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Care
Excellence
Integrity
Trust
Collaboration
Respect



The Tata Power Company Limited Investor Presentation Feb 2019



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Sector Overview

Tata Power

Business Overview

Key Themes

- Deleveraging the Balance Sheet
- Optimizing returns on Mundra/ Coal assets
- Trombay PPA issue
- Future Growth Strategy
- Renewables Portfolio- way forward

Sector Overview

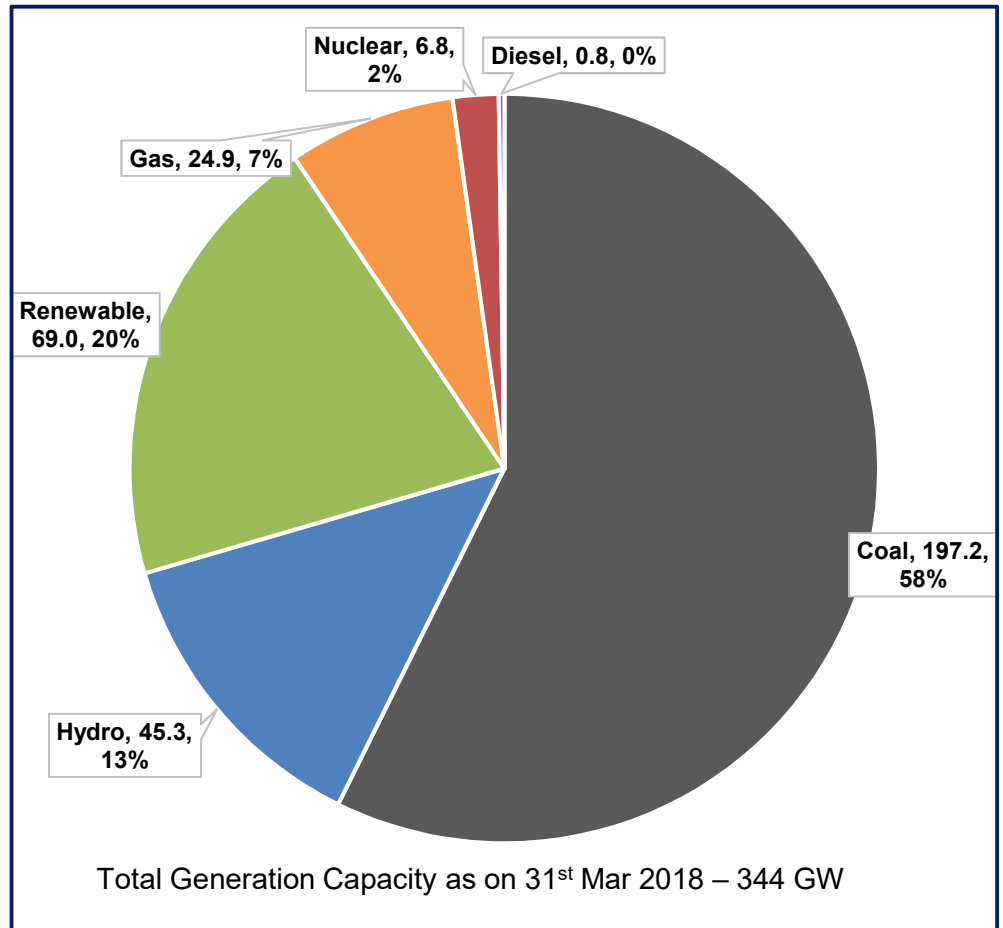
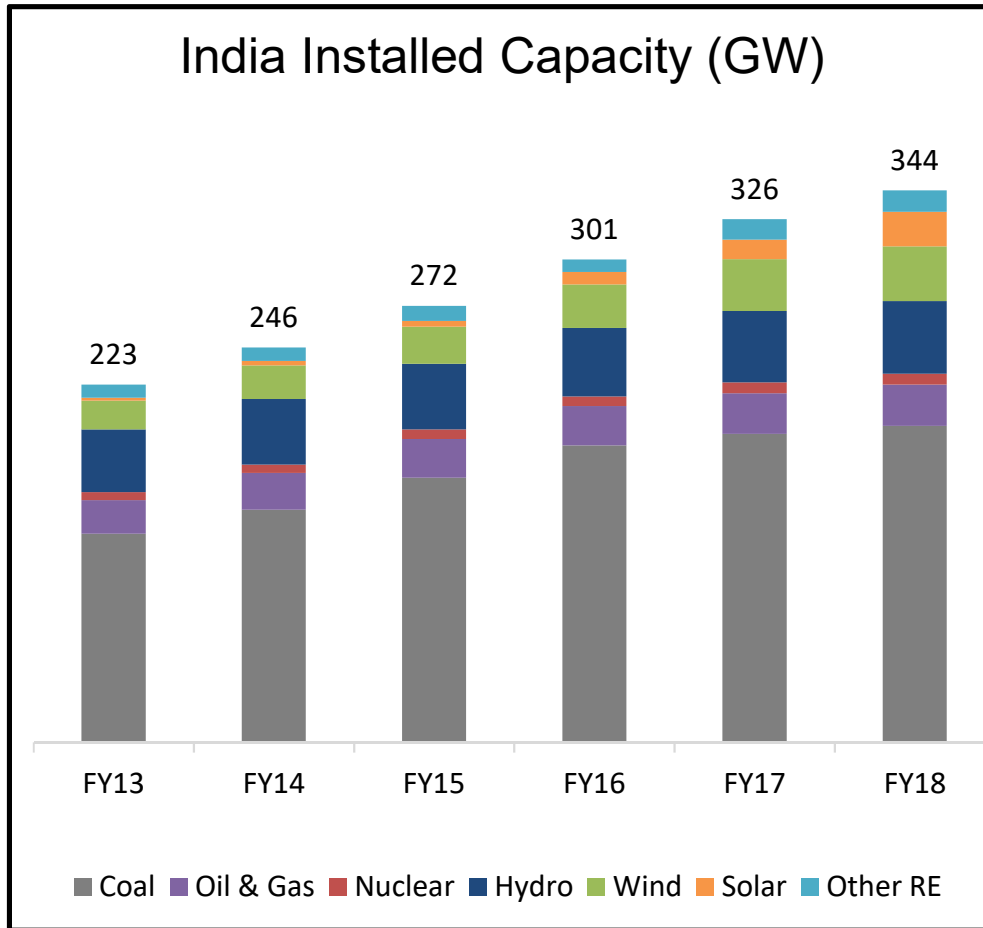
Tata Power

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India Generation Capacity– current status



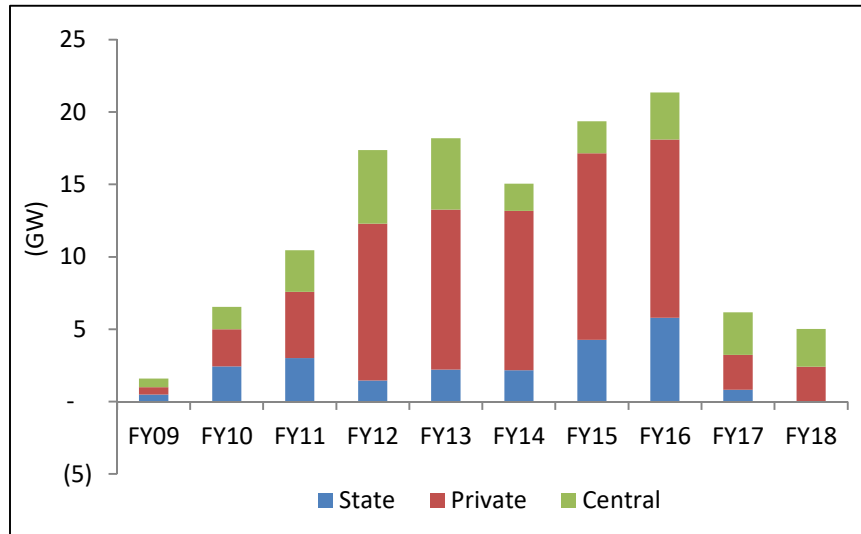
Growth in solar capacity has far exceeded thermal capacity growth (CAGR of 66% vs 9%)

Source: Govt Websites

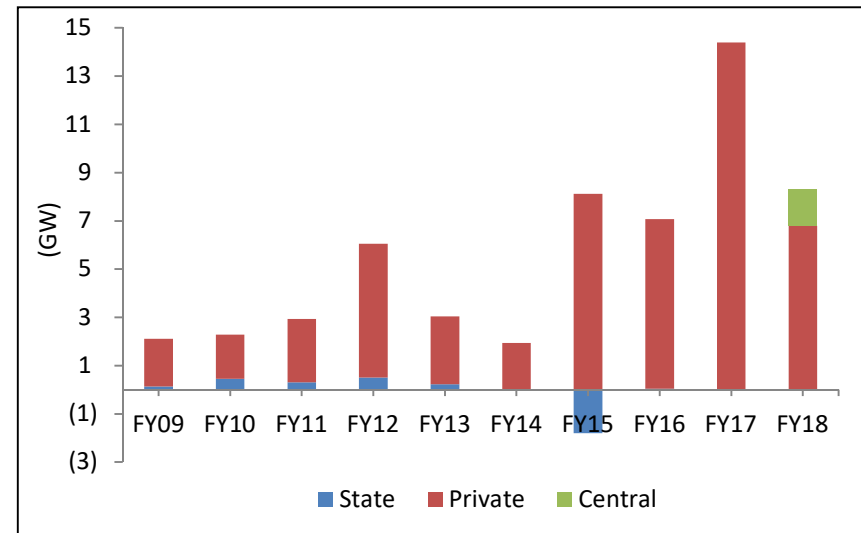
Capacity – addition trend and break-up



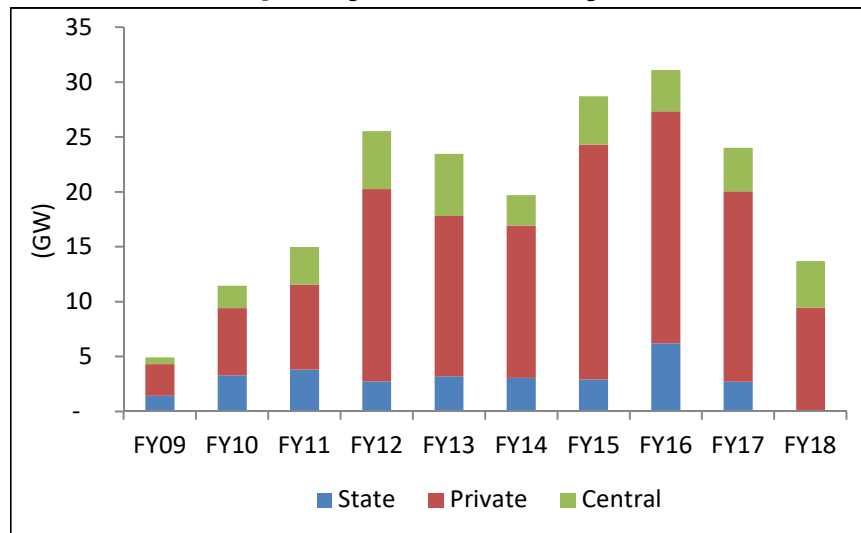
Coal capacity addition slowed in last 2 years



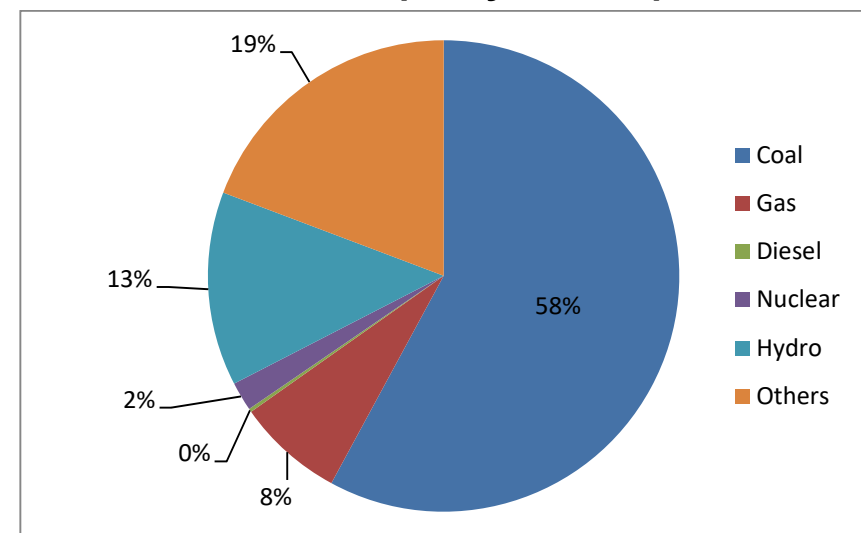
Renewable capacity addition driven by private



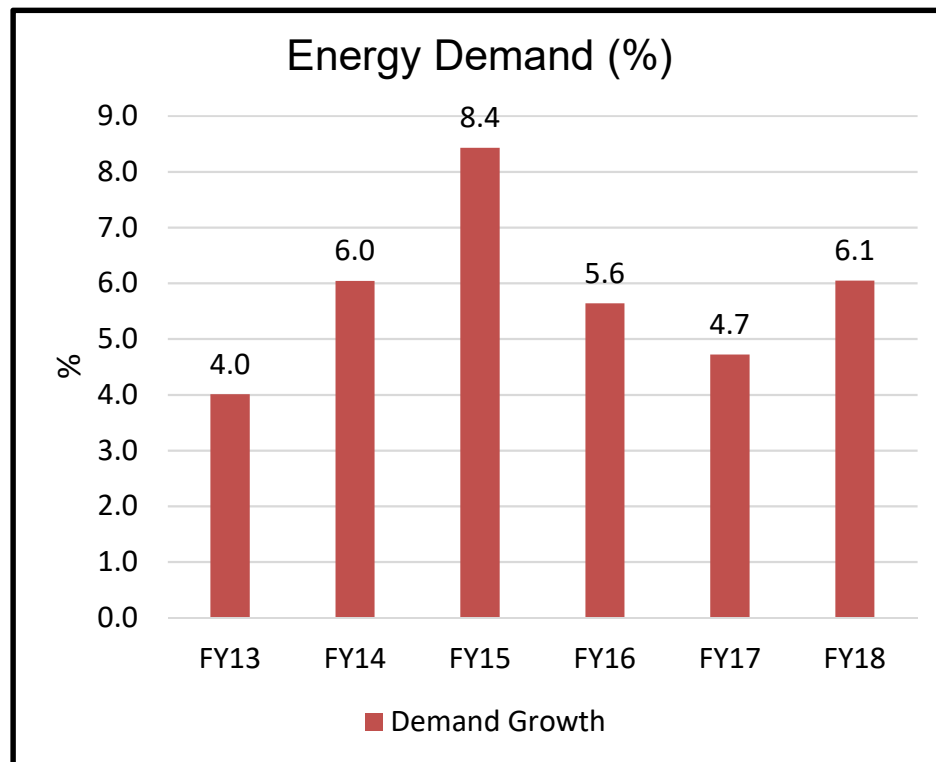
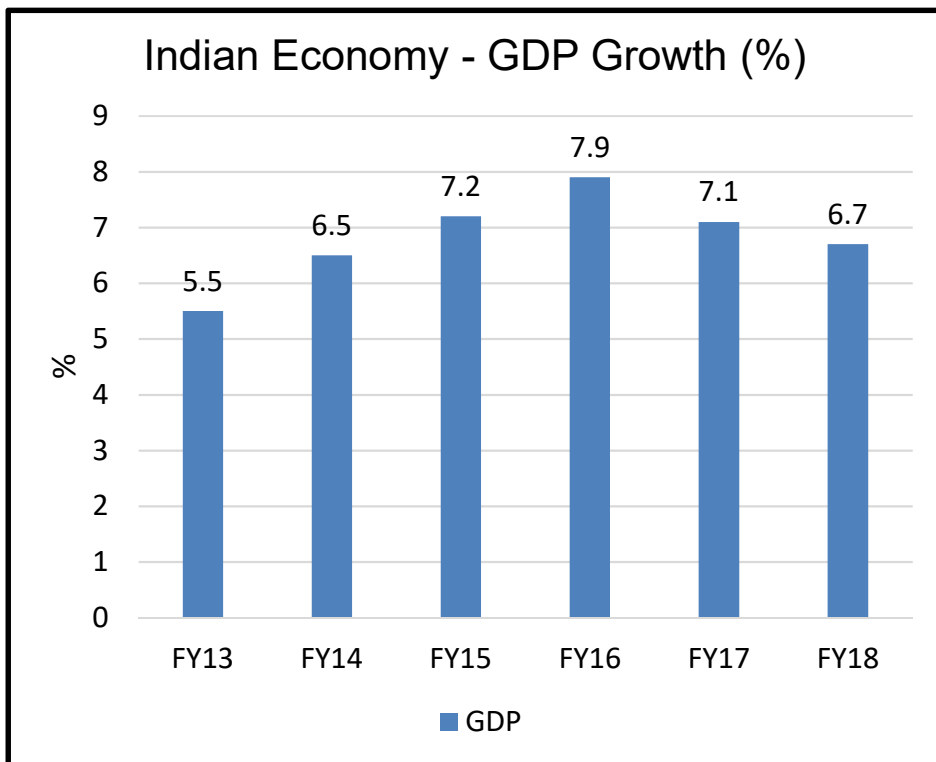
Total capacity addition – by sector



