CHAPTER 11

ENERGY

1. Energy is a critical input for economic development and one of the vital needs of every citizen. Globally, the per capita consumption of energy is often used as a barometer to measure the level of economic development. All forms of economic activity, be it agriculture, industry or services, is reliant on the uninterrupted supply of power. The per capita consumption of electricity in Delhi is around 650 kwh, which is highest in the country after Gujrat (963 kwh) and Punjab (837 kwh). State wise comparison is given in table 11.1. All the rural and urban villages in Delhi are electrified. According to the 2001 census, about 93% of the households in Delhi had electricity connections and the remaining 07% were in JJ clusters, unauthorised colonies and rural areas.

2. In February 1997, the Delhi Vidyut Board (DVB) replaced the Delhi Electric Supply Undertaking (DESU) which was an MCD undertaking. Till 30th June, 2002, DVB was entrusted with the responsibility of Generation, Transmission and Distribution of electricity in the areas within the municipal limits. Later, w.e.f. 1st July, 2002 under the Delhi Electricity Reforms Act, DVB was unbundled into Six companies comprising of a Generation Company, a Transmission Company, three distribution companies and one holding company. The Generation and Transmission functions are performed by the two companies i.e. Genco and Transco as wholly State Government owned companies, the distribution functions have been entrusted to two private companies viz BSES and TATA Power Ltd. BSES has taken up two distribution companies namely; BSES Rajdhani Power Ltd and BSES Yamuna Power Ltd., while the third company is with Tata Power which has been named as New Delhi Power Ltd. Transco company also makes available bulk supply of power to NDMC and MES for distribution in their respective areas.

INVESTMENT IN THE ENERGY SECTOR

3. The share of energy in total plan expenditure since 1980 the Sixth Five-Year Plan is given below:

Statement 11.1

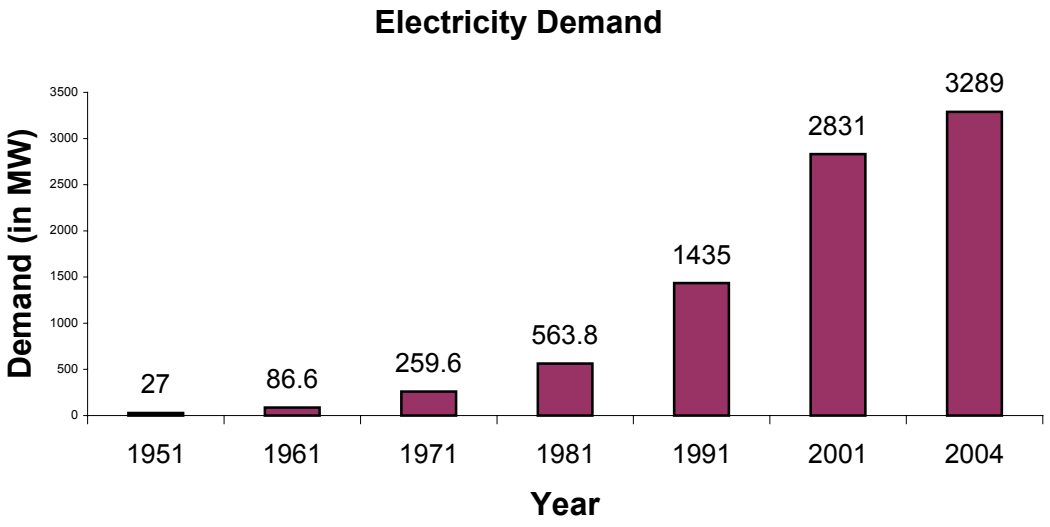
OUTLAY & EXPENDITURE UNDER ENERGY SECTOR

(Rupees crore)

