भारत के विद्युत क्षेत्र का 1947 से 2015 तक का संवर्धन

Growth of Electricity Sector in India From 1947-2015

भारत सरकार,
Government of India,
विद्युत मंत्रालय
Ministry of Power
केन्द्रिय विद्युत प्राधिकरण,
Central Electricity Authority,
नई दिल्ली
New Delhi

अप्रैल, 2015
APRIL, 2015

Highlights of Power as on 31st March 2015

With March 2015 having gone by just now, three years of the 12th FYP have also been completed. These three years were quite eventful for the Indian power sector. Major achievements in the Power Sector during the month of March 2015 and the period April 2014 – March 2015 as per the information available in the CEA are as under:

(A) Capacity addition:

- Record capacity addition of **6630.9 MW** achieved during **March 2015.**
- **22566.31 MW** of generation capacity was added during **April 2014–March 2015** exceeding the target of **17830.3 MW**
- **Generation capacity** of **61014.12 MW** has been added upto **31.03.2015** against the target of **88536.6 MW** for the entire 12th FYP. This is **68.9%** of the target.

(B) Transmission system addition:

- Against a target of adding 20,882 Ckms of **transmission lines**, 22,101 Ckms have been commissioned/ready for commissioning during **April–March 2015** which is **105.84%** of the target.
- Also, **55,956 Ckms** of **transmission lines** have been added upto **31.03.2015** against the target of 1, 07, 440 Ckms for the 12th FYP which is 52% of the target.
- Further, 65,554 MVAs of **transformation capacity** has been added during **April–March 2015**, against the target of 47,871 MVA, which is **136.94%** of the target.
- Target for addition of **transformation capacity** for the 12th FYP is 2, 82, 750 MVA against which 1, 86,549 MVAs have been added upto **31.03.2015** which is 65.98% of the target.

(C) Generation & PLF:

- The **Power Generation** during **March 2015** was 86100.64 MU which is **96.12%** of the target of 89573.4 MU and **101.73%** of the actual during the month of **March 2014.** Generation during **April 2014-March 2015** was 1048.40 BU against the target of 1023 BU, which is **102.48%** of the target.
- **All India PLF** during the month of **March 2015** was 62.99% against the target of 68.23%.
- **All India PLF** during **April–March 2015** was 65.11% against the target of 65.52%.

(D) Power Supply position:

Power Supply position in the country has generally improved during 2014-15. The gap between requirement & availability of energy reduced from 3.6% during **March 2014** to 2.1% during **March 2015** and from 4.2% during **April, 2013 - March, 2014** to 3.6% during **April 2014 - March 2015**. The gap between peak demand & supply also reduced from 4.7% during **March 2014** to 3.2% during **March 2015**. However, gap between peak demand & supply increased from 4.5% during **April 2013 - March 2014** to 4.7% during **April - March 2015**.

(E) Power System Development Fund (PSDF):

For improving power system operation and enhancing security of the national electricity grid, Ministry of Power has already approved total five schemes submitted by Kerala, West Bengal, Rajasthan & POWERGRID and sanctioned a grant of Rs 618 Crore from PSDF for execution thereof. Eight more such schemes with an overall estimated cost of about Rs.1,161 Crore submitted by the states of Assam, Karnataka, Nagaland, Odisha, Bihar, UP (2 schemes) and Gujarat have been approved by the Ministry of Power in March 2015 and sanctioned grant of about Rs.803 Crore therefor from PSDF. Sanctioned grant will be released in phases based on achievement of prescribed milestones during execution of the schemes.

(F) Other achievements:

- The CEA gave concurrence to two HE schemes during 2014-15, namely: **Chhatru HEP (126 MW)** in HP and **Kalai – II HEP (1200MW)** in Arunachal Pradesh. Further, three HE schemes were also appraised by the CEA during the year, namely: **Arun -3 HEP (900 MW)** in Nepal, **Chamkhaschhu –I HEP (770MW)** in Bhutan and **New Gandarbal HEP (93 MW)** in J&K.
- The CEA granted prior approval under section 68 of the EA 2003 for construction of **seven transmission schemes** during **March 2015**.
- **The All India per capita consumption** for the year **2014-15** is 1010 kWh (provisional) as against target of 1000 kWh.
- As per the directions of the Cabinet Secretariat's Project Monitoring Group for digitization of clearances, a portal, namely "**ceaclearance.gov.in/ei**" has been launched on 18th March, 2015 providing online facility for getting clearance from Electrical Inspectorate Division of Central Electricity Authority.

सत्यमेव जयते

भारत के विद्युत क्षेत्र का 1947 से 2015 तक का संवर्धन
GROWTH OF ELECTRICITY SECTOR IN INDIA FROM 1947-2015

भारत सरकार

GOVERNMENT OF INDIA

विद्युत मंत्रालय

MINISTRY OF POWER

केन्द्रीय विद्युत प्राधिकरण

CENTRAL ELECTRICITY AUTHORITY

नई दिल्ली

NEW DELHI

अप्रैल, 2015

April, 2015

सत्यमेव जयते

मेजर सिंह
अध्यक्ष
केन्द्रीय विद्युत प्राधिकरण
भारत सरकार

प्राक्कथन

केन्द्रीय विद्युत प्राधिकरण द्वारा वार्षिक रूप से प्रकाशित पुस्तिका ''भारत में विद्युत क्षेत्र की संवृद्धि'' विभिन्न वर्षो में भारतीय विद्युत क्षेत्र की संवृद्धि का विस्तृत परिदृश्य उपलब्ध कराती है । प्रासंगिक सूचना और सांख्यिकी आलेखों, पाई–चार्ट, मानचित्रों और सारणियों के रूप में प्रस्तुत की गई हैं । पंचवर्षीय योजनावार विकास के आरंभ होने के बाद से भारतीय विद्युत क्षेत्र ने बहुत प्रगति की है । यह प्रकाशन महत्वपूर्ण विकास संकेतकों जैसे स्थापित विद्युत उत्पादक क्षमता, विद्युत ऊर्जा उत्पादन, पारेषण और संवितरण नेटवर्क, कैप्टिव विद्युत संयंत्रों और विद्युत खपत के पैटर्न आदि की संवृद्धि के विवरण उपलब्ध कराता है ।

इस प्रकाशन के लिए आंकड़े सभी युटिलिटियां और गैर–युटिलिटियों से प्राप्त किए गए हैं । प्रति व्यक्ति विद्युत खपत, खपत की विभिन्न श्रेणियों का प्रतिशतांक हिस्सा, पारेषण और संवितरण हानियों आदि जैसी महत्वपूर्ण सांख्यिकी की कुछ विकसित और विकासशील राष्ट्रों के आंकड़ों के साथ तुलना की गई है । आशा है कि यह पुस्तिका भारतीय विद्युत क्षेत्र पर संक्षिप्त और लाभदायक सूचना उपलब्ध कराने में बहुत उपयोगी सिद्ध होगी ।

अप्रैल, 2015

मेजर सिंह

(मेजर सिंह)

Major Singh
Chairperson
Central Electricity Authority
Govt. of India

FOREWORD

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 form of graphs, pie-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 all utilities and non -utilities. 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 the Indian Electricity Sector.

Dated: April, 2015

(Major Singh)

सत्यमेव जयते

चंद्र शेखर
मुख्य अभियंता (डी एम एल एफ)
केंद्रीय विद्युत प्राधिकरण
भारत सरकार

प्रस्तावना

स्वतंत्रता के पश्चात से भारत में विद्युत क्षेत्र में स्थापित विद्युत उत्पादन क्षमता और पारेषण व वितरण (टी एंड डी) प्रणाली दोनों में उल्लेखनीय वृद्धि हुई है। कुल विद्युत उत्पादन क्षमता (यूटिलिटि और गैर–यूटिलिटि की) 1947 में मात्र 1362 मेगावाट से बढ़कर मार्च अंत, 2015 में 267 गीगा वाट हो गई। प्रतिव्यक्ति बिजली की खपत जो 1947 में केवल 16.3 के यूनिट थी 2014–15 में बढ़कर 1010 के यूनिट हो गई है। इसके बावजूद, बिजली की मांग में वृद्धि विद्युत आपूर्ति से ज्यादा बढ़ गई हे और हमारा देश वर्षो के साथ–साथ हुई कई गुना वृद्धि के बावजूद अधिकतम विद्युत मांग के दौरान विद्युत की कमी का सामना कर रहा है। भारत सरकार ने टी एंड डी हानि में कमी तथा सीमित संसाधनों के सर्वोतम उपयोग के लिए मांग पक्ष प्रबंधन पर विशेष बल दिया है। टैरिफ आधारित बोली पर विद्युत परियोजनाओं का विकास नई जल नीति, पारेषण क्षेत्र में निजी क्षेत्र की भागीदारी बढ़ी हुई ऊर्जा कार्यकुशलता पर राष्ट्रीय मिशन, नवीकरणीय ऊर्जा स्रोतों (आर ई एस) के विकास और अल्ट्रा मेगा विद्युत परियोजनाओं (यूएमपीपी) के विकास पर संकेंद्रण जैसे नीति प्रारंभों के माध्यम से मांग और आपूर्ति के अंतर को समाप्त करने के लिए संयुक्त प्रयास जारी हैं। के.वि.प्रा. ने इस संबंध में अग्रणी भूमिका निभाई है तथा विभिन्न विशिष्ट क्षेत्रों में जैसे कि नई प्रौद्योगिकियों को आरंभ करना, परियोजनाओं को तकनीकी–आर्थिक स्वीकृति प्रदान करना, हरित ऊर्जा कॉरीडोर सहित उत्पादन और पारेषण योजना तथा परियोजनाओं के प्रचालन और निर्माण की मॉनिटरिंग करना, डाटा व सूचना का डिजाइन, तथा इंजीनियरिंग एवं प्रसार में विद्युत क्षेत्र के विकास के राष्ट्रीय प्रयास में अत्यधिक योगदान दिया है।

के.वि.प्रा. द्वारा प्रकाशित वर्तमान पुस्तिका एक नियमित प्रस्तुति है जिसमें ग्राफ, पाई–चार्ट, नक्शों और सारणियों के रूप में महत्वपूर्ण सूचना अंतर्निहित है। सूचना में विभिन्न महत्वपूर्ण संकेतकों जैसे संस्थापित विद्युत उत्पादक क्षमता, जल विद्युत क्षमता, देश की बिजली की मांग की राज्यवार पूर्वानुमान तथा प्रमुख आहरों की बिजली की मांग का पूर्वानुमान, बिजली ऊर्जा उत्पादन पारेषण व संवितरण नेटवर्क, विद्युत आपूर्ति की स्थिति, कैप्टिव पॉवर प्लॉन्टस, देश की बिजली की खपत तथा प्रति व्यक्ति उपभोग पैटर्न के लिए निष्पादित वृद्धि का योजनावार पैटर्न शामिल है। पुस्तिका में राज्यवार स्थापित विद्युत उत्पादन क्षमता को दर्शाने वाले नक्शे भी सम्मिलित है, इस प्रकार यह हमारे देश का एक विशाल परिदृश्य प्रस्तुत करती है।

आशा है कि यह लघु पुस्तिका सभी हितधारकों के लिए उपयोगी सिद्ध होगी।

दिनांक : अप्रैल, 2015

(चंद्र शेखर)

Chandra Shekhar
Chief Engineer(DMLF)
Central Electricity Authority
Govt. of India

PREFACE

Power Sector in India has grown significantly since independence both in the installed electricity generating capacity and transmission & distribution (T&D) system. The total power generating capacity of (utilities & non utilities) has increased from meagre 1362 MW in 1947 to 267 GW at the end of March, 2015.The per capita electricity consumption which was mere 16.3 kWh in1947 has increased to 1010 KW h in 2014-15. Despite this, the growth of electricity demand has surpassed the power supply and our country has been facing power shortages during peak electricity demand inspite of the manifold growth over the years. Government of India lays special emphasis on reduction of T&D losses and demand side management to optimally utilize the limited resources. Concerted efforts are going on to bridge the gap of demand and supply through policy initiatives, such as Development of Power Projects on Tariff based bidding, New Hydro Policy, Private Sector Participation in Transmission sector, National Mission on Enhanced Energy Efficiency, Focus on development of Renewable Energy Sources (RES) and development of the Ultra Mega Power Projects (UMPP).

CEA has taken a lead and immensely contributed in the national endeavour of development of power sector in various specific areas such as introduction of new technologies, techno-economic clearance of projects, generation & transmission planning including green energy corridor and operation & construction monitoring of projects, design & engineering and dissemination of data & information.

The present booklet brought out by CEA is the regular feature which contains vital information in the form of graphs, pie charts, maps and tables. The information covers plan wise pattern of growth accomplished for various important indicators like installed generating capacity, hydro electric potential, state-wise forecast of electricity demand of the country as well as forecast of electricity demand of mega cities, 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 affording a panoramic view of our country.

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

Dated: April, 2015

(Chandra Shekhar)

TABLES & CHARTS

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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	16.3
2	31.12.1950	1713	3061	29271	18.2
3	31.03.1956(End of the 1st Plan)	2886	7294	85427	30.9
4	31.03.1961(End of the 2nd Plan)	4653	21754	157887	45.9
5	31.03.1966 (End of the 3rd Plan)	9027	45148	541704	73.9
6	31.03.1969(End of the 3 Annual Plans)	12957	73739	886301	97.9
7	31.03.1974(End of the 4th Plan)	16664	156729	1546097	126.2
8	31.03.1979(End of the 5th Plan)	26680	232770	2145919	171.6
9	31.03.1980(End of the 2 Annual Plans)	28448	249799	2351609	172.4
10	31.03.1985(End of the 6th Plan)	42585	370332	3211956	228.7
11	31.03.1990(End of the 7th Plan)	63636	470838	4407501	329.2
12	31.03.1992(End of the 2 Annual Plans)	69065	487170	4574200	347.5
13	31.03.1997(End of the 8th Plan)	85795	498836	5141413	464.6
14	31.03.2002(End of the 9th Plan)	105046	512153	6030148	559.2
15	31.03.2007 (End of 10th Plan)	132329	482864	6939894	671.9
16	31.03.2012 (End of 11th Plan)	199877	556633	8726092	883.6
17	31.03.2013(End of Ist year of 12th Plan)	223343	560552	9080556	914.4
18	31.03.2014(End of IInd year of 12th Plan)	245259	572414	9534584*	957.0
19	31.03.2015(End of IIIrd year of 12th Plan)	271722	577629*^	10558177@	1010

N.A. Not Available. (*) Provisional. (^) As per revised definition of village electrification and 2001 Census.
(#) Includes 440 Volts Distribution Lines. @ Estimated
$ Per Capita Consumption=Gross Electrical Energy availability/Mid year Population

Chart :1

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN THE COUNTRY (UTILITIES)

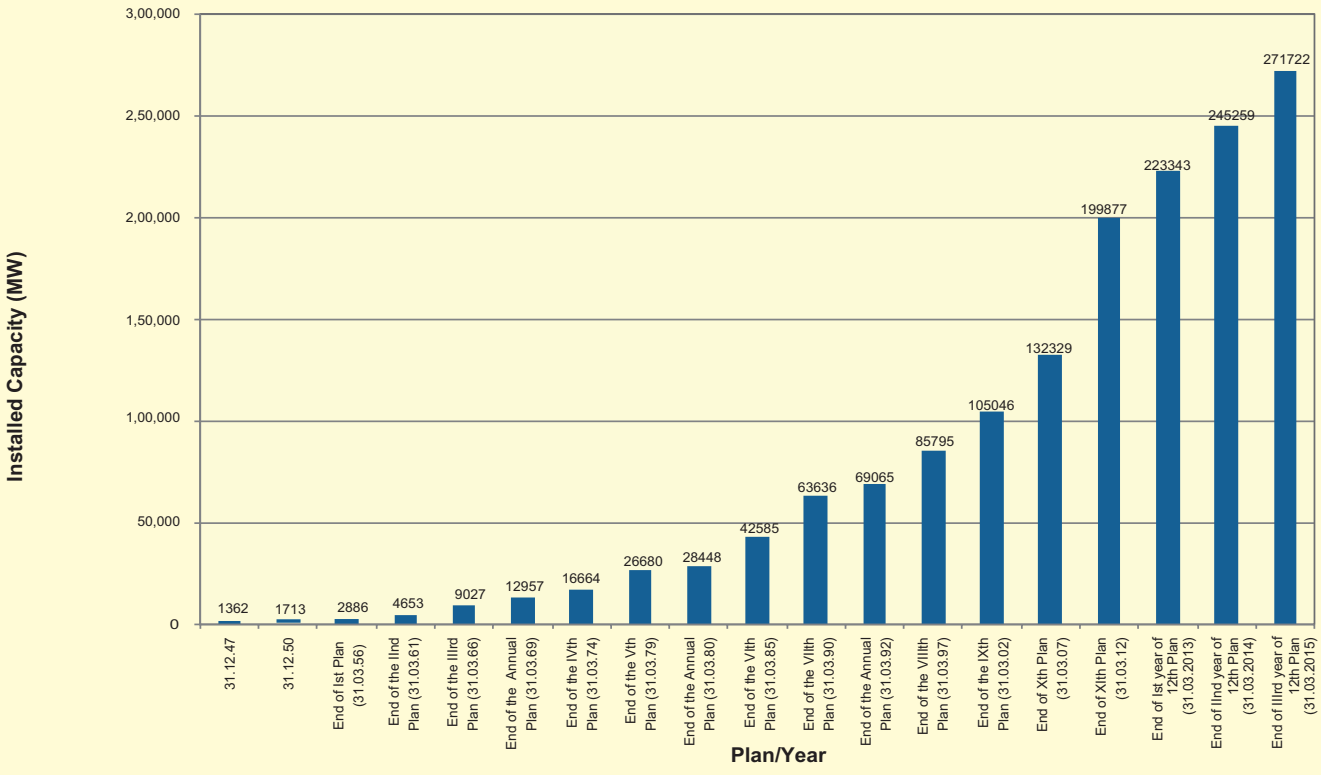


Chart : 2A

PLANWISE GROWTH OF TRANSMISSION LINES IN THE COUNTRY
66 KV AND ABOVE

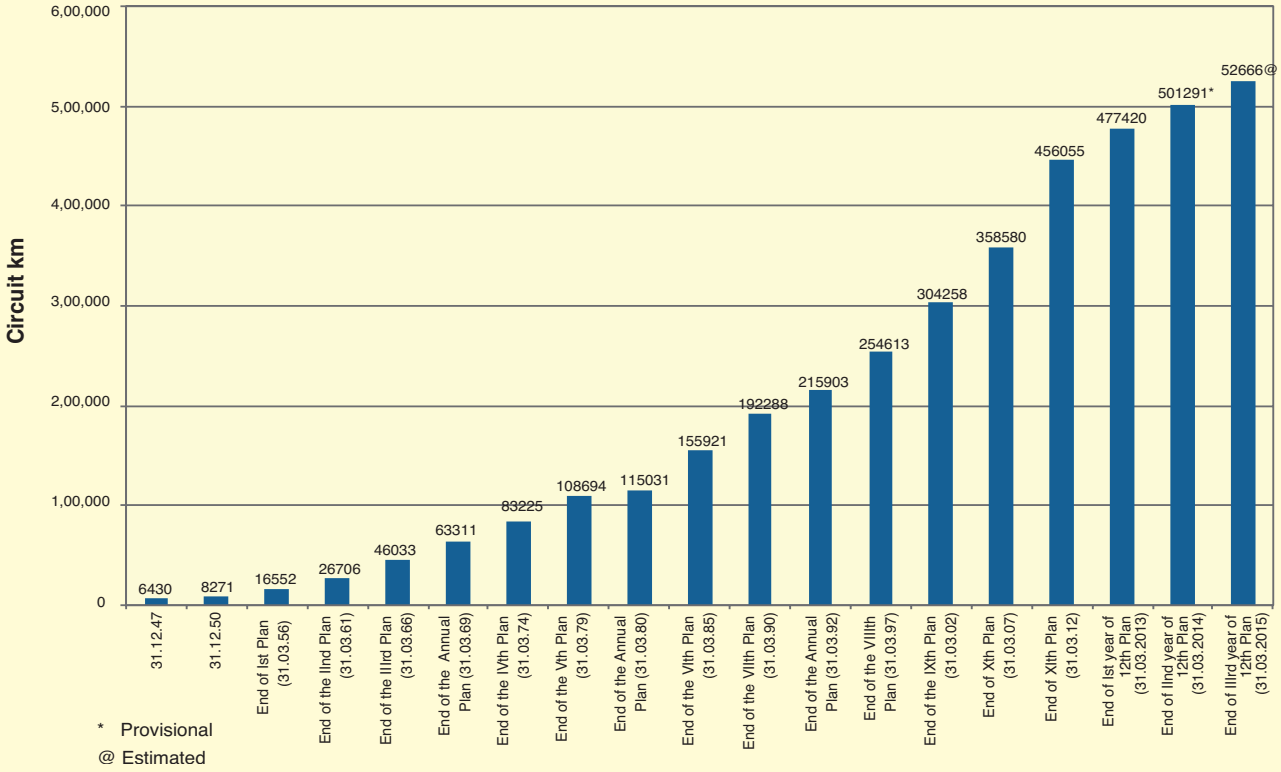


Chart : 2B

PLANWISE GROWTH OF TRANSMISSION LINES IN THE COUNTRY

BELOW 66 KV

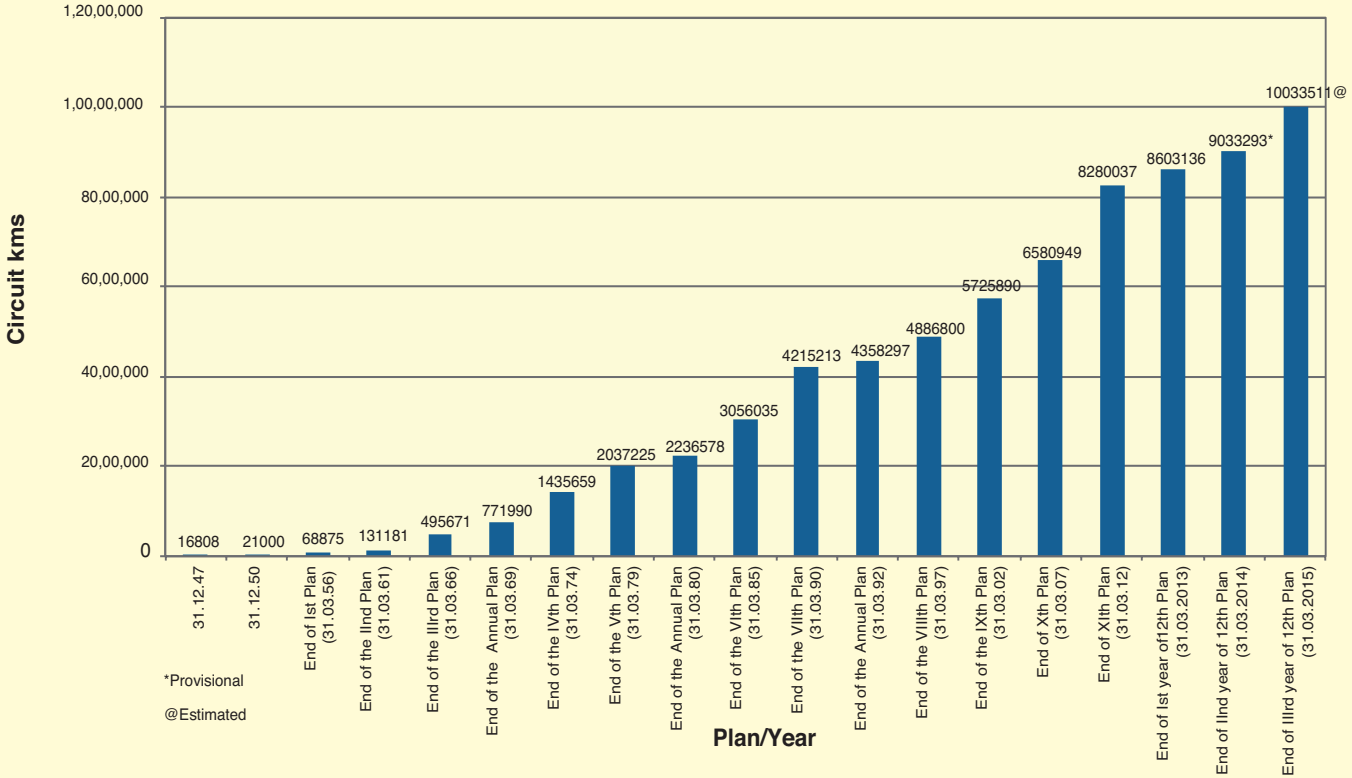
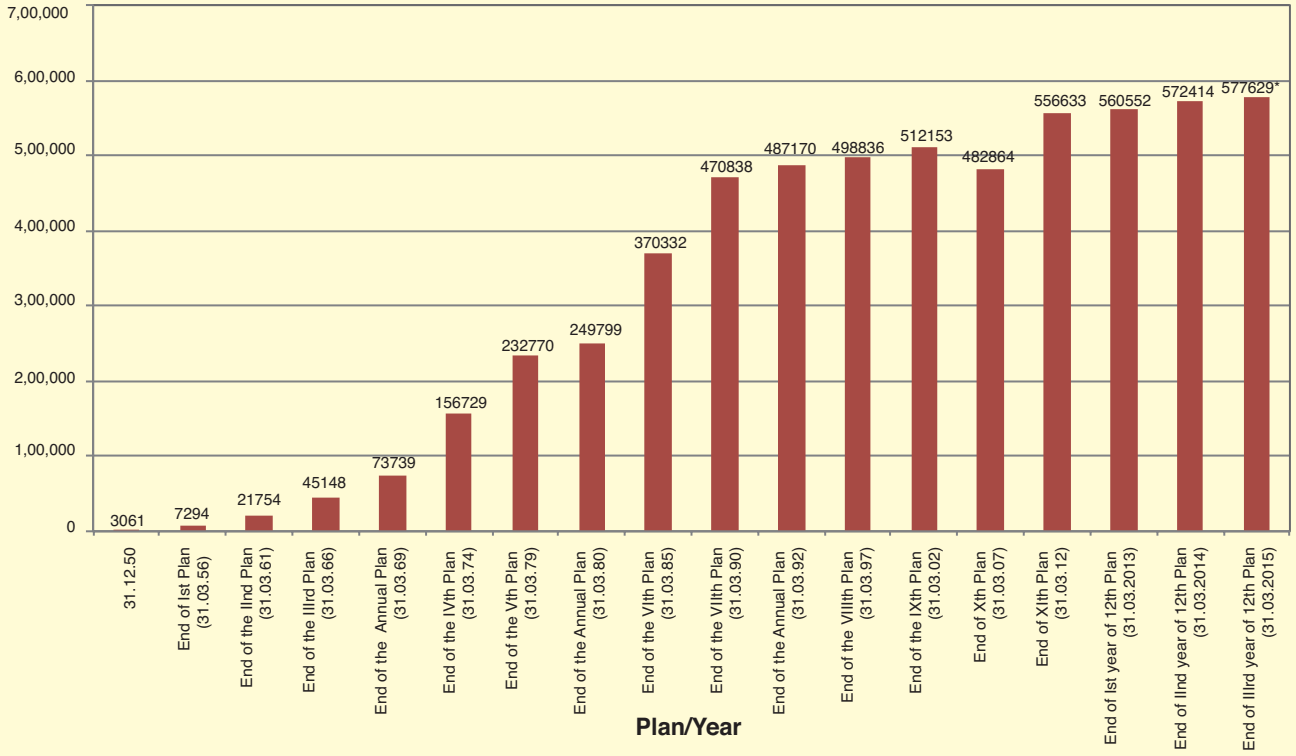


