



भारत के विद्युत क्षेत्र का
1947 से 2023 तक का संवर्धन

**GROWTH OF ELECTRICITY SECTOR
IN INDIA FROM 1947-2023**

भारत सरकार

GOVERNMENT OF INDIA

विद्युत मंत्रालय

MINISTRY OF POWER

केन्द्रीय विद्युत प्राधिकरण

CENTRAL ELECTRICITY AUTHORITY

नई दिल्ली

NEW DELHI

अगस्त, 2023

AUGUST, 2023



भारत के विद्युत क्षेत्र का 1947 से 2023 तक का संवर्धन
GROWTH OF ELECTRICITY SECTOR IN INDIA FROM 1947-2023

भारत सरकार
GOVERNMENT OF INDIA
विद्युत मंत्रालय
MINISTRY OF POWER
केन्द्रीय विद्युत प्राधिकरण
CENTRAL ELECTRICITY AUTHORITY
नई दिल्ली
NEW DELHI
अगस्त, 2023
August, 2023

घनश्याम प्रसाद
अध्यक्ष तथा पदेन सचिव भारत सरकार
GHANSHYAM PRASAD
Chairperson & Ex-officio Secretary
To the Government Of India



केन्द्रीय विद्युत प्राधिकरण
भारत सरकार
विद्युत मंत्रालय
सेवा भवन, आर,के, पुरम
नई दिल्ली-110066
Central Electricity Authority
Ministry of Power
Sewa Bhawan, R. K. Puram
New Delhi-110066

The booklet “Growth of Electricity Sector in India” published annually by Central Electricity Authority provides panoramic view of growth of the Indian Power Sector over the years. The relevant information and statistics have been presented in the forms of graphs, pic-charts, maps and tables. The Indian Electricity Sector has come a long way ever since 5 year plan wise development was initiated. This publication provides details of the growth of vital development indicators like Installed Electricity Generating Capacity, Electrical Energy Generation, Transmission and Distribution Network, Captive Power Plants and pattern of Electricity Consumption etc.

The data for this publication has been sourced from various power sector entities in the country. The important statistics like per capita electricity consumption, percentage share of different categories of consumption, transmission and distribution losses etc., have been compared with the data of some of the developed and developing nations. I hope that this booklet will be very helpful in providing concise & useful information on Indian Electricity Sector.

(Ghanshyam Prasad)



A. Balan
Member (Planning)



PREFACE

Power Sector in India has grown significantly since Independence, both in the Installed Capacity and Transmission & Distribution (T&D) system. The total Power Generating Capacity of (utilities & non utilities) has increased from a meagre 1362 MW in 1947 to about 495.2 GW at the end of March, 2023. The Per Capita Electricity Consumption which was a mere 16.3 units in 1947, has increased to 1327 units in 2022-23. In the last few years, the shortages have reduced substantially and, in fact, at present we have surplus generating capacity.

This booklet brought out by CEA is a regular feature, which contains vital information in the form of graphs, pie charts, maps and tables. The information covers 5 yearly (earlier called Plan period) pattern of growth accomplished for various important indicators like Installed Capacity, Hydroelectric Potential, state wise forecast of Electricity Demand of the country, Electrical Energy Generation, Transmission & Distribution network, Power Supply Position, Captive Power Plants, pattern of Electricity Consumption of the country as well as Per Capita Consumption. The booklet also contains maps showing state-wise Installed Electricity Generating Capacity, thus giving a panoramic view of our country.

The Statistics from other countries vis-à-vis India i.e. Generation from various sources, category wise Electricity Consumption, Per Capita Consumption and Transmission & Distribution losses are also shown in this booklet.

I am hopeful that this handy booklet would prove to be useful to all stakeholders

August, 2023


(A. Balan)

दूरभाष (का०)
TELEPHONE (O)
TELEFAX (O)

सदस्य
तथा पदेन अपर सचिव भारत सरकार
केन्द्रीय विद्युत प्राधिकरण
सेवा भवन, रामाकृष्णा पुरम्

MEMBER
& EX-OFFICIO ADDL. SECRETARY TO THE GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN, R. K. PURAM

नई दिल्ली - 110066
NEW DELHI-110066





CONTENTS

S. No.	Table No.	TITLE	Pg. No.
1.	Table : 1	Plan-wise Growth of Electricity Sector in India (Utilities)	1
2.	Chart : 1	Plan-wise Growth of Installed Capacity in the Country (Utilities)	2
3.	Chart : 2A	Plan-wise Growth of Transmission Lines in the Country 66 kV and above	3
4.	Chart : 2B	Plan-wise Growth of Transmission Lines in the Country below 66 kV	4
5.	Chart : 3	Plan-wise Growth of Number of Villages Electrified in the Country	5
6.	Chart : 4	Plan-wise Growth of Per Capita Consumption of Electricity in the Country	6
7.	Chart : 5	Per Capita Electricity Consumption in Various Countries in 2019 & 2020	7
8.	Table : 2	Plan-wise Growth of Installed Capacity in India - Mode-wise (Utilities)	8
9.	Chart : 6	Plan-wise Growth of Installed Capacity in India Hydro Electric Power Stations	9
10.	Chart : 6A	Basin-wise Status of Hydro Electric Potential Development in terms of Installed Capacity above 25 MW %-wise (As on 31.03.2023)	10
11.	Chart : 6B	Region-wise Status of Hydro Electric Potential Development in terms of Installed Capacity above 25 MW %-wise (As on 31.03.2023)	11
12.	Chart : 7A	Plan-wise Growth of Installed Capacity in India Coal/ Lignite-based Plants	12
13.	Chart : 7B	Plan-wise Growth of Installed Capacity in India Gas/ Liquid-based Plants	13
14.	Chart : 7C	Plan-wise Growth of Installed Capacity in India Diesel-based Plants	14
15.	Chart : 8	Plan-wise Growth of Installed Capacity in India Nuclear-based Plants	15
16.	Chart : 8A	Sector-wise Growth of Installed Capacity (MW) 2003-04 to 2022-23	16
17.	Chart : 8B	Mode-wise/Year-wise Growth of Installed Capacity of RES during last 15 years	17
18.	Pie Chart : 9	All India Installed Capacity - (Utilities) (As on 31.03.2023)	18
19.	Pie Chart : 9A	All India Installed Capacity - (Utilities) (As on 31.03.2022)	19
20.	Table : 3	Plan-wise Growth of Gross Electricity Generation in India - Mode-wise (Utilities)	20

CONTENTS

S. No.	Table No.	TITLE	Pg. No.
21.	Chart : 10	Specific Generation by All India Power Stations - Mode-wise (Utilities) (1999-00 to 2021-22)	21
22.	Chart : 11	Plan-wise Growth of Electricity Generation in India Hydro Electric Power Stations	22
23.	Chart : 12A	Plan-wise Growth of Electricity Generation in India Coal/ Lignite-based Power Plants	23
24.	Chart : 12B	Plan-wise Growth of Electricity Generation in India Gas/ Liquid Fuel-based Power Plants	24
25.	Chart : 12C	Plan-wise Growth of Electricity Generation in India Diesel-based Power Plants	25
26.	Chart : 13	All India PLF (%) of Thermal Power Stations (Coal and Lignite-based)	26
27.	Chart : 14	Plan-wise Growth of Electricity Generation in India Nuclear Power Plants	27
28.	Chart : 15	Plan-wise Growth of All India Electricity Generation (Utilities)	28
29.	Chart : 15A	Sector-wise Growth of Energy Generation (GWh) (2003-04 to 2022-23)	29
30.	Chart : 15B	Mode-wise/ Year-wise Growth of Electricity Generation from R.E.S. during last 9 years	30
31.	Pie Chart : 16	Gross Electricity Generation in India Mode-wise - (Utilities) 2022-23	31
32.	Pie Chart : 16A	Gross Electricity Generation in India Mode-wise - (Utilities) 2021-22	32
33.	Chart : 17	Gross Electricity Generation in various Countries Mode-wise in 2020	33
34.	Chart : 18	Mode-wise % Share in Electricity Generation in various countries in 2020	34
35.	Table 4	Plan-wise/ Category-wise Growth of Electricity Consumption in India (Utilities & Non-Utilities)	35
36.	Chart : 19	Plan-wise Growth of Electricity Consumption in India - Domestic Sector	36
37.	Chart : 20	Plan-wise Growth of Electricity Consumption in India - Commercial Sector	37
38.	Chart : 21	Plan-wise Growth of Electricity Consumption in India - Industrial Sector	38
39.	Chart : 22	Plan-wise Growth of Electricity Consumption in India - Traction Sector	39
40.	Chart : 23	Plan-wise Growth of Electricity Consumption in India - Agriculture Sector	40

CONTENTS

S. No.	Table No.	TITLE	Pg. No.
41.	Chart : 24	Plan-wise Growth of Electricity Consumption in India - Miscellaneous Sector	41
42.	Chart : 25	Plan-wise Growth of All India Total Electricity Consumption (Utilities & Non-Utilities)	42
43.	Chart : 25A	Trend of Category-wise Energy Consumption 2003-04 to 2022-23	43
44.	Pie Chart : 26	All India Electricity Consumption Sector-wise - (Utilities & Non-Utilities) 2022-23@	44
45.	Pie Chart : 26A	All India Electricity Consumption Sector-wise - (Utilities & Non-Utilities) 2021-22	45
46.	Chart : 27	Category-wise Electricity Consumption in various Countries - 2020	46
47.	Chart : 28	Category-wise % Shares in Electricity Consumption in various Countries - 2020	47
48.	Table : 5	Per Capita Electricity Consumption and T&D Losses of various countries in 2019 & 2020	48
49.	Chart : 29	All India Transmission and Distribution Losses (%)	49
50.	Chart : 30	T & D Losses of various Countries in 2019 & 2020 (%)	50
51.	Table : 6	Plan-wise Growth of Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise	51
52.	Pie Chart : 31	Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise - (As on 31.03.2023)@	52
53.	Pie Chart : 31A	Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise - (As on 31.03.2022)	53
54.	Chart : 32	Plan-wise Growth of All India Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5 MW & Above	54
55.	Table : 7	Plan-wise Growth of Energy Generated by Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise	55
56.	Pie Chart:33	All India Electrical Energy Generated by Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise 2022-23@	56
57.	Pie Chart:33A	All India Electrical Energy Generated by Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise – 2021-22	57
58.	Chart : 34	Plan-wise Growth of Energy Generated by Captive Power Plants in Industries having Demand of 0.5 MW & Above	58
59.	Chart : 35	Capacity Addition Programme during 2023-24	59
60.	Chart : 36	Forecast of All India Peak Electricity Demand (Utilities) (As per 20th Electric Power Survey) in MW	60

CONTENTS

S. No.	Table No.	TITLE	Pg. No.
61.	Chart : 37	Forecast of All India Electrical Energy Requirement (Utilities) (As per 20th Electric Power Survey) in GWh	61
62.	Chart : 37A	19th Electric Power Survey of India (Volume –III) - Annual Electric Peak Load (in MW) of Mega Cities at Power Station Bus Bar (For the Year 2019-20, 2023-24 & 2024-25)	62
63.	Chart : 37B	19th Electric Power Survey of India (Volume –III) - Electrical Energy Requirement (in MU) of Mega Cities (For the Year 2019-20, 2023-24 & 2024-25)	63
64	Chart : 37C	19th Electric Power Survey of India (Volume –III) - Electrical Energy Consumption (in MU) of Mega Cities (For the Year 2019-20, 2023-24 & 2024-25)	64
65.	Table : 8	All India Power Supply Position Energy-wise & Peak-wise (Utilities) (1985-86 to 2021-22)	65-66
66.	Chart : 38	All India Peak & Energy Deficit (Utilities) (1985-86 to 2022-23)	67
67.	Table : 8A	Region-wise Summary of Electrical Energy Requirement (MU) & Peak Electricity Demand (MW) projections for the Year 2023-24 and 2024-25 As per 20h EPS (Volume-I)	68
68.	Table : 8B	Category-wise Forecast of Electrical Energy Consumption For the Year 2023-24 and 2024-25 As per 20th EPS (Volume-I)	69
69.	Table : 8C	Forecast of Electrical Energy Requirement (in MU) of NCR For the Year 2023-24 and 2024-25 As per 20th EPS (Volume-II)	70
70.	Chart : 39	Forecast of Electrical Energy Requirement (in MU) of NCR For the Year 2023-24 and 2024-25	71
71.	Table: 8D	Forecast of Electrical Energy Consumption (in MU) of NCR For the Year 2023-24 and 2024-25 As per 20th EPS (Volume-II)	72
72.	Chart : 40	Forecast of Electrical Energy Consumption (in MU) of NCR For the Year 2023-24 and 2024-25	73
73.	Map : 1	Map of India showing Installed Generating Capacity State-wise/ Mode-wise as on 31.03.2023	74
74.	Map : 2	Map of India showing Installed Generating Capacity State-wise as on 31.03.2023	75

Table 1
Plan wise Growth of Electricity Sector in India
Utilities

Sl. No.	As on / during financial year ending with	Installed Capacity (MW)	No. of villages electrified	Length of T & D Lines (Ckt. kms.)(#)	Per Capita Consumption (\$) (kWh)
1	31.12.1947	1362	N.A.	23238	16
2	31.12.1950	1713	3061	29271	18
3	31.03.1956(End of the 1st Plan)	2886	7294	85427	31
4	31.03.1961(End of the 2nd Plan)	4653	21754	157887	46
5	31.03.1966 (End of the 3rd Plan)	9027	45148	541704	74
6	31.03.1969(End of the 3 Annual Plans)	12957	73739	886301	98
7	31.03.1974(End of the 4th Plan)	16664	156729	1546097	126
8	31.03.1979(End of the 5th Plan)	26680	232770	2145919	172
9	31.03.1980(End of the 2 Annual Plans)	28448	249799	2351609	172
10	31.03.1985(End of the 6th Plan)	42585	370332	3211956	229
11	31.03.1990(End of the 7th Plan)	63636	470838	4407501	329
12	31.03.1992(End of the 2 Annual Plans)	69065	487170	4574200	348
13	31.03.1997(End of the 8th Plan)	85795	498836	5141413	465
14	31.03.2002(End of the 9th Plan)	105046	512153	6030148	559
15	31.03.2007 (End of 10th Plan)	132329	482864	6939894	672
16	31.03.2012 (End of 11th Plan)	199877	556633	8726092	884
17	31.03.2017 (End of 12th Plan)	326833	592972	10686448	1122
18	31.03.2018	344002	597121	11958511	1149
19	31.03.2019	356100	597464	12682649	1181
20	31.03.2020	370106	597464	13279315	1208
21	31.03.2021	382151	597464	13679477	1161
22	31.03.2022	399497	597464	13979990	1255
23	31.03.2023	416059	597464	14536690@	1331@

Note:

1. N.A. : Not Available.

2. (@) Estimated.

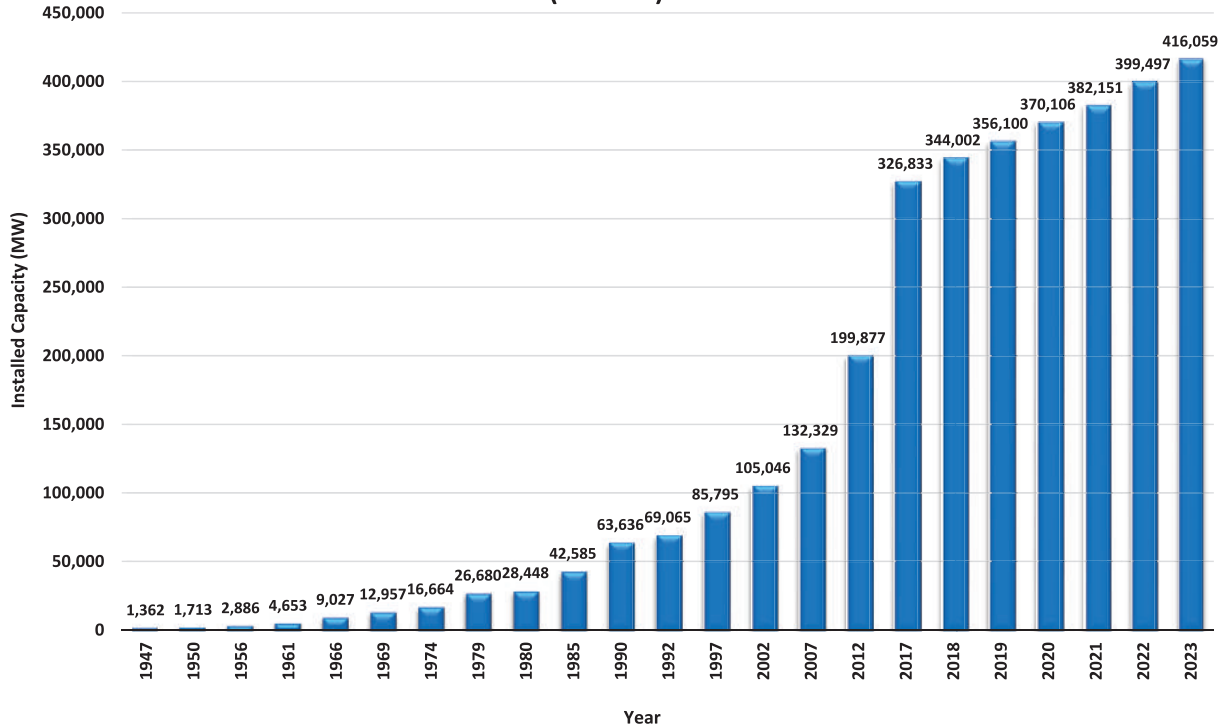
3. (\$) Per Capita Consumption=Gross Electrical Energy availability/ Mid year Population

4. (#) Includes 440 Volts Distribution Lines.

5. Rural electrification is based on revised definition of village electrification in the year 2004 and based on 2011 Census.

Plan-wise Growth of Installed Capacity in the Country (Utilities)

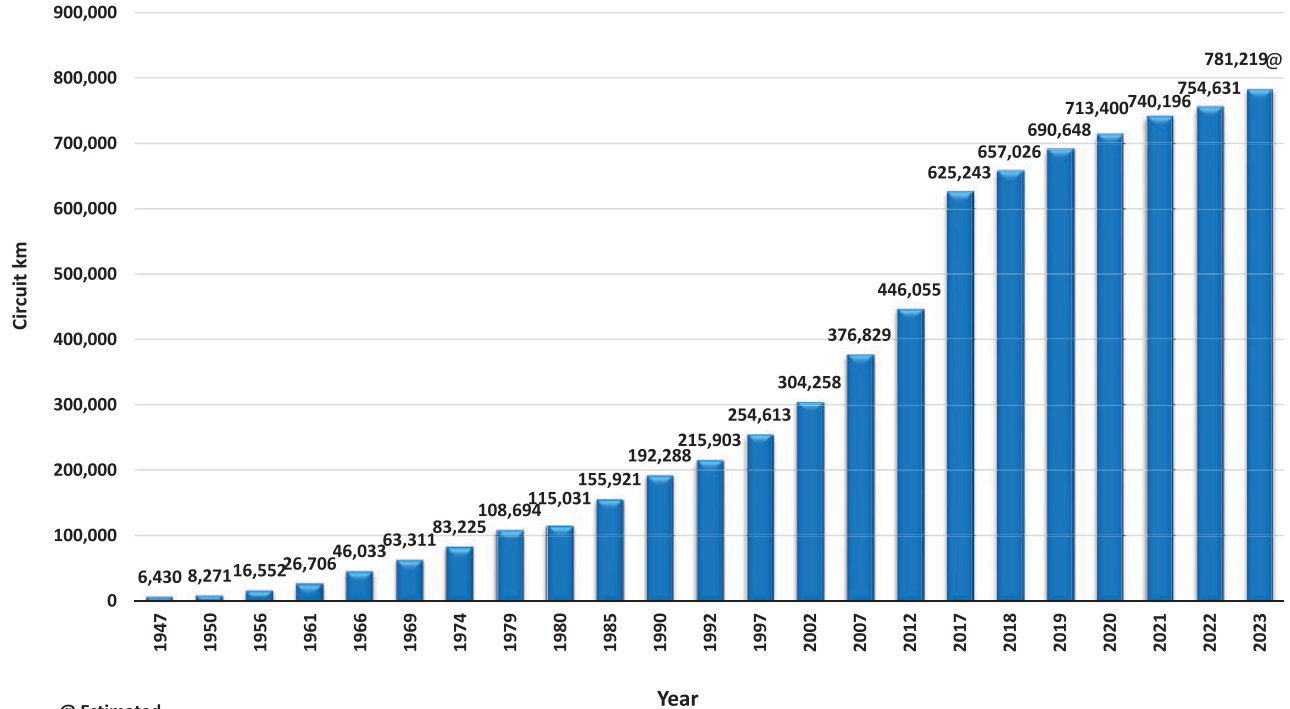
Chart : 1



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Plan-wise Growth of Transmission Lines in the Country 66 kV and above

Chart : 2A

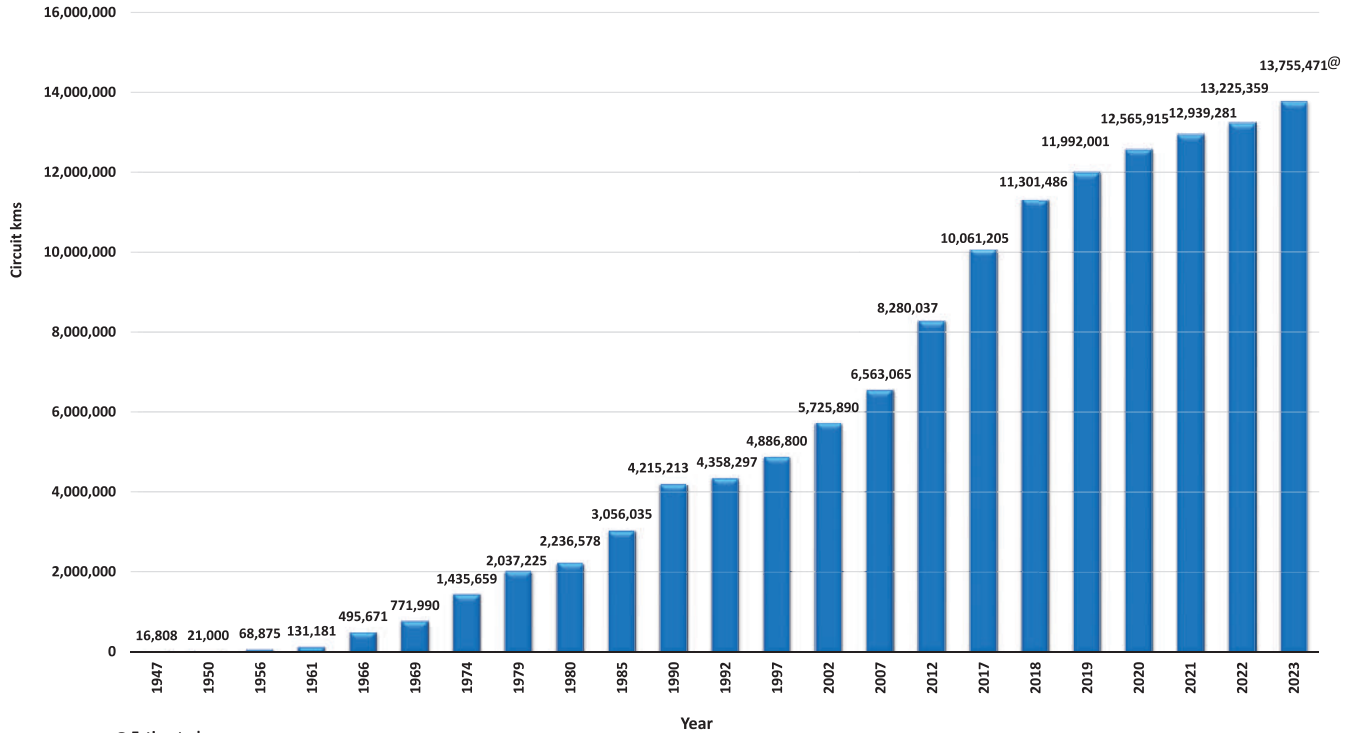


@ Estimated

Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Plan-wise Growth of Transmission Lines in the Country below 66 kV

Chart : 2B

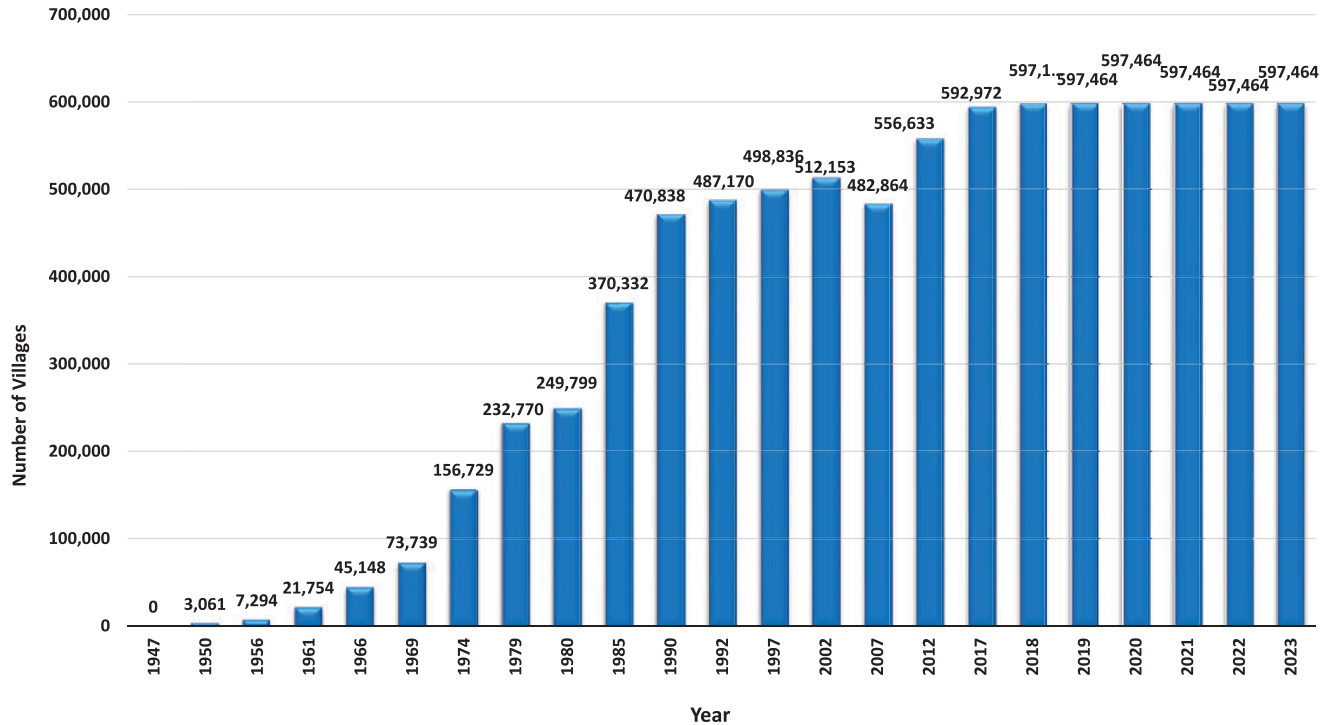


@ Estimated

- Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
 2. Figures for the year 1955-56 & onward are as on 31st March.