Installed capacity break-up



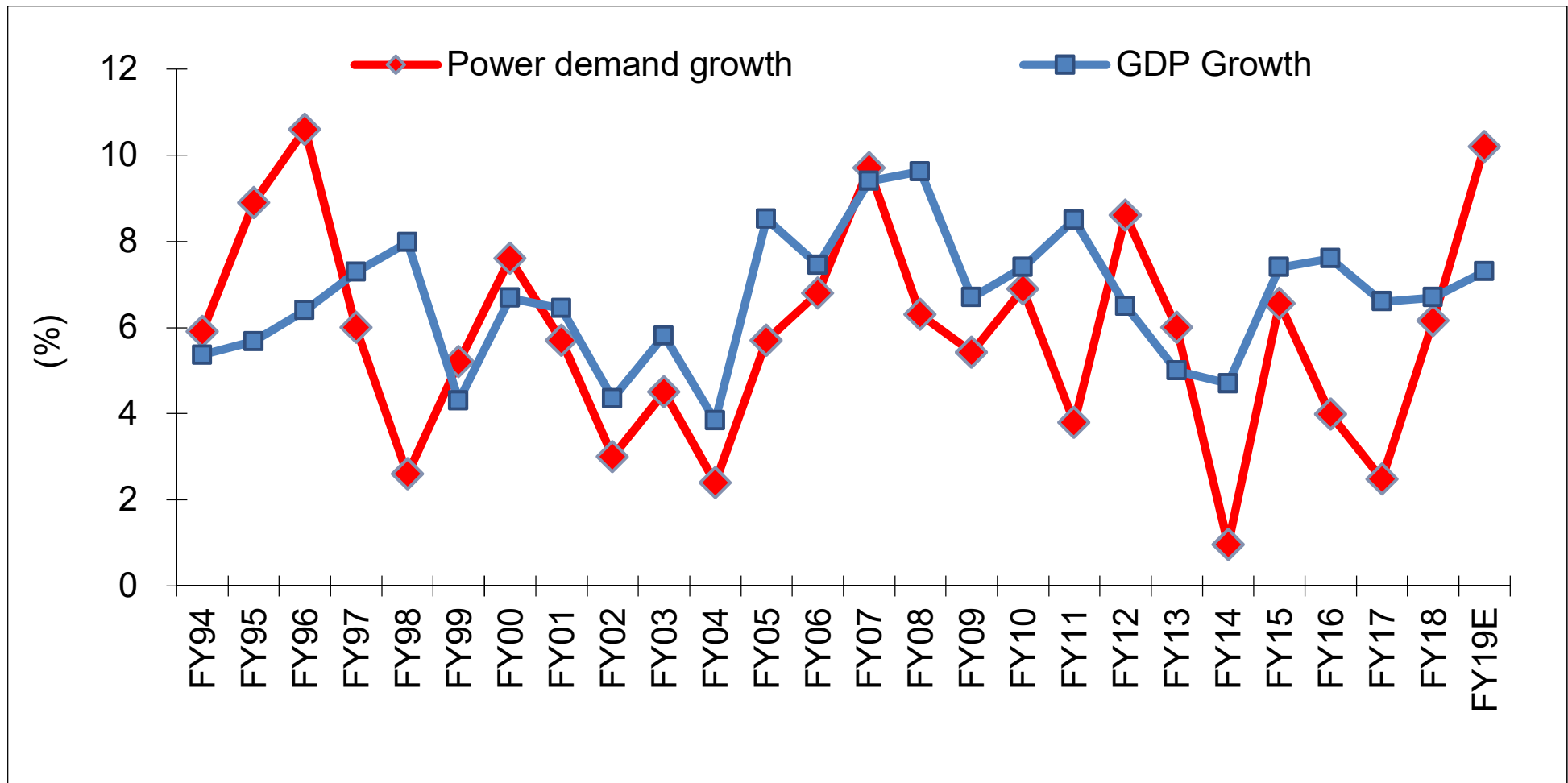
Co-relation between growth in Economy and Energy Demand



While Energy demand has grown over the years, it has not kept pace with the growth in the Indian Economy

Source: Govt Websites

Power demand growth expected to outpace GDP growth in FY19

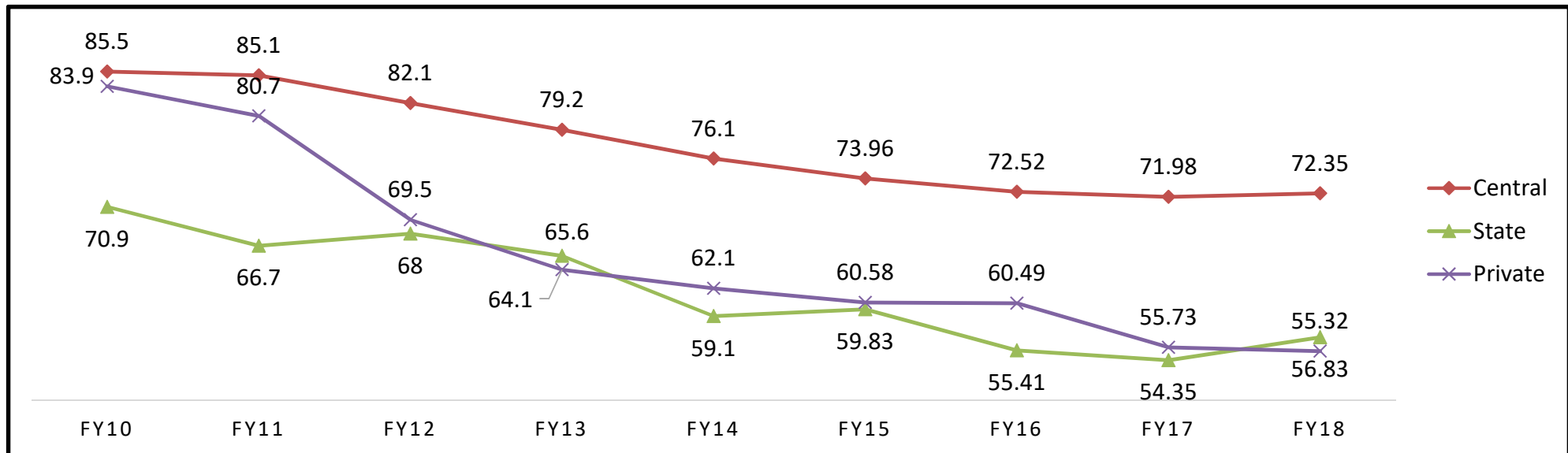


CEA's Load Generation Balance Report, 2018 expects power demand growth to exceed GDP growth in FY19 – which if happens, will be the first time since FY13

Source: CEA, World Bank, MOSPI

Thermal PLF trend showing signs of recovery

Trend of thermal power plant PLFs



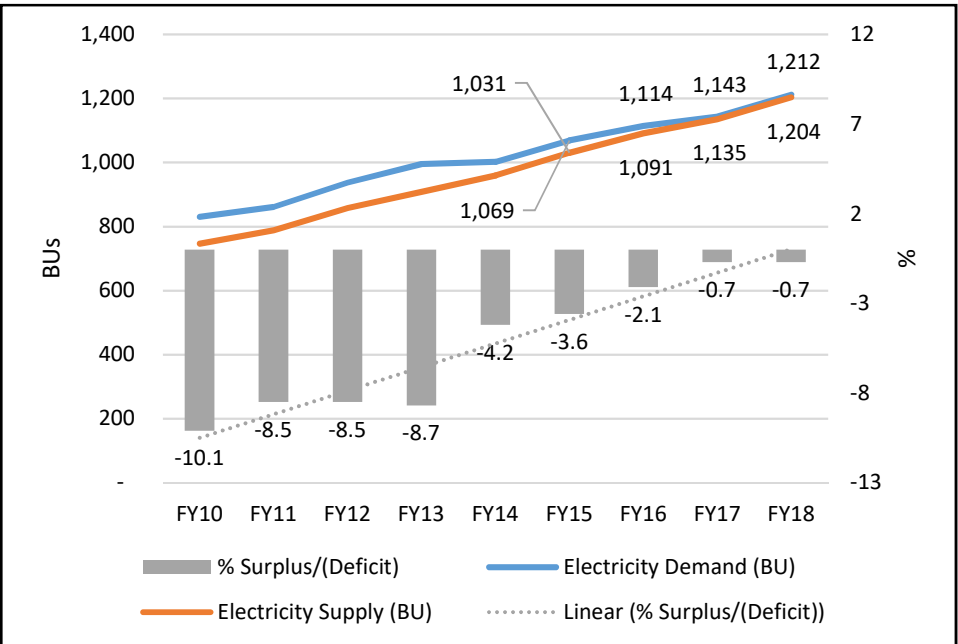
Capacity glut, along with weak SEB finances impacted thermal plant utilisation factor – however, FY18 saw initial signs of reversal of this trend

Source: Govt Websites

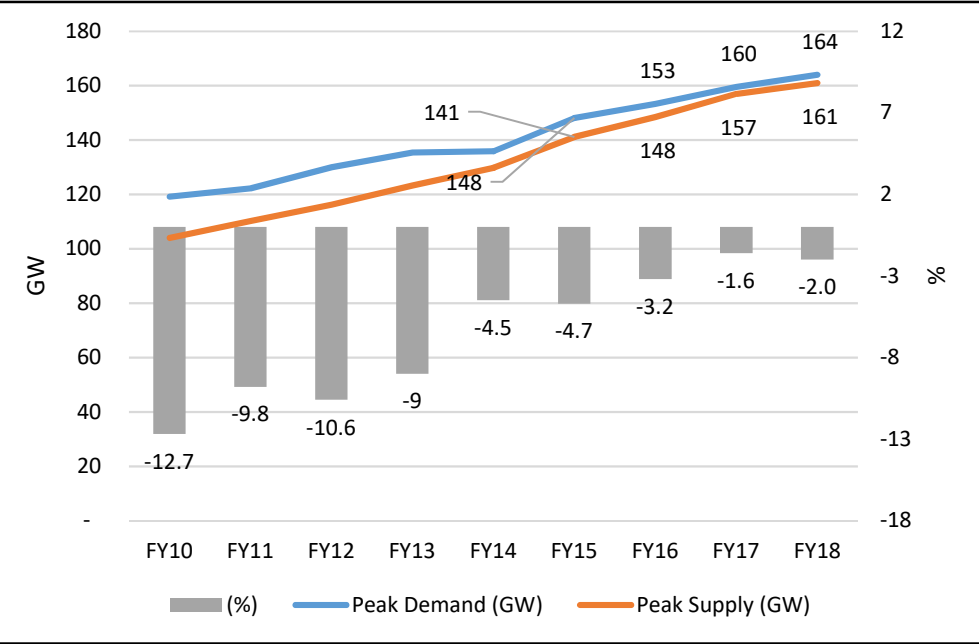
India's Energy Deficit & Peak Deficit have narrowed in FY18.....



Electricity demand and supply (Billion Units)



Peak Demand and Supply (in GW)



- The bridging of deficit is due to various factors both on demand side and supply side:
 - Record generation capacity added over the last few years
 - Increased availability of coal and transmission facilities
 - Energy efficiency measures coupled with slowdown in industrial demand
- India was 'energy deficit' by the end of FY18 with energy and peak deficit of 0.7% and 2.0% respectively
- Currently, more than half the states show surplus power while others may face shortage in varying degrees. However, on ground, blackouts and brownouts are still prevalent.

.... But, are we really power surplus ?



UP, Punjab and Telangana are expected to face significant peak shortages in FY19

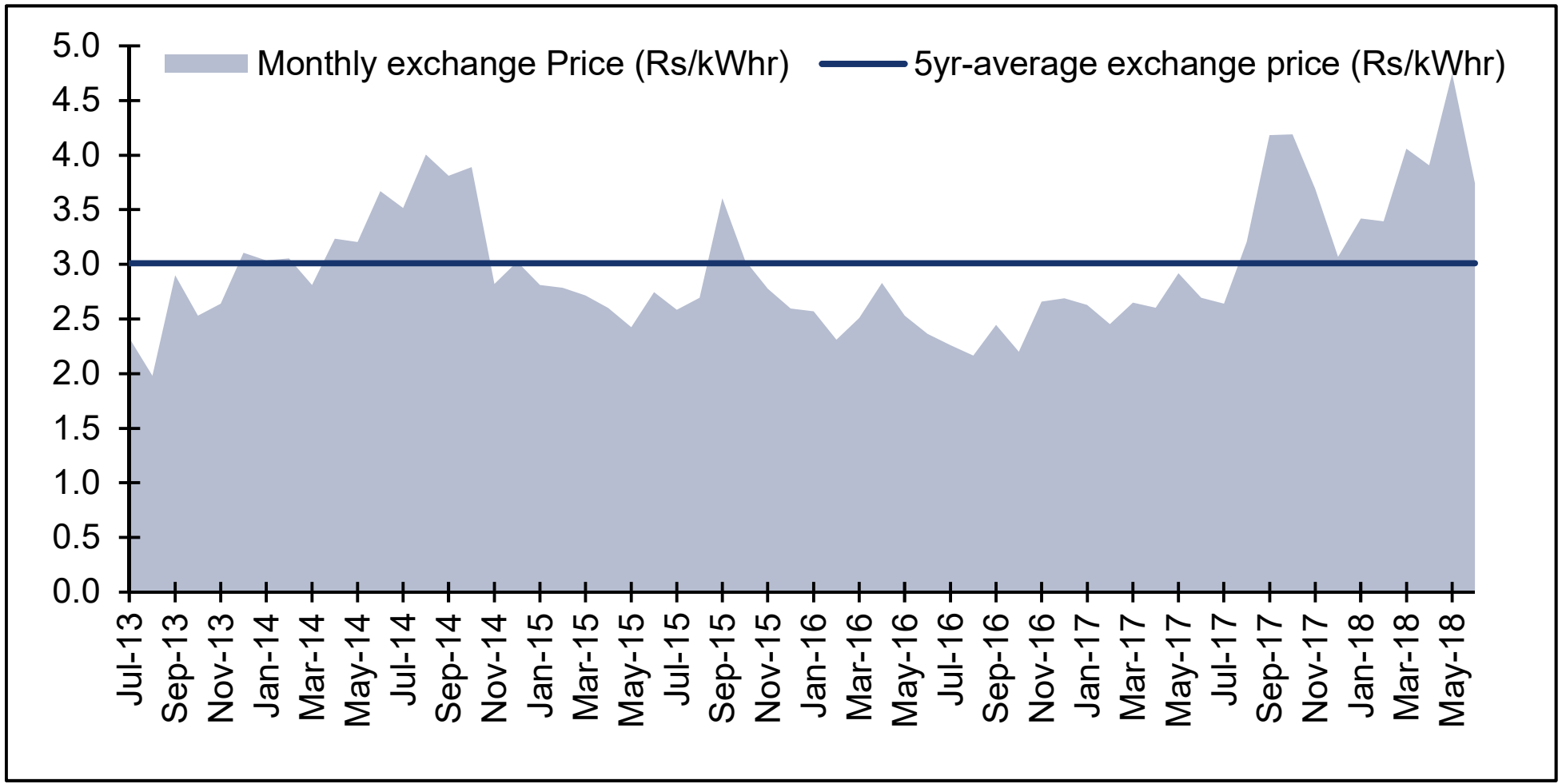
Most major states reported higher than anticipated peak demand in Q1FY19

(MW)	Peak Demand	Peak Supply	Peak Surplus/(Deficit)
Haryana	9,950	10,560	610
Punjab	12,860	10,340	(2,520)
Rajasthan	11,900	13,860	1,960
UP	21,000	17,350	(3,650)
Gujarat	16,345	17,611	1,266
MP	12,536	13,606	1,070
Maharashtra	23,000	23,301	301
AP	9,659	9,880	221
Telangana	11,368	9,925	(1,443)
Karnataka	11,000	10,947	(53)
Tamil Nadu	15,500	16,122	622
West Bengal	9,003	9,212	209
All India	180,682	185,122	4,440

