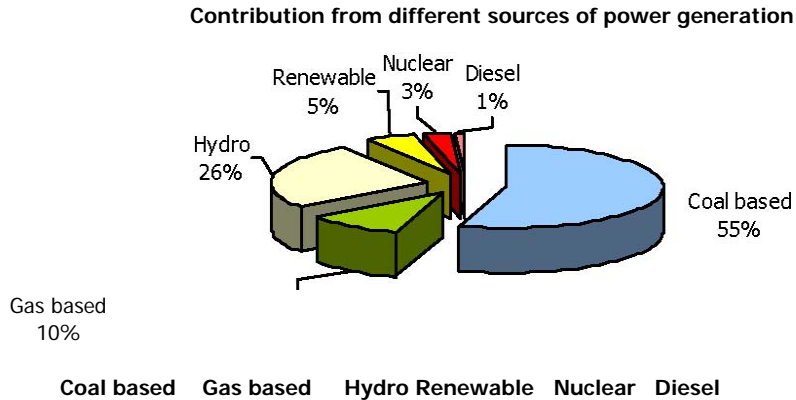


POWER AND ENERGY INDUSTRY IN INDIA

1. OVERVIEW OF INDIA'S POWER SECTOR

1.1 Background

India's power market is the fifth largest in the world. The power sector is high on India's priority as it offers tremendous potential for investing companies based on the sheer size of the market and the returns available on investment capital.



Source: Ministry of Power, Government of India

Almost 55 per cent of this capacity is based on coal, about 10 per cent on gas, 26 per cent on hydro, approximately 5 per cent on renewable sources, about 3 per cent on nuclear and 1 per cent on diesel.

In the past five years, there has been a much greater emphasis on transmission and distribution reforms.

The government aims to provide "power to all" by 2012. To achieve that promise, it will have to add as much as 1,00,000 MW of generation capacity, cut AT&C losses substantially to below 20 per cent, rationalize tariffs and ensure that average revenue realization is greater than the cost of production. It will have to continue to push the process of reform and restructuring and ensure greater private participation, in every segment.

In the past few years, there has been considerable growth in power plants based on renewable sources of energy. The Plant Load Factor (PLF) of generating plants has improved consistently over the last 10 years. The share of thermal power as a proportion of total power generated has decreased from 71 per cent to 66.3 per cent in the last decade. The share of hydro has increased to 26 per cent from 25.7 per cent.

Of the fossil fuel supplies, there is delivery constraint with respect to gas. A number of gas plants today are running at sub-optimal plant load factor (PLF) levels due to shortages. The government has decided not to embark on new projects that rely on gas. It is feared that supply shortages can disturb the capacity addition plans, reduce PLFs, as the rising crude prices have led to firmer naphtha and natural gas prices.

Emerging environmental concerns have led to an increasing interest in renewables.

Captive power plants (CPPs) also make a major contribution, which is more than one-fifth of the

total installed capacity. In the last three years, captive capacity has grown at an average of 1,600 MW per year. The introduction of ABTs (Availability Based Tariffs) has changed the thinking of discoms. They have to pay huge prices as they have to source power from the grid during low frequency periods. During this time the CPP power comes in handy at a much lower tariff.

The reform process in the power sector continues. Thirteen states have unbundled SEBs into separate entities for transmission, distribution and generation. Two states have privatized distribution. Regulatory authorities have been set up in 24 states. These authorities are applying commercial principles to tariff setting, monitoring the performance of state utilities and paying attention to areas such as demand side management and grid discipline.

1.2 Generation

Over the years, the fuel mix has changed. Growing environmental concerns have led to an interest in renewable sources of energy (comprising wind energy, solar photovoltaic energy, biomass power and mini hydro plants). But despite great potential, renewable sources contribute only a little over 6,000 MW at present.

The PLF of generating plants has improved consistently over the last few years.