Chart : 3

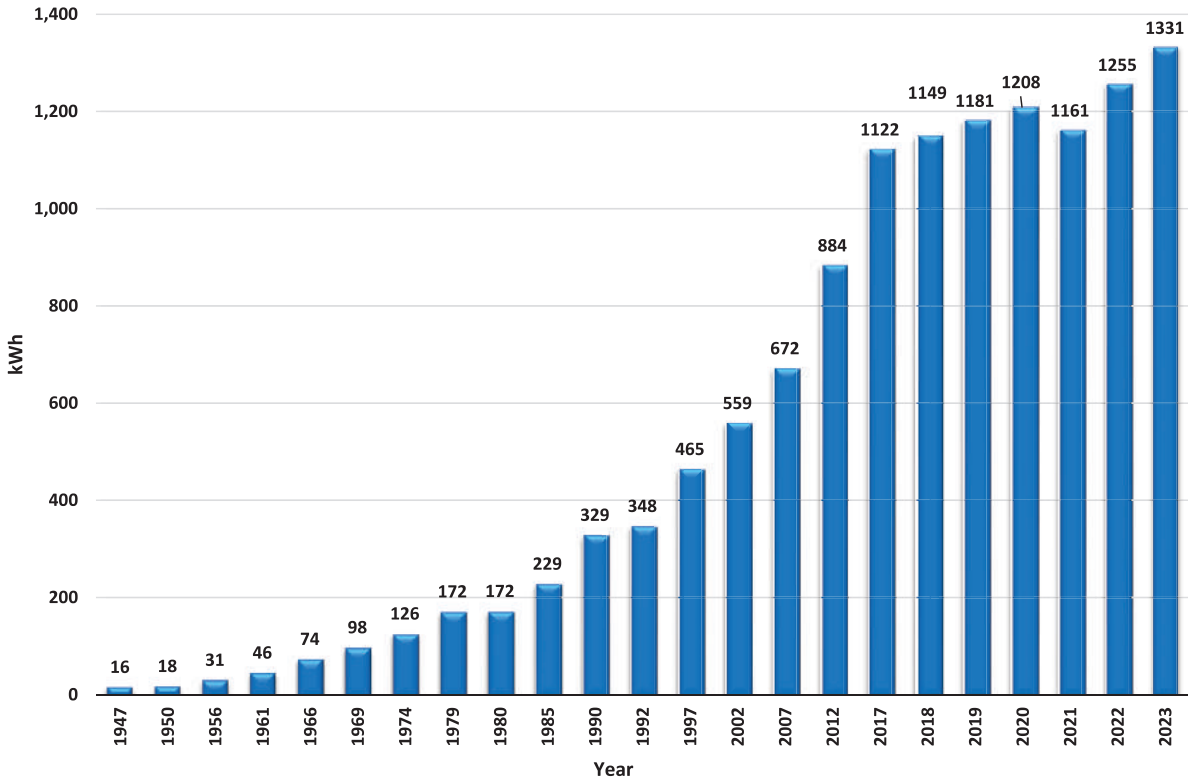
Plan-wise Growth of Number of Villages Electrified in the Country



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
 2. Figures for the year 1955-56 & onward are as on 31st March.

Plan-wise Growth of Per Capita Consumption of Electricity in the Country

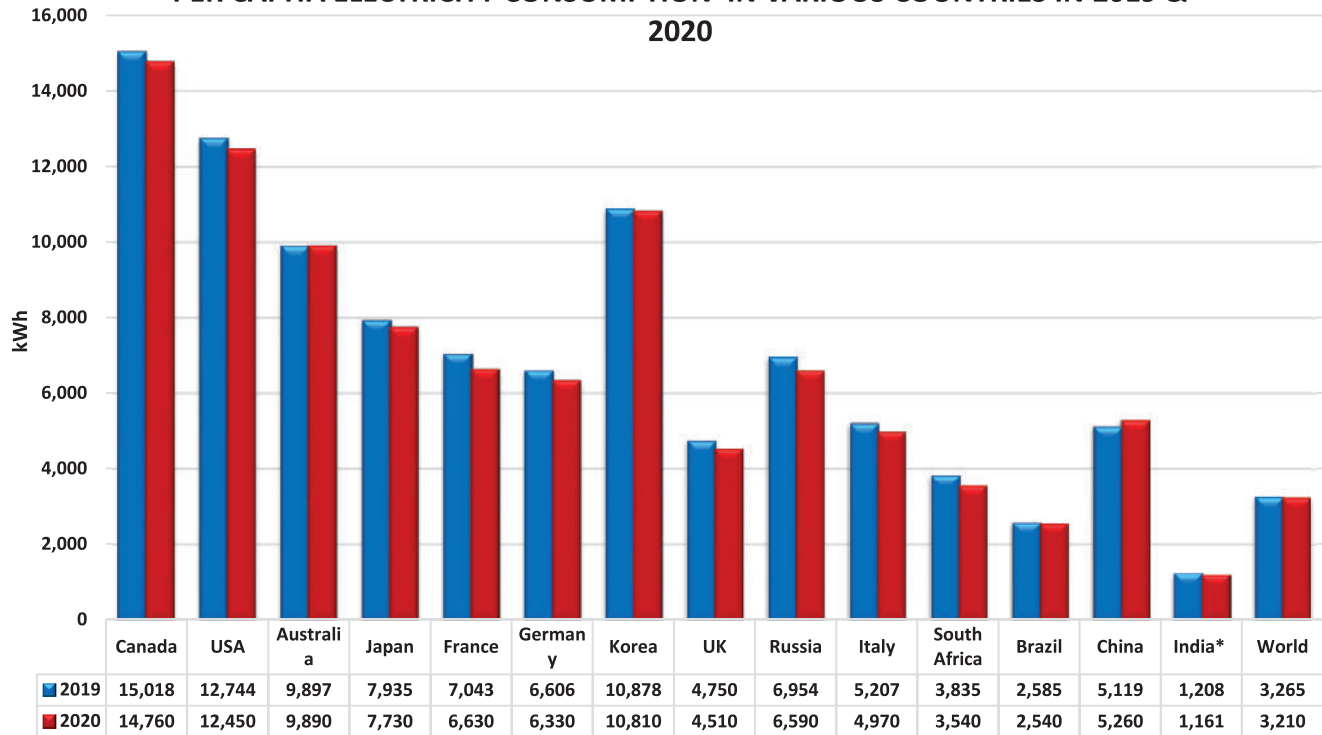
Chart : 4



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Chart : 5

PER CAPITA ELECTRICITY CONSUMPTION IN VARIOUS COUNTRIES IN 2019 & 2020



Source : IEA publication 'Key World Energy Statistics 2019 website (other than India)

* Per capita consumption = (gross electrical energy availability / mid year population)

Table 2
Plan wise Growth of Installed Capacity in India - Mode wise
(Utilities)

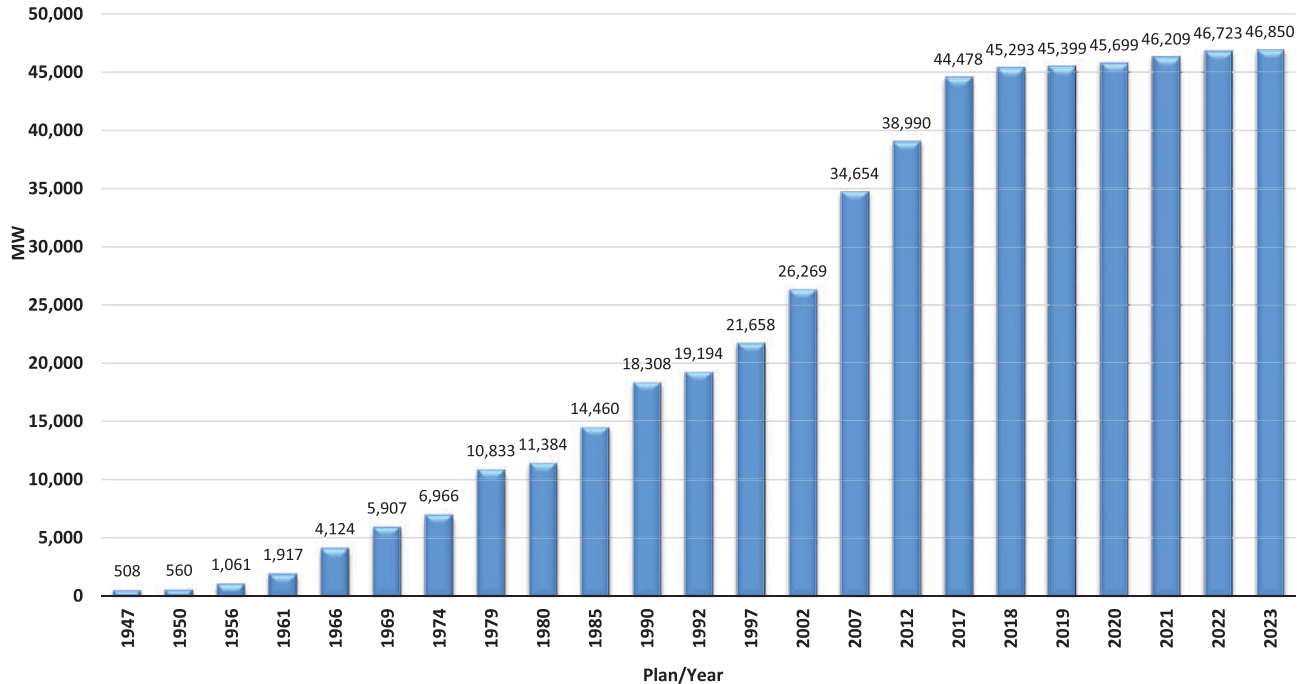
(MW)

Sl. No.	As on	Thermal				Nuclear	RES			Total
		Coal/Lignite	Gas	Diesel	Total		Hydro	RES (MNRE)	RES Total	
1	31.12.47	756	0	98	854	0	508	0	508	1362
2	31.12.50	1004	0	149	1153	0	560	0	560	1713
3	31.03.56 (End of 1st Plan)	1597	0	228	1825	0	1061	0	1061	2886
4	31.03.61 (End of 2nd Plan)	2436	0	300	2736	0	1917	0	1917	4653
5	31.03.66 (End of 3rd Plan)	4417	134	352	4903	0	4124	0	4124	9027
6	31.03.69 (End of 3 Annual Plans)	6640	134	276	7050	0	5907	0	5907	12957
7	31.03.74 (End of 4th Plan)	8652	165	241	9058	640	6966	0	6966	16664
8	31.03.79 (End of 5th Plan)	14875	168	164	15207	640	10833	0	10833	26680
9	31.03.80 (End of Annual Plan)	15991	268	165	16424	640	11384	0	11384	28448
10	31.03.85 (End of 6th Plan)	26311	542	177	27030	1095	14460	0	14460	42585
11	31.03.90 (End of 7th Plan)	41237	2343	165	43745	1565	18308	18	18326	63636
12	31.03.92 (End of 2 Annual Plans)	44791	3095	168	48054	1785	19194	32	19226	69065
13	31.03.97 (End of 8th Plan)	54154	6562	294	61010	2225	21658	902	22560	85795
14	31.03.02 (End of 9th Plan)	62131	11163	1135	74429	2720	26269	1628	27897	105046
15	31.03.07 (End of 10th Plan)	71121	13692	1202	86015	3900	34654	7760	42414	132329
16	31.03.12 (End of 11th Plan)	112022	18381	1200	131603	4780	38990	24504	63494	199877
17	31.03.17 (End of 12th Plan)	192163	25329	838	218330	6780	44478	57244	101723	326833
18	31.03.2018	197172	24897	838	222907	6780	45293	69022	114316	344002
19	31.03.2019	200705	24937	638	226279	6780	45399	77642	123041	356100
20	31.03.2020	205135	24955	510	230600	6780	45699	87028	132727	370106
21	31.03.2021	209295	24924	510	234729	6780	46209	94434	140643	382152
22	31.03.2022	210700	24900	510	236109	6780	46723	109885	156608	399497
23	31.03.2023	211856	24824	589	237269	6780	46850	125160	172010	416059

RES:-Renewable Energy Sources includes Hydro capacity of 25.00 MW and below as reported by MNRE.

Chart : 6

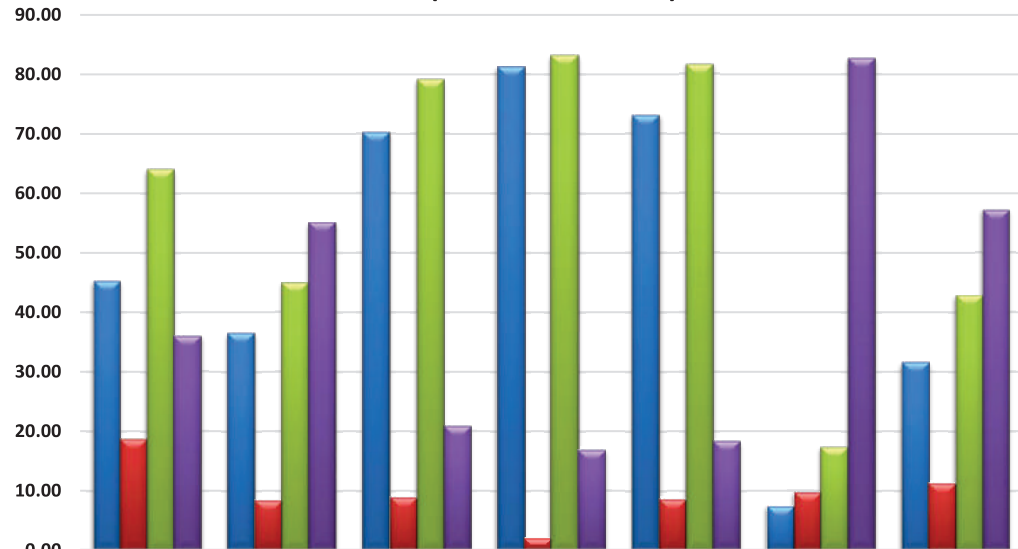
Plan-wise Growth of Installed Capacity in India Hydro Electric Power Stations (25 MW & above)



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

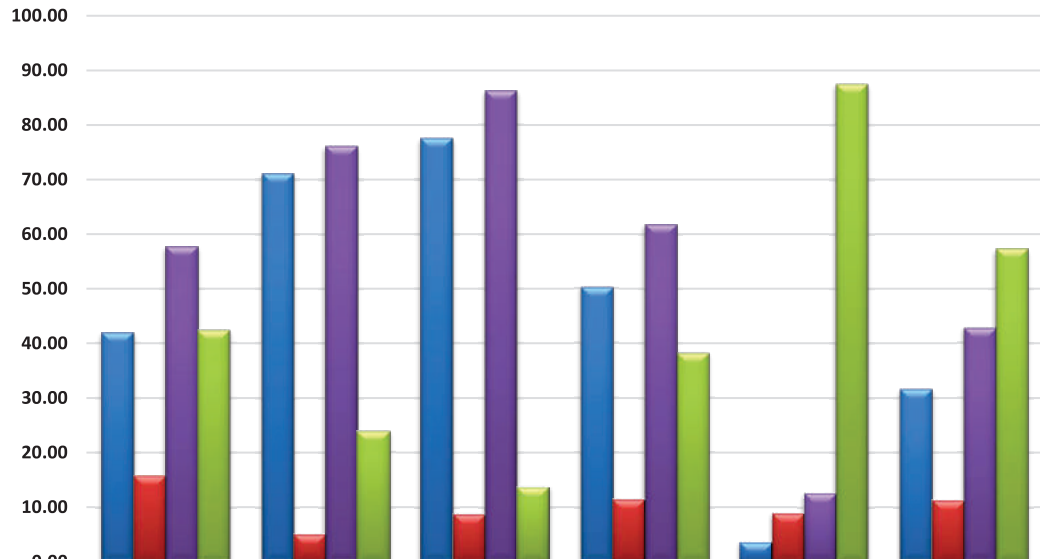
Chart : 6A

**Basin-wise Status of Hydro Electric Potential Development
In terms of Installed Capacity above 25 MW
% wise (As on 31.03.2023)**



	Indus	Ganga	Central Indian Rivers	West Flowing Rivers	East Flowing Rivers	Brahmaputra Basin	All India
% Capacity Developed /Under Operation	45.29	36.48	70.24	81.18	73.20	7.47	31.56
% Cap. Under Construction	18.72	8.44	8.89	2.00	8.52	9.81	11.26
% Cap. Dev. + Under Con.	64.01	44.92	79.13	83.18	81.72	17.28	42.82
% Balance Potential	35.99	55.09	20.87	16.82	18.28	82.71	57.18

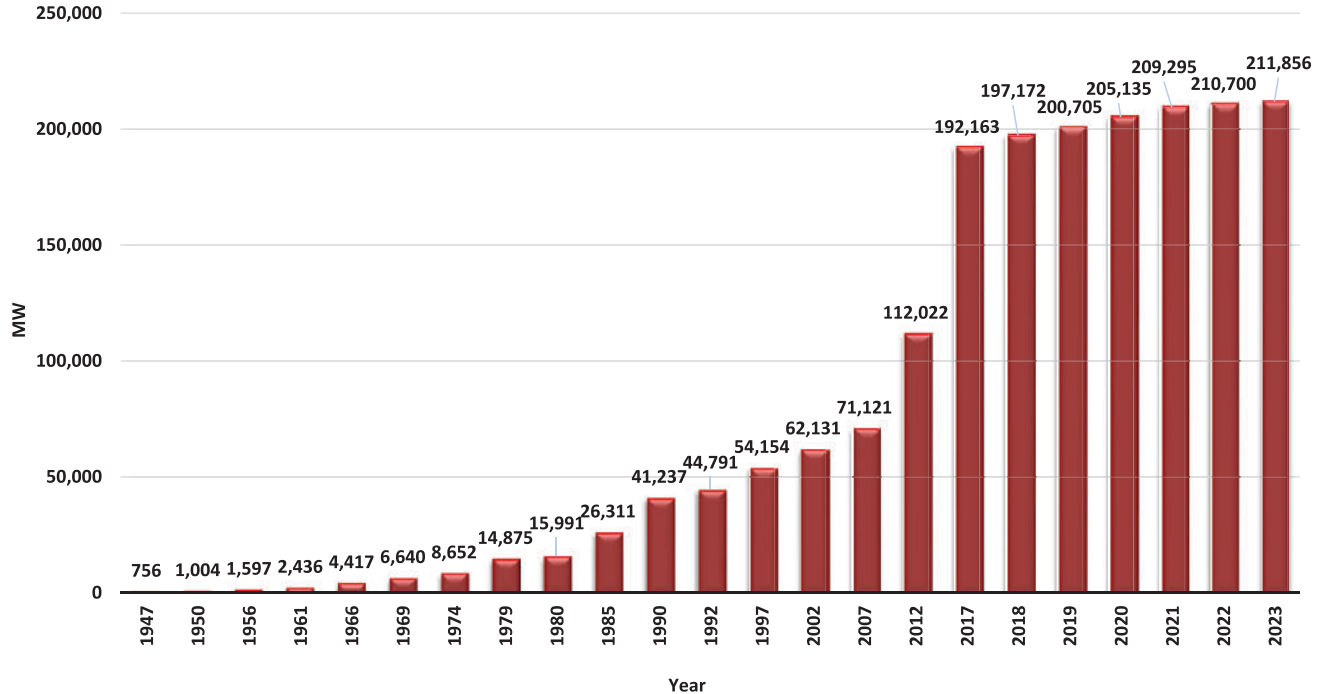
Region-wise Status of Hydro Electric Potential Development In terms of Installed Capacity above 25 MW % wise



	Northern Region	Western Region	Southern Region	Eastern Region	North Eastern Region	All India
■ % Capacity Developed /Under Operation	41.93	70.96	77.50	50.30	3.62	31.56
■ %Cap. Under Construction	15.68	5.11	8.75	11.44	8.94	11.26
■ %Cap. Dev. +Under Construction	57.61	76.07	86.25	61.74	12.56	42.82
■ % Capacity yet to be Developed	42.38	23.93	13.75	38.26	87.44	57.18

Plan-wise Growth of Installed Capacity in India Coal/ Lignite-based Plants

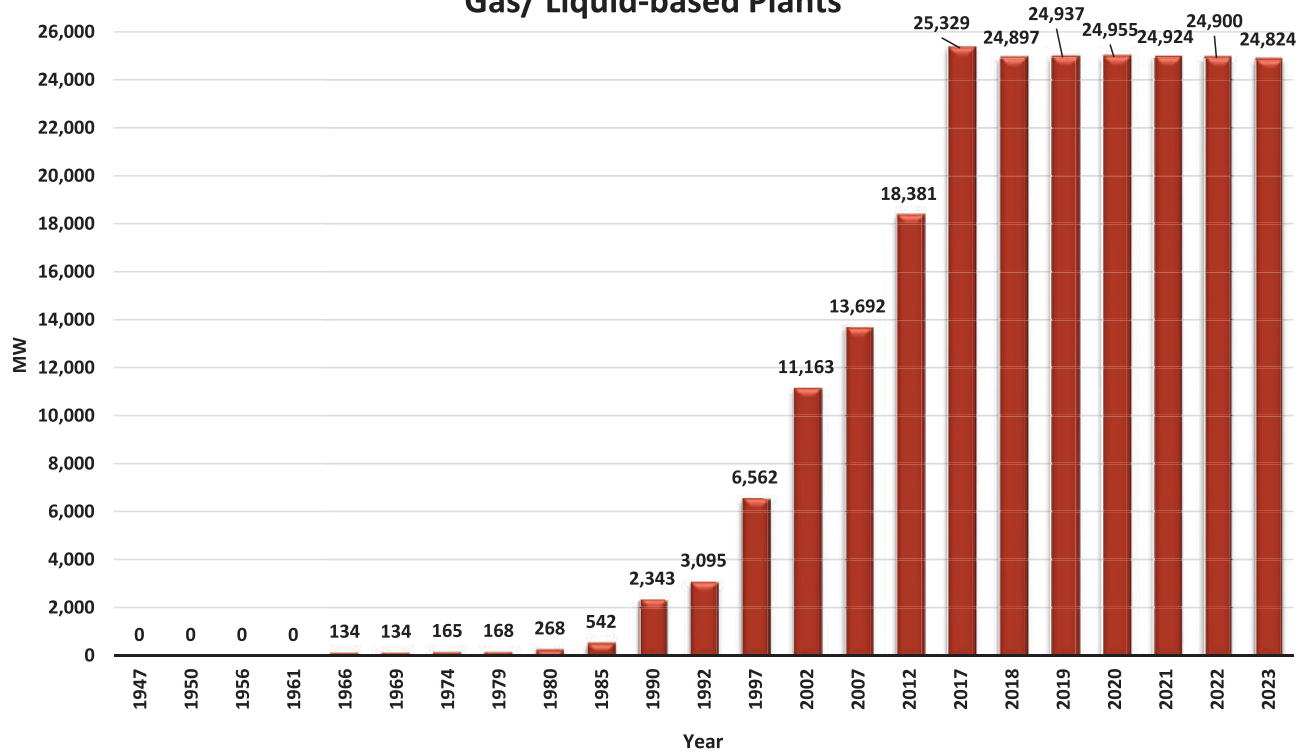
Chart : 7A



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Plan-wise Growth of Installed Capacity in India Gas/ Liquid-based Plants

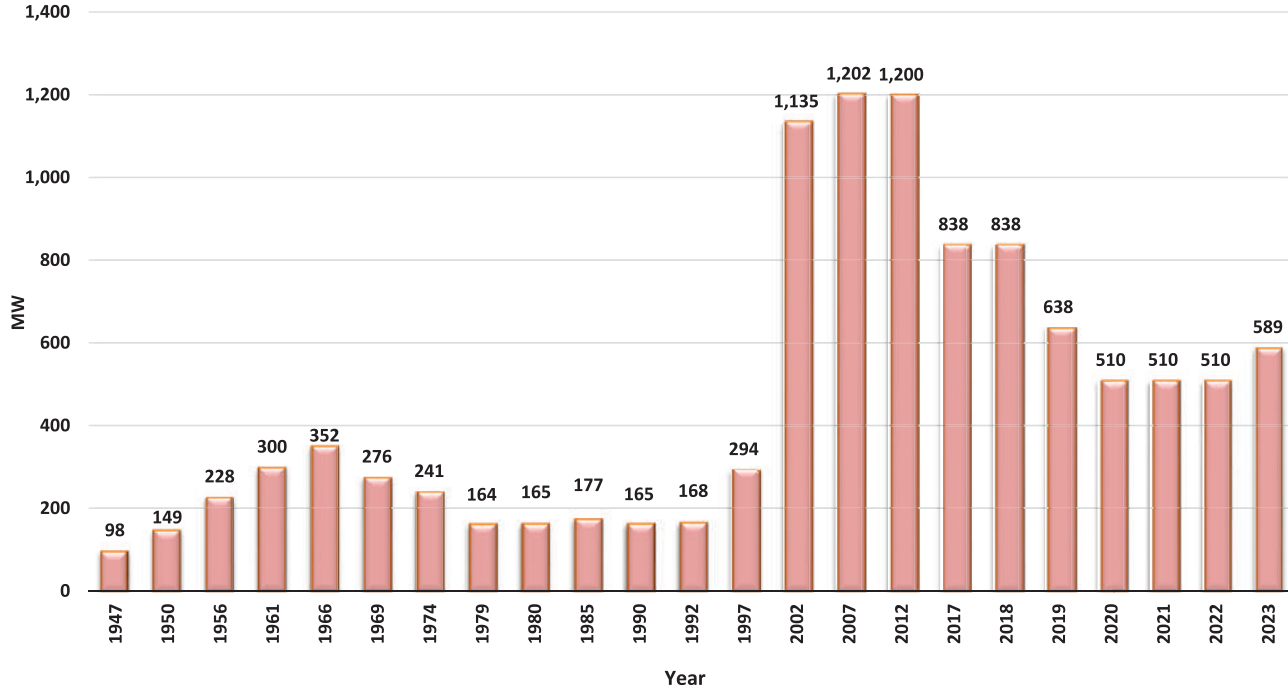
Chart : 7B



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Plan-wise Growth of Installed Capacity in India Diesel-based Plants

