

ENERGY DEPARTMENT

Introduction

Electricity is a critical infrastructure for sustainable growth of economy. Power development is an important input for the State's Industrial, Commercial and Socio economic growth. For this, the availability of affordable, reliable and quality power is necessary. 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, Government is giving utmost importance to power sector in Tamil Nadu.

Department's Organisation Setup:

In G.O.Ms.No.862, Public (Spl.A) Department dated 02.08.1993 orders have been issued bifurcating the Public Works Department into two departments viz., Public Works

Department and Energy Department. The following Heads of Departments are under the Administrative Control of Energy Department.

- I. Erstwhile TNEB which has been reorganized as,
 - i. TNEB Limited.
 - ii. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO),
 - iii. Tamil Nadu Transmission Corporation Limited (TANTRANSCO) and
- II. Tamil Nadu Energy Development Agency (TEDA)
- III. Chief Electrical Inspector to Government (CEIG)
- IV. Tamil Nadu Power Finance and Infrastructure Development Corporation Limited.

**TNEB Limited
Tamil Nadu Generation and Distribution
Corporation Limited and
Tamil Nadu Transmission Corporation Limited**

1.1 The Tamil Nadu Electricity Board is a statutory body formed on 01.07.1957 under the Electricity Supply Act, 1948. The main function of Tamil Nadu Electricity Board has been to perform electricity generation, transmission and distribution in an effective manner and to supply quality power to its consumers.

1.2 The Tamil Nadu Electricity Board is a body corporate constituted under the Electricity (Supply) Act, 1948 (Central Act 54 of 1948) and authorised to function as 'the State Transmission Utility and a Licensee' under the notification issued by the Government of Tamil Nadu under clause (a) of Section 172 of the Electricity Act, 2003.

1.3 RESTRUCTURING OF TNEB

- Electricity Act 2003 mandates restructuring of the State Electricity Boards by Unbundling.
- TNEB has been reorganised into one Holding company namely TNEB Ltd and two subsidiary companies, namely Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) and Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) with effect from 01.11.2010.
- The aforementioned companies shall be fully owned by Government.
- TANGEDCO performs the Generation and Distribution Functions.
- TANTRANSCO performs the functions of Transmission of Power.
- Finalisation of Organisation Structure is under progress.
- Separate statutory auditors for all the 3 companies have been appointed.
- Finance being raised separately for TANGEDCO & TANTRANSCO.

- Tripartite Agreement between the Government of Tamil Nadu, the Successor entities and the Unions/Associations is under finalisation.

2. SALIENT FEATURES

2.1 Generation:

- Gross energy consumption during 2010-11 was 74990 MU.
- Total energy generated from State owned stations during 2010-11 was 25784 MU.
- Energy purchased from Central Generating Stations, Wind, Open Market, Exchange etc., during 2010-11 was 49206 MU.

2.2 Distribution:

- Total No of Consumers for the year 2010-11 is 223.44 lakhs.
- Annual Consumer growth rate ranges from 4 to 5.41%.

- Per Capita Consumption in Tamil Nadu (FY2010 -11) is 1040 units.
- Highest demand met so far in the grid was 10859 MW on 19.07.2011.
- Average Consumption of Energy per day is 230 Million Units.
- The Aggregate Technical & Commercial (AT&C) losses estimated to be around 18.5 %.

2.3 Transmission:

- **EHT & HT Substations:-**

400 KV SS	:	13
230 KV SS	:	77
110 KV SS	:	707
66 KV SS	:	33
33 KV SS	:	513
Total	:	1343

- EHT/HT Lines : 1.77 lakhs Ckt. Km
- LT Lines : 5.58 lakhs Km
- Distribution Transformers : 2.05 lakhs

3. GENERATION SECTOR

3.1 TANGEDCO has a combination of Hydro, Thermal and Gas turbine power stations as below:

Hydro Stations:		
Kundah Circle	12 Power Houses	833.65 MW
Kadamparai Circle	9 Power Houses	595.45 MW
Erode Circle	10 Power Houses	423.50 MW
Tirunelveli Circle	9 power Houses	338.30 MW
Total - 40 Power Houses		2190.90 MW
Thermal Stations:		
Tuticorin TPS (5x210 MW)		1050.00 MW
Mettur TPS (4x210 MW)		840.00 MW
North Chennai TPS (3x210 MW)		630.00 MW
Ennore TPS (2x60 MW and 3x110MW)		450.00 MW
Total		2970.00 MW
Gas Stations:		
Thirumakotai GTPS		107.88 MW
Kuttalam GTPS		101.00 MW
Valuthur GTPS Phase I		95.00 MW
Valuthur GTPS Phase II		92.20 MW
Basin Bridge (4x30 MW)		120.00 MW
Total		516.00 MW
Total		5677.00 MW

3.2 Installed Capacity

3.2.1 The total installed generation capacity of Tamil Nadu as on 31.05.2011 is 10237 Mega Watts as detailed below:

Conventional Energy sources:-

(i) TANGEDCO's own generating stations (Hydel, Thermal, Gas)	: 5677 MW
(ii) Private Sector Power Plants (IPP)	: 1180 MW
(iii) Share from Central Sector Generating Stations	: 2861 MW
(iv) External assistance	: 305 MW
(v) Others (Captive Power Plants)	: 214 MW
TOTAL	: 10,237 MW

3.2.2 Apart from this wind mill with a capacity of 6007 Mega Watt, Co-Generation with a capacity of 610 Mega Watt, Bio-Mass with a capacity of 139 Mega Watt and Solar Power with a capacity of 5 Mega Watt totaling of 6761 Mega Watt are also available to meet out the present power demand.

3.3 Capacity Addition

3.3.1 With the objective of making Tamil Nadu power surplus State again, a massive capacity addition program will be undertaken through taking up new projects, executing projects which were not started and expediting the ongoing power projects.

3.3.2 It is proposed to add 13,540 MW to the State grid through State sector, Central sector and Joint venture sector routes in the short and long term as detailed below.

(a) The details of generation capacities that is likely to be added before the end of year 2012:

Sl. No.	Project	Capacity/ Share (MW)	Cost (Rs in crores)	Anticipated date of Commissioning
1.	North Chennai stage-II (2 x 600 MW)	1200	4650	Jan'12-Unit II Feb '12-Unit I
2.	Mettur Stage-III (1 x 600 MW)	600	3106	March'12
3.	TNEB-NTPC JV Vallur (3 x 500 MW)	1041	8444	Dec'11-Unit I Mar'12-Unit II Oct'12-Unit III
4.	TNEB-NLC Tuticorin JV (2 x 500 MW)	387	4910	Dec'12-Unit I Nov'12-Unit II
5.	Small & Mini Hydro (7 Projects)	90	1556	Dec'11- Mar'12
6.	Kudankulam (2 x 1000 MW)	925	CGS	Oct'11-Unit I Mar'12-Unit II
7.	PFBR Kalpakkam (2x250 MW)	167	CGS	Mar'12
8.	Neyveli TS-II Expansion (2 x 250 MW)	230	CGS	Aug'11-Unit I Jan'12-Unit II
	TOTAL	4640		

(b) Projects sanctioned but yet to be taken up for execution

Sl. No	Project	Capacity/ Share (MW)	Estimated cost (Rs in crores)	Tentative date of commencement of works	Anticipated date of Commissioning
1.	North Chennai stage-III	800	4800	2012	2015
2.	North Chennai stage-IV	1600	9600	2012	2016
3.	Udangudi	1600	9600	2012	2016
4.	Ennore Annexe	600	3600	2012	2015
5.	Kundah Pumped Storage	500	1200	2012	2016
	TOTAL	5100	28800		

(c) New Projects

Sl. No	Project	Capacity/ Share (MW)	Estimated cost (Rs.crores)	Targeted date of commencement of works	Anticipated date of Commissioning
1.	Udangudi Expansion	800	4800	2013	2016
2.	Uppur Thermal Power Project	1600	9600	2013	2016
3.	ETPS replacement	600	3600	2012	2016
4.	Tuticorin stage-IV	800	4800	2012	2016
	TOTAL	3800	22800		

3.3.3 Cheyyur Ultra Mega Project (4000 MW)

- Government of Tamil Nadu has approved an Ultra Mega Power project at Cheyyur with an estimated cost of Rs.18,000 crores. A Special purpose vehicle M/s. Coastal Tamil Nadu Power Limited, has been formed by Power Finance Corporation of India.
- 3(2) notification has been issued for the entire Main plant, Ash pond and also for the Port Area and public hearing for the project has been conducted.
- The project is programmed to be commissioned during the 12th plan period.

