

# Infrastructure 'Re-Accelerate' Series – Power Sector

**REPORT: How India's power sector will rebound from COVID-19 crisis**

**August 2020**



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# Glossary (1/3)

Abbreviation	Full form	Explanation (if required)
AP	Accounts Payable	Money owed by a company to its suppliers.
AR	Accounts Receivable	Money owed to a company by its customers
BSPTCL	Bihar State Power Transmission Company Ltd.	
CAGR	Compounded Annual Growth Rate	
Capex	Capital Expenditure	Money spent by a company to buy, maintain or improve its fixed assets
CCC	Cash Conversion Cycle	Time taken by a company to convert its investment in inventory into cash flow from sales
ckm	Circuit Kilometers	Length of transmission lines laid across a defined track.
DIO	Days Inventory Outstanding	Average number of days a company holds its inventory before selling it
DISCOM	Distribution Company	Companies involved in supplying electricity to customers
DPO	Days Payables Outstanding	Average number of days a company takes to pay its suppliers
DRO	Days Receivables Outstanding	Average number of days an organization takes to receive payments from its customers
DVC	Damodar Valley Corporation	
EBITDA	Earning Before Interest, Taxes, Depreciation and Amortization	
ECB	External Commercial Borrowing	Debt raised by companies from other countries (where interest rates are lower)
EPC	Engineering, Procurement and Construction	Firms engaged in construction activities in the infrastructure sector
GDP	Gross Domestic Product	
GETCO	Gujarat Energy Transmission Company	
GSECL	Gujarat State Electricity Corporation Limited	
HPGCL	Haryana Power Generation Company Limited	

# Glossary (2/3)

Abbreviation	Full form	Explanation (if required)
HVPNL	Haryana Vidyut Prasaran Nigam Ltd.	
KPCL	Karnataka Power Corporation Limited	
KPTCL	Karnataka Power Transmission Company Ltd.	
KSEB	Kerala State Electricity Board	
L&T	Larsen and Toubro	
LPS	Late Payment Surcharge	Penalty paid by customers due to delay in payment to suppliers
MAHAGENCO	Maharashtra State Power Generation Company	
MAHATRANSCO	Maharashtra Transmission Company	
MoP	Ministry of Power	
MPPGCL	Madhya Pradesh Power Generation Company	
MPTRANSCO	Madhya Pradesh Transmission Company	
NEEPCO	North Eastern Electric Power Corporation	
NHPC	National Hydro Power Corporation	
NLC	Neyveli Lignite Corporation	
NPA	Non-performing assets	
NPCIL	Nuclear Power Corporation of India	
NTPC	National Thermal Power Corporation	
OPTCL	Orissa Power Transmission Company Ltd.	
PAT	Profit After Tax	
PGCIL	Power Grid Corporation of India Ltd.	

# Glossary (3/3)

Abbreviation	Full form	Explanation (if required)
PLR	Prime Lending Rate	
PSPCL	Punjab State Power Corporation Ltd.	
PPA	Power Purchase Agreement	
RE	Renewable Energy	
RM	Raw Material	
RoW	Right of Way	Issues faced by transmission companies in getting the transmission lines laid according to the plan due to mid-way obstruction
RVPNL	Rajasthan Vidyut Prasaran Nigam Ltd.	
RVUNL	Rajasthan Rajya Vidyut Utpadan Nigam	
TANGEDCO	Tamil Nadu Generation and Distribution Company	
TANTRANSCO	Tamil Nadu Transmission Company	
TSA	Transmission Service Agreement	
TSGENCO	Telangana State Generation Company	
TSTRANSCO	Telangana State Transmission Company	
UPPTCL	Uttar Pradesh Power Transmission Company Ltd.	
UPRVUNL	Uttar Pradesh Rajya Vidyut Utpadan Nigam	
WBPDCL	West Bengal Power Development Corporation	
WBSETCL	West Bengal State Electricity Transmission Company Ltd.	
WC	Working Capital	Capital requirement of a business to maintain its day-to-day operations

# Foreword

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The aftereffects of COVID-19 pandemic will be wide and large. The pandemic has already affected the economy severely. Although the recovery is going to be a long-drawn and hard-fought process, Indian economy is resilient and shall bounce back.