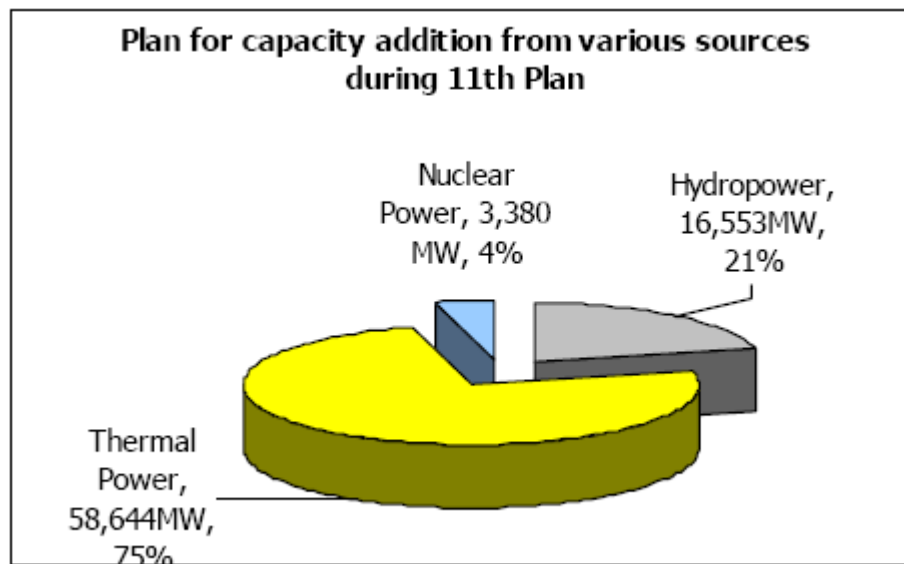
2. FUTURE PLANS OF CAPACITY ADDITION

2.1 Plan for Capacity Addition during XIth Five Year Plan (2007-2012)

The power generation capacity added during the last five years is a lowly 21,280 Mw, which is about half the original target of 41,110 MW set for the Tenth Plan. This is also 2000 Mw less than the 23,250 Mw capacity addition projected by the government in last few days of Xth five year plan. (March 2007).

An ambitious target of 78,577 Mw has been set by the government for the eleventh plan period (2007 -2012). Of this, the hydropower's share would be 16,553 MW, the thermal power would constitute 58,644 MW and the nuclear power's share would be 3,380 MW. Capacity addition plan from different sources during XIth five year plan (2007-2012).

Plan for capacity addition from various sources during 11th Plan



Year wise Capacity addition plan during XIth five year plan (2007-2012):

Year	Capacity addition (Mw)
Ist year (2007-08)	16,785
IIInd year (2008-09)	7272
IIIrd year (2009-2010)	15,198
IVth year (2010 -2011)	16,970
Vth year (2011-2012)	22,352
Total capacity addition	78577

The orders for these capacity additions are likely to be placed by December 2007 so that they can be implemented during the Plan itself.

Policy for Additional Capacity Generation

Following is the policy for future power generation under the National Electricity Plan:

Inadequacy of generation has characterized power sector operation in India. To provide availability of over 1000 units of per capita electricity by year 2012 it had been estimated that need based capacity addition of more than 1,00,000 MW would be required during the period 2002-12.

Government of India has initiated several reform measures to create a favourable environment for addition of new generating capacity in the country. The Electricity Act 2003 has put in place a highly liberal framework for generation. There is no requirement of licensing for generation. The requirement of techno-economic clearance of CEA for thermal generation project is no longer there. For hydroelectric generation also, the limit of capital expenditure, above which concurrence of CEA is required, would be raised suitably from the present level. Captive generation has been freed from all controls.

In order to fully meet both energy and peak demand by 2012, there is a need to create adequate reserve capacity margin. In addition to enhancing the overall availability of installed capacity to 85per cent, a spinning reserve of at least 5per cent, at national level, would need to be created to ensure grid security and quality and reliability of power supply.

2.2.1 Non-conventional Energy Generation

The Ministry of Non-conventional Energy Sources is promoting development of small/mini hydro power projects. The potential of generation of power from small and mini hydel projects is estimated to be about 10,000 MW in the country.

Feasible potential of non-conventional energy resources, mainly small hydro, wind and biomass would also need to be exploited fully to create additional power generation capacity.

With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures.

2.2.2 Hydro Electricity Generation

Hydroelectricity is a clean and renewable source of energy. Maximum emphasis would be laid on the full development of the feasible hydro potential in the country. The 50,000 MW hydro initiatives have been already launched and are being vigorously pursued with DPRs for projects of 33,000 MW capacity already under preparation.

Harnessing hydro potential speedily will also facilitate economic development of States, particularly North-Eastern States, Sikkim, Uttaranchal, Himachal Pradesh and J&K, since a

large proportion of our hydro power potential is located in these States. The States with hydro potential need to focus on the full development of these potentials at the earliest.