Chart : 3

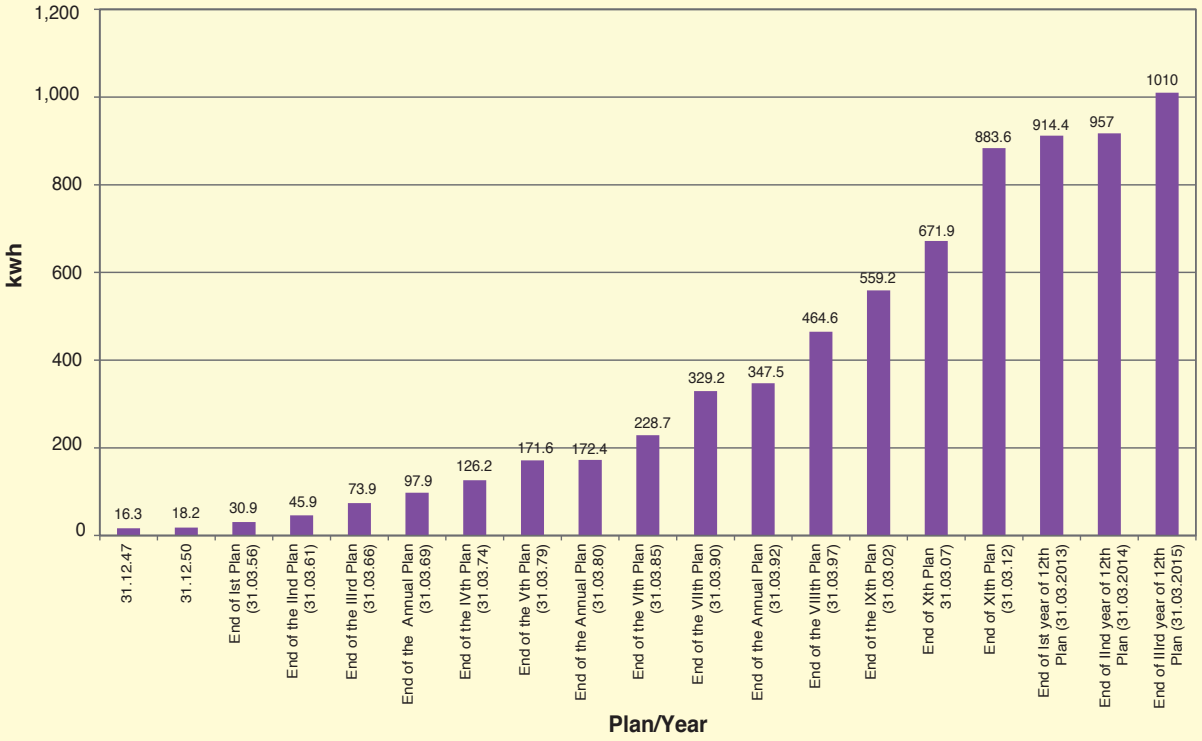
PLANWISE GROWTH OF NUMBER OF VILLAGES ELECTRIFIED IN THE COUNTRY



* Provisional, Number of Villages Elelctrified as per revised definition of Villages Electrification & 2001 census

Chart : 4

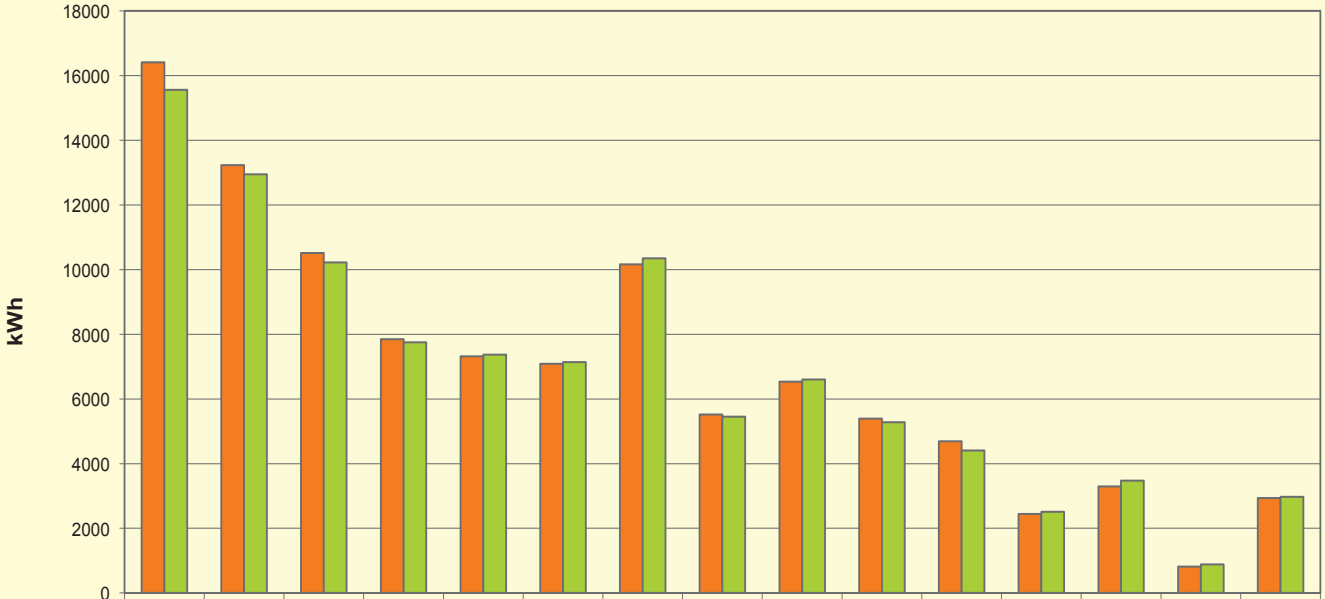
PLANWISE GROWTH OF PER CAPITA CONSUMPTION OF ELECTRICITY IN THE COUNTRY



Per Capita Consumption = (Gross Electrical Energy available /Mid year Population)

PER CAPITA ELECTRICITY CONSUMPTION IN VARIOUS COUNTRIES IN 2011 & 2012

Chart : 5



	Canada	USA	Australia	Japan	France	Germany	Korea	UK	Russia	Italy	South Africa	Brazil	China	India*	World
2011	16406	13227	10514	7847	7318	7083	10162	5518	6533	5393	4694	2441	3298	819	2933
2012	15558	12947	10218	7753	7367	7138	10346	5452	6602	5277	4410	2509	3475	884	2972

Source : IEA website publication 'Key World Energy Statistics 2013' (other than India) .
*** Per capita consumption = (gross electrical energy avaibality /mid year population).**

Table 2

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA - MODE-WISE

UTILITIES

(MW)

SL.No	As on	Hydro	Thermal			Total	Nuclear	RES #	Total
			Coal/Lignite	Gas	Diesel				
1	31.12.47	508	756	0	98	854	0	0	1362
2	31.12.50	560	1004	0	149	1153	0	0	1713
3	31.03.56 (End of the 1st Plan)	1061	1597	0	228	1825	0	0	2886
4	31.03.61 (End of the 2nd Plan)	1917	2436	0	300	2736	0	0	4653
5	31.03.66(End of the 3rd Plan)	4124	4417	134	352	4903	0	0	9027
6	31.03.69 (End of the 3 Annual Plans)	5907	6640	134	276	7050	0	0	12957
7	31.03.74 (End of the 4th Plan)	6966	8652	165	241	9058	640	0	16664
8	31.03.79(End of the 5th Plan)	10833	14875	168	164	15207	640	0	26680
9	31.03.80 (End of the 2 Annual Plans)	11384	15991	268	165	16424	640	0	28448
10	31.03.85 (End of the 6th Plan)	14460	26311	542	177	27030	1095	0	42585
11	31.03.90 (End of the 7th Plan)	18307	41236	2343	165	43764	1565	0	63636
12	31.03.92 (End of the 2 Annual Plans)	19194	44791	3095	168	48054	1785	32	69065
13	31.03.97 (End of the 8th Plan)	21658	54154	6562	294	61010	2225	902	85795
14	31.03.02 (End of the 9th Plan)	26269	62131	11163	1135	74429	2720	1628	105046
15	31.03.07 (End of 10th Plan)	34654	71121	13692	1202	86015	3900	7760	132329
16	31.03.12 (End of 11th Plan)	38990	112022	18381	1200	131603	4780	24504	199877
17	31.03.13 (End of Ist year of 12th Plan)	39491	130221	20110	1200	151531	4780	27542	223344
18	31.03.14 (End of IInd year of 12th Plan)	40532	145273	21782	1200	168255	4780	31692	245259
19	31.03.2015(End of IIIrd year of 12th Plan)	41267	164636	23062	1200	188898	5780	35777	271722

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

Chart : 6

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA

HYDRO ELECTRIC POWER STATIONS

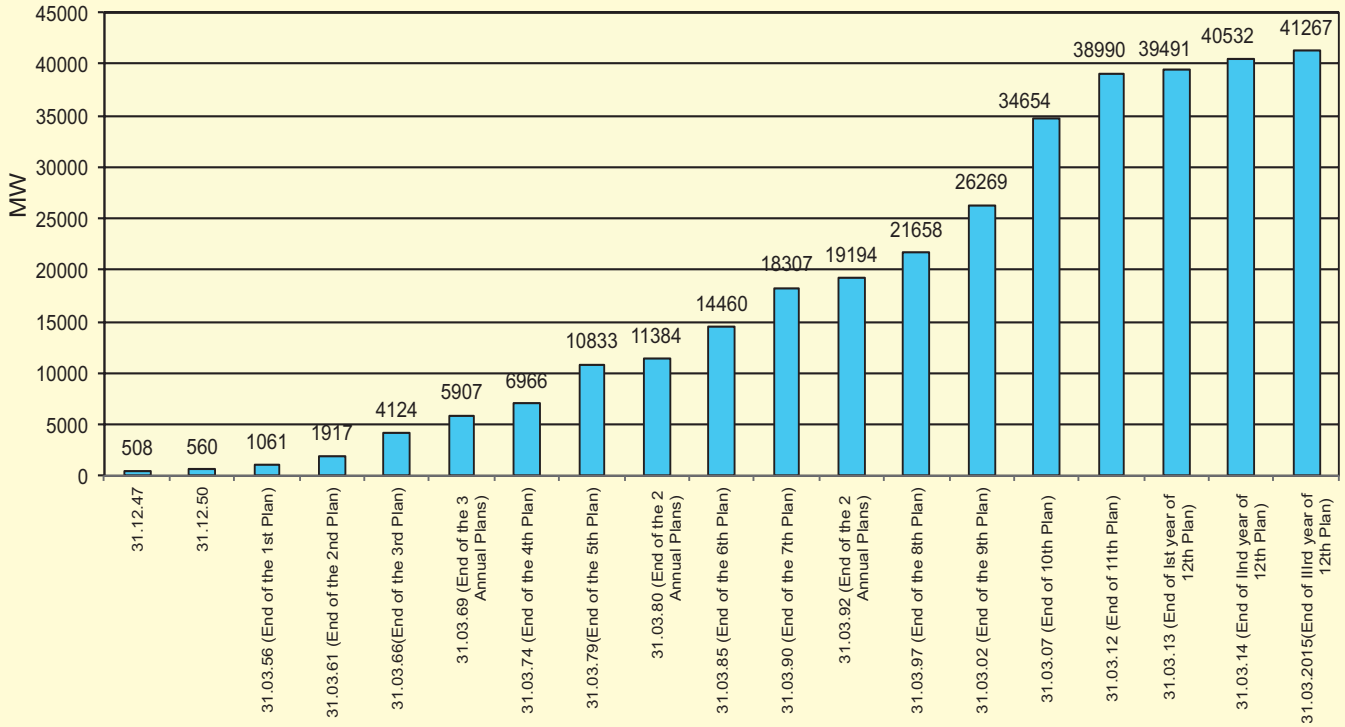
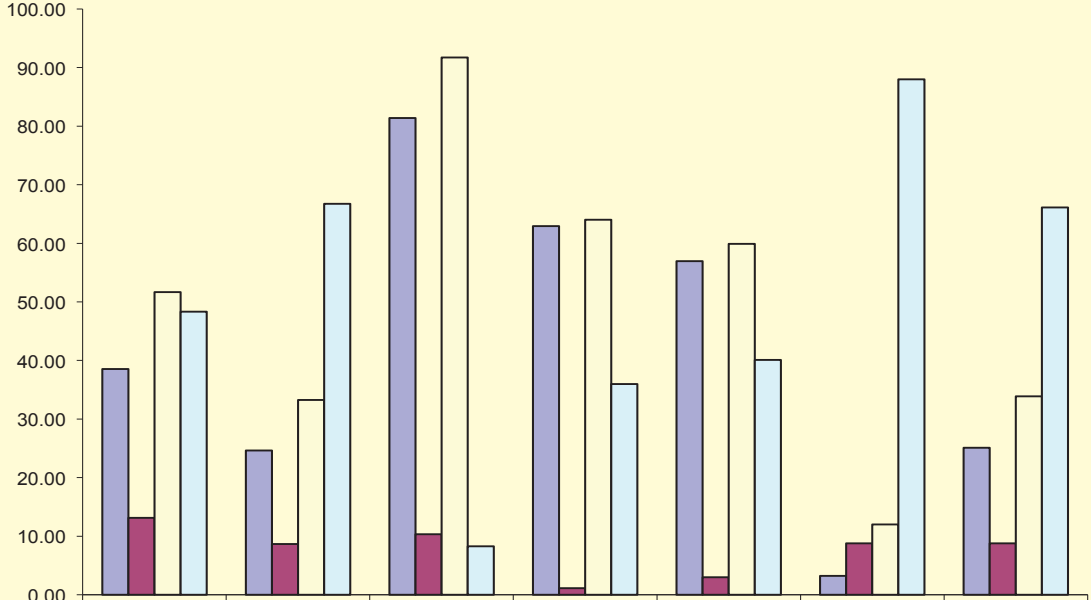


Chart :6 A

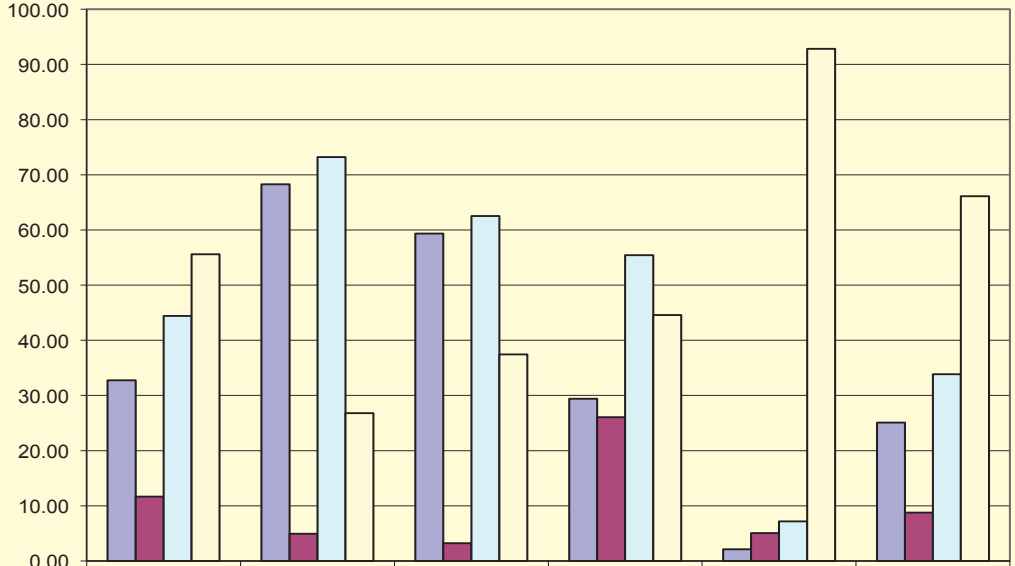
Basinwise Status of Hydro Electric Potential Development
In terms of Installed Capacity above 25 MW
% wise (As on 31.03.2015)



	Indus	Ganga	Central Indian Rivers	West Flowing Rivers	East Flowing Rivers	Brahamputra Basin	All India
% Capacity Developed /Under Operation	38.52	24.63	81.37	62.92	56.94	3.24	25.10
% Cap. Under Construction	13.14	8.65	10.34	1.11	2.98	8.77	8.77
% Cap. Dev. + Under Con.	51.67	33.27	91.71	64.03	59.91	12.01	33.87
% Balance Potential	48.33	66.73	8.29	35.97	40.09	87.99	66.13

Regionwise Status of Hydro Electric Potential Development
In terms of Installed Capacity above 25 MW
% wise (As on 31.03.2015)

Chart :6 B



	Northern Region	Western Region	Southern Region	Eastern Region	North Eastern Region	All India
% Capacity Developed /Under Operation	32.76	68.28	59.33	29.39	2.13	25.10
%Cap. Under Construction	11.66	4.92	3.21	26.05	5.06	8.77
%Cap. Dev. +Under Construction	44.42	73.20	62.54	55.44	7.19	33.87
% Capacity yet to be Developed	55.58	26.80	37.46	44.56	92.81	66.13

Chart : 7A

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA

COAL/ LIGNITE BASED PLANTS

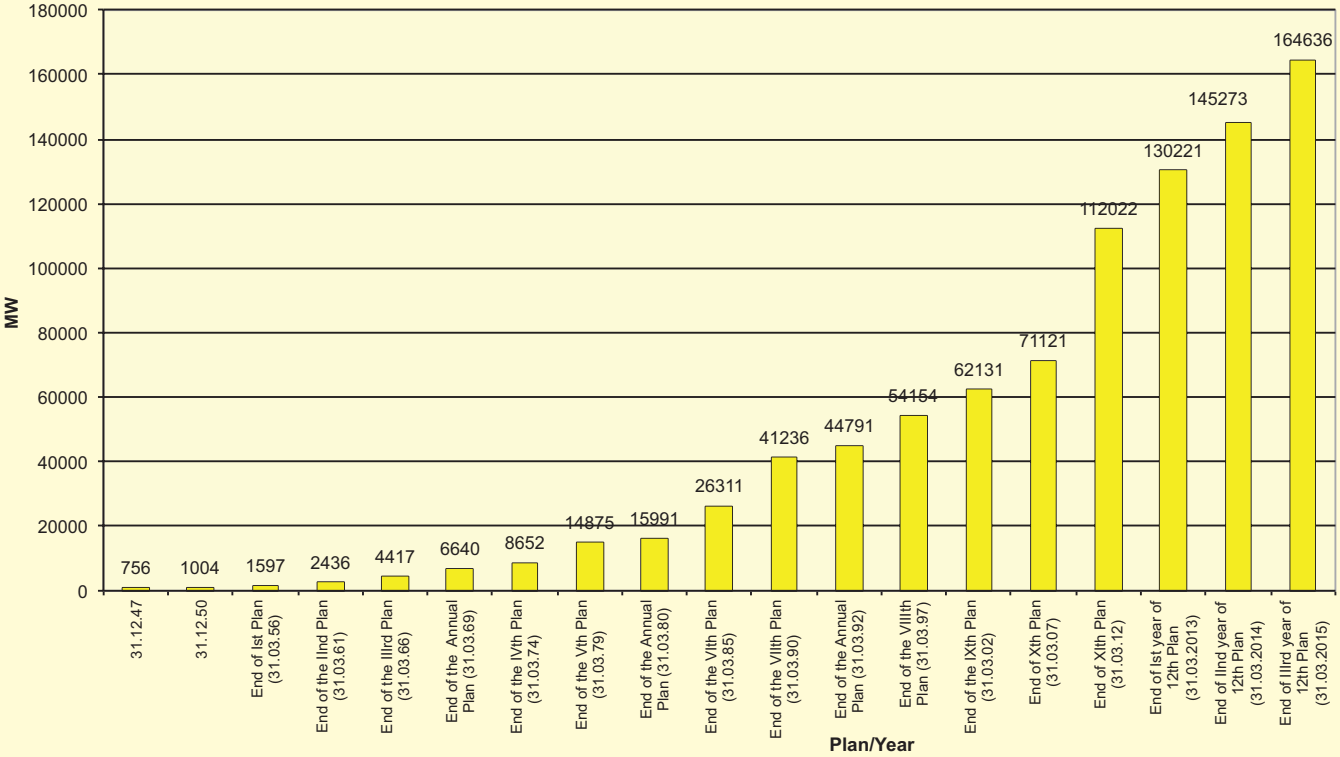


Chart : 7B

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA

GAS/LIQUID BASED PLANTS

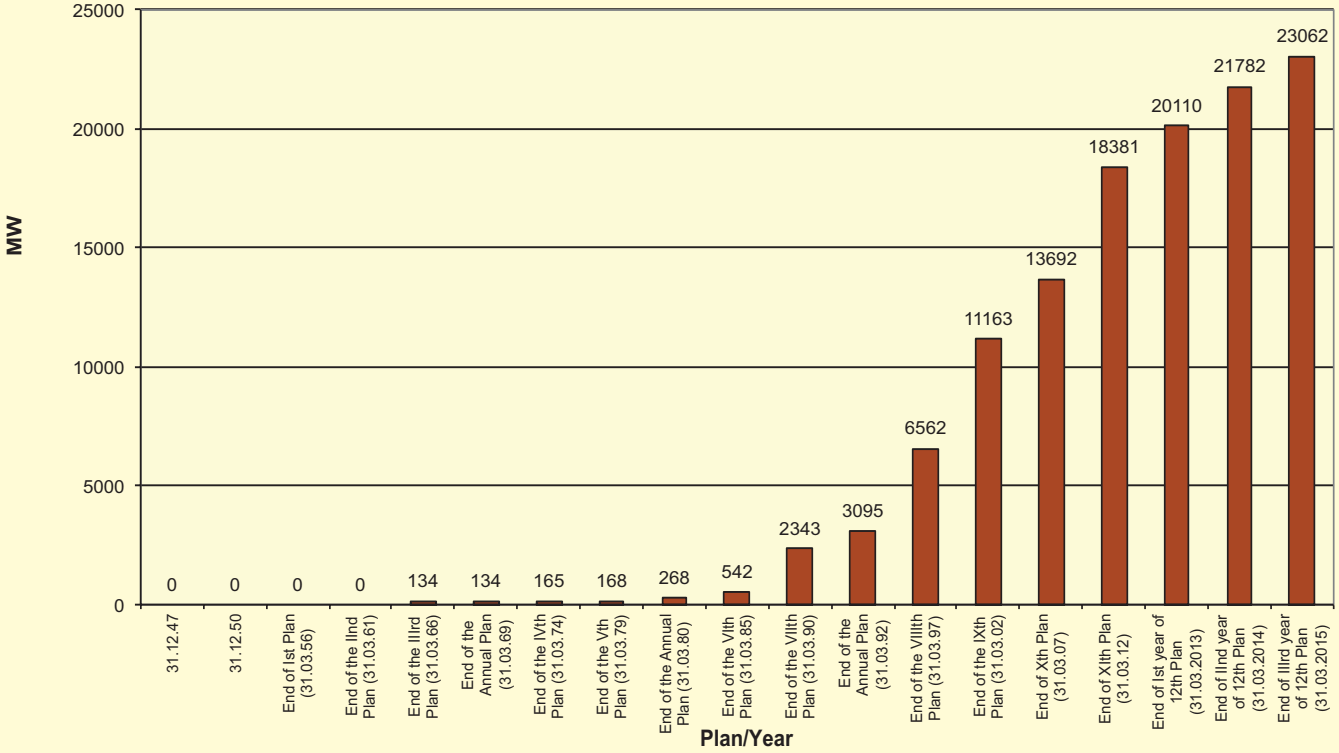
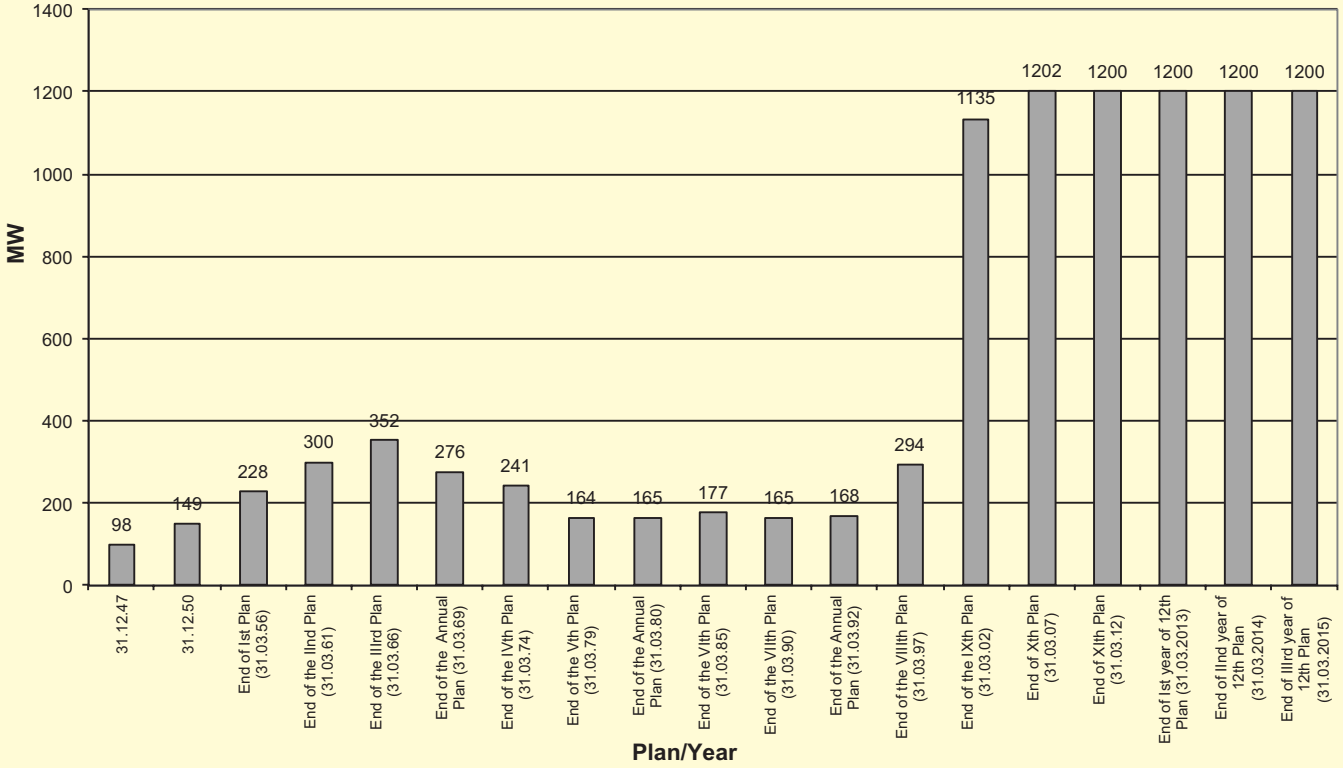


