

A power-packed century

Tata Power celebrates 100 years

To commemorate its centenary year, celebrations were kicked off at Khopoli on 9 February with Cyrus Mistry, chairman, Tata group, unveiling the logo and theme depicting the company's 100-year service of 'Invisible Goodness' to the nation.

It was in 1914 – a hundred years ago – that Jamsetji Tata decided to get into power generation, to implement a vision of an industrialised India. He had a vision of producing “clean, cheap and abundant power [which] is one of the ingredients for the economic progress of a city or country”.

Hence, in 1915, the Tatas commissioned India's first power plant – the hydroelectric station in Khopoli for producing 72 MW of power. By 1919, it had set up another hydroelectric station in Bhivpuri (78 MW) and then a third in Bhira (300 MW).

All the three were near Mumbai, located in the Western Ghats. These plants are still operational – testifying to the engineering skills that the group had managed to harness then, and that had helped it maintain and service the plant all along. But that was just the beginning. Many other firsts followed thereafter (see box: A history of firsts).

Today Tata Power is a \$5.6 billion global enterprise. Its activities range from coal mines in Indonesia, wind farms in South Africa, energy projects in Turkey and Zambia and technology partnerships in Australia. It is India's largest integrated private power producer, spanning power

generation, transmission, distribution and trading.

On 1 October this year, the company was one of the recipients of the Porter Prize India award, named after Michael E. Porter, professor at Harvard Business School and a strong name in the field of strategy. Speaking on the achievement, Anil Sardana, the managing director and CEO, said, “The Porter Prize is indeed a commendable recognition which serves as further motivation in our efforts towards being a world class organisation. The company is committed to delivering excellence across all verticals.”

But Tata Power was historically a single unified company. And it was always a pioneering enterprise.

“We were the company that never shut down power to Mumbai (it was Bombay then),” explains F.C. Kohli, who was with Tata Electric Companies (TEC) from 1951 to 1969 and served on the board of directors of Tata Power from 1990-2000 (he is also the person responsible for the creation of TCS, which today enjoys the prime position in the Tata group). He had to personally lobby with the government in 1968 to allow the companies to computerise their operations. When the government permitted TEC to do so a few months later, “we put up information systems in real-time mode. There were real-time communications between Khopoli and Trombay...the systems took instantaneous feedback... We were the third or fourth country in the world to have this technology,



and we were ahead of even Britain and Japan. We were pioneers.”

As K.M. Gherda, who was with TEC from 1967-84 (and retired as its managing director and vice-chairman), recalls, “The Khopoli power station, commissioned in 1915, was owned by Tata Hydroelectric Power Supply Company. Some years later, Tata Hydro applied for a licence to set up another hydroelectric station at Bhivpuri, which was owned by the Andhra Valley Power Supply Company. Andhra Valley paid a licence fee to Tata Hydro... Later Tata Hydro applied for a licence

1915: First hydroelectric power generating station commissioned at Khopoli with an installed capacity of 40 MW, which was subsequently upgraded to 72 MW.

1922: Commissioned

another hydro power station at Bhivpuri with an installed capacity of 40 MW, subsequently upgraded to 72 MW.

1927: Third hydro power station of 90 MW capacity comes up at Bhira, which was

subsequently upgraded to 150 MW.

1956: To meet the increasing demand of electricity, a major thermal power station of 62.5 MW capacity is commissioned at Trombay.

1957 and 1960: Two more thermal units of similar capacity i.e. 62.5 MW, commissioned at Trombay.

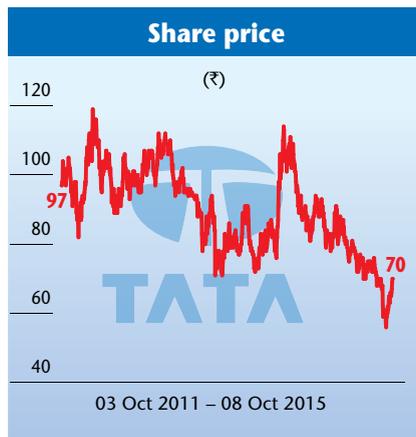
1965: Fourth thermal unit of 150 MW capacity comes on line at Trombay.