This report is intended to provide various industry stakeholders including business leaders an overall perspective on the impact of COVID-19 on the power sector as the economy starts recovering.

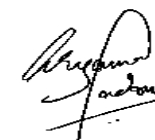
India has been chasing ambitious power and energy generation and transmission targets. While energy companies have been powering through the COVID-19 pandemic somewhat unscathed - the aftereffects will be wide and large. To ensure the country is on track to achieve its targets and reduce coal dependencies, there is a need for unlocking operational efficiencies and following through on the renewal energy trajectory.

The report deep dives into growth trends in the power sector along with key players in each sub-sector. In the section titled 'Project status', we have assessed how many projects are currently stuck vis-à-vis ongoing projects in the power sector.

In the section on 'EPC company', we have looked at the trends of receivables and payables for EPC companies in the sector, which is reflective of the health of asset owners in those sectors. We have examined the impact of COVID-19 on key parameters like raw material and equipment supply, manpower availability, payment terms and costing, availability of finance, payment terms and pricing, and consumer demand. We have also analysed the likely recovery scenario for all stakeholders in the sector.

The situation is evolving rapidly, and some of the expected scenarios might have slight variations. This report reflects our perspectives in July 2020. Contact us for latest updates.

We, at PGA Labs, look forward to continuing the discussion with our friends across sectors and exchanging notes as the situation evolves.



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# Key highlights

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## Overall

- India is chasing ambitious RE targets and enhancing its T&D infrastructure. **Increasing RE use is decreasing dependence on coal**
  - Contribution of thermal sector to reduce to ~50% by FY22 and ~43% by FY27
- Power sector has higher public sector presence; Private sector dominates renewable energy sector
- Owing to past bad experiences, long term PPAs in thermal is unlikely to pick-up in future. Renewables sector is likely to continue with long term PPAs
- EPC companies serving transmission sector are better-placed due to **lower delays in payments from asset owners**
- COVID-19 will impact the construction activity in short-to-medium term, resulting in project delays and increased project cost. Payment delays by DISCOMs are also expected
  - New construction projects to face near-to-medium term budgetary constraints