Chart : 7C

PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA

DIESEL ENGINE BASED PLANTS



PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY IN INDIA

Chart : 8

NUCLEAR POWER PLANTS

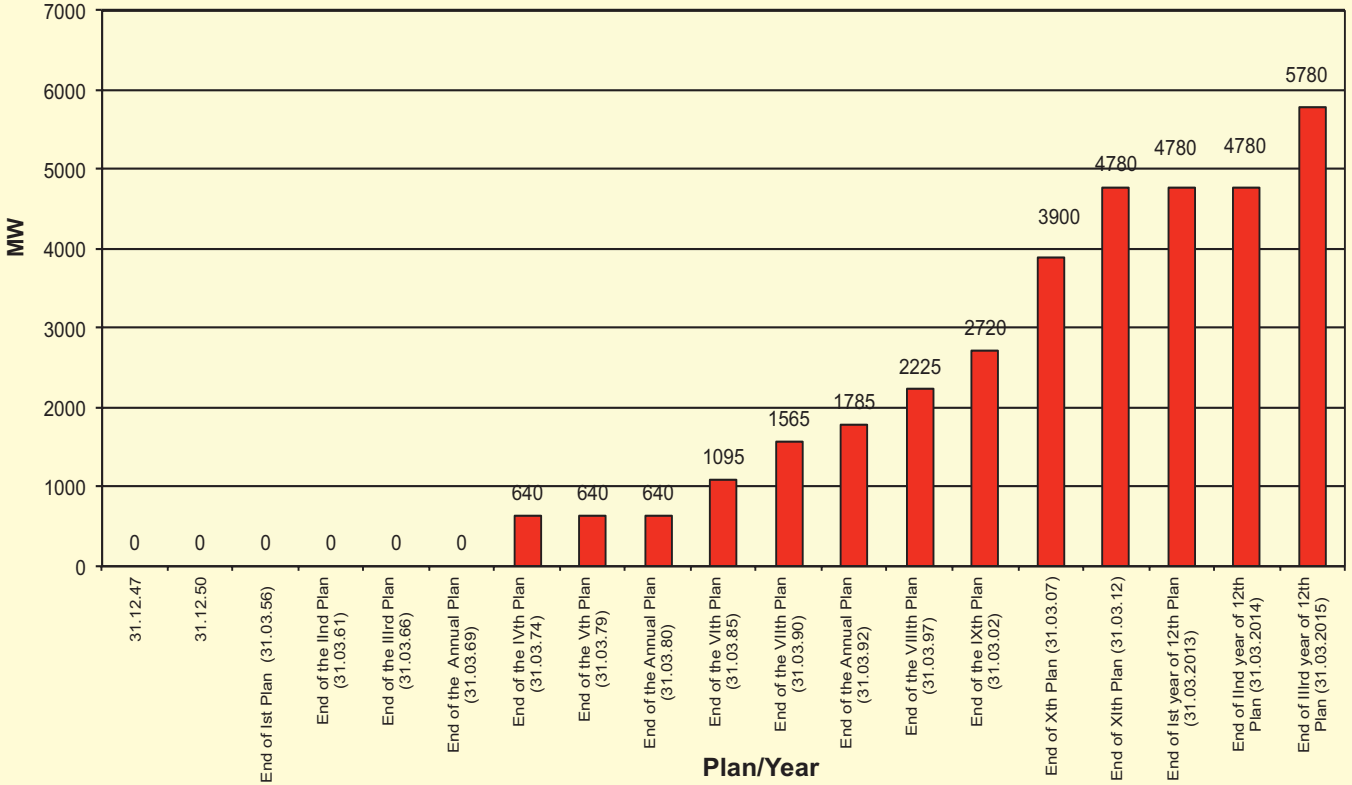
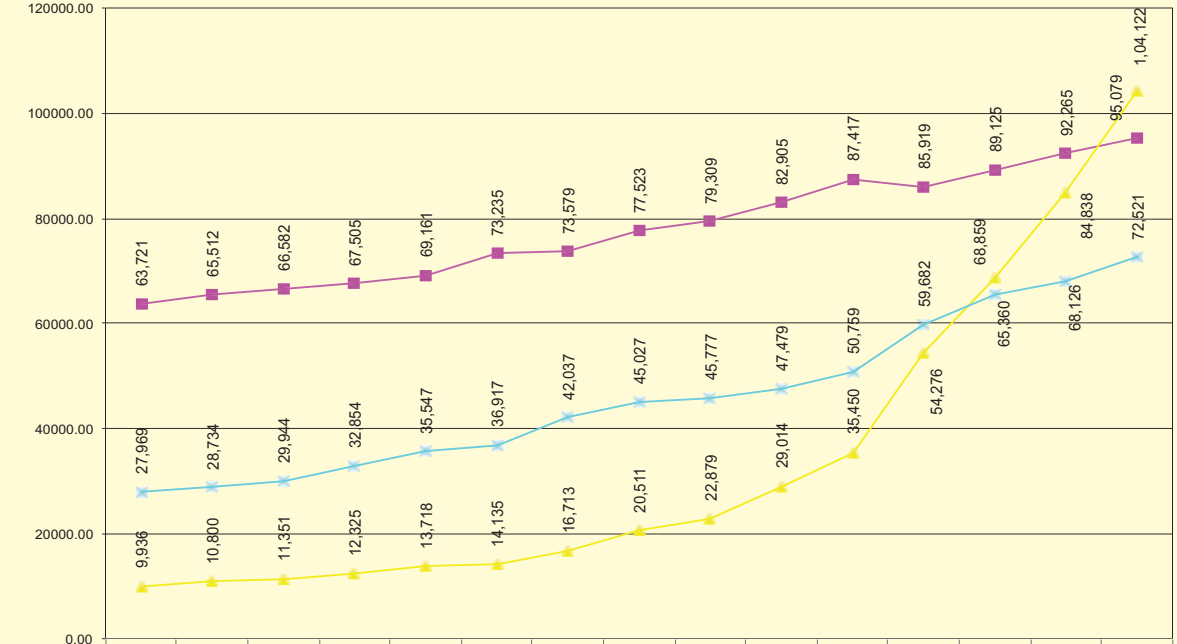


Chart : 8A

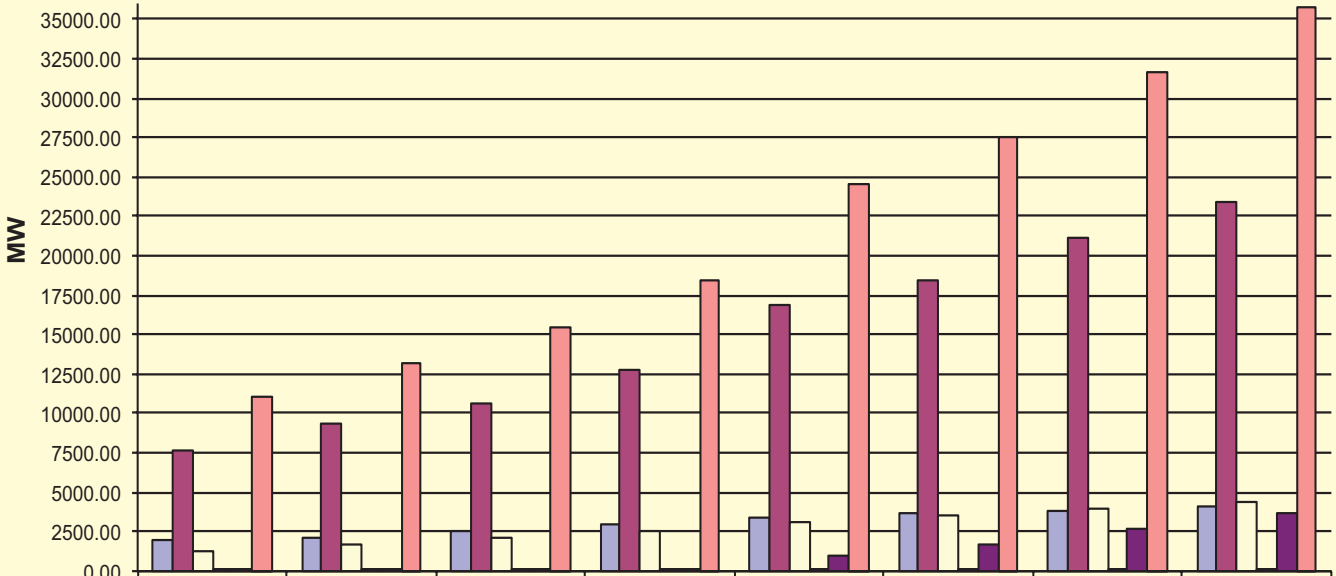
SECTORWISE GROWTH OF GENERATION CAPACITY (MW)
2000-01 TO 2014-15



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
State	63721	65512	66582	67505	69161	73235	73579	77523	79309	82905	87417	85919	89125	92265	95079
Private	9936	10800	11351	12325	13718	14135	16713	20511	22879	29014	35450	54276	68859	84838	104122
Central	27969	28734	29944	32854	35547	36917	42037	45027	45777	47479	50759	59682	65360	68126	72521

MODEWISE GROWTH OF GENERATING CAPACITY OF R.E.S. DURING 12TH PLAN

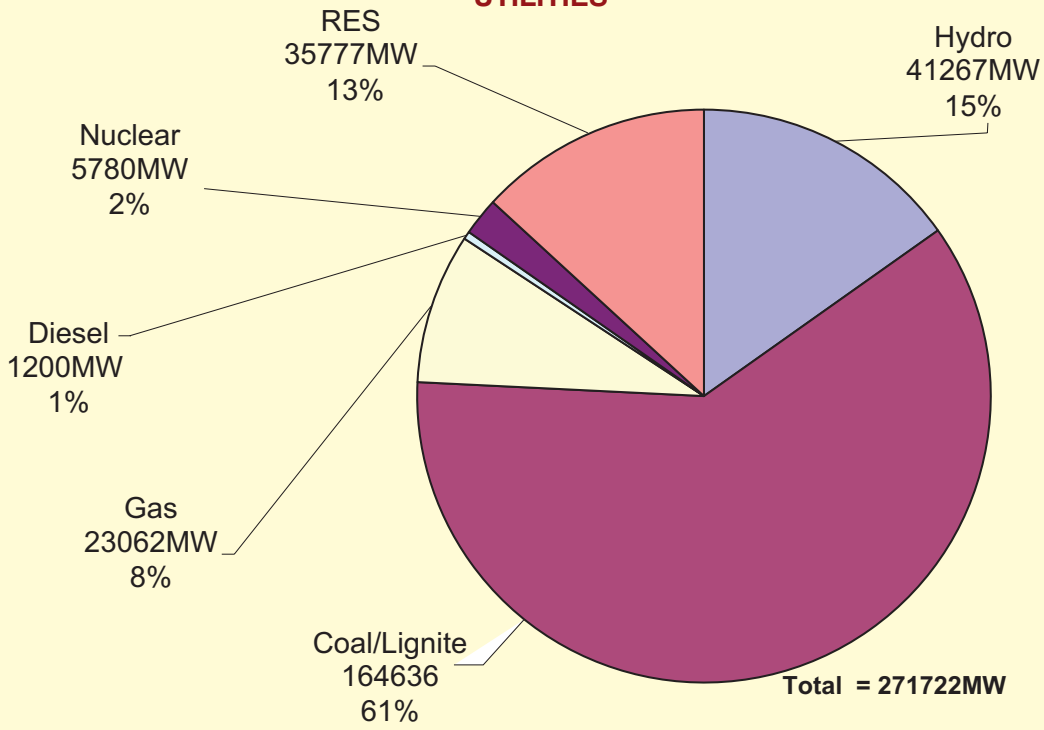
Chart :8 B



	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
SHP	2045.07	2160.48	2604.92	2913	3410.52	3643.17	3803.68	4055.36
WIND	7666.84	9344.13	10647.45	12806.54	16896.60	18484.99	21136.40	23444.00
BIOMASS	1325.63	1650.43	2167.73	2600.13	3135.33	3601.03	4013.55	4418.55
U & I	85.75	85.25	95.01	102.46	119.68	126.08	106.58	115.08
SOLAR	2.12	2.12	6.00	32.39	941.31	1686.44	2631.93	3743.97
TOTAL	11125.41	13242.41	15521.11	18454.52	24503.44	27541.71	31692.14	35776.96

ALL INDIA INSTALLED GENERATING CAPACITY AS ON 31.03.2015 Pie Chart : 9
END OF IIIrd YEAR

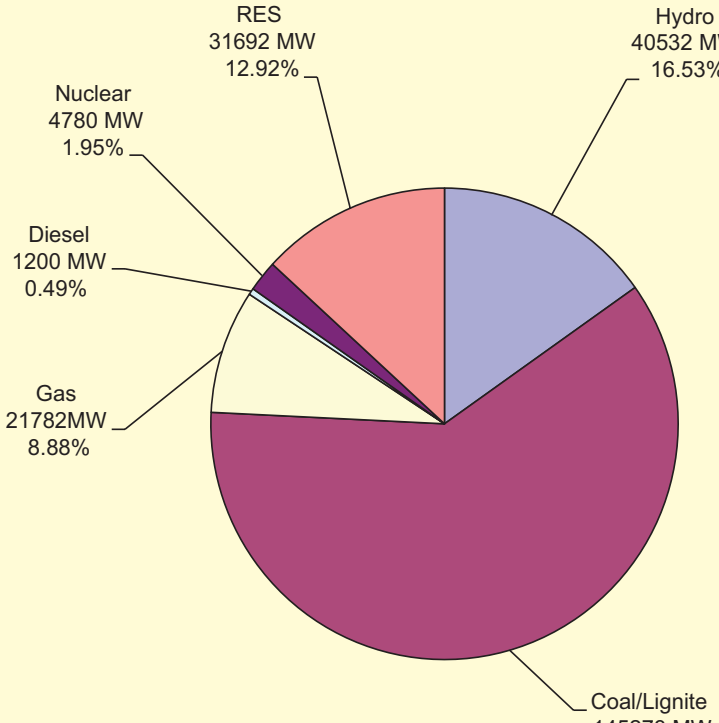
UTILITIES



ALL INDIA INSTALLED GENERATING CAPACITY AS ON 31.03.2014
END OF IInd YEAR

Pie Chart : 9A

UTILITIES



Total = 245259 MW

Table 3
PLANWISE GROWTH OF GROSS ELECTRICITY GENERATION IN INDIA - MODE-WISE
UTILITIES

(GWh)

SL.No	During financial year ending with	Hydro	Thermal			Total	Nuclear	RES	Total
			Coal $	Gas	Diesel				
1	1947	2195	1733	0	144	1877	0	0	4073
2	1950	2519	2587	0	200	2787	0	0	5106
3	1955-56 (End of the 1st Plan)	4295	5367	0	233	5600	0	0	9662
4	1960-61 (End of the 2nd Plan)	7837	9100	0	368	9468	0	0	16937
5	1965-66(End of the 3rd Plan)	15225	17765	69	324	18158	0	0	32990
6	1968-69(End of the 3 Annual Plans)	20723	26711	124	194	27029	0	0	47434
7	1973-74(End of the 4th Plan)	28972	34853	343	125	35321	2396	0	66689
8	1978-79(End of the 5th Plan)	47159	52024	515	55	52594	2770	0	102523
9	1979-80(End of the Annual Plan)	45478	55720	500	53	56273	2876	0	104627
10	1984-85 (End of the 6th Plan)	53948	96957	1834	45	98836	4075	0	156859
11	1989-90 (End of the 7th Plan)	62116	172643	5962	85	178690	4625	6	245438
12	1991-92(End of the 2 Annual Plans)	72757	197163	11450	95	208708	5525	38	287029
13	1996-97(End of the 8th Plan)	68901	289378	26985	679	317042	9071	876	395889
14	2001-02(End of the 9th Plan)	73579	370884	47099	4317	422300	19475	2085	517439
15	2006-07(End of the 10th Plan)	113502	461794	64157	2539	528490	18802	9860	670654
16	2011-12(End of the 11th Plan)	130511	612497	93281	2649	708427	32286.56	51226	922451
17	2012-13(End of Ist year of 12th Plan)	113720	691341	66664	2449	760454	32866	57449	964489
18	2013-14(End of IInd year of 12th Plan)	134847	746087	44522	1868	792477	34228	59615	1021167
19	2014-15(End of IIIrd year of 12th Plan)	129244	835838	41075	1407	878320	36102	61780	1105446

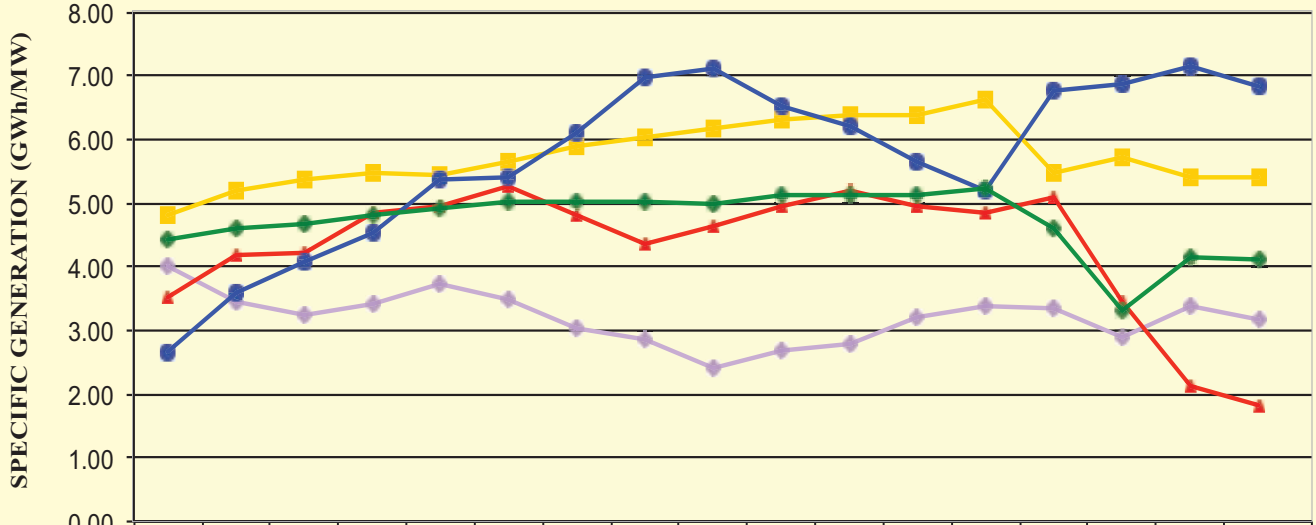
$ Includes Lignite
RES : Renewable Energy Sources.

Chart : 10

SPECIFIC GENERATION BY ALL INDIA POWER STATIONS MODE-WISE

UTILITIES

1994 - 95 to 2014-15



	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2011-12	2012-13	2013-14	2014-15
Hydro	4.01	3.47	3.23	3.42	3.74	3.49	3.03	2.86	2.41	2.67	2.80	3.21	3.39	3.35	2.90	3.37	3.16
Coal/Lignite	4.80	5.18	5.38	5.46	5.44	5.66	5.91	6.02	6.18	6.32	6.39	6.39	6.61	5.47	5.71	5.42	5.39
Gas/Liquid	3.51	4.18	4.21	4.84	4.96	5.28	4.80	4.36	4.62	4.94	5.18	4.94	4.86	5.07	3.46	2.13	1.83
Nuclear	2.67	3.59	4.08	4.53	5.36	5.40	6.10	6.98	7.13	6.54	6.20	5.65	5.18	6.75	6.88	7.16	6.84
All Types	4.44	4.62	4.68	4.82	4.92	5.03	5.02	5.01	5.00	5.12	5.14	5.14	5.23	4.62	3.32	4.16	4.13

