

# Valuation Analysis of Indian Power Sector

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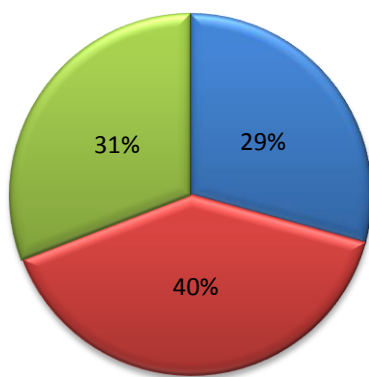
# Background of India's Power Sector

India at present stands as the 4<sup>th</sup> largest consumer of energy, whereas in terms of electricity generation capacity it ranks no. 5<sup>th</sup> in the world. Power sector is the backbone of industrial, commercial and agricultural sector and as Indian industries across sectors ramped up their capacities in the decade gone by, generation of power as well as its distribution gained immediate attention from the authorities to support India's growth story.

The Power sector in India is categorized into three major segments viz. Generation, Transmission and Distribution.

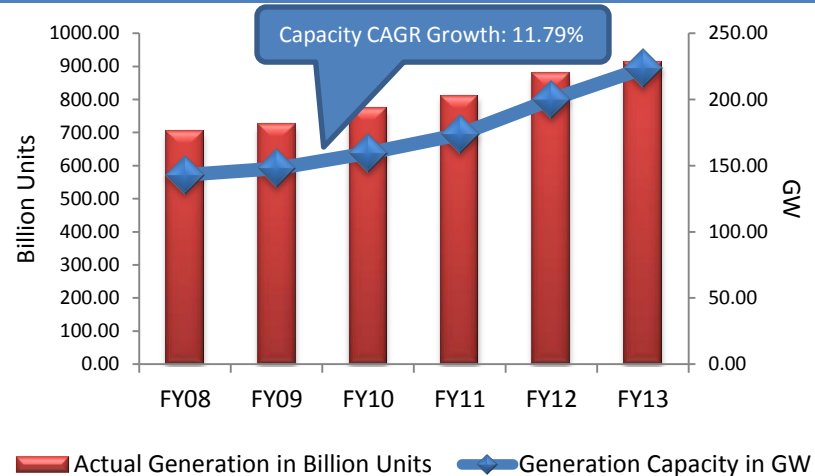
Electricity generation refers to generation of power from primary sources of energy which is commonly expressed in kilowatt-hours (kWh). Electricity generation capacities in India are classified on the basis of ownership. State governments collectively account for ~40% of the total generation capacity, followed by private players (~31%) and central government (~29%). India's power generation capacity has increased from ~143GW in FY08 to ~223 GW in FY13, witnessing a CAGR of ~11.8%.

Capacities-Classification (Ownership): FY13



■ Central Sector\PSU's      ■ State Level Corporations  
■ Private Sector Enterprises

Power Generation: Capacity & Actual : FY08-FY13

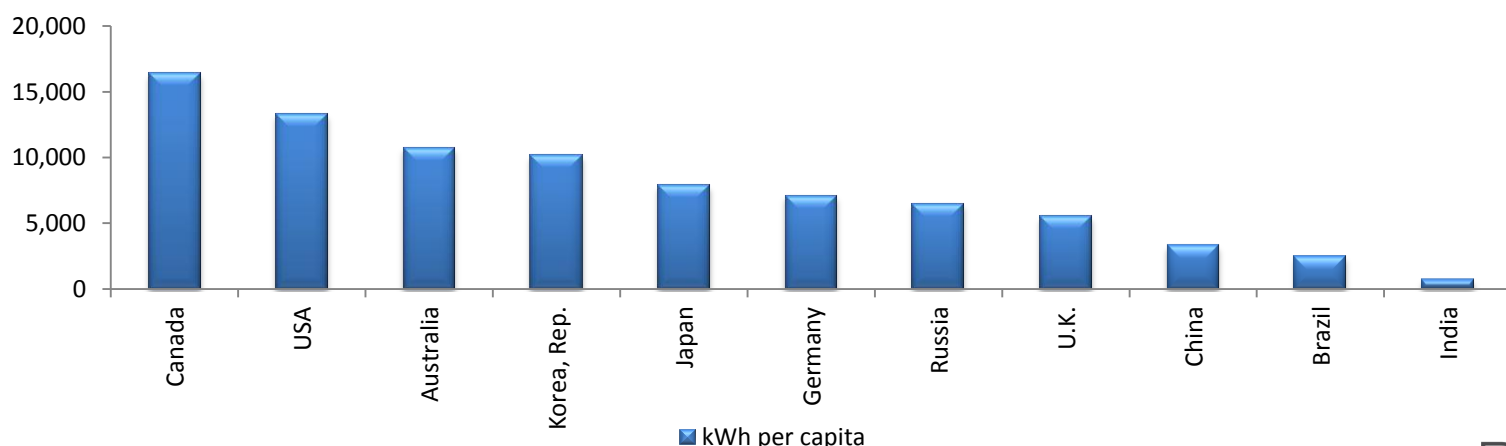


Transmission in context of power refers to evacuation of electricity from a generator to a distributor. The transmission systems in the country are categorized into inter-state and intra-state systems. Power Grid Corporation of India largely owns and operates the inter-state assets, whereas the state utilities own the intra-state assets. Although the transmission sector in India has been opened up for private players, their presence is negligible.

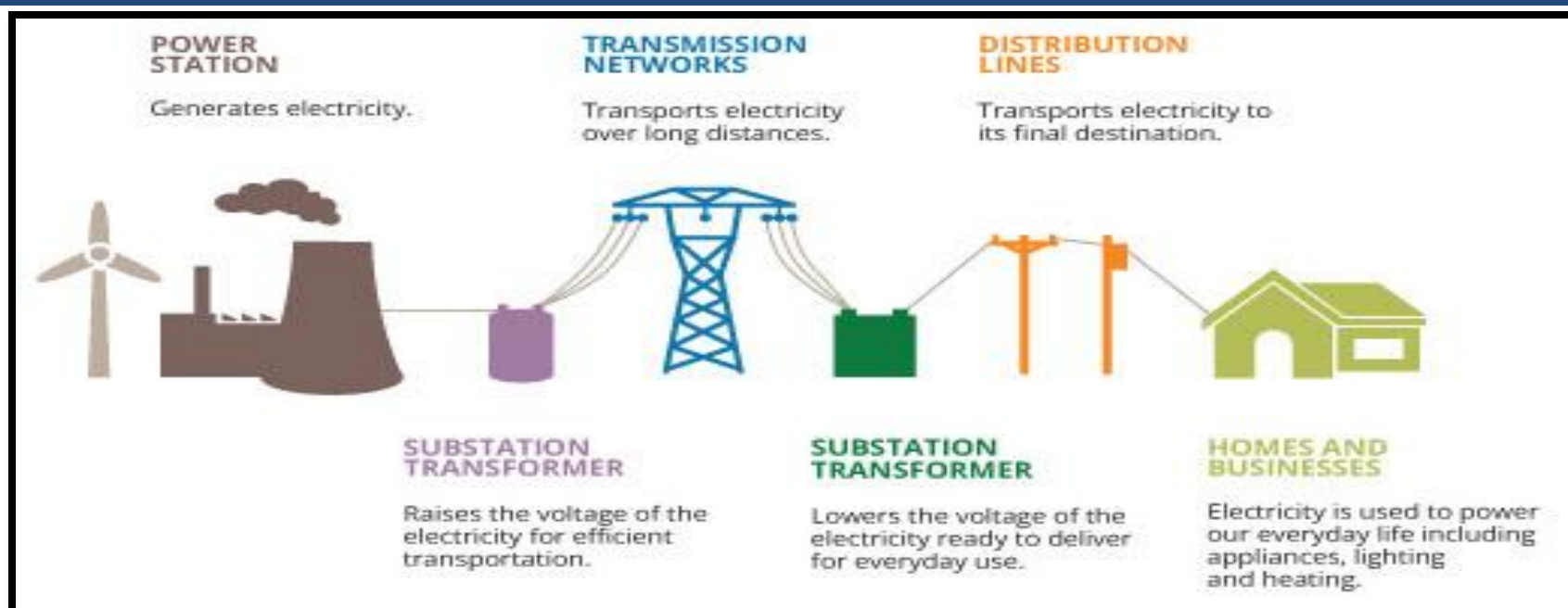
A distribution system technically acts as a carrier of electricity to the end-user from the transmission network. At present the Indian power sector has close to 200 million consumers and there are ~73 distribution utilities catering to their needs. The distribution utilities include electricity departments, private distribution companies and state electricity boards.

