks sixth in terms of per capita electricity consumption among the other States. The technical performance/efficiencies of TNEB measured by the Plant Load Factor (PLF) and the transmission and distribution losses have normally been above the All-India average and place Tamil Nadu among the top five to six SEBs in terms of performance. The TNEB has been in the forefront of rural electrification too. Extending electricity to rural areas and promoting electrification of agricultural pumps have been accorded top most priority in the TNEB's agenda.

Installed Capacity and Generation 2006-07

Sl. No.	Type of Power	Installed capacity (MW)	Capacity at the Command of TNEB (MW)	Generation during 2006-07 (MU)
1	Hydro	2184.15	2184.15	6292
2	Thermal	2970	2970	21218
3	Gas Turbine	423.880	423.880	1944
4	Wind Mill	19.355	19.355	17
5	Purchase	1663.51	1663.51	33357
Total		10097.895	10097.895	63038

Generation projects totalling to 538.8 MW at an outlay of Rs.1212.18 crore comprising of seven Hydro Projects viz., Bhavani Kattalai Barrages I, II, III (90 MW), Perunchani Mini (1.3 MW), Amaravathy (4 MW), Aliyar (2.5 MW) and Pykara Ultimate State (150 MW) and three Gas Turbine Power Projects viz., Valuthur (95 MW), Kuttalam (101 MW) and Valuthur additional (95 MW) were programmed to be commissioned during the Tenth Plan period (2002-07). All the programmed projects have been commissioned to the tune of 383.8 MW at an expenditure of Rs.761.85 crore except the Bhavani Kattalai Barrages II, III and Valuthur Additional which have been taken to the Eleventh Plan period commencing from 2007-08.

Under Renovation & Modernisation, works in the Thermal and Hydro Stations have been programmed at an outlay of Rs.363.77 crore and the above works were completed for Rs.223.43 crore. With a view to improve Transmission & Distribution, 300 substations, 4000 circuit Kms. of Extra High Tension (EHT) lines, High Tension (HT) lines and Low Tension (LT) lines, Distribution Transformers & Service connections were proposed at an outlay of Rs.5913.98 crore. Out of the above 243 substations, 3419 Circuit Kms. of EHT lines, 15172 kms of HT lines, 66470 kms. of LT lines, 36755 Distribution transformers and 26.67 lakh service connections were achieved during the Tenth Plan period at an expenditure of Rs.4636.91 crore.

Under Rural Electrification, energising of 2,00,000 pumpsets, 2,00,000 Hut Services & provision of street lights were proposed at an outlay of Rs.490.07 crore against which 1,66,613 pumpsets, 1,09,274 huts and 81817 street lights were energized at an expenditure of Rs.639.14 crore. Survey & Investigation projects to the tune of Rs.20.00 crore have been programmed, of which an amount of Rs.10.16 crore was spent during the Tenth Plan.

Accelerated Power Development and Reforms Programme (APDRP)

In 2002-03, the Government of India have sanctioned 25 Sub-transmission and Distribution Improvement schemes under the Accelerated Power Development and Reforms Programme (APDRP) covering Chennai Metropolitan area, 5 distribution circles and 19 Urban areas to the tune of Rs.929.21 crore. The cumulative expenditure incurred for all the above schemes is Rs.797.33 crore.

An amount of Rs.19.60 crore has been sanctioned under the scheme covering 17 District Headquarters towns during the last two years of the Tenth Plan which is being taken up for implementation. For the year 2007-08, a sum of Rs.10.00 crore has been allocated for this and a sum of Rs.33.97 crore is anticipated to be incurred by the end of 2007-08. Further, a sum of Rs.60.44 crore is proposed to be allocated for the year 2008-09.

Transmission and Distribution of Power Network

The expansion of the transmission network is the basic necessity to withdraw power from all the proposed power projects both in the State and Private Sector. The distribution network will be expanded adequately to deliver the additional power produced to the load Centres. It is also to be ensured that sufficient reactive power compensation is provided and timely improvement works are taken up. Metering of all substations is also being planned. The measures being taken up to reduce Transmission and Distribution losses are : 1) reduction of HT:LT ratio by erecting more High Tension lines and erecting new distribution transformers, 2) establishment of new

substations, 3) strengthening of HT line conductors, 4) installation of HT shunt capacitors at substation end, 5) installation of LT fixed capacitors at LT side of Distribution Transformers, 6) erection of link lines, 7) re-routing of feeders and 8) establishment of High Voltage Distribution System (HVDS).

Through energy audit, the losses in the distribution network due to technical problems and power theft will be reduced by 1) providing energy meters in all distribution transformers and calculate the energy received and energy billed to arrive at the Transmission & Distribution losses, 2) providing check meters in all specialized High Tension services like steel carbide and some high consuming Low Tension Current Transformer services and load survey graph of both the main meter and the check meters are compared to arrest revenue leakage, 3) undertaking Energy Audit in all the High Tension feeders to ascertain the technical and commercial losses, 4) checking of Green meter card to assess any drop in consumption, nil consumption, defective meter and disconnected services to prioritize the inspection to plug the leakage in revenue. During the year 2007-08 a sum of Rs.784.87 crore was allocated and a sum of Rs.1737.81 crore is anticipated to be incurred by the end of the year for transmission and distribution works. In the year 2008-09 a sum of Rs.1070.32 crore is proposed.

Rural Electrification

The electrification of villages, hamlets, Adi-dravidar colonies and also connections to agricultural pumpsets in rural areas gets top priority in Tamil Nadu. As per the revised definition, about 89.6% of the villages have been electrified as on 31.03.2006. Necessary infrastructure for village electrification is proposed to be created: a) by providing distribution transformer of adequate capacity in villages and habitations, b) erection of 11 KV feeder to cater to additional new Distribution Transformers and bifurcation of existing heavily loaded 11 KV feeders, c) providing HVDS (High Voltage Distribution System)

involving smaller size Distribution Transformers with minimum Low Tension lines to minimize technical as well as commercial loss, d) erection of Low Tension Feeders and lines to cater to load demands of rural households and e) provision of sub-station and lines of adequate capacity in blocks (cluster of villages) where they are not existing. During 2008-09, an outlay of Rs.50.00 crore is proposed for this scheme.

The Government of India launched the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) in 2005 with the objective to create Rural Electricity Infrastructure by 2009, for electrification to all the rural households. "In Principle" approval has been given for Detailed Project Reports under this programme for 16 districts, at a total project cost of Rs.265.01 crore.

During the year 2007-08, the anticipated increase in generating capacity from State and Central Sector will be 731 MW (State-165 Central-566).

Plan outlay for 2008-09

An outlay of Rs.2162.23 crore has been approved for Power Sector for the year 2008-09. Of this, an outlay of Rs.180 crore is set apart for Scheduled Caste Sub Plan.