1984: India's first 500 MW



to set up a power station in Bhira and transferred it to Tata Power Company for a lump sum fee.” These complicated arrangements made accounting a problem. Licence fees had to be calculated and after that the managing agents’ fees had to be calculated. And there were no computers at that time, points out Gherda.

Adds Adi Engineer, another former MD, who was with the company from 1984 to 2002, “The name TEC described the combination of three companies – Tata Hydro Company, Andhra Valley Power Supply



Company and Tata Power Company. . . In the mid 1990s, the impact of liberalisation opened up new opportunities for the business. The three companies were merged to form Tata Power and the new entity started spreading its activities across India under Ratan Tata, the then chairman. Tata Power got into new ventures, including power generation at Jamshedpur (it took over the generation unit of Tata Steel), the transmission business with Power Grid Corporation of India and power distribution in Delhi.”

generating unit with multi-fuel burning capability is commissioned at Trombay.

1990: Second 500 MW thermal unit comes up at Trombay.

1994: A gas-based 180 MW capacity combined cycle

plant is commissioned to provide quick-start capacity to Trombay Thermal Station and to ensure reliable and uninterrupted supply for essential services in Mumbai.

1996: The 150 MW Pumped Storage Unit at Bhira was

commissioned. 67.5 MW Thermal Power Plant at Jojobera (Jharkhand) comes into existence.

2000: The Tata Hydro-Electric Co. Ltd., The Andhra Valley Power Supply Co. Ltd., and the Tata Power Co.

Ltd., are amalgamated to become one entity – The Tata Power Company Limited. 120 MW Jojobera Unit #2 is commissioned.

2001: 81.3 MW Diesel Generator based plant set up at Belgaum, Karnataka.

LET THE CELEBRATIONS BEGIN

The company has begun promoting 100 years of 'Invisible Goodness' this year.

Some of the major events being planned are:

- Commissioning an additional 120 MW hydropower project
- Training 200,000 people through its Tata Power Skill Development Institute by 2025
- Saving ₹100 crore by mobilising young students through its initiative 'Club Enerji' – a national programme on energy and resource conservation
- Encouraging every Mumbai consumer to save energy and reduce his/her electricity bills
- Launching a special LED scheme and an innovative free mobile application service for its Mumbai customers
- Promoting special charging stations for laptops, tablets, mobile phones through manual exercising, at places of congregation, in order to encourage healthy, pollution free living
- In addition to all these, an almost 1,000-plus Tata Power employee team will commit to volunteer for CSR initiatives undertaken across the country.

By 2006 when Prasad Menon became the managing director of Tata Power, the winds of competition had already started blowing. "We felt then that we were becoming marginalised because our work was limited to Mumbai," says Menon. "Many private players were getting into the business and we would have been sidelined if we had not taken the decision to grow. We needed to move into different kinds of business models or risk being left behind."

"We like to look at our domestic business as a balanced mix of

THE WORLD IS OUR STAGE

When the New Electricity Act was introduced in 2003, the Tata Power management was certain that it could mean an extremely bright future for the company in India.

After all, it had within its embrace, some of the finest technologies and people to handle hydro-electric power, thermal power and even renewable power.

The new regulations allowed for more competition among players. But it soon found that too many vested interests were at work to trip up Tata Power's plans. For instance, even its existing power distribution licence had to be wrested back from the government by appealing to the courts at all levels, right up to the Supreme Court. It finally won. But the battle was

fierce, expensive and cost a lot of time. Unspoken, but implied, were charges of regulatory capture.

It was the same with large scale solar power projects, preferential allotment of coal mines, and even award of hydro-electric power projects.

Finally, the company decided to look for markets elsewhere. And the results were stunning. In less than 10 years, Tata Power had become a global company with more than 10 projects overseas.