3.4 Wind Power

3.4.1 Considering the clean & renewable nature of wind energy, Tamil Nadu has been in the forefront in harnessing it to the maximum extent. The total installed capacity of wind power is 6007 MW as on 31.05.2011. There is also further scope for adding 10,000 MW by various promoters. For the year 2010-11, TANGEDCO had targeted a

capacity addition of 645 MW, but achieved an all time high of 997 MW.

3.4.2 The 13th Finance Commission has recommended grants-in-aid for incentive for grid connected renewable energy for assumed achievement of 600 MW during the award period of 2010-2014. The total grant for Tamil Nadu has been mentioned as Rs.455.16 crores. Pending release of these grants, Government of Tamil Nadu has issued orders for advance release of this amount to TANGEDCO.

3.4.3 The wind power is highly variable in nature. The unpredictable and infirm nature of wind energy poses a great challenge for the grid management. There are also other constraints such as availability of transmission infrastructure to evacuate the entire power generated by the wind energy promoters. All these issues along with other technical issues will be addressed in

the policy frame work of the Renewable Energy Policy which is under formulation.

3.5 COAL

3.5.1 The total quantity of coal required for TANGEDCO's four Thermal Power Stations with a capacity of 2970 MW is 16 Million Tonnes Per Annum (MTPA).

3.5.2 Prior to 2005, M/s Coal India Ltd. (CIL) was able to supply the entire coal requirement of TANGEDCO thermal power stations and thereafter due to severe scarcity of coal they have reduced the quantity of coal supplied to all the power utilities across India.

3.5.3 In order to balance the supply of coal among all the Indian power utilities, Ministry of Power (MoP) and CIL had arrived at a quantity of coal which could be supplied by CIL and accordingly TANGEDCO was allotted 13.5 MTPA. All the power utilities have been asked to import for their balance requirement and Gol has also

fixed targets for usage of import coal by all the power utilities.

3.5.4 As insisted by Coal India Limited (CIL), TANGEDCO has executed Fuel Supply Agreement (FSA) with Eastern Coal Fields (ECL) for 1.425 MTPA of coal and with Mahanadhi coal fields (MCL) for 12.07 MTPA of coal totaling to 13.5 MTPA of coal during April 2009. Balance equivalent quantity of 1.8 MTPA coal is being imported.

3.5.5 TANGEDCO has proposed capacity addition of NCTPP (2x600MW) and MTPP (1x600MW). The total coal requirements for the above three units is 9.00 MTPA. Out of the requirement of 9.00 MTPA, MCL may supply 3.475 MTPA and the balance has to be met through imports. Accordingly, a quantity of 3.95 MTPA will have to be imported.

3.5.6 Captive Coal Blocks

1. TANGEDCO has been allocated a coal block namely Gare Pelma Sector II for captive

mining in 2006 with tentative reserve capacity of 768 Million tones jointly with Maharashtra State Mining Corporation. The quantity of coal will be shared between Tamil Nadu and Maharashtra in the ratio 77:23.

2. A joint venture company "Mahatamil Collieries Ltd" (MTCL) has been formed. Considering the huge expenditure in transportation of coal from the Gare Pelma sector II coal block to Tamil Nadu, it is proposed to install a pithead power station utilizing TANGEDCO's share of coal received from this mine.
3. M/s. Lanco Infratech Ltd has been awarded work order as Mine Developer and Operator for Gare Pelma sector II coal block. They will develop the mine and set up a 2000 MW power plant at the pit head.
4. The share of power from this plant for Tamil Nadu will be 630 MW. The share of Chhattisgarh State is 740 MW. The share of M/s. Lanco Infratech is 630 MW merchant power as the Developer of coal and generator

of power. M/s. Maharashtra State Mining Corporation Limited will get 23% share of coal from the mine.

5. Further, another coal block namely Mandakini-B in Odisha State for captive mining has also been allotted in 2007 with tentative reserve capacity of 1200 Million tones. This block is to be shared by Odisha State Mining Corporation, Meghalaya Mineral Development Corporation, Assam Mineral Development Corporation and TANGEDCO in equal proportion.

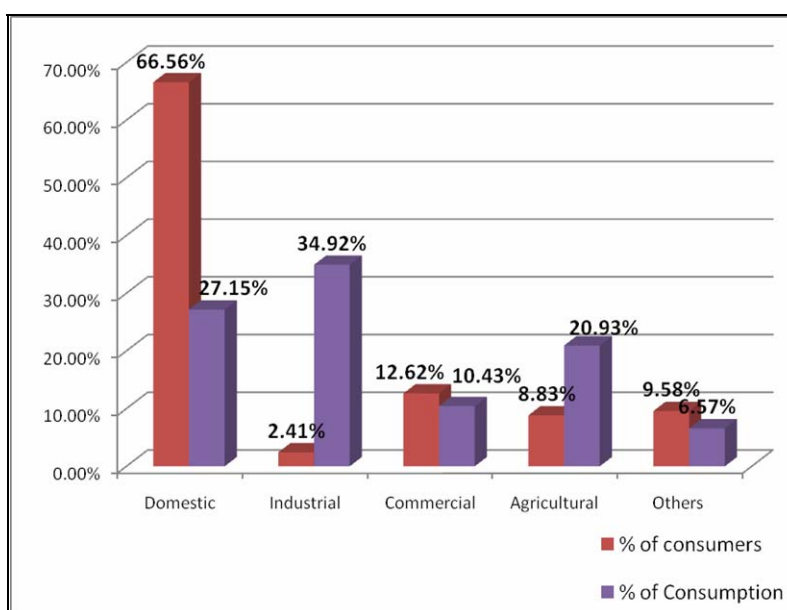
4. DISTRIBUTION SECTOR:

4.1 Consumer and Consumption pattern for the Year 2010-11

Category wise total number of consumers being served in the State and the quantum of energy consumed are as follows:

Consumer and Consumption pattern for the Year 2010-11

Description	Total No of Consumers in Lakhs	Total No of Consumers in %	Energy Consumed in MU	Energy Consumed in %
Domestic	148.73	66.56	16387	27.15
Agriculture	19.73	8.83	12632	20.93
Commercial	28.20	12.62	6297	10.43
Industrial	5.37	2.41	21075	34.92
Others	21.41	9.58	3966	6.57
TOTAL	223.44	100.00	60357	100.00



4.2 Demand and Supply

4.2.1 Present Power Scenario

The present installed capacity of the State is 10,237 MW with an average availability of 8000 MW. The demand ranges from 10,500 MW - 11,500 MW and the shortage is 2500 MW – 3500 MW. This shortage is being managed by resorting to power purchase, utilizing wind generation and restriction and control measures.

