

10. ELECTRICITY**10.1 INSTALLED CAPACITY AND GENERATION OF ELECTRICITY – 2020-21**

Sl. No.	Name of power station	Year of operation	Installed Capacity in MW	Generation in MU	Auxiliary Consumption in MU	Net Generation in MU
1	2	3	4	5	6	7
	HYDRO					
1.	Kundah PH.I	1964	60.0	302.073	1.208	300.9
2.	Kundah PH.II	1964	175.0	768.959	3.076	765.9
3.	Kundah PH.III	1978	180.0	460.476	1.842	458.6
4.	Kundah PH.IV	1978	100.0	137.373	0.549	136.8
5.	Kundah PH.V	1988	40.0	52.488	0.210	52.3
6.	Kundah PH.VI	2000	30.0	50.85	0.20	50.6
7.	Pykara PH	1954	59.2	0.037	0.0001	0.0
8.	Moyar PH	1953	36.0	112.194	0.449	111.7
9.	Mukurthy Micro	2000	0.7	1.699	0.007	1.7
10.	Pykara Micro	1989	2.0	7.352	0.029	7.3
11.	Maravakandy	1992	0.8	0.208	0.001	0.2
12.	PUSEPH	2005	150.0	337.943	1.352	336.6
13.	Kadamparai	1988	400.0	353.654	1.415	352.2
14.	Punachi PH	1992	2.0	1.568	0.006	1.6
15.	Sholayar PHI	1971	84.0	237.914	0.952	237.0
16.	Sholayar PHII	1971	25.0	52.505	0.210	52.3
17.	Aliyar PH	1970	60.0	119.211	0.477	118.7
18.	Sarkarpathy PH	1966	30.0	137.293	0.549	136.7
19.	Thirumurthy PH	2000	2.0	3.608	0.014	3.6
20.	Aliyar Mini PH	2002	2.5	8.451	0.034	8.4
21.	Amaravathy PH	2006	4.0	7.12	0.03	7.1
22.	Periyar	1965	168.0	548.03	2.19	545.8
23.	Suruliyar PH	1978	35.0	111.079	0.444	110.6
24.	Vaigai Mini PH	1990	6.0	18.472	0.074	18.4

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1	2	3		5	6	7
25	Kodayar PHI	1971	60.0	202.576	0.810	201.8
26	Kodayar PHII	1971	40.0	90.708	0.363	90.3
27	Perunchani MPH	2006	1.3	4.831	0.019	4.8
28	Papanasam PH	1951	32.0	131.924	0.528	131.4
29	Servalar PH	1986	20.0	48.126	0.193	47.9
30	Periyar Vaigai I	2016	4.0	11.345	0.045	11.3
31	Periyar Vaigai II		4.0	7.943	0.032	7.9
32	Periyar Vaigai III		2.5	11.913	0.048	11.9
33	Periyar Vaigai IV		2.5	6.816	0.027	6.8
34	Metur Dam PH	1946	50.0	133.83	0.54	133.3
35	Metur Tunnel PH	1966	200.0	337.157	1.349	335.8
36	Barrage PHI	1988	30.0	75.326	0.301	75.0
37	Barrage PHII	1988	30.0	75.437	0.302	75.1
38	Barrage PHIII	1987	30.0	75.939	0.304	75.6
39	Barrage PHIV	1989	30.0	63.784	0.255	63.5
40	MHPH/B.S	1990	8.0	29.496	0.118	29.4
41	RBC PH	1998	8.0	14.680	0.059	14.6
42	Santhanur MPH	1999	7.5	4.172	0.017	4.2
43	BKB PH I	2006	30.0	77.942	0.312	77.6
44	BKB PH II	2011	30.0	84.588	0.338	84.2
45	BKB PH III	2013	30.0	63.004	0.252	62.8
46	Bavani Barrage 1	2015	10.0	4.102	0.016	4.1
47	Bavani Barrage 2	2015	10.0	0.403	0.002	0.4
	Total Hydro		2321.90	5386.585	21.546	5365.039
	THERMAL					
48	North Chennai TPS	1996	630.0	2805.1950	291.6100	2513.6
49	Tuticorin TPS	1992	1050.0	4132.3820	355.8990	3776.5
50	Mettur TPS	1990	840.0	3544.0760	302.1800	3241.9
51	NCTPS StageII	2014	1200.0	3653.4920	297.0920	3356.4
52	MTPS Stage III	2013	600.0	1418.3700	102.0391	1316.3
	Total Thermal		4320	15553.5150	1348.8201	14204.69
	GAS					
53	Basin Bridge	1996	120.0	0	0	0.0
54	Kovil Kalappal	2001	107.9	214.3488	35.678	178.7
55	Vazhuthur	2003	95.0	478.343	26.532	451.8
56	Valuthur Phase II	2008	92.2	539.827	36.696	503.1
57	Kuttalam	2004	101.0	489.908	38.2808	451.6
	Wind Mill + Solar					
58	TNEB			3.812		3.812
	Sub Total		516.08	1726.2388	137.1859	1589.05