"It is up to the country to decide whether they want Tata Power to work in India – which remains our first preference – or to go overseas in search of business. That we have managed to get projects across the world under

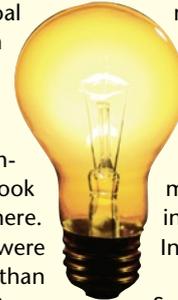
stiff international bidding norms speaks volumes for our prowess and our competitiveness," explains Sardana.

And it is not that Tata Power isn't making money overseas.

According to informed sources within Tata Power, it hopes to make more money on global investments than in India (see table)

"But now with the Supreme Court laying down clear norms on how public assets – coal land or even water – must be granted only through public bidding, the business environment will definitely become healthier," adds Sardana.

Will this mean more projects in India? Nobody is willing to bet on it. Not yet.



operating, under construction and development projects. We have a broad mix across tariff models including regulated returns, captive, IPP, UMPP and merchant sales. Over 40 per cent of our capacity is already earning stable regulated returns," adds Sardana.

Big projects

Menon talks about how the first large venture that "we got into was the joint venture with the Damodar Valley Corporation for Maithon. We also won the Mundra project in Gujarat

(India's first ultra mega power project of 4,000 MW to go live). Getting these large projects helped us hone our ability to run massive greenfield ventures". It was around the same time, that Tata Power also began getting into renewable energy, with collaboration from Australia and a JV with BP (which has now got dissolved).

At the same time, the transmission business too began growing by leaps and bounds. Tata Power set up a joint venture with Power Grid Corporation of India – Powerlinks Transmission – and became a pioneering

2003: Tata Power enters into a JV with Power Grid Corporation to develop a 1200 km long transmission line to bring electricity from Bhutan to Delhi.

2004: Tata Power floats a wholly owned subsidiary for

the power trading business, known as Tata Power Trading Co. Ltd.

2005: Unit 4 of 120 MW capacity at Jojobera is commissioned.

2006 & 2007: Tata Power completes the acquisition

of 30 per cent equity in Indonesian Coal Mines, PT Kaltim Prima Coal (KPC), and PT Arutmin Indonesia, as well as trading companies from PT Bumi Resources. Ministry of Coal has allotted Mandakini Coal Block in Orissa jointly

to Tata Power, Jindal Photo and Monnet Ispat; and Tubed Coal Block in Jharkhand with Hindalco. The 50.4 MW Khandke Wind Farm Project is completed in FY 08.

2008: Unit 1 of 2 x 45 MW Phase of Haldia Project



The entire industry faces the problem of allowing companies to restructure their power purchase agreements (PPAs). The problem erupted when the government decided to reduce the risk to it by having a fuel price that could be factored in by the promoter as part of his tariff cost. Earlier, all fuel costs were a pass-through. They were automatically fitted into the tariff calculation formulae. Both Adani and Tata

THE MUNDRA CHALLENGE

Power bid for power projects after securing coal supply contracts with their own coal mining companies in Indonesia (and Mozambique).

All seemed good, but for one problem. The Indonesian government suddenly decided to impose an export tax based on international prices of coal. That made the cost of coal supply to India very expensive making both

the Mundra projects unviable (both Adani and Tata Power have their plants in Mundra). The PPAs had no clause for cost escalation. Both companies persuaded the government of India to settle this problem diplomatically, but nothing was done (possibly because India started this export tax concept with a tax on ore exports).

Both generation plants

would have become sick but for the timely intervention of the regulatory authorities which allowed a partial increase. However, the state government of Gujarat did not want a regulator to change the agreement. It wanted the courts to give their imprimatur. Now, even though a price increase has been allowed, part of the increased amount has to be kept aside till the court verdict decides on the final outcome.

public-private partnership initiative in this area. The subsidiary was formed in order to set up a transmission line between Siliguri in West Bengal and Mandola in Uttar Pradesh spanning a distance of 1,166 km.