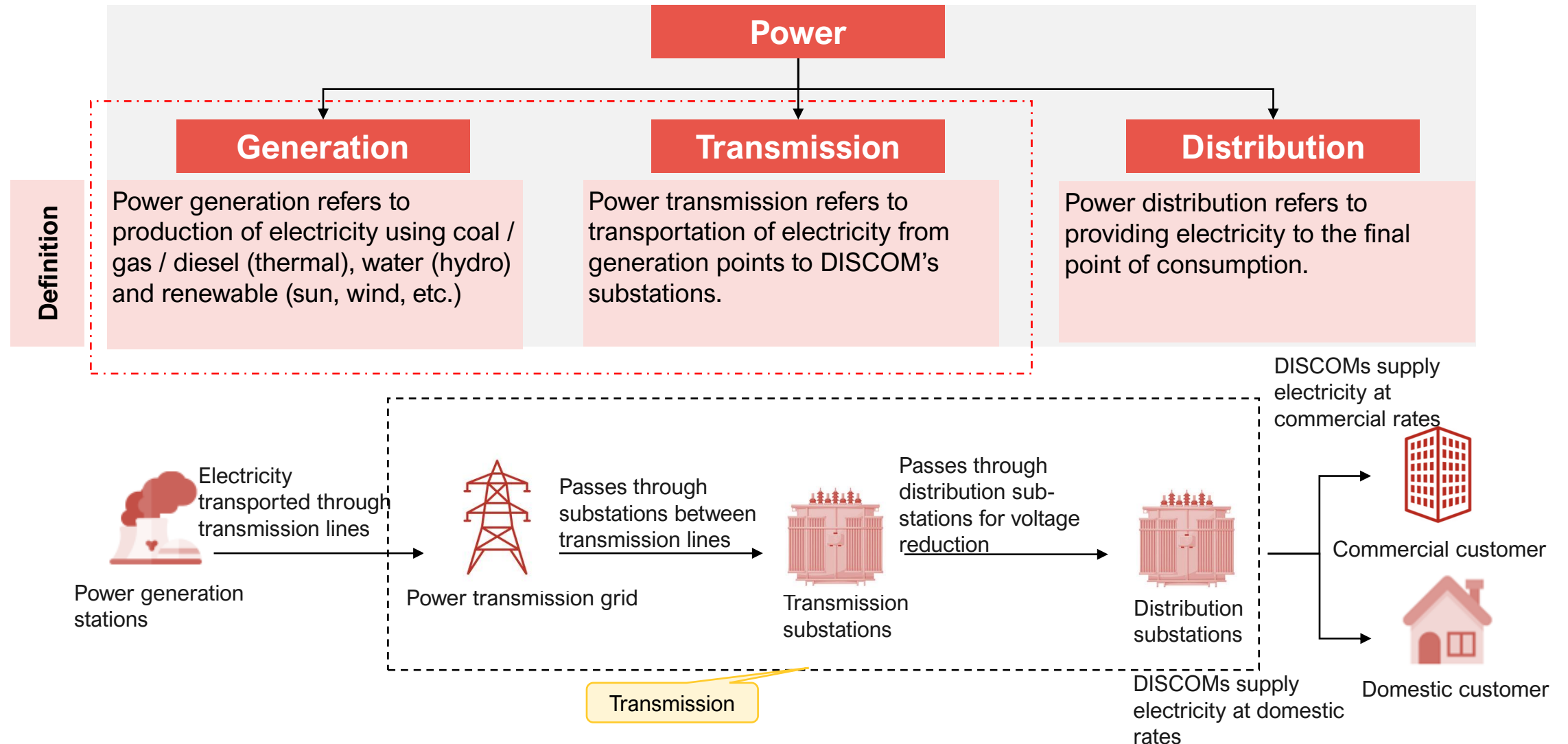
## Power generation

- India's installed capacity has reached ~99% of the required capacity Hence, future growth is going to be lower (~7% CAGR till FY27) and largely in RE, which will reach at least 110-120 GW by FY22
  - Opportunity to **export more power to neighboring countries**
- New private investment in generation sector is expected to be largely in renewable sector
- **Existing private players in thermal power firms find it difficult to raise money** from financial institutions due to their current financial health
- WC requirement for EPC firms has increased from 2.5 to 4.5 months over FY11-19, with DRO increasing from 7 to 11 months
  - Increase in interest cost can affect project profitability, and long-term attractiveness of the sector for EPC firms
- Power demand is expected to recover to pre-COVID levels within 6 months. However, firms will face high ARs due to payment delays