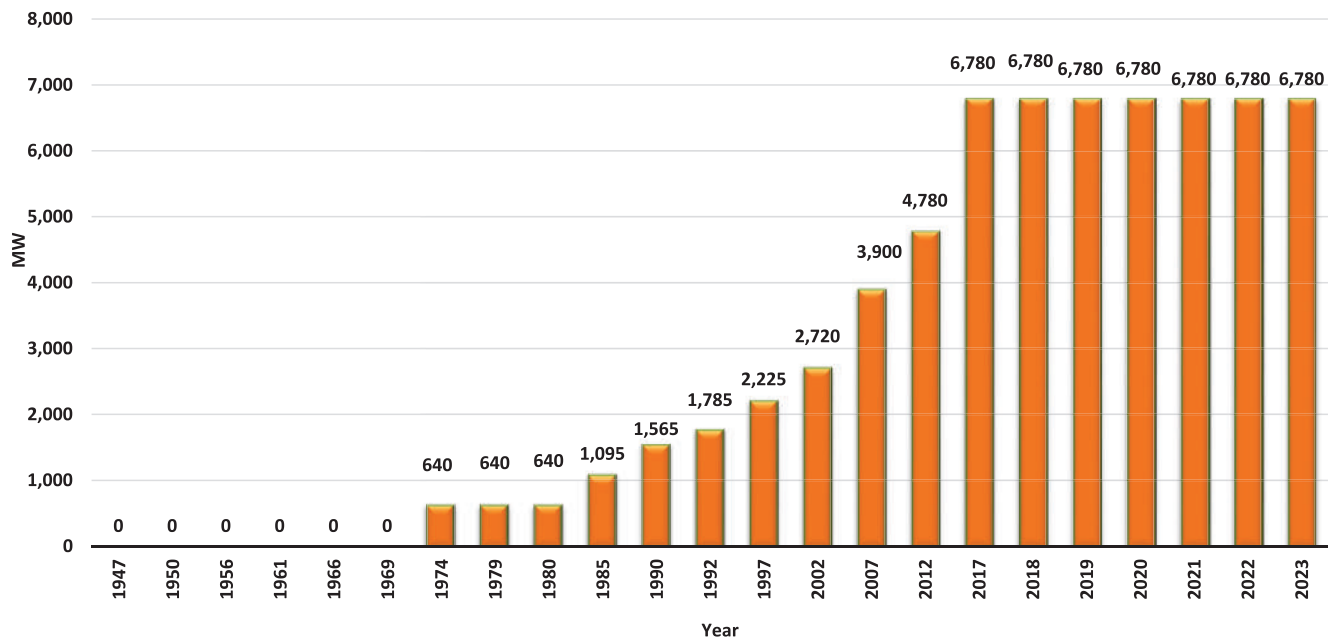
Chart : 7C



- Note:**
1. Figures for the years 1947 & 1950 are as on 31st December.
 2. Figures for the year 1955-56 & onward are as on 31st March.
 3. Diesel based Capacity includes capacity of plants having capacity 25 MW & above and Capacity of DG sets group located in Lakshadweep and Andaman & Nicobar Islands

Plan-wise Growth of Installed Capacity in India Nuclear-based Plants

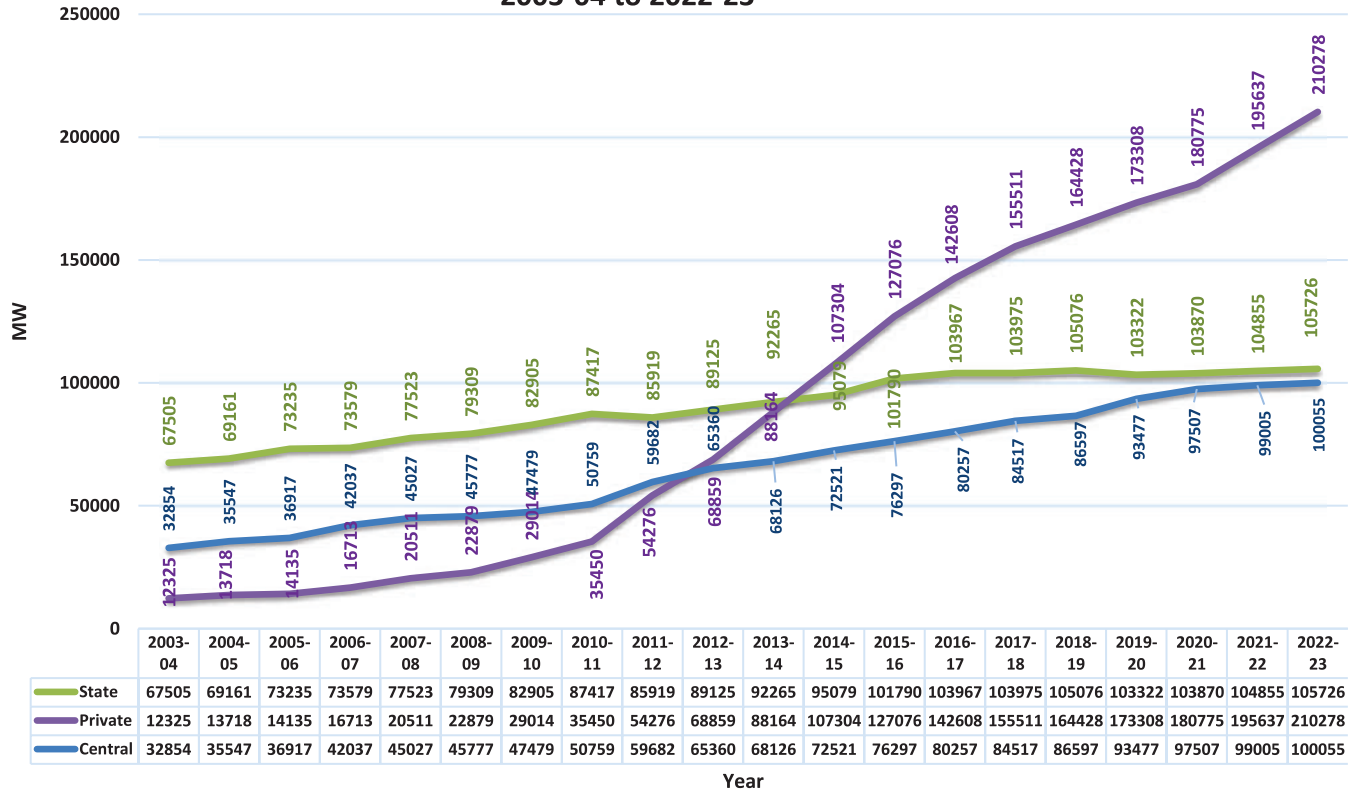
Chart : 8



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
2. Figures for the year 1955-56 & onward are as on 31st March.

Sector-wise Growth of Installed Capacity (MW) 2003-04 to 2022-23

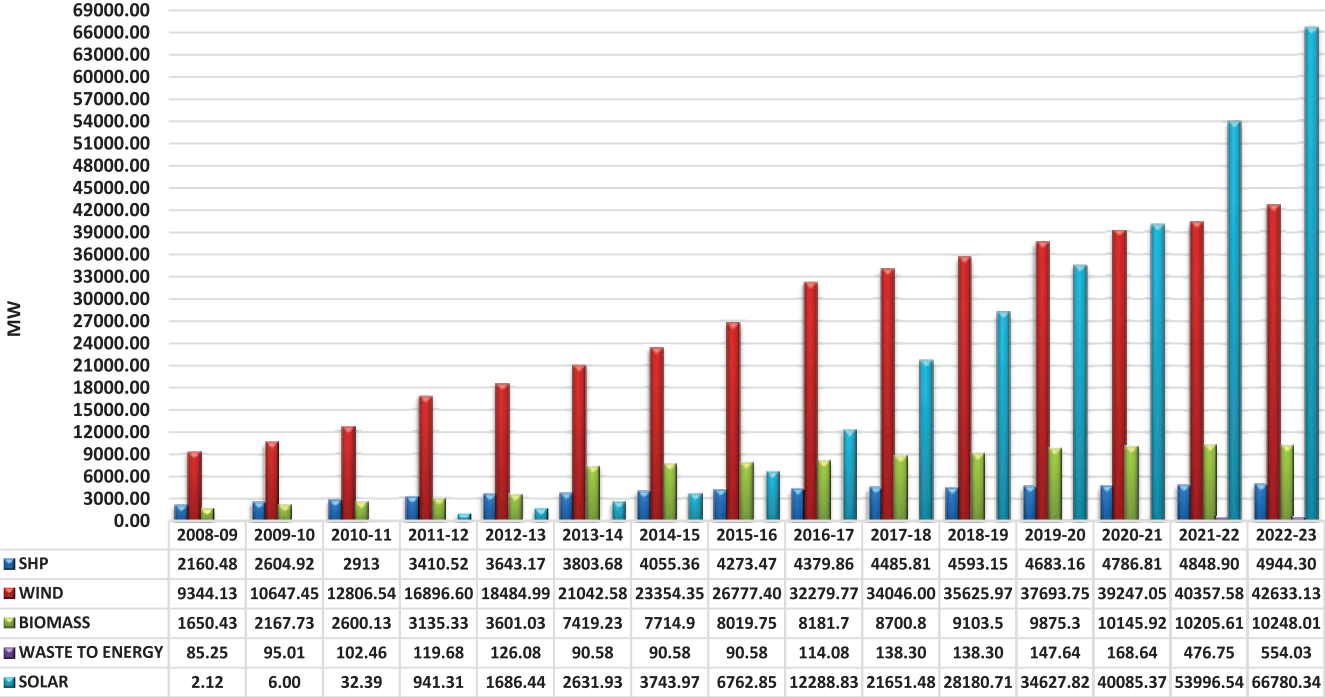
Chart : 8A



Note: DVC & BBMB Installed Capacity is considered under Central Sector

Chart :8 B

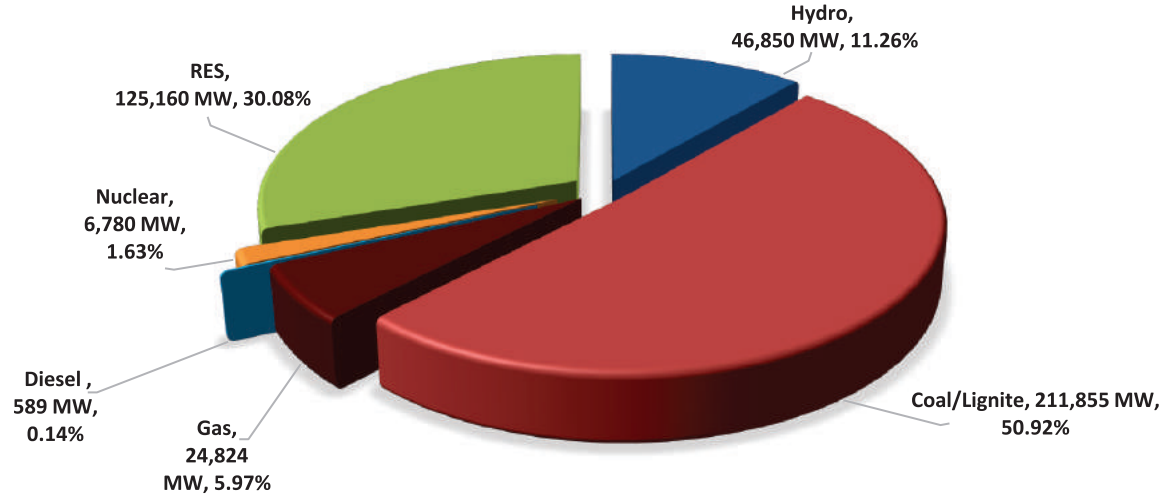
Mode-wise/ Year-wise Growth of Installed Capacity of R.E.S. during last 15 years



Year

Pie Chart : 9

ALL INDIA INSTALLED CAPACITY (UTILITIES) AS ON 31.03.2023

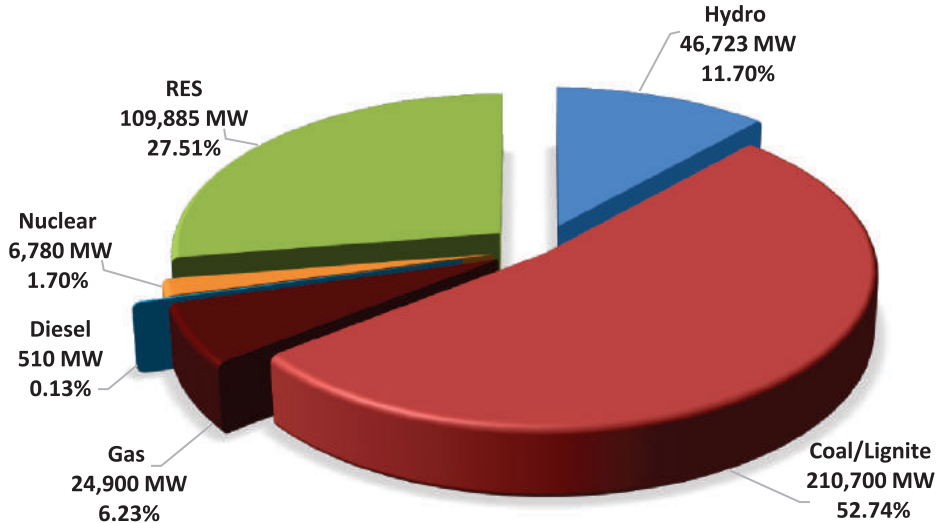


Total = 416059 MW

■ Hydro ■ Coal/Lignite ■ Gas ■ Diesel ■ Nuclear ■ RES

Pie Chart : 9A

**ALL INDIA INSTALLED CAPACITY
(UTILITIES)
(AS ON 31.03.2022)**



Total =399497 MW

■ Hydro ■ Coal/Lignite ■ Gas ■ Diesel ■ Nuclear ■ RES

Table 3
Plan wise Growth of Gross Electricity Generation in India- Mode wise (Utilities)

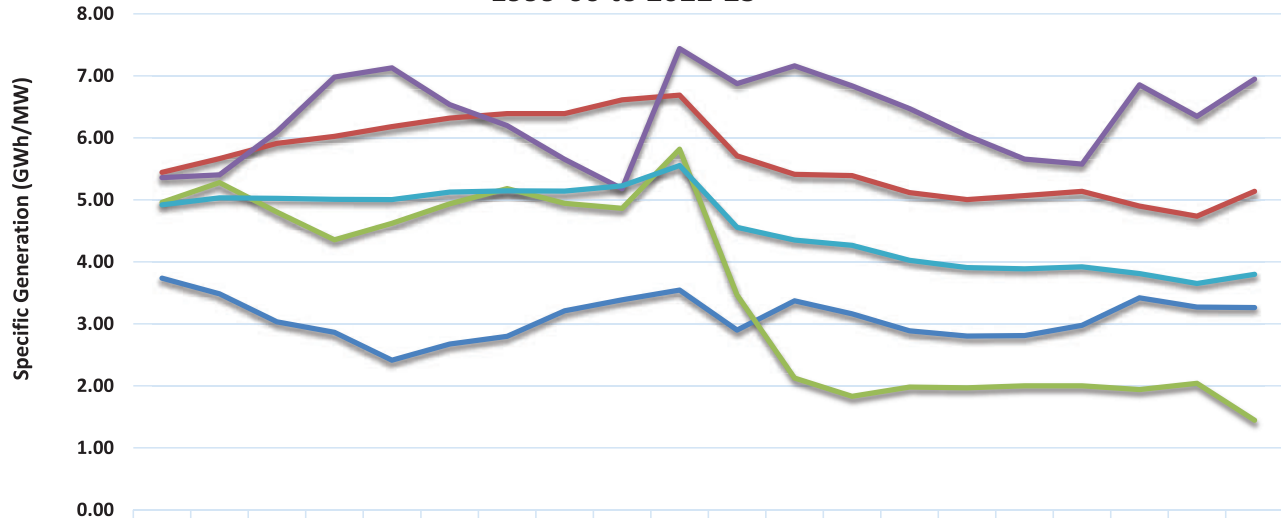
SL. No	During financial year ending with	Thermal				Hydro	Nuclear	RES	Total
		Coal/ Lignite	Gas	Diesel	Total				
1	1947	1733	0	144	1877	2195	0	0	4073
2	1950	2587	0	200	2787	2519	0	0	5106
3	1955-56 (End of the 1st Plan)	5367	0	233	5600	4295	0	0	9662
4	1960-61 (End of the 2nd Plan)	9100	0	368	9468	7837	0	0	16937
5	1965-66(End of the 3rd Plan)	17765	69	324	18158	15225	0	0	32990
6	1968-69(End of the 3 Annual Plans)	26711	124	194	27029	20723	0	0	47434
7	1973-74(End of the 4th Plan)	34853	343	125	35321	28972	2396	0	66689
8	1978-79(End of the 5th Plan)	52024	515	55	52594	47159	2770	0	102523
9	1979-80(End of the Annual Plan)	55720	500	53	56273	45478	2876	0	104627
10	1984-85 (End of the 6th Plan)	96957	1834	45	98836	53948	4075	0	156859
11	1989-90 (End of the 7th Plan)	172643	5962	85	178690	62116	4625	6	245438
12	1991-92(End of the 2 Annual Plans)	197163	11450	95	208708	72757	5525	38	287029
13	1996-97(End of the 8th Plan)	289378	26985	679	317042	68901	9071	876	395889
14	2001-02(End of the 9th Plan)	370884	47099	4317	422300	73579	19475	2085	517439
15	2006-07(End of the 10th Plan)	461794	64157	2539	528490	113502	18802	9860	670654
16	2011-12(End of the 11th Plan)	612497	93281	2649	708427	130511	32287	51226	922451
17	2016-17(End of the 12th Plan)	944022	49094	401	993516	122378	37916	81548	1235358
18	2017-18	986591	50208	348	1037146	126123	38346	101839	1303455
19	2018-19	1022265	49834	215	1072314	134894	37813	126759	1371779
20	2019-20	994197	48443	199	1042838	155769	46472	138337	1383417
21	2020-21	981443	50944	224	1032611	150300	43029	147248	1373187
22	2021-22	1078581	36016	214	1114811	151627	47112	170912	1484463
23	2022-23	1182096	23885	320*	1206216	162099	45861	203552	1617728

Note:

* Provisional

1. RES Generation upto 2013-2014 as per normative generation.
2. RES Generation during 2014-2015 is as per actual generation received from utilities.

Specific Generation by All India Power Stations Mode-wise (Utilities) 1999-00 to 2022-23

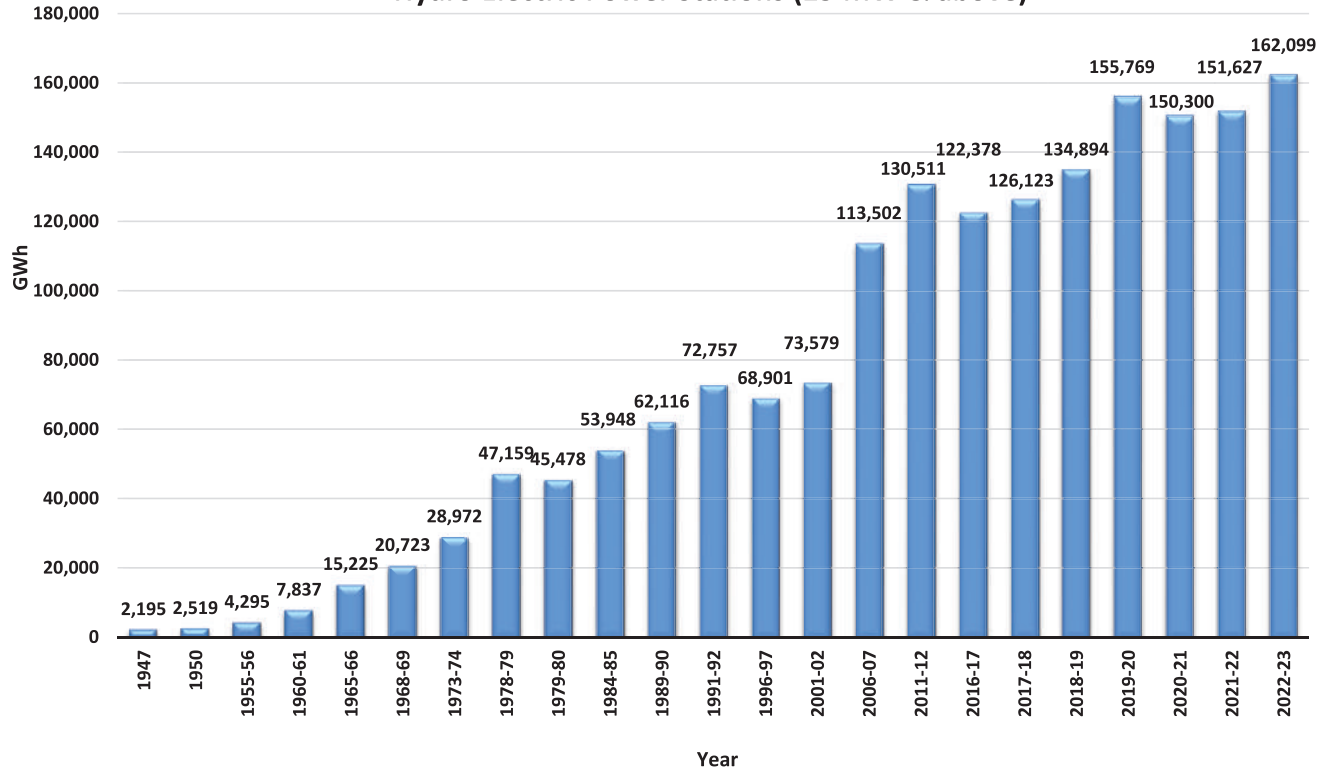


	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Hydro	3.74	3.49	3.03	2.86	2.41	2.67	2.80	3.21	3.39	3.54	2.90	3.37	3.16	2.89	2.80	2.81	2.97	3.42	3.27	3.26
Coal/Lignite	5.44	5.66	5.91	6.02	6.18	6.32	6.39	6.39	6.61	6.69	5.71	5.41	5.39	5.12	5.00	5.07	5.14	4.90	4.74	5.14
Gas/Liquid	4.96	5.28	4.80	4.36	4.62	4.94	5.18	4.94	4.86	5.82	3.46	2.13	1.83	1.98	1.97	2.00	2.00	1.94	2.04	1.45
Nuclear	5.36	5.40	6.10	6.98	7.13	6.54	6.20	5.65	5.18	7.44	6.88	7.16	6.84	6.47	6.04	5.66	5.58	6.85	6.35	6.95
All Types	4.92	5.03	5.02	5.01	5.00	5.12	5.14	5.14	5.23	5.55	4.56	4.35	4.27	4.03	3.91	3.89	3.92	3.81	3.65	3.80

Years

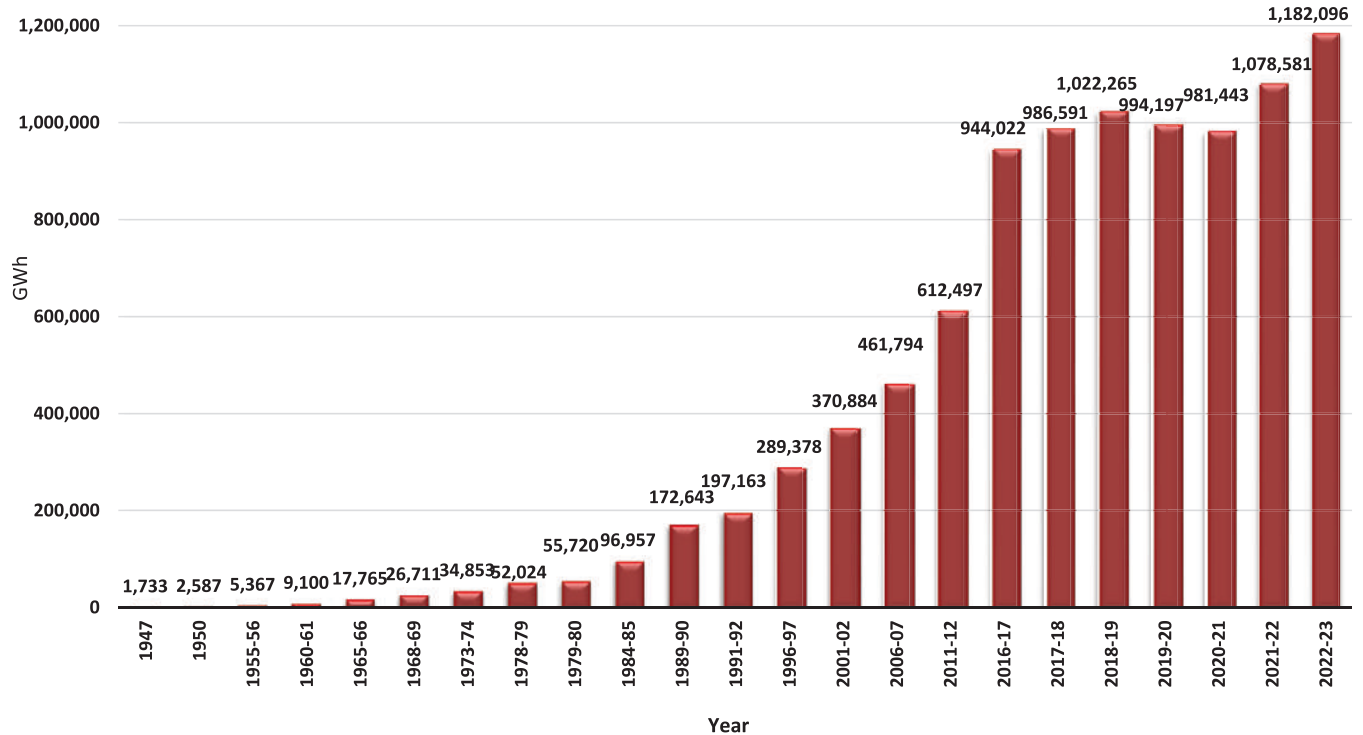
Chart : 11

Plan-wise Growth of Electricity Generation in India Hydro Electric Power Stations (25 MW & above)



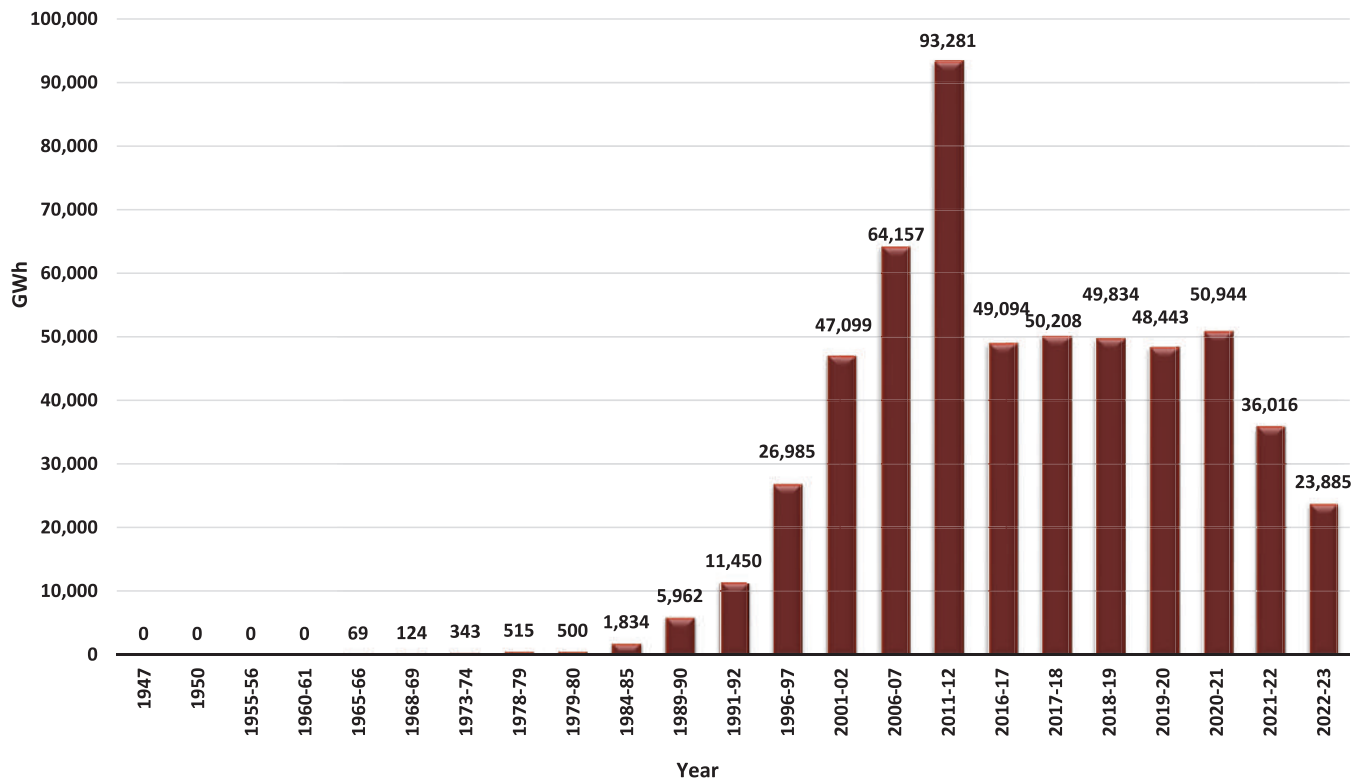
Plan-wise Growth of Electricity Generation in India Coal / Lignite-based Power Plants