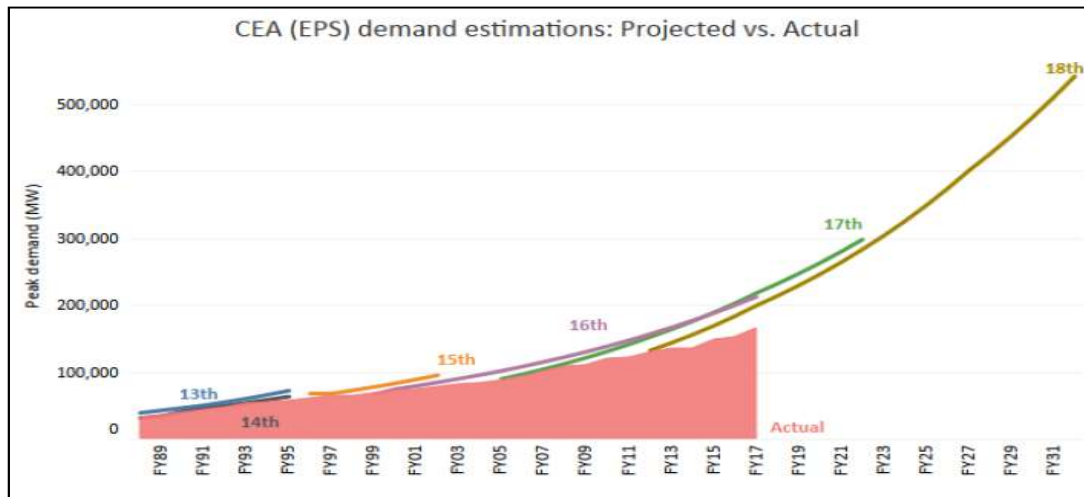
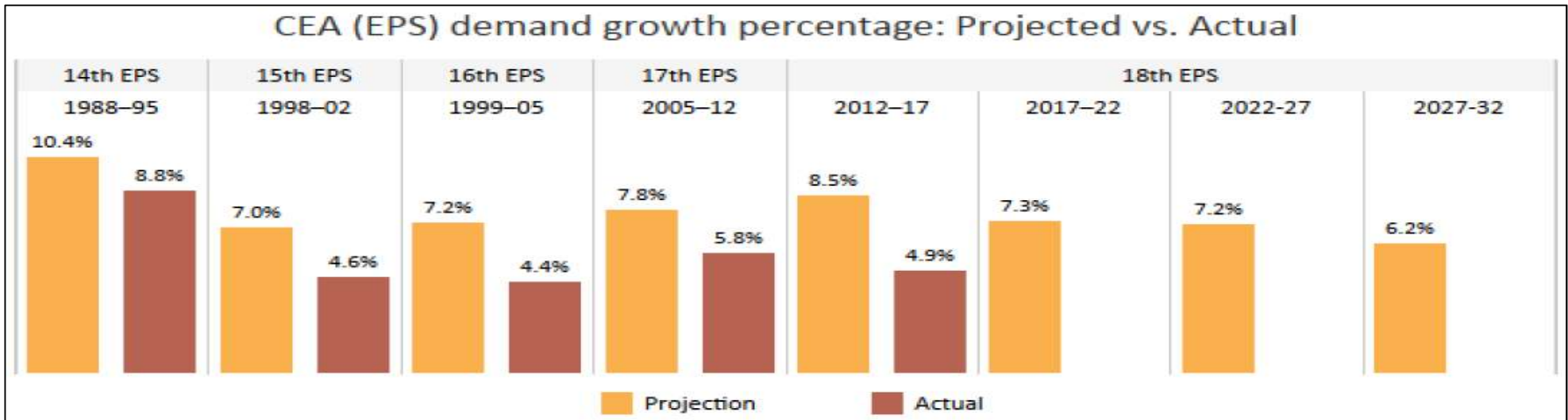
(MW)	Q1FY19 - Actual	Q1FY19 - LGBR	Peak Surplus/(Deficit)
Haryana	10,050	9,150	900
Punjab	12,422	12,000	422
Rajasthan	11,698	10,900	798
UP	20,498	19,950	548
Gujarat	17,053	15,415	1,638
MP	8,764	10,600	(1,836)
Maharashtra	23,395	22,500	895
AP	9,253	8,640	613
Karnataka	10,690	10,380	310
Tamil Nadu	14,981	15,500	(519)
Telangana	9,125	10,274	(1,149)
West Bengal	8,906	8,455	451
All India	171,973	171,962	11

...As highlighted by the sharp surge in exchange power prices

Domestic Power Sector



Estimated Demand growth projections



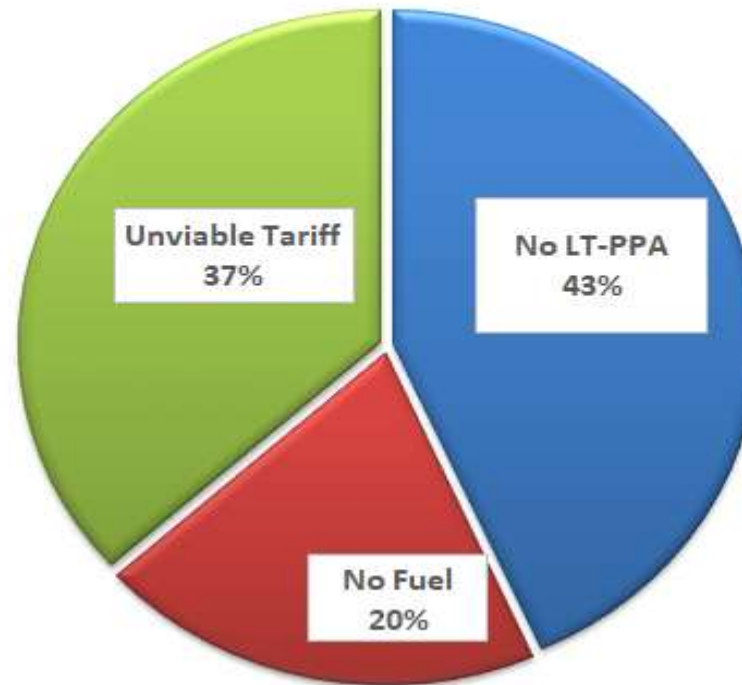
There has been a larger contribution of agricultural and services sector in last few years GDP growth than manufacturing

Actual demand growth has trailed projections leading to significant over capacity

Source: Govt Websites

Lower Demand Growth – a major cause for stressed assets

Stranded Thermal Capacity (60GW)



Installed capacity (344 GW) is more than twice the peak demand (164 GW) resulting in low utilization

Source: Govt Websites

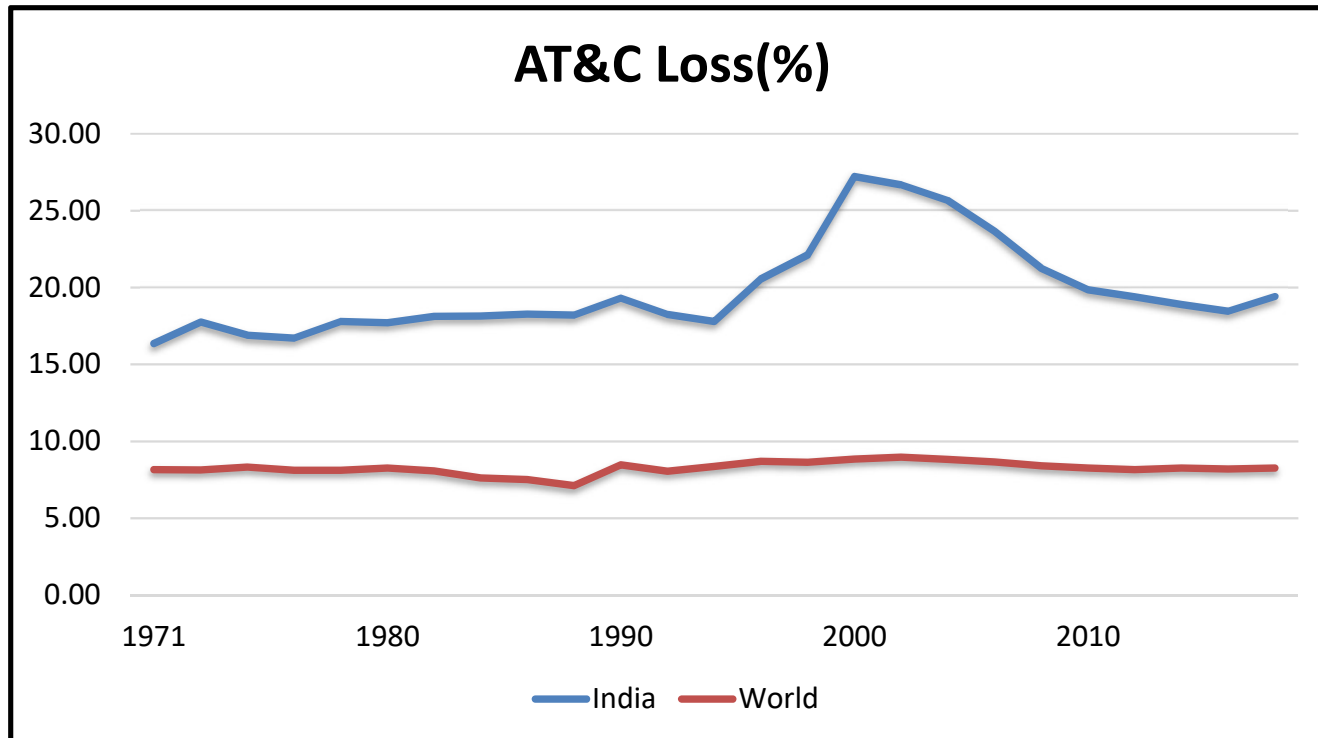
AT&C loss reduction trajectory projection under UDAY



AT&C loss reduction trajectory of states that have signed up for UDAY vs. reported AT&C as on Dec'17

State	Act FY15	Proj FY16	Proj FY17	Act Dec'17	Proj FY18	Proj FY19	Proj FY20
Chhattisgarh	22.5%	21.0%	18.9%	29.9%	18.0%	15.0%	NA
Gujarat	14.6%	14.5%	14.0%	11.4%	13.5%	13.0%	NA
Haryana	29.6%	28.1%	24.0%	26.5%	20.0%	15.0%	NA
Jammu & Kashmir	61.3%	56.0%	46.0%	57.3%	35.0%	25.0%	15.0%
Jharkhand	39.9%	35.0%	28.0%	39.3%	22.0%	15.0%	NA
Punjab	16.7%	16.2%	15.3%	32.6%	14.5%	14.0%	NA
Uttar Pradesh	34.2%	32.4%	28.3%	33.7%	23.6%	19.4%	14.9%
Rajasthan - Ajmer	26.8%	24.0%	20.0%		17.5%	15.0%	NA
Rajasthan - Jaipur	32.0%	28.0%	22.0%	26.2%	18.5%	15.0%	NA
Rajasthan - Jodhpur	25.0%	22.4%	18.0%		16.5%	15.0%	NA
Bihar - North	41.8%	40.0%	34.0%		28.0%	20.0%	15.0%
Bihar - South	45.8%	44.0%	38.0%	41.5%	30.0%	22.0%	15.0%
Uttarakhand	18.6%	17.0%	16.0%	32.2%	15.0%	14.5%	NA

AT&C Losses – India Vs World



- India's average AT&C loss is 21.32%
- As per the UDAY scheme, State governments are required to reduce these losses to 15% by 2018-19
- Only six States (Himachal Pradesh, Andhra Pradesh, Gujarat, Telangana, Uttarakhand and Tamil Nadu) have AT&C losses below the 15 % norm

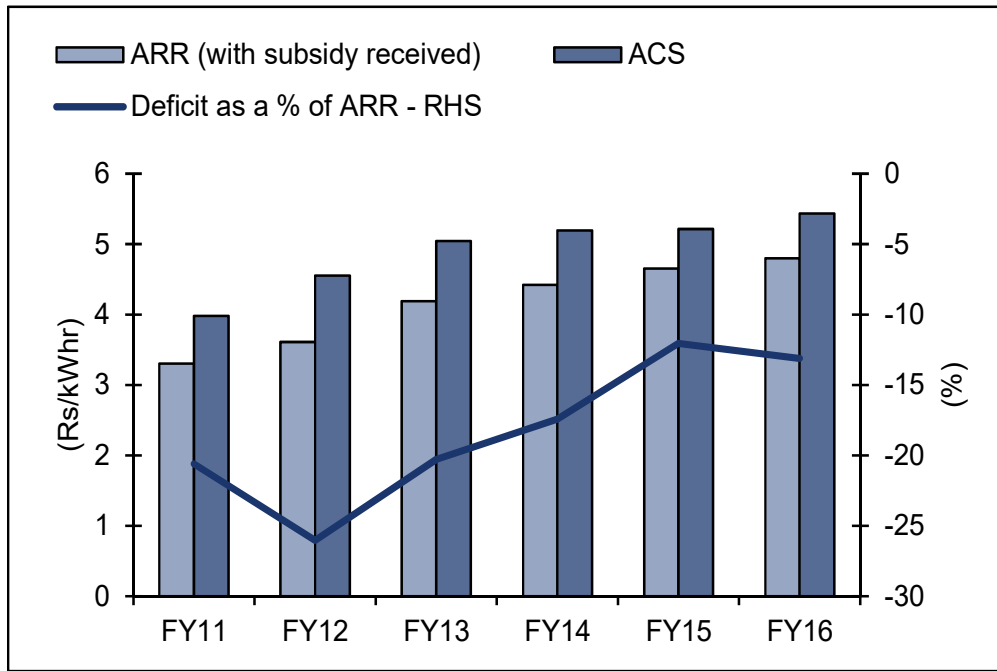
States with AT& C losses may be prompted for privatization to curtail their losses

Source: World Bank website

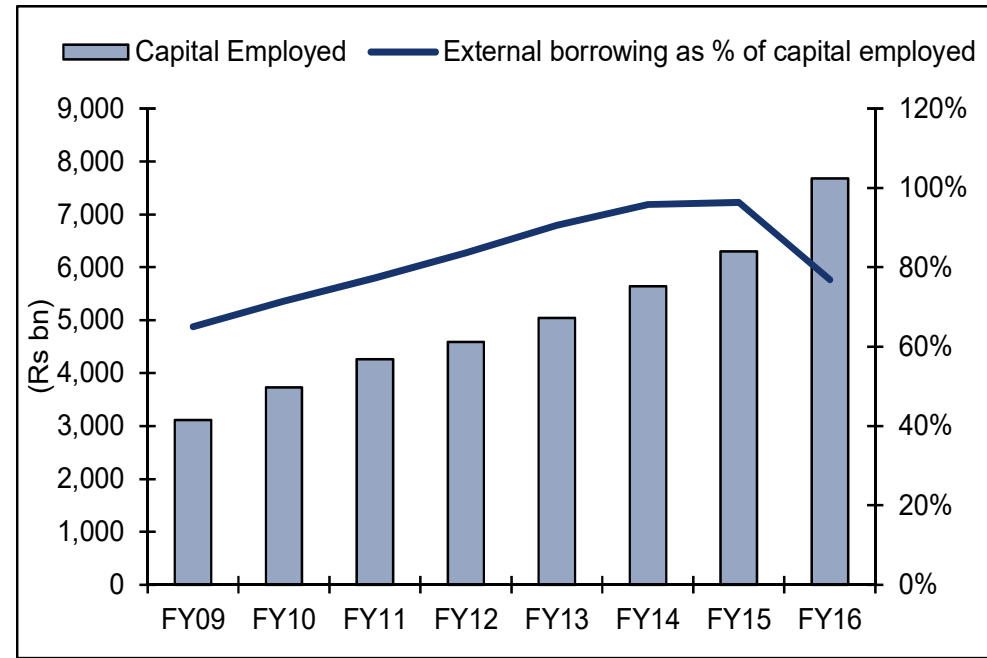
UDAY – debt takeover successful, all eyes now on operational improvement



Losses continue to mount, albeit a slightly lower pace



External borrowings decline on UDAY debt takeover



- UDAY scheme, where 75% of the existing debt has been transferred to state governments, is being seen as a turnaround story. Incremental losses are to be funded by bonds and a part of the losses are to be funded by state.
- As per PFC's FY16 report on performance of state utilities, takeover/repricing of discom debt has resulted in marginal improvement in financials

SEB losses decline on debt reduction/re-pricing but sticky AT&C losses could prompt discom privatisation



State-wise discom loss trend in Rs bn

State	FY13	FY14	FY15	FY16	FY17
Uttar Pradesh	(97.8)	(167.2)	(86.8)	(76.9)	(66.2)
Rajasthan	(123.5)	(156.5)	(124.7)	(112.4)	(52.1)
MP	(44.5)	(63.7)	(49.5)	(57.5)	(48.1)
Tamil Nadu	(116.8)	(139.9)	(127.6)	(57.9)	(37.8)
J&K	(31.3)	(23.9)	(39.1)	(45.3)	(33.7)
Maharashtra	(8.7)	(2.8)	(3.7)	(27.9)	(25.7)
Punjab	2.6	2.5	1.3	(19.9)	(23.9)
Jharkhand	(26.7)	(40.2)	(0.4)	(11.6)	(20.0)
Bihar	(12.3)	(3.4)	(10.4)	(10.7)	(16.4)
Haryana	(36.5)	(35.5)	(21.2)	(8.1)	(3.9)
Others	(205.4)	(32.3)	(86.3)	(85.1)	(75.2)
Total	(700.9)	(662.9)	(548.2)	(513.4)	(403.0)

AT&C losses

State	AT&C losses (%)
Haryana	23.3
J&K	57.3
Punjab	30.9
Rajasthan	24.4
UP	31.4
Uttaranchal	26.6
Chhattisgarh	22.3
Gujarat	11.9
MP	31.6
Maharashtra	20.2
AP	9.7
Karnataka	15.3
Kerala	11.6
Tamil Nadu	14.0
Telangana	14.0
Bihar	36.8
All-India	21.6

States with AT& C losses may be prompted for privatization to curtail their losses

Source: Ministry of Power

SHAKTI – Coal for all

Under this scheme, allocation of linkages to power sector are to be awarded to the LOA holders while the other private capacities will have to participate in auctions.