Chart : 11

PLANWISE GROWTH OF ELECTRICITY GENERATION IN INDIA

HYDRO ELECTRIC POWER STATIONS

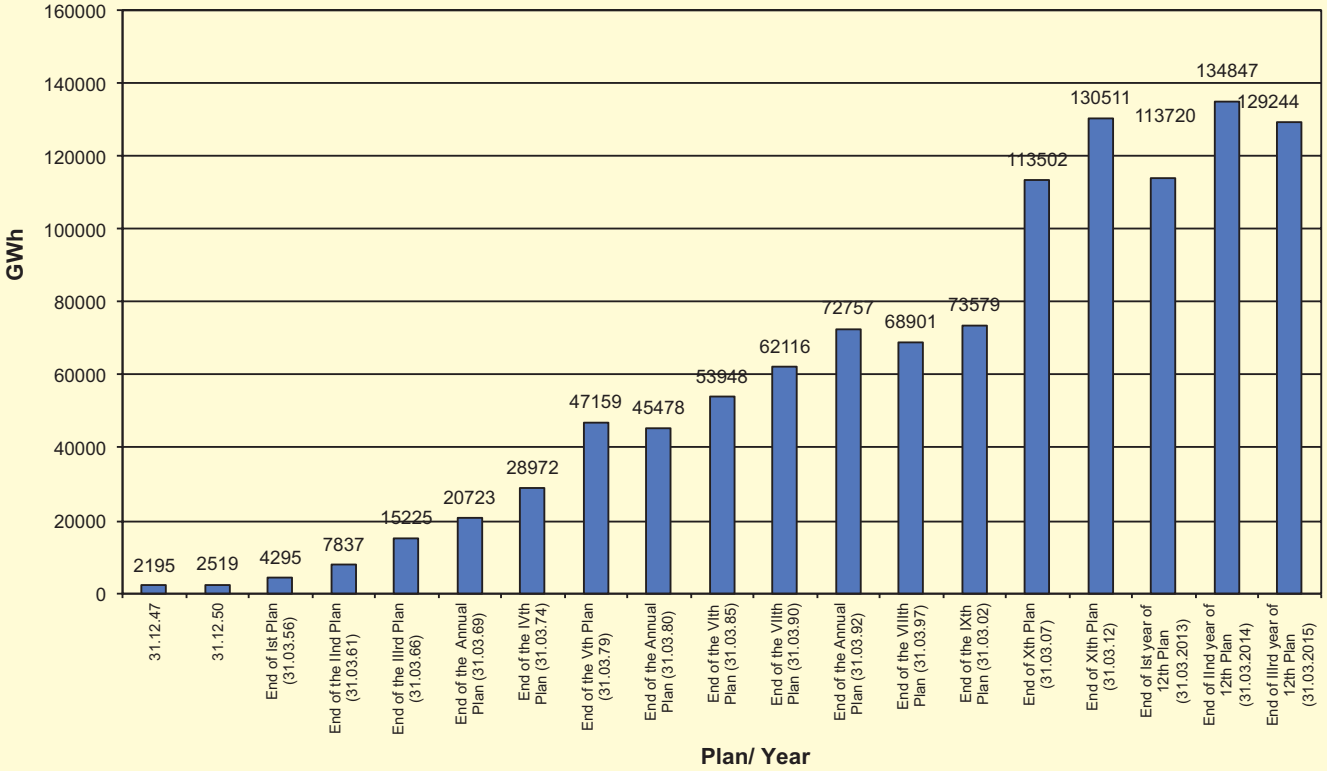


Chart : 12A

PLANWISE GROWTH OF ELECTRICITY GENERATION IN INDIA

COAL/ LIGNITE BASED PLANTS

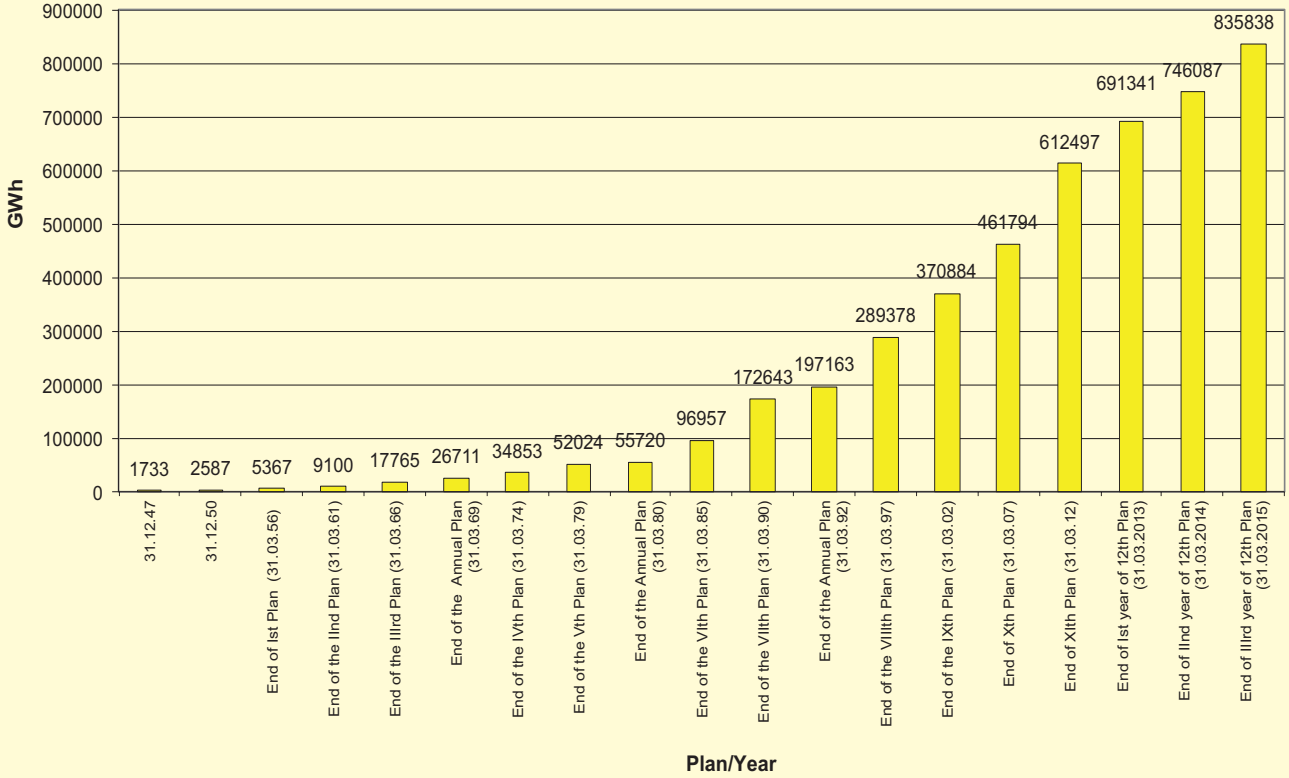


Chart : 12B

PLANWISE GROWTH OF ELECTRICITY GENERATION IN INDIA

GAS TURBINE BASED PLANTS

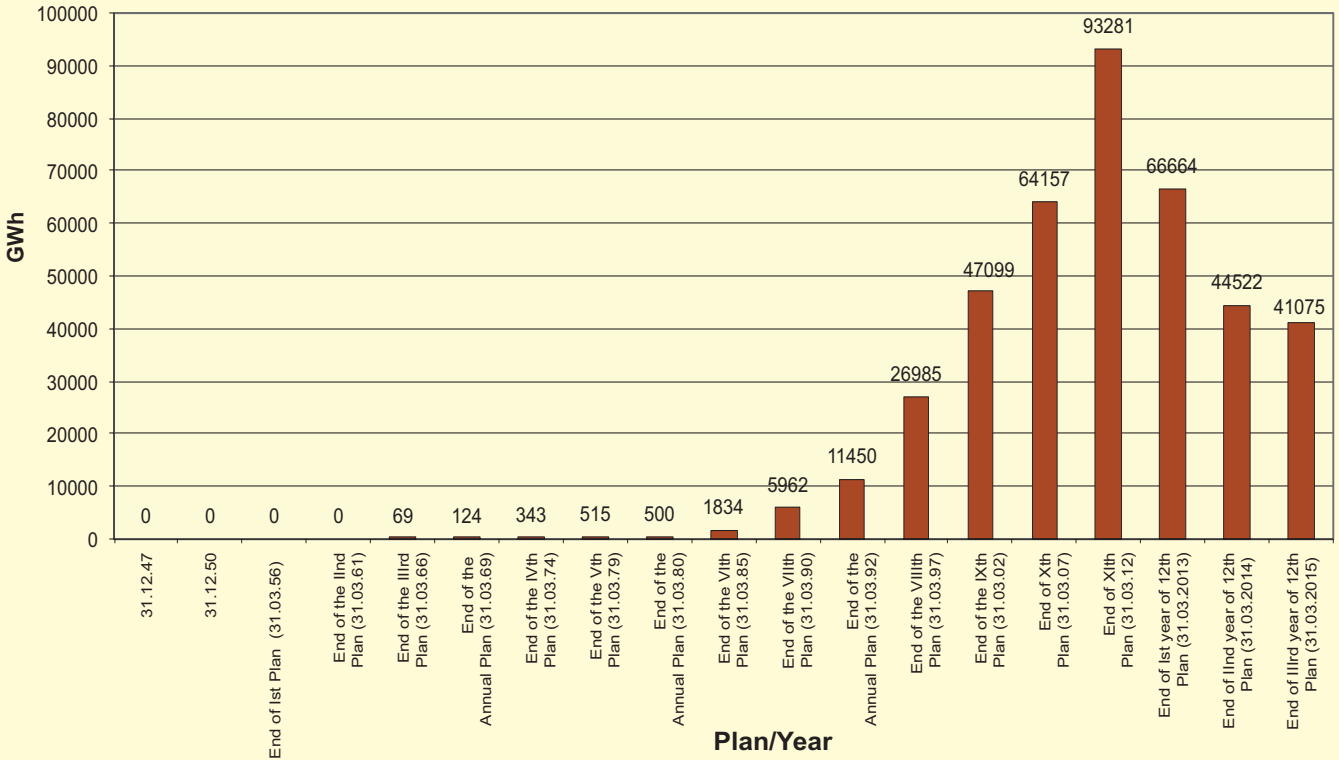


Chart : 12C

PLANWISE GROWTH OF ELECTRICITY GENERATION IN INDIA

DIESEL BASED PLANTS

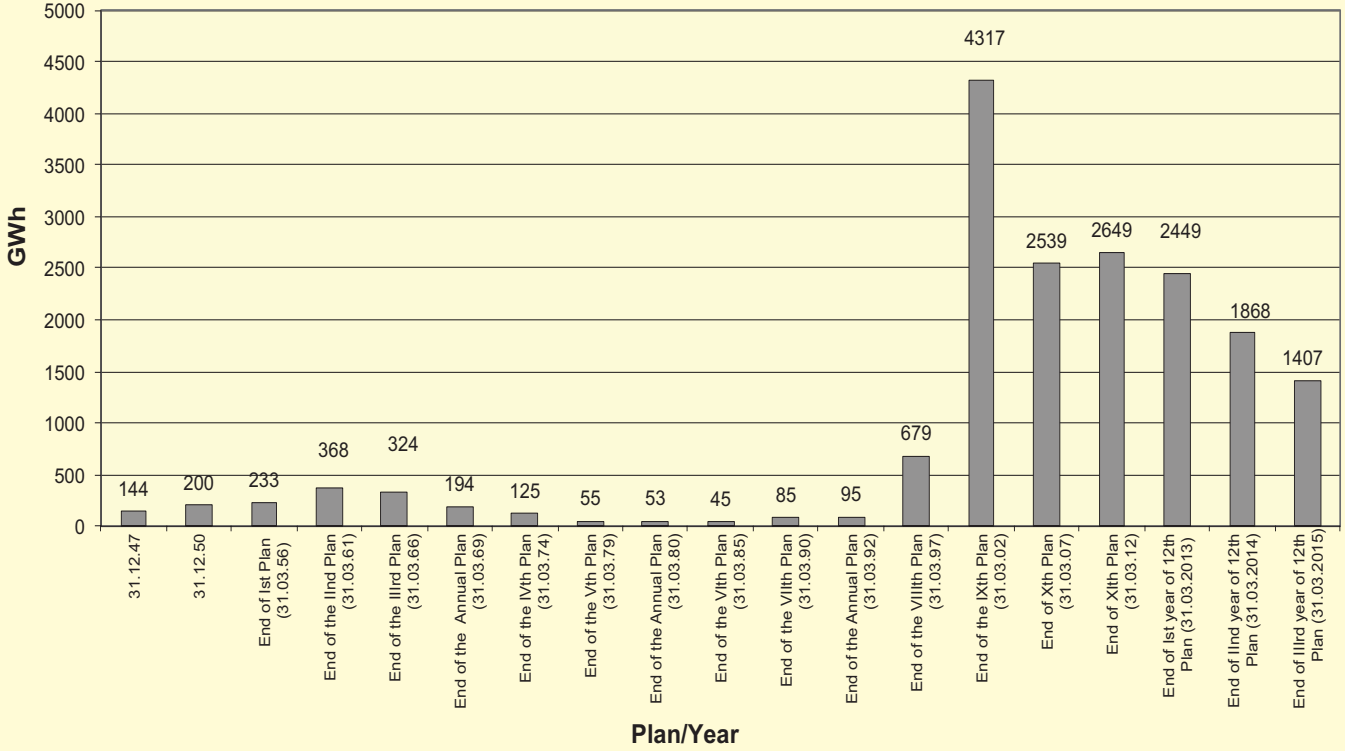


Chart : 13

ALL INDIA PLF (%) OF THERMAL POWER STATIONS
(COAL AND LIGNITE BASED)

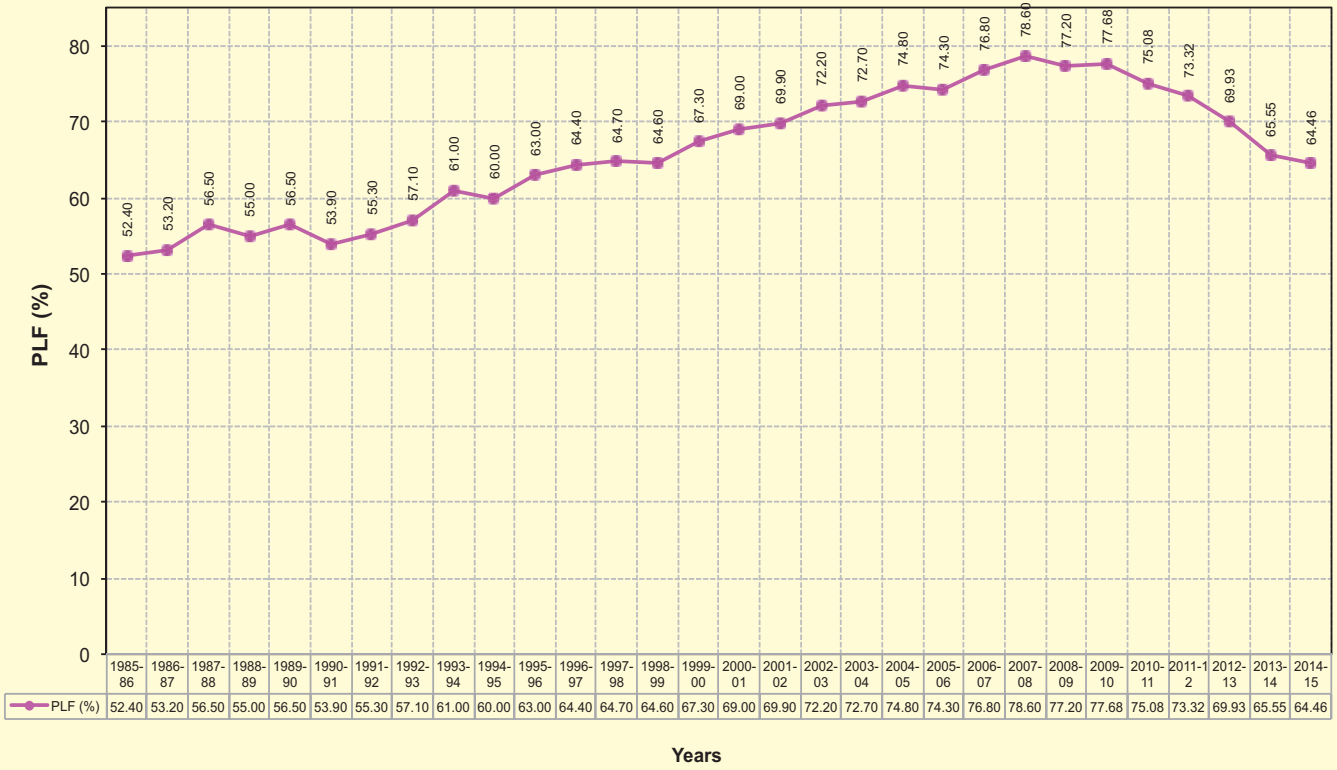


Chart : 14

PLANWISE GROWTH OF ELECTRICITY GENERATION IN INDIA

NUCLEAR POWER PLANTS

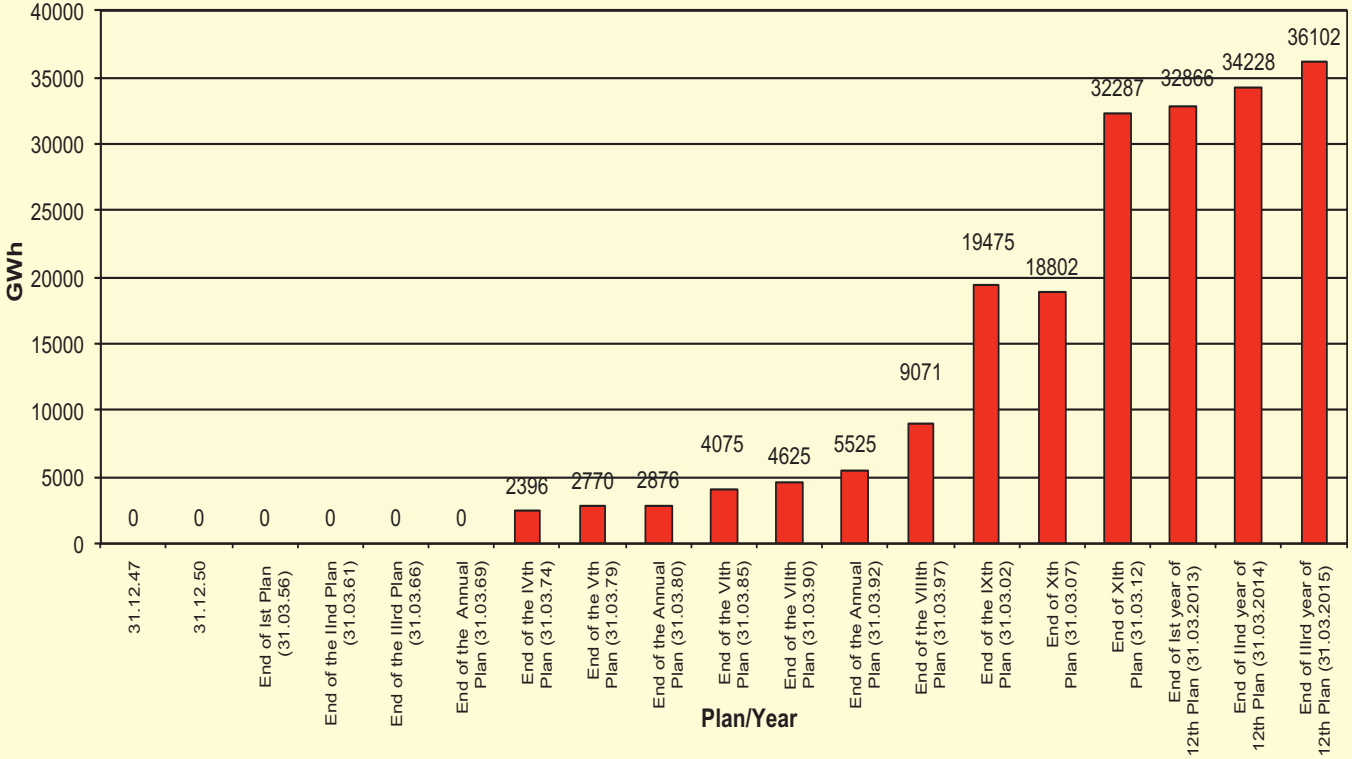


Chart : 15

PLANWISE GROWTH OF ALL INDIA ELECTRICITY GENERATION

UTILITIES

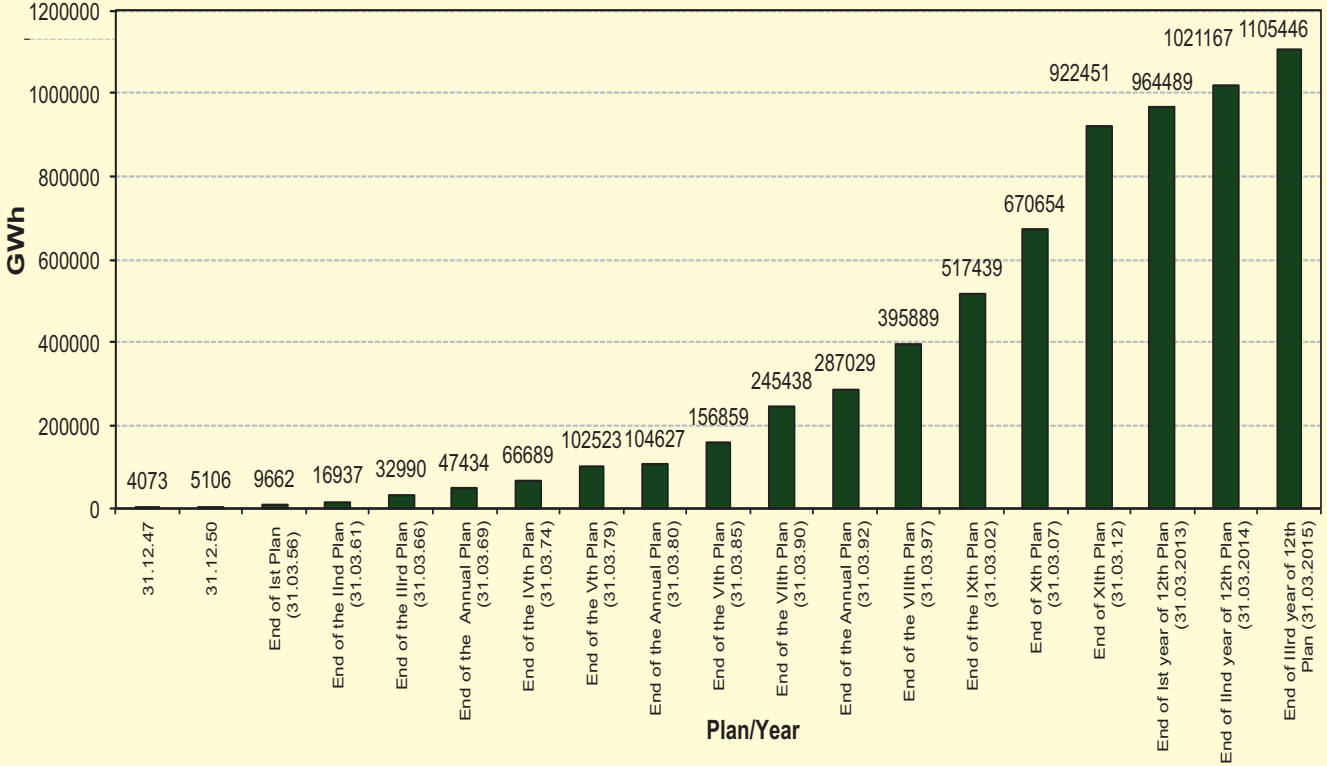
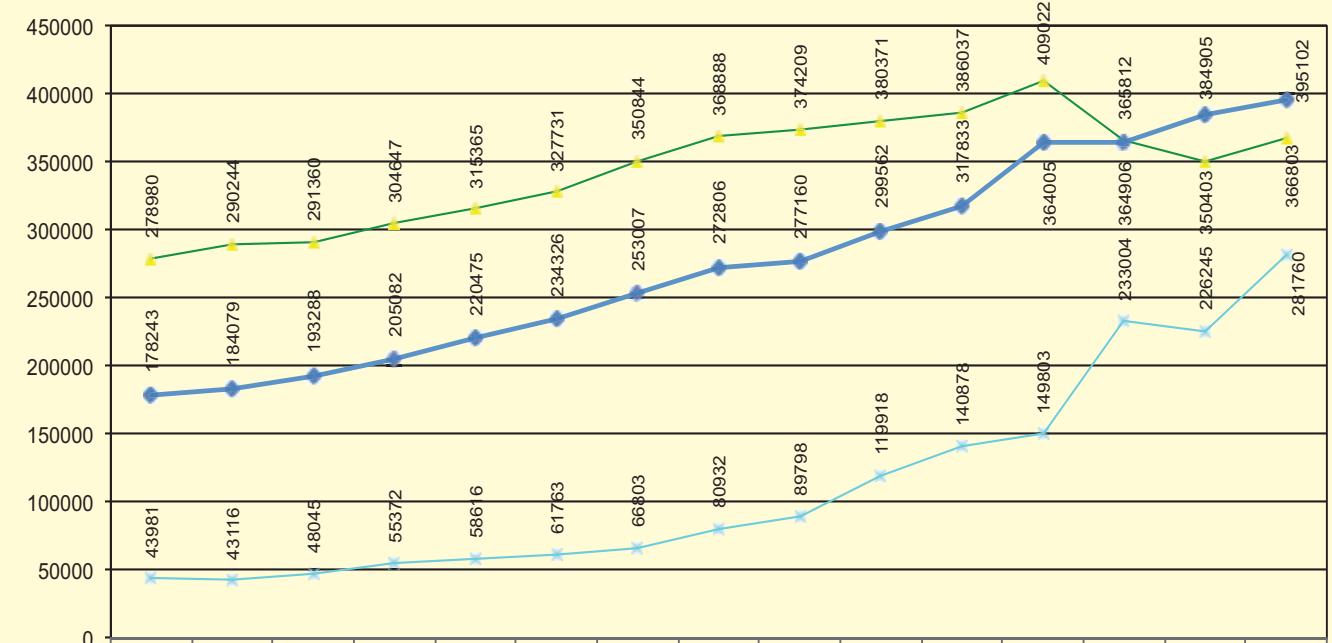


Chart : 15A

SECTORWISE GROWTH OF ENERGY GENERATION (GWh)

2000-01 TO 2014-15

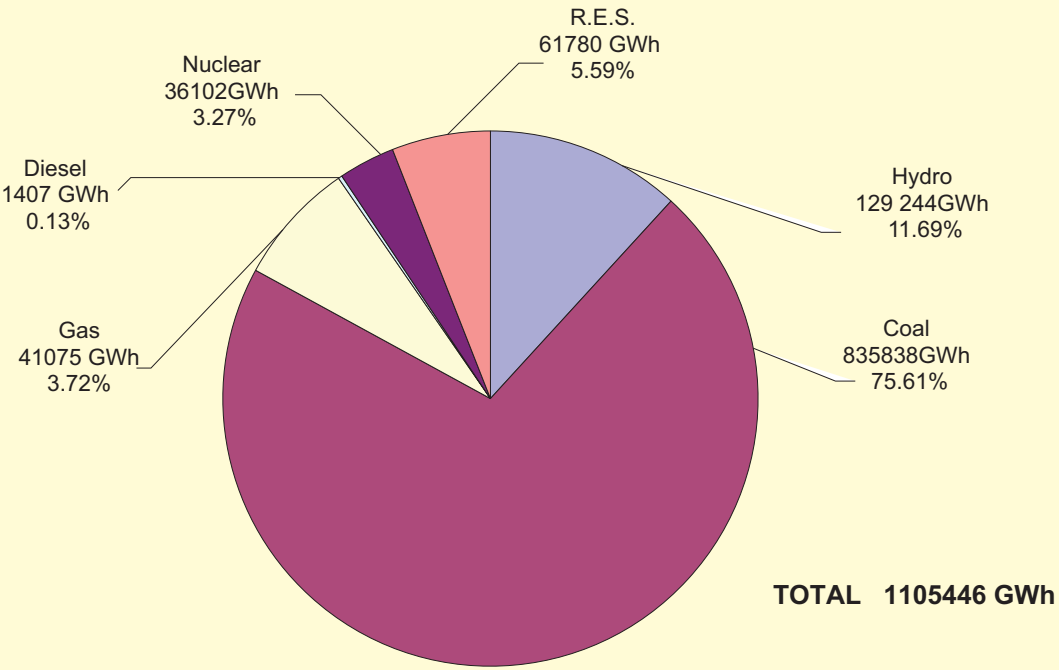


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
State	278980	290244	291360	304647	315365	327731	350844	368888	374209	380371	386037	409022	365812	350403	366803
Private	43981	43116	48045	55372	58616	61763	66803	80932	89798	119918	140878	149803	233004	226245	281760
Central	178243	184079	193288	205082	220475	234326	253007	272806	277160	299562	317833	364005	364906	384905	395102

GROSS ELECTRICITY GENERATION IN INDIA MODEWISE - END OF 3rd YEAR OF XIITH PLAN

(31.03.2015)

UTILITIES

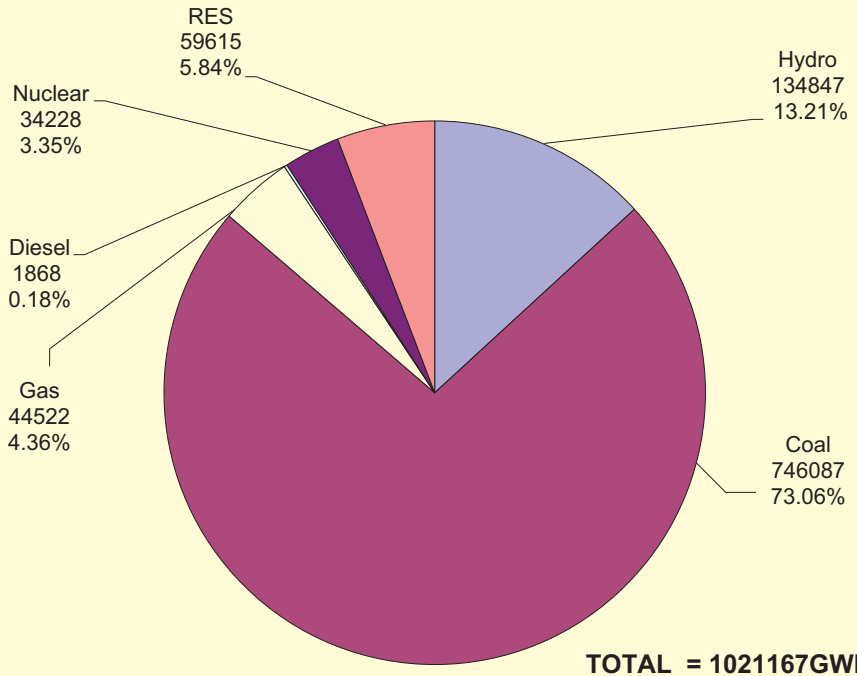


GROSS ELECTRICITY GENERATION IN INDIA MODEWISE - END OF IInd YEAR OF 12th PLAN

Pie Chart : 16A

31.03.2014

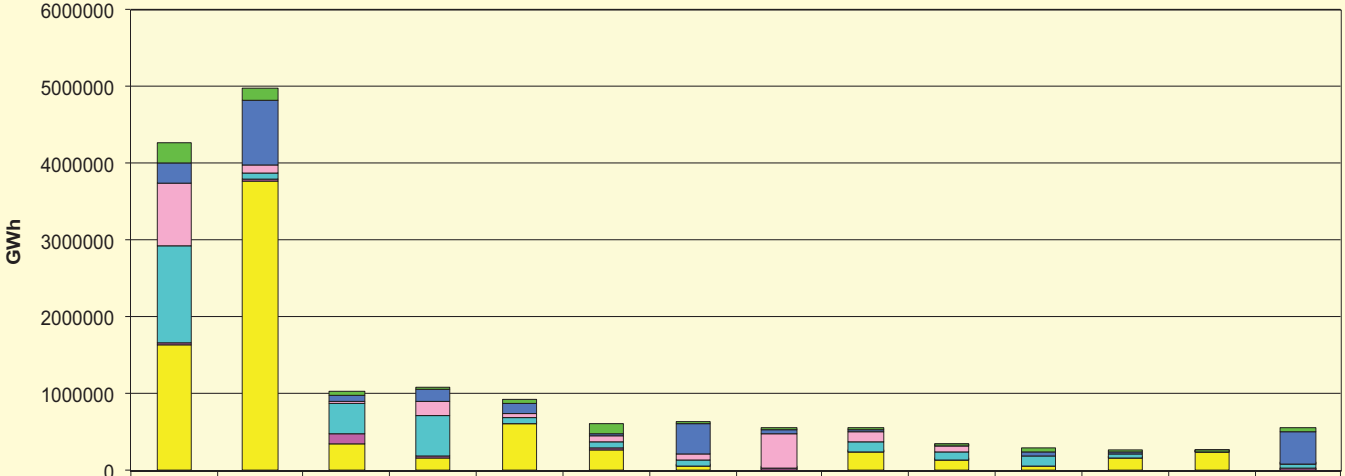
UTILITIES



TOTAL = 1021167GWh

Chart : 17

GROSS ELECTRICITY GENERATION IN VARIOUS COUNTRIES MODE- WISE IN 2012

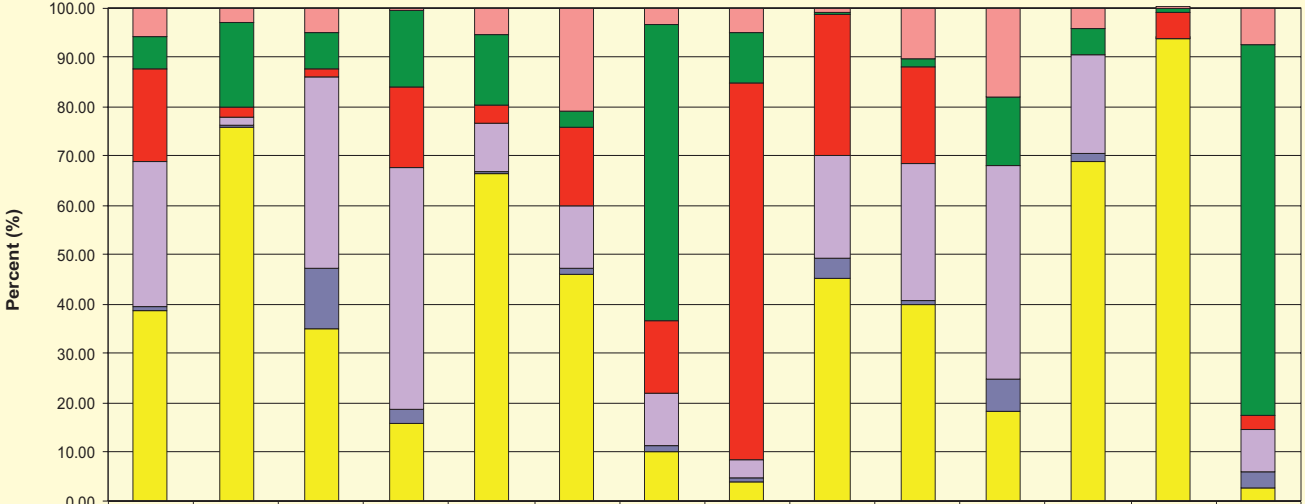


	United States	People's Republic of China	Japan	Russian Federation	India	Germany	Canada	France	Korea	United Kingdom	Italy	Australia	South Africa	Brazil
Others	250079	147165	52983	3515	51226	130261	20767	27478	4074	37854	53365	9948	446	40287
Hydro	278511	862807	75486	165898	130511	21194	380511	58717	3969	5285	41875	14026	1992	415342
Nuclear	801129	97394	15939	177534	32287	99460	94862	425406	150327	70405	0	0	13075	16038
Gas	1264552	85686	397219	525377	93281	77602	67536	21816	111937	100074	129058	49602	0	46760
Oil	33070	6787	125453	28046	2649	7627	6984	4338	21168	3064	18890	4069	194	19592
Coal	1643430	3784933	359066	168943	612497	287013	63678	21642	239347	144189	54110	171239	239344	14167