## Power transmission

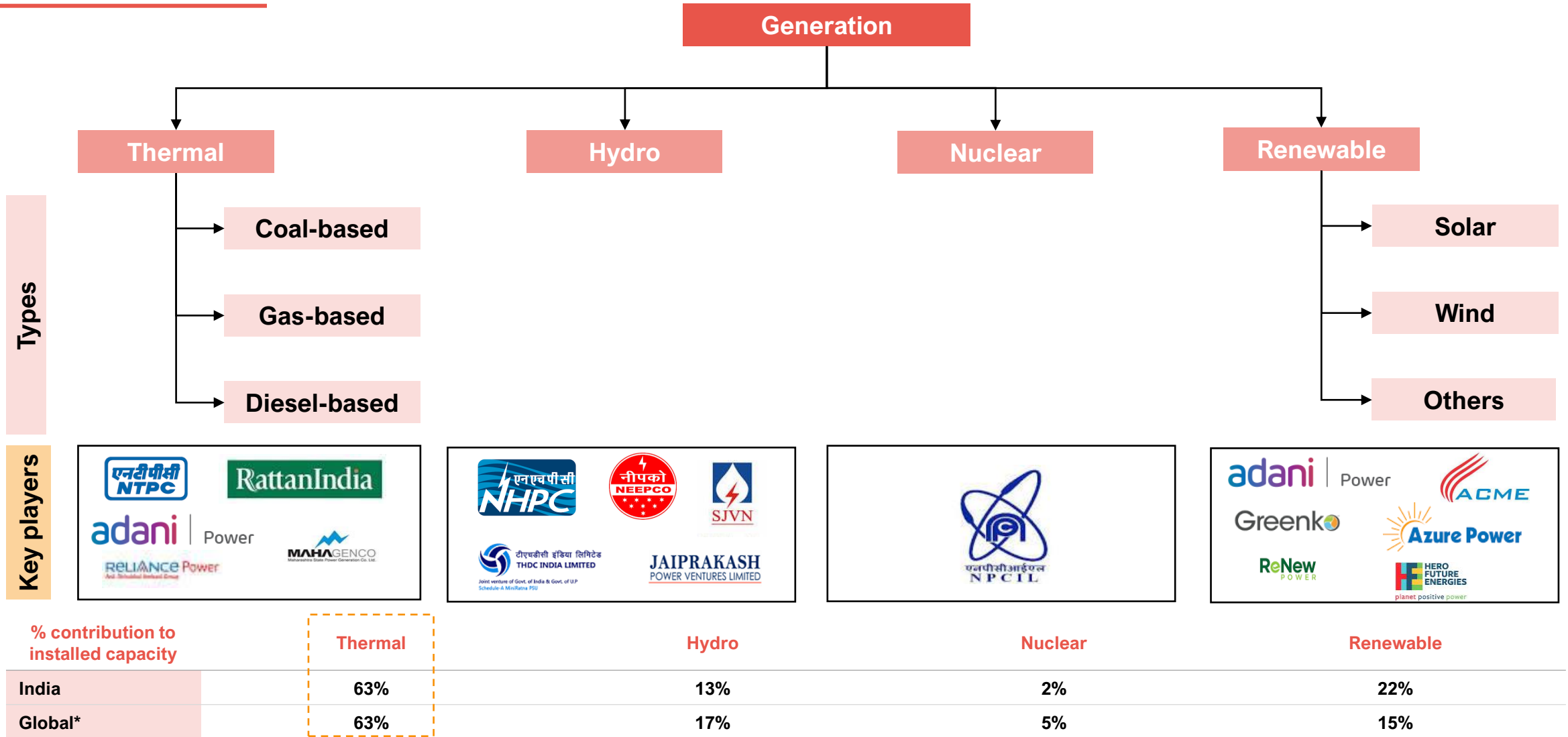
- India's transmission capacity is growing in line with generation capacity
  - Improving inter-state transmission capacity and connecting upcoming RE plants to grid are key growth drivers
- Private sector is a recent entrant in the sector and caters to <8% of the transmission network.
  - Private firms primarily cater to intra-state transmission network
- Public sector firms will not face issues in raising money as they borrow from Power Finance Corporation. Private firms in the sector are in relatively better financial health, and will be able to borrow from financial institutions
- Stable payment timelines for EPC from asset owners due to predictable revenue flow leading to higher resilience
  - Better project profitability leading to higher attractiveness for EPC players
- Asset owners might face high receivables dues to stress in DISCOMs; **poor DISCOM health might drive privatization**

# Power sector primarily consists of 3 segments – Generation, transmission and distribution





# Power generation comprises thermal, hydro, renewable and nuclear energy; Thermal energy's contribution to installed capacity in India mirrors global value