Four categories of plants under SHAKTI :

185GW capacity with valid LOAs but did not qualify for FSA as they were commissioned post 31-Mar'15, will now be eligible to draw coal under FSA if the plants are commissioned before 31-Mar'22

30GW capacity having LOA but were not covered under the Presidential Directive – FSA with 28GW will be signed after ensuring plant commissioning before 31-Mar'22

Thermal plants which did not have coal linkages but had long-term PPAs will be able to secure linkage through an auction process in which they will have to bid for a discount, which they will offer on the current tariff to the discoms

The future coal linkages for supply of coal to IPPs without PPA shall be on the basis of auction where bidding for linkage shall be done over the Notified Price of the coal company

Saubhagya – details and rationale



Details of SAUBHAGYA –

- Government launched 'Saubhagya' (Pradhan Mantri Sahaj Bijli Har Ghar Yojna) scheme to electrify all households across the country by 31st March 2019
- The scheme will have a total outlay of Rs163.2bn, of which Rs140.3bn will be earmarked towards rural household electrification while Rs23bn towards urban household electrification
- Electricity connections will be provided free of cost to all BPL households and at a nominal charge to other households
- Total budgetary support to Saubhagya will be Rs123.2bn – 60% of which will be funded by the central government, 10% by the states and remaining by borrowings.

Why another scheme? –

- In Aug'18, the Prime Minister had announced electrification of all 18,452 villages by May'18. While 14,483 villages have been electrified as on date, electrification of a village does not translate into electrification of all households because:
 - Large number of rural households cannot afford the cost of securing an electricity connection
 - Most of the state discoms are not in the financial condition to incur such capex as a grant
 - By launching a separate scheme for household electrification, central government has provided the required grant support to achieve 100% household electrification and at the same time placed the onus on state governments to achieve this target.

UJALA – mass scale distribution driving energy efficient LED availability



Unnat Jyoti by Affordable LEDs for all (UJALA)

- Central government launched the UJALA on 1st of May, 2015, with the aim to replace 770mn incandescent bulbs with energy-efficient LED bulbs by 2019
- This is expected to result in a cumulative energy saving of 100bn kWhr every year, helping avoid the need for ~20GW additional power capacity and a Rs400bn saving in electricity bills for consumers every year.
- Apart from LEDs, the Central government has spread this program to distribution of energy-efficient fans, agricultural pumpsets, etc.

UJALA scheme – target and achievements	Target (to be achieved by FY19)	Achieved by Dec 31st, 2018
No. of bulbs to be replaced (mn)	770	317
Annual energy Savings (bn kWhr)	105	41
Peak load demand reduction (MW)	20,000	8,237
Annual consumer bill reduction (Rs bn)	400	165
Annual reduction in GHG emissions (mnte CO2)	79	33

Source: PIB.nic.in

Agenda

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Tata Power

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Tata Power - Overview



100+ years presence in the Indian Power Sector and pioneer with a number of firsts



10,857 MW Gross Capacity with presence across value chain



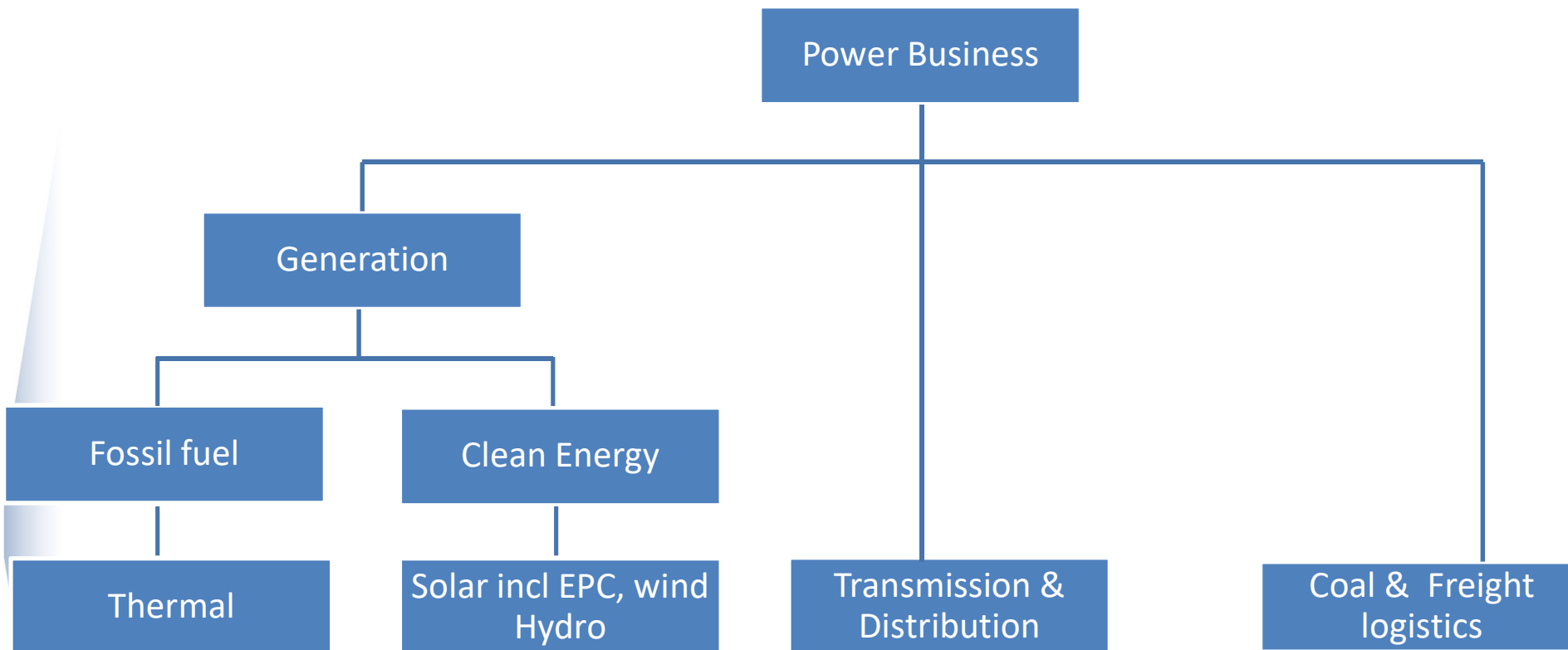
3,196 MW Non-fossil fuel based power, ~ 30% of total capacity



~ US\$ 3 billion Market Cap



Largest Integrated Private Power Player



Diversified yet simplified

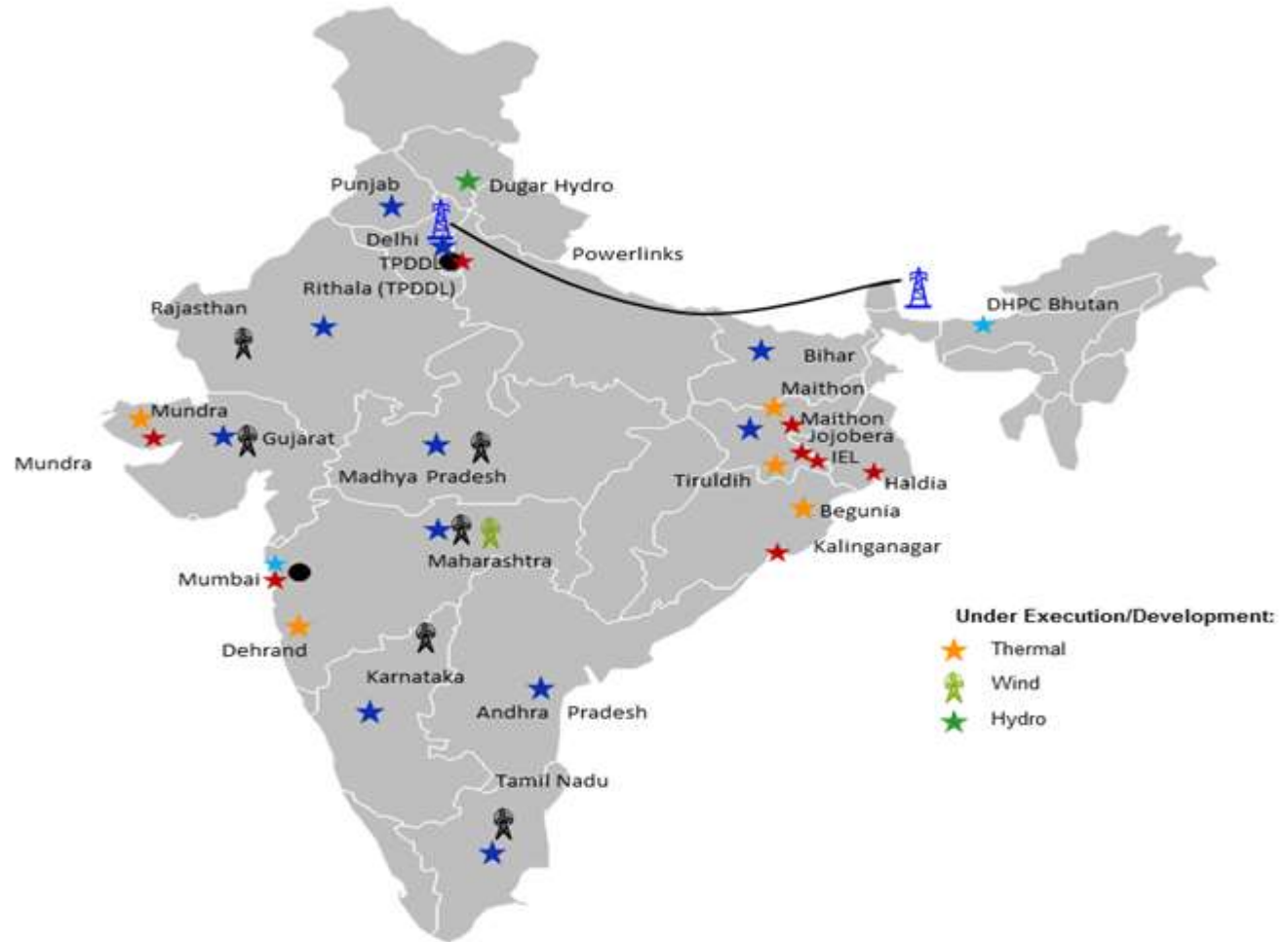
Tata Power - Snapshot



Generation		Transmission & Distribution		Clean Energy		Other Businesses	
	MW				MW		
Domestic	7,661	Mumbai Distribution		Domestic		Coal mines, Indonesia	
Tata Power Standalone	2,030	No. of Consumers (Lakhs)	6.80	TPREL	775	Shipping	
▪ Trombay	1,430	MU sales	4,719	WREL	1,010	Tata Power Solar (EPC)	
▪ Jojobera	428	Delhi Distribution		Tata Power	379	Tata Power Trading	
▪ Haldia	120	No. of Consumers (Lakhs)	16.50	Tata Power Solar	47		
		MU sales	8,634	Tata Power Trading	8		
CGPL	4,150	Ajmer Distribution		TPC- Hydro	447		
Maithon	1,050	No. of Consumers (Lakhs)	1.38	International			
Rithala	108	MU sales	303	Cennergi, Wind	230		
IEL	375	Transmission		Hydro, Bhutan	126		
International		Transmission: Mumbai	1,188 CKM	Hydro, Zambia	120		
CKP (Indonesia)	54	Transmission: Powerlinks	2,328 CKM				
Total	7,715 MW			Total	3,142 MW		

Pan India footprint

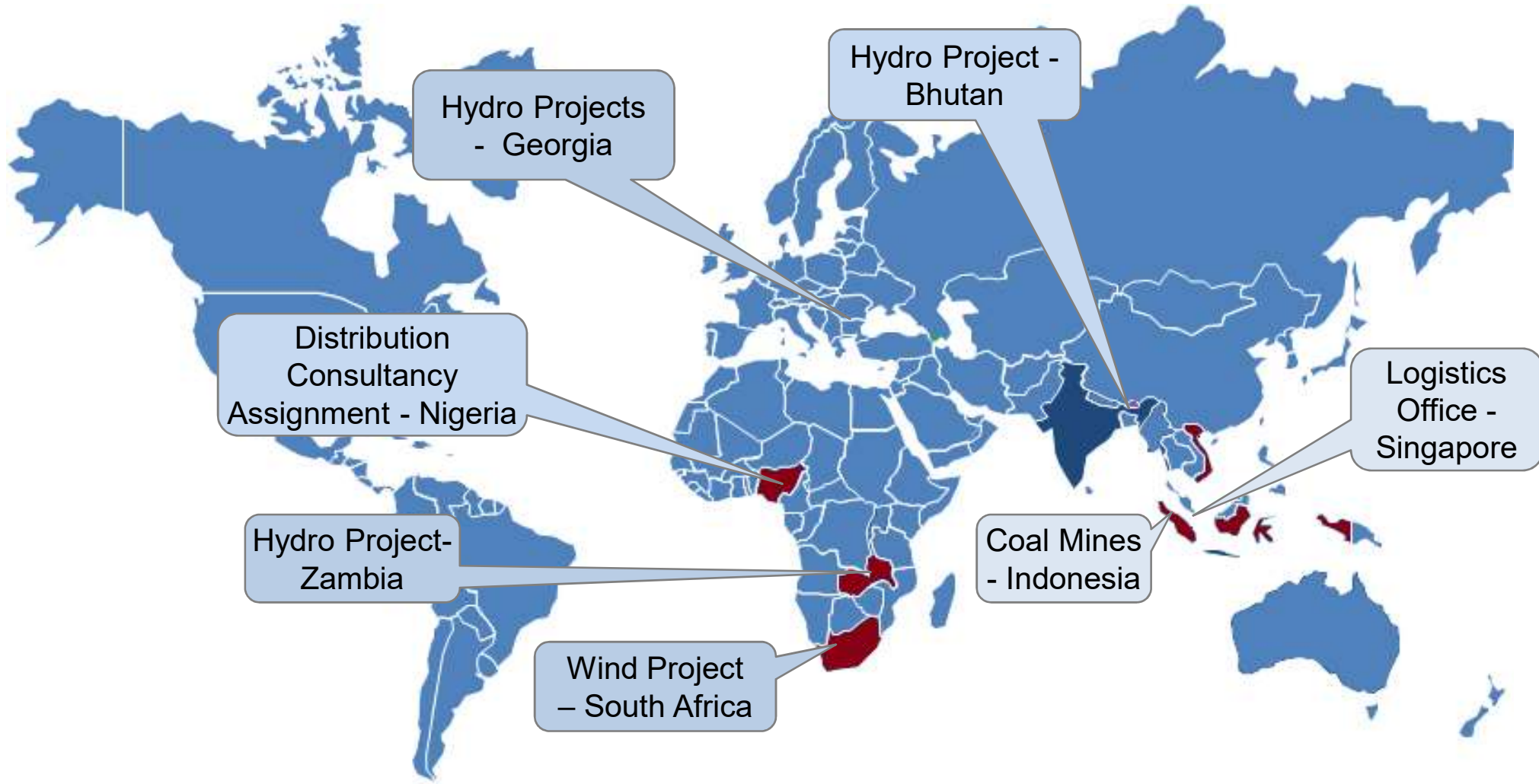
- Operational:**
- ★ Thermal
 - ★ Hydro
 - 🌬 Wind
 - ★ Solar
 - 🏗️ Transmission
 - Distribution