Hydel projects call for comparatively larger capital investment. Therefore, debt financing of longer tenure would need to be made available for hydro projects. Central Government is committed to policies that ensure financing of viable hydro projects.

State Governments need to review procedures for land acquisition, and other approvals/clearances for speedy implementation of hydroelectric projects.

The Central Government will support the State Governments for expeditious development of their hydroelectric projects by offering services of Central Public Sector Undertakings like National Hydroelectric Power Corporation (NHPC).

Proper implementation of National Policy on Rehabilitation and Resettlement (R&R) would be essential in this regard so as to ensure that the concerns of project-affected families are addressed adequately.

Adequate safeguards for environmental protection with suitable mechanism for monitoring of implementation of Environmental Action Plan and R&R Schemes will be put in place.

2.2.3 Small Hydropower Plants

The Electricity Act 2003 is the catalyzing and facilitating factor for the Power revolution in India. The concern that no households be left out from being electrified, is being aptly addressed by the Union and state Governments. Impetus is being given to Rural Electrification. In order to achieve this objective, synergy is to be evolved where distributed Power Generation supplements (or makes up for the limitation) of electric supply through grid. Besides this mission, initiatives for environmental conservation are propelling utilities to generate more of Green Power

Decentralised Power Generation and Distribution has the power to adequately make up for the limitation of the Electric supply through Grid, and is considered a potential means to provide **“Power to all by 2012”** DPG technologies such as Small Hydro Power help in producing power at the point of consumption.

In India, small hydro schemes are further classified by the Central Electric Authority as follows:

Type	Station Capacity	Unit rating
Micro	Upto 100 KW	Upto 100 KW
Mini	101 KW to 2000 KW	101 KW to 1000 KW
Small	2001 KW to 25000 KW	1001 KW to 5000 KW

2.2.4 Thermal Generation

Even with full development of the feasible hydro potential in the country, coal would necessarily continue to remain the primary fuel for meeting future electricity demand.

Imported coal based thermal power stations, particularly at coastal locations, would be encouraged based on their economic viability. Use of low ash content coal would also help in reducing the problem of fly ash emissions.

Significant Lignite resources in the country are located in Tamil Nadu, Gujarat and Rajasthan and these should be increasingly utilized for power generation. Lignite mining technology needs to be improved to reduce costs.

Use of gas as a fuel for power generation would depend upon its availability at reasonable prices. Natural gas is being used in Gas Turbine /Combined Cycle Gas Turbine (GT/CCGT) stations, which currently accounts for about 10 per cent of total capacity. Power sector consumes about 40per cent of the total gas in the country. New power generation capacity could come up based on indigenous gas findings, which can emerge as a major source of power generation if prices are reasonable. A national gas grid covering various parts of the country could facilitate development of such capacities.

Imported LNG based power plants are also a potential source of electricity and the pace of their development would depend on their commercial viability. The existing power plants using liquid fuels should shift to use of Natural Gas/LNG at the earliest to reduce the cost of generation.

For thermal power, economics of generation and supply of electricity should be the basis for choice of fuel from among the options available. It would be economical for new generating stations to be located either near the fuel sources e.g. pithead locations or load centres.

Generating companies may enter into medium to long-term fuel supply agreements specially with respect to imported fuels for commercial viability and security of supply.

2.2.5 Nuclear Power

Nuclear power is an established source of energy to meet base load demand. Nuclear power plants are being set up at locations away from coalmines. Share of nuclear power in the overall capacity profile will need to be increased significantly. Economics of generation and resultant tariff will be, among others, important considerations. Public sector investments to create nuclear generation capacity will need to be stepped up. Private sector partnership would also be facilitated to see that not only targets are achieved but exceeded.

Nuclear Power Capacity Addition Plan:

Nuclear power is seeing a renaissance. Power-starved India, which has the largest number of reactors under construction, is at the forefront of this revival of interest in nuclear power.

India is building seven of the 30 reactors under construction around the world. This is likely to increase significantly once the India-US agreement on nuclear cooperation is accepted by the rest of the world. India has been commissioning nuclear reactors in record time of less than five years. The capital cost per megawatt in the case of nuclear plant is Rs 50 million, which is higher than the average cost of the thermal plants (Rs 40 million or less). However, with the fuel cost being much lower than the thermal plants, nuclear power becomes an appealing option.