Although India is amongst the largest consumers in the world, in terms of per capita consumption of power its ranking in the world is dismal. As per the World Bank database, India's per capita consumption in 2011 was 684 kWh. However the same for countries like USA and U.K. was 13,246 kWh and 5,516 kWh respectively.

Per capita Consumption of Power : CY11



# Power Sector - Value Chain



## Power Sector - Mergers & Acquisitions

Acquirer/ Investor	Target /Investee	Size	Stake
NTPC Ltd.	Nabinagar Power Generating Company Pvt. Ltd.	US\$ 412.68 million	Strategic
FPM Power Holdings Ltd.	GMR Energy (Singapore) Pte Ltd.	US\$ 481.82 million	Majority
Adani Power Ltd.	Growmore Trade and Investment Pvt. Ltd.	US\$ 531 million	Merger
Goldman Sachs	ReNew Wind Power	US\$ 200 million	PE Deal
Government of Singapore Investment Corporation	Greenko Group	US\$ 150 million	PE Deal
BLP Vayu	DLF (150 MW wind turbine project)	Rs. 325 crores	Divestment
Satluj Jal Vidyut Nigam Limited	Buxar Bijlee Company Private Limited	N.A.	Majority
CESC Ltd.	Pachi Hydro Power Projects Ltd. Papu Hydro power Projects Ltd. (Indiabulls Group)	N.A.	Majority
Korea Electric Power Corp.	Pioneer Gas Power	Rs. 500 crores	Strategic





# Challenges

## Generation

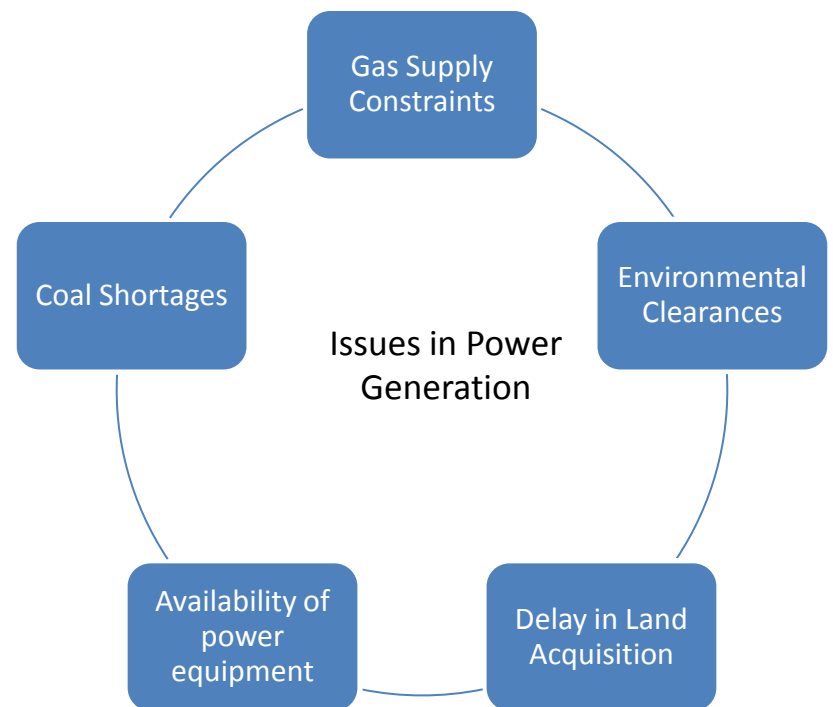
- **Coal Shortages:** Thermal Power Plants account for more than 75% of the electricity generated in the country, majority of which are coal based. As Coal India Ltd. and its subsidiaries were not able to achieve their production as well as off take targets in the recent past, the importance of imported coal has substantially increased.

- **Availability of power equipment:** The industry is facing issues in terms of quality as well as availability of power equipment. Private players which relied on Chinese equipment are facing trouble on account of restrictions of Chinese manpower by GOI.

- **Environmental Clearances:** Ministry of Environment and Forest (MoEF) prohibited mining in areas where coal blocks were allotted to private players, approximately projects with a collective capacity of 50,000 MW were affected due to the regulation.

- **Gas Supply Constraints:** The increased supplies from KG basin has increased the supply of gas, however the current domestic supply is expected to meet only 60% of the demand of gas based plants. In the wake of the current demand-supply scenario the country is expected to be reliant on costly LNG imports in the near future.

- **Delay in Land Acquisition:** Hydro Power projects and Nuclear power projects have been facing issues in terms of delays in land acquisition as well as other added risk.



## Transmission

### Deficiency in current transmission capacity

- Although India has huge generation base, the same is not exploited adequately owing to remote locations and evacuation bottlenecks. In FY13 plants supplying electricity to SEB's lost ~2 billion units, due to inadequate capacities.

### Delays in future capacity addition

- The transmission sector faces a major challenge owing to Right-Of-Way (ROW) issues. Approximately 120 transmission projects faced delay in 2011 as the developer failed to obtain ROW or clearances from various regulatory departments such as forest, defense, aviation etc.