Domestic	MW
Total	10327
Thermal	7286
Hydro	447
WHR	375
Wind	932
Solar	1288

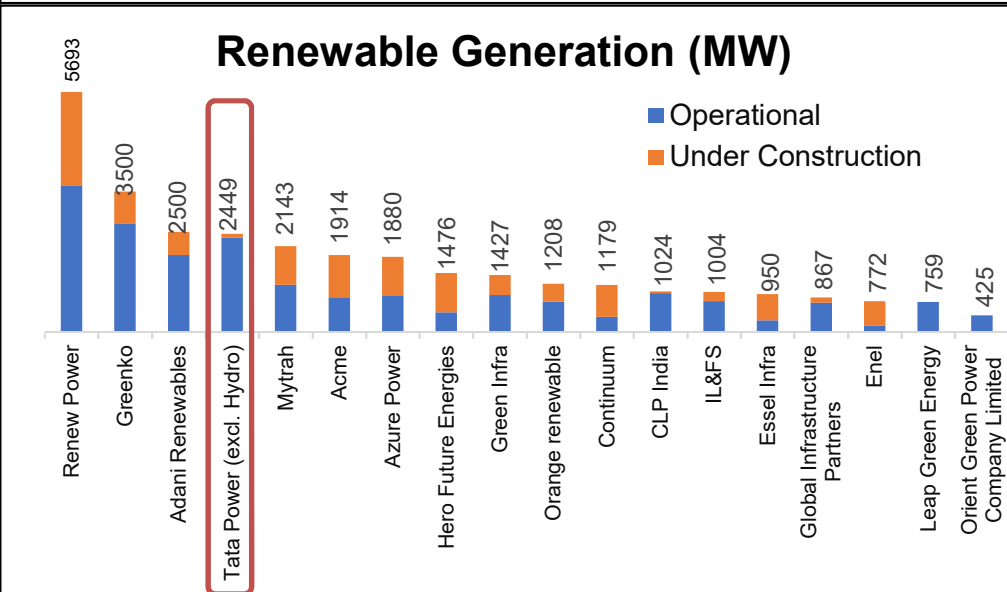
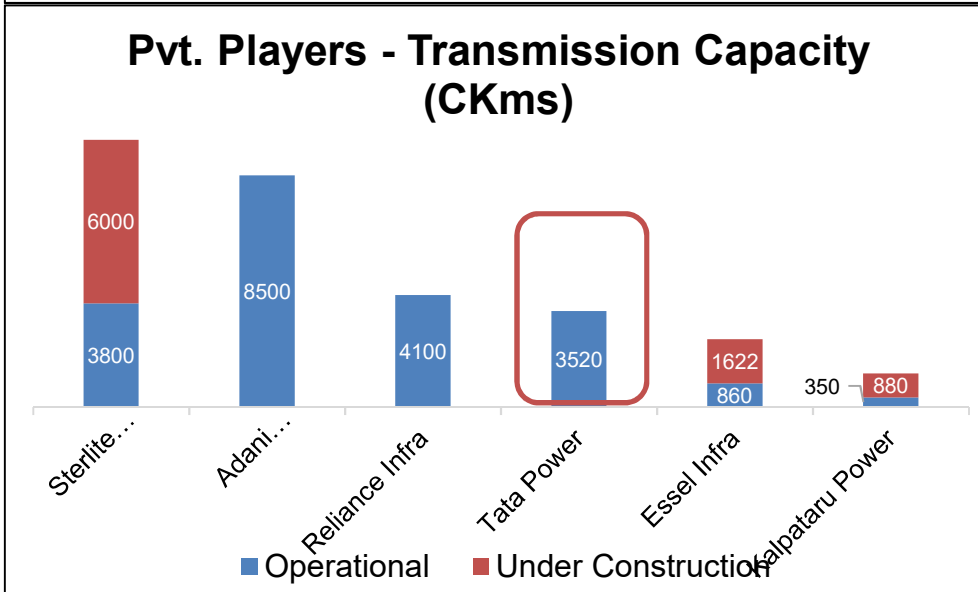
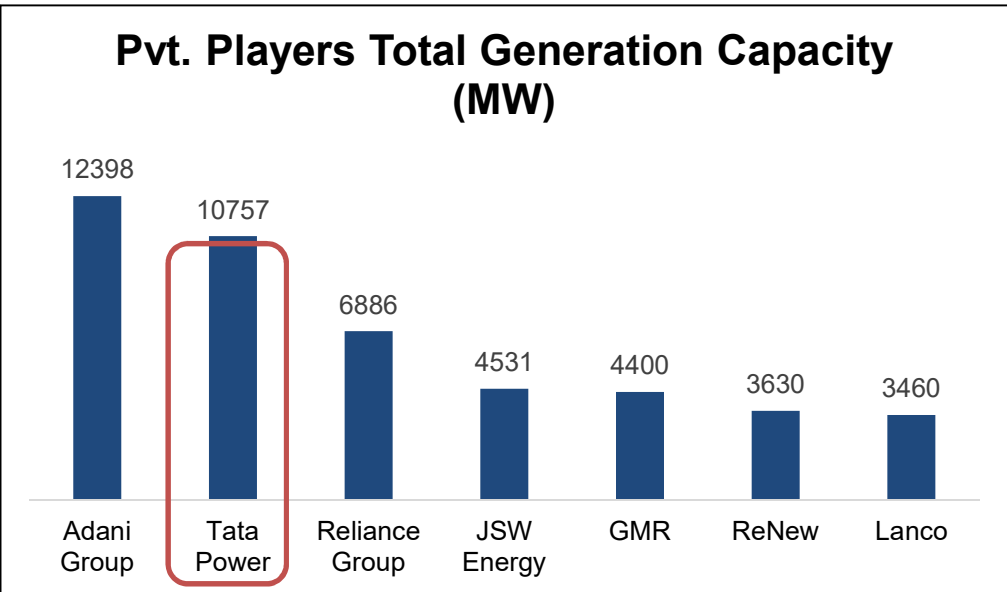
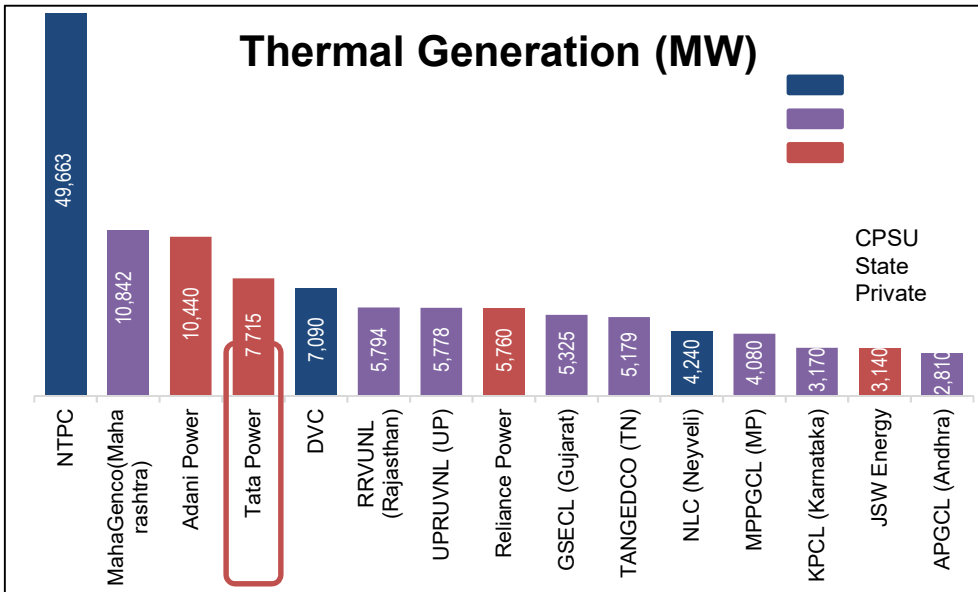
10,327 MW of generation across States in India

International Presence

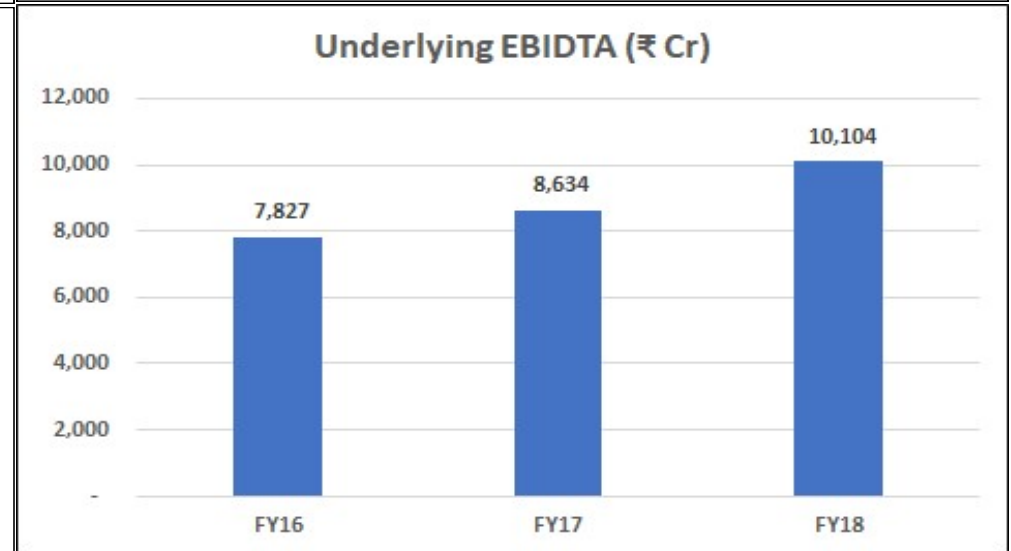
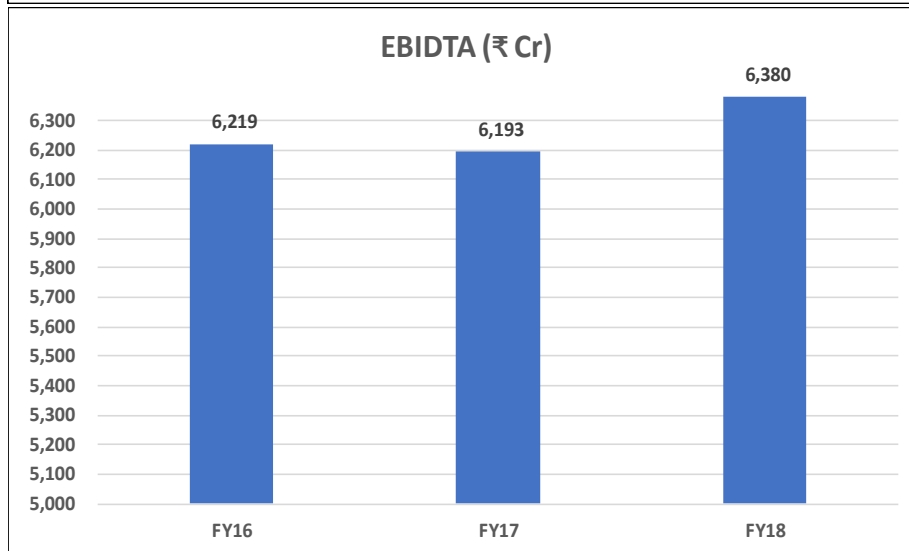
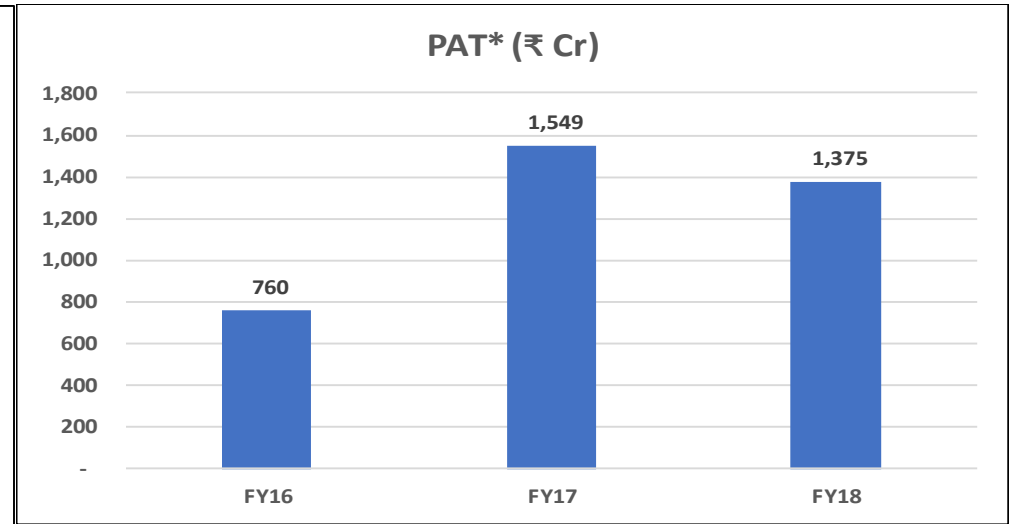
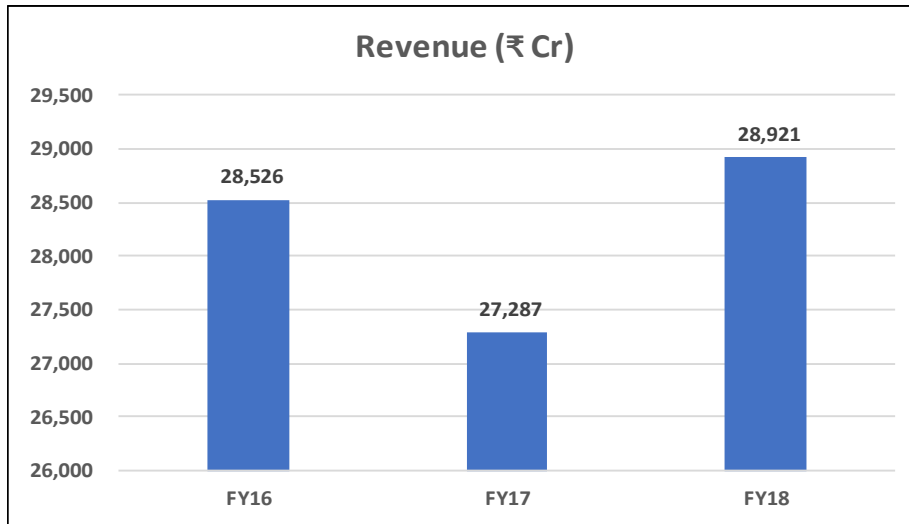


530 MW* of operating capacity internationally

Tata Power – Market position across segments



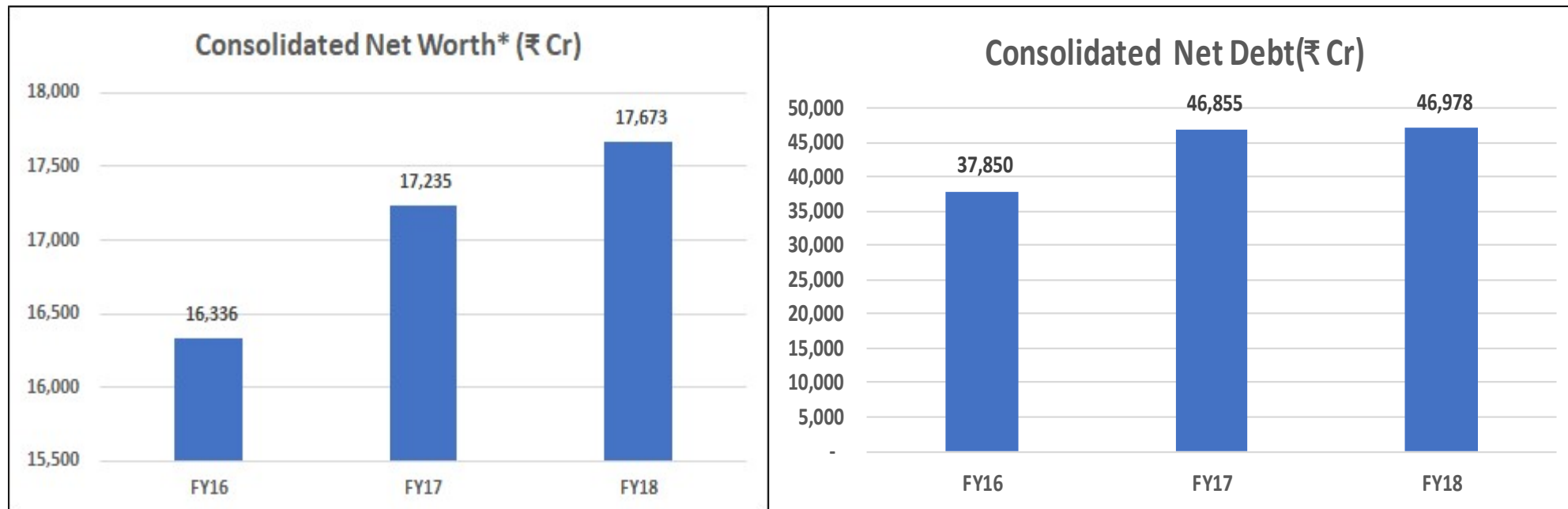
Key financials Tata Power (Consolidated)– last three years



