

REPORT
ON
17TH ELECTRIC POWER SURVEY OF INDIA

The report on 17th Electric Power Survey of India has been published by Central Electricity Authority. The Report was released by Hon'ble Minister of Power Shri Shushilkumar Shinde on 24th May, 2007.

The report of the 17th Electric Power Survey of India is a publication giving forecast of electricity demand which serves as an important input for power sector planning to optimally utilize the scarce resources. The Electric Power Survey Committee conducts periodic surveys of electricity demand and holds discussions with all the stakeholders to bring out demand forecast for use in planning exercises of all key sectors of economy i.e. coal, rail, manufacturing, infrastructure, research, industries, etc. The year-wise detail of publication of Electric Survey reports is shown in the table given below:

Electric Power Survey Number	Year of Publication
1 st	1963
2 nd	1964
3 rd	1965
4 th	1966
5 th	1968
6 th	1970
7 th	1972
8 th	1973
9 th	1974
10 th	1977
11 th	1982
12 th	1985
13 th	1987
14 th	1991
15 th	1995
16 th	2000
17 th	2007

India has been facing electricity shortages in spite of appreciable growth in electricity generation. The demand for electrical energy has been growing at the faster rate and shall increase at higher growth rate to match with the projected growth of Indian economy. The forecast of electricity demand is done on short and long term basis using internationally well-known methodologies of time series analysis and end use method duly validated by the results obtained from economic and electricity growth indicators. The short term electricity demand has been made after compensating electricity shortages in the assumed base year. The T&D loss reduction targets were assumed based on consultation with the State Electricity Regulatory Commissions who furnished the plans of T&D loss reduction for 11th Plan. Wherever such programme was not available for full period of 11th Plan, extrapolated data has been considered. The inter-regional diversity factor was also applied for peak demand for the first time in view of the programme for formation of a strong National Grid during the 11th Plan.

The Rural-Urban division of the forecast of electricity consumption has been done for the first time to account for accelerated rural electrification and development in line with National Electricity Policy. With all these features the utility of the Report would improve over previous editions of Electric Power Survey of India. The growth rates of forecast of electrical energy consumption and energy requirement prepared by the 17th Electric Power Survey Committee worked out to about 10% & 8% respectively for the period till 11th Plan end against the actual growth rate of less than 5% during 9th & initial years of 10th Plan. The corresponding peak demand growth works out to 9% for period upto 11th Plan end against actual achievement of 5.3% .

The report of the 17th EPS unlike earlier EPS Reports has considered National Electricity Policy target for providing power to all by 2012. The various growth rates have been worked out giving higher weightage to the latest power consumption trend to capture the technological changes and energy conservation efforts in all categories of electricity consumption. T&D losses have been a concern for the Indian electricity sector since these have been very high when compared with other developed countries. The present T&D losses including unaccounted energy are about 30% and there is need to reduce these losses through efficient management and the best operation & maintenance practices of the transmission and distribution systems so that more energy is made available to ultimate consumers at reduced cost. As per the T&D loss reduction programme proposed by the Utilities, these are estimated to be brought down to about 22 % by the end of 2011-12 gradually reducing to 16% by 2021-22.

The 17th EPS forecast would build development needs and targets for all State Governments, utilities, developers, manufacturers and other stake-holders for planning their growth well in advance.

The energy consumption by various stake-holders contributes towards the GDP growth and, therefore, the energy consumption in various sectors like domestic, commercial, agriculture, industry, railways, public lighting, public water works etc. has been considered State-wise to work out the demand for each sector of electricity consumption.

The report has projected electrical energy demand of 969 Tera Watt Hours for 2011-12 and peak electric demand of 153 Giga Watts entailing capacity addition of 78,000 MW by 2011-12. The electrical energy demand for 2021-22 has been estimated as 1915 Tera Watt Hours and peak electric demand of 298 Giga Watts. The demand projections have been made assuming that the utilities would be able to make rigorous efforts in containing T&D losses and adopting Demand Side Management Techniques to achieve high load factors.

The demand projections on all India basis for the year 2011-12, 2016-17 and 2021-22 are given below :

Year	Electrical Energy Requirement at Power Station Bus Bars (GWh)	Annual Peak Electric Load at Power Station Bus Bars (MW)
2011-12	968659	152746
2016-17	1392066	218209
2021-22	1914508	298253

The region-wise projections in respect of growth in demand for electricity by each segment are given in the tables provided below :

All India							
Electrical Energy Consumption in Irrigation							
Utilities only							
	2003-04	2007 - 08	2008 - 09	2009 - 10	2010 - 11	2011 - 12	CAGR (2003-04 to 2011-12)
Northern Region	21529	32658	36005	39591	43425	47519	10.4%
Western Region	31177	35161	37335	39641	42078	44657	4.6%
Southern Region	32209	41837	45082	48650	52544	56761	7.3%
Eastern Region	2014	2807	3055	3276	3506	3751	8.1%
North-Eastern Region	130	164	181	200	221	243	8.1%
Islands	0	0	0	0	0	0	
All India	87059	112626	121658	131357	141775	152931	7.3%
All India							
Electrical Energy Consumption in Industries							
Utilities only							
	2003-04	2007 - 08	2008 - 09	2009 - 10	2010 - 11	2011 - 12	CAGR (2003-04 to 2011-12)
Northern Region	28200	41935	46272	51005	56458	62598	10.5%
Western Region	47073	66040	72259	79076	86551	94765	9.1%
Southern Region	33344	44909	48954	53541	58773	64738	8.6%
Eastern Region	17976	26277	28578	30955	33458	36250	9.2%
North-Eastern Region	1213	1743	1891	2057	2217	2388	8.8%
Islands	5	7	7	8	9	10	8.7%
All India	127811	180912	197961	216642	237465	260748	9.3%
All India							
Electrical Energy Consumption in Others							
Utilities only							
	2003-04	2007 - 08	2008 - 09	2009 - 10	2010 - 11	2011 - 12	CAGR (2003-04 to 2011-12)
Northern Region	8702	13676	14856	16121	17454	18927	10.2%
Western Region	8065	10590	11549	12664	13905	15285	8.3%
Southern Region	7089	9816	10838	11899	13118	14497	9.4%
Eastern Region	3880	4786	5076	5406	5794	6229	6.1%
North-Eastern Region	663	904	958	1016	1079	1145	7.1%
Islands	22	32	35	38	42	46	9.6%
All India	28421	39802	43312	47146	51392	56130	8.9%