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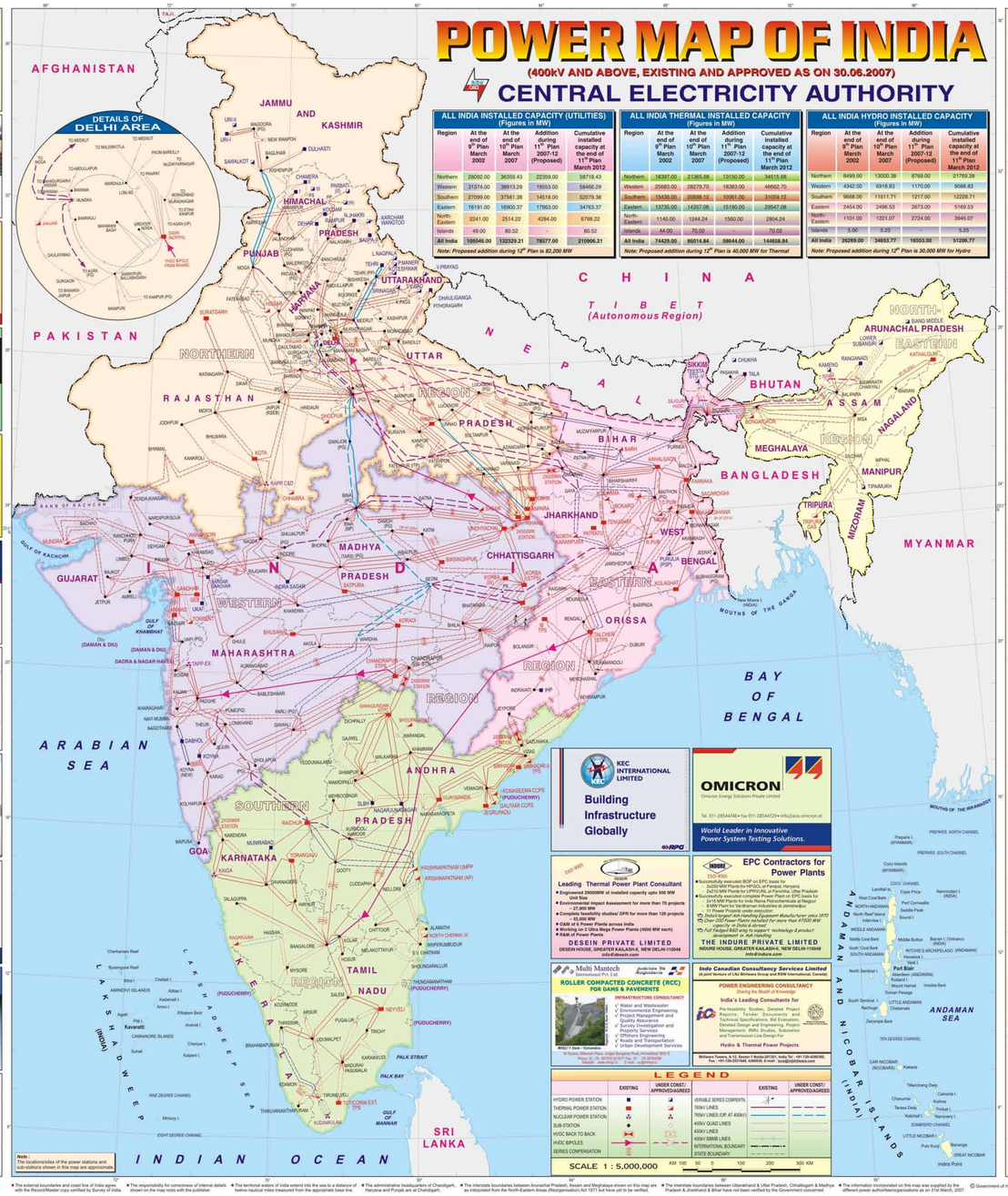
POWER MAP OF INDIA

(400kV AND ABOVE, EXISTING AND APPROVED AS ON 30.06.2007)

CENTRAL ELECTRICITY AUTHORITY



ALL INDIA INSTALLED CAPACITY (UTILITIES) (Figures in MW)