** Underlying EBIDTA consider all companies

Underlying EBIDTA crossed Rs 10,000 Cr

Key financials – last three years



Continued focus on the balance sheet deleveraging

Agenda

Sector Overview

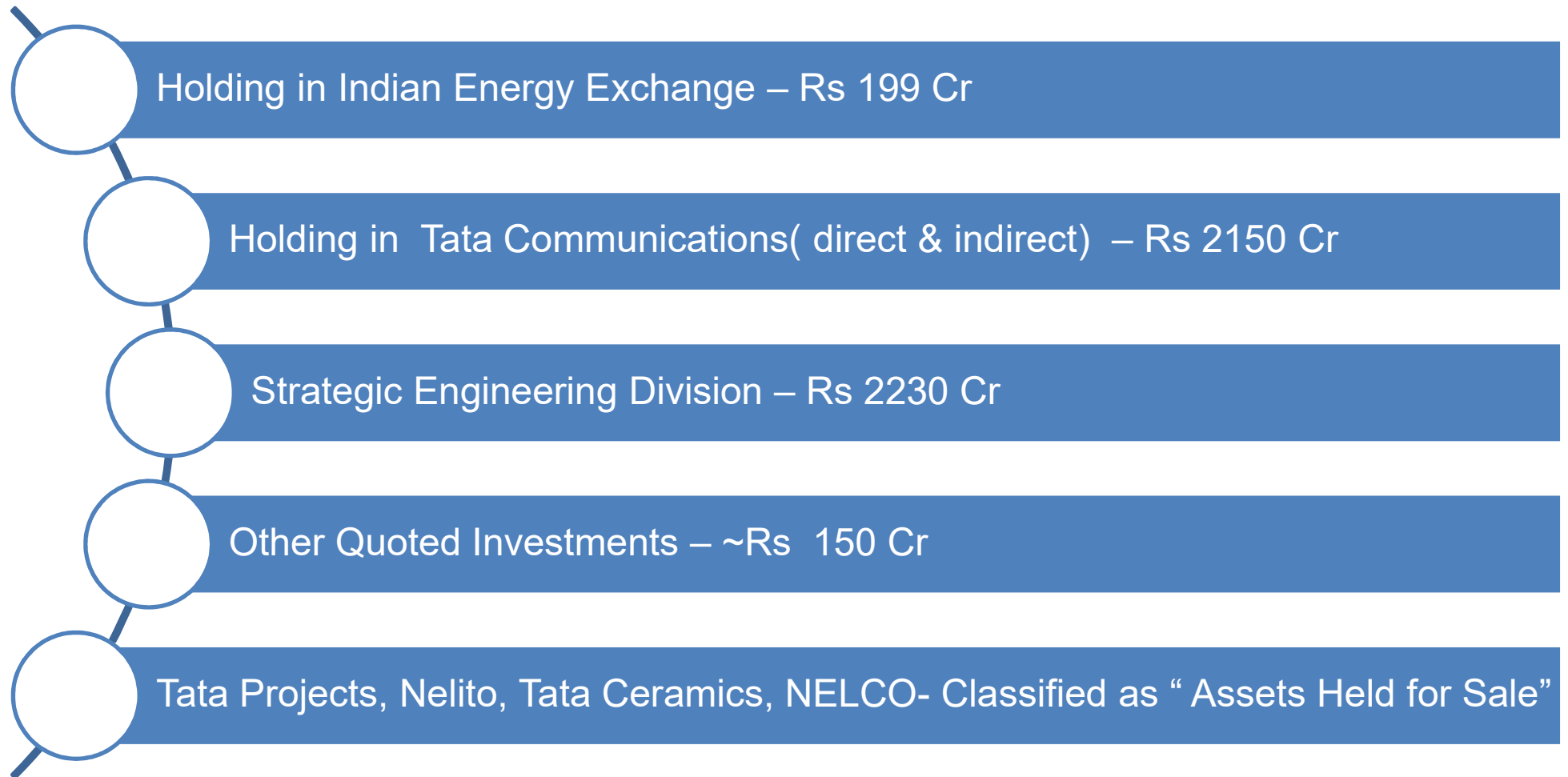
Tata Power

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Monetization of non-core investments



~ Rs. 4,700 Cr worth of divestments finalised
~ Rs. 2,500 Cr of consideration realised

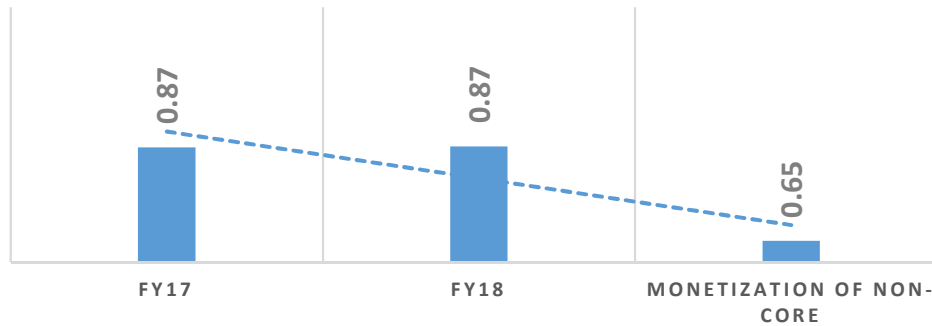
De-Leveraging the Balance Sheet

PARTICULARS	STANDALONE			CONSOLIDATED		
	Rupee	Forex	Total	Rupee	Forex	Total
Long term	8,338	-	8,338	22,722	3,782	26,504
Short term	6,942	19	6,961	14,275	2,604	16,879
Current Maturity of LT	1,758	-	1,758	3,427	81	3,508
Total Debt	17,038	19	17,057	40,424	6,467	46,891
Less: Cash			28			1,090
Net Debt			17,029			45,801
Equity			15,649			20,418
Net Debt to Equity	Q3 FY19		1.09			2.24
	Q4 FY18		1.14			2.48

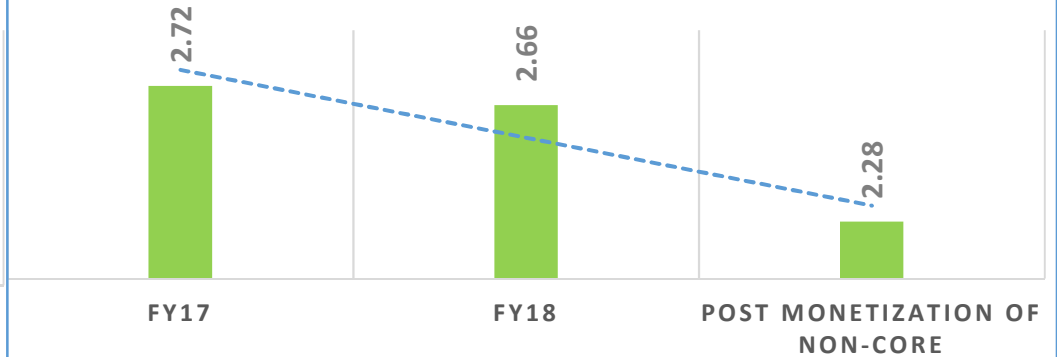
- Company has taken out Rs. 3200 Cr from proceeds received from Tata Communications stake sale, realization from Arutmin sale and dividend from coal companies
- Options to monetize other assets under consideration.

Leverage Management- Debt Profile

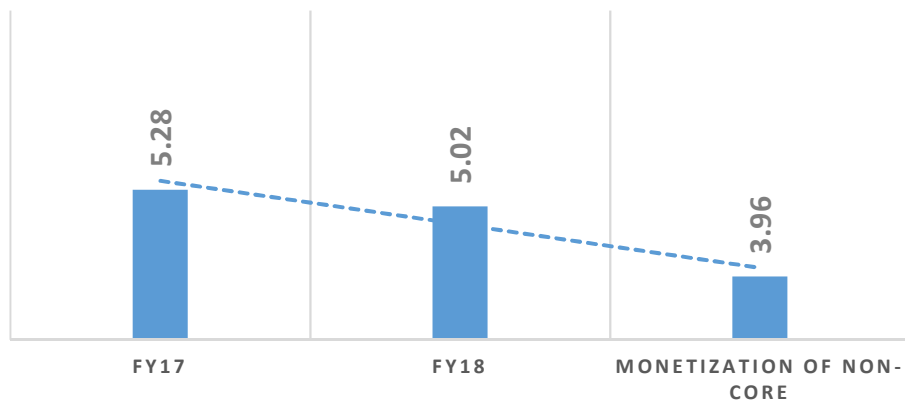
STANDALONE D/E



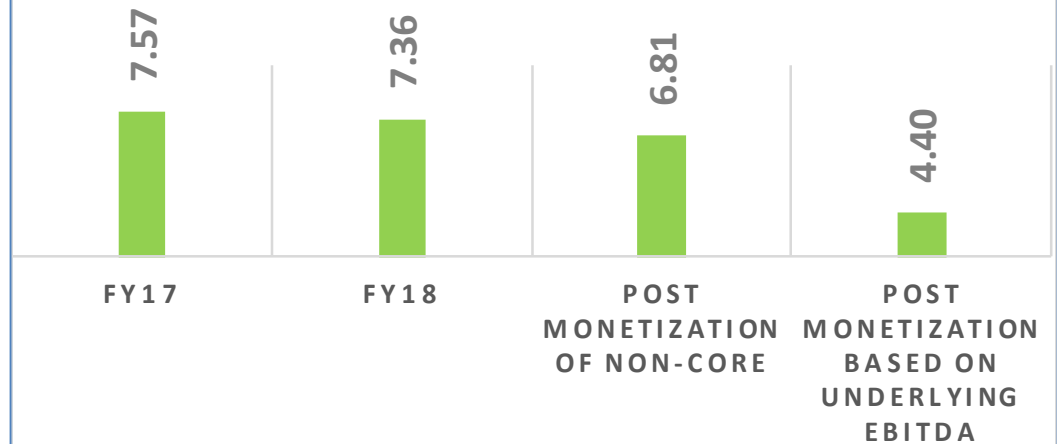
CONSO D/E



STANDALONE NET DEBT/EBITDA



CONSO NET DEBT/EBITDA



Low dividend yielding assets monetization to boost RoE, EPS
Leverage too improved through monetization of non core assets

Agenda



Sector Overview

Tata Power

Business Overview

Key Themes

- Deleveraging the Balance Sheet
- **Optimizing returns on Mundra/ Coal assets**
- Trombay PPA issue
- Future Growth Strategy
- Renewables Portfolio- way forward

Natural hedge between Mundra Generation & Coal Assets

Fig in ₹ Cr

Generation at Mundra

CGPL	FY18	FY17	Variance	%
Revenue	6,419	6,109	309	5%
EBITDA	16	552	(537)	-97%
PAT	(1,408)	(855)	(554)	65%

Incremental EBITDA loss of Rs. 537 Cr

Coal mining & Coal Infra Companies

Coal & Infrastructure Business	FY18	FY17	Variance	%
Revenue	8,641	7,123	1,518	21%
EBITDA	2,889	1,792	1,097	61%
PAT	1,423	797	627	79%

Incremental PAT Gain of Rs. 627 Cr

Initiatives at CGPL to Optimize the Cost

Optimizing Coal Blending to reduce Under-recovery

CGPL is firing different Off Spec Coal to reduce the fuel cost

CGPL has significantly changed the coal blend mix to reduce the coal cost

Sale of additional Power beyond 80%

CGPL is in discussion with Procurers to sell its power beyond 80% at a higher tariff than that in PPA to reduce losses

Coal Blend in FY 18

MCV – 77%
LCV – 13%
HCV – 10%

Coal Blend by Dec 2018

MCV – 43%
LCV – 37%
HCV – 20%

Reduction in Coal Cost

CGPL – Cost optimization initiatives



Competitive Coal Procurement	Around 2-3 MMT of coal being procured at the discounts ranging from 5% to 8% on sustainable basis
Lower cost of financing	Achieved 200 bps reduction in the Interest cost and repayment tenure was elongated for Rupee loans. Refinancing being pursued for the ECB loans as well
O&M Practices	Sustainable savings through better Outage planning , reduced Insurance cost, aux consumption optimization etc
Coal Blending	Blending ranging from 10% to 40% depending upon the procurement cost of the low GCV coal, to reduce the per unit of coal consumption

- **Cost optimization measures to reduce losses**
- **Mundra and coal assets continue to demonstrate natural hedge**
- **Incremental capacity utilization, if permitted, can further add to the project profitability**
- **Development of Russian Coal mine being pursued**
- **Every possible solution for Mundra being explored**

CGPL – High Powered Committee report on underrecovery



- Gujarat Government initiated a High Powered Committee Report to find out solutions for the imported coal based power projects
- HPC took inputs from earlier reports and engaged with all stakeholders and made various recommendations on 3rd Oct 18.
- Supreme Court passed an order that the HOC's report does not infringe upon its earlier order and directed CERC to hear all parties and pass an order in 8 weeks.
- As the other four states have yet not accorded approval, Company has approached CERC to seek all parties to express their views on the PPA amendment and pass on order.

Parameter	Recommendation/Proposal
Effective Date	<ul style="list-style-type: none"> • Proposed to be made effective prospectively from 15th October 2018. No past losses.
FOB Under-recovery	<ul style="list-style-type: none"> • Compensation/Relief only for FOB under recovery subject to cap of HBA(6322CV) Index of USD 110/MT(on monthly basis). • Cap of HBA(6322CV) Index to be reviewed once in five years. • No compensation against Fuel Transportation & Fuel Handling under recovery
Lender's Sacrifice	A notional fixed deduction of 20 paisa per Kwh against Energy Charges/Variable Charge(to be borne by the Developer)
Mining Profit	100% of mining profit from Indonesian mining company receivable in India pertaining to Mundra offtake subject to minimum of 15 Paisa per kWh.
PPA Extension	<ul style="list-style-type: none"> • Extension for 10 years. • Fuel Cost passed through. • No mining profit sharing and Lenders sacrifice. • Capacity Charges for the extension period adjusted with last year Capacity Charges(Current PPA) and consequential increase in O&M expenses plus additional capacity charges on R&M Cost in accordance with prevailing Regulations

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- **Renewables Portfolio- way forward**

Unit wise snapshot for Trombay Units



Parameters	U#5	U#6	U#7	U#8
Capacity	500 MW	500 MW	180 MW (120 MW GT & 80 MW ST)	250 MW
Fuel	Imported Coal	Oil & Gas	CCGT	Imported Coal
CoD	25.01.1984	23.03.1990	29.07.1993	29.03.2009
Current Operating Age	33 Years	27 Years	24 Years	8 Years
Remaining Life	3-5 years	Written off – March 18	4 Years	18 Years

TP-Generation Power Tie up with TP-Distribution and BEST

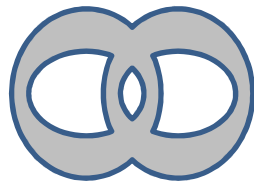
Tata Power –
Generation

PPAs till 31st
March 2024

DISCOMs

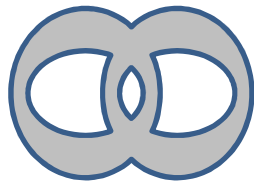
U5 (500 MW)
U7 (180 MW)
U8 (250 MW)
Hydro (447 MW)

~51%



**Tata Power –
Distribution**

~49%



BEST

Both BEST & TP-D almost equally

1. Share the TP-G capacity incl. Green – Hydro Power
2. Get power at blended rates.
3. Enjoy competitive peaking power from Hydro plants
4. Tata Power's Load Centre assists in load management
5. Enjoy reliable system & power stability – esp. critical for South Mumbai