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

Chart : 18

MODE- WISE SHARE IN ELECTRICITY GENERATION IN VARIOUS COUNTRIES IN % 2012



	United States	People's Republic of China	Japan	Russian Federation	India	Germany	Canada	France	Korea	United Kingdom	Italy	Australia	South Africa	Brazil
Others	5.86	2.95	5.16	0.33	5.55	20.90	3.27	4.91	0.77	10.49	17.95	4.00	0.17	7.30
Hydro	6.52	17.31	7.36	15.51	14.15	3.40	59.99	10.50	0.75	1.46	14.09	5.64	0.78	75.22
Nuclear	18.76	1.95	1.55	16.60	3.50	15.96	14.95	76.05	28.32	19.51	0.00	0.00	5.13	2.90
Gas	29.61	1.72	38.71	49.13	10.11	12.45	10.65	3.90	21.09	27.73	43.41	19.93	0.00	8.47
Oil	0.77	0.14	12.23	2.62	0.29	1.22	1.10	0.78	3.99	0.85	6.35	1.63	0.08	3.55
Coal	38.48	75.93	34.99	15.80	66.40	46.06	10.04	3.87	45.09	39.96	18.20	68.80	93.84	2.57

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

Table: 4

PLAN/CATEGORY-WISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

UTILITIES & NON-UTILITIES

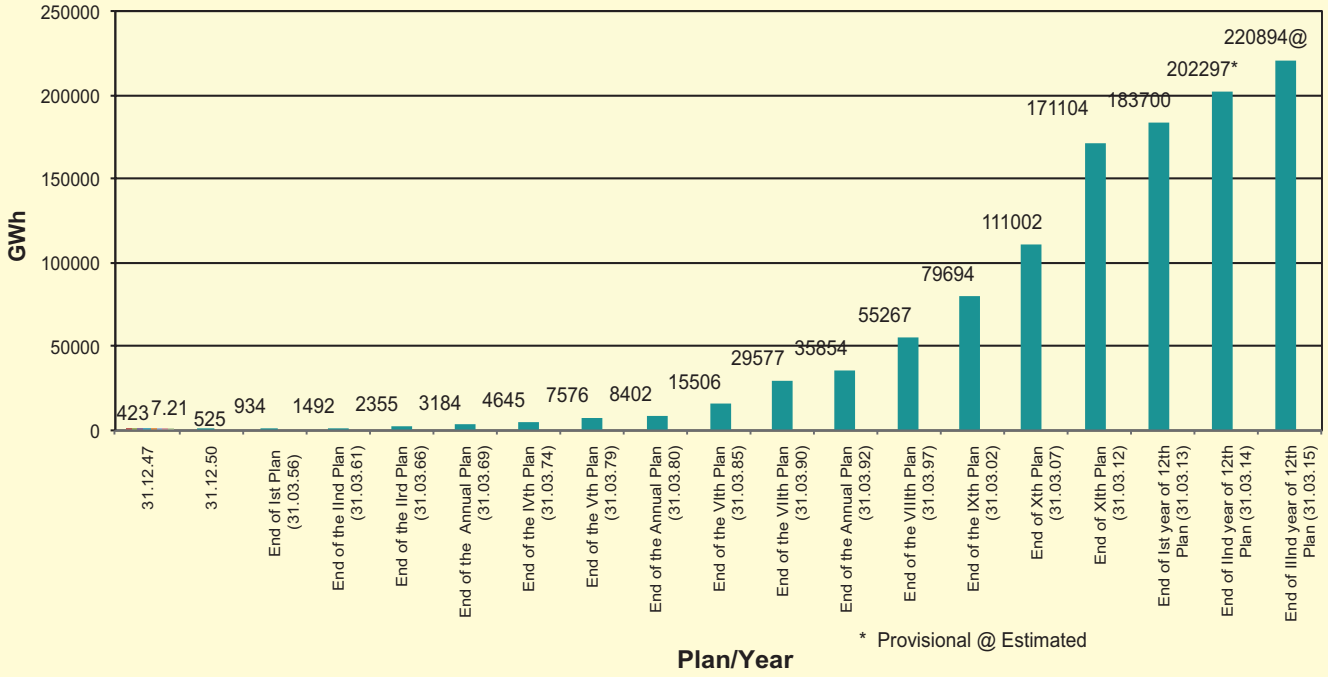
(GWh)

Sl. No	During financial year ending with	Domestic	% to Total	Commercial	% to Total	Industrial	% to Total	Traction	% to Total	Agricul-ture	% 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	2012-13 (End of Ist year of 12th Plan)	183700	22.29	72794	8.83	365988.99	44.40	14100	1.71	147462	17.89	40256	4.88	824301
18	20113-14 (End of IInd year of 12th Plan)*	202297	22.95	77558	8.80	380605	43.17	15447	1.75	160331	18.19	45324	5.14	881562
19	20114-15 (End of IIIrd year of 12th Plan)@	220894	23.53	82322	8.77	395221	42.10	16794	1.79	173200	18.45	50392	5.37	938823

(*) Provisional
(@) Estimated

Chart : 19

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA
DOMESTIC SECTOR

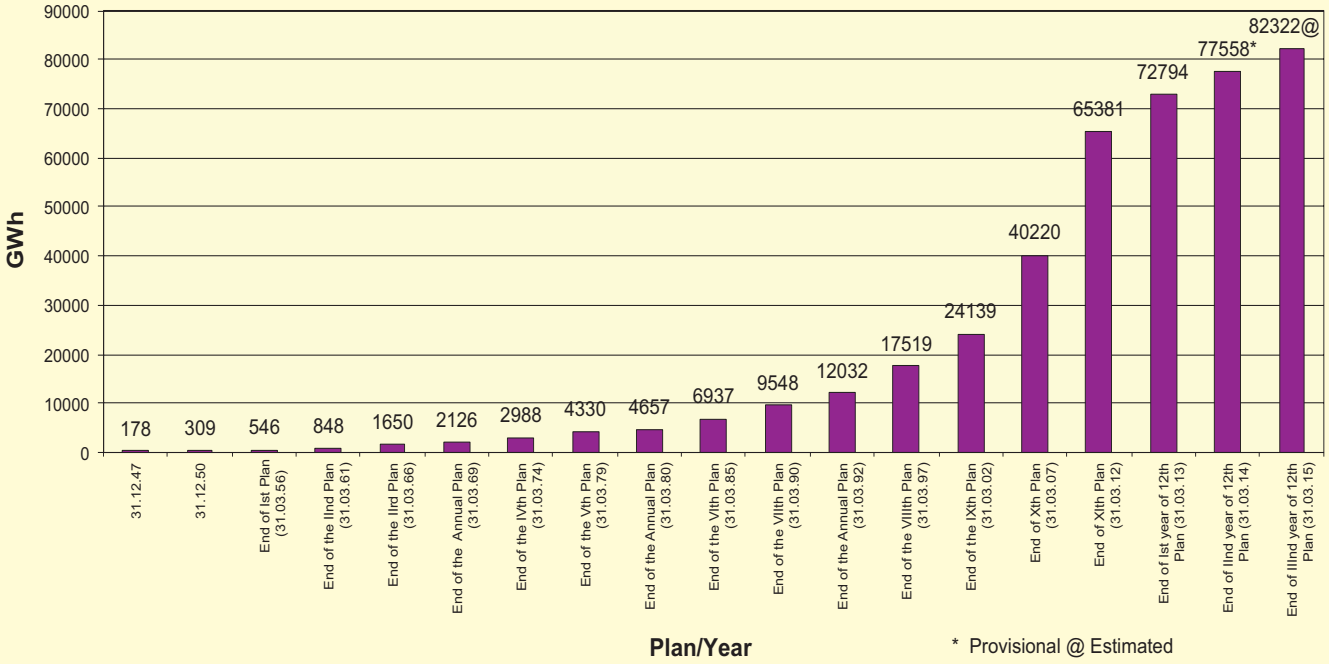


Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	11.87	10.14	9.73	9.18	13.41	9.08	7.21	8.45

Chart : 20

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

COMMERCIAL



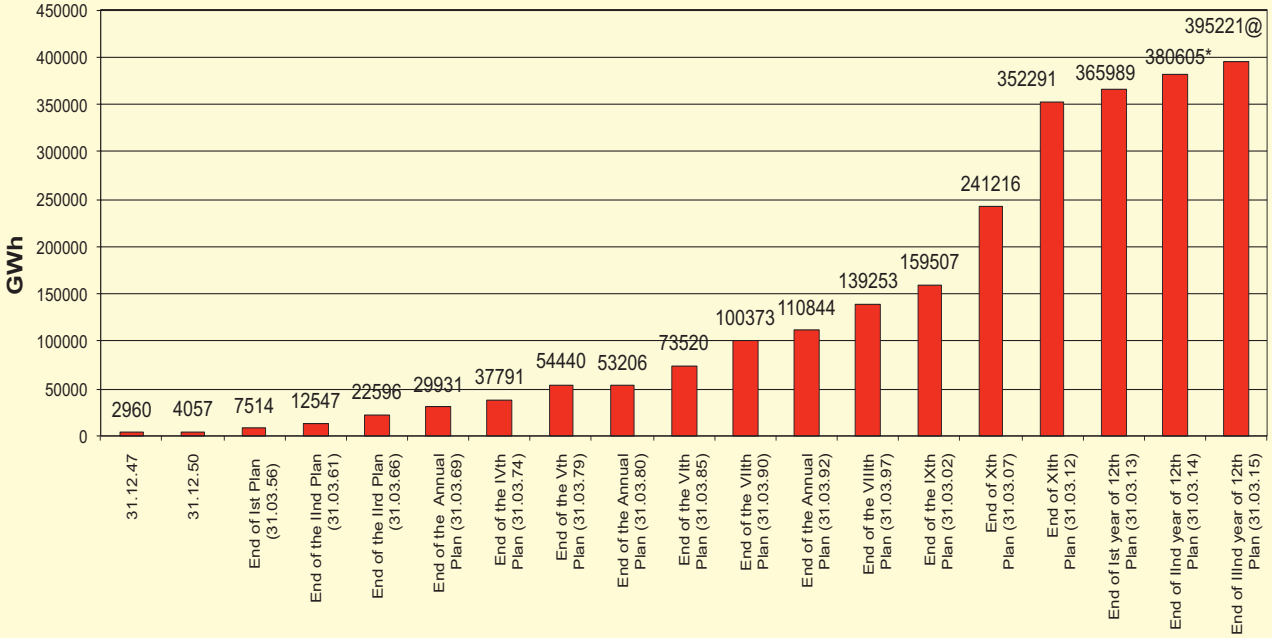
* Provisional @ Estimated

Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	3.18	9.50	11.78	7.15	7.45	8.28	11.47	5.86

Chart : 21

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

INDUSTRIAL



Plan/Year

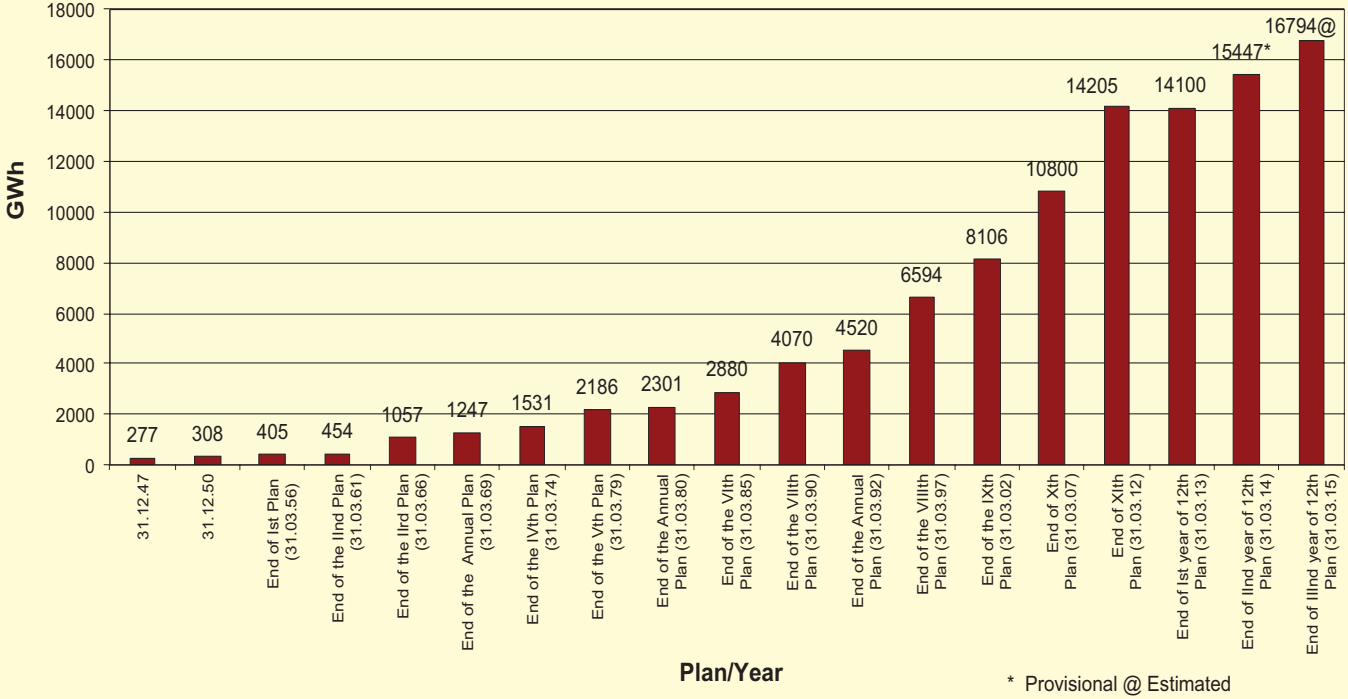
* Provisional @ Estimated

Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	11.08	10.40	11.57	5.02	6.55	4.43	10.36	4.62

Chart : 22

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

TRACTION



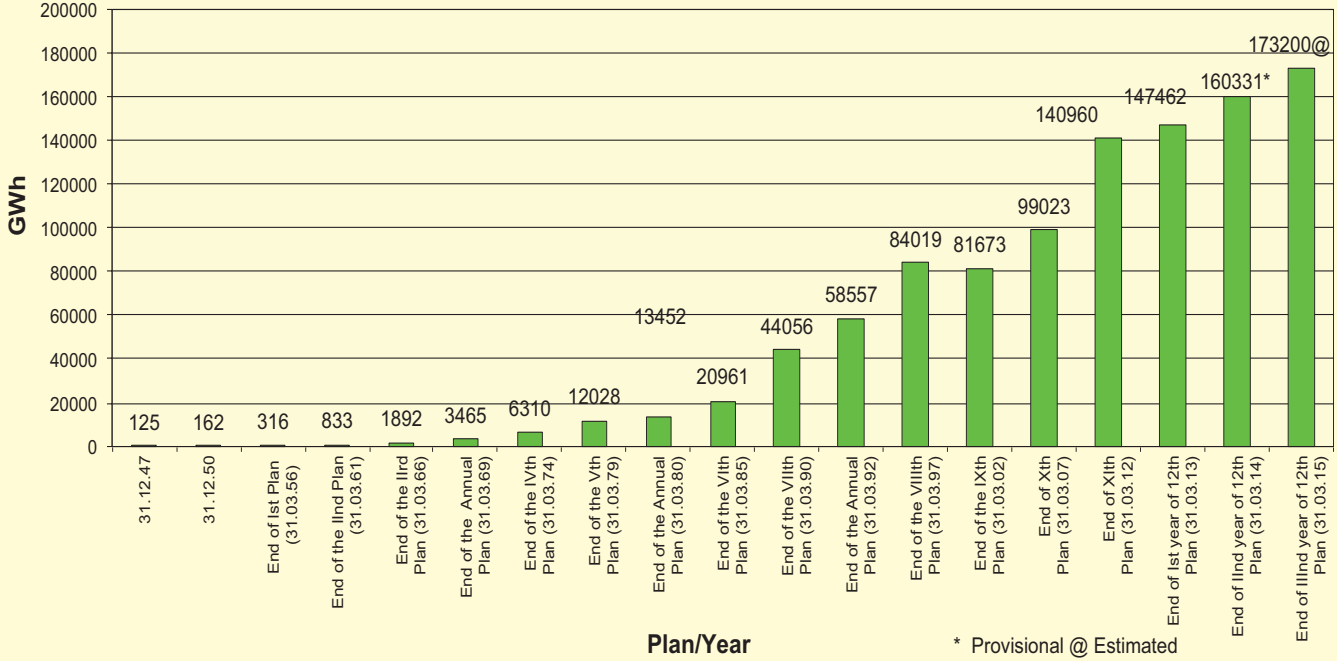
* Provisional @ Estimated

Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	3.60	12.71	48.63	4.74	5.87	7.10	4.33	5.21

Chart : 23

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

AGRICULTURE



Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	9.03	66.96	71.06	13.55	12.60	7.52	2.05	7.41

Chart : 24

PLANWISE GROWTH OF ELECTRICITY CONSUMPTION IN INDIA

MISCELLANEOUS

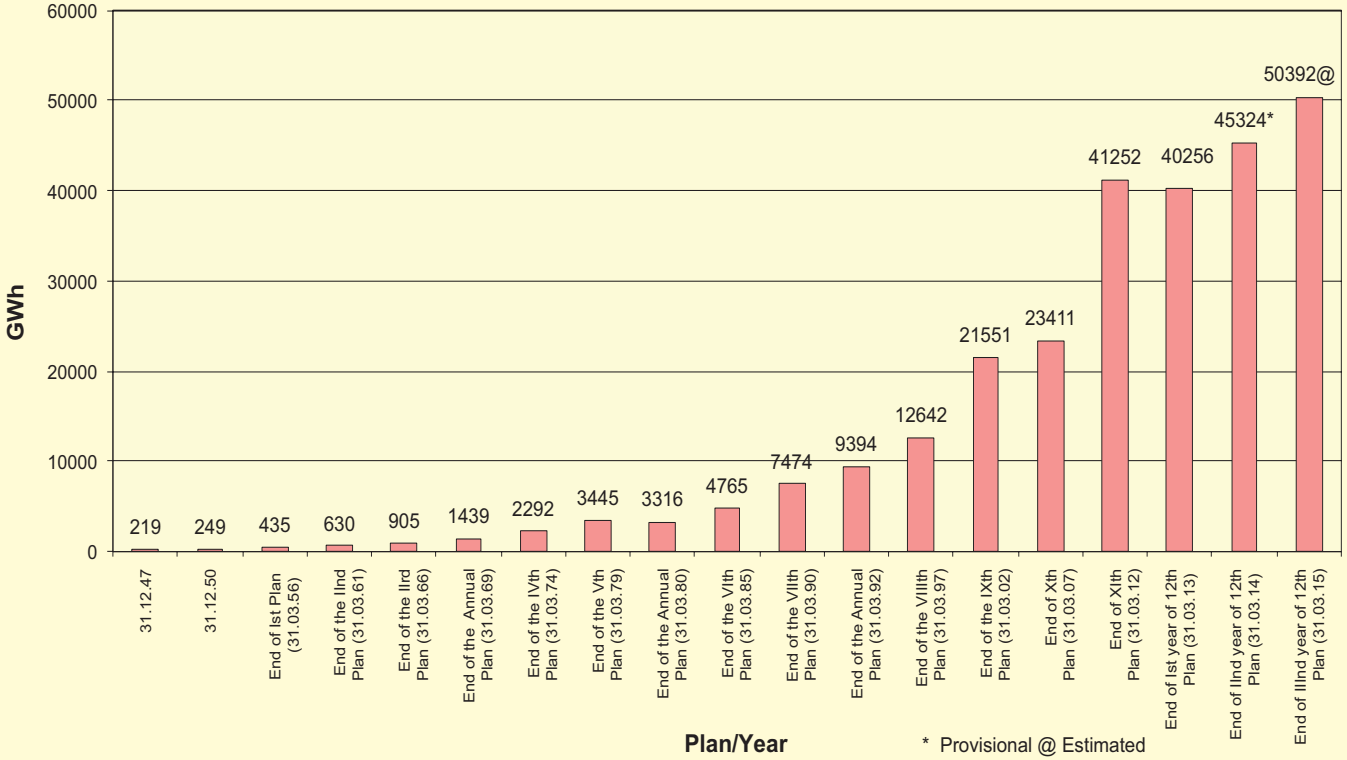
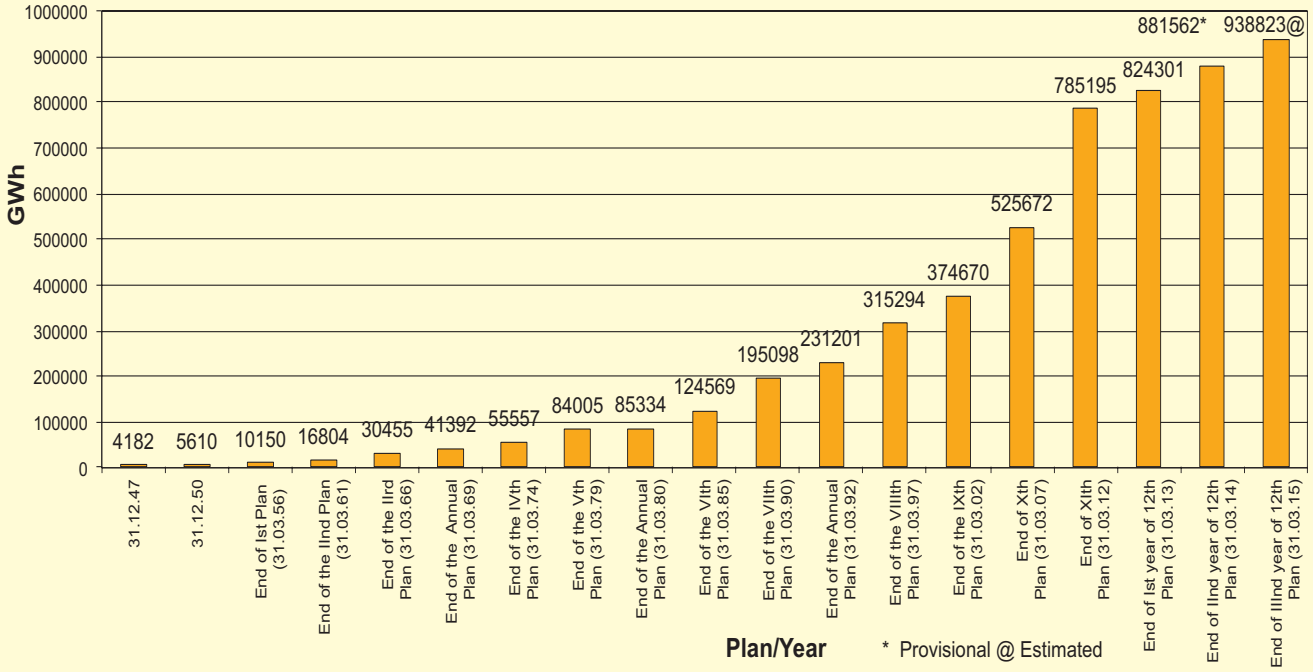


Chart : 25

PLANWISE GROWTH OF ALL INDIA TOTAL ELECTRICITY CONSUMPTION

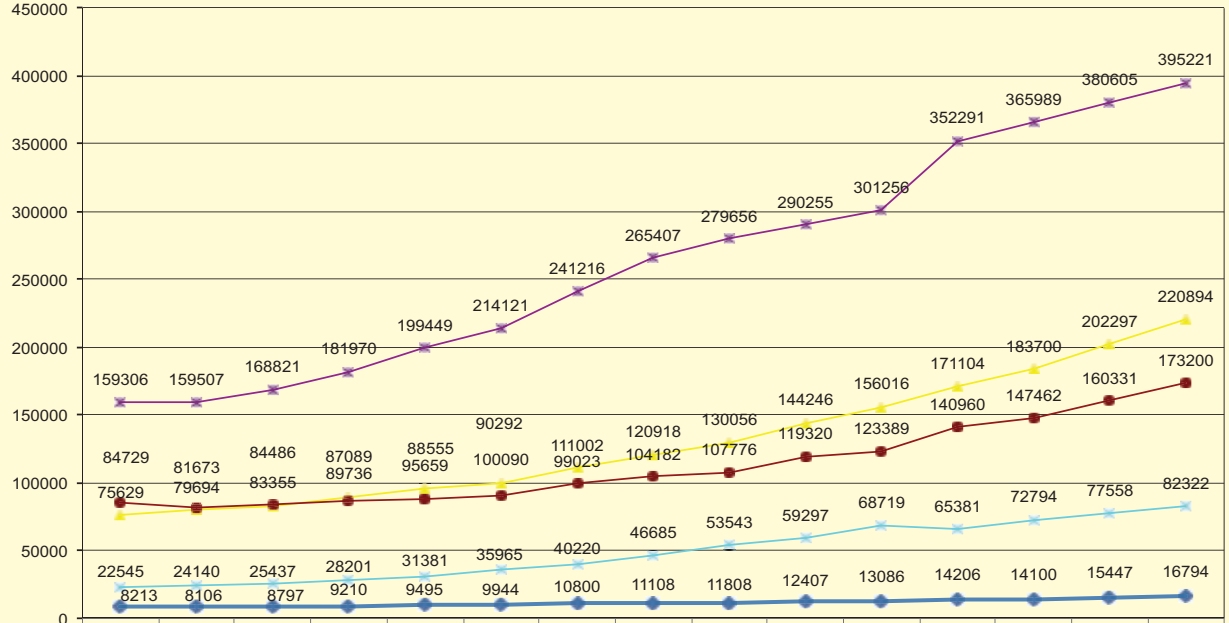
UTILITIES & NON-UTILITIES



Year	1947-50	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-15
% Growth	10.29	38.38	44.97	6.54	8.62	6.35	8.26	6.33