4.2.2 Present R&C measures:

- 20% cut on base Demand & Energy for HT Industrial and Commercial Services from 10.05.2011. (Partially relaxed for willing HT consumers with effect from 08.08.2011 up to September 2011 during 22:00 Hours to 05.00 Hours using Wind energy).
- 1 Hr load shedding in rotation from 08:00 Hrs to 18:00 Hrs in Chennai and its Suburbs. (From 22.04.2011).
- 2 Hrs load shedding for Urban and Rural feeders in rotation from 06:00 Hrs to 18:00 Hrs

in other areas except Chennai and its Suburbs.
(From 01.07.2011).

- 9 Hours (6 Hours during day time and 3 hours during night time) three phase supply for Agricultural services. (From 28.03.2010).
- HT industrial consumers shall draw power from the grid during evening peak hours (18.00 Hrs. to 22.00 Hrs.) not more than 10% for lighting and security purposes. (From 20.08.2010).
- It is proposed to gradually relax the R&C Measures depending upon the improvement in the power position and ensure that all the R&C measures are lifted throughout the State by August 2012.

4.3 MEASURES TO IMPROVE POWER SUPPLY

4.3.1 To bridge the demand-supply gap and to ensure an Un-interrupted quality power supply at affordable rates and to make the State totally power cut free within a short period of time, the following measures have been initiated.

4.3.2 Necessary steps to commission the ongoing power projects on a war footing basis have been taken.

4.3.3 Necessary steps are being taken to establish new substations, enhancing transformer capacities in the existing sub stations, bifurcation of High Tension overloaded feeders and installation of capacitor banks at distribution transformers for injection of reactive power (Var).

4.3.4 Aggregate Technical & Commercial Losses:

The AT&C loss in the State is 18.5%. This is one of the lowest in the country. However, steps are being taken to reduce the same further to 18.1% during the current financial year 2011-2012 by undertaking several network improvement works and anti power theft measures.

4.3.5 Segregation of Feeders:

- Out of the total losses, distribution line loss in the LT lines forms the major part. Hence,

conversion of Low Voltage lines to High Voltage lines along with feeder separation could reduce the distribution line losses to a greater extent.

- In Tamil Nadu there are about 2870 rural feeders. It is proposed to carry out segregation of agricultural loads from Industrial, Commercial and Domestic loads in about 2000 feeders. The cost of such segregation is estimated around Rs.6000 Crores.
- Segregation of feeders will be done in a phased manner. Initially, the segregation of about 100 feeders at an approximate cost of Rs.300 crores in Villupuram region will be taken up.

4.3.6 Theft of Energy:

Multi pronged approach is being adopted to prevent/detect energy theft.

- At present TANGEDCO have 17 Nos of Anti theft squads for detecting the theft/misuse of Electricity under the control of Superintending Engineer (Enforcement), Chennai and under overall control of Inspector General of Police/TANGEDCO.

- There is one flying squad in Chennai to detect the Energy theft/misuse of Power.
- Orders were issued constituting a monitoring committee with the Electrical Inspectors of the concerned Districts, Deputy Tahsildars of the concerned Taluks, respective Sub-Inspector of Police and Tester/Wireman of Electrical Inspectorate Department at the concerned places. This committee is being made functional in all the districts.
- Two special squads of five members each of ex-servicemen are being formed in all the 40 distribution circles of TANGEDCO for four months during Special Drive period at an estimated cost of Rs.88 lakhs per month.

4.3.7 ENERGY CONSERVATION

Bachat Lamp Yojana

- The Ministry of Power, Government of India through the Bureau of Energy Efficiency (BEE) have formulated "Bachat Lamp Yojana" scheme (BLY) in domestic sector to replace the energy

inefficient 'Incandescent Bulbs' (ICBs) by more energy efficient 'Compact Fluorescent Lamps' (CFLs).

- The scheme envisages supply of quality CFLs by the project developer (PD) to the metered and billed domestic consumers at the reduced price of Rs.15/- per CFL to the consumer with a maximum of 4 CFLs per household. The reduction in the price of the CFLs is met by carbon credits through Clean Development Mechanism (CDM) process under Kyoto protocol.
- Implementation of this BLY scheme in Tamil Nadu comprising of about 1.4 Crores domestic consumers is expected to result in peak demand reduction of approximately 500 - 600 MW.
- TANGEDCO have envisaged implementing the scheme in two phases. The contract for implementing the first phase of the BLY scheme in 60% of the project areas covering 22 circles of TANGEDCO comprising of 82 lakh consumers has been awarded to the Project Developer (PD).

- The BLY scheme under phase-I was launched in Chidambaram town of Cuddalore district and the scheme will be extended to other towns shortly.

4.3.8 RESTRUCTURED ACCELERATED POWER DEVELOPMENT AND REFORMS PROGRAMME (RAPDRP)

- The Ministry of Power/Gol has launched the Restructured APDRP scheme under the 11th five year plan. The objectives of the Restructured APDRP Scheme are to provide quality and reliable power supply to the consumers and to bring down the AT&C losses below 15%.
 - To achieve these objectives, MoP, Gol insists on a holistic improvement of measuring systems on priority and to strengthen the distribution systems. The project area will be the towns and cities with a population of more than 30,000 as per 2001 census.
- The project will be taken up in two parts where:

- **PART– A** will include the projects for establishment of baseline data and Information Technology applications for energy accounting /auditing and Information Technology based consumer service centers, Supervisory Control and Data Acquisition (SCADA) and Distribution Management System (DMS) implementation in towns with population of more than 4 lakhs and annual energy consumption of more than 350 MUs.

Under Part-A, the Government of India has sanctioned Detailed Project Reports (DPRs) for 110 towns at a total cost of Rs. 417 crores for IT implementation in addition to Rs. 182.17 crores for SCADA and DMS implementation in seven eligible towns in the State. The above scheme is to be completed by 30.6.2012.

- The works are in progress in three pilot towns namely Gopichettyalayam, Bhavani and Sathyamangalam urban agglomeration town. In addition, the works have been taken up in 11 fast track towns.

- **PART- B** will include regular distribution strengthening and improvement projects. The main objective of this scheme is to bring down the AT & C losses within 15 % for which erection of new and additional transformer, transformer capacity enhancement in 110 KV SS and 33 KV SS, Erection of new 33 KV feeders/ Bifurcation, Reconductoring of 33 KV feeders, installation of remote switchable breakers/switches in 33 KV or 66 KV SS, Renovation and Modernisation of 33/11 KV SS, Installation of distribution transformers, Capacity enhancement of LT sub-stations, conversion of Low Voltage lines to High Voltage lines along with feeder separation is envisaged.
- An amount of Rs 3279.56 crores for 87 towns had been sanctioned. The above scheme is to be completed by February 2014 of which sanction has been accorded and works are expected to be taken up shortly.

4.4 Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)

- The Government has launched a centrally sponsored scheme, "Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) on 18.3.2005 with the goal of creating electricity infrastructure to all un-electrified villages/un-electrified hamlets in order to provide access to electricity to all households within 2012 to be funded by Government of India through M/s. Rural Electrification Corporation Ltd., New Delhi. Out of the fund, 90% is given as subsidy and 10% as loan. Further 100% subsidy is given for effecting service connections to the Below Poverty Line House holds (BPLHH).
- REC has accorded sanction for the scheme for implementation in 26 districts at a total cost of Rs.447.41 crores. The scheme has been implemented and third party inspection by REC for the 26 districts is under progress.
- Implementation of this scheme in the remaining 3 districts viz., Nilgiris, Tirunelveli &

Dharmapuri will be taken up after getting the approval from the Government of India.

4.5 Effecting of 2 lakh Agricultural pumpset connections:

- It was targeted that 2 lakhs new pumpset connections would be extended to farmers whose applications are pending for more than 10 years in the following phases:

I- Phase-50,000 connections before 31.12.2010

II- Phase-50,000 connections before 31.03.2011

III-Phase-50,000 connections before 30.06.2011

IV-Phase-50,000 connections before 30.09.2011

Accordingly, TANGEDCO has worked out the plans so as to ensure that the above scheme has been programmed to be implemented in four phases.