## Distribution

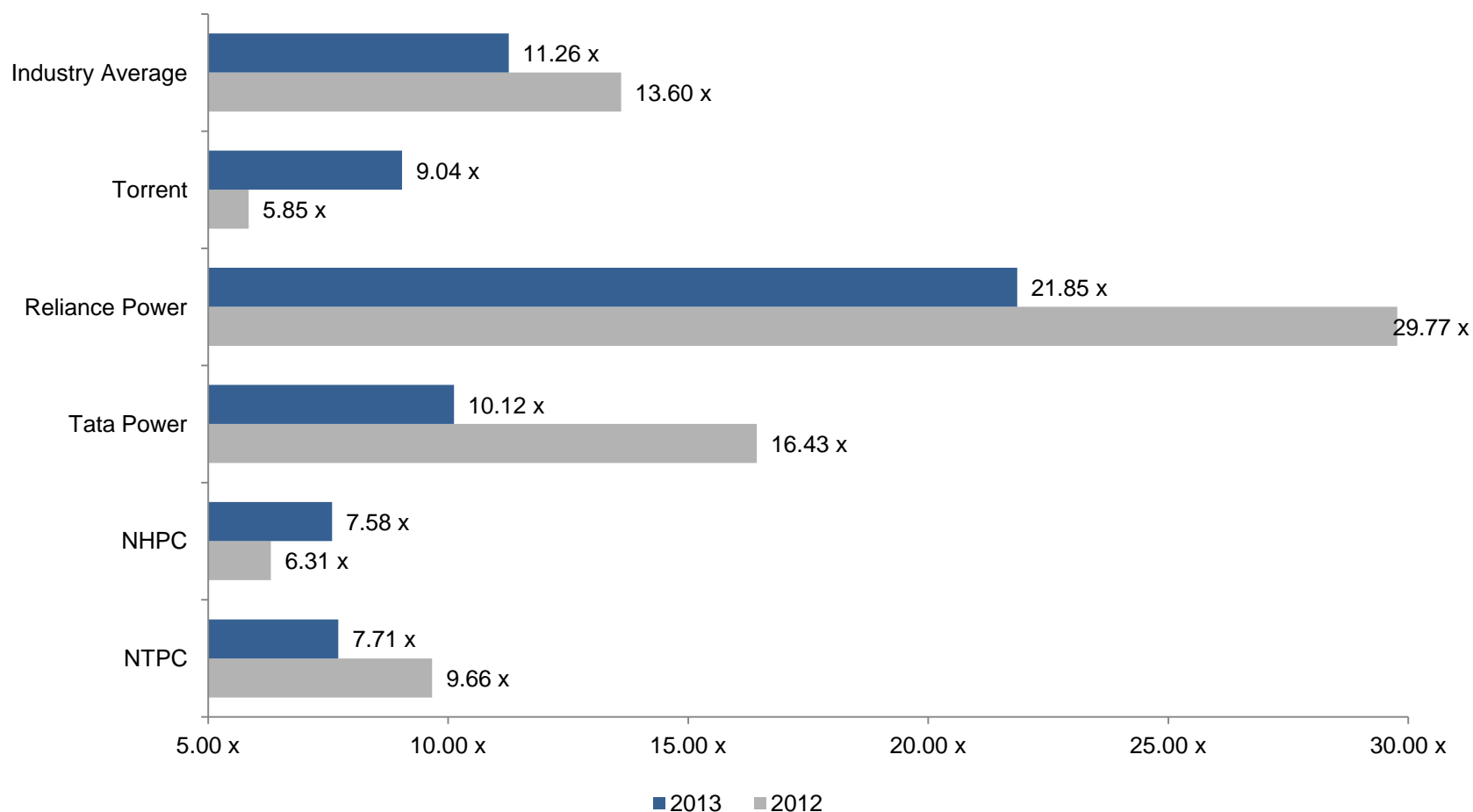
The woes of the distribution sector can be classified into two categories viz. technical losses & commercial losses (AT&C).

- **Technical loss:** Losses on account of overloading and unplanned extension of distribution lines refers to technical losses.

- **Commercial loss:** Losses on account of theft, pilferage and low metering efficiencies are regarded as commercial losses.

# Industry Players Performance and Valuation Multiples

## EV/ EBITDA



EV/ EBITDA multiple is used for comparing different companies in the same industry and identifying those that could be undervalued.

This multiple takes into account the earnings from the operating business irrespective of the impact of capital structure and taxes applicable. Hence, this multiple represents the company's performance in terms of its earning efficiency of its core business operations only.

The overall Enterprise value of the industry has reduced due to the challenges faced in availability of fuel and recovery of dues from state distribution companies ("Discom").

**NTPC:-** NTPC is the market leader amongst all the power producers in India, It produces 25 percent of all the power generated in India. Since the company is highly leveraged and due to the overall economic & regulatory scenario of the industry, there has been a reduction in EV/EBITDA multiple of NTPC.

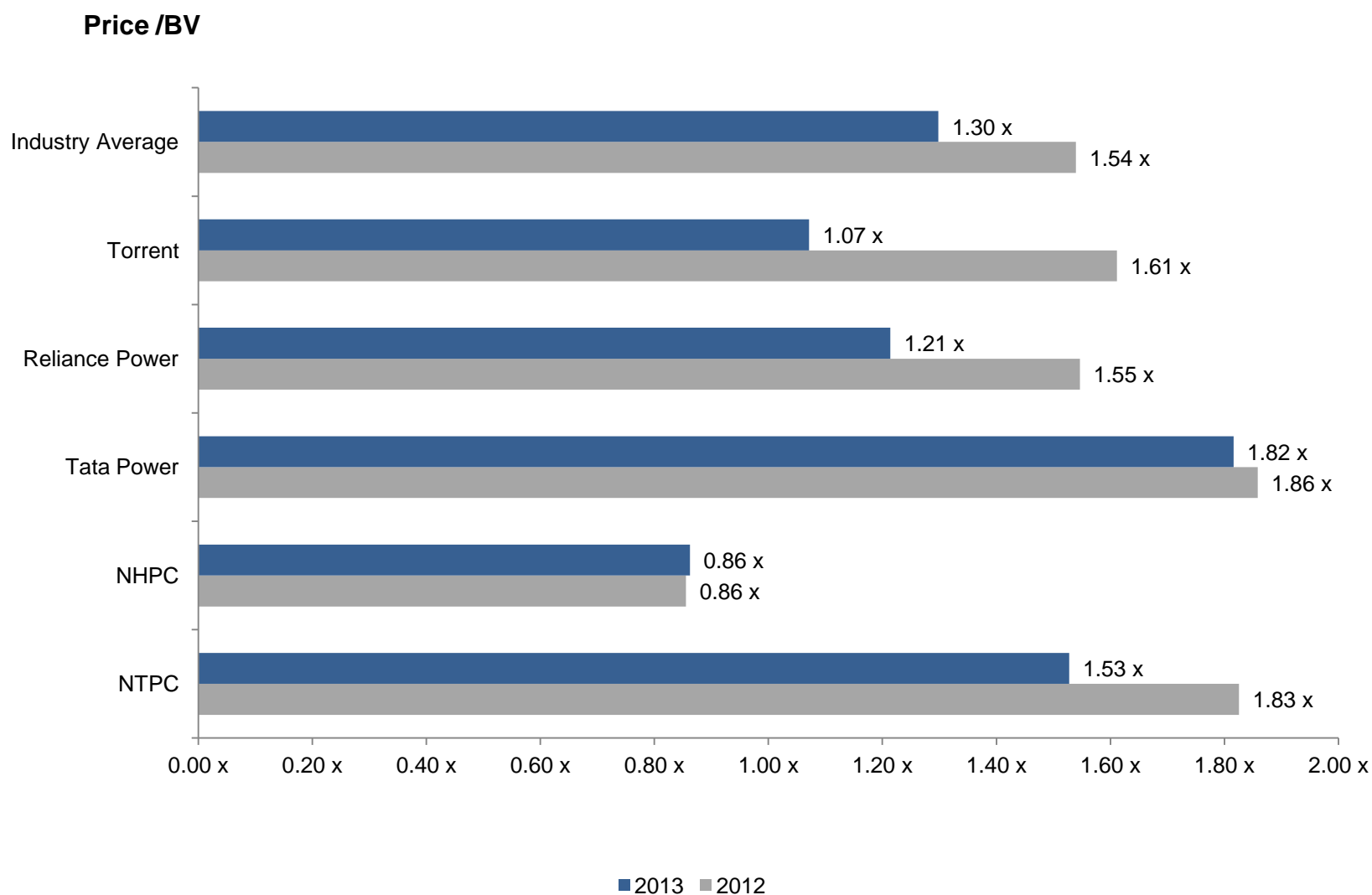
**Tata Power:-** There has been significant increase in the debt of Tata Power for capacity expansion. Commissioning of the capacity expanded is likely to be completed in this fiscal year and might add to the revenues in FY 2014. Since the company is highly leveraged and due to the overall economic & regulatory scenario of the industry, there has been a reduction in EV/EBITDA multiple of Tata Power.