Chart : 12A



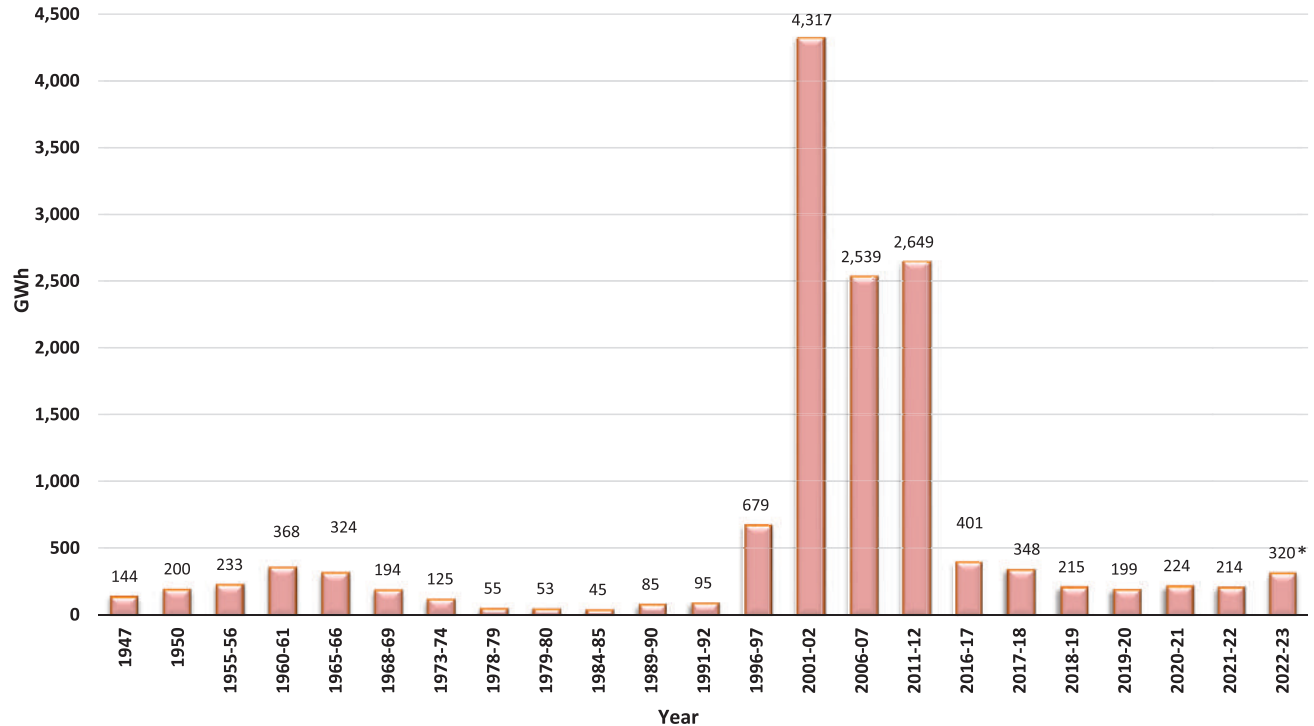
Plan-wise Growth of Electricity Generation in India Gas/ Liquid Fuel-based Power Plants

Chart : 12B



Plan-wise Growth of Electricity Generation in India Diesel-based Power Plants

Chart : 12C



* Provisional

Note: Generation included from Diesel based plants (25 MW & above capacity) generation & generation from DG sets group located in Lakshadweep and Andaman & Nicobar Islands

Chart : 13

All India PLF (%) of Thermal Power Stations (Coal and Lignite-based)

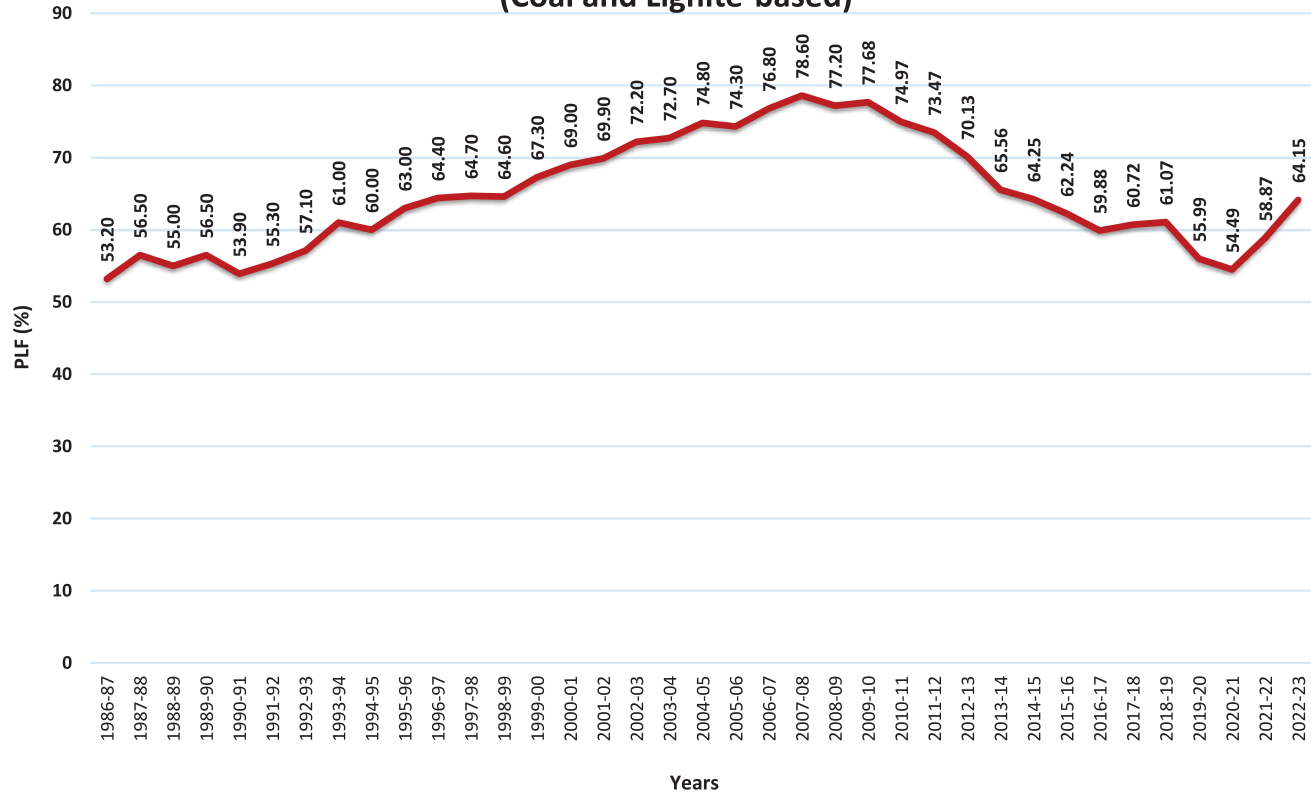
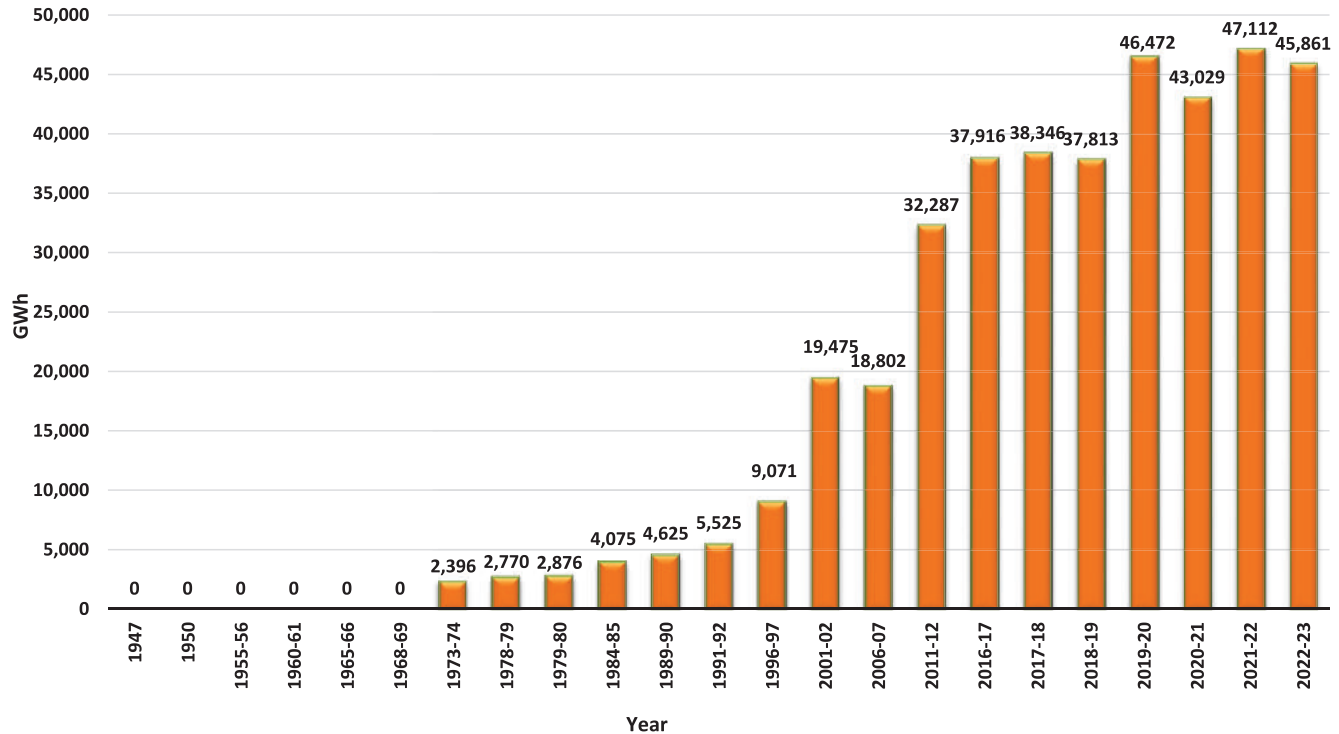


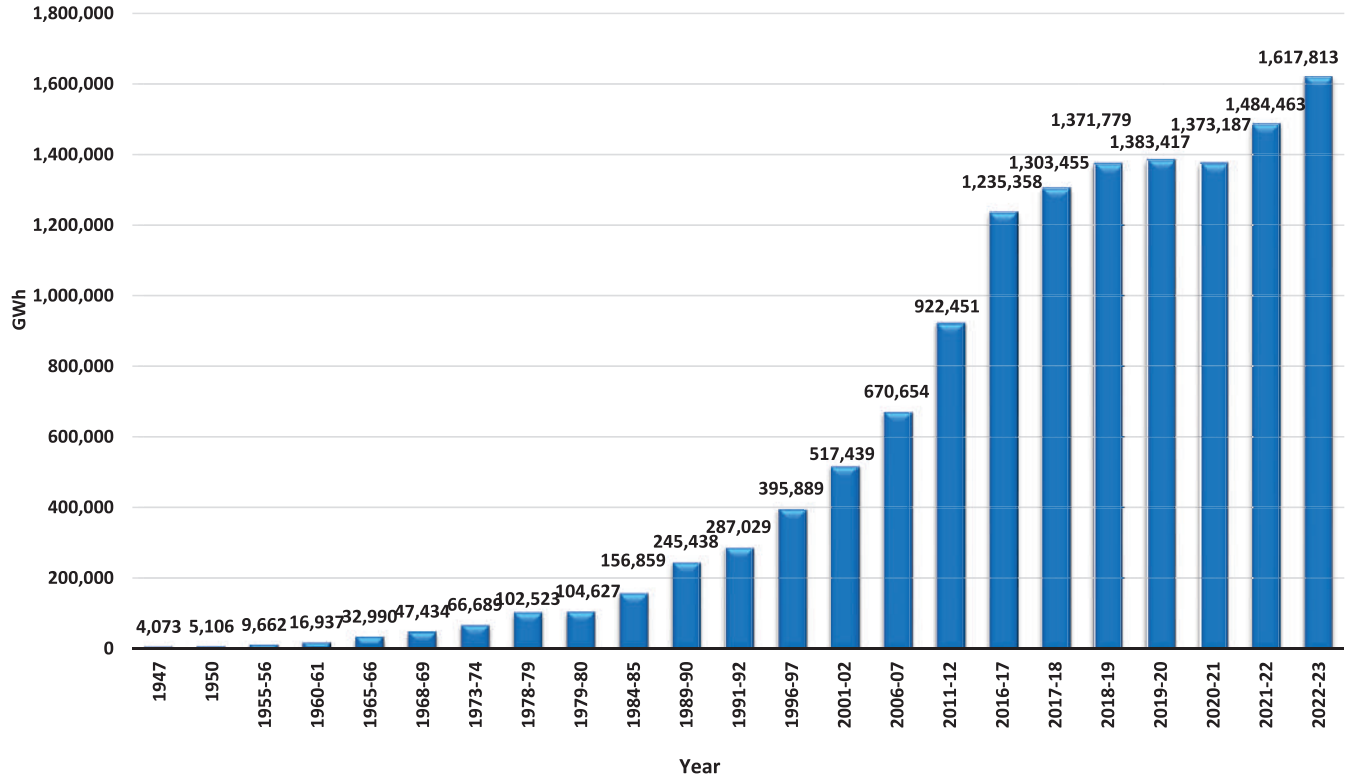
Chart : 14

Plan-wise Growth of Electricity Generation in India Nuclear-based Power Plants



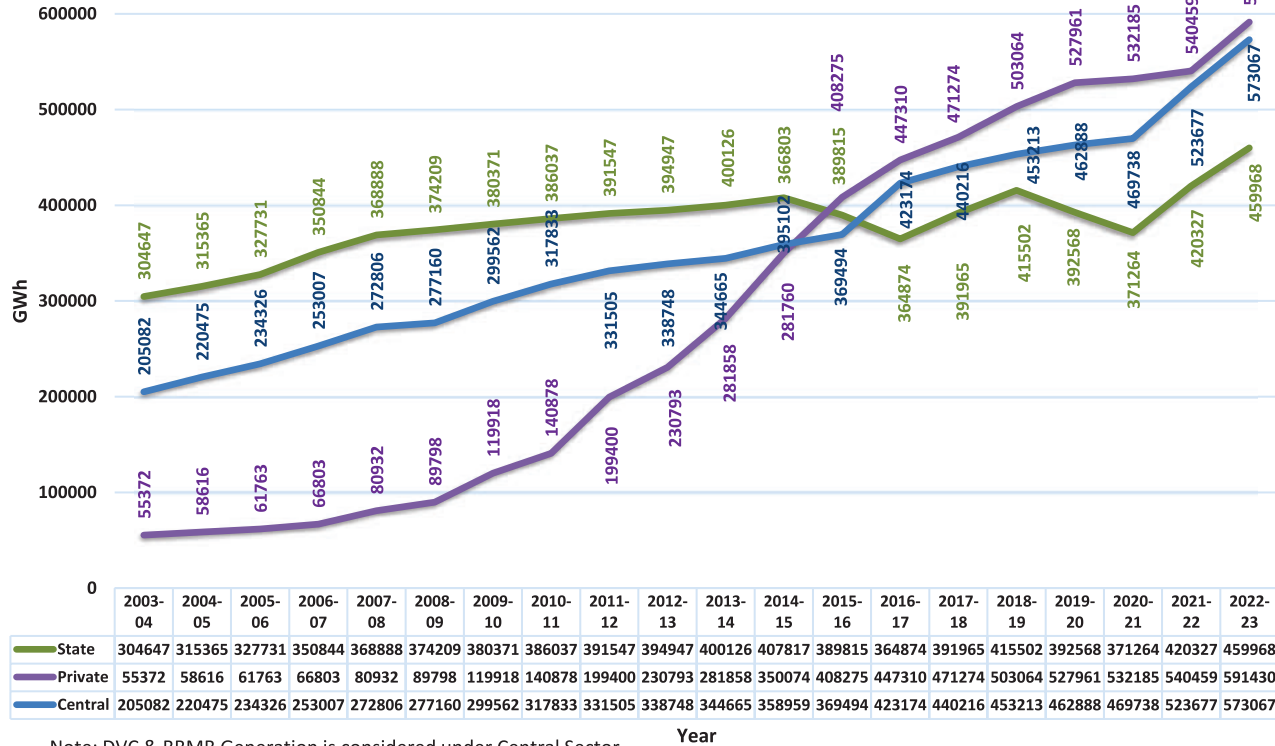
Plan-wise Growth of All India Electricity Generation (Utilities)

Chart : 15



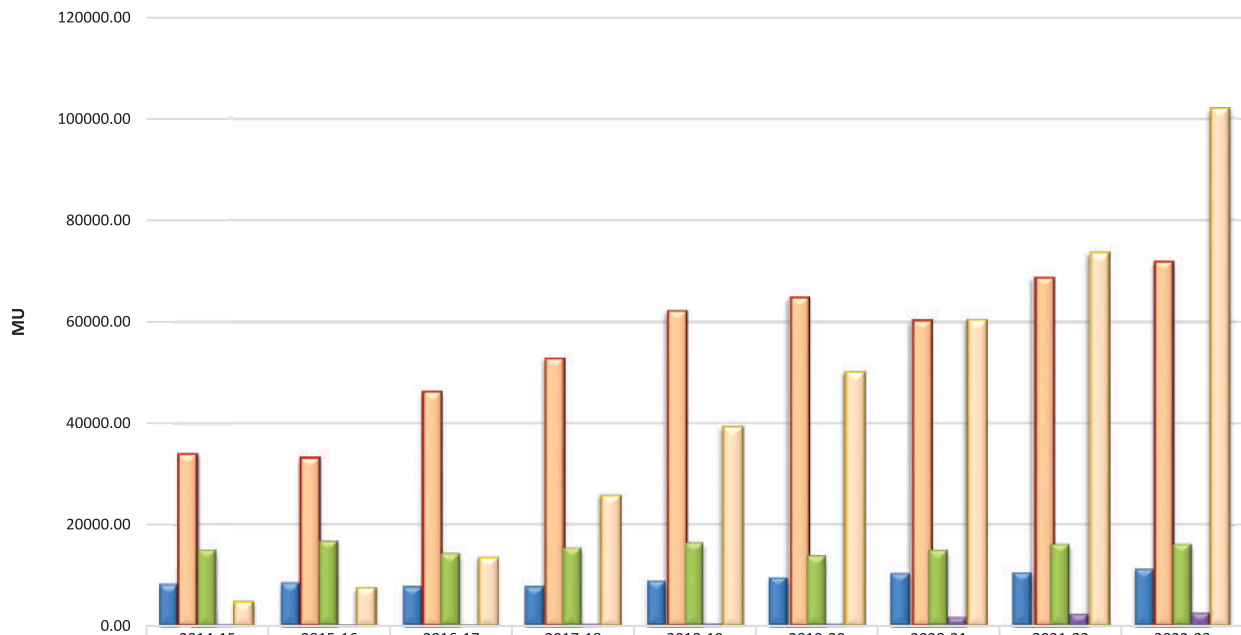
Sector-wise Growth of Energy Generation (GWh) 2003-04 to 2022-23

Chart : 15A



Note: DVC & BBMB Generation is considered under Central Sector

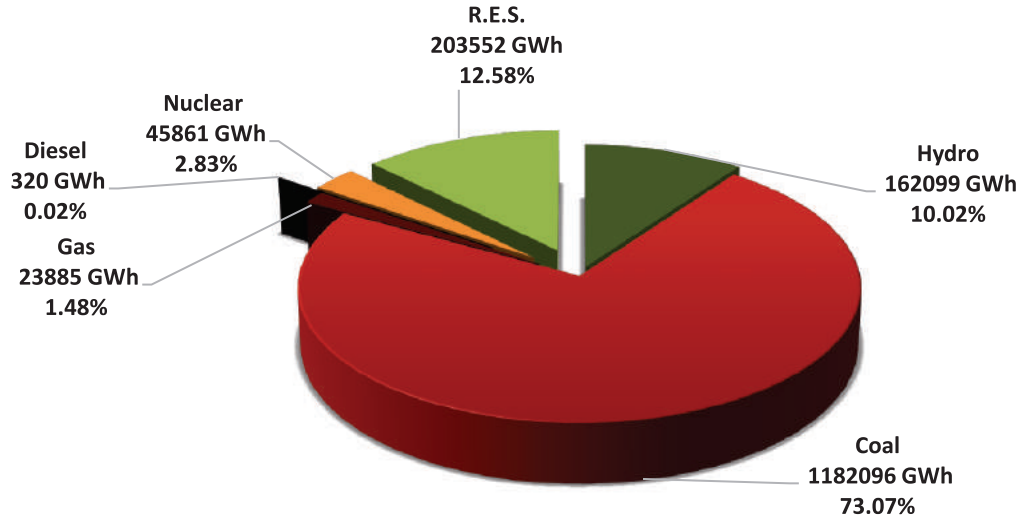
Mode-wise/ Year-wise Growth of Electricity Generation from R.E.S. Chart: 15B during last 9 years



Small Hydro	8059.50	8354.51	7672.66	7691.58	8702.75	9451.24	10258.41	10463.54	11170.10
Wind	33768.30	33029.39	46004.34	52666.09	62036.38	64646.38	60149.95	68640.07	71814.16
Biomass	14944.50	16680.50	14158.64	15252.30	16326.49	13742.43	14815.83	16056.58	16024.48
Waste to Energy	347.92	268.53	213.16	358.45	425.28	365.88	1621.06	2268.17	2529.18
Solar	4599.02	7447.92	13499.41	25871.07	39268.20	50131.09	60402.26	73483.94	102014.24

Gross Electricity Generation in India Mode-wise -Utilities 2022-23

Pie Chart : 16



TOTAL =1617813 GWh

■ Hydro ■ Coal ■ Gas ■ Diesel ■ Nuclear ■ R.E.S.

Gross Electricity Generation in India Mode-wise -Utilities 2021-22

Pie Chart : 16A

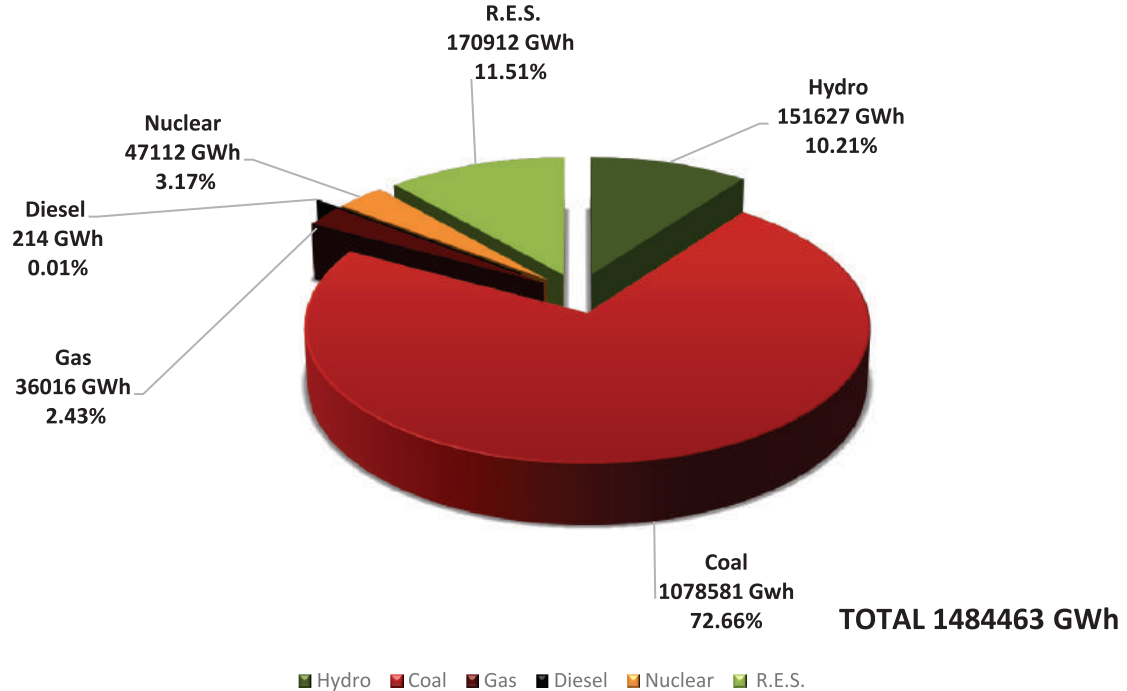
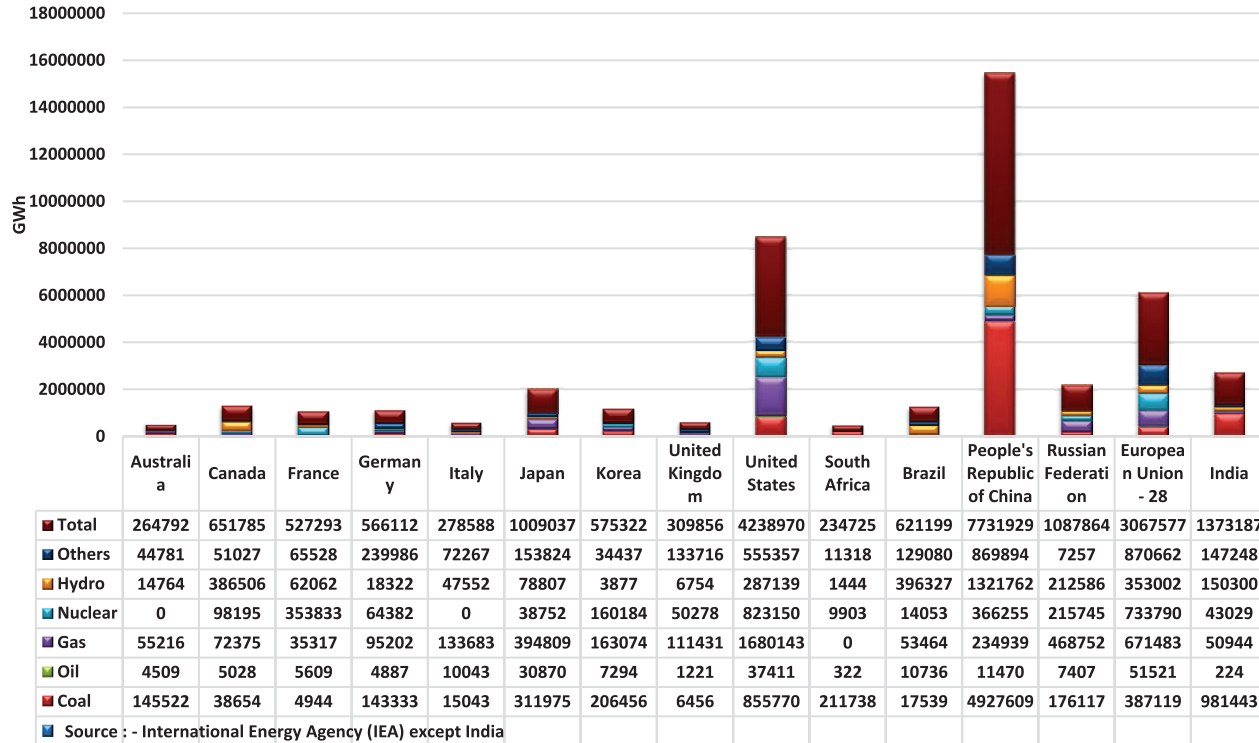