Today Tata Power has a global business. Its businesses in India might soon become smaller than overseas if all its expansion plans fructify. Its activities span generation, transmission, distribution, power trading and even project implementation overseas. Moreover, it has another subsidiary which undertakes special projects for the defence sector in India.

The past 80 years was a time in which the company had to face regulated growth, where each project required time consuming special clearances from the government, however the era of liberalisation hasn't been too kind to this company. It found itself in the midst of new entrants who often were more adept at wresting concessions from the government.

Suddenly, the Tata group was confronted with a critical choice – to play the game the way others were playing it, or to stick to its principles

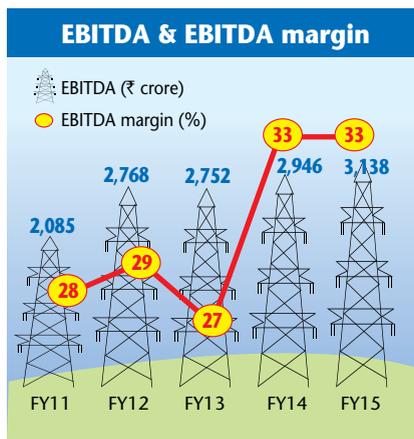
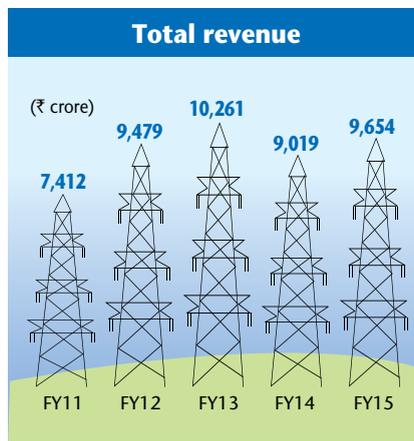
of doing business where there would be little political appeasement. Tata Power soon saw many projects going to new groups.

Changing strategy

As Prasad Menon put it, Tata Power needed to reinvent itself. It began looking overseas for business more aggressively than before. And that strategy promised rich dividends.

“We got many of these projects through stiff global bidding,” explains Sardana. So if we could not get big projects in India, it wasn't because we were not capable, or not competitive enough. We drew a line and had to adopt a strategy that suited our philosophy and our vision.”

In retrospect, almost every player that thought he could set up a power project using special concessions and dispensations from the government found itself under fire from the Supreme Court which had begun looking into cases which involved big-ticket corruption. It started with the 2G scam. It then came to mines – and all mines ‘gifted’ away during the past decade came under the apex court's scrutiny.



is synchronised with the grid. The 250 MW (Unit 8) expansion project at Trombay is commissioned.

2009: The 120 MW Power House Unit 6 at Tata Steel Works, Jamshedpur is commissioned on 27 August

2009.

2010: The 120 MW Unit 5 at Jojobera is commissioned.

2011: 3 MW Mulshi Solar Plant is commissioned in Maharashtra.

2011: Unit 1 of the 1050 MW Maithon Joint Venture

Project with Damodar Valley Corporation commissioned and stabilised.

2012: 25 MW Mithapur (Gujarat) solar plant is commissioned.

2012: 1050 MW Maithon Power Project is

INDIA MATTERS

Tata Power was one of the first companies to participate in public-private partnership projects such as Tata Power Delhi Distribution Ltd (TPDDL, the power distribution company in Delhi) and Powerlinks (the joint venture with Power Grid Corporation of India).

It was the first company to successfully develop and commission an ultra-mega power project in India – the Mundra project – which created its own set of problems (see box on PPAs), and which continues to battle its way through the regulatory quagmire.