Note(s): \*Global installed capacity figures are for 2017

Source(s): Central Electricity Authority, Secondary research, PGA Labs analysis

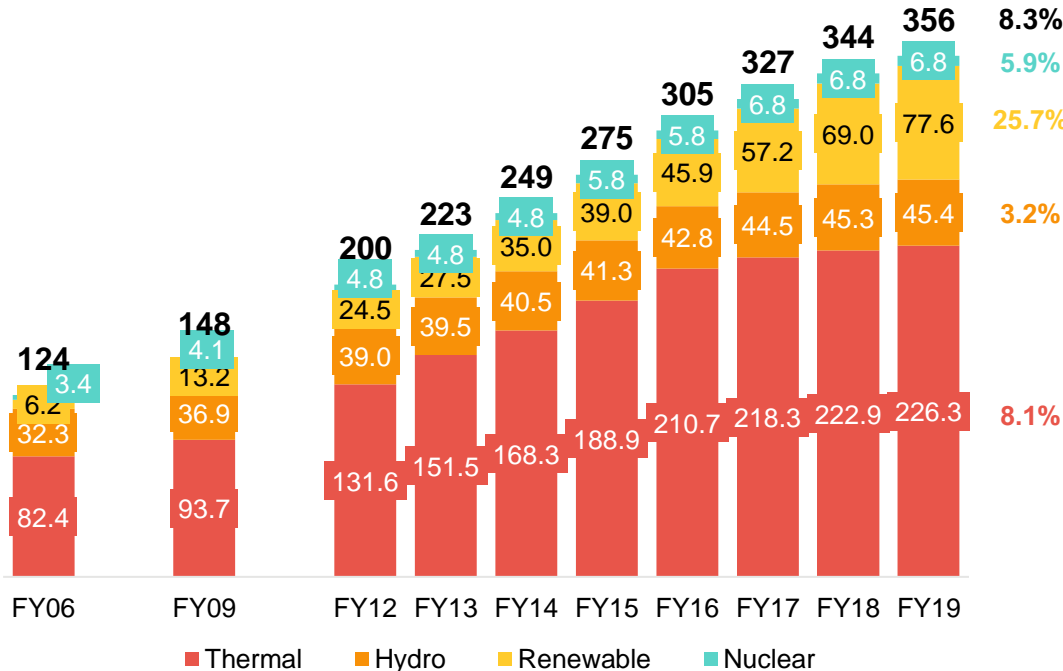
# Sector overview: The installed generation capacity has increased at 8.6% CAGR over the period FY12 – FY19; renewable energy is growing at the fastest pace

Growth accelerated in the period FY09 – FY12 as compared to FY06 – FY09; thermal power accounts for 63% capacity

% capacity expansion has consistently declined post FY16 along with net yearly capacity increase

Installed capacity in India (GW)

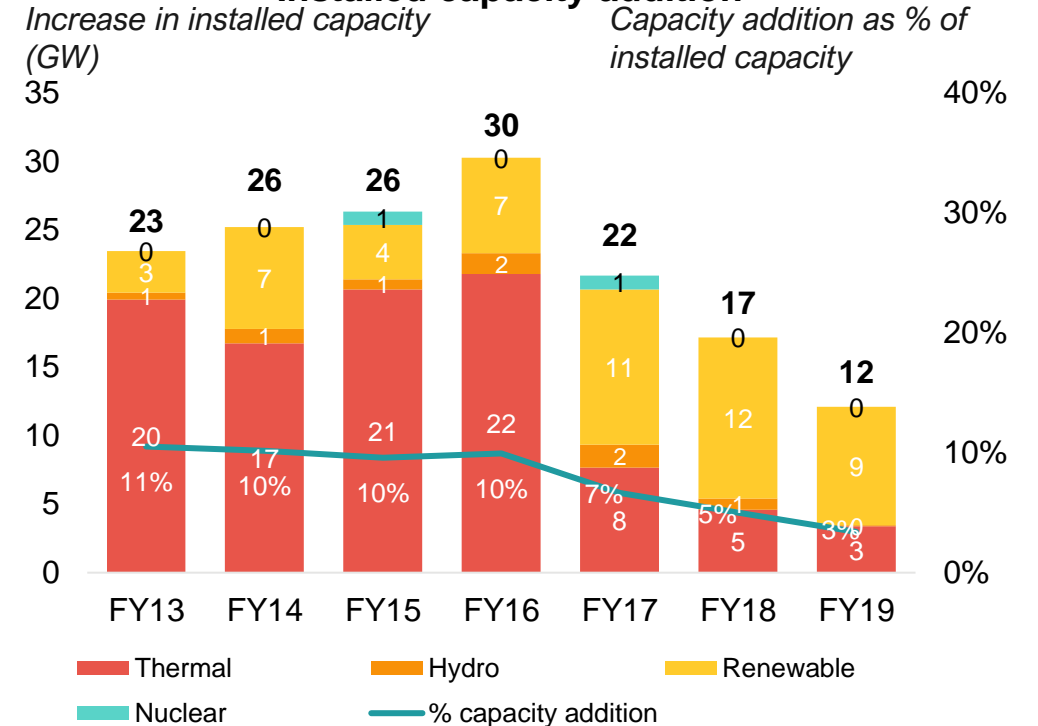
CAGR FY06-12	CAGR FY12-19
8.3%	8.6%
5.9%	5.1%
25.7%	17.9%
3.2%	2.2%
8.1%	8.1%