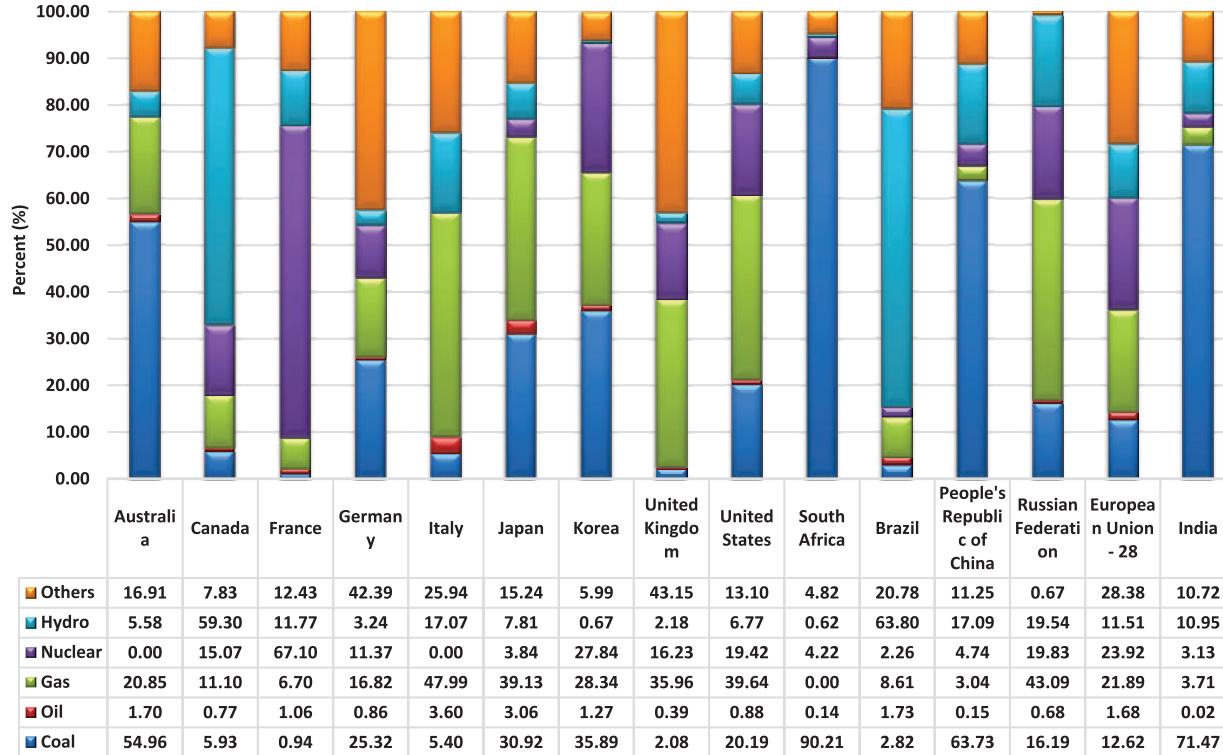
Chart : 17

Gross Electricity Generation in various Countries Mode-Wise in 2020



Mode-wise % Share in Electricity Generation in various Countries
in 2020

Chart : 18



Source : - International Energy Agency (IEA) except India.

Table: 4
Plan wise / Category wise Growth of Electricity Consumption in India
(Utilities & Non- Utilities)

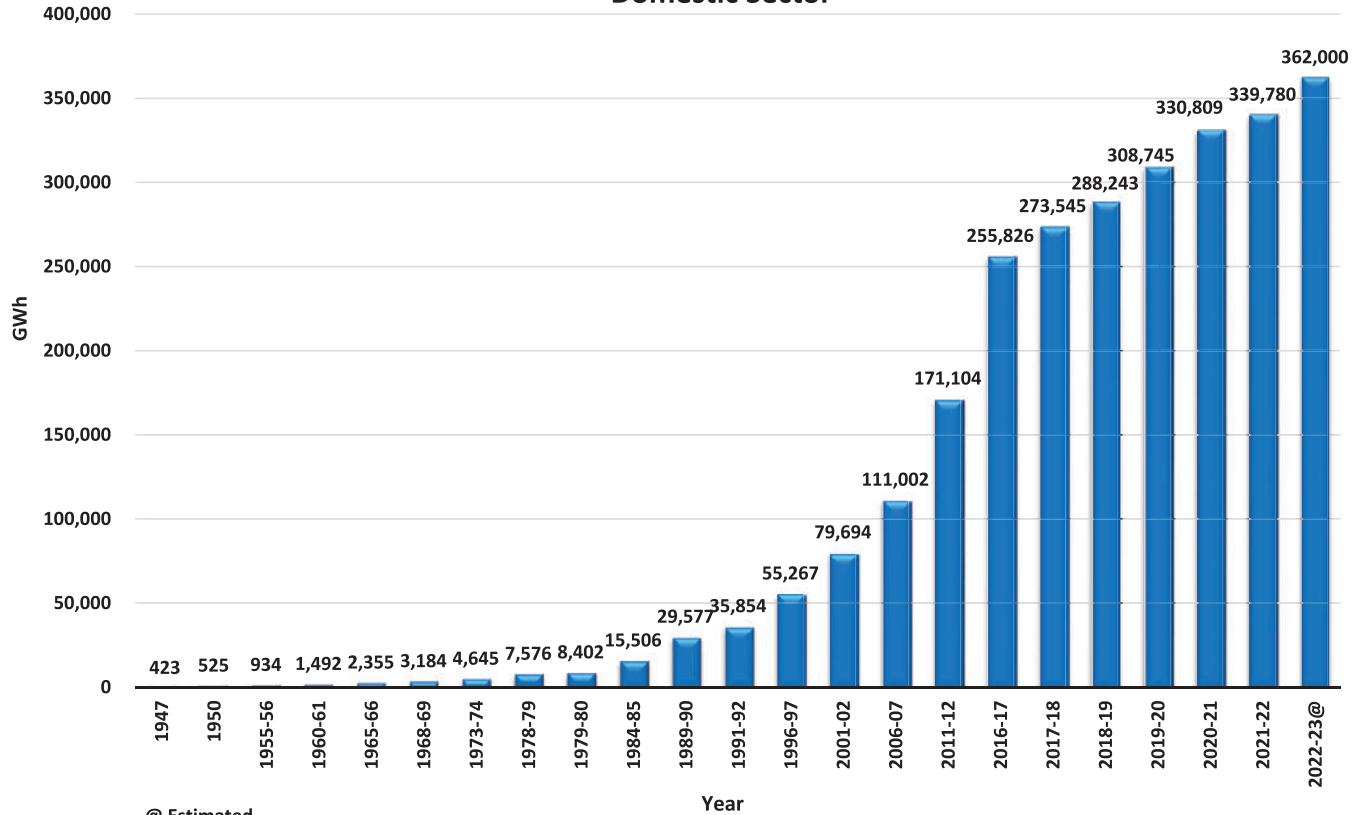
(GWh)

Sl. No.	During financial year ending with	Domestic	% to Total	Commercial	% to Total	Industrial	% to Total	Traction	% to Total	Agriculture	% to Total	Misc.	% to Total	Total
1	1947	423	10.11	178	4.26	2960	70.78	277	6.62	125	2.99	219	5.24	4182
2	1950	525	9.36	309	5.51	4057	72.32	308	5.49	162	2.89	249	4.44	5610
3	1955-56 (End of the 1st Plan)	934	9.20	546	5.38	7514	74.03	405	3.99	316	3.11	435	4.29	10150
4	1960-61 (End of the 2nd Plan)	1492	8.88	848	5.05	12547	74.67	454	2.70	833	4.96	630	3.75	16804
5	1965-66(End of the 3rd Plan)	2355	7.73	1650	5.42	22596	74.19	1057	3.47	1892	6.21	905	2.97	30455
6	1968-69(End of the 3 Annual Plans)	3184	7.69	2126	5.14	29931	72.31	1247	3.01	3465	8.37	1439	3.48	41392
7	1973-74(End of the 4th Plan)	4645	8.36	2988	5.38	37791	68.02	1531	2.76	6310	11.36	2292	4.13	55557
8	1978-79(End of the 5th Plan)	7576	9.02	4330	5.15	54440	64.81	2186	2.60	12028	14.32	3445	4.10	84005
9	1979-80(End of the 2 Annual Plans)	8402	9.85	4657	5.46	53206	62.35	2301	2.70	13452	15.76	3316	3.89	85334
10	1984-85 (End of the 6th Plan)	15506	12.45	6937	5.57	73520	59.02	2880	2.31	20961	16.83	4765	3.83	124569
11	1989-90 (End of the 7th Plan)	29577	15.16	9548	4.89	100373	51.45	4070	2.09	44056	22.58	7474	3.83	195098
12	1991-92(End of the 2 Annual Plans)	35854	15.51	12032	5.20	110844	47.94	4520	1.96	58557	25.33	9394	4.06	231201
13	1996-97(End of the 8th Plan)	55267	17.53	17519	5.56	139253	44.17	6594	2.09	84019	26.65	12642	4.01	315294
14	2001-02(End of the 9th Plan)	79694	21.27	24139	6.44	159507	42.57	8106	2.16	81673	21.80	21551	5.75	374670
15	2006-07(End of 10th Plan)	111002	21.12	40220	7.65	241216	45.89	10800	2.05	99023	18.84	23411	4.45	525672
16	2011-12 (End of 11th Plan)	171104	21.79	65381	8.33	352291	44.87	14206	1.81	140960	17.95	41252	5.25	785194
17	2016-17 (End of 12th Plan)	255826	24.11	89825	8.46	440206	41.48	15683	1.48	191151	18.01	68493	6.45	1061183
18	2017-18	273545	24.35	93755	8.35	468613	41.71	17433	1.55	199247	17.74	70834	6.31	1123427
19	2018-19	288243	23.82	98228	8.12	519196	42.91	18837	1.56	213409	17.64	72058	5.96	1209972
20	2019-20	308745	24.74	106047	8.50	532820	42.69	19148	1.53	211295	16.93	70031	5.61	1248086
21	2020-21	330809	26.89	86950	7.07	508776	41.36	14668	1.19	221303	17.99	67701	5.50	1230208
22	2021-22	339780	25.80	97121	7.38	556481	42.26	21935	1.67	228451	17.35	72996	5.54	1316765
23	2022-23 @	362000	25.79	105100	7.49	595000	42.40	25000	1.78	240800	17.16	75500	5.38	1403400

(@) Estimated

Plan-wise Growth of Electricity Consumption in India Domestic Sector

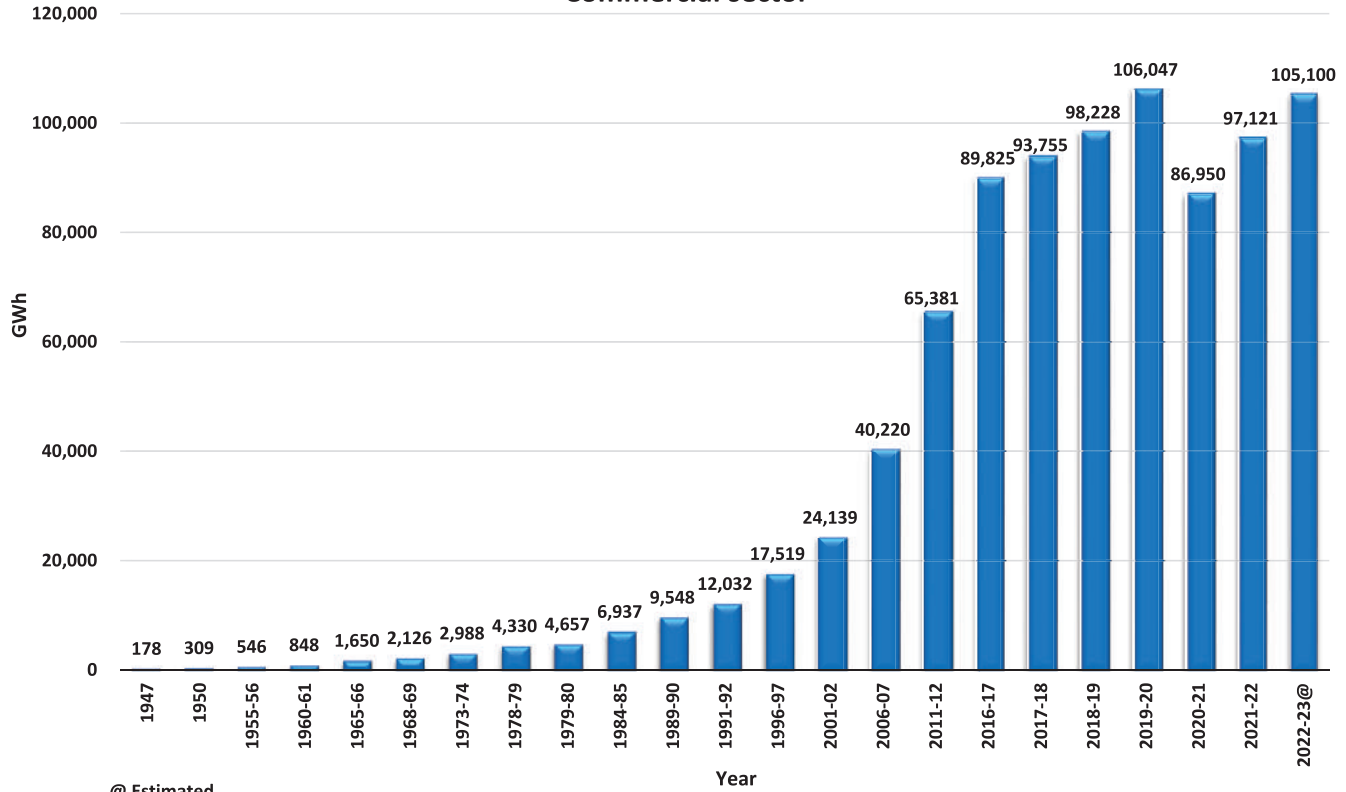
Chart : 19



@ Estimated

Plan-wise Growth of Electricity Consumption in India Commercial sector

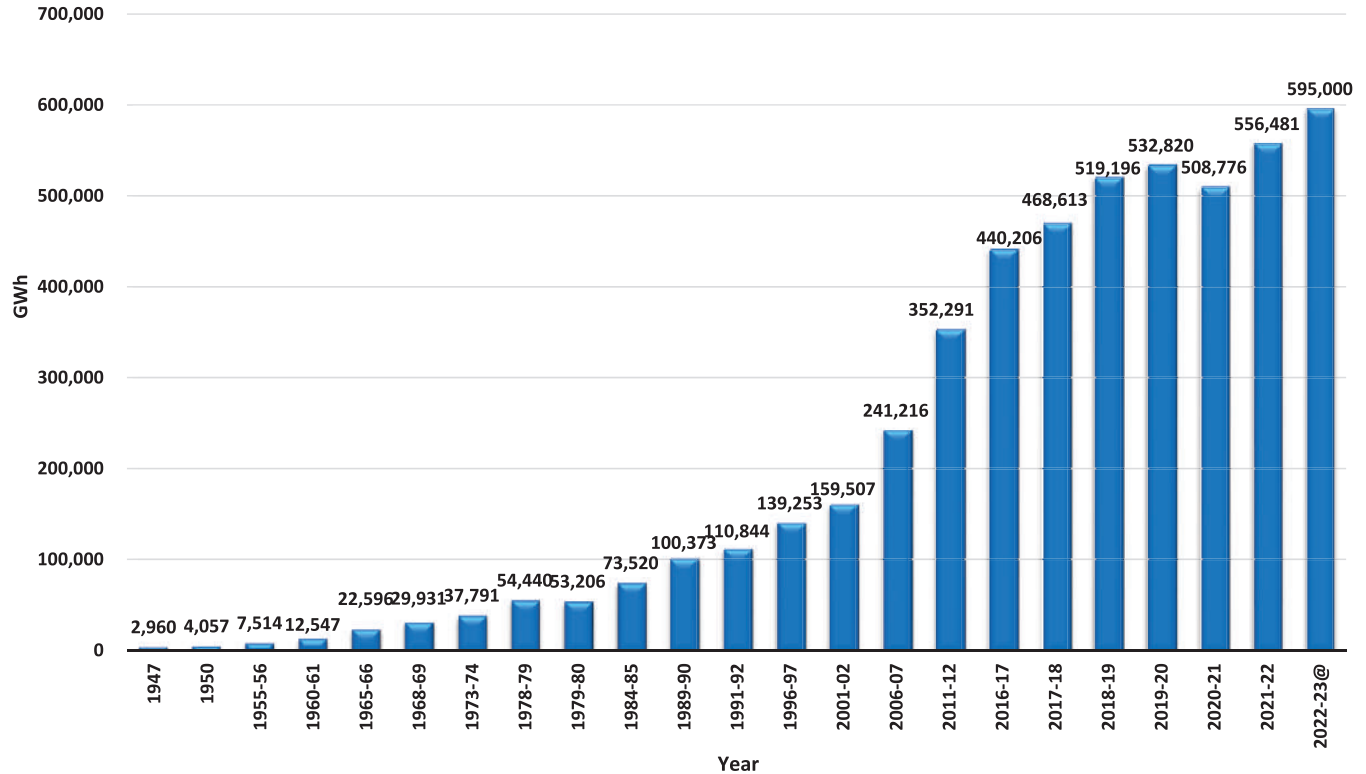
Chart : 20



@ Estimated

Plan-wise Growth of Electricity Consumption in India Industrial sector

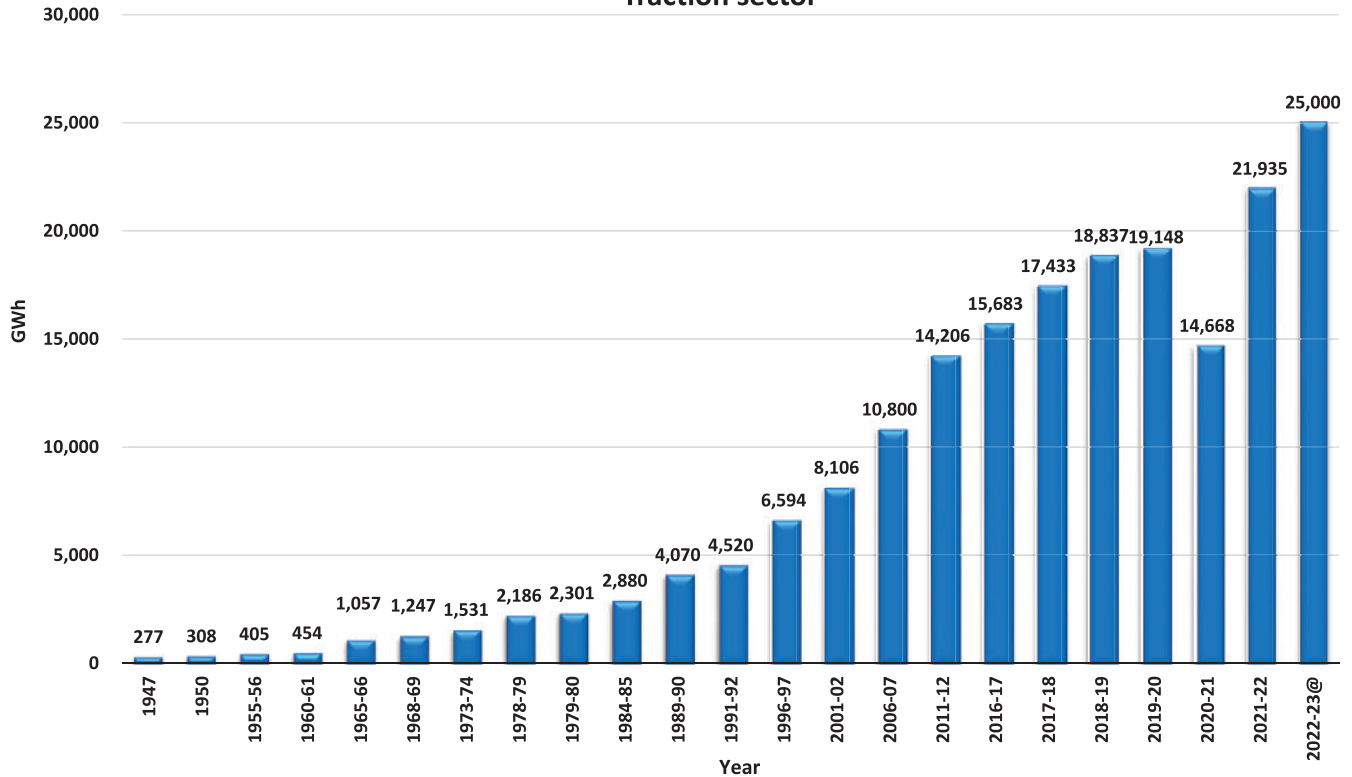
Chart : 21



@ Estimated

Plan-wise Growth of Electricity Consumption in India Traction sector

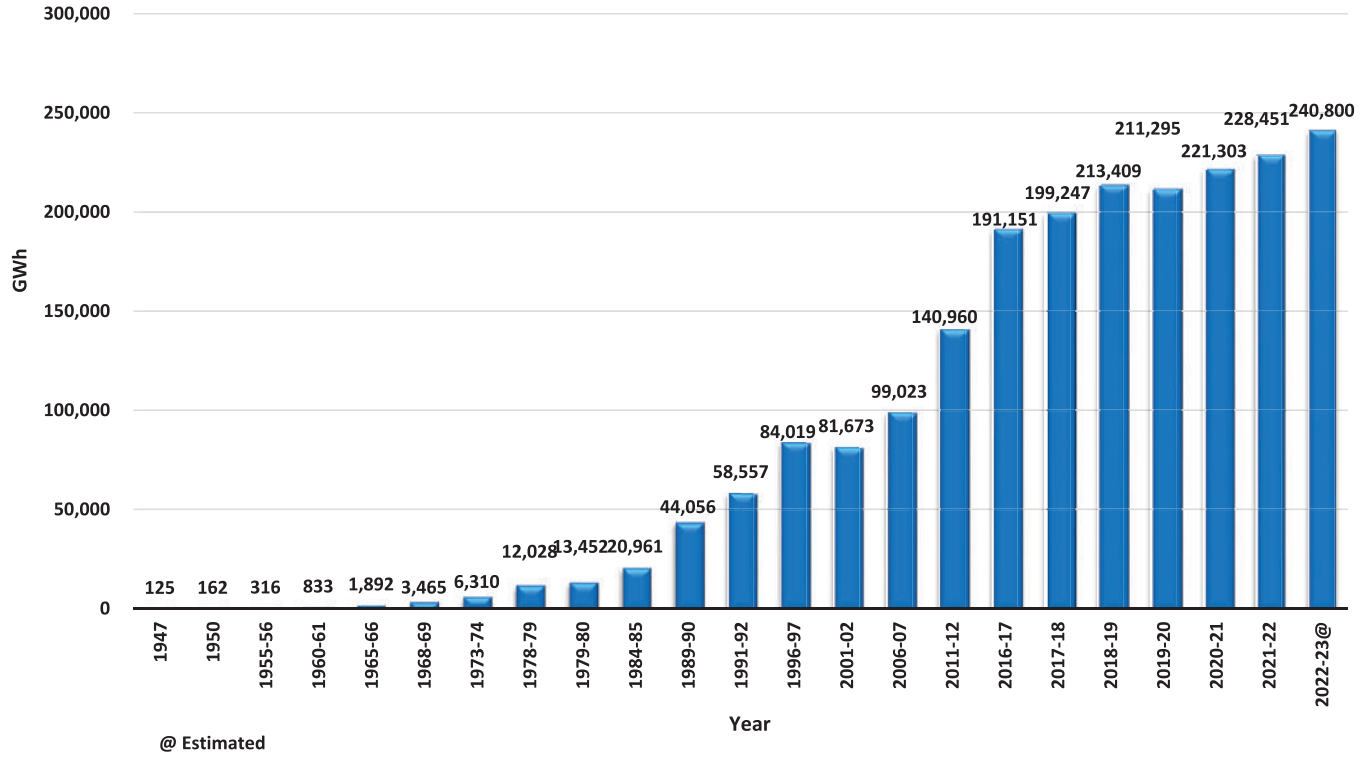
Chart : 22



@ Estimated

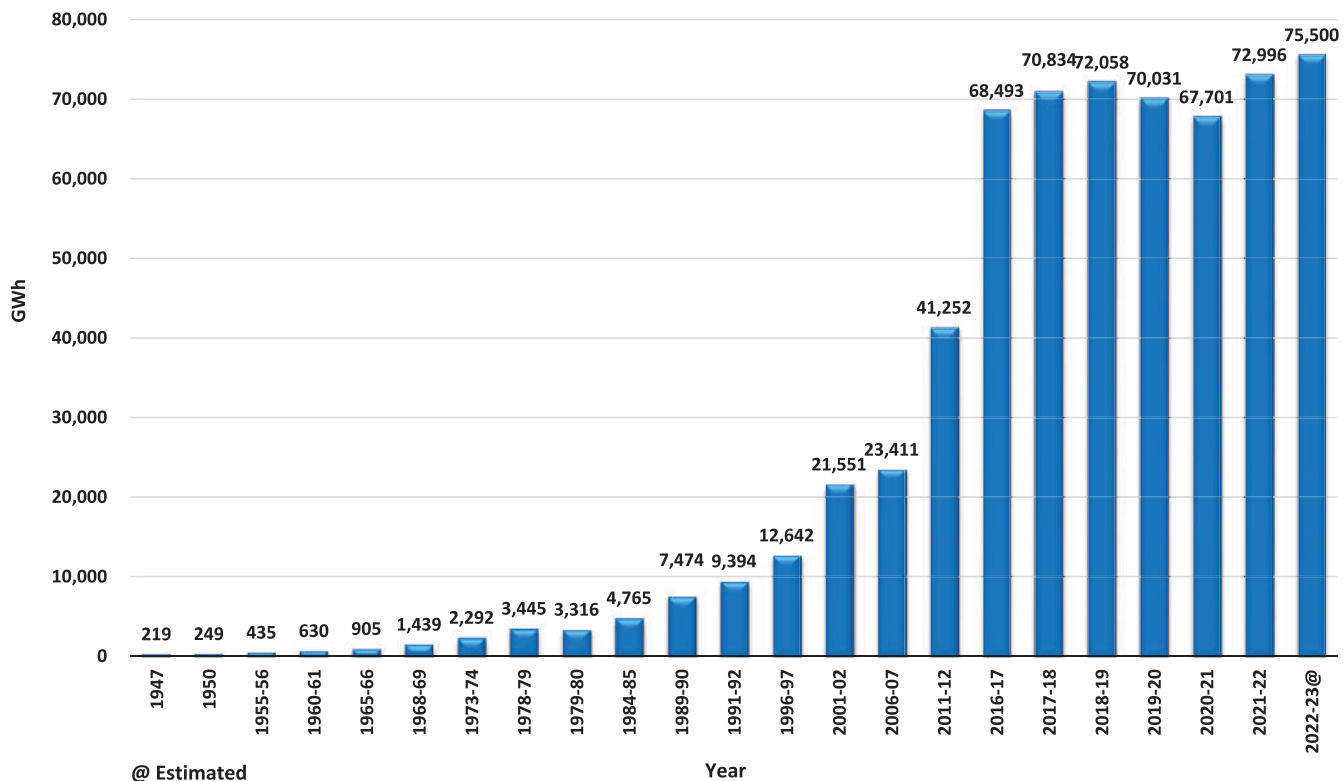
Plan-wise Growth of Electricity Consumption in India Agriculture scetor