2.2.6 Captive Generation

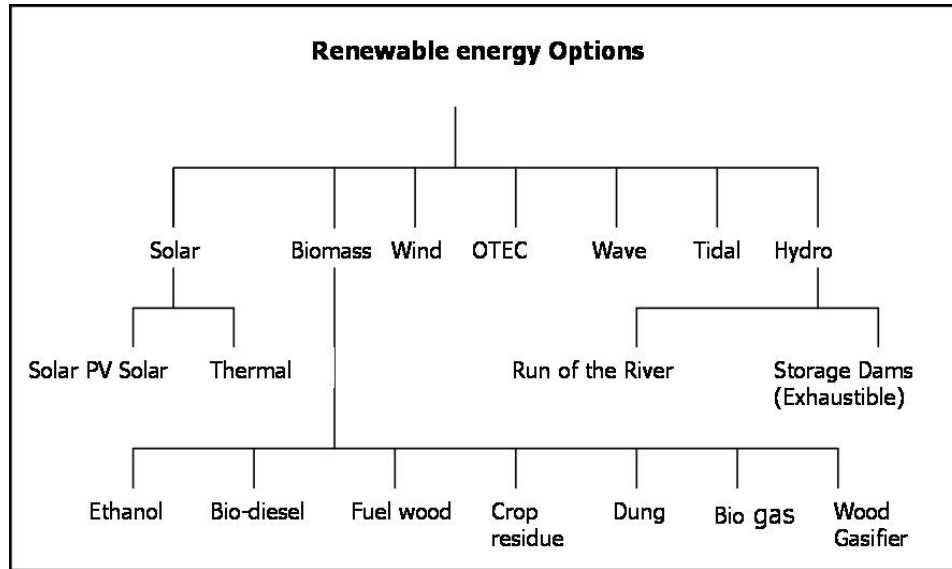
The liberal provision in the Electricity Act, 2003 with respect to setting up of captive power plant has been made with a view to not only securing reliable, quality and cost effective power but also to facilitate creation of employment opportunities through speedy and efficient growth of industry. The provision relating to captive power plants to be set up by group of consumers is primarily aimed at enabling small and medium industries or other consumers that may not individually be in a position to set up plant of optimal size in a cost effective manner. It needs to be noted that efficient expansion of small and medium industries across the country would lead to creation of enormous employment opportunities.

A large number of captive and standby generating stations in India have surplus capacity that could be supplied to the grid continuously or during certain time periods. These plants offer a sizeable and potentially competitive capacity that could be harnessed for meeting demand for power. Under the Act, captive generators have access to licensees and would get access to consumers who are allowed open access. Grid inter-connections for captive generators shall be facilitated as per section 30 of the Act. This should be done on priority basis to enable captive generation to become available as distributed generation along the grid. Towards this end, non-conventional energy sources including co-generation could also play a role. Appropriate commercial arrangements would need to be instituted between licensees and the captive generators for harnessing of spare capacity energy from captive power plants. The appropriate Regulatory Commission shall exercise regulatory oversight on such commercial arrangements between captive generators and licensees and determine tariffs when a licensee is the off-taker of power from captive plant.

3. PROSPECTS OF RENEWABLE ENERGY

3.1 Current Scenario

The Progress of renewable energy generation has been encouraging as the country is today one among the top rankers in grid-interactive renewable power installations. Adverse local environmental impacts (SO_x, NO_x, SPM) and global environmental impacts (green house gas emissions mainly due to carbon dioxide) associated with fossil fuel use have resulted in an increased emphasis on renewables.



4. REGULATORY ENVIRONMENT

4.1 Institutional Framework

The Ministry of Power is primarily responsible for the development of the Indian power sector. It is concerned with perspective planning and policy formulation in the sector.

The State Electricity Boards (SEBs) generate, transmit and distribute electricity in coordination with private/centrally owned generating companies or any other relevant agency.

The Central Electricity Authority (CEA) is a body constituted under the Electricity Supply Act, which is responsible for developing a sound, adequate, and uniform policy for the control and utilisation of national power resources. It is also responsible for the techno-economic appraisal of the project reports for the proposed power plants, including those in the private sector.

Subsequent to enactment of the Legislation on establishment of a regulatory authority, an institution called the Central Electricity Regulatory Commission (CERC) has been set up for rationalisation of bulk and retail tariff for generation and transmission utilities involved in inter-state operations. It also regulates at intra-state level. Each state has set up a State Electricity Regulatory Commission.