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1	2	3	4	5	6	7
59	NNTPP	2019	655	1972.918		
60	Neyveli TPS 1-Expansion	2003	226	1222.176		
61	Neyveli TPS 2	1993	469	1817.984		
62	MAPS	1985	331	1012.797		
63	KAPS	2011	224	1609.002		
64	Ramagundam Stage 1 & 2	1991	524	2924.771		
65	Ramagundam Stage 3	2005	131	688.015		
66	ER Power		35	319.769		
67	Talcher Stage 2	2005	496	3338.353		
68	Simhadri Stage 2	2012	224	851.016		
69	Vallur NTECL	2015	1064	3625.654		
70	Kudankulam NPCIL	2017	1152	6335.847		
71	Neyveli TPS-2 Expansion	2015	270	943.306		
72	NLC TamilNadu Power Ltd (NTPL)	2015	411	2108.428		
73	Kudgi	2017	346	560.999		
74	Solar bundled NVVN Power from NTPC stations			22.257		
75	Devition Settlement Mechanism (inter state+intra-state)			-412.014		
76	Sub Total		6558.000	28941.278		
	Private Sector-Purchases					
77	PPN Power Generating Company Pvt. Ltd.	2001	330.5	2.007	0.262	1.745
78	TAQA Neyveli Power Company Pvt. Ltd.	2002	250.0	886.130	74.680	811.45
79	Lanco Tanjore Power Company Ltd*	2005	113.2	181.712	11.543	170.169

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Sl. No.	Name of power station	Year of operation	Installed Capacity in MW	Generation in MU	Auxiliary Consumption in MU	Net Generation in MU
1	2	3	4	5	6	7
80	Pioneer Power Ltd.	2006	52.8	221.709	13.492	208.217
	Sub Total		746.5	1291.558	99.977	1191.581
81	CPP direct		812.09	13.244		
82	CPP Purchase through traders			0.000		
83	Co-Generation**		710.9	283.449		
84	WIND MILL (Pvt)**		8565.90	12551.913		
85	Bio-mass**		265.594	2.993		
86	Solar (Pvt)**		4511.30	6115.483		
87	Trading Purchase (Bilateral)			5447.930		
88	Trading Purchase (Exchange)			1670.540		
89	Trading Purchase (Case 1 bidding)		3380	19449.893		
90	Swap receipt			1502.520		
91	Swap return / Swap Banking/ Sale			-1018.736		
92	Total Wheeling quantum by HT Power sale to other states by TANGEDCO			8129.530		
93	Power sale to other states by Pvt Generations			-31.799		
94	TNEB Generation towards Interstate Sale			-89.367		
95	CPP Power injected towards Interstate Sale			31.799		
96	Total Installed capacity (firm) in MW		18654.57			
	Total Installed capacity in MW (in firm) **		14053.69			
	Power Demand					
(i)	Instantaneous Demand met in MW		16481			
(ii)	Sustained Demand met in MW		16481			

*The ppa of LANCO Tanjore Power Copmany Ltd expired on 31.07.2020

**-Not included in Installed Capacity

**10.2 LENGTH OF EHT/HT LINES, DISTRIBUTION TRANSFORMERS
AND EHT/HT SUB STATIONS 2020-21**

<i>Item</i>	<i>Units</i>	<i>Energised as on 31.03.2021</i>
Length of E.H.T. & Lines existing	Lakh Circuit Kms	0.36
Length of HT Lines existing	Lakh Kms	1.86
Length of L.T. Lines existing	Lakh Kms	6.43
Distribution Transformers existing	Nos.	3, 48,030
E.H.T. & H.T Sub-stations (existing)	Nos.	1828

*Source: Chief Engineer (Planning),
Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2*