Chart : 23



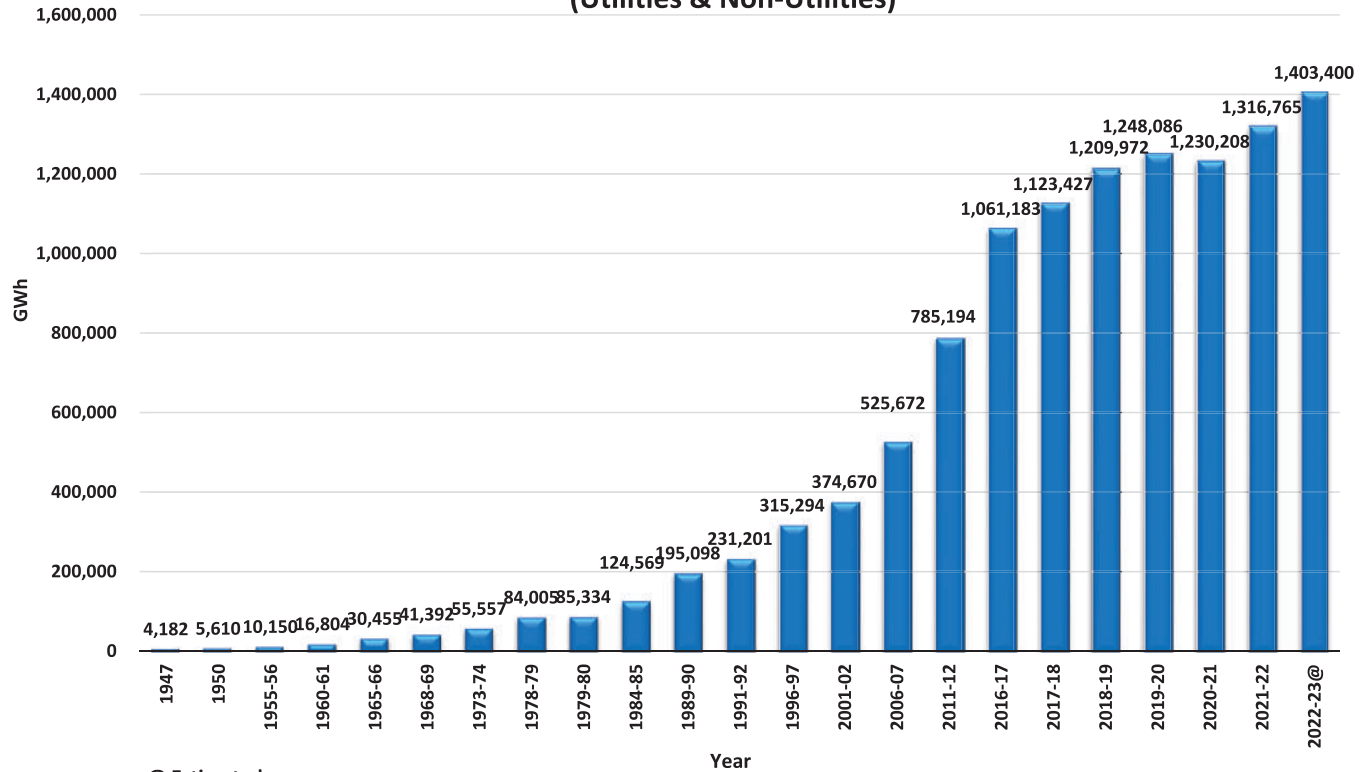
Plan-wise Growth of Electricity Consumption in India Miscellaneous sector

Chart : 24



Plan-wise Growth of All India Total Electricity Consumption (Utilities & Non-Utilities)

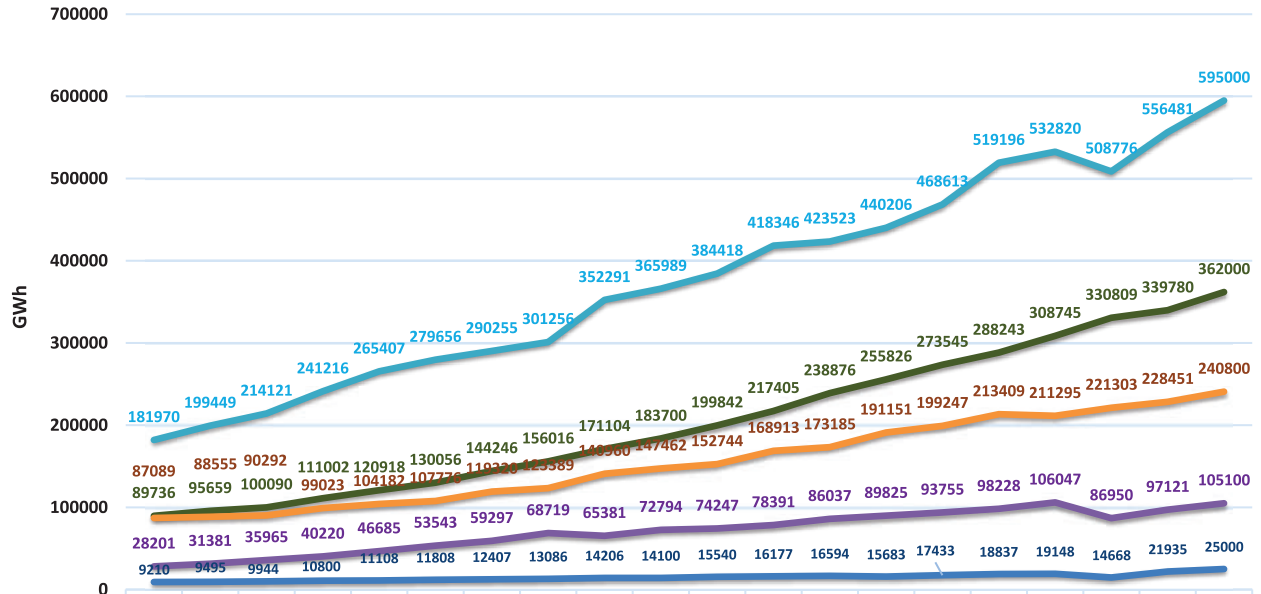
Chart : 25



@ Estimated

Trend of Category-wise Energy Consumption 2003-04 TO 2022-23

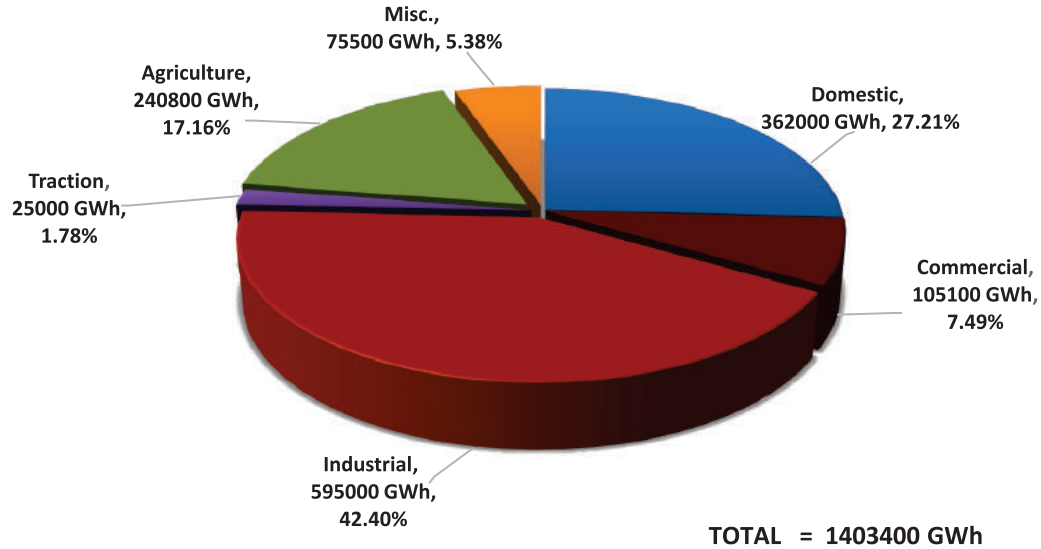
Chart : 25A



	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Domestic	89736	95659	100090	111002	120918	130056	144246	156016	171104	183700	199842	217405	238876	255826	273545	288243	308745	330809	339780	362000
Commercial	28201	31381	35965	40220	46685	53543	59297	68719	65381	72794	74247	78391	86037	89825	93755	98228	106047	86950	97121	105100
Industrial	181970	199449	214121	241216	265407	279656	290255	301256	352291	365989	384418	418346	423523	440206	468613	519196	532820	508776	556481	595000
Agriculture	87089	88555	90292	99023	104182	107776	119320	115389	149300	147462	152744	168913	173185	191151	199247	213409	211295	221303	228451	240800
Traction	9210	9495	9944	10800	11108	11808	12407	13086	14206	14100	15540	16177	16594	15683	17433	18837	19148	14668	21935	25000

Pie Chart : 26

All India Electricity Consumption Sector-wise
(Utilities & Non- Utilities)
2022-23@

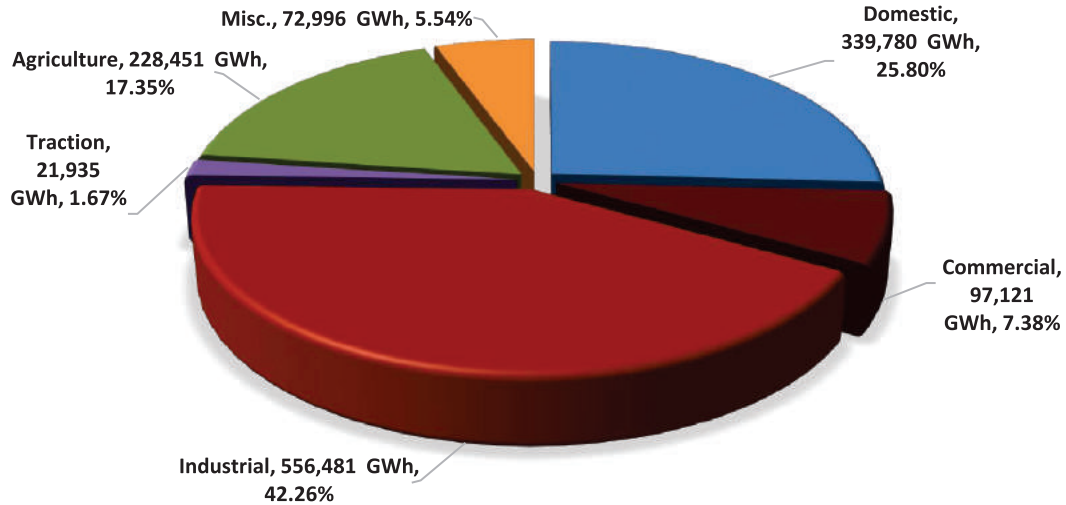


@ Estimated

■ Domestic ■ Commercial ■ Industrial ■ Traction ■ Agriculture ■ Misc.

Pie Chart : 26A

**All India Electricity Consumption Sector-wise
Utilities & Non-Utilities
2021-22**

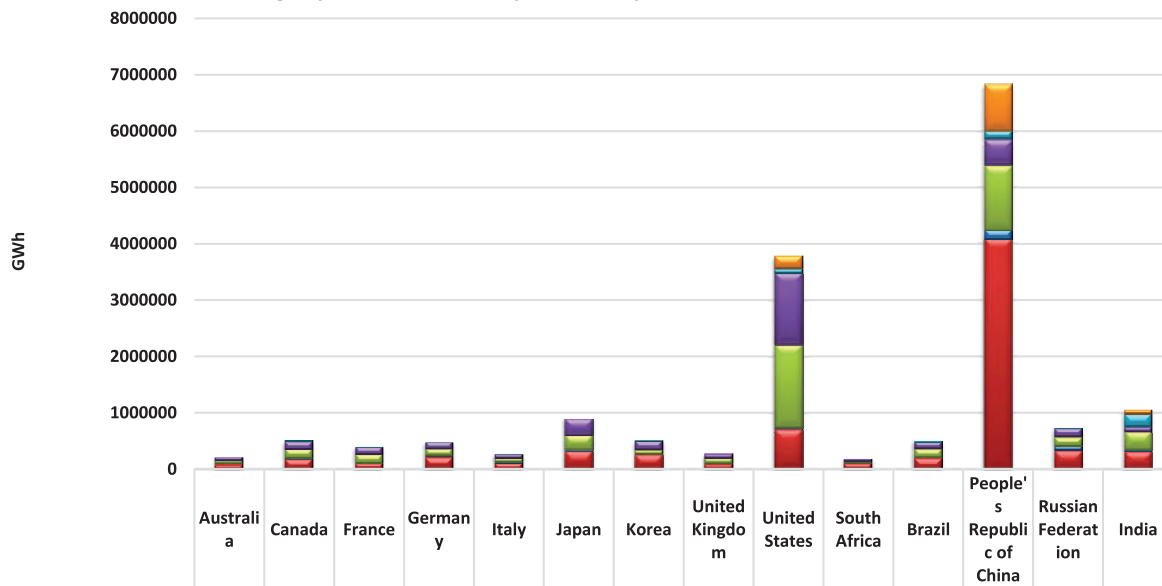


TOTAL = 1316765 GWh

■ Domestic ■ Commercial ■ Industrial ■ Traction ■ Agriculture ■ Misc.

Chart : 27

Category-wise Electricity Consumption in various Countries -2020

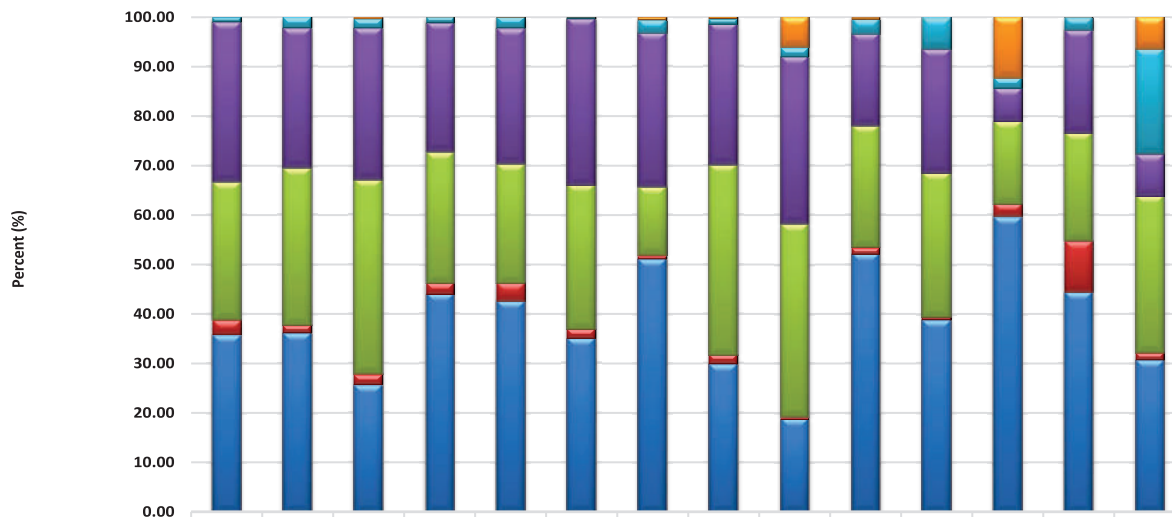


	Australia	Canada	France	Germany	Italy	Japan	Korea	United Kingdom	United States	South Africa	Brazil	People's Republic of China	Russian Federation	India
■ Non-specified (other)	0	0	1331.012	73	163	421	2984	1006	232356	713	0	835748	305	67701
■ Agriculture/forestry	2033	10557	7906	5130	6147	2878	13838	3019	73487	5701	32525	142211	19434	221303
■ Commercial and public services	70132	144625	126483	125353	75259	304068	159346	79700	1270589	35343	127619	460541	155914	86950
■ Residential	60489	161499	161499	127032	66212	264563	70880	107847	1480810	46350	148845	1139648	163424	330809
■ Transport	6388	7569	8338	11137	10114	17304	3271	5014	10248	2380	2790	174030	77401	14668
■ Industry	77643	183720	105803	211089	117305	318169	262376	83904	710300	98659	197545	4076017	333135	320224

Source: - International Energy Agency (IEA) except India

Chart : 28

Category-wise % Shares in Electricity Consumption in various Countries -2020



	Australia	Canada	France	Germany	Italy	Japan	Korea	United Kingdom	United States	South Africa	Brazil	People's Republic of China	Russian Federation	India
Non-specified (other)	0.00	0.00	0.32	0.02	0.06	0.05	0.58	0.36	6.15	0.38	0.00	12.24	0.04	6.50
Agriculture/forestry	0.94	2.08	1.92	1.07	2.23	0.32	2.70	1.08	1.95	3.01	6.39	2.08	2.59	21.25
Commercial and public services	32.37	28.47	30.75	26.13	27.35	33.51	31.08	28.41	33.63	18.69	25.06	6.74	20.80	8.35
Residential	27.92	31.79	39.26	26.48	24.06	29.16	13.82	38.45	39.20	24.50	29.22	16.69	21.80	31.76
Transport	2.95	1.49	2.03	2.32	3.68	1.91	0.64	1.79	0.27	1.26	0.55	2.55	10.33	1.41
Industry	35.83	36.17	25.72	43.99	42.63	35.06	51.18	29.91	18.80	52.16	38.79	59.69	44.44	30.74

Source: - International Energy Agency (IEA) except India

Table 5
Per Capita Electricity Consumption and T&D Losses
of various Countries in 2019 & 2020

Sl. No.	Per Capita Consumption (kWh)			Sl. No.	T & D Losses (%)		
	Name of the Country	2019	2020		Name of the Country	2019	2020
1	Canada	15,018	14,760	1	Korea	3.63	3.63
2	USA	12,744	12,450	2	Japan	4.75	5.10
3	Australia	9,897	9,890	3	Germany	5.50	5.39
4	Japan	7,935	7,730	4	Italy	6.10	6.31
5	France	7,043	6,630	5	Australia	6.05	5.16
6	Germany	6,606	6,330	6	South Africa	12.24	13.69
7	Korea	10,878	10,810	7	France	8.82	8.73
8	UK	4,750	4,510	8	China	5.11	4.74
9	Russia	6,954	6,590	9	USA	6.37	5.24
10	Italy	5,207	4,970	10	Canada	6.38	6.29
11	South Africa	3,835	3,540	11	UK	9.05	9.38
12	Brazil	2,585	2,540	12	Russia	13.11	12.75
13	China	5,119	5,260	13	Brazil	20.56	20.76
14	India*	1,208	1,161	14	India	20.46	20.73
15	World	3,265	3,210	15	World	8.81	7.53

Note :-

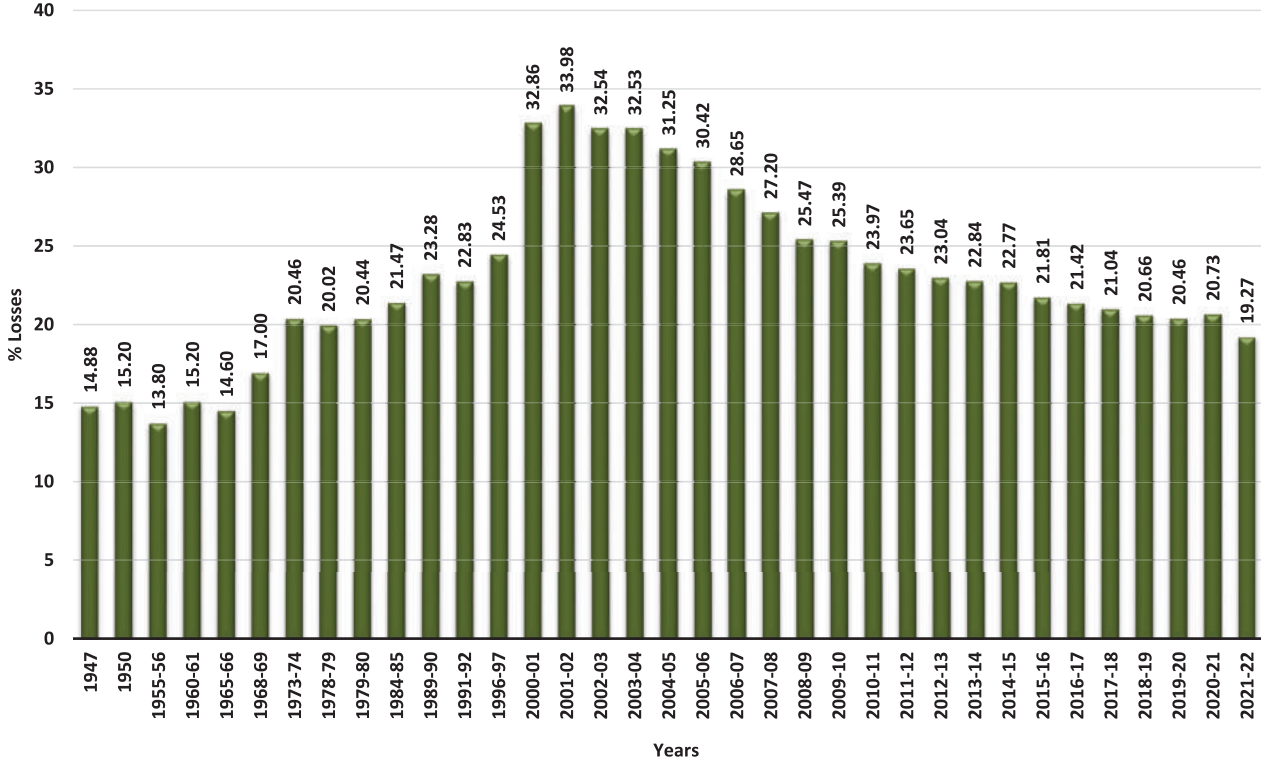
Basic data obtained from IEA Website (except) India.

* Per Capita Consumption= (Gross Electrical Energy Availability/Midyear Population).

Per Capita Consumption of India during the year 2021-22 & 2022-23 is 1255 & 1327 respectively.

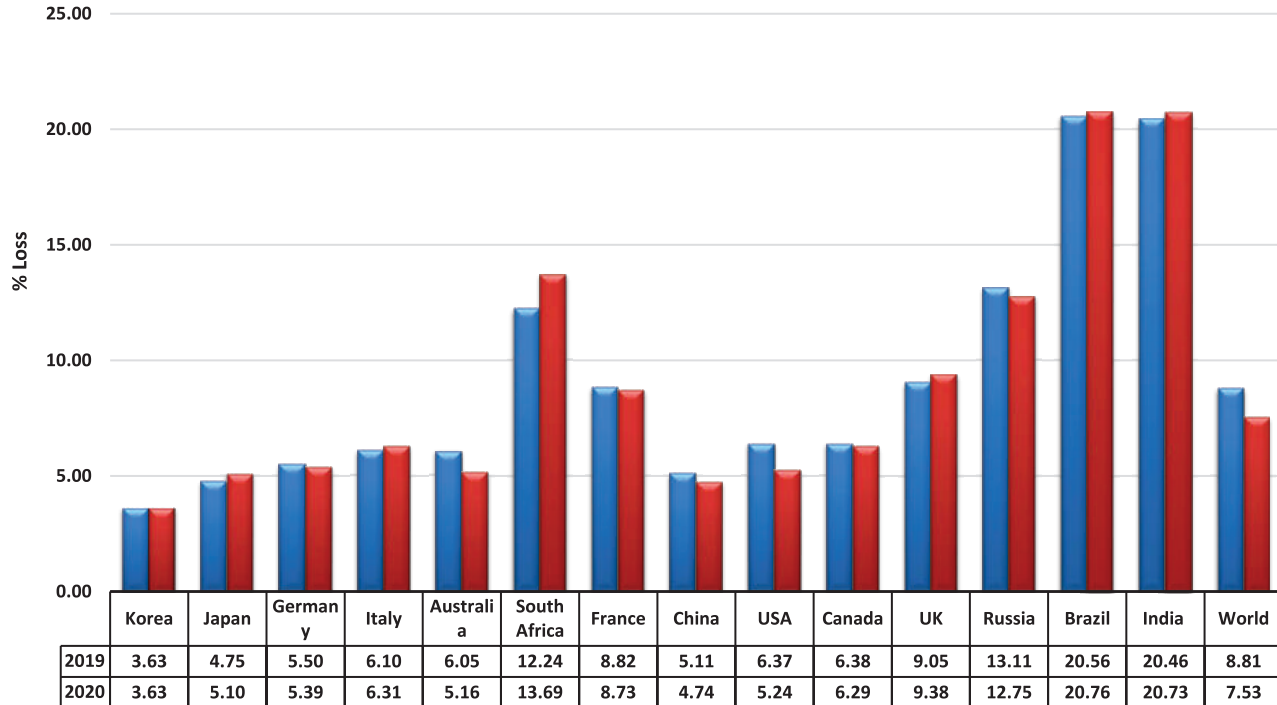
T&D Losses of India during the year 2021-22 is 19.27%

All India Transmission and Distribution Losses (%)



T & D Losses of Various Countries in 2019 & 2020(%)

Chart : 30



Source: - International Energy Agency (IEA) (except India)

■ 2019 ■ 2020

Table 6
Plan-wise Growth of Installed Capacity of Captive Power Plants in Industries having
Demand of 0.5 MW & Above - Mode-wise

(MW)