4.2 The Electricity Act 2003

The Electricity Act 2003 has been enacted by the Parliament in June, 2003. The salient positive features of this legislation are:

- Removal of a number of restrictive barriers to the flow of power in a competitive market scenario by opening access to transmission (from the outset) and distribution.
- Freeing up of generation and captive power plants from licenses and techno-economic approvals.
- The recognition to trading as a distinct activity that would help ushering in a market environment.
- The formation of an expert Appellate Tribunal to hear appeals against State and Central Electricity Regulatory Commission orders.
- Transferring the full range of regulatory and licensing functions to the Central and State Regulatory Commissions.
- Deregulating tariffs in certain situations e.g. in case of agreements between consumers and generating companies.
- The distancing of Government from the functioning of the sector after giving broad directions via the National Electricity Policy and the National Tariff Policy.
- The conversion of the remaining State Electricity Boards into State Transmission Utilities and deemed licensees with the freedom (but not compulsion) to restructure and progress down the road to corporatisation and privatization.
- The Energy Conservation Act, 2001 has been enacted and consequently Bureau of Energy Efficiency (BEE) has already been set up.

4.3 Reforms So Far

- 26 states have signed Memorandum of Understanding (MoU) with the Government of India to undertake reforms.
- 20 states have constituted State Electricity Regulatory Commissions and are functional. Tripura and Jharkhand have notified the constitution of SERC.
- 18 State Electricity Regulatory Commissions have issued tariff orders.
- 11 States have unbundled/corporatised.
- State of Orissa and Delhi have privatised distribution of electricity.

4.4 Major Policies Notified Under the Electricity Act During 2006

4.4.1 Tariff Policy

The Tariff Policy has been notified by Government of India on 6 January, 2006 under the provisions of section 3 of the Electricity Act, 2003.

The objectives of the tariff policy are to:

- Ensure availability of electricity to consumers at reasonable and Competitive rates
- Ensure financial viability of the sector and attract investments
- Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimise perceptions of regulatory risks
- Promote competition, efficiency in operations and improvement in quality of supply

4.4.2 Guidelines for procurement of electricity

In compliance with section 63 of the Electricity Act, 2003, the Central Government had notified guidelines for procurement of power by Distribution Licensees through competitive bidding. Central Government has also issued the standard bid documents containing RFQ, RFP and model PPA for long term procurement of power from projects having specified site and location.

4.4.3 Rural Electrification Policy

Rural Electrification Policy, in compliance with section 4 and 5 of the Electricity Act 2003, was notified on 23 August, 2006.

Overall approach enunciated in the Policy highlights grid connectivity to be normal way of electrification of villages. For villages / habitations where grid connectivity is not feasible or not cost effective of grid solutions based on stand-alone systems may be taken up. Decentralized distribution generation facilities together with local distribution network may be based on either conventional or non-conventional method of electricity generation. The State Governments should within six months prepare and notify a Rural Electricity Plan to achieve the goal of providing access to all households.

4.4.4 New Hydro-Policy

Section 63 of the Electricity Act provides for development of projects on the basis of competitive bidding for tariff. Sections 61 and 62 allow such projects developed on the basis

of tariff to be fixed by the Regulator on the basis of capital cost and norms. In fact, the Electricity Tariff Policy notified in January 2006 also allows a special dispensation for project development by State and Central PSUs on the basis of capital cost and norm-based tariff to be determined by the Regulatory Commission. This dispensation, allowed for PSUs, is now proposed to be made available for the same period of 5 years to promote hydro-power development even through the private sector route. The State would be required to follow a transparent process for selection of the developer.

This arrangement would have several advantages. While the initiative for allocation of the project would remain with the State Government (subject to the requirement of transparency in the allocation), the scrutiny of the regulator and the CEA would ensure that the project is being designed and built in the most optimal and economic manner, and that the interest of the consumers is adequately protected. From the point of view of the developer, this procedure would reduce numerous risks associated with the construction and operation and maintenance (O&M) of hydro projects.

New Hydel Policy announced with an objective of making investment in hydro projects more attractive. The government has prepared plan for creation of National Grid by 2012 and infrastructure to facilitate inter-regional exchange of 30,000 MW of electricity by 2012.