Region	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
Northern	28092.00	36359.43	22559.00	58718.43
Western	31374.00	38913.29	19553.00	58466.29
Southern	27099.00	37561.38	14518.00	52079.38
Eastern	16191.00	16900.37	17863.00	34763.37
North-Eastern	2241.00	2514.22	4284.00	6798.22
Islands	49.00	80.52	-	80.52
All India	105046.00	132329.21	78677.00	210906.21

Note: Proposed addition during 12th Plan is 62,200 MW

ALL INDIA THERMAL INSTALLED CAPACITY (Figures in MW)

Region	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
Northern	18397.00	21365.68	13150.00	34515.68
Western	25483.00	28279.70	18383.00	46662.70
Southern	15430.00	20698.12	10361.00	31059.12
Eastern	13735.00	14357.08	15190.00	29547.08
North-Eastern	1140.00	1244.24	1560.00	2804.24
Islands	44.00	70.00	-	70.00
All India	74429.00	86014.84	58644.00	144658.84

Note: Proposed addition during 12th Plan is 40,000 MW for Thermal

ALL INDIA HYDRO INSTALLED CAPACITY (Figures in MW)

Region	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
Northern	8499.00	13000.38	8769.00	21769.38
Western	4342.00	6918.83	1170.00	8088.83
Southern	9668.00	11011.71	1217.00	12228.71
Eastern	2454.00	2496.53	2673.00	5169.53
North-Eastern	1101.00	1221.07	2724.00	3945.07
Islands	5.00	5.25	-	5.25
All India	26069.00	34653.77	16553.00	51206.77

Note: Proposed addition during 12th Plan is 30,000 MW for Hydro

ALL INDIA NUCLEAR INSTALLED CAPACITY (Figures in MW)

Region	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
Northern	1180.00	1180.00	440.00	1620.00
Western	760.00	1840.00	-	1840.00
Southern	780.00	880.00	2940.00	3820.00
Eastern	-	-	-	-
North-Eastern	-	-	-	-
Islands	-	-	-	-
All India	2720.00	3900.00	3380.00	7280.00

Note: Proposed addition during 12th Plan is 12,200 MW for Nuclear

ALL INDIA RENEWABLE POWER INSTALLED CAPACITY (Figures in MW)

Type Sources	Estimated Potential	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end 11th Plan March 2012
Wind Power	45000	1648	7094	10,500	17594
Bio-Power	61000				
Co-gen. Bagasse	5000	381	1140	1700	2840
Small Hydro	15000	1438	1975	1400	3375
Energy from waste	50000	6	44	400	444
Solar Photovoltaic	7000	2	3	-	3
All India	1,83,000	3475	10,256	14,000	24,256

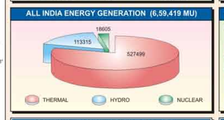
ALL INDIA CAPTIVE INSTALLED CAPACITY (Figures in MW)

Type	At the end of 9th Plan March 2002	Addition during 10th Plan 2002-07	Installed capacity at the end of 10th Plan March 2007
Steam	9354.00	2462.00	10816.00
Diesel	6614.16	953.00	7567.16
Gas	2125.91	899.00	3024.91
Hydro	51.10	9.00	60.10
Total	17145.20	4323	21468.20

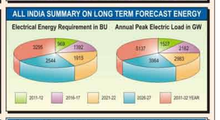
INSTALLED CAPACITY OF POWER UTILITIES IN THE CENTRAL, STATE AND PRIVATE SECTOR (Fig. in MW)

Sector	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan 2007-12 (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
Central	28734.00	45120.99	39865	84985.99
State	65512.01	70095.60	27952	98047.60
Private	10799.95	17112.62	10760	27872.62
Total	1,05,045.96	1,32,329.21	78,577.00	2,10,906.21

ALL INDIA ENERGY GENERATION (6,59,419 MU)



ALL INDIA SUMMARY ON LONG TERM FORECAST ENERGY



PROPOSED / IDENTIFIED ULTRA MEGA POWER PROJECTS

Sl. No.	Name of Ultra Mega Power Project	Capacity in MW	State
1	Sasan	3960	Madhya Pradesh
2	Mundra	4000	Gujarat
3	Krishnapatnam	4000	Andhra Pradesh
4	Akaltara	4000	Chhattisgarh
5	Tadri	4000	Karnataka
6	Girye	4000	Maharashtra
7	Orissa	4000	Orissa
8	Jharkhand	4000	Jharkhand
9	Cheyyur	4000	Tamil Nadu