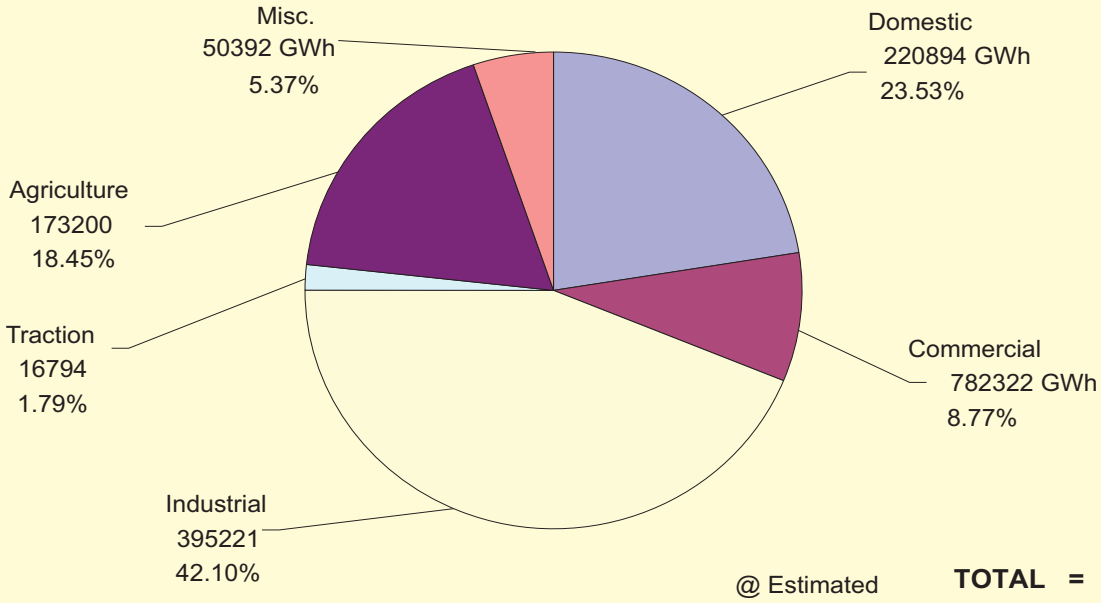
Chart : 25A

TREND OF CATEGORYWISE ENERGY CONSUMPTION
2000-01 TO 2014-15



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Domestic	75629	79694	83355	89736	95659	100090	111002	120918	130056	144246	156016	171104	183700	202297	220894
Commercial	22545	24140	25437	28201	31381	35965	40220	46685	53543	59297	68719	65381	72794	77558	82322
Industrial	159306	159507	168821	181970	199449	214121	241216	265407	279656	290255	301256	352291	365989	380605	395221
Agriculture	84729	81673	84486	87089	88555	90292	99023	104182	107776	119320	123389	140960	147462	160331	173200
Traction	8213	8106	8797	9210	9495	9944	10800	11108	11808	12407	13086	14206	14100	15447	16794

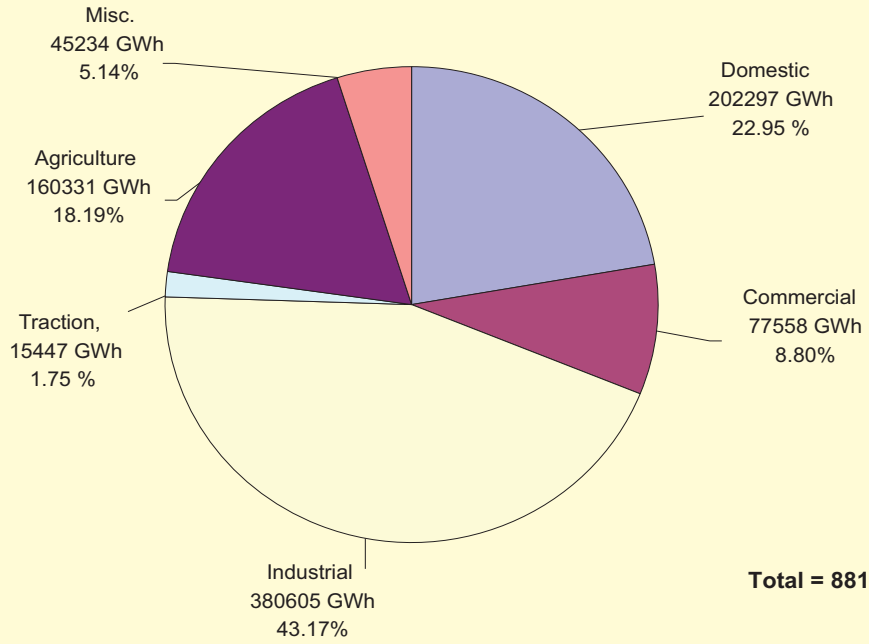
ALL INDIA ELECTRICITY CONSUMPTION SECTOR WISE-
END OF IIIrd YEAR OF XIITH PLAN
UTILITIES & NON - UTILITIES
(31.03.2015) @



@ Estimated

TOTAL = 938823 GWh

ALL INDIA ELECTRICITY CONSUMPTION SECTOR- WISE - END OF IInd YEAR OF 12th PLAN
UTILITIES & NON - UTILITIES
(31.03.2014)*

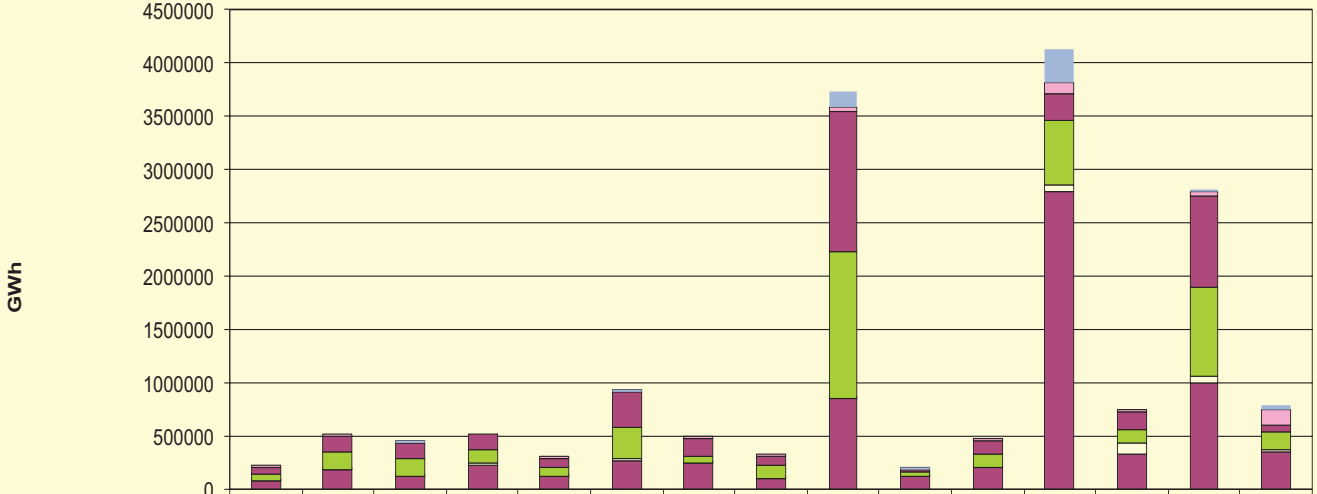


* Provisional

Total = 881562 GWh

Chart : 27

CATEGORY-WISE ELECTRICITY CONSUMPTION IN VARIOUS COUNTRIES 2012



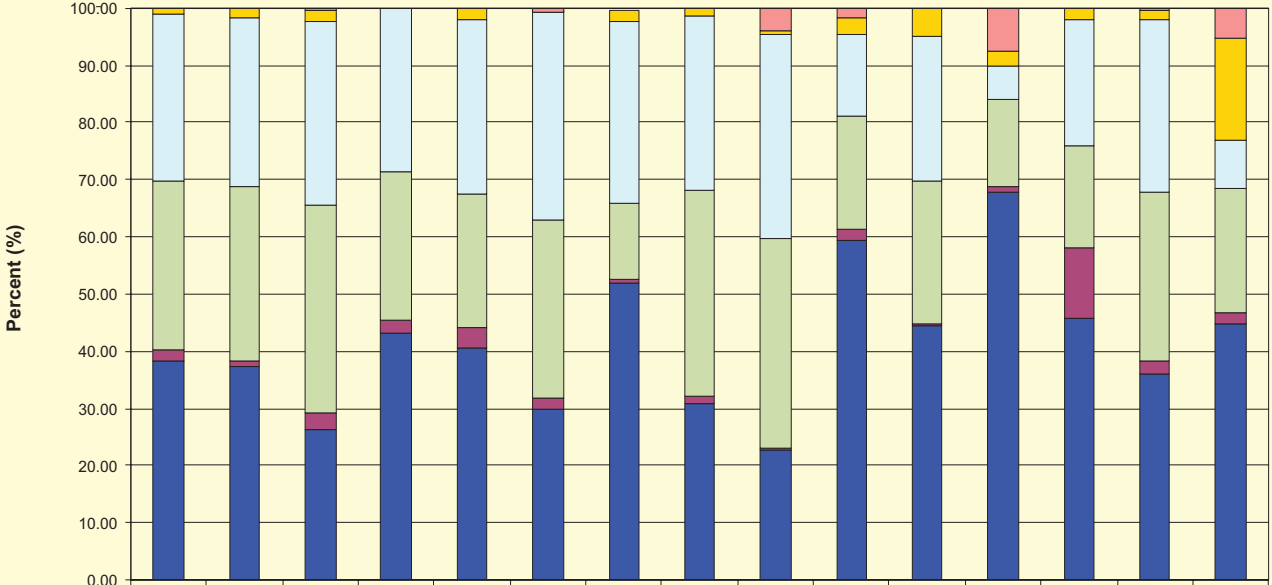
	Australia	Canada	France	Germany	Italy	Japan	Korea	United Kingdom	United States	South Africa	Brazil	People's Republic of China	Russian Federation	European Union - 27	India
Non-specified (other)	0	0	1578	0	0	6877	0	0	144877	3323	0	314871	0	8377	41252
Agriculture/forestry	2314	9160	8003	0	5823	893	9601	3871	30764	5709	23268	101257	15278	44311	140960
Commercial and public services	60933	148011	139394	150511	90279	333058	152546	97097	1323845	28183	119615	244261	161869	844886	65382
Residential	62056	153031	158269	137000	69457	287343	63893	114698	1374594	38779	117646	621896	132201	828454	171104
Transport	4072	4194	12407	12084	10759	18645	2250	4088	6841	3826	2782	51981	92041	64059	14206
Industry	79956	187525	114319	226239	120323	275883	250643	97819	845911	117272	209621	2793867	338608	1006175	352291

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

Chart : 28

CATEGORY-WISE SHARES IN ELECTRICITY CONSUMPTION IN VARIOUS COUNTRIES -2012

(in %)



	Australia	Canada	France	Germany	Italy	Japan	Korea	United Kingdom	United States	South Africa	Brazil	People's Republic of China	Russian Federation	European Union - 27	India
Non-specified (other)	0.00	0.00	0.36	0.00	0.00	0.75	0.00	0.00	3.89	1.69	0.00	7.63	0.00	0.30	5.25
Agriculture/forestry	1.11	1.82	1.84	0.00	1.96	0.10	1.99	1.22	0.83	2.90	4.92	2.45	2.06	1.58	17.95
Commercial and public services	29.11	29.49	32.11	28.62	30.42	36.10	31.69	30.57	35.52	14.30	25.29	5.92	21.87	30.21	8.33
Residential	29.64	30.49	36.46	26.05	23.41	31.14	13.27	36.12	36.88	19.68	24.88	15.06	17.86	29.62	21.79
Transport	1.95	0.84	2.86	2.30	3.63	2.02	0.47	1.29	0.18	1.94	0.59	1.26	12.43	2.29	1.81
Industry	38.20	37.36	26.34	43.02	40.55	29.90	52.06	30.80	22.70	59.50	44.32	67.68	45.74	35.98	44.87

Table 5
PER CAPITA ELECTRICITY CONSUMPTION AND T & D LOSSES OF VARIOUS COUNTRIES IN 2011 & 12

Sl. No.	Per Capita onsumption (kWh)		
	Name of the Country	2011	2012
1	Canada	16406	15558
2	USA	13227	12947
3	Australia	10514	10218
4	Japan	7847	7753
5	France	7318	7367
6	Germany	7083	7138
7	Korea	10162	10346
8	UK	5518	5452
9	Russia	6533	6602
10	Italy	5393	5277
11	South Africa	4694	4410
12	Brazil	2441	2509
13	China	3298	3475
14	India*	819	884
15	World	2933	2972

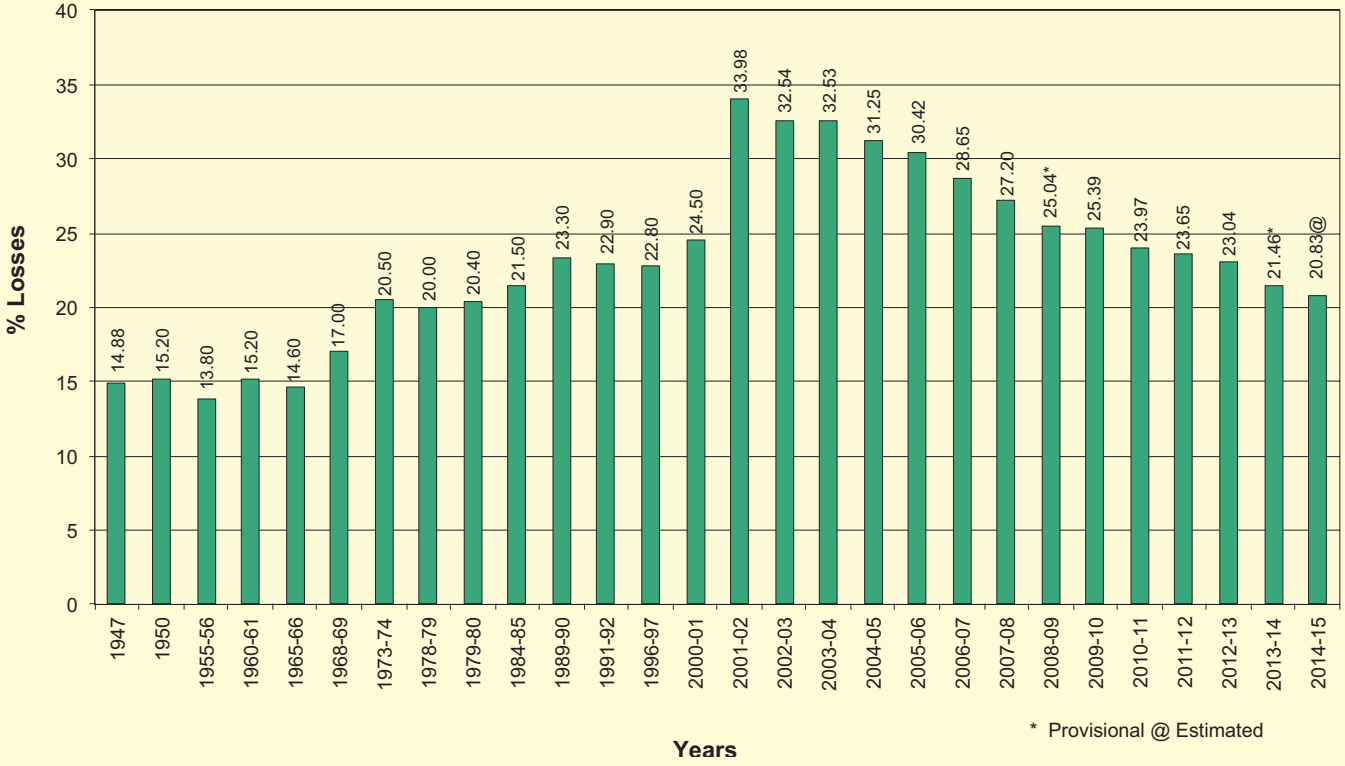
	T & D Losses (%)		
Sl. No.	Name of the Country	2011	2012
1	Korea	3.57	3.47
2	Japan	4.98	4.79
3	Germany	4.70	4.46
4	Italy	6.46	6.61
5	Australia	5.94	5.68
6	South Africa	9.61	10.19
7	France	6.47	7.99
8	China	6.54	6.56
9	USA	6.41	6.73
10	Canada	6.27	8.19
11	UK	8.06	8.26
12	Russia	12.59	12.59
13	Brazil	16.08	16.63
14	India	23.97	23.65
15	World	8.90	8.89

Note :-
Basic data obtained from IEA Website (Except India)
* Per Capita Consumption= (Gross Electrical Energy Availability/Midyear Population).

Chart : 29

ALL INDIA TRANSMISSION AND DISTRIBUTION LOSSES

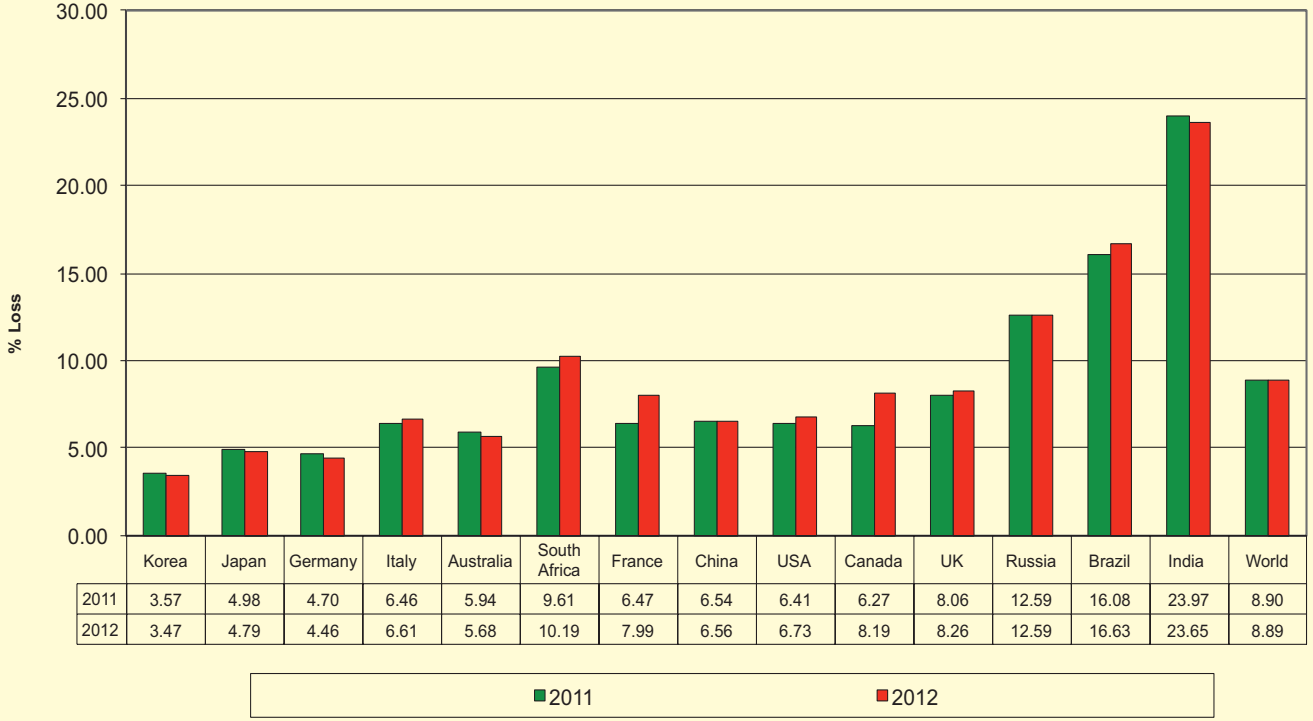
(in %)



* Provisional @ Estimated

Chart : 30

T & D LOSSES OF VARIOUS COUNTRIES IN 2011& 2012
in %age



	Korea	Japan	Germany	Italy	Australia	South Africa	France	China	USA	Canada	UK	Russia	Brazil	India	World
2011	3.57	4.98	4.70	6.46	5.94	9.61	6.47	6.54	6.41	6.27	8.06	12.59	16.08	23.97	8.90
2012	3.47	4.79	4.46	6.61	5.68	10.19	7.99	6.56	6.73	8.19	8.26	12.59	16.63	23.65	8.89

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

Table 6
PLANWISE GROWTH OF INSTALLED GENERATING CAPACITY OF CAPTIVE POWER PLANTS (1MW & above) IN INDUSTRIES - MODE- WISE

(MW)

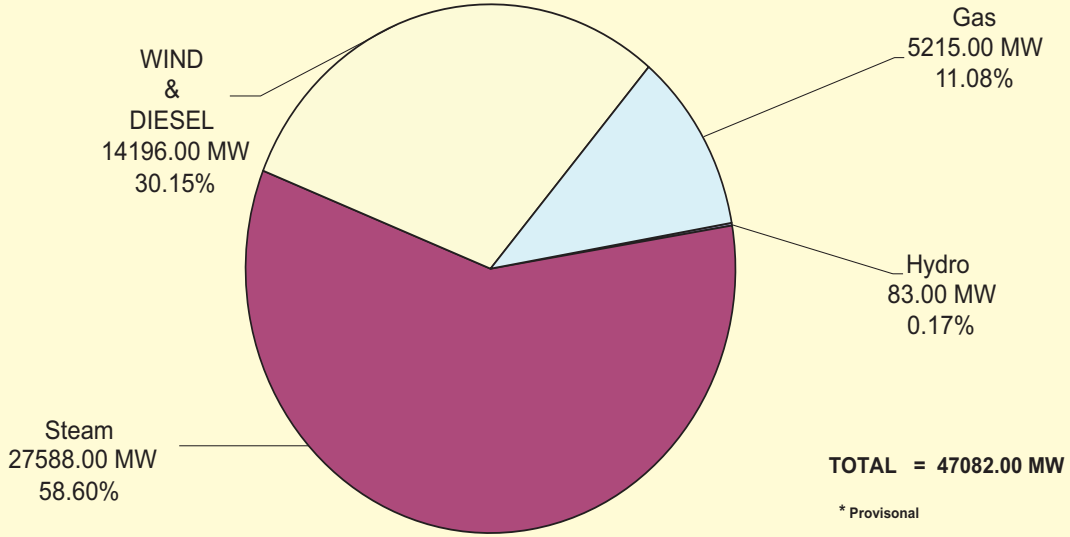
Sl.No.	As on	Hydro	Steam	Diesel @	Gas	Sub - Total	Railways	Total
1	31.12.1947	**	**	**	**	410.00	0.00	410.00
2	31.12.1950	**	**	**	**	587.85	0.00	587.85
3	31.03.1956 (End of the 1st Plan)	**	**	**	**	759.65	0.00	759.65
4	31.03.1961 (End of the 2nd Plan)	**	**	**	**	1001.37	0.00	1001.37
5	31.03.1966(End of the 3rd Plan)	**	**	**	**	1082.36	0.00	1082.36
6	31.03.1969(End of the 3 Annual Plans)	**	**	**	**	1277.47	0.00	1277.47
7	31.03.1974(End of the 4th Plan)	**	**	**	**	1732.70	0.00	1732.70
8	31.03.1979(End of the 5th Plan)	2.61	1949.23	559.17	44.27	2555.28	62.31	2617.59
9	31.03.1980(End of the 2 Annual Plans)	2.61	2021.61	720.58	54.27	2799.07	60.44	2859.51
10	31.03.1985 (End of the 6th Plan)	2.91	2803.18	2077.06	155.31	5038.46	81.80	5120.26
11	31.03.1990 (End of the 7th Plan)	3.60	4822.85	2754.48	425.51	8006.44	109.29	8115.73
12	31.03.1992 (End of the 2 Annual Plans)	4.30	5377.10	3291.06	495.72	9168.18	133.23	9301.41
13	31.03.1997(End of the 8th Plan)	3.50	6151.69	4594.74	1166.38	11916.31	162.62	12078.93
14	31.03.2002(End of the 9th Plan)	51.10	8354.03	6614.16	2125.91	17145.20	0.00	17145.20
15	31.03.07 (End of 10th Plan)	60.50	11397.52	7901.02	2976.00	22335.04	0.00	22335.04
16	31.03.12(End of 11th Plan)	48.00	22615.00	10827.00	5885.00	39375.00	0.00	39375.00
17	31.03.13 (End of Ist year of 12th Plan)	66.90	23889.61	12272.19	4497.69	40726.39	0.00	40726.39
18	31.03.14 (End of IInd year of 12th Plan)	73.00	25986.00	13349.00	4893.00	44228.00	0.00	44301.00
19	31.03.15 (End of IIIrd year of 12th Plan)*	83.00	27588.00	14196.00	5215.00	46999.00	0.00	47082.00

** Breakup Not Available * Provisional

Pie Chart : 31

INSTALLED GENERATING CAPACITY OF CAPTIVE POWER PLANTS IN INDUSTRIES HAVING DEMAND OF 1 MW & ABOVE - MODEWISE END OF IIIrd YEAR OF XIITH PLAN

31.03.2015 *



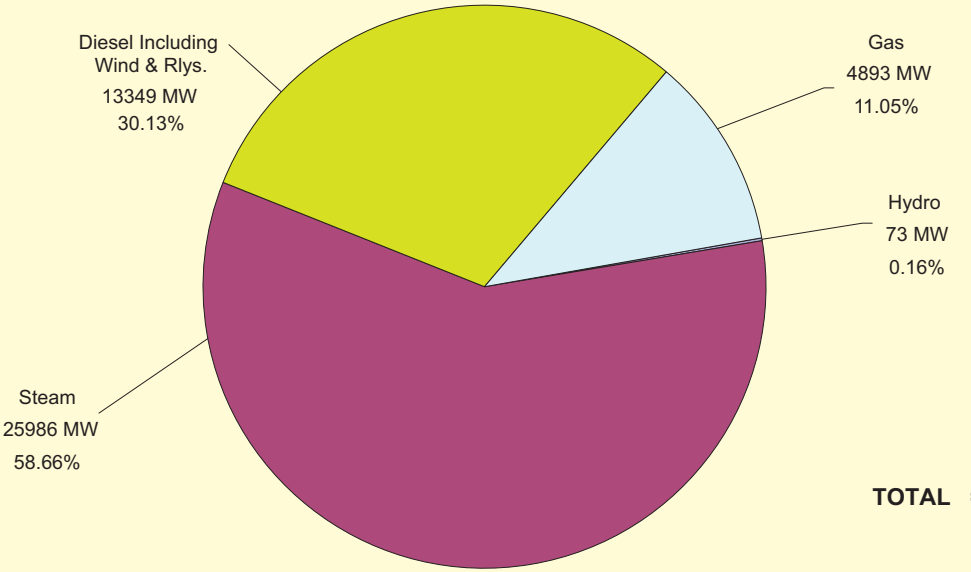
TOTAL = 47082.00 MW

* Provisonal

Pie Chart : 31A

INSTALLED GENERATING CAPACITY OF CAPTIVE POWER PLANTS IN INDUSTRIES HAVING DEMAND OF 1 MW & ABOVE MODEWISE END OF IInd YEAR OF 12TH PLAN