Five-Year Plan	Period	Total Plan Expenditure	Expenditure on Energy Sector	% of Total Plan Expenditure
Sixth	1980-85	1,042.07	169.80	16.29
Seventh	1985-90	2,631.47	838.86	31.88
Eighth	1990-95	6,208.32	1,555.92	25.06
Ninth	1997-2002	13465.09	3589.69	26.66
Tenth	2002-2007	23000.00 (outlay)	3457.50 (outlay)	15.03
Annual Plan	2002-2003	4404.84	1576.80	35.80
Annual Plan	2003 – 2004	4750.00 (RE)	1539.94	32.42

ENERGY DEMAND

4. Delhi's energy requirement is growing at about 7-8 % per annum. From a peak demand of only 27 MW in 1951, Delhi's power demand crossed 3289 MW on 4th January, 2004. Delhi Transco Ltd. (DTL) has met this demand through State Power Projects (750MW), BTPS (600 MW) and Central Sector Power Stations (1939MW). The requirement during ensuing peak summer i.e. July/August, 2004, is expected of the order of 3600-3700MW depending upon the severity of weather. Against which, DTL has tied up the availability of 3860 MW power. Thus, there would be enough cushion available to meet any contingency arising due to outage of any major generating stations/transmission lines. The overall power supply position in Delhi has improved significantly. The load shedding was reduced by 27.39% during 2003 (Jan. to Dec.) compared to previous year despite an increase in consumption.



Source : Power Department

POWER GENERATION

5. While demand has been growing rapidly, capacity addition has remained relatively stagnant. The net cost of generating power from Delhi's own plants is high due to low capacity utilisation and high fuel consumption by the plants. Delhi's own generation installed capacity is 994.5 MW but availability is only around 750 MW. Nearly 40% of Delhi's power needs are met by its own plants and BTPS and remaining 60% by import from NTPC and other sources (Table 11.2).

Statement 11.2

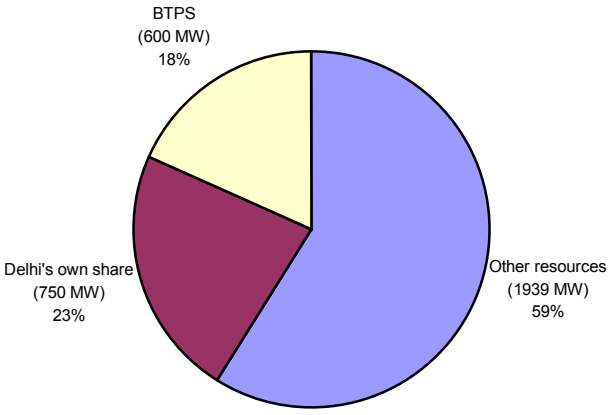
INSTALLED CAPACITY

As on 31.3.03

Thermal	382.5 MW
GAS	612.0 MW
Total	994.5 MW

Chart 11.2

Availability of Power in January 2004



Source : Power Department

PLANT LOAD FACTOR

6. Plant load factor for the last four years is indicated below:

Statement 11.3

PLANT LOAD FACTOR

Year	1999-2000	2000-01	2001-02	2002-03	2003-04
Overall PLF	44.53	49.27	45.10	43.60	47.25
I.P. Station	38.97	39.89	37.49	28.65	35.38
R.P.H.	79.44	66.85	59.71	71.68	65.25
Gas Turbine Plant	31.90	49.07	47.24	49.14	49.03
P.P.S.	-	-	-	65.37	83.01

Delhi Transco Ltd.

7. The comparative picture of Plant Load Factor is indicated below:

YEAR	PLF (%)	
	DELHI	**ALL INDIA**
End of 8th plan (1996 – 97)	41.70	64.40
End of 9th plan (2001- 02)	43.60	72.10
End of 2002- 03	43.60	72.10