The agricultural applications registered up to 31.3.2000 have been taken up for effecting service connections and notices were issued. The applications pending for more than 10 years are coming under Normal and Revised Self Financing Scheme (RSFS) Rs.10,000 category only.

So far, 58,601 service connections were effected under this 2 lakh scheme and 14,933 Nos. effected under Normal and Rs.10,000/- RSFS scheme which are also related to more than 10 years pending applications. Thus totally 73,534 agriculture service connections have been effected as on 13.06.2011.

In order to quicken the program, various relaxations in the existing rules like extension of time to enter readiness till 30.6.2011, change of well due to dryness, reduction of load etc. are given. Time wise schedule of material requirement has been assessed and arrangements are made so that the target could be kept up.

4.6 Agricultural Energy Efficient Pumpsets:

In order to improve the efficiency of the Agricultural pump sets and thereby achieve reduction in total consumption, a new scheme was proposed by the Government.

- Orders have been issued in G.O(Ms.)No.7 Energy department dt:04.02.2011 for implementation of the scheme with the following conditions:
- Replacement of Energy Efficient pump sets will be done at free of cost for small and marginal farmers and at 50% subsidy for big farmers.
- Old pump sets have to be obtained back from the farmers by TANGEDCO.
- No upward replacement of the existing load shall be permitted.
- Meters will not be installed in Agricultural service connections under this scheme.

There has been poor response from the farmers.

So far only 242 farmers have offered their willingness for replacement for which procurement is under process.

4.7. Social welfare measures:

4.7.1 Special priority service to BC, MBC and De-notified Community

Under this scheme, based on the lists given by the District Collectors Agricultural services for 238 persons have been effected during 2010-11 and for the period 1.4.2011 to 30.6.2011, 42 services were effected.

4.7.2 Fast Track Supply Scheme

Under this scheme, 1058 nos. agricultural services based on the list furnished by TAHDCO were effected to Adi Dravidars on priority during 2010-11. For the period 1.4.2011 to 30.6.2011, 274 services were effected. For this scheme TAHDCO remits an amount of Rs. 10000/- per service connection to TANGEDCO.

4.7.3 250 Special Priority Service Connection as per Government order

Under this scheme, every year special priority applications for 250 applicants were released and action being taken to effect free agricultural services to Physically challenged persons, Widows, Ex-Servicemen, Scheduled

Tribes, Inter-caste married people, Serving soldiers & Para military forces on priority as per Government orders.

4.7.4 Handloom and Power loom service

- Free power supply upto 100 units bi-monthly is given to handloom weavers who have their own work sheds and are engaged in weaving.
- Similarly free power upto 500 units bi-monthly is being given to the power loom weavers who run their own power looms.

4.7.5 Local Bodies

Street Lights:

- TNEB collects from Local Bodies a flat rate of Rs.9,500/- per pole to speed up the process of effecting street lights service connections in Local Bodies.

- 1,19,566 Nos. of street lights have been effected during the year 2010-11 and 8579 Nos. of street lights have been effected up to 30.06.2011.

Water Supply :

TNEB is also effecting services for water supply schemes on the highest priority. During 2010-11, 7543 no sand during 2011-12 (Up to June 2011), 1021 nos of water supply service connections have been effected.

5. TRANSMISSION SECTOR

5.1 To match the generation capacity addition and load growth in the state, the transmission network in the state is also to be strengthened.

5.2 Accordingly during the year 2010-11,42 substations have been commissioned with a capacity addition of 844 MVA. In addition, 101 nos. power transformers and auto transformers have been commissioned adding the capacity by 1750.15 MVA. In respect of EHT improvement

lines, 262.025 Ckt.Kms of 230KV Lines, 669.794 Ckt.Kms of 110KV Lines have been commissioned.

5.3 During the year 2011-12, 55 nos. substations with associated lines, Improvement lines, Power evacuation lines & link lines of about 2500 Km at a cost of Rs.1365 Crores are programmed to be commissioned.

5.4 During 2011-12, Rs 925 crores was allotted for Laying of cables, Erection of LT lines and Distribution transformers, Providing agricultural pumpsets, Extension of supply for Huts etc.

5.5 Further, Five 400KV Sub stations and Nineteen 230KV Sub stations along with associated transmission lines are also programmed to be taken up for the purpose of evacuating the generation by wind energy generators. The total cost of these will be Rs.2351.58 Crores.

5.6 In addition to the above, 400KV Substations at Singarpet, Manali, Korattur, Tiruvalam, Thiruverkadu/ Poonamalli are also planned at a

cost of Rs.1088 Crores approximately. Major backbone 400KV Line connecting Kayathar - Karaikudi – Pugalur - Singarapet and Ottiambakkam at a cost of Rs. 2695 Crores approximately also will be taken up.

5.7 Wind Power Evacuation

5.7.1 In order to evacuate wind power, TANGEDCO permitted the private developers to establish new 230 and 110 KV Sub Stations and erection of additional transformers at existing Sub Stations.

TANGEDCO has proposed the following wind power evacuation schemes:-

1. Kayathar 400/230-110 KV SS
2. Vannikonendal 230/110 KV SS
3. Kanarpatti 400/230 KV SS
4. Rasipalayam 400/230-110 KV SS
5. Samugarengapuram 230/110 KV SS
6. O.Thulukapatty 230/110 KV SS
7. Thappugundu 400 KV SS
8. Anikadavu / Periapatty 400 KV SS

5.7.2 For strengthening of transmission infrastructure for evacuating the existing 6007 MW and further capacity addition of wind energy, financial assistance of Rs.3800 crores has been requested from MNRE/GOI from the Clean Energy Fund.

6. FINANCIAL POSITION:

The Tamil Nadu Generation and Distribution Corporation Ltd (erstwhile TNEB) has been incurring revenue deficit as detailed below:

6.1 Revenue Account

The revenue Accounts for the previous years 2006-07 to 2010-11 are tabulated below:

REVENUE ACCOUNT (IN CRORES)

Details	Actuals 2006-07	Actuals 2007-08	Actuals 2008-09	Actuals 2009-10	Revised Estimate 2010-11
Revenue Receipts:					
Revenue from sale of Power	14455.23	15672.85	15425.60	16760.87	20100.38
Tariff Subsidy + Hydel swing subsidy	1330.10	1457.02	1831.61	1672.17	1652.43
Misc. Income	319.56	378.56	386.64	410.96	588.44
Total Revenue Receipts	16104.89	17508.43	17643.85	18844.00	22341.25
Revenue Expenses:					
Power purchase	9964.96	12195.09	14482.42	17052.71	19356.82
Fuel Cost	3396.95	3678.01	4703.23	4328.60	4359.80
Transmission Charges					1803.89
Repairs & Maintenance	239.66	364.53	434.86	346.69	303.25
Employees Cost	1967.42	2155.86	2688.51	3075.36	3410.16
Admn. & General exp.	179.86	213.24	194.03	199.17	169.81
Depreciation	627.29	676.40	771.29	839.21	636.70
Interest & Finance charges.	1047.48	1395.17	2009.55	2787.86	2644.14
Prior period charges /credit	-607.03	-181.32	-13.60	345.12	593.44
Other Debits & Extra-ordinary items.	507.24	523.53	144.95	163.92	13.13
Total Revenue Expenses	17323.83	21020.51	25415.24	29138.64	33291.14
Revenue Surplus/Gap	-1218.94	-3512.08	-7771.39	-10294.64	-10949.89

Revenue deficit for the year 2010-11 (Revised Estimate) is Rs.10,949.89 crores which is mainly due to the reasons of continuous increase in demand for power in the State has been met through purchase of power from external sources,

due to inadequate own generation capacity and also all the input components viz., Fuel cost, Employees cost, Interest & Finance charges, etc have increased due to inflation. The Average Rate of Realisation (ARR) and Average cost of Supply (ACS) for the year 2011-12 (Budget Estimate) are Rs.3.81 per unit and Rs.5.31 per unit. The Gap between the Average Cost of Supply (ACS) and Average Rate of Realisation (ARR) which is Rs.1.50 per unit for 2011-12 (Budget Estimate) is required to be offset. The total accumulated loss stands at Rs. 38,000 crores and the outstanding debts including pending bills stands at Rs.45,000 crores as on 31.3.2011.