CUMULATIVE GROWTH IN TRANSMISSION SECTOR AND PROGRAMME FOR ELEVENTH PLAN

	Unit	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Target at the end of 11th Plan March 2012
TRANSMISSION LINES				
765 kV	ckm	971	1704	7132
HVDC+/- 500 kV	ckm	3138	5872	11078
HVDC 200 kV Monopole	ckm	162	162	162
400 kV	ckm	49378	75722	125000
230/220 kV	ckm	96993	114829	150000
Total	ckm	150642	198089	293372
SUBSTATIONS				
HVDC BTB	MW	2000	3000	3000
HVDC Bipole+Monopole	MW	3200	5200	11200
Total-HVDC Terminal Capacity	MW	5200	8200	14200
765 kV	MVA	0	2000	53000
400 kV	MVA	60380	92942	145000
230/220 kV	MVA	116363	156497	230000
Total	MVA	176743	251439	428000

INTER REGIONAL POWER TRANSFER CAPACITY (Figures in MW)

Region	At the end of 9th Plan March 2002	At the end of 10th Plan March 2007	Addition during 11th Plan (2007-12) (Proposed)	Cumulative installed capacity at the end of 11th Plan March 2012
ER - SR	625	3120	500	3620
ER - NR	120	4220	9400	13620
ER - WR	360	1760	4900	6660
ER - NER	1240	1240	1600	2840
NR - WR	980	2080	2100	4180
WR - SR	1680	1680	2100	3780
NER-NR/WR	-	-	3000	3000
All India	5000	14100	23600	37700

PATTERN OF UTILIZATION OF ELECTRICAL ENERGY (PUBLIC UTILITIES) (Figures in %)

Consumption Categories	End of 9th Plan March 2002	End of 10th Plan March 2007 (Provisional)	End of 11th Plan March 2012
Domestic	24.71	25.72	28.16
Commercial	7.49	8.28	8.69
Irrigation	25.33	22.44	20.23
Industry	33.27	35.59	34.50
Others	9.20	7.92	7.42

TRANSMISSION AND DISTRIBUTION LOSSES (%) UTILITIES

Region	2006-07	2011-12	2016-17	2021-22
Northern	32.05	24.48	20.58	18.64
Western	30.71	24.36	19.09	17.07
Southern	20.85	18.40	15.69	14.36
Eastern	28.16	21.72	18.97	15.98
North- Eastern	31.08	20.65	17.52	16.22
Andman & Nicholar	21.5	19.00	16.50	14.00
Lakshadweep	15.1	9.99	10.00	10.00
All India	28.27	21.97	18.56	16.81

PUMPED STORAGE DEVELOPMENT IN INDIA

Sl. No.	SCHEMES	INSTALLED CAPACITY No. of Units x Unit Size (MW)	MW
A. SCHEMES IN OPERATION			
1	Kadana (S) 1 & (I) - Gujarat	2 x 60 + 2 x 60	240
2	Paithan - Maharashtra	1 x 12	12
3	Nagarjuna Sagar - Andhra Pradesh	7 x 100.80	705.60
4	Kadamparai - Tamil Nadu	4 x 100	400
5	Panchet Hill - DVC	1 x 40	40
6	Ujjani - Maharashtra	1 x 12	12
7	Bhira - Maharashtra	1 x 150	150
8	Srisailam LBPH - Andhra Pradesh	6 x 150	900
9	Sardar Sarovar - Gujarat	6 x 200	1200
		Total	3659.60
B. SCHEMES UNDER CONSTRUCTION			
1	Ghatghar - Maharashtra	2 x 125	250
2	Purlia - West Bengal	4 x 225	900
3	Tehri St. – II - Uttaraakhand	4 x 250	1000
		Total	2150
		Grand Total	5809.60