It has, unlike most other companies, diversified into renewable energy including hydro, wind and solar reducing reliance on conventional energy sources. Almost

1,359 MW of existing capacity and 764 MW in new capacity under construction relate to green energy making Tata Power one of the largest non-conventional energy players in the country

Besides power generation, Tata Power is in some additional business areas:

TRANSMISSION

Mumbai: where Tata Power is among the three transmission licensees that bring power into Mumbai. It involves 1,100 CKm (core km) of 220KV /110KV lines and 20 receiving stations. The company is in the midst of a network upgrade and capacity expansion projects to meet the load growth in Mumbai.

It also has a joint venture with Power Grid Corporation of India

in Powerlinks, through which it has a 1,200 km line connecting Tala hydro project-Bhutan to North India. It also has a transmission line between Siliguri in West Bengal and Mandola in Uttar Pradesh spanning a distance of 1,166 km.

DISTRIBUTION

Here it has operations in Mumbai and Delhi.

In Mumbai it has a customer base of over five lakh retail customers.

In Delhi, where it operates through TPDDL (a subsidiary of Tata Power (51 per cent) with the remaining 49 per cent held by Government of Delhi) it has a licence to distribute power to north and northwest Delhi, and is among the three private licensees in Delhi. Here it has over 13 lakh customers.



Sardana: committed to excellent service

has appealed the award of higher tariffs. Tata Power is hopeful of getting a favourable verdict from the courts, but till then it remains a contingent liability.

Coal impact

However, partly because coal prices have since fallen globally and also because the Mundra plant has learnt to use an efficient mix of high and low grade coal, it has managed to reduce its input costs. It has provided for impairment in the value of Mundra. So, while the bleeding is not as bad as before, the profits that it hoped to make from the Indonesian mine it had acquired to service the Mundra power plant will not be as exciting either.

As the company explained to major investors during a conference call, “We achieve an optimum efficiency in buying for certain high CV (calorific value) coal and low CV coal. Last year we had a higher percentage of low CV coal compared to this year. So therefore while our overall cost was more or less same at the generation level, cost of buying has been flat. When the prices come down we try to use better

Quite a few power projects found allocations of their coal mines cancelled and later auctioned off to the highest bidder. That in turn made the power purchase agreements (PPAs) they had entered into with various state governments unviable, because the cost at which they would now be acquiring coal would be higher than had been anticipated earlier.

The Jindal group which thought it could set up power projects using coal from mines it had managed to get and then sell the electricity in the open market found itself caught on two fronts. Their coal suddenly became expensive. And with most of

its power generation capacity without any PPAs, and the price quoted on the energy exchange way too low the group found itself in huge debts.

Distress sales of projects began. Mercifully, as Tata Power had chosen not to go the route adopted by many others, it survived. Of course, even its Mundra project has caused the company great discomfort. While Tata Power has managed to get a favourable verdict from the Central Electricity Regulatory Commission (CERC) for a revision in power tariffs after the price of imported coal shot up, it has yet to get the revised tariffs accepted as the Gujarat government

commissioned.

2012: Acquires 26 per cent stake in large mines at PT Baramulti SuksesaranaTbk (“BSSR”), Indonesia.

2013: Tata Power has implemented the first

4000 MW Ultra Mega Power Project of India at Mundra, Gujarat, based on supercritical technology. All 5 Units (Units 1,2,3, 4 and 5) have been commissioned.

2014: Tata Power exits from

Indonesian coal mine PT Arutmin Indonesia.

2014: Acquires 39.2 MW Wind farm near Dwarka, Jamnagar in Gujarat.

2014: Commissioned 28.8 MW Solar Power Project at

Palaswadi in Maharashtra.

2014: Completes commissioning of 32 MW Wind farm project in Maharashtra.

A HISTORY OF FIRSTS IN INDIA

Today Tata Power boasts of being among the leading private power generating companies in India with a gross power generation capacity of 8,726 MW. With 754 MW of generation capacity already under execution, and another 9,105 MW of capacity in the pipeline, it hopes to be producing over 18,500 MW by 2022.