10.3 CONSUMPTION OF ELECTRICITY 2020-21

<i>Category</i>	<i>Consumption (M.U.)</i>	<i>Percentage of Consumption</i>
Industries (including Traction)	32400	34.71
Agriculture	13956	14.95
Domestic	32714	35.05
Commercial	8956	9.59
Public Lighting & Water Works	2587	2.77
Sales to Licensees Sales to other states	10	0.01
Miscellaneous	2721	2.92
TOTAL	93344	100

*Source: The Chief Engineer (Planning),
Tamil Nadu Generation and Distribution Corporation Ltd, Chennai*







10.4 CONSUMERS AND CONNECTED LOAD

TARIFF	CONSUMERS	As on 31-03-2021	
		Consumers (in lakhs)	Connected Load (MW)
I	H.T. Supply	0.1	9,149
II	LT Supply		
1.	Domestic	227.53	37,082
2.	Public Lighting & Water Supply	7.61	2,513
3.	Industries	7.38	10,141
4.	Agriculture	21.81	11,017
5.	Huts	9.89	127
6.	Recognized Educational Institutions & Private Educational Institutions	0.95	567
7.	Commercial	35.37	11,305
8.	Others	5.74	1,256
TOTAL		316.38	83,157

Source: The Chief Engineer (Planning),
Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2

10.5 RURAL ELECTRIFICATION BY DISTRICTS 2020-21

(in Nos.)

	Name of the District	Habitations			AD colonies electrified	No. of Pumpsets energized during the year 2020-21
		Existing	Electrified	Un-Electrified		
	1	2	3	4	5	6
1.	Kancheepuram	1354	1354	0	2201	227
2.	Thiruvallur	3862	3862	0		788
3.	Chengalpet	2158	2158	0		322
4.	Coimbatore	1200	1200	0	2997	2600
5.	Erode	3199	3199	0		2256
6.	Tiruppur	2455	2455	0		4186
7.	Dharmapuri	2835	2835	0	1049	3680
8.	Krishnagiri	3983	3983	0		4624
9.	Kanniyakumari	1155	1155	0	388	60
10.	Chennai	0	0	0		0
11.	Madurai	1946	1945	1	1734	1067
12.	Theni	607	607	0		1122
13.	Dindigul	3083	3083	0		2063
14.	The Nilgiris	1282	1282	0	87	150
15.	Vellore	2122	2122	0	1796	457
16.	Tiruvannamalai	4267	4267	0		1272
17.	Ranipet	1593	1593	0		773
18.	Thirupattthur	2394	2394	0		460
19.	Pudukkottai	4062	4062	0	1062	1255
20.	Ramanathapuram	2306	2306	0	1518	259
21.	Sivagangai	2723	2723	0		1120
22.	Virudhunagar	1760	1760	0		589
23.	Salem	5109	5109	0	1521	1607
24.	Namakkal	2520	2520	0		2411
25.	Cuddalore	2403	2403	0	2358	588
26.	Villupuram	2285	2285	0		1133
27.	Kallakuruchi	1202	1202	0		2424
28.	Thanjavur	2260	2260	0	6671	2789
29.	Nagapattinam	2054	2054	0		14
30.	Thiruvarur	1704	1704	0		488
31.	Tiruchirappalli	2210	2210	0	2004	924
32.	Perambalur	314	314	0		632
33.	Karur	2179	2179	0		1349
34.	Ariyalur	710	710	0		1524
35.	Thoothukkudi	1761	1761	0		678
36.	Tirunelveli	1337	1337	0	1378	859
37.	Tenkasi	1000	1000	0		770
38.	Mayiladuthurai	0	0	0		138
	TOTAL	79394	79393	1	26764	47658

10.5 RURAL ELECTRIFICATION BY DISTRICTS 2019-20(Contd.)

(In Nos)