4.4.5 Ultra-Mega Power Projects (UMPPs)

The Ministry of Power, Government of India has launched an initiative for development of coal-based Ultra-Mega Power Projects (UMPPs) in India, each with a capacity of 4,000 MW or above. These projects will be awarded to developers on the basis of tariff-based competitive bidding. To facilitate tie-ups of inputs and clearances, project-specific shell companies have been set up as wholly owned subsidiaries of the Power Finance Corporation (PFC) Ltd. These companies will undertake preliminary studies and obtain necessary clearances including water, land, fuel, power selling tie-up etc. prior to award of the project to the successful bidder.

Nine sites have been identified by CEA in nine States for the proposed UMPPs. These include four pithead sites, one each in Chhattisgarh, Jharkhand, Madhya Pradesh and Orissa, and five coastal sites, one each in Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. It is proposed to set up pithead projects as integrated proposals with corresponding captive coal mines. On the request of Ministry of Power, Ministry of Coal has already allocated captive coal mining block for Sasan UMPP in Madhya Pradesh and earmarked captive coal mining block for Orissa UMPP. For the coastal projects, imported coal shall be used. The projects are to be developed with a view to lower the cost of power to the consumers. These projects, adopting supercritical technology to reduce emissions, would be environment-friendly.

A time bound action plan for preparation of project report, tie-up of various inputs/clearances, appointment of consultants, preparation of RFQ/RFP have been prepared.

4.4.6 Development of Merchant Power Plants

To facilitate the development of the electricity market, the Ministry of Power has issued the approach and guidelines on development of merchant power plants (MPPs). Unlike traditional utilities, MPPs compete for customers and absorb the full market risk. There is no guarantee

regarding minimum off-take of their output. Typically the risk of a MPP is carried on the balance sheet of the promoter. MPPs can provide the additional generating reserves that India needs now and will need in the future. They are a modern, market-based answer – at least in part – to the energy challenges faced by the country. MPPs are a product of the restructuring of the electricity industry and they fill different niches in the market; some provide steady supplies to a power grid, while others fire up only when demand is at the highest and meet peak loads. Merchant power plants operating competitively help assure that power is produced with efficiency and supplied to locations where it is needed most. MPPs up to a capacity of 1,000 MW would be provided coal linkage, and captive coal blocks may also be provided to merchant power plants in the range of 500–1000 MW.

It would be essential that certain normative criteria are laid down for eligibility for coal blocks allotment, particularly to IPPs and merchant plans. These criteria could relate to net worth of the company, their internal resource generation and annual turn-over. The agencies being allotted the coal blocks may also be required to put in place bank guarantee of a reasonable amount which should be liable to be encashed if important milestones for development of coal mines are not achieved. The intermediate milestones may also include indicators concerning the development of power projects, such as award of Engineering Procurement and Construction (EPC) contracts, and commencement of construction. Success of this scheme would, to a great extent, depend on availability of reliable data and information for plant sites and other inputs in this capacity range so that developers then can take further appropriate action.

4.4.7 Private Participation in Transmission

Private investment has been allowed in power transmission either through 100per cent equity or joint venture with PGCIL. In case of latter, the PGCIL will hold only 26per cent stake and private party would hold the rest.

Private sector participation in transmission has been limited to construction and maintenance of transmission lines on BOOT (build-own-operate-transfer) basis under the control of PGCIL.

- Policy initiatives for encouraging competition in development of transmission projects
Promote competitive procurement of transmission services
- Encourage private investment in transmission lines
- Facilitate transparency and fairness in procurement processes
- Facilitate reduction ‘of information asymmetries for various bidders’. Protect consumer interests by facilitating competitive conditions in procurement of transmission services of electricity.
- Enhance standardization and reduce ambiguity and hence time for materialization of projects
- Ensure compliance with standards, norms and codes for transmission lines while allowing flexibility in operation to the transmission service providers.

5. PROFILE OF MAJOR PLAYERS

5.1 Tata Power

A pioneer in the Indian power sector, Tata Power (TPL) is one of India's largest energy utilities. Started as the Tata Hydroelectric Power Supply Company in 1911, it is an amalgamation of two entities: Tata Hydroelectric Power Supply Company, Andhra Valley Power Supply Company (1916).

TPL provides services in power generation, distribution and transmission; oil and gas; and broadband and communications. The company has big overseas power projects in a number of countries, including the UAE, Malaysia, Saudi Arabia, Kuwait and Algeria. It has also undertaken projects in power plant / utility operations and management in Saudi Arabia, Liberia, Iran, Sierra Leone and Algeria.

