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CONTRIBUTION OF NTPC LIMITED TO INDIA'S POWER GROWTH

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ABSTRACT

Power is an unavoidable requirement in the present era of mankind. Every act of work is directly or indirectly performed by power. NTPC Ltd. is the no.1 power producing company in India accelerating India's growth. The present study aims in identifying the contribution made by NTPC Ltd. to the power growth in India. The profile of NTPC is studied in detail and through secondary data sources comparisons where made with respect to the overall power Industry.

Keywords: Power, NTPC Ltd.

INTRODUCTION

NTPC was integrated on November 7, 1975 under the Companies Act as a private limited company under the name National Thermal Power Corporation Private Limited. On September 30, 1976 the word 'Private' was deleted from its name. It was converted to a public Ltd. company on September 30, 1985. Later, the name of Company was changed to its present name NTPC Limited. A fresh certificate for the same was issued on October 28, 2005. The name of Company was changed to reflect the diversification of business operations beyond thermal power generation. This include among others, generation of power from hydro, nuclear and renewable energy sources and undertaking coal mining and oil exploration activities. National Thermal Corporation Limited is the largest Power producing company in India. NTPC ranks as the top Independent company in terms of Power production in 2011 by Platts, McGraw Hill Group. In terms of Electricity utilities it ranks 3rd in overall Asia. In terms of the world largest companies for the 2012 it is rated with 337th Position by Forbes Global 2000.

Corporate Objectives of NTPC Ltd.

1. Business Mission: To contribute to the society by providing the customer with the services of consistent power delivery, provided at least possible prices. The mission

statement also includes combination of multiple power sources through inventive power production with the use of technology which best fits to the environment.

2. Vision Statement: To empower India's growth by becoming the top and most excellent power producer within the globe.
3. Core Values: NTPCs Core value lies in the chain of the term "BECOMITTED" which appropriately stands for Business ethics, Environmentally and economically Sustainable, Customer focus, Organizational and professional pride, Mutual respect and trust, Motivating self and others, Innovation and speed, Total quality for excellence, Transparent and respected organization, Enterprising and Devoted respectively.
4. Business portfolio growth: NTPC aims to strengthen its position in thermal power production sector and seeks to prove its existence in the hydro power segment. It targets in long term power generation by building a strong power generation mix which marks to alleviate shortage of fuel in future. By expanding in terms of power trading, transmission, distribution, coal mining etc. it look for forward and backward linkage which would build up a strong benchmark in terms of services in domestic and global market.
5. Customer centric: To become an ideal brand in the eyes of customers by providing broad customer assortment and providing quality power. It aims in cultivating a mutual way of working which would enhance profitable decision making, taking the interest of customer into account.
6. Responsive business approach: Always intend to adapt change by measuring the business environment which always makes out the future prospect and intimidation .It aims in building a competitive advantage in terms of business knowledge which includes use of Information Technology to make quick decision in the organization.
7. Performance Leadership: To keep up in long run power generation by improving on project cost and time. NTPC aims in building equality for all the power station in terms of accessibility, consistency, competence, yield and outlay. It seeks to induce quality framework in all aspects of the organization.
8. Human Resource Development: NTPC has a strong framework to develop Human resource system in the organization. The key areas which fall in the purview of HRD are formulation of open performance management system to improve the company's performance. Enhancement of Career development to built business leaders, enhancement of promising people by suitable rewards, to build in world class professional employees who are competent to perform work and fulfill business goals. To develop a set of culture which include teamwork, empowerment, impartiality, novelty and honesty.
9. Financial reliability: NTPC aims in improving the monetary reliability by adequate management of financial resources, reduction in cost of capital, dipping cost of power. This can be achieved by formulation of concrete business plan and progression.

10. Sustainable Power Development: NTPC aims in long term power generation by fulfilling its social responsibilities. In the course of action it cares for environment by reutilizing the waste like ash, gaining tangential development and power preservation practices. It also encourages customer reforms, strong procedures and performance in operations and management of power plants.
11. Research and Development: NTPC seeks to develop strong Research and development practices to build in trustworthy, resourceful and price effective technologies. It also endeavor to go for advanced research techniques in power plant construction and maintenance and to distribute the useful learned technologies to other players helping them in long run power production.