Estimated required generation capacity (GW)

136	166	218	244	260	285	311	330	346	358
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Installed capacity addition



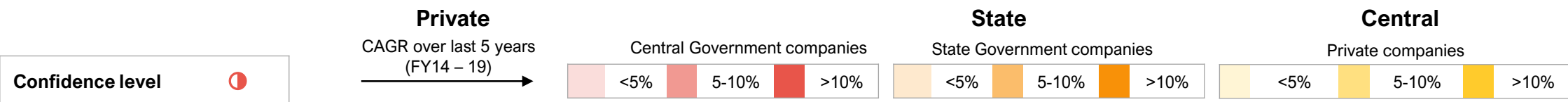
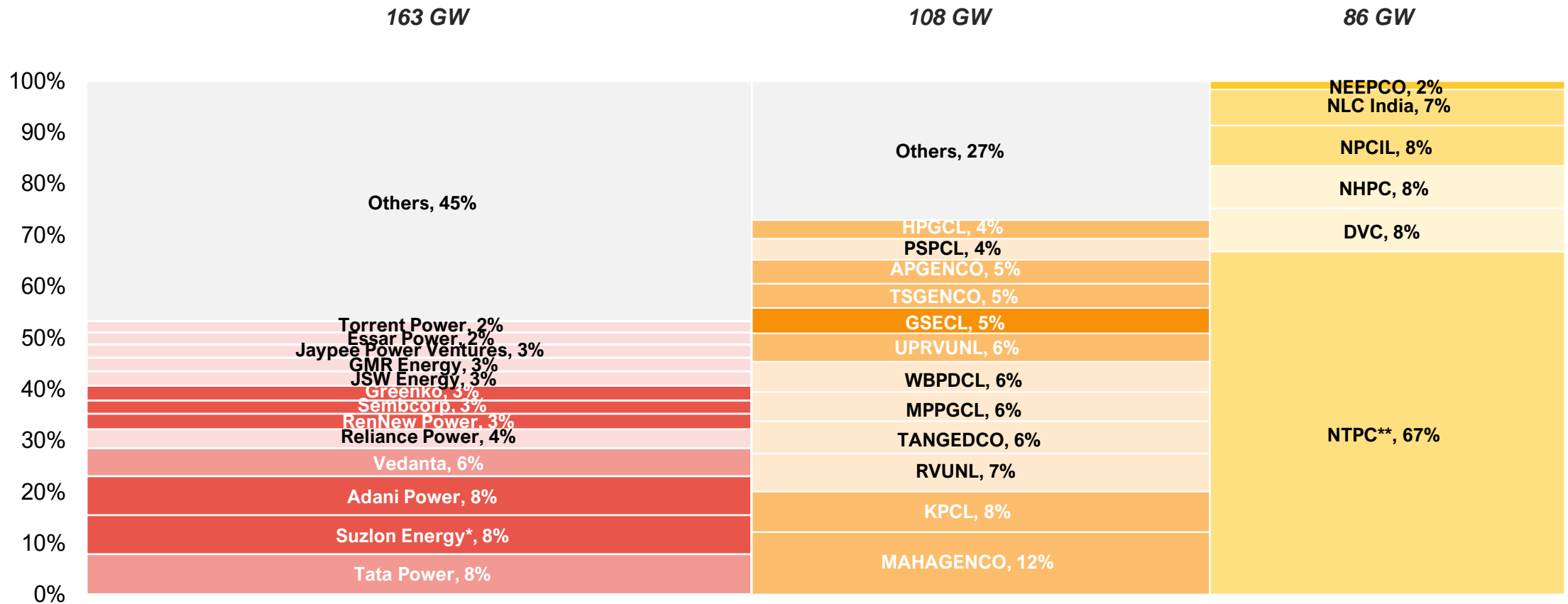
### Key reasons for declining % capacity addition

- Stagnancy in thermal capacity expansion post FY16 due to stress in private power production companies.
- Delay in commissioning of hydro power projects due to agitation by environmental activists.