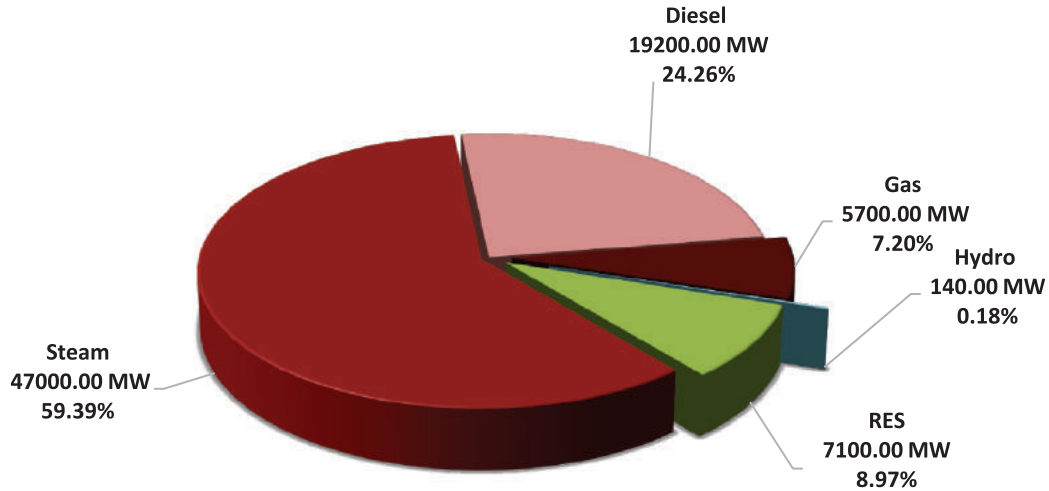
SI. No.	As on	Steam	Diesel	Gas	Hydro	RES	Railways	Total
1	2	3	4	5	6	7	8	9 (3+4+5+6+7+8)
1	31.12.1947	**	**	**	**	**	0.00	410.00
2	31.12.1950	**	**	**	**	**	0.00	587.85
3	31.03.1956 (End of the 1st Plan)	**	**	**	**	**	0.00	759.65
4	31.03.1961 (End of the 2nd Plan)	**	**	**	**	**	0.00	1001.37
5	31.03.1966(End of the 3rd Plan)	**	**	**	**	**	0.00	1082.36
6	31.03.1969(End of the 3 Annual Plans)	**	**	**	**	**	0.00	1277.47
7	31.03.1974(End of the 4th Plan)	**	**	**	**	**	0.00	1732.70
8	31.03.1979(End of the 5th Plan)	1949.23	559.17	44.27	2.61	0.00	62.31	2617.59
9	31.03.1980(End of the 2 Annual Plans)	2021.61	720.58	54.27	2.61	0.00	60.44	2859.51
10	31.03.1985 (End of the 6th Plan)	2803.18	2077.06	155.31	2.91	0.00	81.80	5120.26
11	31.03.1990 (End of the 7th Plan)	4822.85	2754.48	425.51	3.60	0.00	109.29	8115.73
12	31.03.1992 (End of the 2 Annual Plans)	5377.10	3291.06	495.72	4.30	0.00	133.23	9301.41
13	31.03.1997(End of the 8th Plan)	6151.69	4529.91	1166.38	3.50	64.83	162.62	12078.93
14	31.03.2002(End of the 9th Plan)	8354.03	6521.95	2125.91	51.10	92.21	0.00	17145.20
15	31.03.2007 (End of 10th Plan)	11397.52	7723.35	2976.00	60.50	177.67	0.00	22335.04
16	31.03.2012(End of 11th Plan)	22615.39	9955.23	5884.95	47.59	872.21	0.00	39375.37
17	31.03.2017 (End of 12th Plan)	30571.95	13349.69	6109.21	65.29	1433.06	0.00	51529.19
18	31.03.2018	32854.41	13144.60	7156.37	50.96	1726.17	0.00	54932.51
19	31.03.2019	47679.04	15570.97	8787.13	103.39	3066.59	0.00	75207.13
20	31.03.2020	51542.77	12774.66	7315.87	130.77	4475.29	0.00	76239.36
21	31.03.2021	47759.52	17562.86	7361.11	130.70	5693.78	0.00	78507.97
22	31.03.2022	45302.73	18648.78	5685.25	134.60	6961.08	0.00	76732.43
22	31.03.2023 @	47000.00	19200.00	5700.00	140.00	7100.00	0.00	79140.00

** Breakup Not Available

@ Estimated

Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5 MW & Above - Mode-wise (As on 31.03.2023)@

Pie Chart : 31

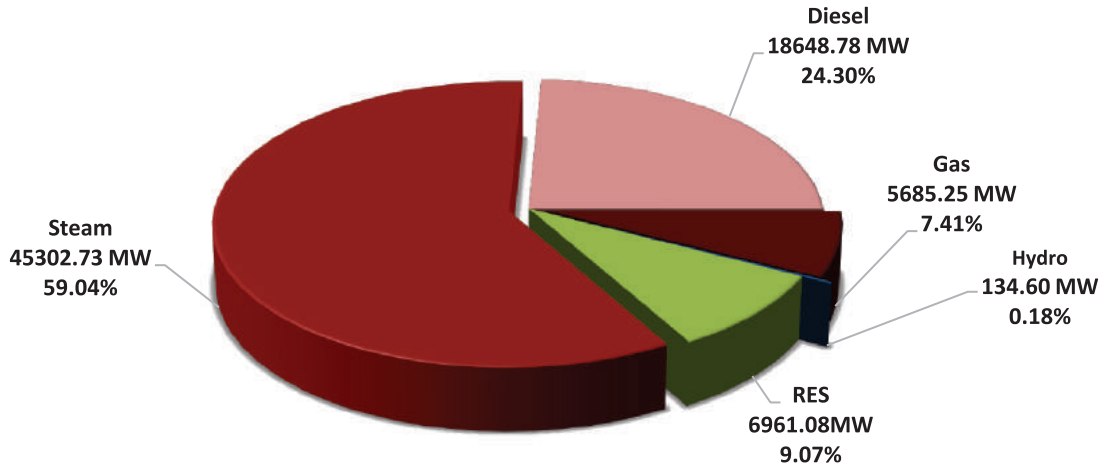


@-Estimated

TOTAL = 79140 MW

■ Steam ■ Diesel ■ Gas ■ Hydro ■ RES

Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5MW & Above - Mode-wise (As on 31.03.2022)

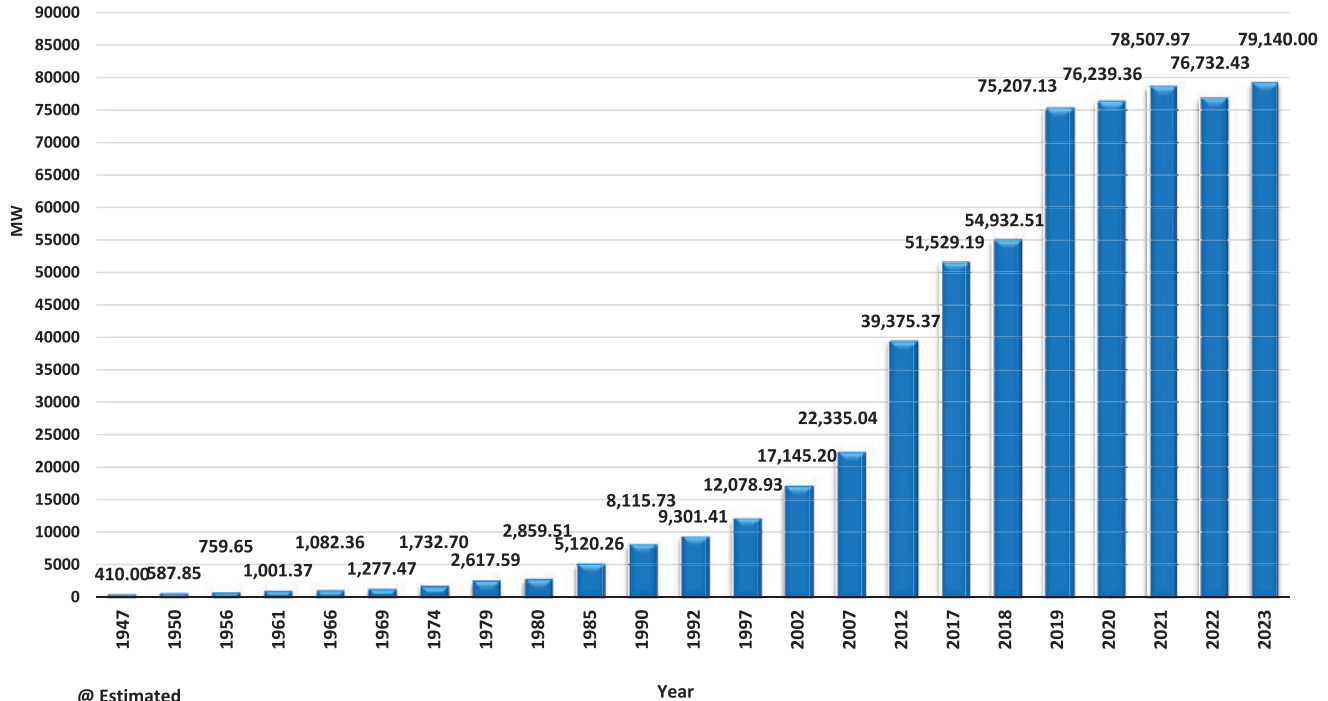


TOTAL = 76732.43MW

■ Steam ■ Diesel ■ Gas ■ Hydro ■ RES

Plan-wise Growth of All India Installed Generating Capacity of Captive Power Plants in Industries having Demand of 0.5MW & Above

Chart : 32



Note: 1. Figures for the years 1947 & 1950 are as on 31st December.
 2. Figures for the year 1955-56 & onward are as on 31st March.

Table 7
Plan-wise Growth of Energy Generated by Captive Power Plants in Industries
having Demand of 0.5 MW & Above - Mode-wise

(GWh)

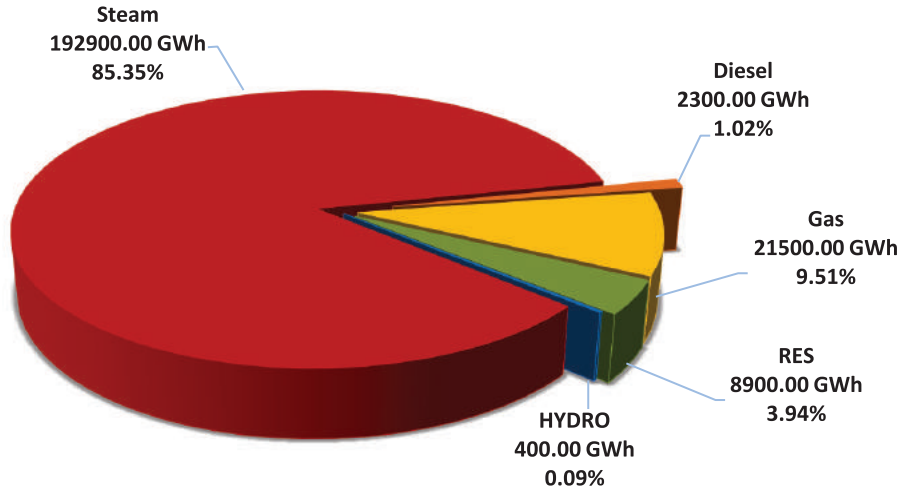
Sl. No.	During financial year ending with	Hydro	Steam	Diesel	Gas	RES	Railways	Total
1	2	3	4	5	6	7	8	9 (3+4+5+6+7+8)
1	1947	**	**	**	**	**	**	856.91
2	1950	**	**	**	**	**	0.00	1467.81
3	1955-56 (End of the 1st Plan)	**	**	**	**	**	0.00	2184.82
4	1960-61 (End of the 2nd Plan)	**	**	**	**	**	0.00	3186.10
5	1965-66(End of the 3rd Plan)	**	**	**	**	**	0.00	3733.19
6	1968-69(End of the 3 Annual Plans)	**	**	**	**	**	0.00	4136.06
7	1973-74(End of the 4th Plan)	**	**	**	**	**	0.00	6067.47
8	1978-79(End of the 5th Plan)	13.22	7211.30	299.13	48.97	0.00	34.47	7607.09
9	1979-80(End of the 2 Annual Plans)	15.06	7225.60	825.71	90.67	0.00	35.67	8192.71
10	1984-85 (End of the 6th Plan)	18.29	9966.55	2001.18	317.03	0.00	42.80	12345.85
11	1989-90 (End of the 7th Plan)	15.83	19110.46	2757.27	1313.29	0.00	29.07	23225.92
12	1991-92(End of the 2 Annual Plans)	17.57	23409.35	3247.81	1905.24	0.00	22.52	28602.49
13	1996-97(End of the 8th Plan)	28.84	29127.94	6573.38	5039.22	45.63	25.07	40840.08
14	2001-02(End of the 9th Plan)	116.59	41853.85	10719.66	8835.19	155.53	0.00	61680.82
15	2006-07(End of 10th Plan)	217.81	56184.04	9974.85	15207.17	215.88	0.00	81799.75
16	2011-12 (End of 11th Plan)	131.28	104862.65	6244.32	21971.57	1178.17	0.00	134387.99
17	2016-17 (End of 12th Plan)	143.64	137588.31	9181.74	22855.31	2277.02	0.00	172046.03
18	2017-18	112.48	143867.68	8106.89	25362.17	2328.17	0.00	179777.39
19	2018-19	270.04	184250.36	5334.32	19545.09	3673.92	0.00	213073.73
20	2019-20	348.04	205545.78	1919.32	25443.15	6310.47	0.00	239566.76
21	2020-21	339.12	193142.60	2504.19	21683.55	7157.94	0.00	224827.40
22	2021-22	356.66	179235.45	2104.51	20801.17	6812.98	0.00	209310.77
23	2022-23 @	400.00	192900.00	2300.00	21500.00	8900.00	0.00	226000.00

** Breakup Not Available

@ Estimated

Pie Chart : 33

**All India Electrical Energy Generated by Captive Power Plants in Industries
having Demand of 0.5 MW and Above - Mode-wise
2022-23 @**



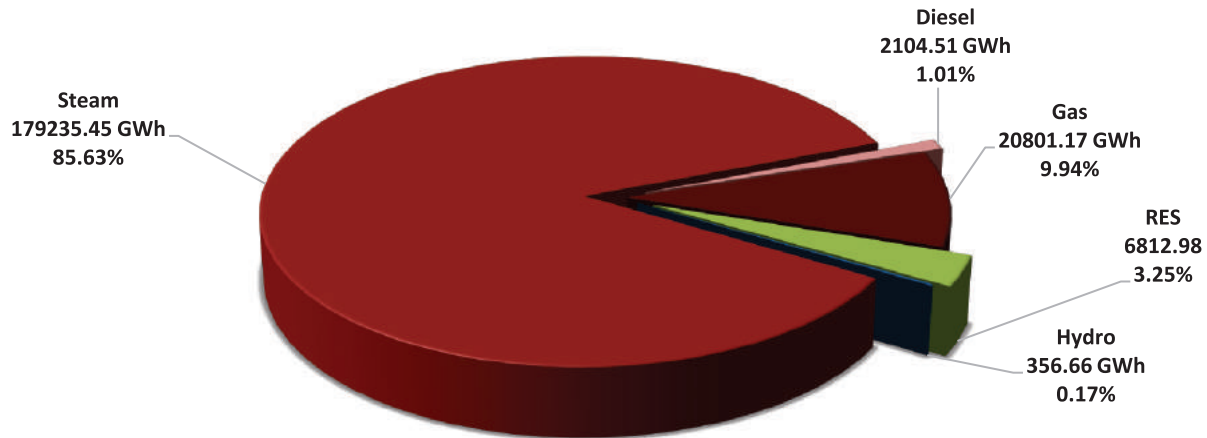
@ Estimated

Total = 226000 GWh

■ Hydro ■ Steam ■ Diesel ■ Gas ■ RES

Pie Chart : 33A

**All India Electrical Energy Generated by Captive Power Plants in Industries
having Demand of 0.5 MW and Above - Mode- wise
2021-22**

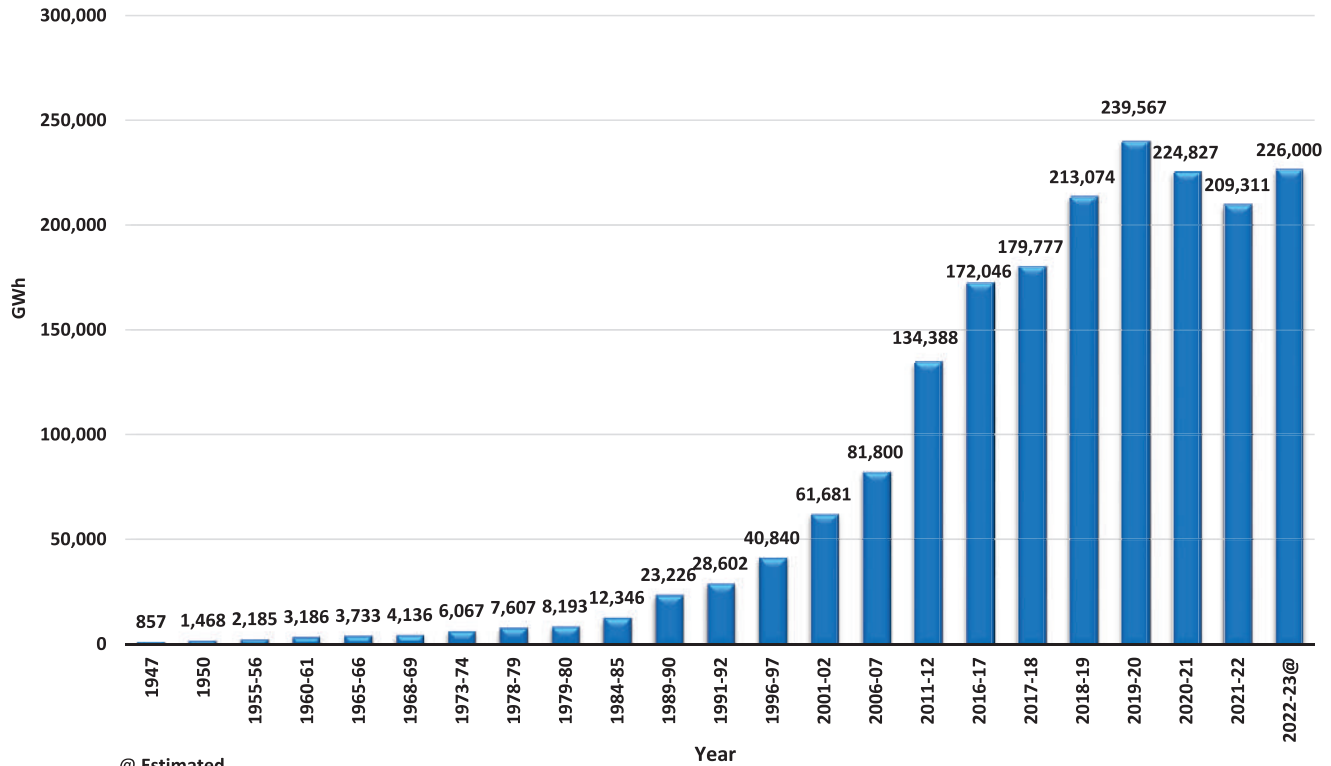


Total = 209310.77GWh

■ Hydro ■ Steam ■ Diesel ■ Gas ■ RES

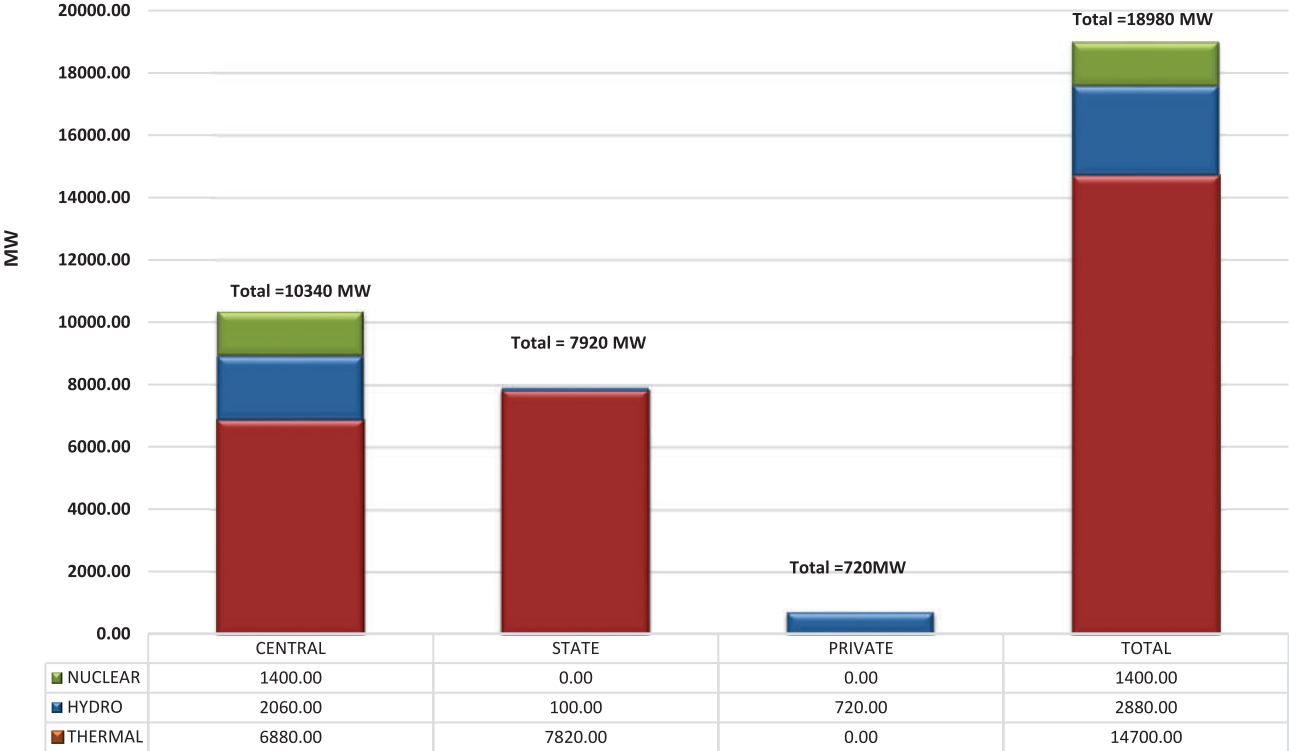
Plan-wise Growth of Energy Generated by Captive Power Plants in Industries having Demand of 0.5 MW & above

Chart : 34



Capacity Addition Programme during 2023-24

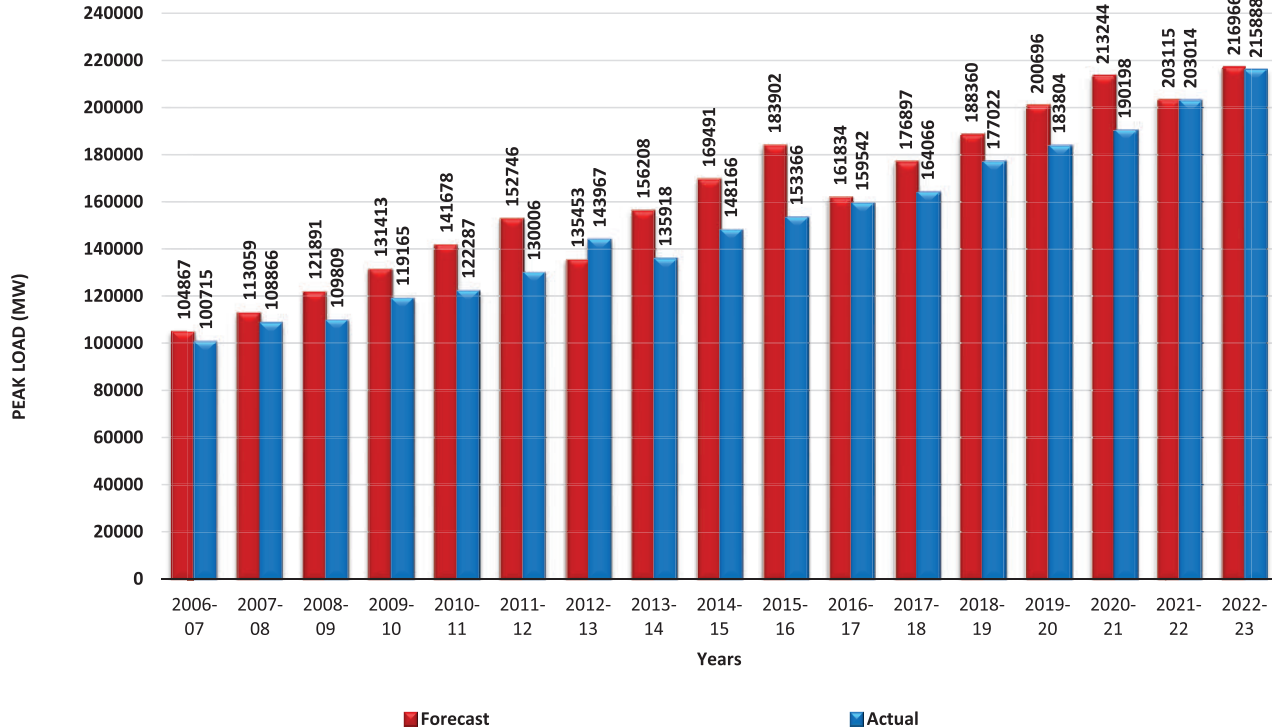
Chart : 35



Forecast of All India Peak Electricity Demand (Utilities)