OBJECTIVES OF STUDY

Following are the broad objectives of study

1. To study the locations of NTPC Power stations across India.
2. To study the growth in power generation of NTPC Ltd.
3. To study the plant load factor of NTPC Ltd and rest of India.
4. To study the Men-Megawatt ratio of NTPC Ltd.
5. To draw a role comparison between NTPC Ltd. and rest of power sectors in India.

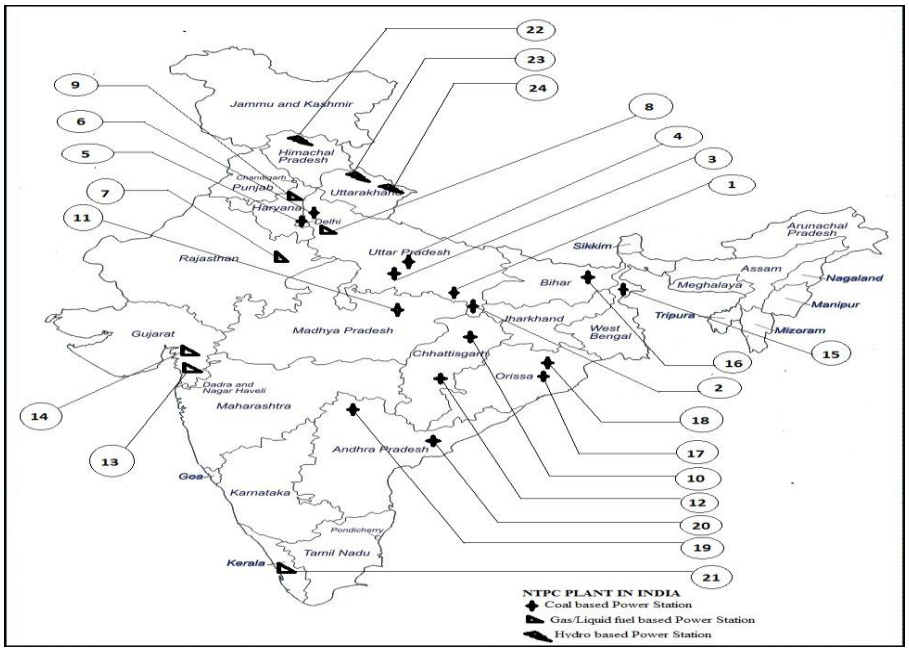
METHODOLOGY

The present study aims in classifying all the secondary data which are available on power sector in India. NTPC annual report of seven sequential year from 2005-2012 were studied in detail and were presented in a meaningful form to draw effective conclusion. The other sources of data are from published and unpublished articles from internet, data from Central Electricity Authority (CEA) & Central Electricity Regulatory Commission (CERC), Statistical survey of India etc.

ANALYSIS AND INTERPRETATION

NTPC Power Stations across India

Figure-1 shows the location of NTPC Power plants at different parts in India. The coal based Power plant, Gas or liquid fuel based power plant and hydro based power stations are duly shown in the figure with different symbols. The Power plants are given with numerical notation for their identification which is given as under:



Source: Compiled from NTPC website (www.ntpc.co.in)

Figure 1. NTPC Power Stations across India

1= Singrauli(Uttar Pradesh), 2= Rihand(Uttar Pradesh), 3= Feroze Gandhi, Unchahar(Uttar Pradesh), 4= Tanda(Uttar Pradesh), 5= Badarpur(New Delhi), 6= Dadri(UP), 7=Anta(Rajasthan), 8= Auraiya(UP), 9= Faridabad(Haryana), 10= Korba(Chhattisgarh), 11= Vindhyachal(Madhya Pradesh), 12= Sipat(Chhattisgarh), 13= Kawas(Gujarat), 14= Jhanor Gandhar(Gujarat), 15=Farakka(West Bengal), 16=Kahalgaon(Bihar), 17=Talcher Kaniha(Odisha), 18=Talcher Thermal(Odisha), 19= Ramagundam(Andhra Pradesh), 20=Simhadri(Andhra Pradesh), 21= Rajiv Gandhi CCCP, Kayamkulam(Kerela), 22=Koldam, HEPP(Himachal Pradesh), 23=Loharinag Pala, HEPP(Uttarakhand), 24=Taporan Vishnugad, HEPP (Uttarakhand)