REQUIREMENT OF ELCTRICAL AND MECHNICAL EQUIPMENT FOR 11TH & 12TH PLAN CAPACITY ADDITION PROGRAMME FOR THERMAL PROJECTS

Sl. No.	Equipment	11th Plan	12th Plan	Total
1	Gen. Tr./Stn. Tr./Unit Tr./ Inter. Con. Transformers (Nos.)	737	362	1110
2	Misc. Service & Aux. Transformers (Nos.)	412	246	658
3	33 kV/11 kV/3.3 kV Switchgear (Nos.)	16271	9004	25365
4	HT/LT Motors (Nos.)	161280	88738	250018
5	LT transformers (Nos.)	3722	1924	5646
6	LT MCC Panels (Nos.)	34521	19792	54313
7	415 V Switchgear Panel (Nos.)	10175	5650	15825
8	DC Battery (Nos.)	606	309	965
9	Battery Charger (Nos.)	800	415	1215
10	33 kV/ 11 kV/ 6.6 kV/3.3 kV Single Core/ Multi Core Cable(km)	6034	3692	9726
11	11 kV Power Cable (km)	26662	13821	40483
12	1.1 kV Control Cable (km)	50468	23579	74047
13	Emergency DG Set 1500 KVA(Nos.)	213	86	299

ACTUAL POWER SUPPLY POSITION, PEAK DEMAND AND PEAK MET

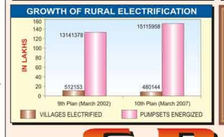
APRIL 2006 – MARCH 2007

Region	Requirement (MU)	Availability (MU)	Surplus / Deficit (-) (MU) (%)	Peak Demand (MW)	Peak Met (MW)	Surplus / Deficit (-) (MW) (%)
Northern	221121	175984	-22136 (11.0)	31519	26844	-4675 (15.0)
Western	223341	198411	-30214 (15.0)	30403	27461	-2942 (10.7)
Southern	182201	173117	-4884 (2.7)	26176	24703	-1473 (5.7)
Eastern	88116	82610	-2515 (3.0)	15481	15053	-428 (2.8)
N.Eastern	7782	7012	-770 (9.9)	1477	1188	-289 (19.6)
All India	666537	626445	-40092 (6.0)	106176	95618	-10587 (10.0)

REQUIREMENT OF ELCTRICAL AND MECHNICAL EQUIPMENT FOR 11TH & 12TH PLAN CAPACITY ADDITION PROGRAMME FOR HYDRO PROJECTS

Sl. No.	Equipment	11th Plan	12th Plan	Total
1	Hydro Mechanical Gates & Hoist (sets)			
	(i) Radial Sluiceway Gates	250	482	732
	(ii) Vertical Lift Gates	365	702	1067
2	Electro-Mechanical			
	(i) Turbine (MW)	15585	30000	45585
	(ii) Turbine Governors (Nos.)	171	322	493
	(iii) Syn. Generator (MVA)	15737	30353	30809
	(iv) Syn. Generator (Nos.)	171	322	493

GROWTH OF RURAL ELECTRIFICATION



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LEGEND

	EXISTING	UNDER CONST./ APPROVED/AGREED
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NUCLEAR POWER STATION		
SUB-STATION		
HVDC BACK TO BACK		
HVDC BIPOLES		
SERIES COMPENSATION		
VERIABLE SERIES COMPENSTN.		
765kV LINES		
765kV LINES (OP. AT 400kV)		
400kV QUAD LINES		
400kV LINES		
400kV 85MR LINES		
INTERNATIONAL BOUNDARY		
STATE BOUNDARY		

SCALE 1 : 5,000,000

KM 100 50 0 100 200 300 KM

Note : The locations/sites of the power stations and sub-stations shown in this map are approximate.

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• The external boundaries and coast line of India agree with the Record/Master copy certified by Survey of India.
• The responsibility for correctness of internal details shown on the map rests with the publisher.
• The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
• The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh.
• The interstate boundaries between Arunachal Pradesh, Assam and Meghalaya shown on this map are as interpreted from the North-Eastern Areas (Reorganisation) Act 1971 but have yet to be verified.
• The interstate boundaries between Uttaranchal & Uttar Pradesh, Chhattisgarh & Madhya Pradesh & Jharkhand & Bihar have not been verified by the Government concerned.
• The information incorporated on this map was supplied by the different power authorities/organisations as on 31st March, 2007.