**NHPC:-** There has been a increase in generation of NHPC due to a good monsoon, however NHPC's Sales had reduced due to reduced demand from the states where it is the primary supplier. Significant addition in planned and installed capacity and high operating margins of hydropower projects has resulted in a higher EV/ EBITDA multiple.

**Torrent Power:-** The generation of power has reduced which resulted in purchase of power from the market in order to fulfill contractual obligations. This led to high purchase cost which was compounded with increase in staff and other costs resulting in reduction of EBITDA margins. The company is significantly leveraged affecting its overall profitability. The higher EV/EBITDA multiple signifies that the company is over valued even though not operationally efficient.

**Reliance Power:-** Revenue of Reliance Power has doubled in FY 2013 and EBITDA has increased by 50 percent. There has been an increase in borrowing resulting in increased financial cost. The EV/EBITDA multiple signifies that the company is over valued as compared to other industry players. Gradual reduction of market capitalization would align this company with the industry.

# Industry Players Performance and Valuation Multiples



The Price to Book Ratio is used to compare a company's net assets available to common shareholders relative to the sale price of its stock. This ratio also gives an idea of whether investor is paying too much for what would be left if the company is liquidated in near future.

**NTPC:-** The total debt of NTPC has increased by 18% . Since the company is highly leveraged and due to the overall economic & regulatory scenario of the industry the reduced Market Capitalization has led to lower price to book value ratio. The company is fundamentally strong but low price to book ratio indicates that the stock is under valued.

**NHPC:-** The Market Capitalization and the Book value of the company has moved in tandem. The reinvestment of profits has resulted in a increase in the book vale of the company.

**Tata Power:-** The increase in debt for capacity expansion has resulted in reduction in the overall profitability for shareholders of the company. In FY 2012 and FY 2013 the finance cost was close to 40 & 45 percent of operating profit. Thus, reducing the price to book value ratio marginally.

**Torrent Power:-** Increasing financial leverage of Torrent Power and overall economic and regulatory scenario of the industry has eroded its market capitalization. High interest outgoing, compounded with high purchasing cost of power has reduced margin thus reduced the overall value of the company. The company will have to take immediate steps to improve upon its operational efficiency.

**Reliance Power:-** Increasing financial leverage of Reliance Power which would lead to higher finance cost has resulted to erosion of its market capitalization. Thus, fall in the Price to Book value of Reliance Power.

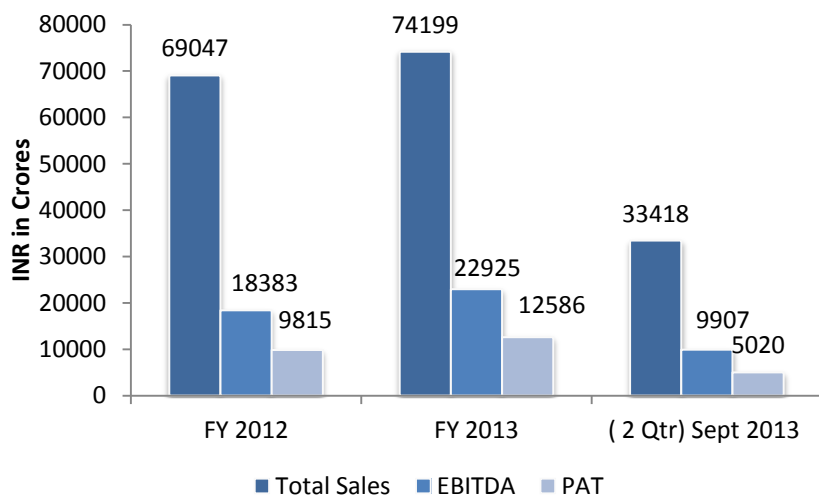
# Industry Players Performance

## NTPC Ltd

NTPC Limited (NTPC) is one of the biggest electric power producer in India. It generates 25% of the total electricity generated in India. The Company has an installed capacity of approximately 42,000 MW. The Company is also adding to its installed capacity. The Company's power projects under construction includes Bongaigaon-I with a capacity of 750 Megawatts (MW), Barh-I with a capacity of 1,980 MW, Barh-II with a capacity of 1,320 MW, Gadarwara with a capacity of 1,600 MW, and Rihand with a capacity of 500 MW.

The Company's other business includes providing consultancy, project management and supervision, oil and gas exploration, and coal mining. The Company's subsidiaries include NTPC Electric Supply Company Limited, NTPC Vidyut Vyapar Nigam Limited, NTPC Hydro Limited, Kanti Bijlee Utpadan Nigam Limited and Bhartiya Rail Bijlee Company Limited.

### Sales and Profitability Analysis

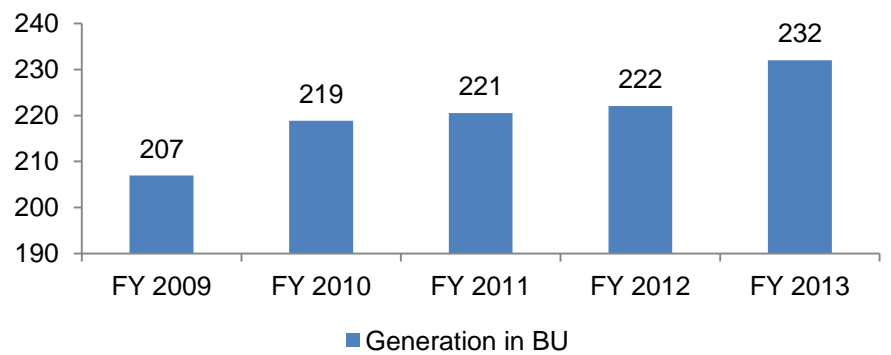


NTPC's Sales have increased by 7% in FY 2013 as compared to FY 2012. The EBITDA and PAT have increased by 25% & 28% in FY 2013.