6.2 In view of the continuous revenue losses incurred, investment in capital expenditure on capacity addition projects, etc., the TANGEDCO is managing the funds to meet the commitments only through external borrowings required in excess of collections of revenue from sale of power, tariff subsidy, deposits from consumers, etc.

6.3 The Board's borrowings are being utilized to meet capital expenditure, loan repayments and managing the revenue deficit.

6.4 Measures taken to improve the Financial Position

TANGEDCO has been taking all possible revenue augmentation and cost control measures such as proper planning for backing down of high cost IPPs, availing of power from open market and from power exchanges at competitive rates, enhancement of service charges on fly ash, wet ash, collection of arrears from local bodies and disconnected services, vigorous detection of power theft cases & follow up recovery, increase in revenue through speedy disposal of scraps, hike in R&D fees chargeable, etc.

6.5 TARIFF : In the past ten years between 1991 to 2000, seven times revision was made but in the ten years period from 2001 to 2010, only three times tariff revision was made. Since the Board is reeling under financial difficulty and widening gap in recovering the cost of supply

of power, tariff petition was filed on 18.01.2010 and tariff order dated 31.07.2010 was issued by the Hon'ble TNERC. The additional revenue from the revision of tariff effected to certain categories is approximately Rs.1650 crores per annum.

6.6 Tariff Subsidy for the year 2011-12

Category of Consumers	Rs. in Crores
Domestic	1627.13
Agriculture:	
Normal	234.19
SFS	55.76
Hut	20.89
Power Loom	
Reduction	28.56
Free	33.93
Handloom	6.16
Places of worship	6.92
Street Light & Water Works	57.42
Lift Irrigation Co-Operative Societies	0.45
Grand Total	2071.41

6.7 Assistance from Government of Tamil Nadu :

In the Tamil Nadu Generation and Distribution Corporation Ltd's Budget Estimate 2011-12, it has been proposed to avail Equity share capital assistance of Rs.1000 crores from the Government of Tamil Nadu.

The assistance received from the present Government of Tamil Nadu in the form of Tariff subsidy and Equity share capital assistance during the current financial year is Rs.1178.12 Crores and Rs. 390 Crores respectively.

6.8 Capital Outlay for the year 2011-12 (in Crores)

Category	2011-12 Budgeted Outlay
Generation including investment in Joint Venture	3164.76
Transmission & Distribution	2290.09
Rural Electrification	246.64
Survey & Investigation & Computerization & IDC	525.50
Total	6226.99

7. CONSUMER SATISFACTION MEASURES

7.1 Computerisation of Electricity Bills

The Collection system has been totally computerized.

7.2 Collection through Kiosk Machine

Collection of Electricity bills through '**Any Time Payment Machine**' is available in 4 locations of Chennai City using which the consumers can pay their current consumption charges throughout the month. Orders were placed on M/s.Forbes Limited for the supply of 100 Nos of Any time payment machines for installation in the Coimbatore and Tiruppur circles. The supply and erection is under process.

7.3 Collection through Internet

'Online payment' of all charges relating to electricity has been implemented throughout the

State through AXIS Bank, ICICI Bank, Indian Bank, Indian Overseas Bank, City Union Bank and Karur Vysya Bank. Also the scheme for Electricity bill payments using the debit cards of Indian Bank, Indian Overseas Bank, Canara Bank has been implemented. In May 2011, the number of LT consumer using this facility is 2.3 lakhs and it is expected that the number of consumers using this facility will increase substantially in coming years. The address of the payment portal is www.tneb.in.

7.4 Collection through Post Office

Collection of Electricity Bills through '**Post Offices**' has been implemented throughout the State. In May 2011, 1.2 lakh LT consumers availed this facility. It is expected that the number of consumers using this facility will increase substantially in the coming years.

7.5 Payment of Current Consumption Charges through Electronic Clearing System (ECS) for High Tension Services.

Payment through ECS for HT services has been implemented throughout the State.

7.6 30 Days Assessment and Collection

“30 days assessment and collection” of Current Consumption charges has been implemented in all the Nine regions viz., Chennai, Coimbatore, Erode, Madurai, Tirunelveli, Trichy, Vellore and Villupuram. As a result the consumers are paying current consumption charges within 20 days from the date of assessment as prescribed by the Hon’ble TNERC. This way the last minute rush of the consumers at the collections centres leading to strain on the IT system of Project-BEST and the consumers dissatisfaction are avoided.

7.7 Collection of All electricity charges at all Counters (Single Window System)

The Current Consumption Charges alone were collected by the Assessors and all the other miscellaneous collections were handled by the Inspectors of Assessment / Revenue Supervisors. This was a hindrance to the consumers as and when miscellaneous payments such as revision of Additional Current Consumption Deposit (ACCD) occur, since they have to stand in two different queues for making their payments as above. Hence a pilot scheme was developed in Erode Region to collect all miscellaneous payments by Assessors also. This has later been expanded to five regions and has been expanded to the remaining three regions viz Trichy, Vellore and Villupuram from 01.05.2011 along with "30 Days Assessment and Collection".

TAMILNADU ENERGY DEVELOPMENT AGENCY

Tamil Nadu Energy Development Agency (TEDA) was formed in 1985. TEDA's vision is to identify the technologies for harnessing Renewable Energy Sources and promote its usage among Industries, Institutions and individuals for achieving better environmental and sustainable development. To achieve this vision TEDA conducts awareness campaigns, assesses the potential on alternative energy sources, enable research and development, demonstrates pilot projects and encourages the commercialization of renewable energy technologies and devices.

As State Nodal Agency, TEDA receives support and financial assistance from the Ministry of New and Renewable Energy (MNRE) Government of India and the Government of Tamil Nadu and implements new subsidy schemes with Government Support.

1. OBJECTIVES

- Identification estimation and promotion of Renewable Energy.
- Preparation and Implementation of Renewable Energy Master Plan.
- Encouraging Research and Development in Renewable Energy.
- Evolving, Developing & implementing sustainable energy security policies in villages.
- Enhancing Renewable Energy contribution in the overall energy mix in the state grid.

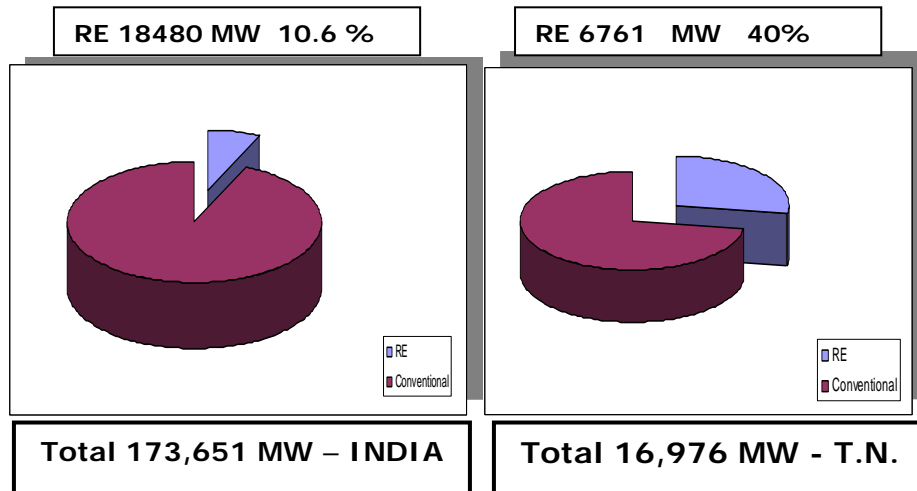
2. ACTIVITIES:

- Establishment of Demonstration Wind farms.
- Promotion of Co-generation in sugar mills.
- Carrying out district level biomass assessment study.
- Electrification of remote unelectrified habitations.
- Undertaking wind resource assessment by establishing wind monitoring stations.
- Implements Renewable Energy schemes of Central and State Government.