# Competitor landscape: NTPC is the largest power producer in India; private sector comprises ~45% of the installed capacity

Overview by installed capacity % (FY19)

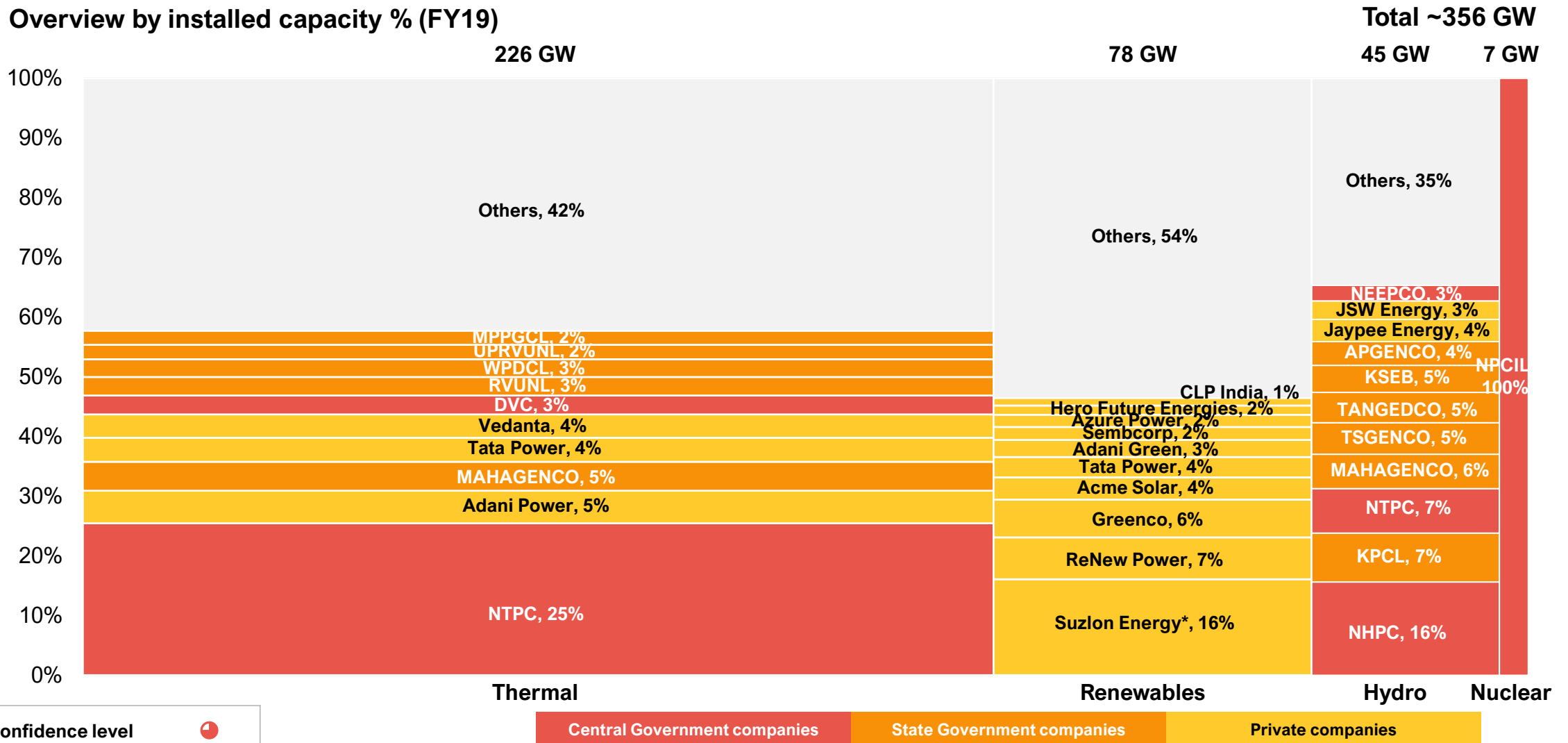
Total ~356 GW



Note(s): \*Suzlon Energy manages wind energy assets through its O&M arm and does not own them; \*\*NTPC's installed capacity is inclusive of the installed capacity of its JVs / subsidiaries  
 Source(s): Central Electricity Authority, Company websites, PGA Labs analysis