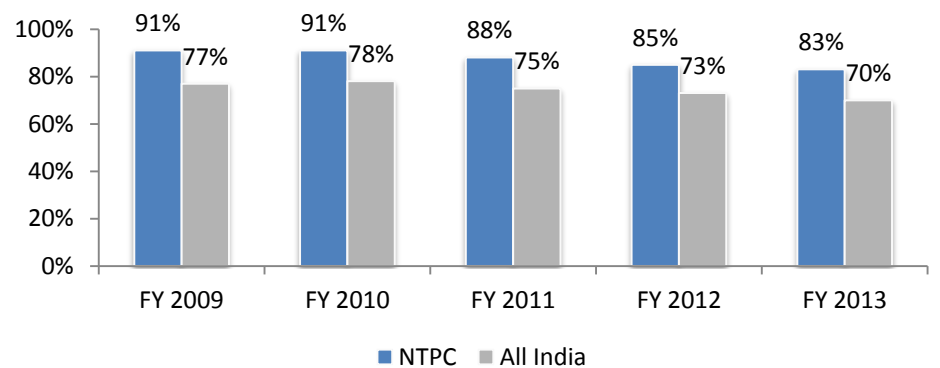
Despite the problems with supply of coal, NTPC has been able to reduce its Fuel expenses. This has been one of the reasons of the improvement in the EBITDA margins in FY 2013. The improvement in EBITDA margins has also improved the PAT margin.

NTPC has also been able to retain the EBITDA and PAT margins to similar levels of FY 2013 in the first two quarters of FY 2014.

### Generation in BU



### Plant Load Factor

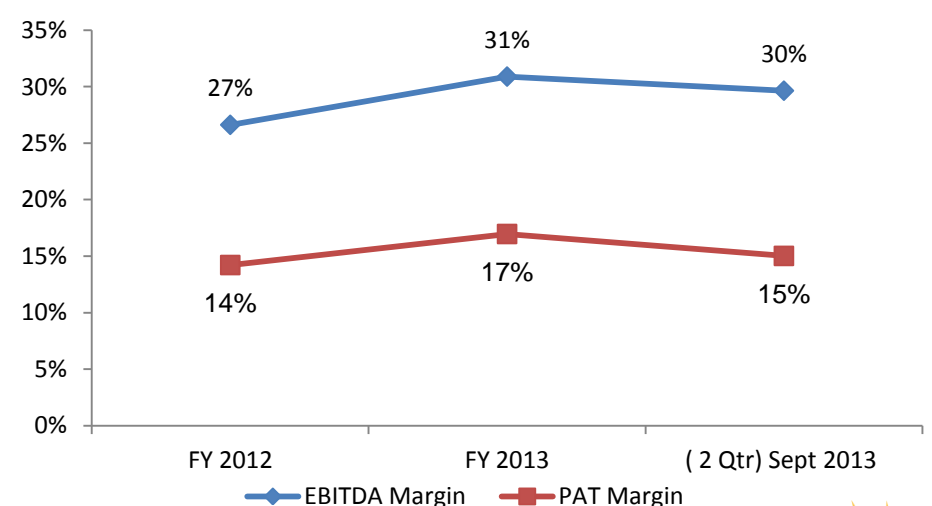


NTPC has been steadily increasing its generating capacity at a CAGR of 6.5% from FY 2009 to FY 2013.

In terms of the total installed capacity, NTPC is one of the biggest company in India. 16% of the total installed capacity in India is owned by NTPC.

NTPC produces 25% of Electricity produced in India. Although NTPC's PLF (Plant Load Factor) is falling consistent to the industry, but its PLF of 83% is better than the all India average of 70% in FY 2013.

### Profit Margin Analysis



# Industry Players Performance

## NHPC Ltd

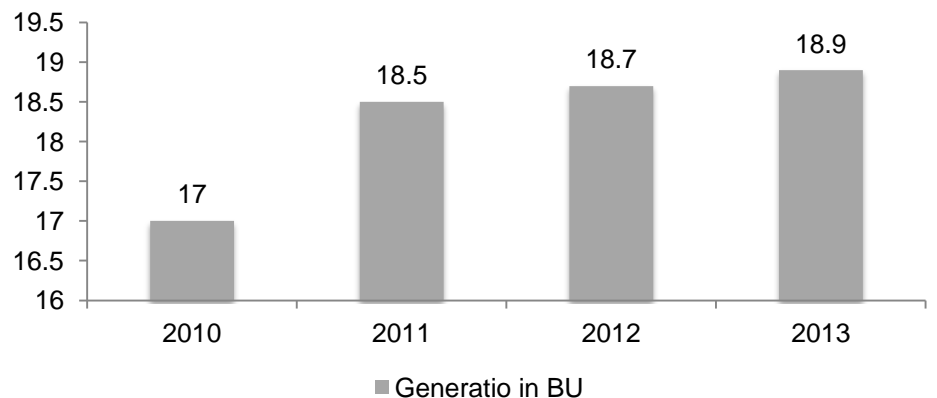
NHPC is a Mini-Ratna category PSU. It is operating in the hydro power segment, with an installed capacity of 5,702 MW.

NHPC has 17 power generation stations in 8 states (J&K, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Assam, Manipur, Sikkim & West Bengal). NHPC has 7 power projects under construction with a capacity of 4,095 MW. NHPC is awaiting government clearances as well as conducting survey and investigation for projects with a total anticipated capacity of 10,151 MW. It has entered into MOUs with state governments for various projects like NHDC with MP, Loktak with Manipur, Dibang with Arunachal Pradesh, CVPPPL with J&K and PTC India Ltd.

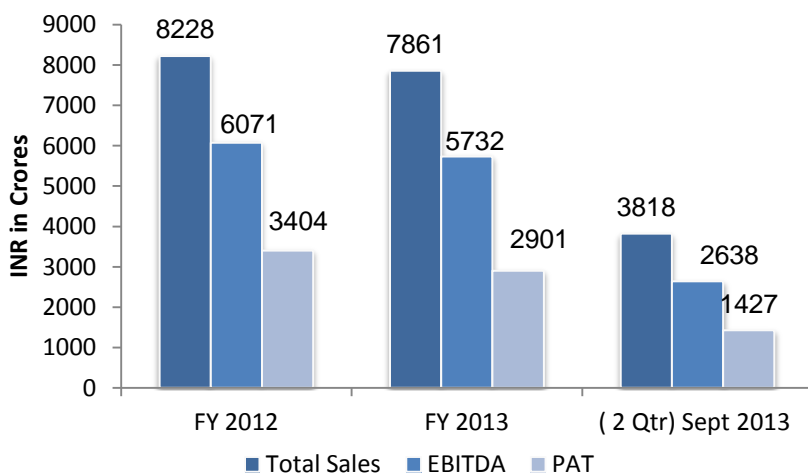
NHPC's other operations include consultancy services in different areas of hydropower including river basin studies, Design and engineering.



## Generation in BU



## Sales and Profitability Analysis



The Sales of NHPC in FY 2013 has reduced by 4% as compared to FY 2012. This has been due to the reduction in sale of Power and reduction in interest from beneficiary state due to revision of tariff by CERC. Reduction in Sale has in turn reduced the EBITDA and PAT in FY2013.