Agenda



Sector Overview

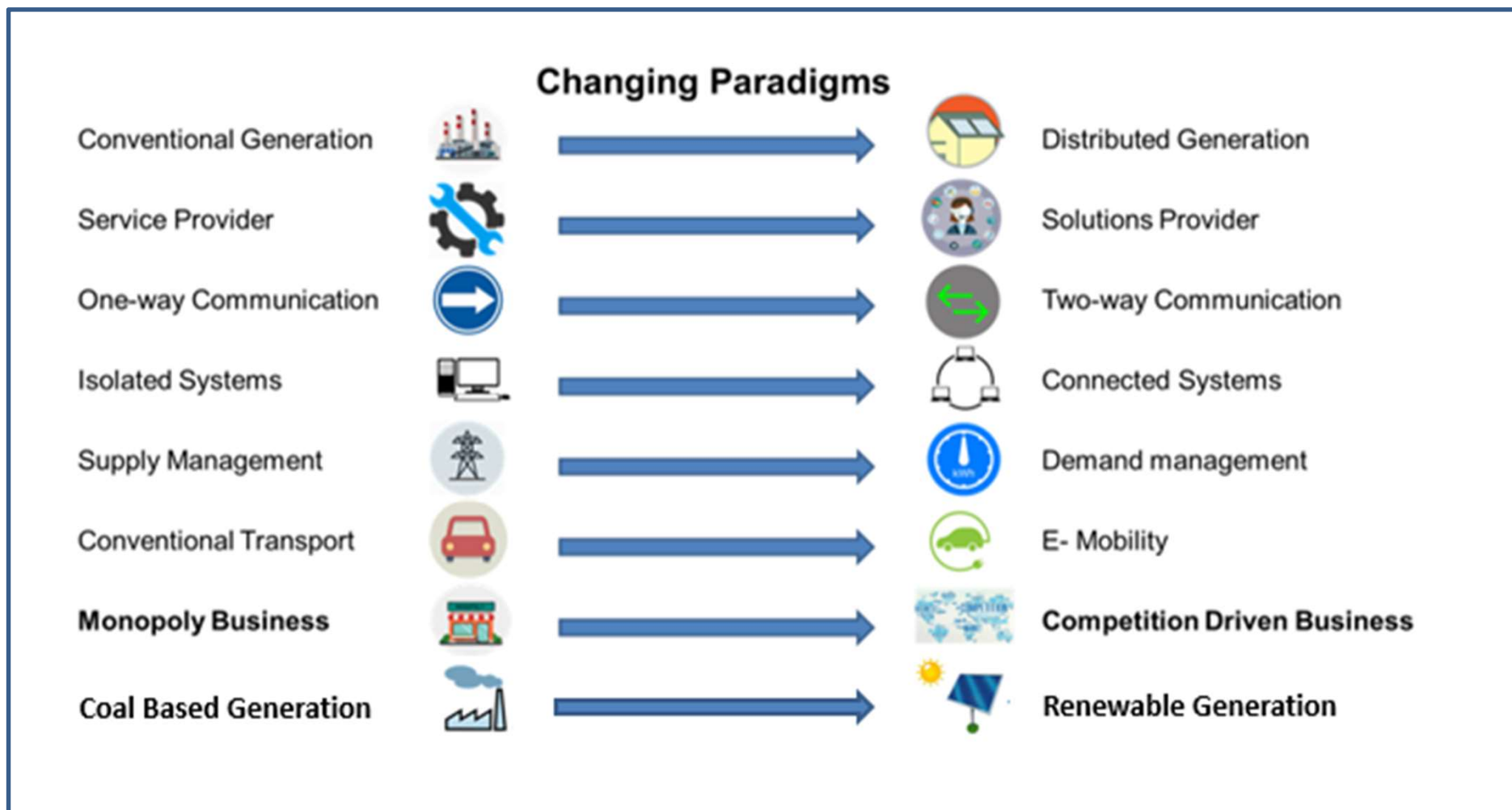
Tata Power

Business Overview

Key Themes

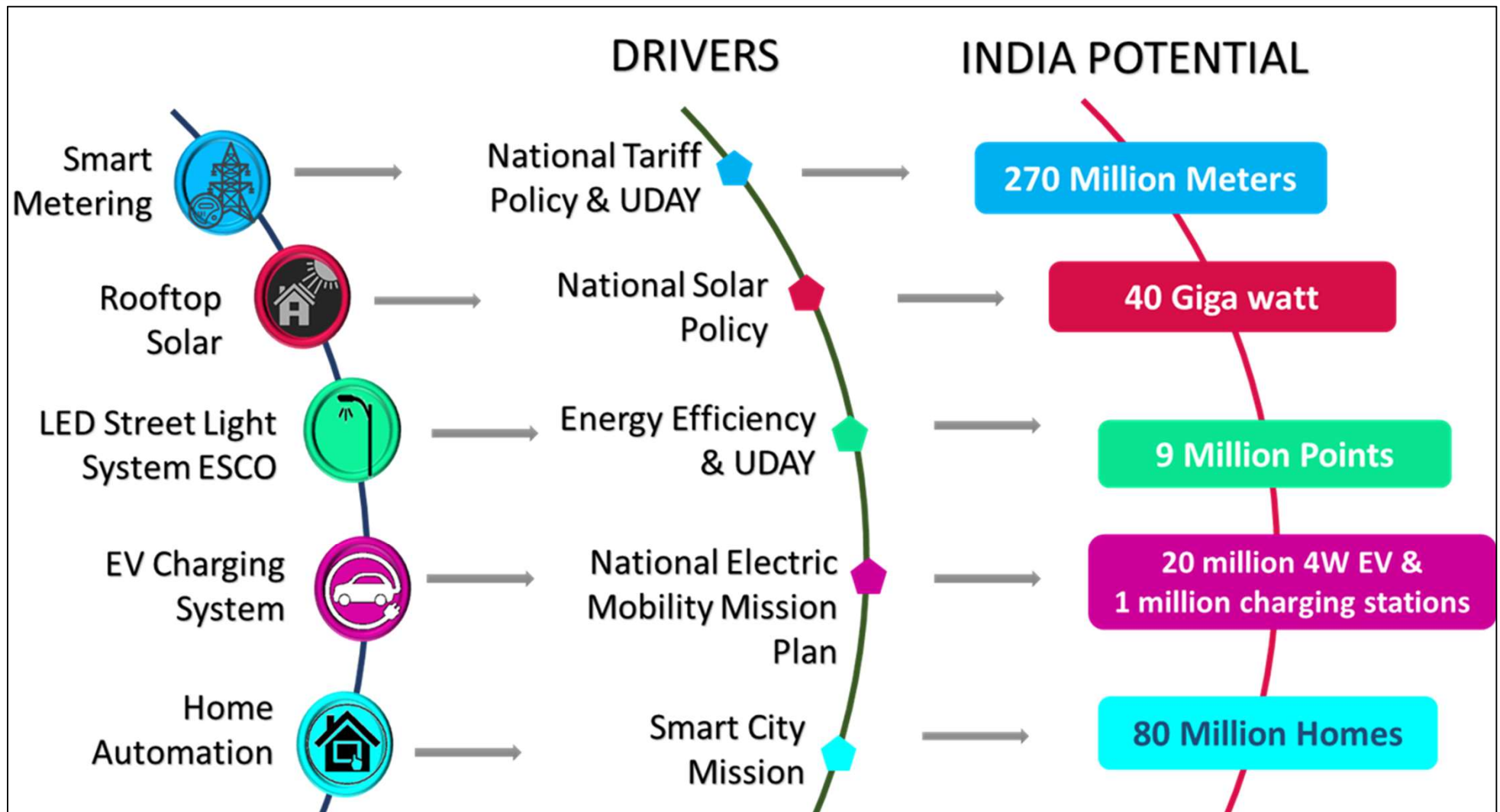
- **Deleveraging the Balance Sheet**
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Future trends – Shift to Integrated Solutions

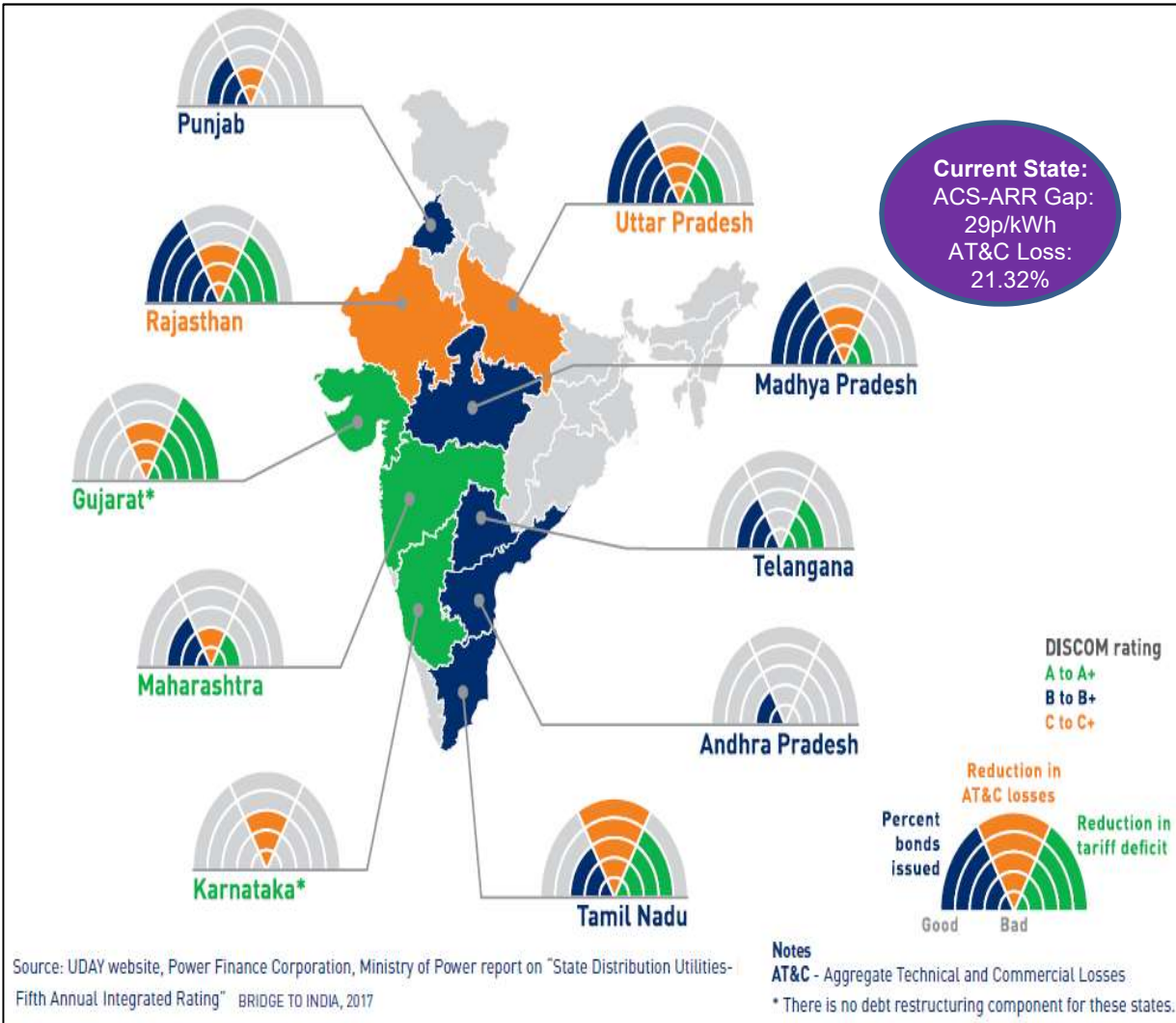


Transformation phase in sector to offer new opportunities

Opportunities ahead



Tata Power is fully geared to capitalize on various opportunities in the sector for growth



Although the debt has reduced in all cases, but most states have been unable to reduce AT&C losses as well as ACS-ARR gap as per the yearly targets

The full impact of transfer of loans and losses on State Govt. finances will be seen in FY20

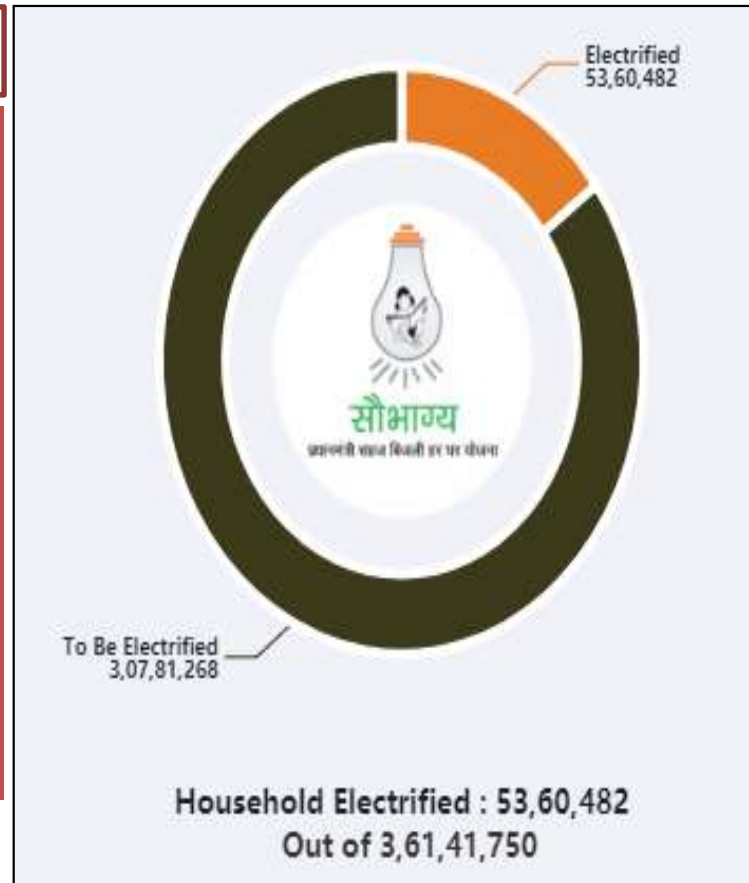
This will restrict the ability of State Govts. to raise funds for other development objectives and will put huge pressure on them to privatize distribution circles / adopt franchisee model

Post UDAY, high AT&C losses states, would require greater private sector participation

MICRO GRID

The Need

- Only a small fraction of rural households (10%) electrified
- Over 3.5 crore households in India are yet to be electrified
- Nearly 80% of rural households in the electrified villages in some states of India receive power supply <2 hrs.
- Nearly 62 crore people in Africa (2/3rd of the population) are without electricity supply
- A localized cost effective microgrid will be able to ensure universal access to electricity

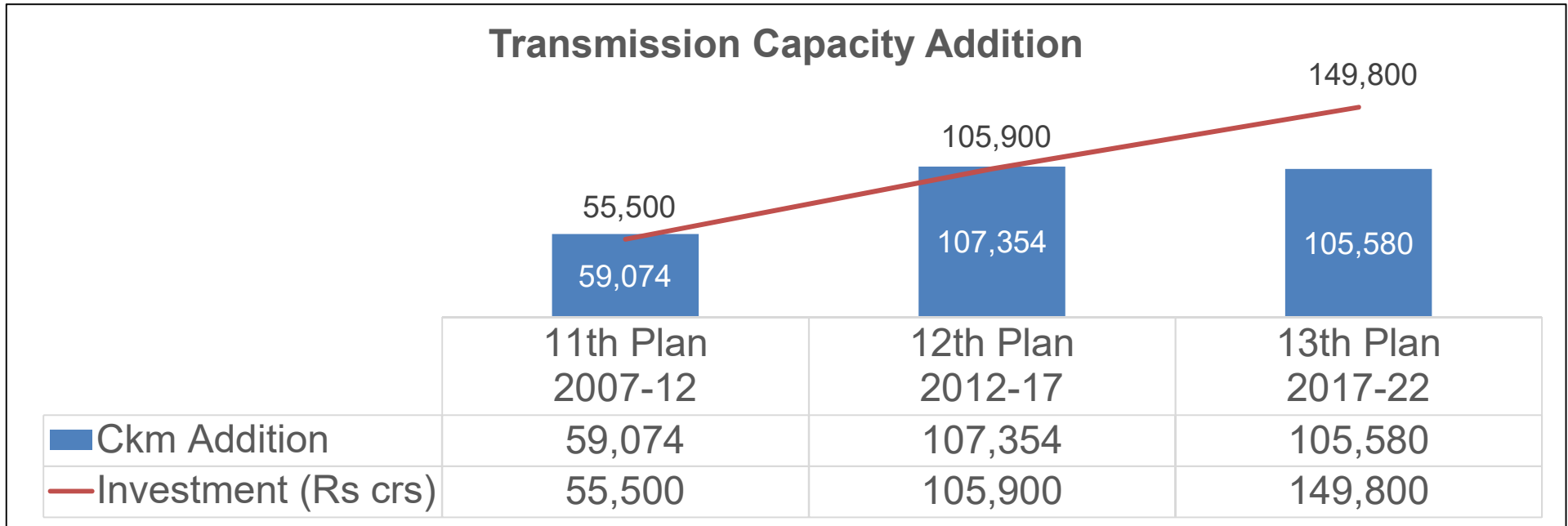


The Solution

- Packaged solution “Utility In a Box” with solar, storage and biomass
- Development of low cost and high efficiency appliances & meters
- Intelligent smart meters and inverters
- Promoting anchor economic activities in villages
- Microgrid pilot projects by Tata Power underway in Bihar and UP
- The aforementioned solutions can be applied to the unelectrified parts of sub-Saharan Africa too