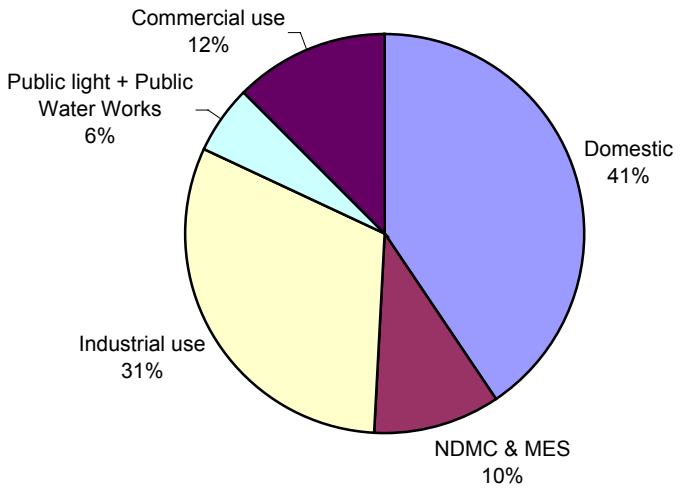
Source : Planning Commission, GOI

TRANSMISSION AND DISTRIBUTION (T&D) SYSTEM

8. The present overall transformation capacity and line length are inadequate for the peak load. The major achievement of the transmission system during the year 2003- 04, includes completion of 400 KV line between Bamnauli and Ballabgarh, the work on which was held up for several years due to various rights of way problems and stay granted by the local courts in Haryana territory etc. Among the other works under construction includes the 400/ 220 KV Grid Station at Maharani Bagh and associated transmission lines.

9. Details regarding number of consumers and pattern of consumption are at Table 11.3 and 11.4. The number of electricity consumers has increased from 10.11 lakh in 1980-81 to 28.58 lakh in 2002-03. The share of domestic consumption has increased from about 29% in 1980-81 to 41% in 2001-02.

PATTERN OF ELECTRICITY CONSUMPTION IN DLHI IN 2001-02 (MILLION UNITS)



Source : Statistical Hand Book DES 2002.

POWER SECTOR REFORMS

10. The first major step taken by the Government of NCT of Delhi was to bring out a strategy paper on power sector reforms in February, 1999. The important suggestions outlined for structural reforms were :

(i) A Delhi Power Generation and Transmission Company should be registered under the Companies Act to manage the existing and planned generating stations as well the EHV transmission network upto 220 KV including sub-station. This company should follow the rules, regulations and the work culture of the NTPC and PGCIL.

(ii) New generation should be encouraged to come up both in the private sector, as also through joint ventures. The BOT/BOOT route could also be followed.

(iii) New Power distribution companies should be set up to look after the transmission and distribution network from 66 KV to 400 volts, consumer power supply, metering and revenue collection in the existing six circles of the DVB. These companies should have the flexibility to be organized as joint ventures.

(iv) An independent, statutory Delhi Electricity Regulatory Commission should be established. This Commission should undertake licensing of new capacity, prescribe performance standards and fix tariffs after appropriate consultations.

(v) All legitimate interests of the employees of the DVB must be protected as part of restructuring.

11. Based on strategy paper the Government took the following steps towards power sector reforms:-

(a). Delhi Electricity Regulatory Commission (DERC) was set up and made functional from 1999. It has come out with two tariff orders so far in 2001 and 2003.

(b). Delhi Electricity Reforms Act, 2000 was notified in March 2001. It provides for the constitution of an Electricity Regulatory Commission, unbundling of DVB into separate Generation, Transmission and Distribution Companies and increasing avenues for participation of Private Sector.

(c) Request for Qualification documents issued by Government and 32 companies including all the major Indian players in the Power Sector participated. Six companies short listed / pre-qualified for RPF stage.

(d). Six companies were registered in July 2001 splitting DVB into one generation, one transmission, three distribution and one holding company.

(e). Bids invited from private investors to buy equity of the distribution companies to turn them around.

(f). The Cabinet considered the bids unacceptable and a Core Committee was authorized to explore alternatives including negotiations.

(g). The Cabinet approved the report of Core Committee which had obtained acceptable bids after protected negotiations.

(h). The Share Holding Agreement was signed with successful bidders

(j). Transfer Scheme was operationalized and management of Discoms was handed over to private distribution companies on 30th June, 2002.