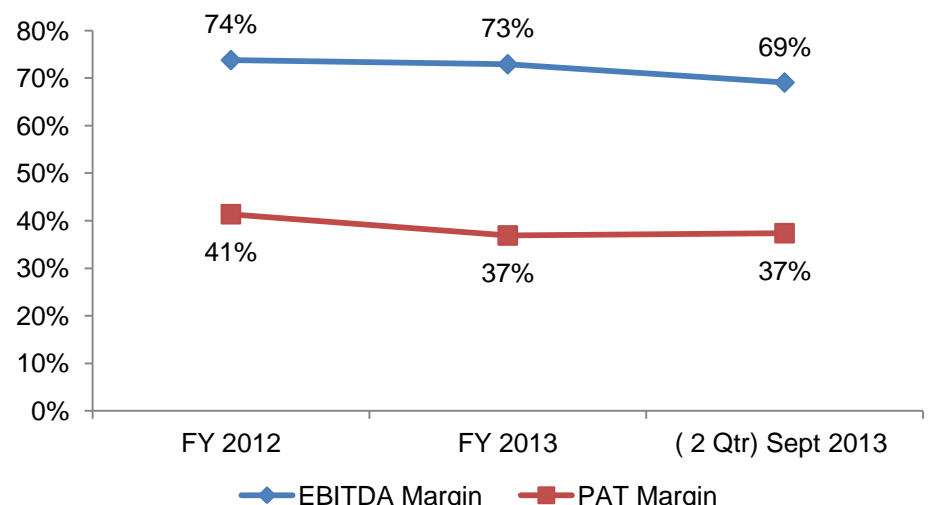
Sales of 2 Qtr in FY 2014 as compared to sales 2 Qtr in FY 2013 has increased. The PAT has reduced as compared to historical quarter due to increase in depreciation.

NHPC supplies 12% of the energy generated by it free to the respective state or its utilities or the electricity board as per the MoU's signed with the respective state governments following the power purchase agreements. Thus affecting its margin adversely.

The Decline in EBITDA margin in FY 2013 is mainly due to increase in Water usage charges which forms generating expenses for NHPC. The increase in Interest outgoing on term loans and bonds has reduced NHPC's PAT margin in FY2013.

The Quarterly margins have reduced as compared to FY 2013 and also historical 2 Quarters of FY 2013 because of increasing in total expenditure by approximately 10%.

## Profit Margin Analysis





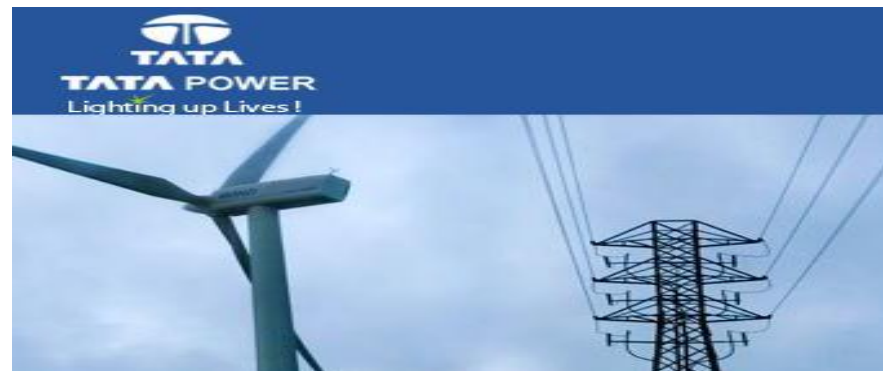
# Industry Players Performance

## Tata Power Company Ltd

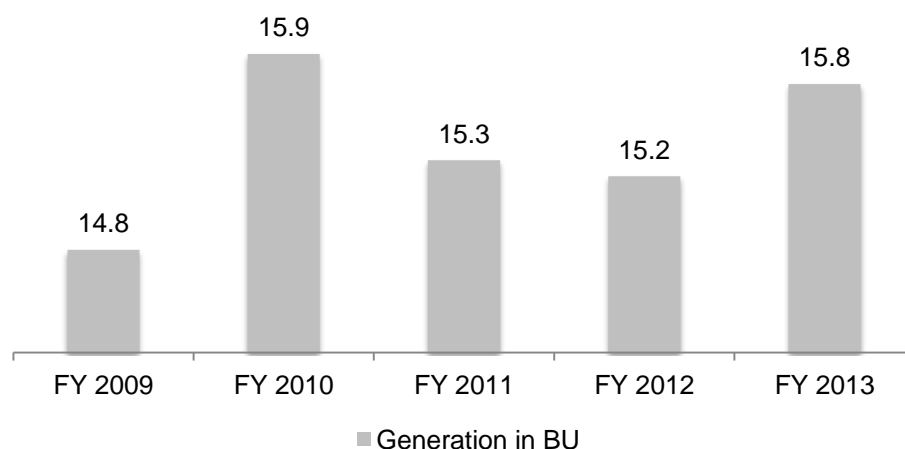
Tata Power Company Limited is an integrated power company. The Company operates in three segments: Power, Coal and Other. Power segment consists of Generation, Transmission, Distribution and Trading of Electricity.

Coal segment consists of mining and trading. Others segment consists of defense Engineering, Solar Equipment, Project Contracts/Infrastructure Management Services, Coal Bed Methane, Investment, Shipping and Property Development.

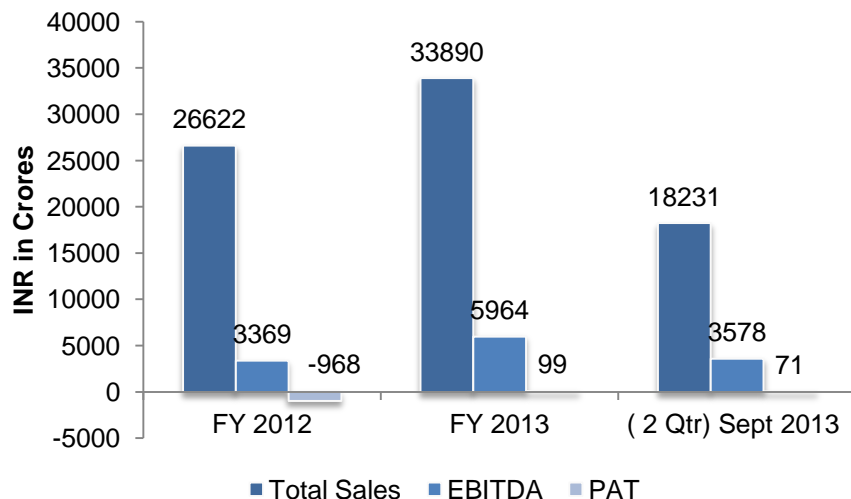
The Company's subsidiaries include Tata Power Solar Systems Limited, Af-Taab Investment Co. Limited, Chemical Terminal Trombay Ltd., Tata Power Trading Co. Ltd., Powerlinks Transmission Ltd., NELCO Ltd., Tata Power Delhi Distribution Ltd., Coastal Gujarat Power Ltd., Bhira Investments Ltd., Bhivpuri Investments Ltd. and Khopoli Investments Ltd.