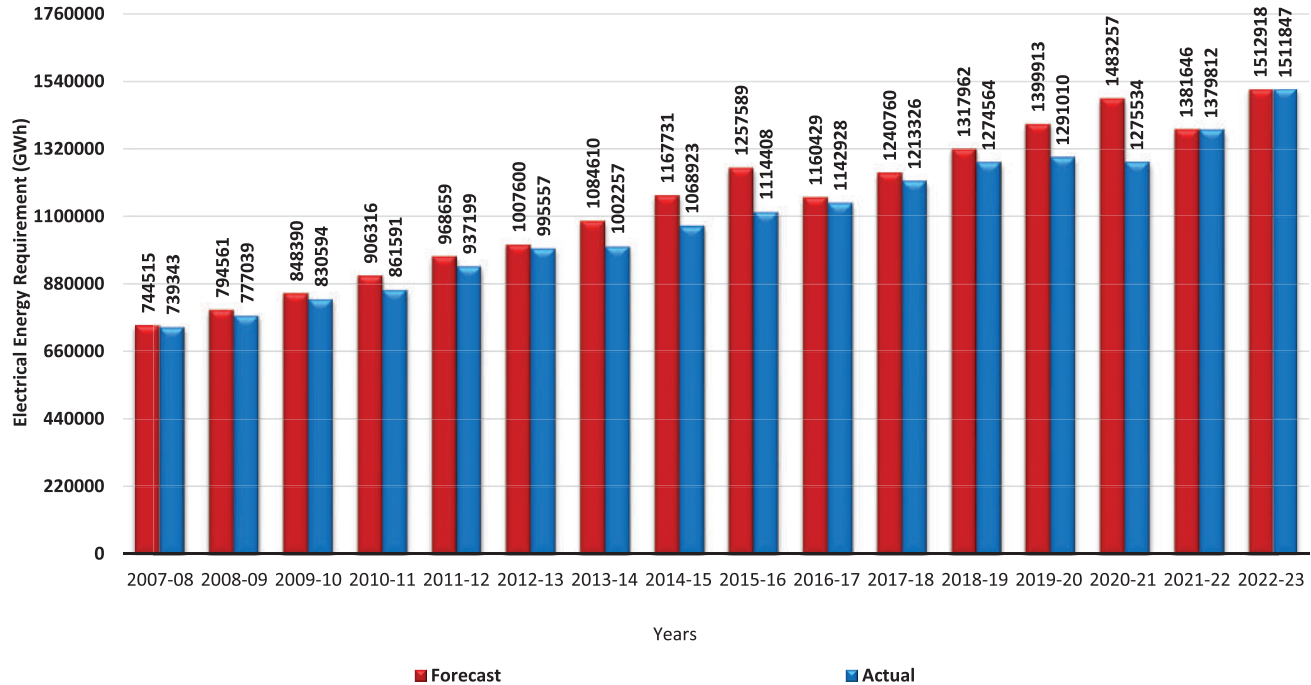
Chart : 36

As Per 20th Electric Power Survey in MW

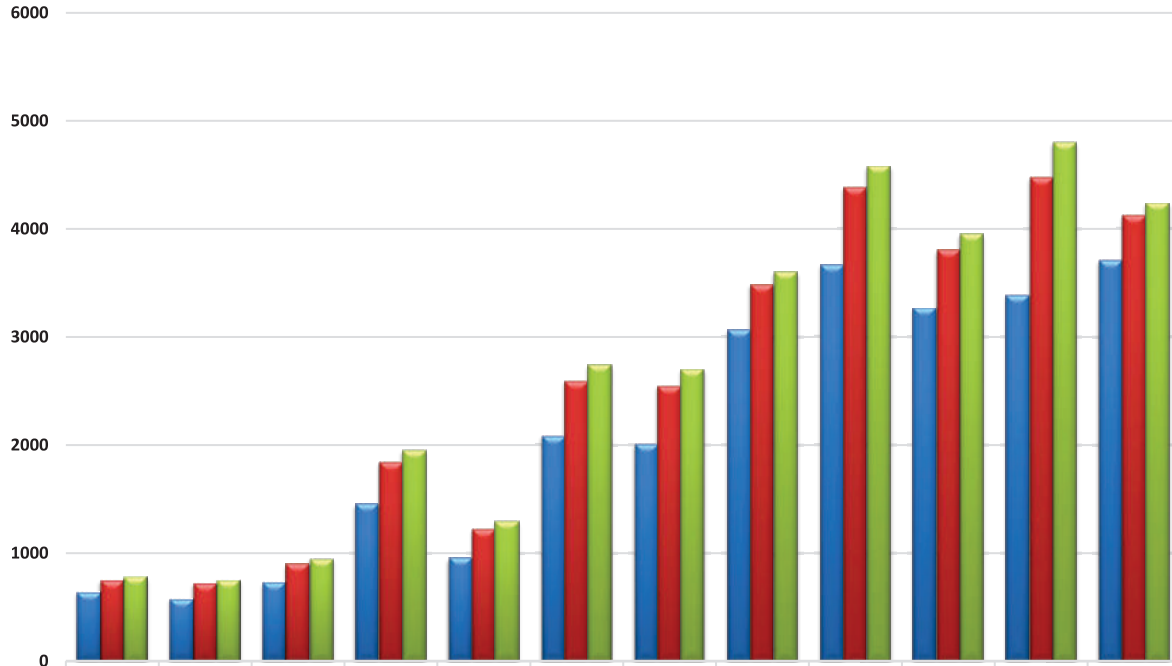


Forecast of All India Energy Requirement (Utilities) As Per 20th Electric Power Survey in GWh

Chart : 37



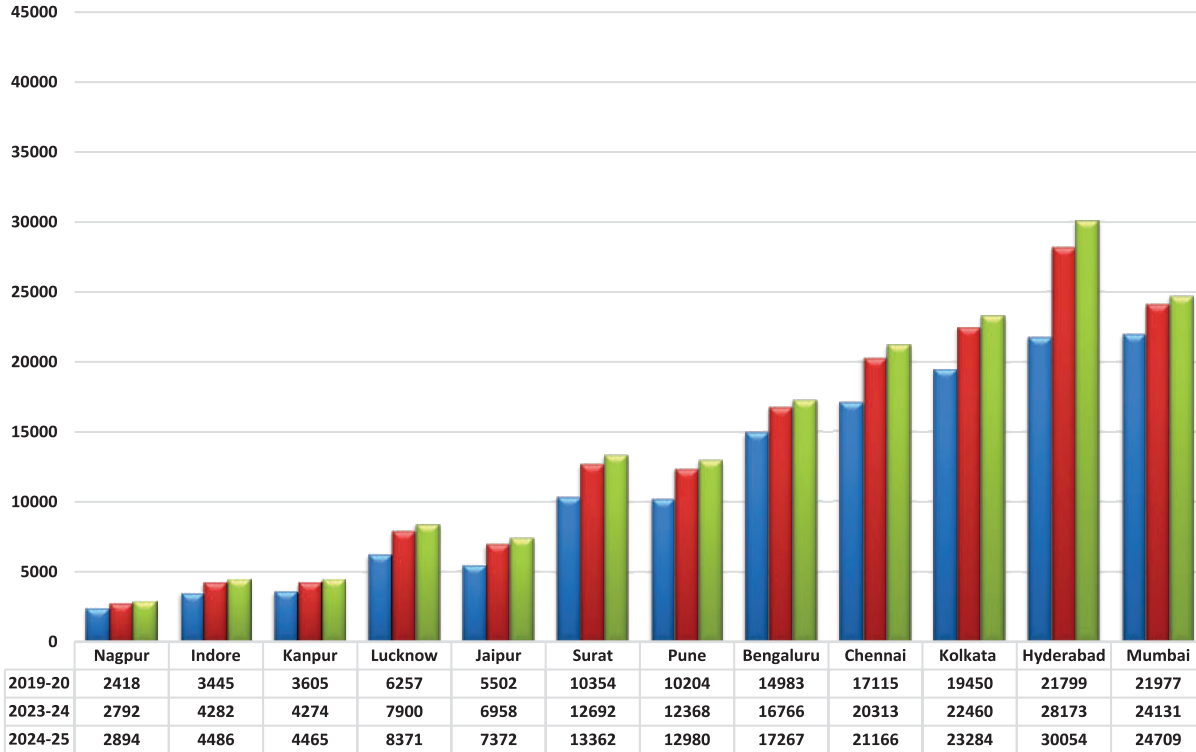
19th Electric Power Survey of India (Volume - III)
Annual Electric Peak Load (in MW) of Mega Cities at Power Station Bus Bar
For the year 2019-20, 2023-24 & 2024-25



	Nagpur	Indore	Kanpur	Lucknow	Jaipur	Surat	Pune	Bengaluru	Chennai	Kolkata	Hyderabad	Mumbai
2019-20	642	578	732	1450	952	2086	2011	3067	3666	3263	3390	3710
2023-24	746	719	900	1842	1222	2594	2543	3482	4383	3801	4479	4123
2024-25	775	753	949	1955	1295	2741	2698	3599	4576	3950	4805	4234

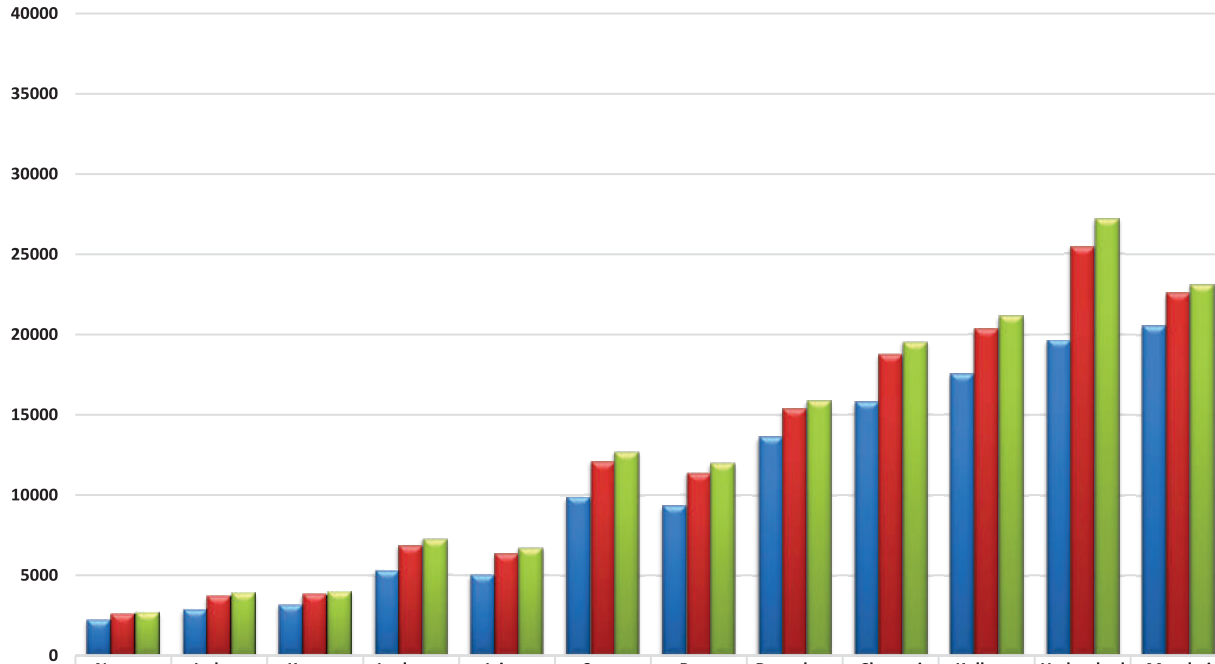
19th Electric Power Survey of India (Volume - III)
Electrical Energy Requirement (in MU) of Mega Cities
For the year 2019-20, 2023-24 & 2024-25

Chart : 37B



19th Electric Power Survey of India (Volume - III)
Electrical Energy Consumption (in MU) of Mega Cities
For the year 2019-20, 2023-24 & 2024-25

Chart : 37C



	Nagpur	Indore	Kanpur	Lucknow	Jaipur	Surat	Pune	Bengaluru	Chennai	Kolkata	Hyderabad	Mumbai
2019-20	2235	2894	3162	5318	4990	9845	9317	13599	15783	17549	19620	20540
2023-24	2592	3682	3799	6810	6339	12073	11391	15351	18756	20363	25469	22563
2024-25	2691	3880	3982	7241	6723	12711	11980	15844	19551	21136	27200	23106

Table No.8
All India Power Supply Position Energy wise & Peak wise (Utilities)
1985-86 to 2022-23

Year	Energy				Peak Demand			
	Requirement	Availability	Deficit	Deficit	Demand	Availability	Deficit	Deficit
	(GWh)	(GWh)	(GWh)	(%)	(MW)	(MW)	(MW)	(%)
1985-86	170746	157262	13484	7.90	28090	24215	3875	13.79
1986-87	192356	174276	18080	9.40	30850	26924	3926	12.73
1987-88	210993	187976	23017	10.91	31990	28242	3748	11.72
1988-89	223194	205909	17285	7.74	36245	31713	4532	12.50
1989-90	247762	228151	19611	7.92	40385	33658	6727	16.66
1990-91	267632	246560	21072	7.87	44005	37171	6834	15.53
1991-92	288974	266432	22542	7.80	48055	39027	9028	18.79
1992-93	305266	279824	25442	8.33	52805	41984	10821	20.49
1993-94	323252	299494	23758	7.35	54875	44830	10045	18.31
1994-95	352260	327281	24979	7.09	57530	48066	9464	16.45
1995-96	389721	354045	35676	9.15	60981	49836	11145	18.28
1996-97	413490	365900	47590	11.51	63853	52376	11477	17.97
1997-98	424505	390330	34175	8.05	65435	58042	7393	11.30
1998-99	446584	420235	26349	5.90	67905	58445	9460	13.93
1999-00	480430	450594	29836	6.21	72669	63691	8978	12.35
2000-01	507216	467409	39807	7.85	74872	65628	9244	12.35
2001-02	522537	483350	39187	7.50	78441	69189	9252	11.79
2002-03	545674	497589	48085	8.81	81492	71547	9945	12.20
2003-04	559264	519398	39866	7.13	84574	75066	9508	11.24

Table No.8 (Contd.)
All India Power Supply Position Energy wise & Peak wise (Utilities)
1985-86 to 2022-23

Year	Energy				Peak Demand			
	Requirement	Availability	Deficit	Deficit	Demand	Availability	Deficit	Deficit
2004-05	591373	548115	43258	7.31	87906	77652	10254	11.66
2005-06	631757	578819	52938	8.38	93255	81792	11463	12.29
2006-07	690587	624495	66092	9.57	100715	86818	13897	13.80
2007-08	739343	666007	73336	9.92	108866	90793	18073	16.60
2008-09	777039	691038	86001	11.07	109809	96785	13024	11.86
2009-10	830594	746644	83950	10.11	119166	104009	15157	12.72
2010-11	861591	788355	73236	8.50	122287	110256	12031	9.84
2011-12	937199	857886	79313	8.46	130006	116191	13815	10.63
2012-13	995557	908652	86905	8.73	135453	123294	12159	8.98
2013-14	1002257	959829	42428	4.23	135918	129815	6103	4.49
2014-15	1068923	1030785	38138	3.57	148166	141160	7006	4.73
2015-16	1114408	1090850	23558	2.11	153366	148463	4903	3.20
2016-17	1142928	1135332	7596	0.66	159542	156934	2608	1.63
2017-18	1213326	1204697	8629	0.71	164066	160752	3314	2.02
2018-19	1274595	1267526	7070	0.55	177022	175528	1494	0.84
2019-20	1291010	1284444	6566	0.51	183804	182533	1271	0.69
2020-21	1275534	1270663	4871	0.38	190198	189395	802	0.42
2021-22	1379812	1374024	5787	0.42	203014	200539	2475	1.22
2022-23	1511847	1504264	7583	0.50	215888	207231	8657	4.01

**All India Peak and Energy Deficit
(Utilities)
1985-86 to 2022-23**

Chart : 38

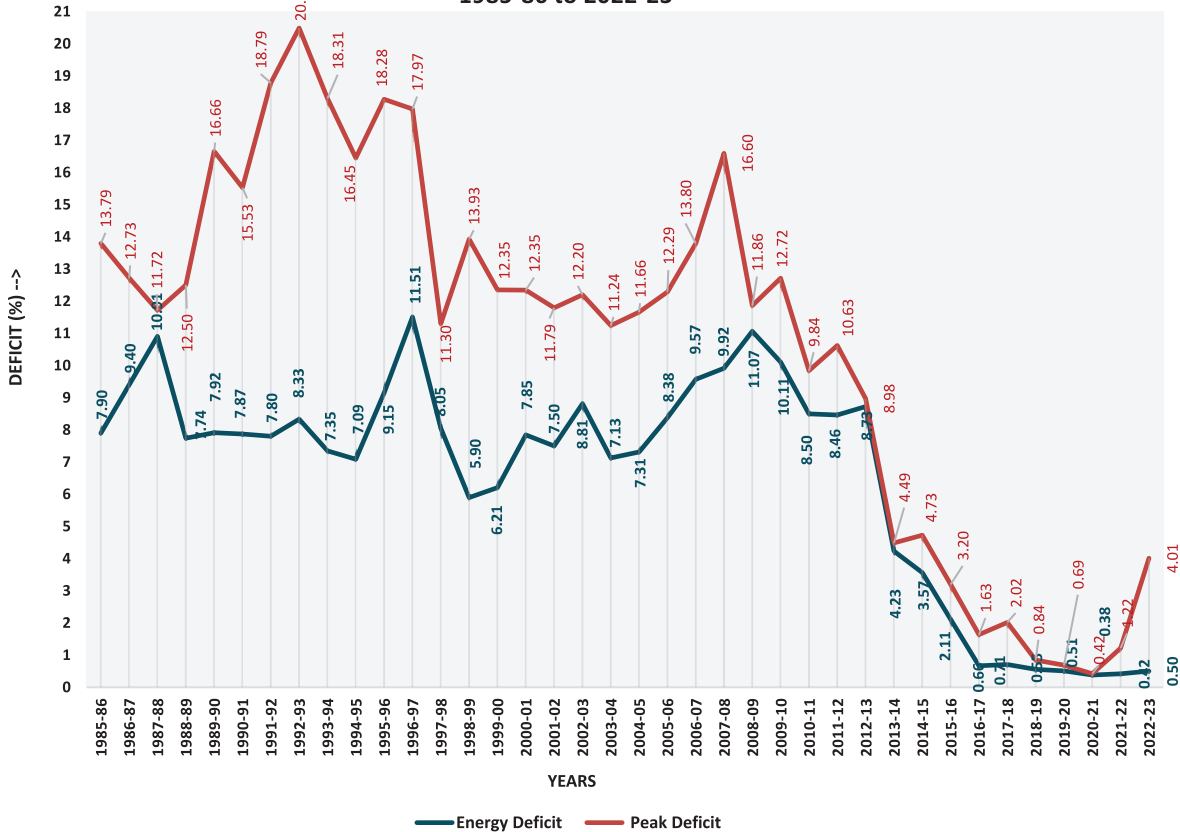


Table 8A
Region wise Summary of Electrical Energy Requirement (MU) & Peak Electricity Demand (MW)
projections for the Year 2023-24 and 2024-25 As Per 20th EPS (Volume-I)

Region/Year	Electrical Energy Requirement (MU)		Peak Electricity Demand (MW)	
	2023-24	2024-25	2023-24	2024-25
Northern	499239	528394	82688	87457
Western	498665	528152	74704	79137
Southern	388055	410587	67143	71362
Eastern	193179	205240	30479	32544
North East	21076	22261	4029	4284
All India Total	1600214	1694634	230144	244565

NOTE : EPS - Electric Power Survey

Table 8B
Category wise Forecast of Electrical Energy Consumption
For the Year 2023-24 and 2024-25
As Per 20th EPS (Volume-I)

(GWh)

Category	Year	Year
	2023-24	2024-25
Domestic	404754	431417
Commercial	115555	122022
Irrigation	279256	291750
Industries	365205	397141
Others	165645	173657
Total	1330415	1415987

Table 8C
Forecast of Electrical Energy Requirement (in MU) of NCR
For the Year 2023-24 and 2024-25
As Per 20th EPS (Volume-II)

NCR Sub Region	2023-24	2024-25
Delhi	37,346	39,000
Haryana	44,363	47,830
Rajasthan	12,213	13,407
Uttar Pradesh	34,337	36,992
NCR - Total	128,640	137,666

Chart : 39

**Forecast of Electrical Energy Requirement (in MU) of NCR
For the Year 2023-24 & 2024-25**

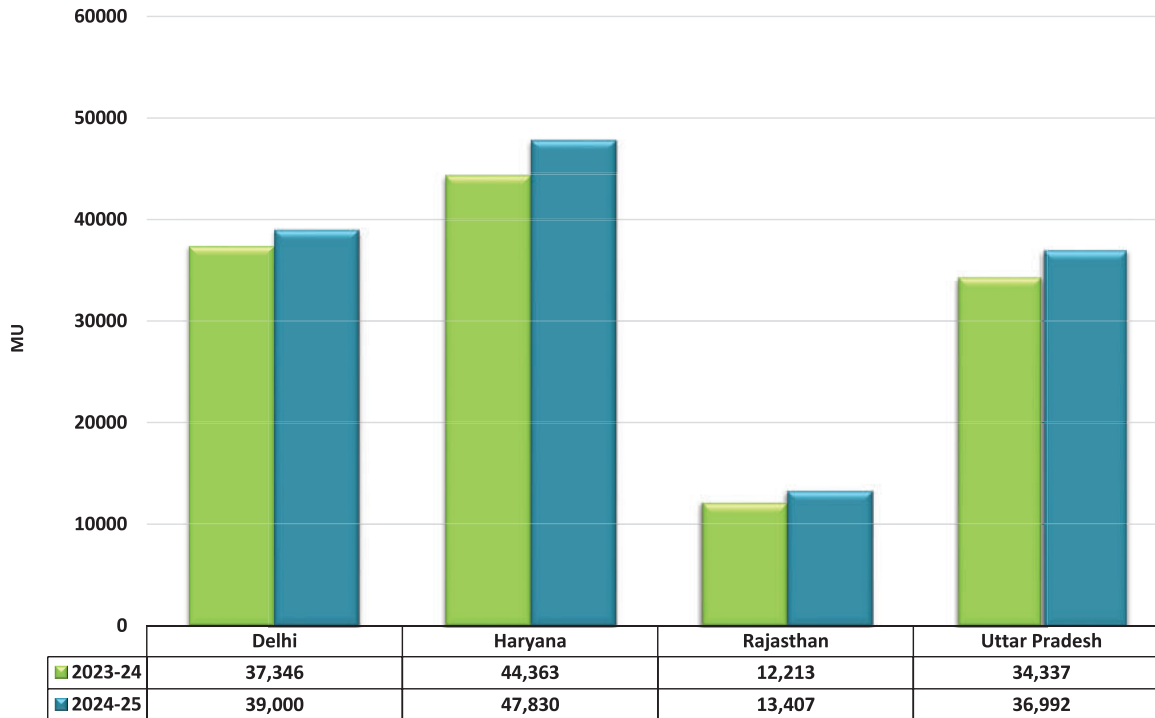
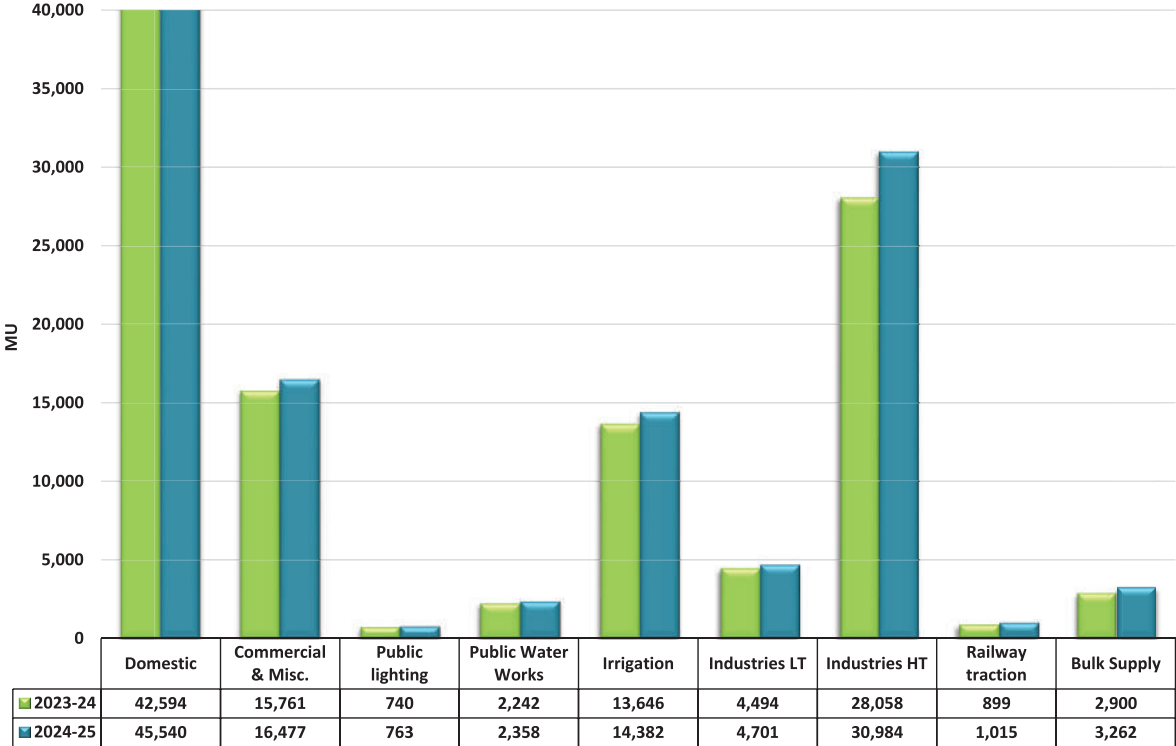


Table 8D
Forecast of Electrical Energy Consumption (in MU) of NCR
For the Year 2023-24 and 2024-25
As Per 20th EPS (Volume-II)

(GWh)

Consumption Category	2023-24	2024-25
Domestic	42,594	45,540
Commercial & Misc.	15,761	16,477
Public lighting	740	763
Public Water Works	2,242	2,358
Irrigation	13,646	14,382
Industries LT	4,494	4,701
Industries HT	28,058	30,984
Railway traction	899	1,015
Bulk Supply	2,900	3,262
Total (Energy Consumption)	111,334	119,481

**Forecast of Electrical Energy Consumption (in MU) of NCR
For the year 2023-24 & 2024-25**

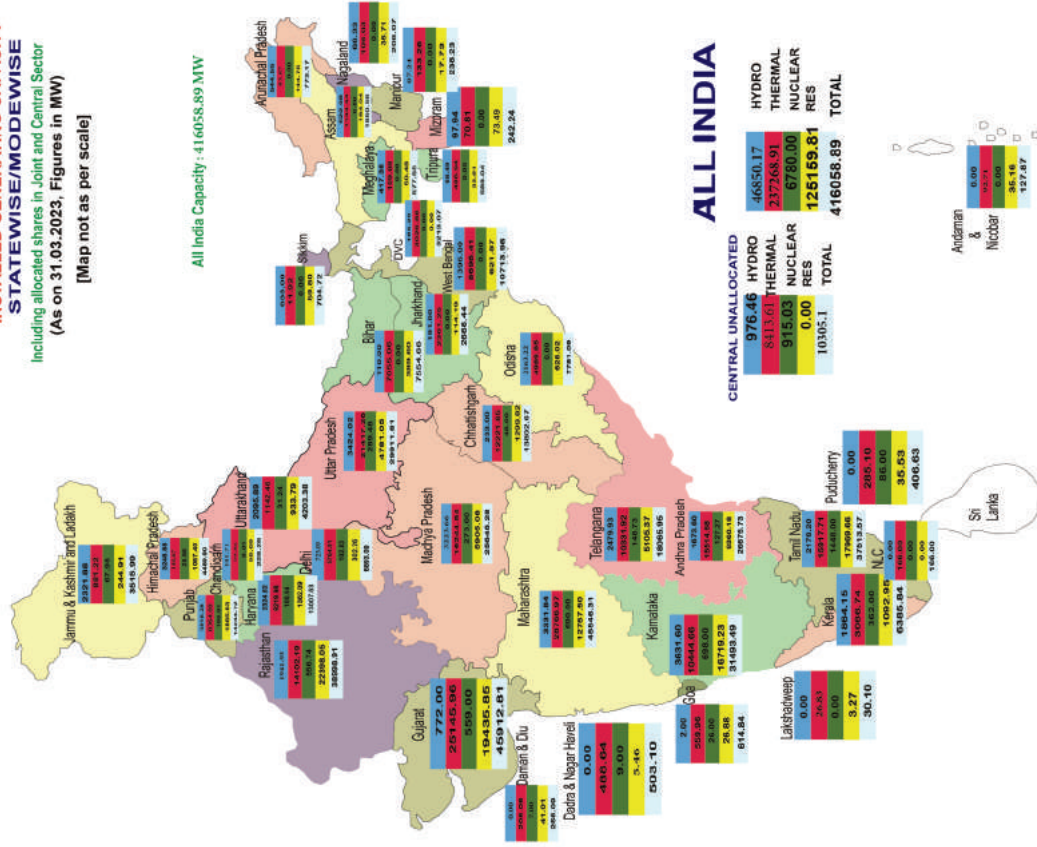


MAP OF INDIA SHOWING INSTALLED GENERATING CAPACITY STATEWISE/MODEWISE

Including allocated shares in Joint and Central Sector

(As on 31.03.2023, Figures in MW)

[Map not as per scale]





CENTRAL ELECTRICITY AUTHORITY

Power Data Management Division
R.K. Puram, New Delhi