(j) The Power Sector of Delhi ushered in a new era on 1.7.2002 when DVB was unbundled into Six Companies viz. Holding Co., Generation Co., Transmission Co. and three Distribution Cos. The management of three Distribution Companies had been given to private investors while stipulating targets for efficiency improvement and reduction in AT&C losses. Two Distribution Companies had been given to M/s. BSES and one Distribution Company to M/s. TATA Power.

(k) The Distribution Reforms have been innovative and the post change developments have evoked lot of interest and appreciation, and have been widely commented by experts in the filed. For example, India-Tech Foundation has awarded an Excellence Award to the Govt. of Delhi for Power Sector Reforms. Besides that, IDFC in its infrastructure report for the year 2003 and also the Planning Commission have complemented the Power Sector Reforms carried out by Delhi Government. The President of India, in his address to Parliament on 17.2.2003 has stated that privatization of power distribution in Delhi has already led to improved supply.

(l) The original level of AT&C loss approved by DERC and targeted improvements for each company are indicated in Statement 11.5

Statement 11.5

In percentage (%)

Distribution Company	Opening levels of AT&C loss	AT&C loss Reduction Targets				
		2002-03	2003-04	2004-05	2005-06	2006-07
Central/East	57.2	0.75	1.75	4.00	5.65	5.10
North/North West	48.01	0.50	2.25	4.50	5.50	4.25
South/West	48.1	0.55	1.55	3.30	6.00	5.60

For all the three companies, the revised levels of loss reductions in the first five years were 17%. At these revised level of bids, the distribution sector would become self sustained at the end of 5 years. In the first year of operation, BSES Rajdhani Power Ltd. (BRPL) and NDPL have managed to reduce AT&C losses to the targeted levels.

(m) As per Cabinet Decision, Govt. of Delhi will make available to Transmission Company an amount of Rs.3450 crore during the period 2002 – 03 to 2005 – 06 as loan. Transmission Company use this loan to bridge the gap between its revenue requirement and its bulk supply price which it may receive from the distribution licenses. During 2002 – 04, an amount of Rs.2834 crore has been released to Transco and a provision of Rs.690 crore has been made for the year 2004 – 05.

A.P.D.R.P

12. Govt. of India had released an additional central assistance of Rs.105.51 crore to Delhi Govt. under APDRP Scheme on 28.3.2003. However, due to shortage of time and procedural requirement, these funds were released to BSES Yamuna Power Ltd. (Rs.32.43 crore), BSES Rajdhani Power Ltd. (Rs.37.26 crore) and NDPL (Rs.35.82 crore)in August, 2003. During 2003-04 Govt. of India has not released any amount under A.P.D.R.P. For the year 2004 – 05, Government of India has not kept any provision under APDRP Scheme for Delhi.

PERFORMANCE RATING

13. At the instance of the Ministry of Power GOI, ICRA/CRISL has carried out a performance rating of the State Power Sector across all states based on August, 2003 data and its major findings and suggestions in respect of Delhi are as under:

(a) A highest score of 57 has been assigned to the Delhi Power Sector amongst all states. At the time of last rating exercise (August 2002) Delhi was assigned 6th rank and 52.50 score.

(b) There is a need to reduce revenue gap by increasing tariffs and cost rationalisation. The tariff should uniform for all consumer categories.

(c) Currently the State has high dependence on CPSUs and other sources of power with limited generation capacity.

(d) The utilities have achieved 100% interface metering. However the same is yet to be used for billing by the TRANSCO. Energy accounting has also been conducted by the DISCOMS, however the results from the same are still awaited.

(e) The generation plants are aged and have low PLF (48.5%) and low availability factor (62.2%). The same need to be improved alongwith reduction of high levels of man power (4.27 Per MW).

(f) The commercial viability of DISCOMs is contingent upon improvement in the low level of metered billing, reduction in the high level of AT & C losses and improvement in distribution infrastructure.

(g) The DISCOM are making cash profits, as the cost of power is adjusted / subsidized by the Transco to cover their cost and present return rate.