3. RENEWABLE ENERGY

The total installed capacity of power generation from renewable energy sources in Tamil Nadu is 6761 MW as on 31.05.2011, which includes wind (6007 MW) and Co-generation (610 MW) and biomass power (139 MW) and Solar Power (5 MW). This accounts for about 36% of total installed capacity from renewable energy sources in India. This also represents about 40% of the TNEB's grid capacity. The capacity addition made in Renewable Energy during 2010-11 is 1315 MW.

Renewable Energy – India vs Tamil Nadu



4. WIND ENERGY

4.1 Wind energy is one of the cleanest renewable sources of power. The Potential area that are suitable for establishment of wind generators are mostly confined to the southern (Aralvoimozhi pass and Shengottai pass) and south western (Palghat & Cumbum pass) parts of the state.

4.2 TEDA had led the wind energy revolution in Tamil Nadu by demonstrating, the technology by setting up demonstration wind farms between 1986 – 93. 120 wind mills were erected totaling to a capacity of 19.355 MW.

4.3 Total Installed capacity under wind mill generation is 6007 MW. Tamil Nadu tops in harnessing resources of energy among all Indian states with around 47% of India's Installed

capacity. The growth in the wind energy sector in the state has been phenomenal.

5. SOLAR

Tamil Nadu has a very good solar potential with 300 clear sunny days as it receives very high solar radiation. The southern districts of the state have a high solar radiation.

5.1 A 5MW solar photo voltaic grid connected power plant has been functioning well.

5.2 Jawaharlal Nehru National Solar Mission (JNNSM)

JNNSM is an important program of Government of India under Renewable Energy sector and aims at establishing India as a Global leader in Solar Energy by creating policy conditions for its diffusion across the country. It is the major initiative to promote ecologically

sustainable growth while addressing India's Energy Security challenge. The Mission will adopt 3 phase approach for deployment of grid connected solar power generation as well as distributed and decentralized off grid applications as below:

Sl. No.	Application segment	Target for Phase I (2010-13)	Target for Phase 2 (2013-17)	Target for Phase 3 (2017-22)
1.	Solar collectors	7 million sq.metres	15 million sq.metres	20 million sq.metres
2.	Off grid solar applications	200 MW	1000 MW	2000 MW
3.	Utility grid power, including roof top	1000 - 2000 MW	4000 - 10000 MW	20000 MW

The Mission also envisages provision of Generation Based Incentive for a period of 25 years for utility power generation. Tamil Nadu has announced a tariff of Rs.18.45/ unit against

Rs.17.91/unit fixed by Central Electricity Regulatory Commission (CERC) for solar power under Roof top PV and Small Solar Generation Programme (RPSSGP) of the Mission.

Under Rooftop PV and Small Solar Generation Programme of the Mission, upto a maximum capacity of 2 MW, 7 projects each of 1 MW has been sanctioned for Tamil Nadu and two projects have since been completed and the other five are under various stages of implementation. Under this scheme the first plant in the country has been commissioned in Tamil Nadu. Another 5 MW project sanctioned under the NVVN bundling scheme will soon be implemented in our state.

MNRE provides capital subsidy at Rs.81/Wp and Rs.57/Wp for off-grid SPV applications with and without battery backup respectively, subject to a maximum of 30% of cost. Capital subsidy up to a maximum of 30% of the cost is provided for thermal systems also.

Stand alone roof top SPV power plants totaling to a capacity of 110 KW have been installed so far in Tamil Nadu under this Mission Programme. Sanction for installation of 679 KW has since been issued.

5.3 Remote Village Electrification (RVE)

TEDA had completed electrification of 128 remote habitations in 12 Districts under phase I of the RVE programme sanctioned by MNRE and the State Government.

Further, 30 habitations in 5 Districts have since been electrified under Phase-II by providing 732 Solar home lights and 36 solar street lights at a total cost of Rs.1.1 crores shared by MNRE and the State Government.

5.4 Special Area Demonstration Programme (SADP)

Under the Special Area Demonstration Programme of MNRE, Govt. of India, it is proposed to install various renewable energy systems at the premises of Raj Bhawan at a cost

of Rs 100 lakhs. It is also proposed to install 20 KW SPV power plant in Rameswaram temple at a cost of Rs 50 lakhs.

5.5 Solar Steam Cooking system and Solar Air Conditioning system

Solar steam generating systems capable of cooking thousands of meals per day have been installed in 3 educational institutions in Tamil Nadu. Central Financial Assistance (CFA) to a tune of Rs.95 lakhs has been provided by MNRE in total for those institutions.

A Solar Air Conditioning system of capacity 30 TR has been installed in an industry with a total project cost of Rs.173 lakhs, out of which Rs.10.14 lakhs has been provided by MNRE towards CFA.

5.6 Solar Water Heating Systems/Air Heating Systems

MNRE has accorded sanction for installation of Solar water heating system with a total collector area of 25,000 sq.mt. under different sectors viz. Domestic, Industries/ Commercial in

different parts of the state with an estimated cost of Rs 26.25 Crores with the MNRE share of Rs.8.24 Crores.

A two days National level conference on solar thermal systems/Biomass Gasifiers was held in Ooty on 28th and 29th May 2011. 100 participants from various parts of the country participated in the conference.

5.7 Solar Powered Green Houses

It is proposed to provide solar powered home lighting in 3 lakh Green Houses to be constructed by RD Department. This year 60,000 houses will be taken up at a total cost of Rs.180 Cr (GOI subsidy Rs.48.6 Cr and State fund Rs.131.4 Cr). Five bulbs of 9 W each will be powered through solar system in each house.

5.8 Solar Powered Street Lights

It is proposed to energise 1 lakh street lights through solar power. 20,000 street lights

will be taken up this year at a total cost of Rs.49.6 Cr (GOI subsidy Rs.11.28 Cr and State fund Rs.38.32 Cr).

5.9 Solar Park

It is proposed to establish initially a 50 MW Solar Park in Public Private Partnership (PPP) mode through competitive bidding process.

6.0 BIO ENERGY

6.1 Biomass Based (Combustion) Projects

The total installed capacity of the Biomass power projects in the state now stands at 131 MW. Further Bagasse based co-generation power projects to a tune of 183MW in Co-operative Sugar Mills would be completed by 2012.

A revised assessment study on surplus Biomass availability in the state had been carried out by Anna University at a total cost of Rs. 6.25 lakhs towards exploring the Biomass potential in the state. The Biomass reports on all districts are now available to the promoters who are

interested to establish Biomass Power Projects in the state.

6.2 Biomass Gasifiers

Solid Biomass such as wood, wood waste and agriculture residues etc. on gasification result in a combustion gas mix known as Producer gas. A 500 Kwe grid connected Biomass Gasifier with 100% producer gas engine had been commissioned successfully by a private developer in Vellore with Central Financial Assistance (CFA) to a tune of Rs.90.00 lakhs, provided by MNRE, GOI.