Table 1. NTPC Stations with generating Capacity

STATIONS	FUEL TYPE	CAPACITY (IN MEGAWATT)	GEN.(MU) GROSS
Northern Region			
Singrauli	Coal	2000	15585
Rihand	Coal	2000	16183
Unchahar	Coal	1050	8279
Tanda	Coal	440	3405
TOTAL		5490	43452

Table 1. NTPC Stations with generating Capacity (Contd….)

STATIONS	FUEL TYPE	CAPACITY (IN MEGAWATT)	GEN.(MU) GROSS
National Capital Region			
Badarpur	Coal	705	4775
Dadri	Coal	1820	14224
Anta	Gas	419	2693
Auraiya	Gas	663	3879
Dadri	Gas	830	5376
Faridabad	Gas	432	3068
TOTAL		4869	34015
Western Region			
Korba	Coal	2600	18030
Vindhyachal	Coal	3260	25886
Sipat	Coal	2320	11575
Kawas	Gas	656	3608
Jhanor Gandhar	Gas	657	3684
TOTAL		9493	62783
Eastern Region			
Farakka	Coal	2100	10416
Kahalgaon	Coal	2340	13438
Talcher - Kaniha	Coal	3000	21857
Talcher - Thermal	Coal	460	3740
TOTAL		7900	49451
Southern Region			
Ramagundam	Coal	2600	21255
Simhadri	Coal	2000	10405
Rajiv Gandhi CCP	Liquid Fuel	360	706
TOTAL		4960	32367
TOTAL CAPACITY		32712	222068

Table-1 shows the power generating capacity by NTPC Power plants located across India. The geographical distribution of NTPC Power stations are classified in terms of east, west, north, south and capital region. The power stations by consumption are coal based, gas based or liquid fuel based. The total installed capacity is in terms of Megawatt unit whereas the gross generating capacities of the power stations are shown in terms of Mega Units. NTPC Ltd. has an overall installed capacity of 32712 Mega watts which generates 222068 Mega units of electricity in the year 2012.

Table 2. Growth in Power generation NTPC Vs Rest of India

Growth in Power Generation: NTPC Vs Rest of India

Year	NTPC(IN BU)	Rest of India(IN BU)	Total Capacity(IN BU)
2004-05	159.11	427.89	587
2005-06	170.88	446.5	617.38
2006-07	188.67	470.75	659.42
2007-08	200.86	503.59	704.45
2008-09	206.94	516.85	723.79
2009-10	218.84	552.71	771.55
2010-11	220.54	590.6	811.14
2011-12	222.07	654.82	876.89

Source: Secondary data compiled from NTPC annual report 2006-12

Table-2 shows the comparison of growth in power generation of NTPC and Rest of India in billion Units. NTPC Ltd. has achieved significant growth as compared to rest of India in terms of production of electricity.

Table 3. Growth in installed capacity NTPC Vs Rest of India

Growth in installed capacity: NTPC Vs Rest of India

Year	NTPC(IN MW)	Rest of India(IN MW)	Total Capacity (IN MW)
2004-05	23,435	94,984	118,419
2005-06	23,935	100,352	124,287
2006-07	26,350	105,979	132,329
2007-08	27,350	115,711	143,061
2008-09	27,850	120,115	147,965
2009-10	28,840	130,558	159,398
2010-11	30,830	142,796	173,626
2011-12	32,650	167,227	199,877

Source: Secondary data compiled from NTPC annual report 2006-12

Table-3 shows the growth in installed capacity of NTPC Ltd. to rest of India in Mega Watt. The table indicates the fact that due increased energy requirement there has been addition in electricity generation capacity year by year. Comparing the figure it can be said that NTPC plants have been significant in capacity addition to the rest of power sector in India.