### Generation in BU



### Sales and Profitability Analysis



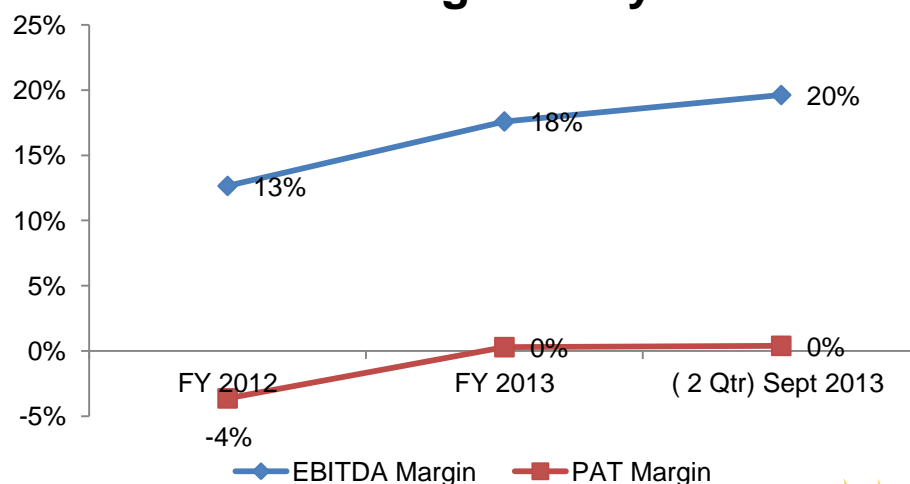
Interest cost was up by 29% ,On the other hand the depreciation was up by 27% ,due to revision in rates and methodology of charging depreciation in respect of electricity business w.e.f from Q4FY13. Thus reducing net profitability of the company.

Considering the 2nd Quarter of FY 2014 with same Quarter of FY 2013, the EBITDA margins have improved but due to commissioning to new facility but due to a 28% increase in the depreciation, there is no improvement in PAT margin.

The increase in Total Income was primarily on account of additional revenue generated on account of commissioning of all the units at CGPL (Mundra) and MPL (Maithon Power Limited , JV with DVC), higher revenue of TPDDL (Delhi Distribution) on account of higher recovery due to increase in power purchase cost and higher volumes traded by TPTCL. Higher sales together with operating profit margin expansion resulted in increase in operating profit.

The sales of 2Qtrs of FY 2014 as compared to 2 Qtrs of FY 2013 have increased by 21%. There has been a 28% increase in the EBITDA due to the spreading of fixed cost.

### Profit Margin Analysis



# Industry Players Performance

## Reliance Power Limited

The Company is in the business of setting up and operating power projects and in the development of coal mines either directly or through its Subsidiaries. The Company has a large portfolio of power projects and is also developing coal mines in India and Indonesia.

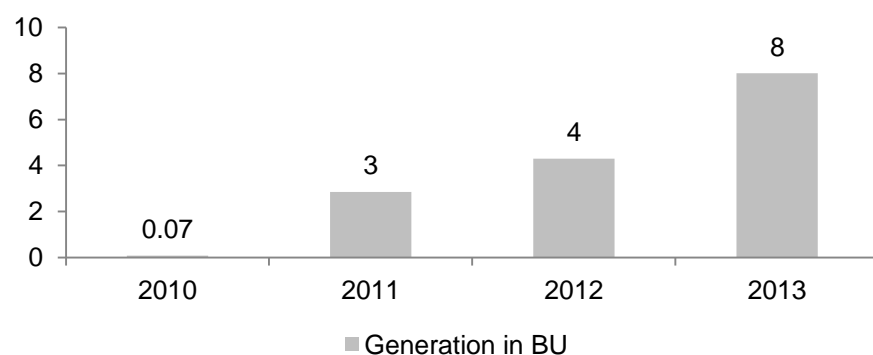
Of the power projects which the Company is developing through its Subsidiaries, 2,200 MW are already operational while the other power projects are under various stages of development.

The first 660 MW unit of the 6X660 MW Ultra Mega Power Project (UMPP) being developed by its Subsidiary, Sasan Power Limited was commissioned towards the close of the financial year.

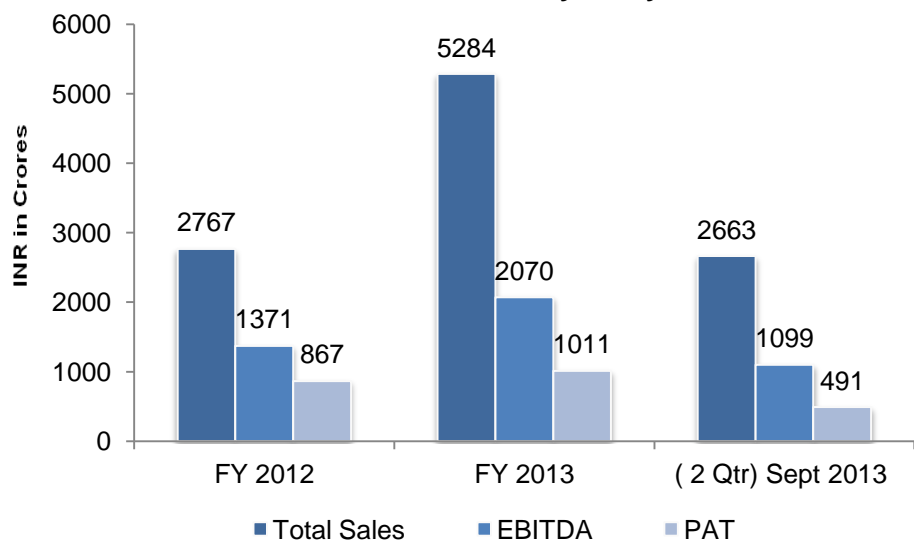
The first Unit (300MW) of the Power Plant at Butibori being developed by its Subsidiary, Vidarbha Industries Power Limited commenced commercial operations in April 2013. The second unit of the Butibori Power Project (Capacity 300 MW) and the Wind Power Project at Vashpet, Maharashtra (Capacity 45 MW) are also expected to be commissioned during the current financial year which will make the operational capacity 2545 MW.



### Generation in BU, REL



### Sales and Profitability Analysis



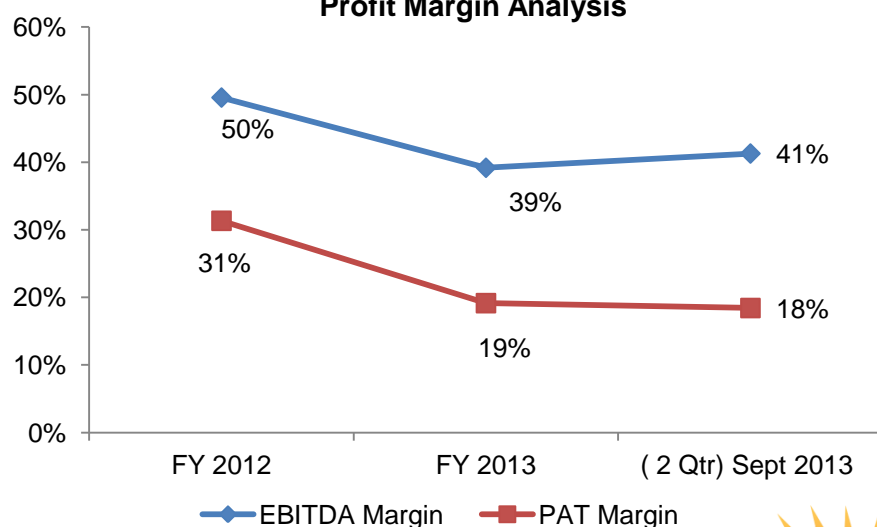
The Sales of Reliance Power in FY 2013 has increased by 90% as compared to FY 2012. This has been on account of:

- Significant additions to its capacity made by the Company.
- The Rosa Power plant generated 7,952 million units of electricity.
- Operating capacity of the company doubled during the fiscal from 1240 MW to 2500 MW with commissioning of new generation capacity at Butibari.