A 900 Kwth Biomass thermal gasifier system had been installed in an industry in Krishnagiri District for meeting the thermal applications towards replacement of Diesel. CFA to a tune of Rs.6.00 lakhs had been received from MNRE, GoI, New Delhi in this regard.

The MNRE, GOI aims at promoting grid connected 1-2 MW Biomass gasifier system towards promoting distributed generation and to improve the tail end voltage. TEDA has accorded

approval for establishment of projects for 41.2 MW under this category.

6.3 Waste to Energy

TEDA has accorded approval for establishment of 15 Nos Poultry Litter Waste based Biogas Grid connected Power Projects to a tune of 75 MW in the state. Also a Poultry Litter assessment study has been entrusted with Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) at a total cost of Rs.4.00 lakhs in this regard.

TEDA had also taken efforts to create awareness on installation of Biogas plants for meeting thermal requirements and power generation, for small Sago and Starch Industry, Poultry Industries, Leather Industries etc., by conducting various Meetings/Seminars in and around Salem, Erode during this year. As a result of the same, 6 numbers Sago Waste based Biogas Projects were commissioned in the state with the Financial Assistance of MNRE, GoI, to a tune of Rs.62.00 lakhs. Further 20 Sago Waste based

Biogas Projects proposals are being recommended to MNRE this year for sanction of CFA.

MNRE has sanctioned CFA to a tune of Rs.115 lakhs towards establishment of 12 Biogas Projects at small poultry industries, Educational institutions and Trusts, Hospitals etc., in the state.

It is proposed to evolve Detailed Project Report (DPR) to establish waste to energy plants in Corporations and Village Panchayats.

7. Offshore Wind

Tamil Nadu has a very good off shore wind energy potential. A study will be undertaken to assess feasibility of setting up a demonstration offshore wind power plant.

8. Micro Hydel Projects / Water Mills

MNRE, GOI has sanctioned for installation of 100 Nos Water Mills/ Pico Hydel Plants in the state for Rs.120 lakhs as CFA and released an amount of Rs.55 Lakhs as 1st installment to Tamil Nadu Energy Development Agency. TEDA has

achieved a physical target of 37 Nos 1 KW Micro Hydel Project (Water Mills) and a financial target of Rs. 40.7 lakhs at the rate of 1.1 lakh per water mill so far.

9. Battery Operated vehicles (BOV)

MNRE, GOI announced for the implementation of Alternate Fuels for Surface Transportation Programme (AFSTP) for Battery Operated Vehicles (BOVs) with CFA of Rs.4000/- or 20% of the cost of the vehicle for low Speed vehicle and Rs.5000/- or 20% of the cost of the vehicle for high Speed vehicles. TEDA has scrutinized and recommended to MNRE/GoI for 850 Nos BOVs two wheelers so far for releasing CFA.

10. State Level Energy Park

A State Level Energy Park with various Renewable Energy systems/ devices/ exhibits combining fun and learning opportunities for the public on the various aspects of Renewable Energy is nearing completion at Tamil Nadu

Science and Technology Centre, (TNSTC) Kotturpuram, Chennai, with the funding assistance of MNRE, Government of India (Rs.89.00 lakhs) and State Government (Rs.52.00 lakhs). The Renewable Energy Park is proposed to be commissioned shortly.

11. Publicity

The State Government is committed to undertake Publicity and Awareness activity to promote and popularize the use of Renewable Energy Resources and Energy Efficiency Conservation measures. Tamil Nadu Energy Development Agency will associate with other institutions like Anna University, IITs, NGOs and other premier national and international agencies/ institutions to organize trainings, workshops and awareness programs for promotion of renewable energy, energy efficiency and energy conservation. TEDA's international conference will be held regularly. To attract investments in the Renewable Energy sector, TEDA actively

promotes the State nationally and internationally as an attractive investment destination.

12. Renewable Energy Policy

Government of Tamil Nadu is in the process of formulating a separate policy for Renewable Energy to encourage private investment in Renewable Energy. The policy is under preparation and will be announced shortly.

13. Schemes under Part-II Schemes (2011-12)

Sl.No	Description	Cost (Rs in lakhs)
1.	Installation of 5 KWp stand alone SPV Power plant each at 3 upgraded Primary Health Centres	29.70
2.	Installation of 5 HP SPV Water Pumping system each at 2 village panchayats in remote areas for public water supply	11.78
3.	Installation of Bio gas plant, based on Human Waste, in a village panchayat for community kitchen	25.00
Total		66.48

ELECTRICAL INSPECTORATE DEPARTMENT

1. Creation and Objective of the Department

- The Electrical Inspectorate is a statutory setup created with effect from 7th September 1961 to enforce the provisions of Electricity Act, 2003 (Central Act 36 of 2003 repealing the Indian Electricity Act, 1910) as well as the regulations framed there under, in the area of safe utilization of electrical energy.
- The other functions of the department include administration and enforcement of rules and regulations relating to the lift installations, cinema premises, energy conservation, calibration & testing of electrical equipments and levy of electricity tax on consumption or sale of electrical energy.
- The Department with Chief Electrical Inspector to Government as Head functions under the administrative control of the Energy Department, with effect from 01.08.1993.

2. Duties and Functions

The Department is entrusted with the following duties and functions:

- a. Scrutiny of electrical drawings and designs for conformity with the relevant codes, practices and standards as per Central Electricity Authority Regulations, 2010 repealing the Indian Electricity Rules, 1956.
- b. Inspection and approval of high and extra-high voltage electrical installations, generating stations and high voltage electrical installations and periodical inspections under Central Electricity Authority Regulations, 2010.
- c. Review of all electrical accidents in connection with the generation, transmission, supply or use of energy, and suggesting remedial measures as per sub section 2 of Section 176 of the Electricity Act, 2003
- d. Discharging function as a Member of Technical Committee in the Bureau of Indian Standards, which formulates Indian Standards Specifications in Electro Technical Field.

- e. Inspection and issue of license to the lifts under the provisions of Tamil Nadu Lift Act, 1997 and Tamil Nadu Lift Rules, 1997.
- f. Inspection and issue of electrical certificates to the Cinema Theatres under the provisions of Tamil Nadu Cinema (Regulation) Rules, 1957.
- g. Functioning as the “Designated Agency” to co-ordinate, regulate and enforce the provisions of the Energy Conservation Act, 2001 (Central Act 52/2001) as per notification issued by the Government of Tamil Nadu under Section 15(d) of the Energy Conservation Act, 2001.
- h. The Chief Electrical Inspector to Government is functioning as Ex-Officio President of the Tamil Nadu Electrical Licensing Board to perform issue of licenses and certificates to the electrical contractors and workmen under Central Electricity Authority Regulations, 2010.

3. Levy of tax under the Tamil Nadu tax on Consumption or Sale of Electricity Act, 2003 and the rules framed there under

This Act has come into force with effect from 16.06.2003 repealing the Tamil Nadu Electricity (Taxation or Consumption) Act 1962 and Tamil Nadu Electrical Duty Act 1939.

Tariff for the Tax

- Ten paise per unit for the consumption on the self generated electrical energy.
- 5% on the consumption charge for the sale of energy by Tamil Nadu Electricity Board or any other licensee.

Exemption

Following categories of consumers are exempted from the levy of the above tax:

- i. Electricity Consumption by Government, Railway Administration and Local Authority.
- ii. Energy sold by Tamil Nadu Electricity Board or any other licensees for the use of domestic, huts and agricultural purposes.
- iii. Energy sold for the consumption of

developers, Industrial Units and other establishments within Special Economic Zones.

iv. Energy sold for the consumption of new Industrial units set up in Tamil Nadu for a period of 3/4/5 years, depending upon the amount invested in eligible fixed assets from the date of first invoice.