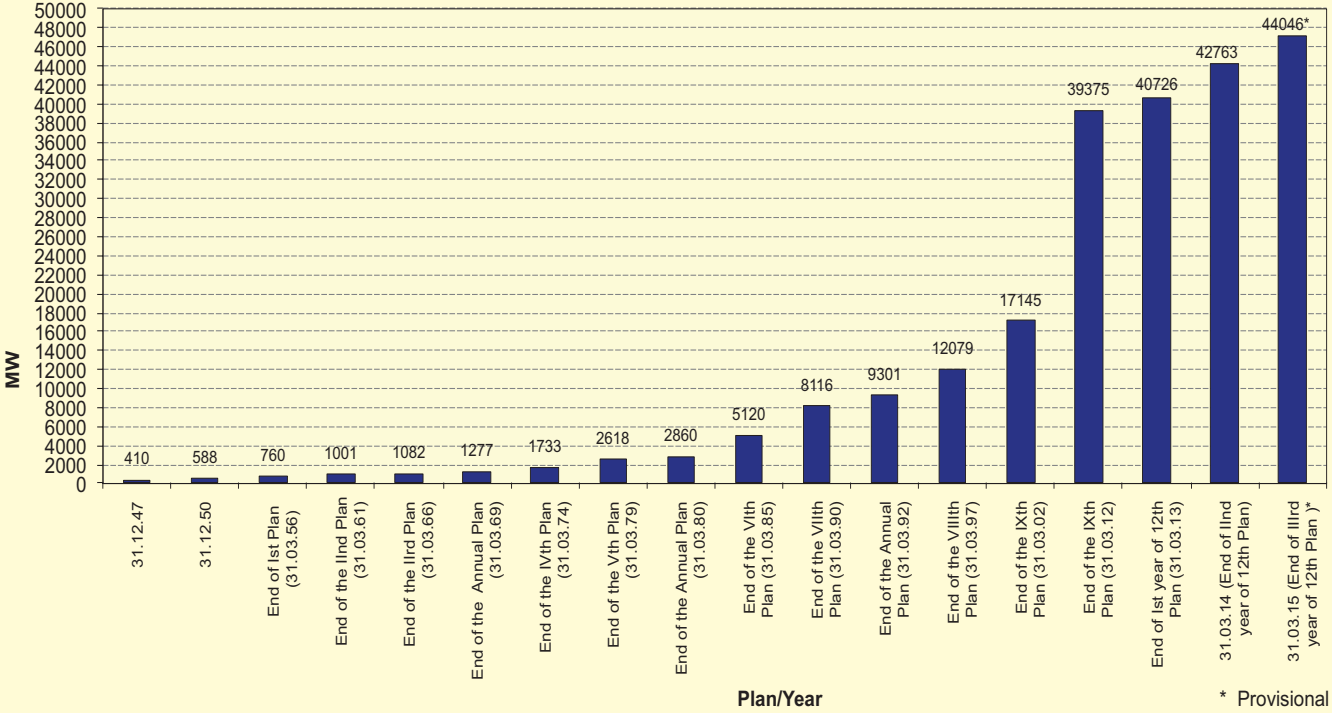
31.03.2014



TOTAL = 44301 MW

Chart : 32

PLANWISE GROWTH OF ALL INDIA INSTALLED GENERATING CAPACITY OF CAPTIVE POWER PLANTS IN INDUSTRIES HAVING DEMAND OF 1MW & ABOVE



* Provisional

Table 7

PLANWISE GROWTH OF ENERGY GENERATED BY CAPTIVE POWER PLANTS IN INDUSTRIES (1MW & Above) - MODE WISE

(GWh)

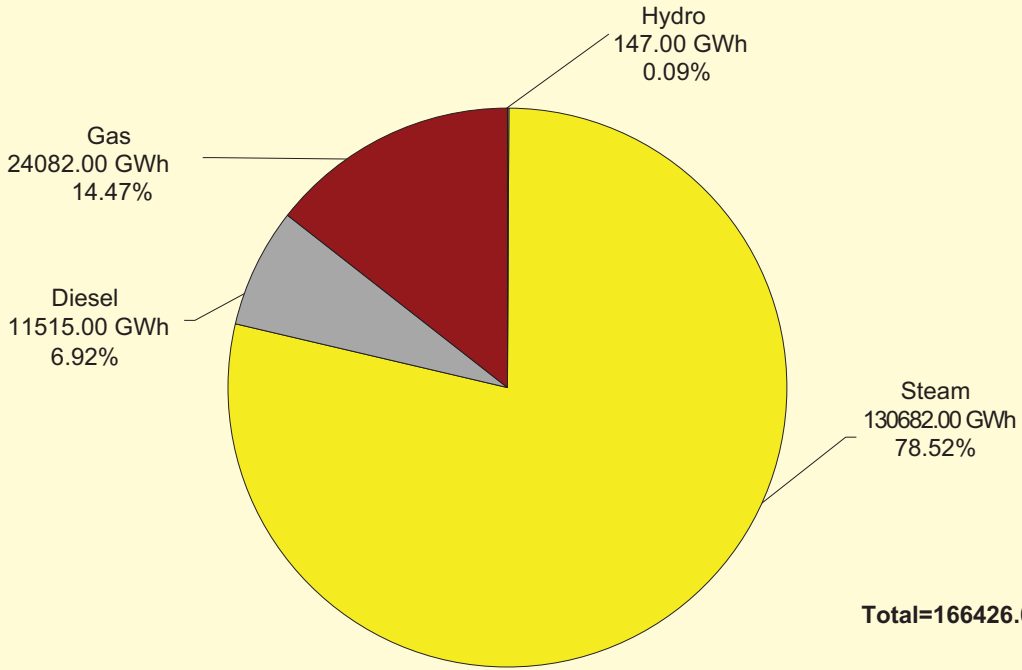
Sl.No. 1	During financial year ending with 2	Hydro 3	Steam 4	Diesel @ 5	Gas 6	Sub - Total (4+5+6) 7	Railways 8	Total (3+7+8) 9
1	1947	**	**	**	**	856.91	*	856.91
2	1950	**	**	**	**	1467.81	0.00	1467.81
3	1956(End of 1st Plan)	**	**	**	**	2184.82	0.00	2184.82
4	1961End of 2nd Plan)	**	**	**	**	3186.10	0.00	3186.10
5	1966(End of 3rd Plan)	**	**	**	**	3733.19	0.00	3733.19
6	1969(End of 3 Annual Plans)	**	**	**	**	4136.06	0.00	4136.06
7	1974(End of 4th Plan)	**	**	**	**	6067.47	0.00	6067.47
8	1979(End of 5th Plan)	13.22	7211.30	299.13	48.97	7572.62	34.47	7607.09
9	1980(End of 2 Annual Plans)	15.06	7225.60	825.71	90.67	8157.04	35.67	8192.71
10	1985(End of 6th Plan)	18.29	9966.55	2001.18	317.03	12303.05	42.80	12345.85
11	1990(End of 7th Plan)	15.83	19110.46	2757.27	1313.29	23196.85	29.07	23225.92
12	1992(End of 2 Annual Plans)	17.57	23409.35	3247.81	1905.24	28579.97	22.52	28602.49
13	1997(End of 8th Plan)	28.84	29127.94	6619.01	5039.22	40815.01	25.07	40840.08
14	2002(End of 9th Plan)	116.59	41853.85	10875.19	8835.19	61680.82	0.00	61680.82
15	2007 (End of10th Plan)	217.81	56184.04	10190.74	15207.17	81799.76	0.00	81799.76
16	2012 (End of 11th Plan)	131.28	104862.65	7422.48	21971.57	134256.70	0.00	134387.98
17	2013 (End of Ind year of 12th Plan (31.03.13)	118.18	113166.95	9955.64	20768.88	143891.47	0.00	144009.65
18	2014 (End of IInd year of 12th Plan (31.03.14)*	129.00	123094.00	10829.00	22591.00	156514.00	0.00	156643.00
19	2015 (End of IIIrd year of 12th Plan (31.03.15)@	147.00	130682.00	11515.00	24082.00	166279.00	0.00	166426.00

@ Estimated * Provisional $ Include Wind Power capacity ** Breakup not Available

Pie Chart : 33

ALL INDIA ELECTRICAL ENERGY GENERATED BY CAPTIVE POWER PLANTS IN INDUSTRIES HAVING DEMAND OF 1 MW AND ABOVE MODE WISE (31.03.15)@

END OF IIIrd YEAR OF 12th PLAN



Total=166426.00 GWh

@ Estimated

Pie Chart : 33A

ALL INDIA ELECTRICAL ENERGY GENERATED BY CAPTIVE POWER PLANTS N INDUSTRIES HAVING DEMAND OF 1 MW AND ABOVE MODE WISE END OF IInd YEAR OF 12th PLAN (31.03.14) *

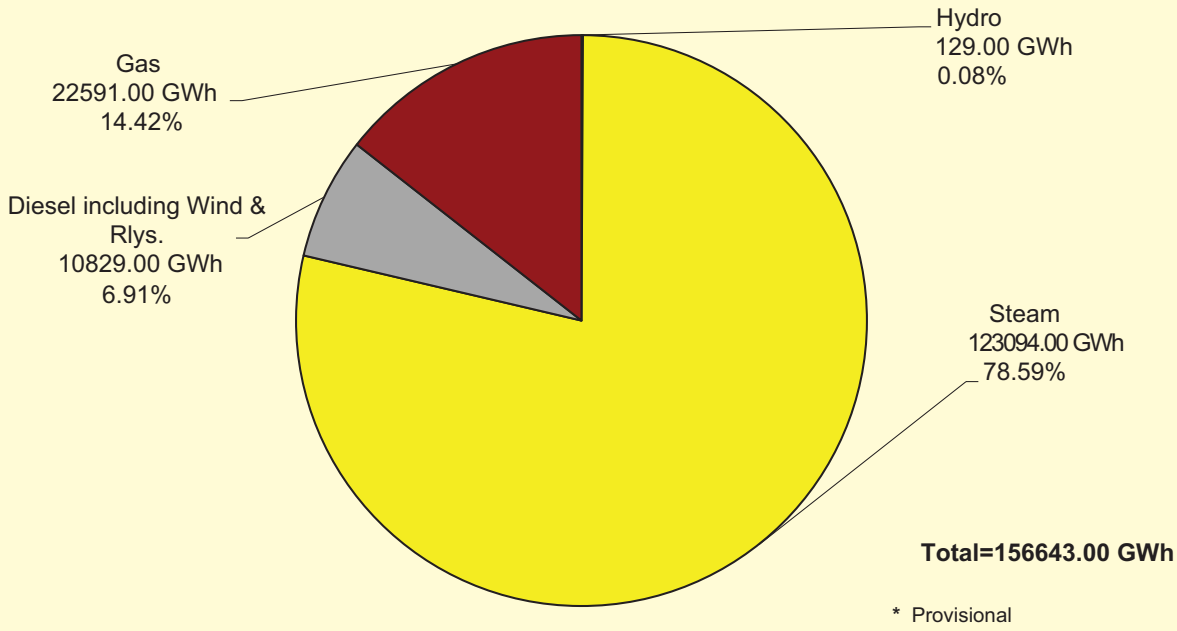


Chart : 34

PLANWISE GROWTH OF ENERGY GENERATED BY CAPTIVE POWER PLANTS IN INDUSTRIES HAVING DEMAND OF 1MW & ABOVE

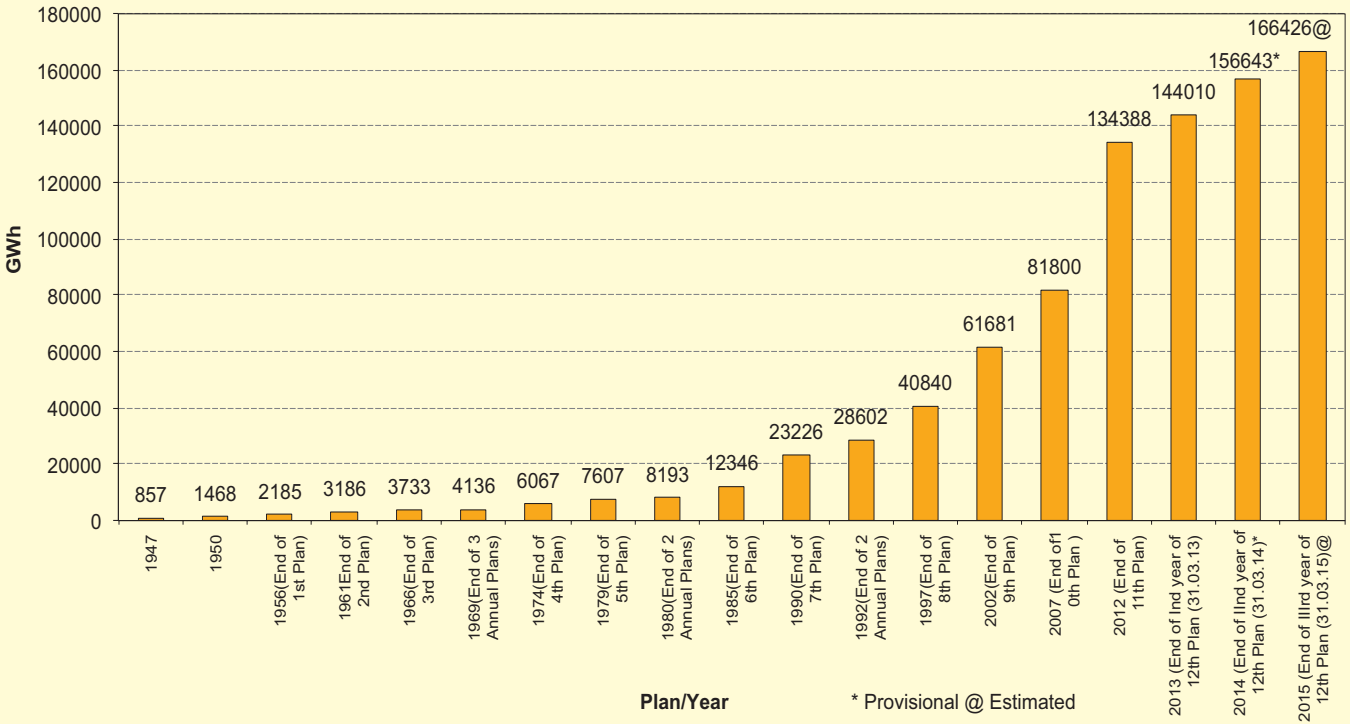


Chart : 35

CAPACITY ADDITION PROGRAMME
12TH PLAN

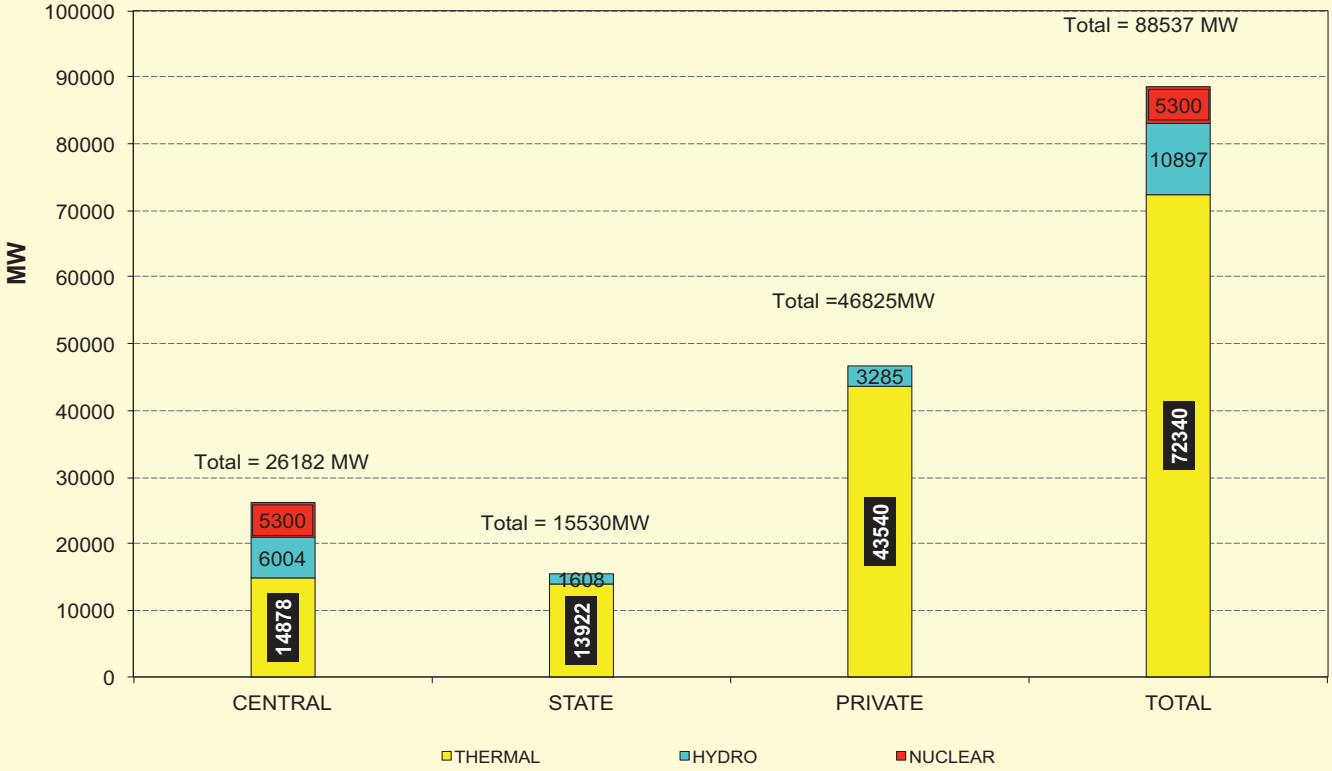
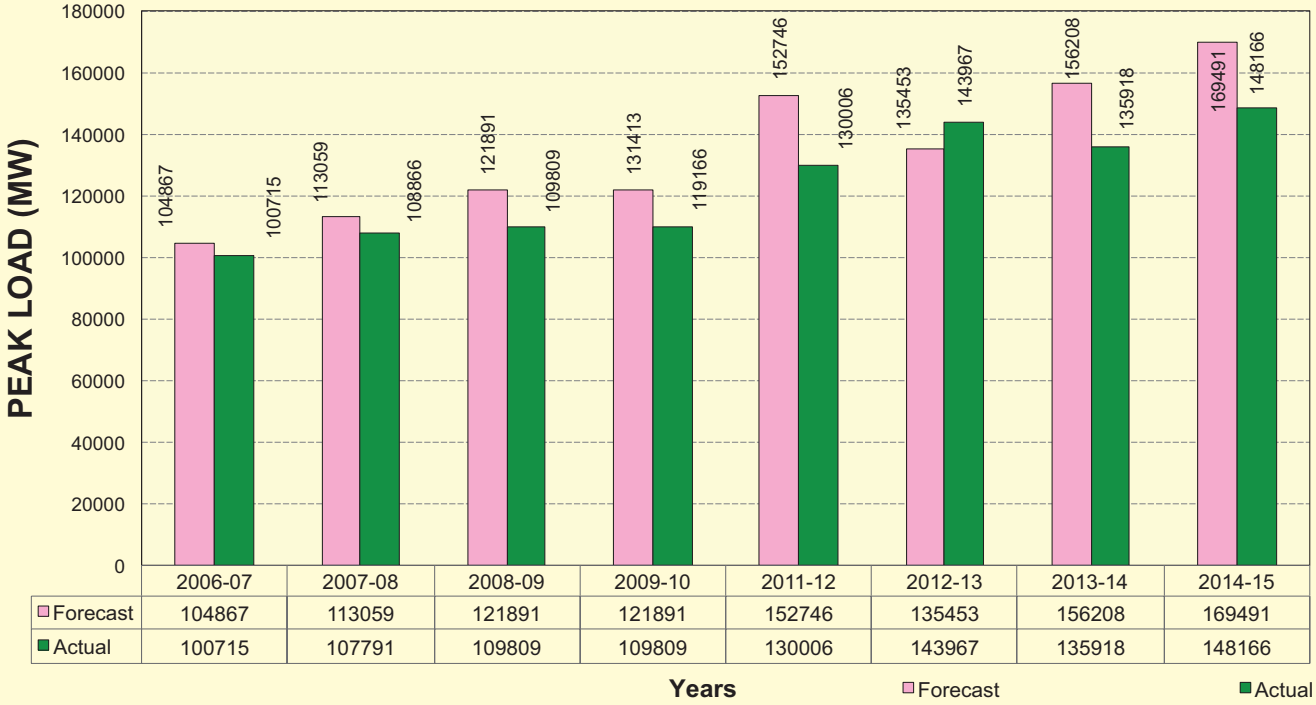


Chart : 36

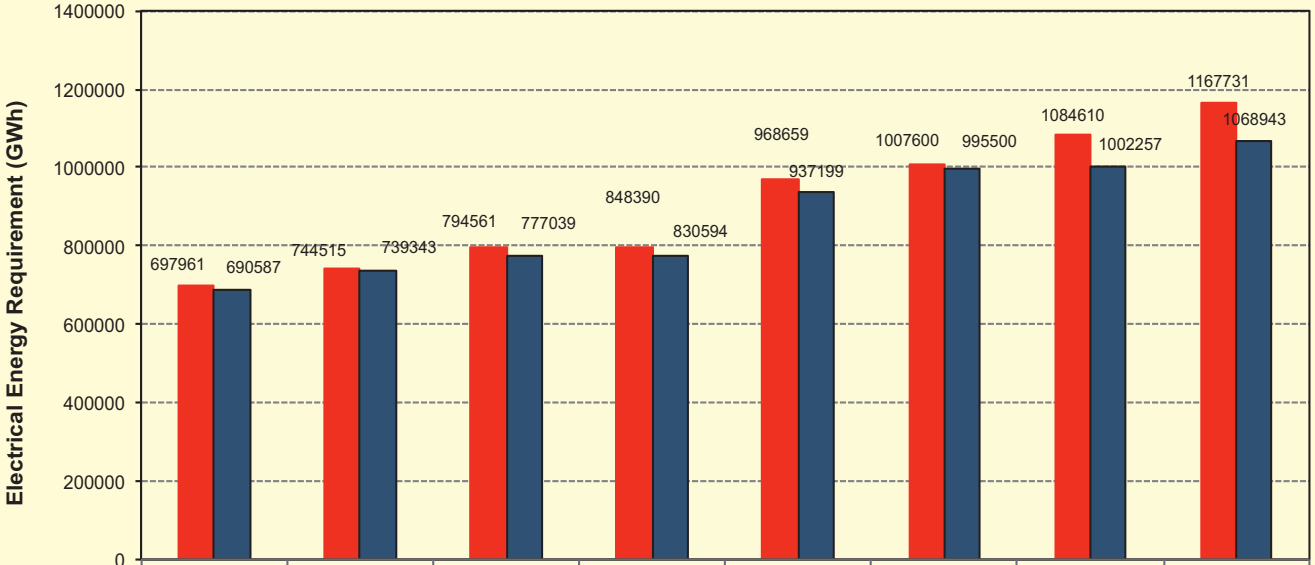
FORECAST OF ALL INDIA PEAK ELECTRICITY DEMAND
UTILITIES
AS PER 18TH ELECTRIC POWER SURVEY
IN MW



	2006-07	2007-08	2008-09	2009-10	2011-12	2012-13	2013-14	2014-15
Forecast	104867	113059	121891	121891	152746	135453	156208	169491
Actual	100715	107791	109809	109809	130006	143967	135918	148166

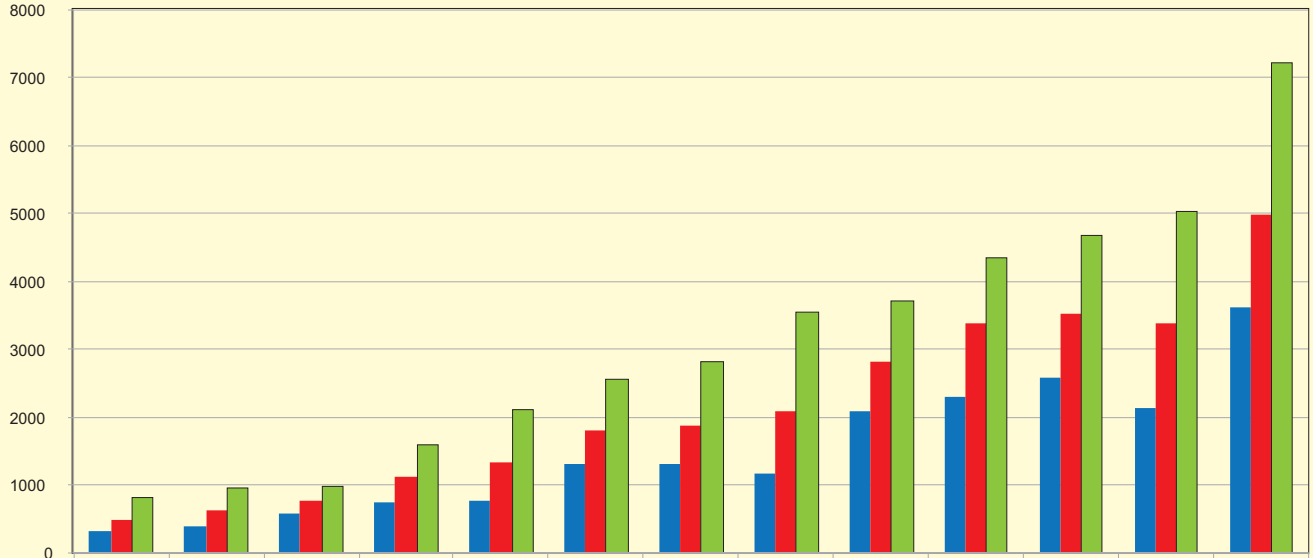
Chart : 37

FORECAST OF ALL INDIA ELECTRICAL ENERGY REQUIREMENT
UTILITIES
AS PER 18TH ELECTRIC POWER SURVEY
IN GWh



	2006-07	2007-08	2008-09	2009-10	2011-12	2012-13	2013-14	2014-15
Forecast	697961	744515	794561	794561	968659	1007600	1084610	1167731
Actual	690587	737052	774324	774324	937199	995500	1002257	1068943