Sales of 2<sup>nd</sup> Quarter in FY 2014 as compared to sales of 2<sup>nd</sup> Quarter in FY 2013 has increased. However, the PAT has reduced as compared to historical quarter due to higher fuel cost, higher interest burden, depreciation and taxation.

The fixed cost burden for the plants that began generation has led to shrinkage in EBITDA margins for FY 2013.

### Profit Margin Analysis



# Industry Players Performance

## Torrent Power

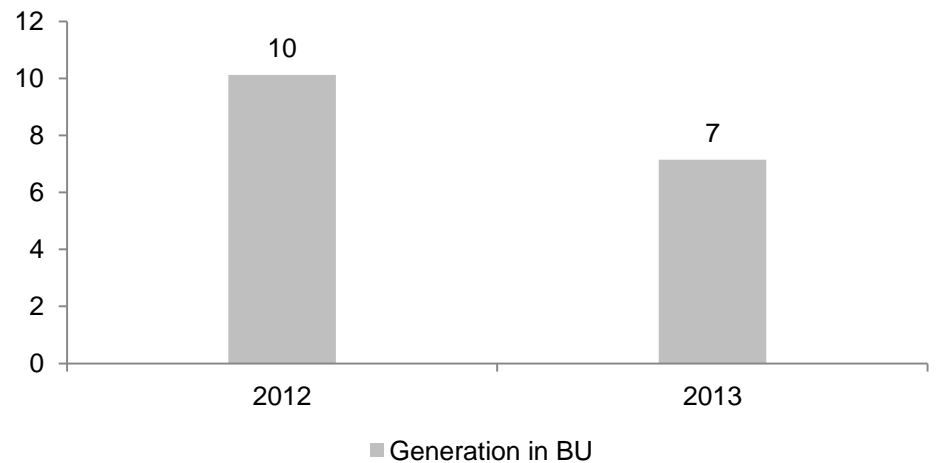
Torrent Power Limited is an integrated utility engaged in the business of power generation, transmission and distribution of electricity with operations in the states of Gujarat, Maharashtra and Uttar Pradesh.

The Company's power plants are located at SUGEN, Taluka Kamrej, District Surat; Sabarmati, Ahmedabad, and Vatva, Ahmedabad.

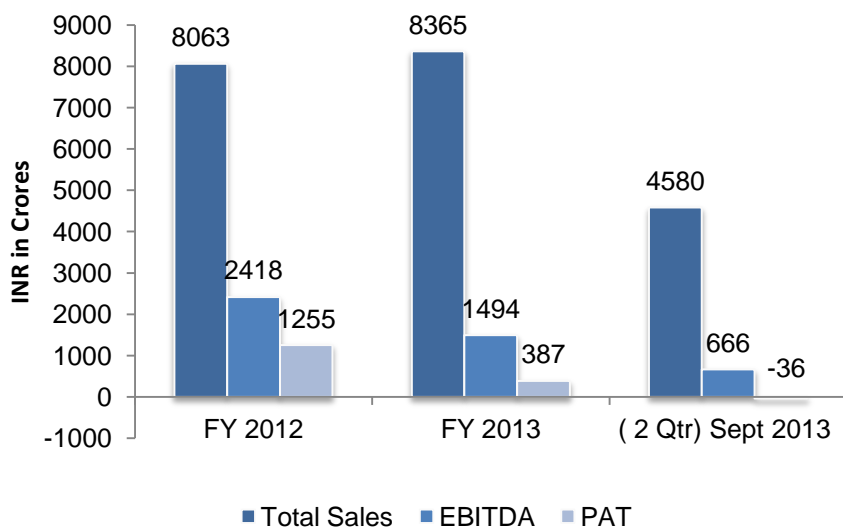
As of March 31, 2012, the Company had a generation capacity of 1,697 megawatt. As of March 31, 2012, it is also implementing the 382.5 megawatt UNOSUGEN Project adjacent to the SUGEN Mega Power Project of it. In addition, it is also implementing the 1,200 megawatt DGEN Mega Power Project at Dahej SEZ through Torrent Energy Limited (TEL), a wholly owned subsidiary company. Its subsidiaries include Torrent Power Grid Limited, Torrent Pipavav Generation Limited and Torrent Energy Limited.



### Generation in BU



### Sales and Profitability Analysis



In FY 2013, the Net sales increased by 3% to Rs 8365 crore, but operating profit declined by 40% to Rs 1494 crore.

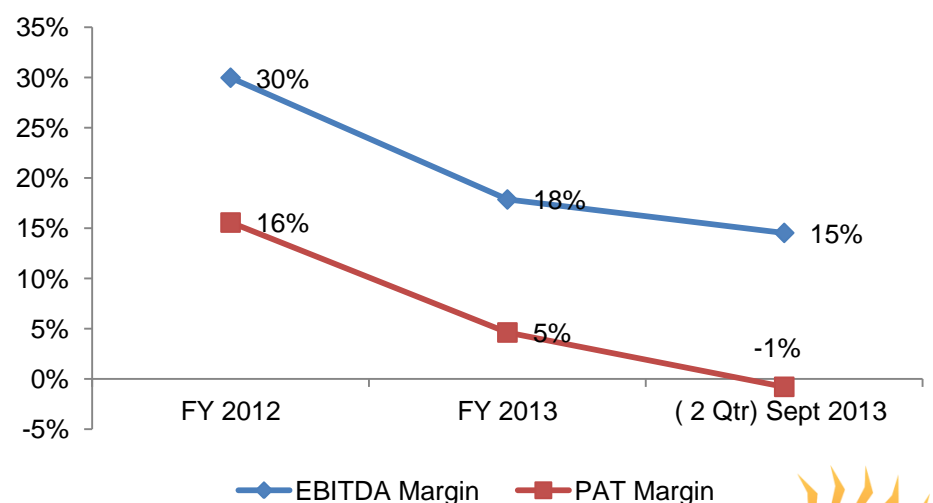
The EBITDA declined mainly due to reduction in generation which resulted in higher purchase cost of power from the market in order to fulfill the contractual obligations, increase in staff and other costs.

The Sales of the 2<sup>nd</sup> Quarter of FY 2014 has increased by 4% however the EBITDA and reduced by 28% as compared to 2<sup>nd</sup> Quarter of FY 2013. This has resulted in reduced EBITDA of INR 666 Cr from INR 829 Cr in 2<sup>nd</sup> Quarter of FY 2013.

Continued lower generation of power from its own power plants and meeting the demand of its regulated assets from external purchases from short-term market hurts its profitability. This has resulted in reduction in EBITDA in FY 2013 and even in 2 Qtr of FY 2014.

The reduction in EBITDA margin and higher interest and depreciation cost has continued reduction of PAT margin in FY 2013 and in 2<sup>nd</sup> Quarter of FY 2014.

### Profit Margin Analysis



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