Power expertise services

- Setting up independent power plants (IPPs) and captive power plants (CPPs), and executing power transmission and distribution projects
- Operation and maintenance services
- 'Remnant life assessment' and 'performance evaluation services' of power plant equ
- In overseas projects, erection, testing, commissioning and trial operations.
- In power plant / utility operations, management and plant operators' training projects (in India and abroad).

5.2 Reliance Energy Ltd. (REL)

Reliance Energy Ltd is India's leading integrated power utility company in the private sector. It has a significant presence in generation, transmission and distribution of power in Maharashtra, Goa and Andhra Pradesh. Reliance's gas finds in KG-D6 block in Krishna Godavari basin constitutes 60 per cent of India's present total gas production.

REL and its affiliate power companies rank among the top 25 listed private sector companies on major financial parameters. REL is part of the Reliance industries-India's private sector company ranked among the world's 175 largest companies in terms of net profit and the 500 largest companies in terms of sales.

EPC Division (Engineering, Procurement and Construction Division)

REL has significant presence in the field of execution of the Power projects on EPC basis with a strong track record of the execution and commissioning of projects on time. REL has received wide acclaim for the initiatives in corporate governance. These awards and recognition's greatly motivates and encourage the REL team to set fresh benchmarks in corporate governance, particularly in the Indian Power Sector.

5.3 National Thermal Power Corporation (NTPC)

NTPC Limited is the largest thermal power generating company of India. A public sector company, it was incorporated in the year 1975 to accelerate power development in the country as a wholly owned company of the Government of India. At present, Government of India holds 89.5 per cent of the total equity shares of the company and the balance 10.5 per cent is held by FIIs, Domestic Banks, Public and others. Within a span of 31 years, NTPC has emerged as a truly national power company, with power generating facilities in all the major regions of the country.

Business Activities

NTPC's core business is engineering, construction and operation of power generating plants. It also provides consultancy in the area of power plant constructions and power generation to companies in India and abroad. As on date the installed capacity of NTPC is 27,404 MW through its 14 coal based (22,395 MW), 7 gas based (3,955 MW) and 4 Joint Venture Projects (1,054 MW). NTPC acquired 50 per cent equity of the SAIL Power Supply Corporation Ltd. (SPSCL). This JV company operates the captive power plants of Durgapur (120 MW), Rourkela (120 MW) and Bhilai (74 MW). NTPC also has 28.33 per cent stake in Ratnagiri Gas & Power Private Limited (RGPPL) a joint venture company between NTPC, GAIL, Indian Financial Institutions and Maharashtra SEB Holding Co. Ltd.

5.4 Andhra Pradesh Power Generation Corporation Limited (APGENCO)

Andhra Pradesh Power Generation Corporation Limited is one of the pivotal organizations of Andhra Pradesh, engaged in the business of Power generation. Apart from operation & Maintenance of the power plants it has undertaken the execution of the on Government of India ng & new power projects scheduled under capacity addition programme and is taking up renovation & modernization works of the old power stations. APGENCO started operations in 1999. This was a sequel to Government's reforms in Power Sector to unbundle the activities relating to Generation, Transmission and Distribution of Power. All the Generating Stations owned by erstwhile Andhra Pradesh State electricity Board (APSEB) were transferred to the control of APGENCO.

5.5 National Hydroelectric Power Corporation Limited (NHPC)

National Hydroelectric Power Corporation Limited (NHPC), A Govt. of India Enterprise, was incorporated in the year 1975 with an authorised capital of Rs. 2000 million and with an objective to plan, promote and organise an integrated and efficient development of hydroelectric power in all aspects. Later on NHPC expanded its objects to include other sources of energy like Geothermal, Tidal, Wind etc. At present, NHPC is a schedule 'A' Enterprise of the Govt. of India with an authorised share capital of Rs. 1,50,000 Million . With an investment base of over Rs. 2,20,000 Million approx. , NHPC is among the TOP TEN companies in the country in terms of investment.

5.6 Suzlon Energy

Established in 1995, Suzlon Energy began its journey to the forefront of the wind energy industry with a small but significant project to supply wind turbine generators for a 3.34 MW windfarm project in Gujarat, India. In little over a decade, Suzlon has grown to rank as one of the world's leading manufacturers, and India's and Asia's leading manufacturer of wind turbines..