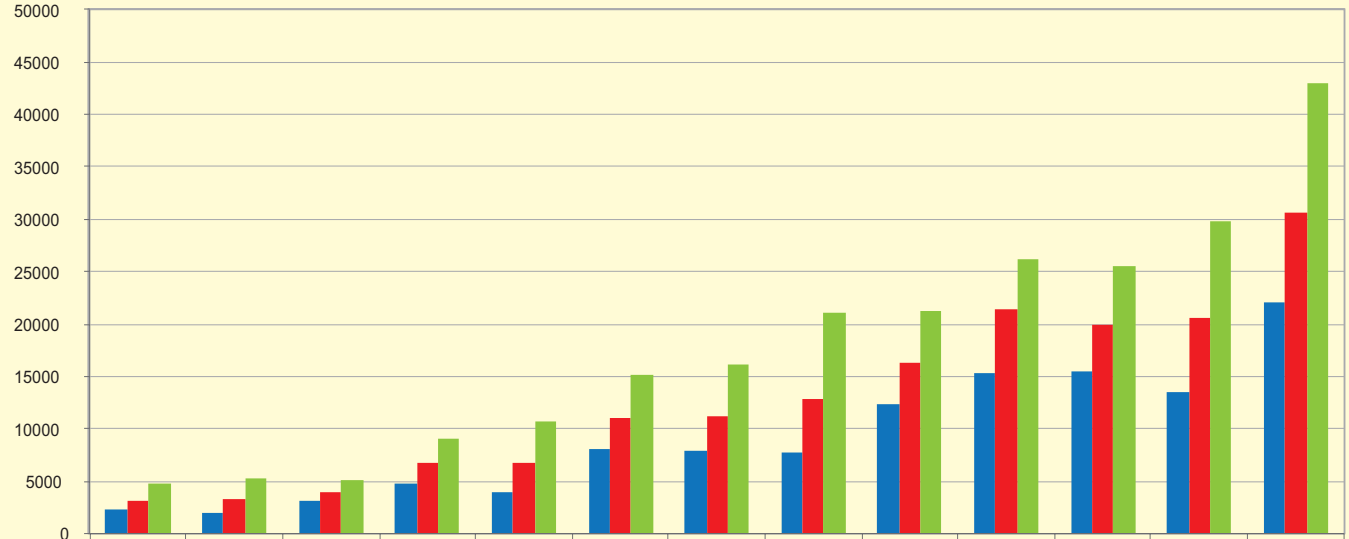
18TH ELECTRIC POWER SURVEY OF INDIA (VOLUME - II)
ANNUAL ELECTRIC PEAK LOAD (IN MW) OF MEGA CITIES AT POWER STATION BUS BAR (IN MW)
(AT THE TERMINAL YEAR OF 11TH,12TH & 13TH PLANS)



	Nagpur	Indore	Kanpur	Lucknow	Jaipur	Surat	Ahemeda bad	Pune	Bangaluru	Chennai	Kolkata	Hyderabad	Greater Mumbai
2011-12	315	391	580	750	771	1309	1320	1173	2090	2291	2577	2134	3605
2016-17	481	621	765	1119	1329	1802	1869	2091	2805	3370	3512	3375	4985
2021-22	812	950	976	1594	2103	2556	2827	3544	3717	4334	4674	5039	7225

Chart : 37B

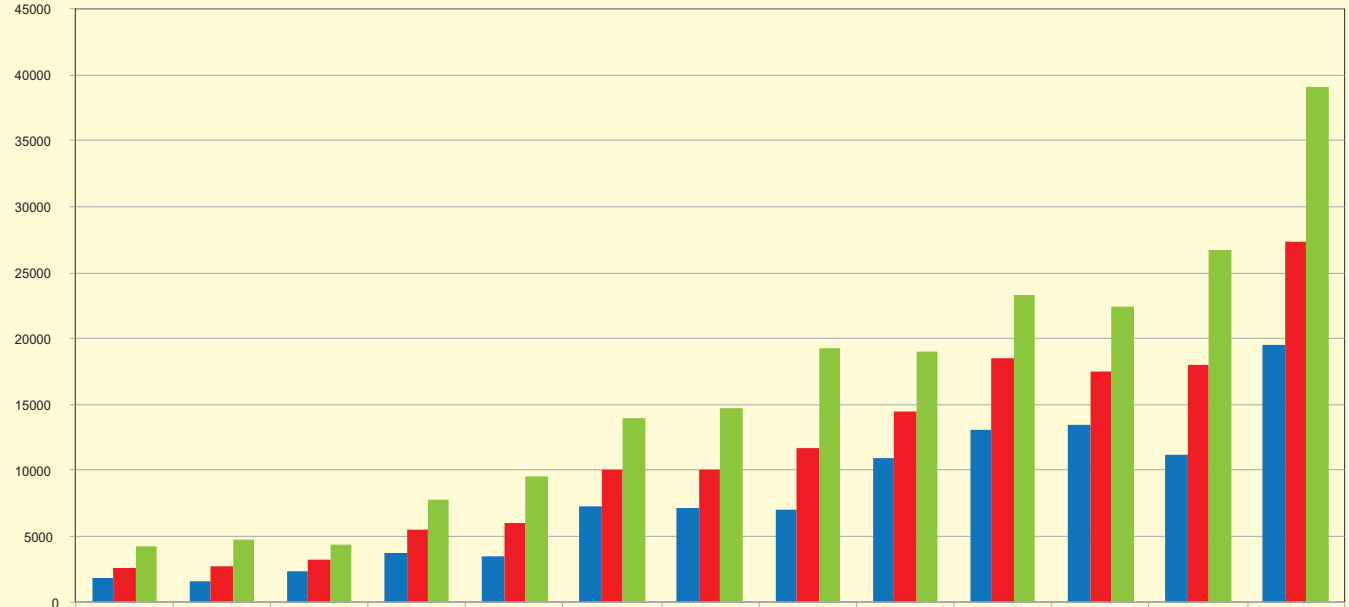
18TH ELECTRIC POWER SURVEY OF INDIA (VOLUME - II)
ELECTRICAL ENERGY REQUIREMENT (IN MU) OF MEGA CITIES
(AT THE TERMINAL YEAR OF 11TH,12TH & 13TH PLANS)



	Nagpur	Indore	Kanpur	Lucknow	Jaipur	Surat	Ahemeda bad	Pune	Bangaluru	Chennai	Kolkata	Hyderabad	Greater Mumbai
2011-12	2311	2007	3046	4840	3905	8029	7862	7760	12300	15273	15528	13528	22107
2016-17	3193	3325	4023	6796	6743	11053	11133	12819	16260	21434	20006	20652	30568
2021-22	4820	5292	5131	9074	10683	15225	16097	21111	21219	26236	25588	29730	43039

Chart : 37C

18TH ELECTRIC POWER SURVEY OF INDIA (VOLUME - II)
ELECTRICAL ENERGY CONSUMPTION (IN MU) OF MEGA CITIES
(AT THE TERMINAL YEAR OF 11TH,12TH & 13TH PLANS)



	Nagpur	Indore	Kanpur	Lucknow	Jaipur	Surat	Ahemedabad	Pune	Bangaluru	Chennai	Kolkata	Hyderabad	Greater Mumbai
2011-12	1829	1528	2315	3679	3484	7325	7117	7000	10917	13034	13483	11127	19472
2016-17	2655	2780	3259	5504	6023	10099	10102	11625	14465	18537	17470	17967	27346
2021-22	4200	4691	4361	7803	9553	13940	14665	19241	18972	23346	22471	26757	39023

Table No.8
ALL INDIA POWER SUPPLY POSITION ENERGY-WISE & PEAK-WISE (UTILITIES)
1984-85 to 2014-15

Year	Energy				Peak Demand			
	Requirement (GWh)	Availability (GWh)	Deficit (GWh)	Deficit (%)	Demand (MW)	Availability (MW)	Deficit (MW)	Deficit (%)
1984-85	155432	145013	10419	6.70	25810	22800	3010	11.66
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

Contd.

Table No.8 (contd.)

ALL INDIA POWER SUPPLY POSITION ENERGY-WISE & PEAK-WISE (UTILITIES)

1984-85 to 2014-15

Year	Energy				Peak Demand			
	Requirement (GWh)	Availability (GWh)	Deficit (GWh)	Deficit (%)	Demand (MW)	Availability (MW)	Deficit (MW)	Deficit (%)
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
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	998114	911209	86905	8.71	135453	123294	12159	8.98
2013-14	1002257	959829	42428	4.23	135918	129815	6103	4.49
2014-15	1068943	1030800	38143	3.60	148166	141160	7006	4.70

Table 8A
REGIONWISE SUMMARY OF EER & APEL BY END OF 12TH & 13TH PLAN
AS PER 18TH EPS

Region/Year	EER (MU)		APEL(MW)	
	2016-17	2021-22	2016-17	2021-22
Northern	422498	594000	60934	86461
Western	394188	539310	62015	86054
Southern	357826	510786	57221	82199
Eastern	163790	236952	24303	35928
North East	16154	23244	2966	4056
A & N Island	366	505	67	89
Lakshdweep	52	65	11	18
All India Total	**1354874**	**1904862**	**199540**	**283470**

NOTE : EER : - Electrical Energy Reuirement
APEL : - Annual Peak Electric Load
EPS :- Electric Power Survey

Table 8B
CATEGORYWISE FORECAST OF ELECTRICAL ENERGY CONSUMPTION BY END OF 12TH & 13TH PLAN
AS PER 18TH EPS

Category	Year 2016-17 End of 12th Plan	Year 2021-22 End of 13th Plan
Domestic	289924	426148
Commercial	116535	185722
Irrigation	210611	287926
Industries	393306	585819
Others	88619	126193
Total	**1098995**	**1611808**

Table 8C
FORECAST OF ELECTRICAL ENERGY CONSUMPTION (IN MU) OF NCR AT END OF 12TH AND 13TH PLAN

Consumption Category	2016-17	2021-22
Domestic	26602	39278
Commercial & Misc.	13072	18588
Public lighting	700	937
Public Water Works	1909	2687
Irrigation	7939	9781
Industries LT	6327	9101
Industries HT	19025	28189
Railway traction	758	993
Bulk Supply	2589	3830
Total (Energy Consumption)	**78921**	**113384**

Table 8D

FORECAST OF ELECTRICAL ENERGY REQUIREMENT (IN MU) OF NCR AT END OF 12TH AND 13TH PLAN

NCR Sub Region	2016-17	2021-22
Delhi	37529	52930
Haryana	29607	37864
Rajasthan	7531	10868
Uttar Pradesh	20150	30192
NCR - Total	**94817**	**131854**

Chart : 38

ALL INDIA PEAK AND ENERGY DEFICIT
UTILITIES
1984 -85 to 2014-15

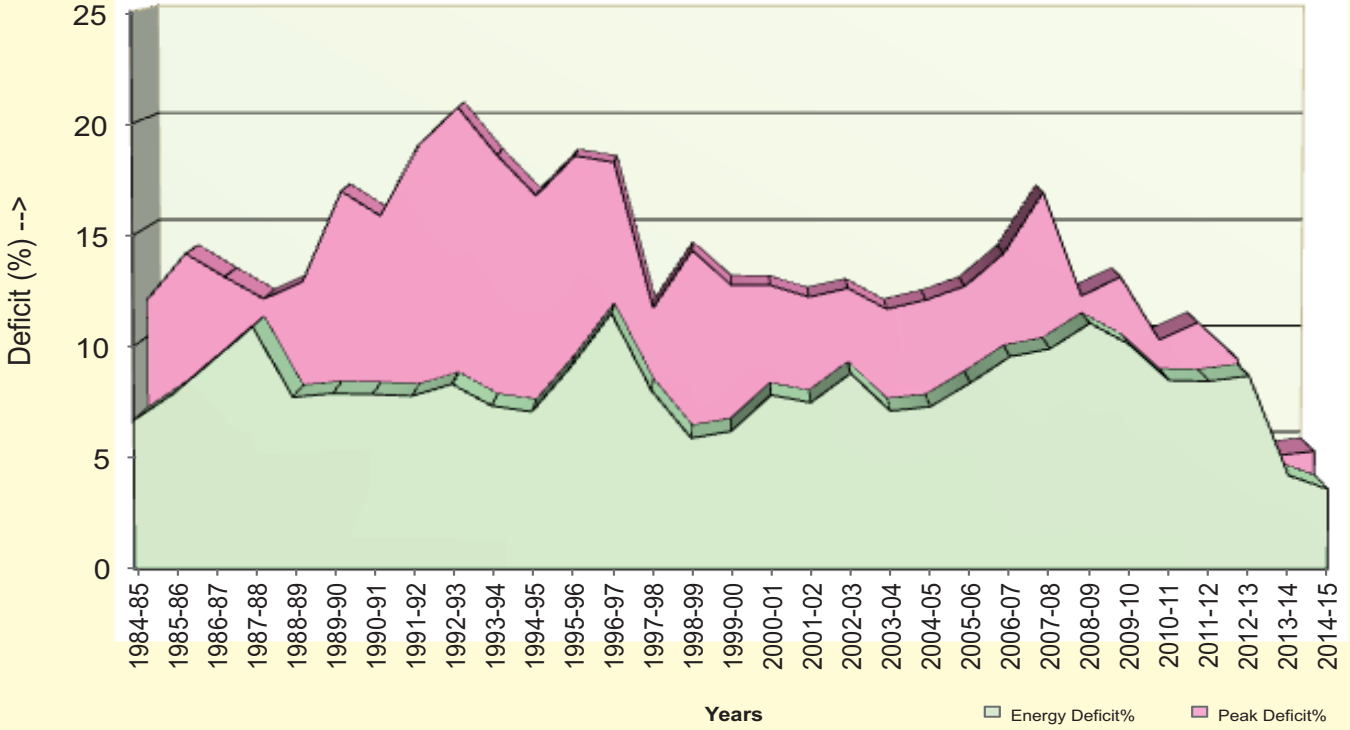
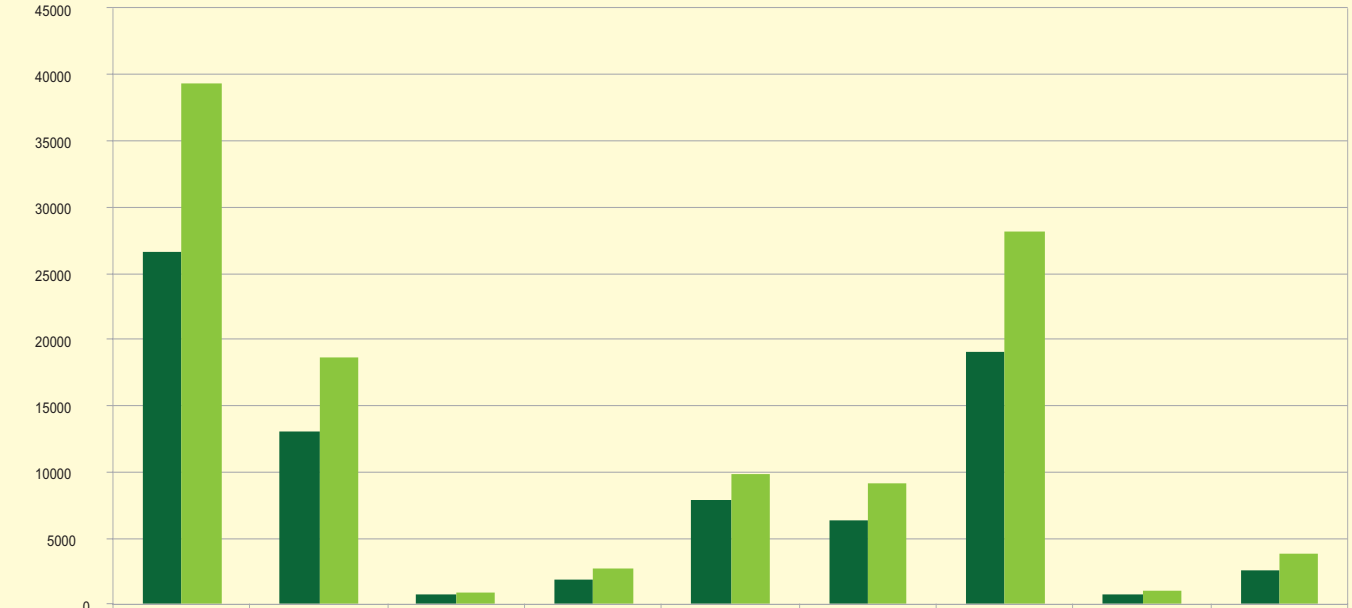


Chart :39

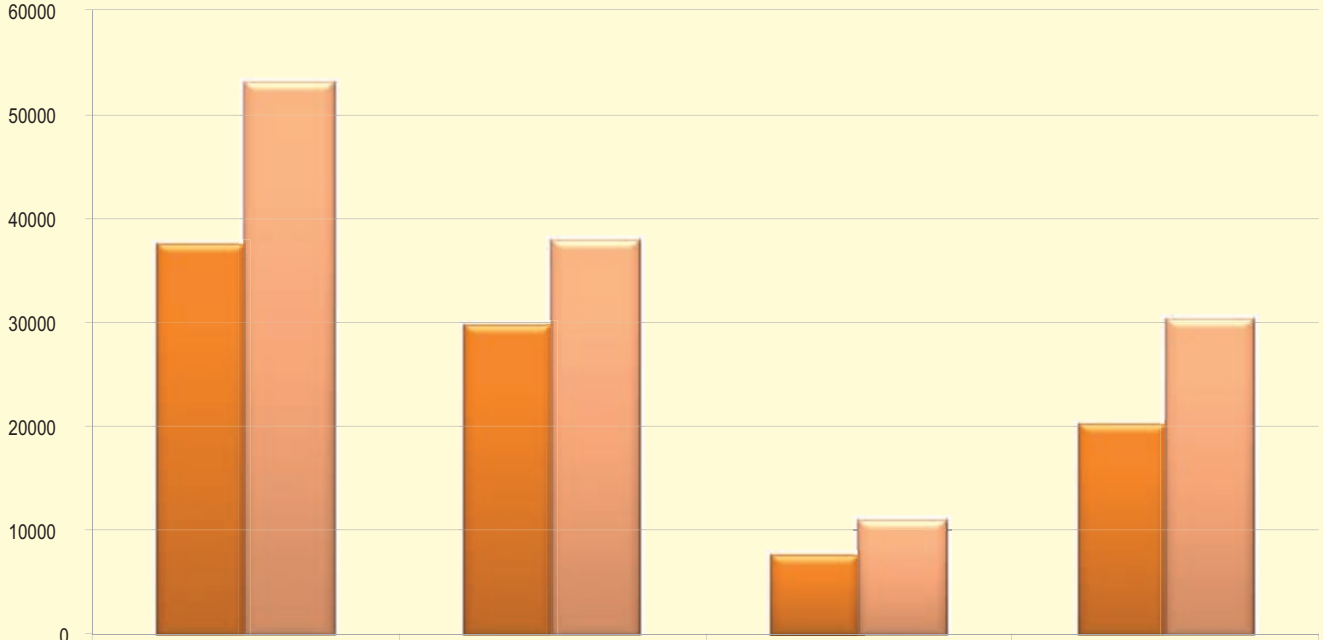
FORECAST OF ELECTRICAL ENERGY CONSUMPTION (IN MU) OF NCR AT END OF 12TH AND 13TH PLAN



	Domestic	Commercial & Misc.	Public lighting	Public Water Works	Irrigation	Industries LT	Industries HT	Railway traction	Bulk Supply
2016-17	26602	13072	700	1909	7939	6327	19025	758	2589
2021-22	39278	18588	937	2687	9781	9101	28189	993	3830

Chart : 40

FORECAST OF ELECTRICAL ENERGY REQUIREMENT (IN MU) OF NCR AT END OF 12TH AND 13TH PLAN



	Delhi	Haryana	Rajasthan	Uttar Pradesh
2016-17	37529	29607	7531	20150
2021-22	52930	37864	10868	30192

MAP OF INDIA

SHOWING

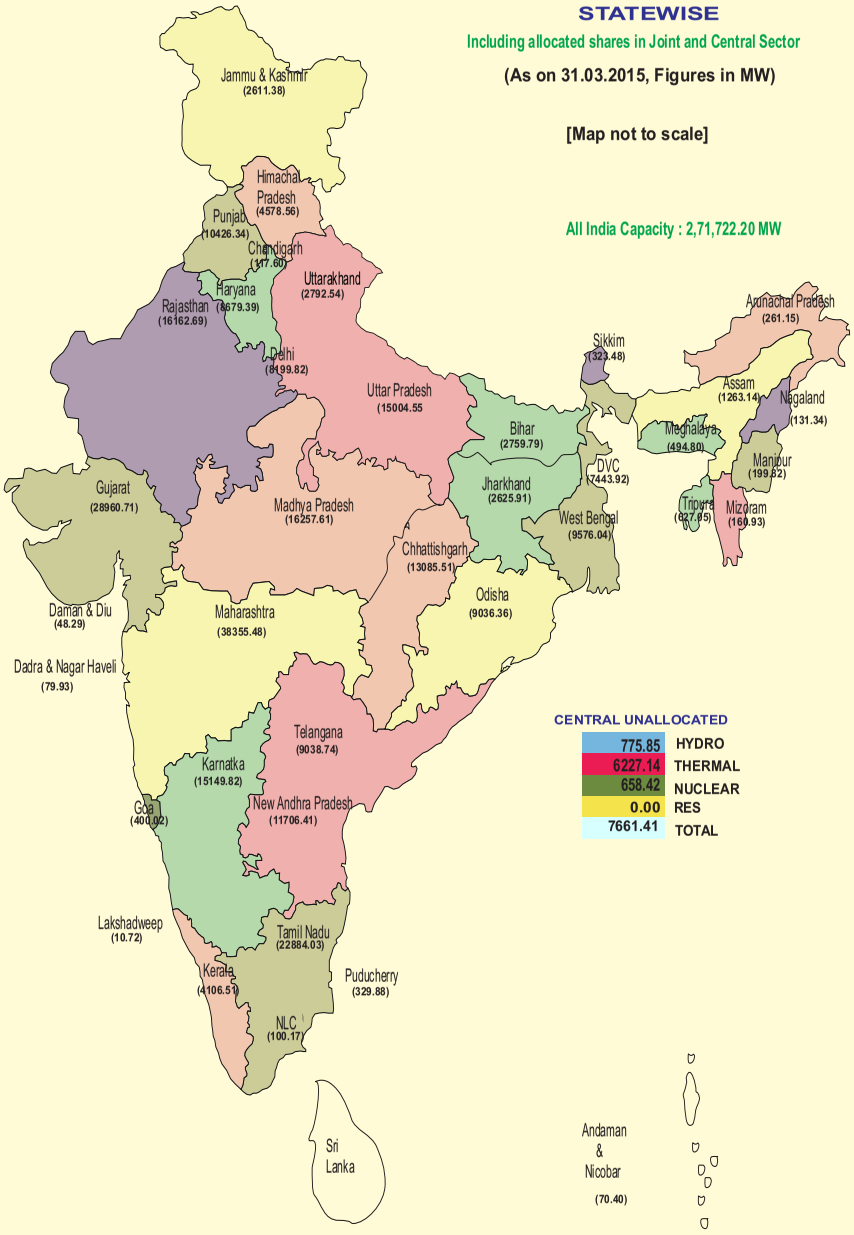
INSTALLED GENERATING CAPACITY STATEWISE

Including allocated shares in Joint and Central Sector

(As on 31.03.2015, Figures in MW)

[Map not to scale]

All India Capacity : 2,71,722.20 MW



CENTRAL UNALLOCATED

775.85	HYDRO
6227.14	THERMAL
658.42	NUCLEAR
0.00	RES
7661.41	TOTAL

MAP OF INDIA

SHOWING

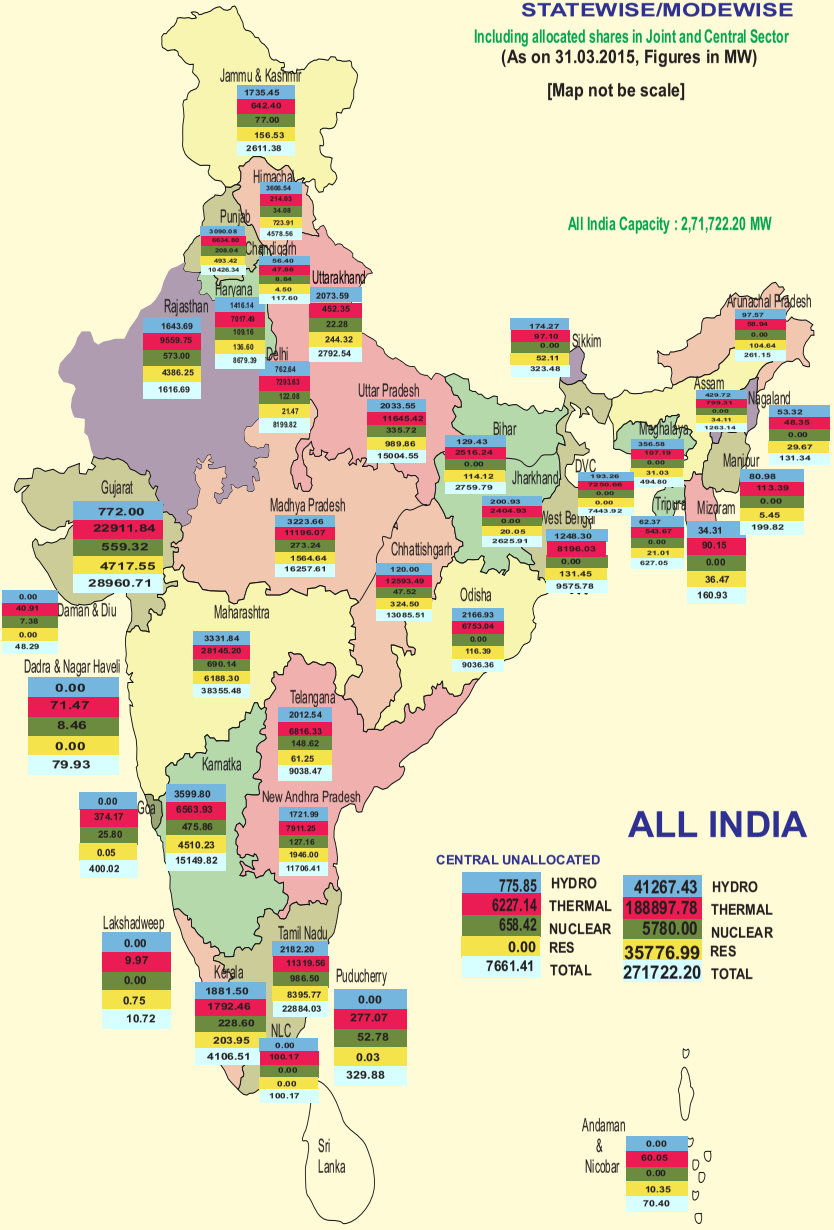
INSTALLED GENERATING CAPACITY STATEWISE/MODEWISE

Including allocated shares in Joint and Central Sector

(As on 31.03.2015, Figures in MW)

[Map not be scale]

All India Capacity : 2,71,722.20 MW



ALL INDIA

CENTRAL UNALLOCATED

775.85	HYDRO	41267.43	HYDRO
6227.14	THERMAL	188897.78	THERMAL
658.42	NUCLEAR	5780.00	NUCLEAR
0.00	RES	35776.99	RES
7661.41	TOTAL	271722.20	TOTAL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