- 1915 – First hydroelectric plant – running for 100 years.
- 1956 – First thermal power unit of 62.5 MW at Trombay (two more units of 62.5 MW added at Trombay by 1960)
- First to install supervisory control and data acquisition systems (SCADA)
- Computerised grid control & energy management system
- First gas insulated switch gear
- First pump storage unit of 150 MW capacity
- Commissioned India's first 500 MW plant at Trombay in Mumbai (running for 35 years now)
- First to introduce an 'islanding' system that safeguards Mumbai from the fluctuations of the national grid. To do this, the company was the first to lay fibre optic ground wire communications.
- Commissioned the country's first 800 MW supercritical BTG (boiler turbine generator) in Mundra, Gujarat.
- Flue gas desulphurisation plant using sea water
- First to experiment with floating solar systems to overcome the paucity of land on the one hand, and to reduce the capital cost of solar panels on the other
- 220 kV cable transmission network

quality coal that is good for the plant, as long as the generation cost is not increasing. So we keep managing that balance really carefully."

Sardana believes that the worst is behind the company. "But unless the government takes a holistic view of the power business – the land, fuel linkage, transmission, penalties for violating commitments either by the government or by the promoters of a project, and timely payments by state grids, the power scene in India will remain very uncertain and

FLOATING SOLAR

No other project of Tata Power has been as path breaking as the one it is attempting on the waters of Walwan Lake near Lonavala where the company already has a hydroelectric power station.

In March 2011, Tata Power announced its plans of building the first floating solar plant in India.

The first beta plant aimed to generate just 13.5 kW. While the initial trial runs are said to have been successful, the company has chosen to keep its plans about deploying this technology under wraps.

One reason could be that it can be scaled

up significantly, and hence could be launched as a separate project altogether.

After all, the company already has direct access to around 24,000 acres of lake area. According to current estimates, it will take around six acres to generate 1 MW of power. Thus the potential could be as large as 4,000 MW of solar power.

All this could reduce the cost of the entire solar energy system by at least 30 per cent if not 50 per cent.

What makes the project more interesting for Tata Power are three more added benefits:

First, most of the places

where the company has access to water surfaces already have evacuation facilities. They are at hydroelectric power stations, and have the cables and the equipment to pick up the power generated and transport it to the grid. So no additional infrastructure will be required.

Second, no additional land will be required. Thus there will be no issue of displacement of people or resettlement of local inhabitants.

A third, inevitable, benefit is that the film covering the water will prevent excessive evaporation of water, and thus help conserve water as well.

fraught with risk. Currently, different ministries deal with different subjects. But power needs a unified vision. We hope that the present government will do this."

That could also explain why Tata Power has begun the process of de-risking itself by not looking to India alone. Going overseas gives it prestige, the confidence of dealing with global players, and also other revenue streams that do not face the risks that Indian power projects are confronted with.

But the fact remains that Tata Power today continues to have most of its assets in India. It is largely an Indian company, which ranks fifth in terms of market capitalization among all the Tata group companies.

In terms of financials, it accounted for revenues of ₹9,654 crore during FY15 and profits (before interest tax and depreciation) of ₹1,138 crore. Even though the Tatas have only a 33 per cent shareholding in the company, it has not tried increasing its stakes possibly because other group companies like Tata Steel needed more attention. But Tata Power remains a key company for

the group, partly because it was a pioneer in India, and also because of its financial and social relevance. Had it not been for Tata Power, which ensured uninterrupted quality power supply to this city, Mumbai might not have become as prosperous as it is today.

True, its share price is not as high today as it was during FY08. At ₹70, it is a far cry from the levels of over ₹160 that it had flirted with in December 2007. But the current price is higher than the peaks of around ₹60 during 2006. The markets still believe that Tata Power could get its act together and bounce back to the heights it enjoyed before. A lot depends on the final resolution to the Mundra tariff, but the long-term growth will come from its overseas ventures, which the management believes will continue to gain both in terms of margins and total contribution to the company's bottomline.

That is a very comforting and positive outlook to have in its 100th year of doing business.

♦ R. N. BHASKAR

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