Microgrid can have an immense growth potential

Transmission Scenario - India



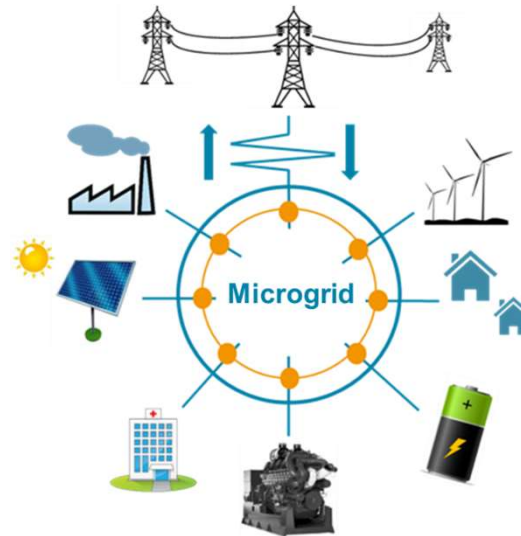
- ~ 80,000 ckms of transmission lines to be added between FY19 and FY22
- Green energy corridor projects envisaged with a total investment of ~ Rs 10,000 Crore

Opportunities in Inter and Intra state network development

Key Focus Areas for growth



EV Charging and Storage



Home Automation and Smart Homes



Smart meters and cities



Transmission & Distribution



LED Lighting



Distributed Generation and Rooftops



Generation: Renewable

Efforts to Simplify, Synergize, Scale - to achieve growth

1



Simplify

- Reorganize the business to grow
- Divest and exit from non-core investments as well as subscale assets to free up capital

2

Together
wE
Achieve
More

Synergize

- Aligning with initiatives in new / emerging business areas at the Group level for maximum business impact
- Synergize within Tata Group and Tata Power Group

3



Scale/Stretch

- Achievement of scale in focus businesses
- Value added businesses with high RoI to make significant contribution to profitability
- Improve return on capital employed in existing businesses

Focused Strategy for future growth

Agenda



Sector Overview

Tata Power

Business Overview

Key Themes

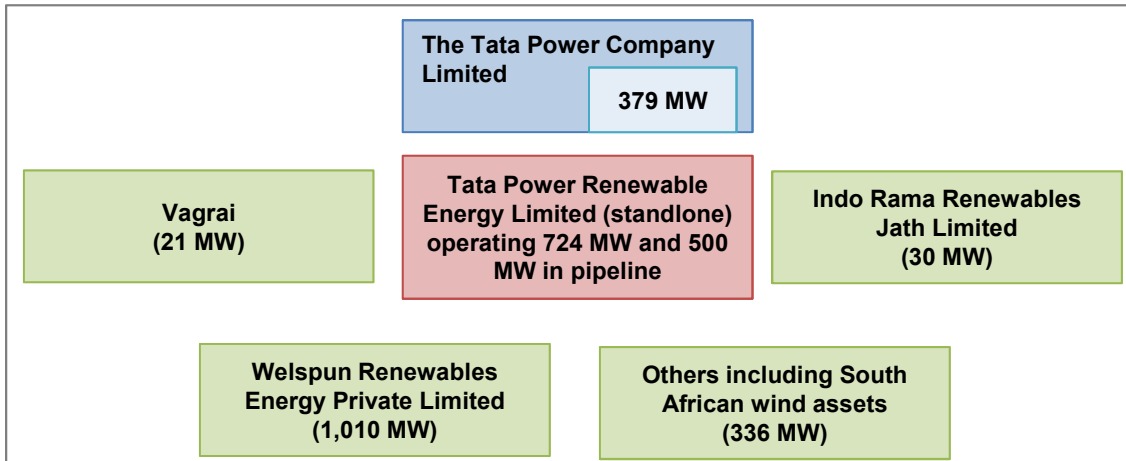
- **Deleveraging the Balance Sheet**
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Renewable Portfolio - Overview

Company Overview

- ✓ TPREL is the 3rd largest Renewable energy player in India with an operating portfolio of 2,064 MW (including Tata Power assets) with 500 MW under Construction
- ✓ Balanced portfolio with complimentary renewable energy sources and presence across 11 states, thereby de-risking portfolio with an average tariff of ~ Rs. 6 p/kWh
- ✓ Robust platform to benefit from the huge market potential to increase the capacity

Renewable Portfolio

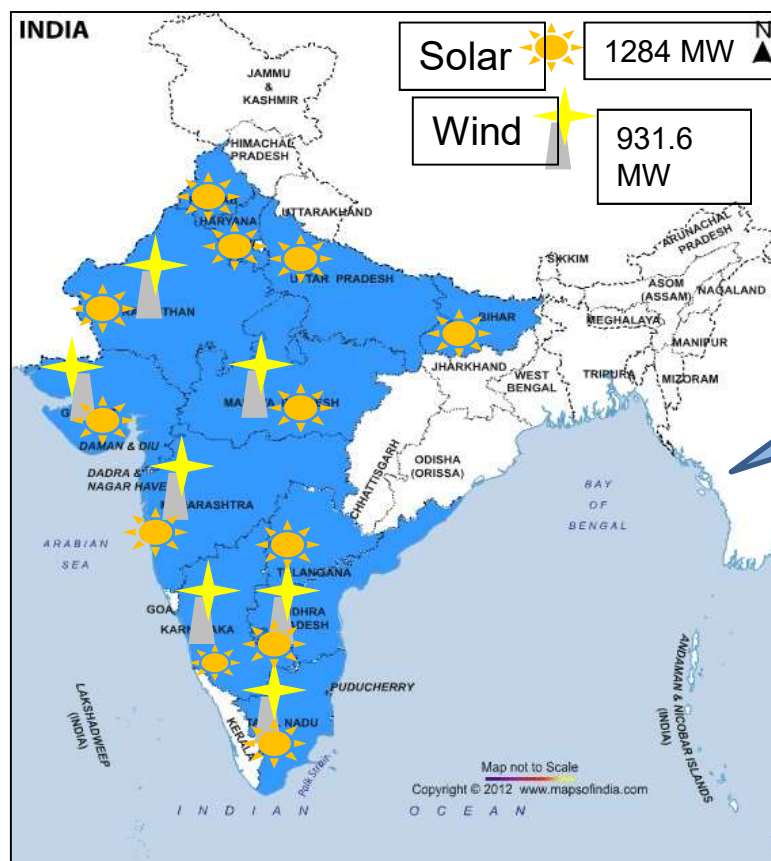


TPREL & Walwhan Financial Performance FY18

Particulars	Total (in Rs Cr)
Installed Capacity (MW)	2064
Generation Sales (MUs)	3188
Revenue incl Other income	2054
EBIDTA	1832
PAT	314
Net Worth	5347
Net Debt	9129

~2.5 GW of Operating capacities and 500 MW in pipeline, Rs 1832 Cr of EBIDTA

Renewable Portfolio – State wise exposure



Well diversified portfolio

Statewise Capacity (MW)

State	GJ	RJ	MP	MH	AP	TS	KN	PB	TN	UP	BH	Total
Solar	100.0	66.0	130.0	128.0	205.0	15.0	314.0	36.0	249.0	1.0	40.0	1284.0
Wind	193.6	185.0	44.0	238.6	100.0	0.0	50.4	0.0	120.0	0.0	0.0	931.6
Total	293.6	251.0	174.0	366.6	305.0	15.0	364.4	36.0	369.0	1.0	40.0	2215.6

Risks associated with renewable portfolio- Perception vs Reality



Risk Perception	Reality
Likely reneging of high tariff PPAs	No such precedence, Courts have upheld the legal tenability of PPAs
Retrospective withdrawal of "must run" status	Government has suggested that such policy changes cannot be applied retrospectively
Backing down of generation in various states	There have been instances in certain states but same have been reduced
Payment delays	Overall receivable situation has improved significantly

Renewables sector outlook- more opportunities for growth



Solar
750 GW



Wind
102 GW

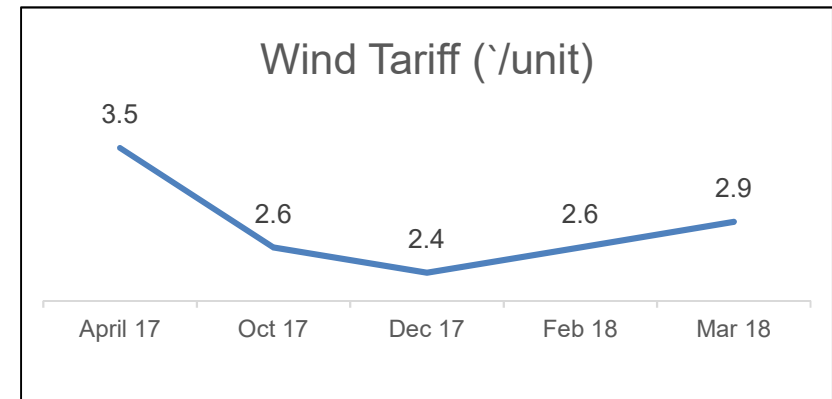
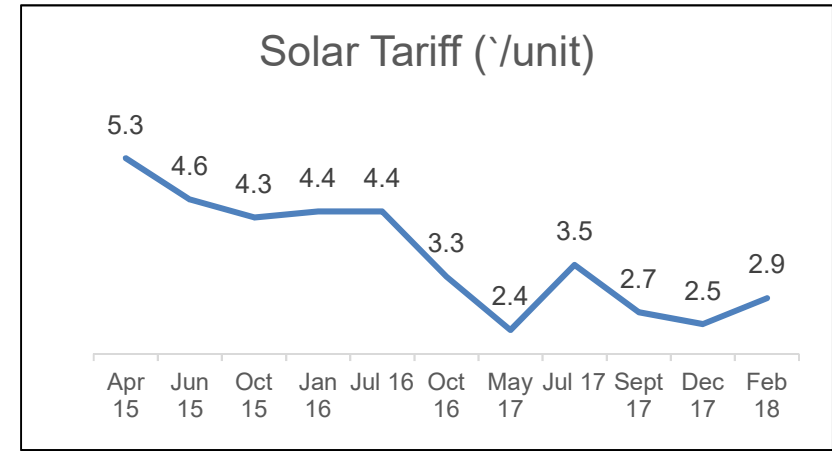


Small Hydro
20 GW



Bio-Energy
25 GW

- India has a target of 175GW by 2022
- To achieve this ~105GW is to be added in next 4 years
- Highest growth potential in solar rooftop generation
- Competition is high in renewable bids adding stress on margins



India green energy resource potential - 900GW offers huge growth opportunities

Tata Power's competitive edge

(1/3)



Tata Power Solar is India's No.1 Rooftop EPC Company for the last 4 years as per BTI and is well poised to grow with the fast growing rooftop market in India



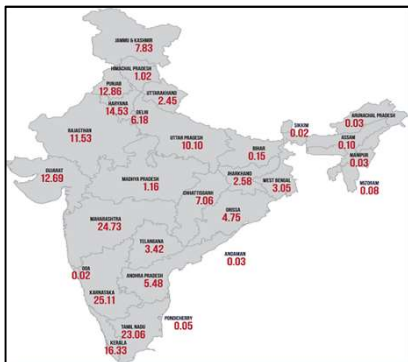
Executed World's Largest Rooftop System#
12 MW for RSSB-EES, Punjab

Built India's Largest Car-port Installation
2.67 MW for Cochin International Airport

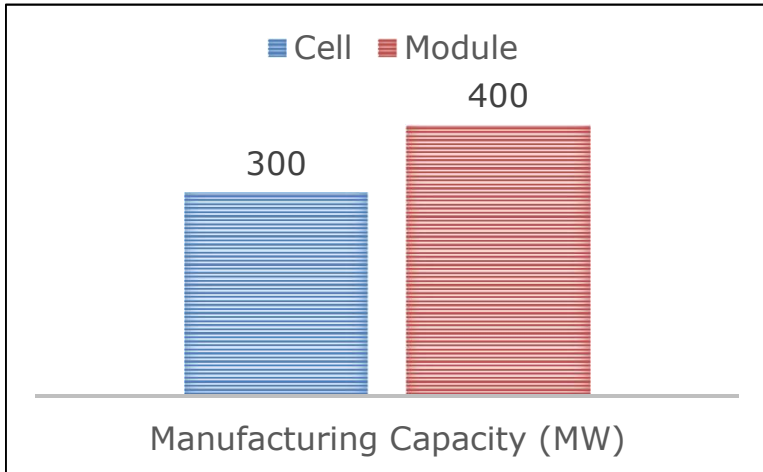


Commissioned India's Largest Vertical Solar Farm
for Dell, Bangalore

Delivered India's First Solar Vehicle Charging Station
for Gujarat Sachivalaya

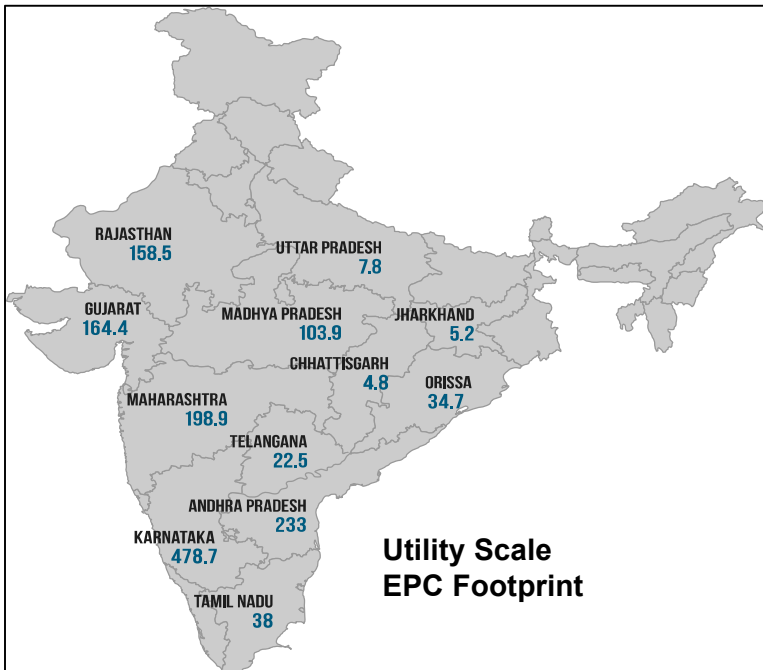


Commissioned **~246 MW** till date serving Residential, Government, Commercial, Institutional, & Industrial segments across India, holding the largest market share



In-House Manufacturing of Solar Cells and Modules

- Over 1GW modules shipped globally
- Rated as Tier-1 bankable manufacturer by several rating agencies such as GTM, BNEF
- Highly automated manufacturing lines ensuring best quality product



EPC Capabilities for Self and Third Party Projects

- With over 1.5GW of EPC Projects Commissioned, TP EPC arm is one of the biggest in India.
- Strong orderbook of 1.2 GW
- Strong Capabilities in key areas
 - Engineering and design optimizations
 - Low cost procurement might
 - Cost light project execution
 - Intelligent O&M systems for predictive maintenance

✓ EPC cost / Module Pricing

- Engineering optimisations in own manufacturing / EPC,
- long term tie up for module procurement,
- better quality monitoring in procurement being a manufacturer

✓ Low financing cost and ability to raise long term funds

- demonstrated access to low cost funding from both domestic and off shore sources

✓ O&M cost

- Shared cost, shared spares, intelligent module cleaning

✓ Energy Efficiency/ AC DC Packing

- Technological intervention to improve efficiency

Tata Power to leverage on low cost funding and optimizing on other parameters to be competitive

Clean Energy Portfolio- key takeaways

Non-Fossil based capacities to be 40%- 50% of the total portfolio



500 MW of projects in pipeline, bids being pursued



Adequate potential capacity still available to be tapped



Growth plans to be pursued with a cautious approach

Tata Power Platform – Resurgent Power

To acquire
**Thermal, Hydel
and Transmission**
Assets in India

Platform
incorporated with
the following
sponsors /
Investors:

- Tata Power (26%)
- ICICI Bank (10%)
- CDPQ (30%)
- KIA (18%)
- SGRF (16%)

Tata Power will
provide strategic,
operational and
financial advise

Five to six
generating assets,
one transmission
asset are shortlisted
and being evaluated

Recently, Prayagraj
Power Generation
Company Limited
has been acquired
by Resurgent
Power

Inorganic growth potential through Platform

Key take away

An Integrated player across the value chain, well positioned to withstand sectoral challenges and capitalize on opportunities

Deleveraging have been key focus to strengthen the balance sheet, to achieve a D:E ratio and Net Debt to EBITDA which are reasonable

Integrated Power (Mundra) and Coal Business continues as a natural hedge, initiatives of cost reduction to continue to contain losses at Mundra

Focus on Renewables without compromising on Returns, opportunities in Transmission & Distribution and stressed Assets acquisition

To focus on growth coupled with balance sheet strengthening, shift from asset heavy to asset light model

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Lighting up Lives!

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