Table 4. Plant Load Factor NTPC Vs Rest of India

Comparisons of Plant Load Factor: NTPC Vs Rest of India

Year	NTPC PLF (in %)	Rest of India PLF (in %)
2001-02	81%	66%
2002-03	84%	69%
2003-04	84%	69%
2004-05	88%	70%
2005-06	88%	69%
2006-07	89%	77%
2007-08	92%	79%
2008-09	91%	77%
2009-10	91%	78%
2010-11	88%	75%
2011-12	85%	73%

Source: Secondary data compiled from NTPC annual report 2006-12

Table-4 shows the Plant Load Factor of NTPC Ltd. and rest of India. Effectiveness of power production is measured in terms of overall capacity utilization of the plant. Efficiency of power plants is otherwise measured in terms of plant load factor (PLF).The higher the PLF the more the plant uses its capacity and the more the effective it is in terms of resource utilization. It can be observed from the table that NTPCs PLF ranges from 81% to 92% from year 2002-12 whereas PLF of rest of power producing plants ranges from 66% to 79%.This clearly indicates the fact that in terms of production NTPC Plants far more productive than rest of India. It also signifies how well NTPC Plants has utilized the resources in the power production.

Table 5. Men-Megawatt Ratio of NTPC Ltd.

Men-Megawatt Ratio of NTPC Ltd

Year	Men: MW Ratio
2002-03	1.02
2003-04	0.98
2004-05	0.91
2005-06	0.91
2006-07	0.91
2007-08	0.87
2008-09	0.85
2009-10	0.82
2010-11	0.77
2011-12	0.74

Source: Secondary data compiled from NTPC annual report 2006-12

Table-5 shows the Men-Megawatt ratio of NTPC Plants from year 2002-12.Men-Megawatt ratio signifies generation of power measured in terms of individual employees. The lower the ratio the better the Human resource is considered to be. The above table clearly indicates the reduction of Men-Megawatt ratio. In the year 2002-03 it was found to be 1.02 which was reduced down to 0.74 in the year 2011-12.It indicates the fact that NTPC employees are competent and motivated enough to do their work. Credit must be given to HR department for their effective plans and policies in guiding the employees to become effective and efficient year after year.

Table 6. Role comparison of NTPC Ltd. to Rest of India

	NTPC				Rest of India			
Year	Generating Capacity	Percent Share	Electricity generated	Percent share	Generating Capacity	Percent Share	Electricity generated	Percent share
3/31/2006	24249	20%	171	28%	100038	80%	446	72%
3/31/2007	26350	20%	188.67	29%	105979	80%	470.74	71%
3/31/2008	27350	19%	200.863	29%	115711	81%	503.588	71%
3/31/2009	27850	19%	206.939	29%	118729	81%	506.64	71%
3/31/2010	28840	18%	218.84	28%	130558	82%	552.712	72%
3/31/2011	30830	18%	220.54	27%	142796	82%	590.60	73%
3/31/2012	32650	16%	222.07	25%	167227	84%	654.82	75%

Source: Secondary data compiled from NTPC annual report 2006-12

NTPC is one of the major power producing companies in India. If we draw year wise comparison it is well observed from table-6 that NTPC has been a major power contributor to India's Power Industry. Having less capacity in generation it is contributing more in terms of electricity production. It clearly indicates the organized efficiency of the company year by year in power generation. It can be seen from the table that NTPC is generating 25% of the overall power in India in the year 2012 whereas the share of generating capacity stands at only 16% of the overall capacity. Presently NTPC is contributing for one-fourth of power production in the country.

CONCLUSION

NTPC Ltd. is a market Leader in power production sector in India. Every fourth bulb lit in India is gift of this company. NTPC Plants are operating at high efficiency. The plant load factor of the company is high in comparison to that of rest of power plants in India. This may be due to use of advanced tools and technologies. The lowering down of Men-Megawatt ratio indicates the effectiveness of manpower and quality of Human resource professionals. The capacity addition in NTPC Power plants with respect to production of electricity has been far more significant in comparison to rest of India. All these factors make NTPC Ltd. the number one power producing company in India. The company will be having a major and challenging role to play in power sector in India in future times to come.

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