<i>Name of the District</i>		<i>Agricultural Pumpsets Energized as on 31.3.2021</i>	<i>Huts Electrified as on 31.3.2021</i>
<i>1</i>		<i>7</i>	<i>8</i>
1.	Kancheepuram	23380	19158
2.	Thiruvallur	50394	35199
3.	Chengalpet	46745	20690
4.	Coimbatore	86600	23470
5.	Erode	106435	23266
6.	Tiruppur	110724	21406
7.	Dharmapuri	77660	21658
8.	Krishnagiri	62643	21379
9.	Kanniyakumari	8109	3015
10.	Chennai	83	560
11.	Madurai	54062	20701
12.	Theni	39832	4111
13.	Dindigul	100590	24886
14.	The Nilgiris	1635	11727
15.	Vellore	45521	22959
16.	Tiruvannamalai	186762	50945
17.	Ranipet	55348	26863
18.	Thirupatthur	44854	20952
19.	Pudukkottai	63028	48357
20.	Ramanathapuram	9621	2081
21.	Sivagangai	27299	4104
22.	Virudhunagar	39610	9120
23.	Salem	135499	42420
24.	Namakkal	99538	34303
25.	Cuddalore	74286	102316
26.	Villupuram	113037	67512
27.	Kallakuruchi	84060	65207
28.	Thanjavur	66212	37182
29.	Nagapattinam	2482	19623
30.	Thiruvarur	23311	46105
31.	Tiruchirappalli	89505	44517
32.	Perambalur	42059	13286
33.	Karur	50201	12977
34.	Ariyalur	18944	18320
35.	Thoothukkudi	30925	5360
36.	Tirunelveli	35266	3967
37.	Tenkasi	49654	4295
38.	Mayiladuthurai	25416	35141
TOTAL		2181330	989138

Source: The Chief Engineer Planning,
Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2

10.6 TAMIL NADU ELECTRICITY BOARD - CAPITAL BUDGET AT A GLANCE
(Rs. in Crores)

<i>Details</i>	<i>Actual Expenditure during 2020-21 (Provisional)</i>	<i>Approved Outlay for 2020-21 (BE)</i>
1. Generation (Including investment in Joint Venture)	2911.66	8889.50
2. Renovation & modernisation	0.00	0.00
3. Transmission & Distribution	6642.22	7402.81
4. Rural Electrification	249.77	154.93
5. Survey & Investigation	59.00	13.47
6. Interest during Construction	2411.16	2962.60
TOTAL	12273.81	19423.31

*Source: The Chief Engineer (Planning),
Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2*

10.7 APPROVED AND ONGOING THERMAL & HYDRO SCHEMES

(Rs. in Crores)

<i>Name of the Projects</i>	<i>Original Sanctioned Cost / Price level</i>	<i>Latest Estimate cost / Price level</i>	<i>Expenditure Upto 31.03.2021</i>
ETPS Expansion Thermal Power Project (1 x660 MW)	6380.81	6380.81	792.166
Ennore SEZ Thermal Power Project (2 x660 MW)	9800	9800	4493.86
North Chennai Thermal Power Project Stage III (1 x800 MW)	6376	8723	6391.93
Uppur Thermal Power Project (2 x800MW)	12778 (2014-15)	12778	2298
Udangudi Thermal Power Project Stage I (2 x660 MW)	13077	13077	3392
Udangudi Thermal Power Project Stage II (2 x660 MW)	8745	8745	0.3343
Udangudi Thermal Power Project Stage III (2 x660 MW)	8745	8745	0.3343
Kundah Pumped Storage Hydro Electric Project	1831.29 (2013-14)	1831.29	344.08
Sillahala Pumped Storage Hydro Electric Project(4 x250 MW)-Stage I	4952.17 (2019-20)	4952.17	3.88
Kollimalai Hydro Electric Project (1 x20 MW)	338.79 (2013-14)	338.79	73.90
Mechanization of CJ-1 at VOC Port	325 (2020-21)	325 (2020-21)	-

Source : The Chief Engineer (Planning), Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2 (Completion of the Project).

10.8 TIME SERIES DATA – DEVELOPMENT OF ENERGY IN TAMIL NADU

<i>Year</i>	<i>Installed capacity (MW)</i>	<i>TANGEDCO Generation (MU)</i>	<i>Purchases (MU)</i>	<i>Per Capita Consumption (KWH)</i>
2005-06	10031	26915	29812	860
2006-07	10098	29481	34208	960
2007-08	10122	29241	37608	1000
2008-09	10214	28983	38093	1000
2009-10	10214	27860	45027	1080
2010-11	10237	25639	50433	1040
2011-12	10364	27942	48592	1065
2012-13	10515	25301	49571	1011
2013-14	11884	31276	58517	1196
2014-15	13231	34569	59559	1228
2015-16	17976	34709	64982	1280
2016-17	18733	29223	76505	1340
2017-18	18747	27873	78954	1389
2018-19	18300	33328	80462	1467
2019-20*	16035	28244	85985	1515
2020-21*	16219	22667	84397	1464

**-As per the CEA memorandum dated 08.03.2019, Hydro generation has been considered as renewable energy resource and has been deleted from conventional sources.*

Source : The Chief Engineer (Planning),

Tamil Nadu Generation and Distribution Corporation Ltd, Chennai-2