4. Energy Efficiency

The Energy Conservation Act, 2001 (Central Act) forms the core of the legal framework put in place to promote energy efficiency and conservation. It came into force in March 2002 and set up the Bureau of Energy Efficiency (BEE) at the Central level and State Designated Agencies (SDAs) at the State level. The Electrical Inspectorate was notified as Tamil Nadu State Designated Agency with effect from 10.5.2005 under the provisions of the Energy Conservation Act, 2001. The State Designated Agency in consultation with the Bureau of Energy Efficiency has to coordinate,

regulate and enforce the provisions of the Act in the State.

Benefits of Energy Efficiency

Improving energy efficiency in the energy consuming sectors results in:

- Reduced energy bills.
- Least cost option to mitigate the ever increasing energy requirements.
- Reduced environmental pollution.

Energy Conservation Building Code(ECBC)

Due to increase in Building and Commercial activities the gap between supply and demand of electricity has increased and this has to be managed. Hence, implementation of energy conservation measures in building has become a necessity.

The code is applicable to commercial buildings or building complexes that have a connected load of 100 kW or greater or a

contract demand of 120 kVA or greater or having conditioned area of 1000 m² or more.

The Govt. of Tamil Nadu has issued Government Order on the energy conservation in Govt./PSU departments. All heads of department have been addressed to follow the guidelines given in the Government Order and monitored by TANGEDCO.

The Govt. of Tamil Nadu has also issued orders to ban the usage of Incandescent Bulbs (ICBs) in all Govt. Departments, Public Sector Undertakings, Boards, Societies and Local Bodies. All District collectors have been addressed for issuance of instructions to their officers for its adherence. Also the Demand Side Management team in each Circle is instructed to inspect Govt/PSU building for monitoring the implementation of energy conservation measures in the Govt. buildings. Energy consumption in TANGEDCO buildings are also reviewed regularly.

Energy Efficiency in Industrial Sector.

Since industries are accounting for a major portion of overall electricity consumption, implementation of energy efficiency across this sector, enforcement especially, among the energy intensive industries known as Designated Consumers (DCs) is essential.

In order to pave way for the implementation, the Central Government notified 9 classes of energy intensive industries as Designated Consumers (DCs) as per Section 14 of the EC Act.

Accordingly, the Designated Consumers (DCs) shall observe the following norms:

- Appointment of an energy manager having qualification specified in the Energy Conservation Rules, 2006.
- Submission of a report on the status of energy consumption at the end of every financial year as prescribed in the "Form and manner for submission of report on the status

of energy consumption by designated consumers, Rules, 2007".

- Conducting third party energy audit, reporting the energy saving measures identified during such audit and carrying out these measures.
- Achieving specific energy consumption targets fixed by the BEE.

Energy Star Labeling in Equipments

In order to stimulate market transformation in favour of energy efficient equipments and appliances and to provide consumer an informed choice on using such efficient appliances, the Standards and Labeling programme launched by the BEE insists assigning of star rating to the appliances depending upon their efficiency. The appliances bearing more number of stars save more energy. Encouraging use of star labeled appliances by consumers will achieve savings in all sectors, especially, among domestic consumers.

At present labeling is made mandatory for four appliances (refrigerators, air conditioners, tube lights and distribution transformers) for which anything below star one cannot be manufactured or sold as per Energy Conservation Act, 2001.

5. Projects proposed for the year 2011-2012

A. Project proposed under Energy Conservation at a fund allocation of Rs.200 lakhs

The State Government have constituted "State Energy Conservation Fund" in accordance with the provisions under Sub Section (1) of Section 16 of the Energy Conservation Act, 2007 by notifying the Tamil Nadu Energy Conservation Fund Rules, 2007 for carrying out the activities under energy conservation.

The Bureau of Energy Efficiency (BEE), under the Ministry of Power, Government of India has allocated fund to an amount of Rs.200 lakhs in order to

support the activities related to the Energy Conservation, under the scheme "Contribution to State Energy Conservation Fund (SECF) by the Bureau of Energy Efficiency" to carry out waste heat recovery projects. The following activities will be carried out from this funding:

- Implementation of Sector specific Energy Savings Plan.
- Hiring of Consultant for the preparation and implementation of Waste Heat Recovery Policy for the State.
- Preparation of Detailed Project Report on Waste Heat Recovery for identified 20 industries including Small and Medium Enterprises (SMEs) and Large Industries in the State.
- Demonstration projects on waste Heat Recovery.
- Industrial units in the categories of cupola furnace, rice mills and lime & brick kiln units will be benefited by harnessing energy saving potential through this scheme.

**B. Part II Schemes at a fund allocation of
Rs.35.48 lakhs (2011-12)**

Sl. No	Name of Scheme and details	Fund allocation in Rs. Lakhs
I	E-Governance: In order to infuse transparency in governance, online lift licensing system will be introduced for the benefit of lift owners of residential apartments, commercial complexes and office buildings. This system eliminates manual procedures to achieve Door-step delivery of service.	30.48
II	NABL Accreditation: In order to enhance the services and to facilitate mutual acceptance of test results and measurement data at international level, accreditation of laboratory attached to the department by the National Accreditation Board for testing and Calibration Laboratories (NABL) will be obtained.	5.00
	TOTAL	35.48

TAMIL NADU POWER FINANCE AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

The Tamil Nadu Power Finance and Infrastructure Development Corporation Limited is a Non Banking Finance Company wholly owned by Government of Tamil Nadu and was started in the year 1991. The Corporation lends to Power Sectors in Tamil Nadu and has been making profits since inception.

1.GROWTH OF FIXED DEPOSITS

Tamil Nadu Power Finance Corporation has mobilized a net deposit of Rs.5090.45 crores since its inception and servicing to 475261 depositors as on 31/03/2011.

2.LENDING TO TNEB AND OTHER GOVERNMENT CORPORATIONS

A sum of Rs. 14797 crores has been sanctioned as gross financial assistance to Tamil Nadu Electricity Board by way of Hire purchase and Term loan. The net loan outstanding from TNEB as on 31/03/2011 is Rs.5855.41 crores. In

addition to the above, a sum of Rs.105.00 crores has been provided as gross financial assistance to other Corporations like Poompuhar Shipping Corporation Ltd., Tamil Nadu Industrial Investment Corporation Ltd (TIIC) and Tamil Nadu Industrial Development Corporation Limited (TIDCO).

3. Deposits of Government Welfare Schemes

3.1 A sum of Rs.520.79 crores benefiting 3,42,587 children has been deposited under the "SIVAGAMI AMMAIYAR NINAIVU PENN KULANDAIGAL PADUKAPPU THITTAM".

3.2 A sum of Rs. 26.80 crores has been deposited covering 10719 temples under the "Oru Kala Pooja Scheme".

3.3 A sum of Rs.10.55 crores has been deposited under the scheme for providing financial assistance to school students who have lost their income earning parent in accidents.

3.4 A sum of Rs. 4.86 crores has been deposited for providing assistance to 161

orphaned and adolescents, and unmarried girls affected by Tsunami.

4. PROFIT AND DIVIDEND

TN Power Finance has so far accumulated net profit to the extent of Rs.351.25 crores (after tax) since inception. The Corporation earned a Net Profit After Tax of Rs.64.43 crores during the financial year 2010-2011. A total dividend amounting to Rs.61.42 crores has been paid to Government of Tamil Nadu from the year 1995-96 to 2009-10.

5. FUTURE PLANS

5.1 Provide financial assistance of Rs.2500 crores for power and infrastructure projects to be implemented by TNEB in the year 2011-12.

5.2 Mobilise a sum of Rs. 500 crores as net deposits from public and institutions in the financial year 2011-12.

Natham R. VISWANATHAN
Minister for Electricity,
Prohibition and Excise