# Competitor landscape: Thermal energy comprises 64% of the installed capacity; renewable energy sector is dominated by private companies

Overview by installed capacity % (FY19)



Confidence level ●

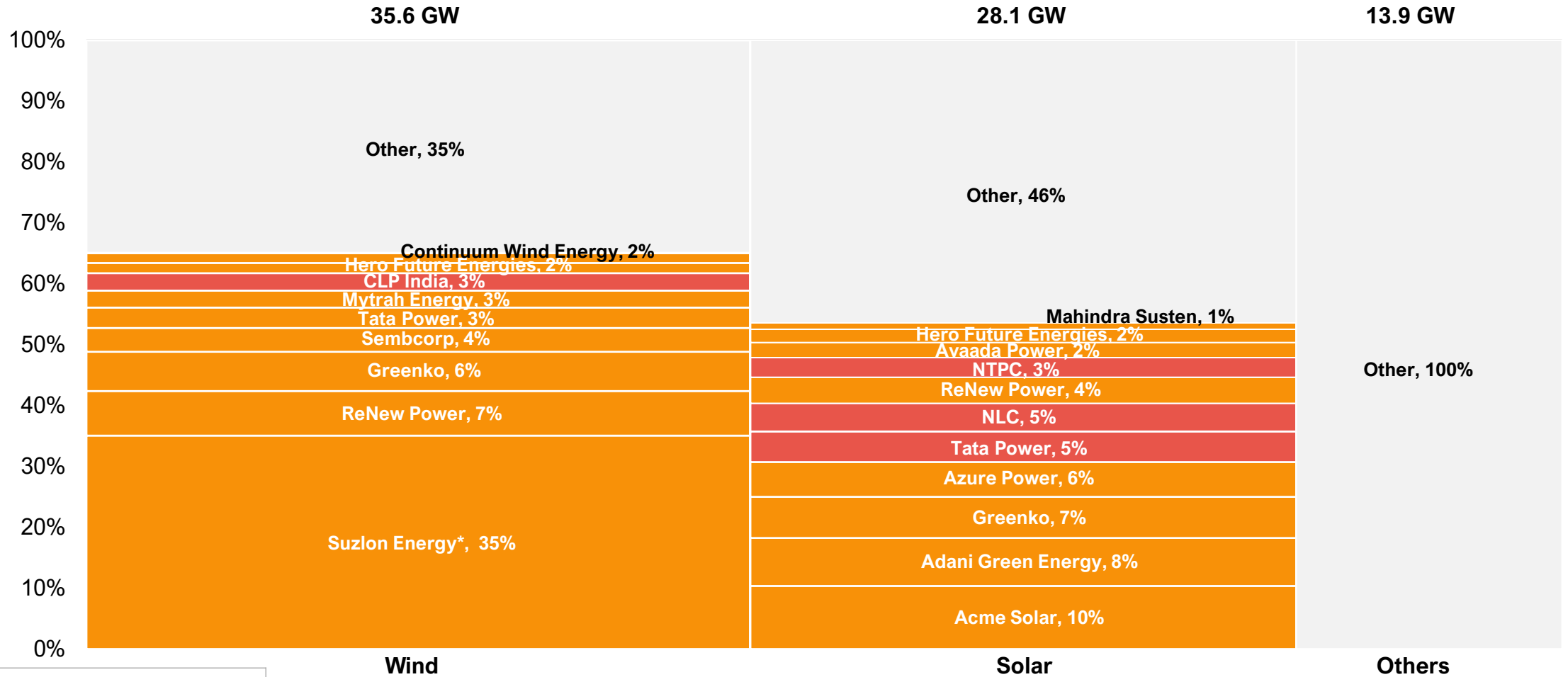
Note(s): \*Suzlon Energy manages wind energy assets through its O&M arm and does not own them  
 Source(s): Central Electricity Authority, Company websites, PGA Labs analysis



# Competitor landscape: Wind energy accounts for ~45% of RE capacity; Suzlon is the largest RE asset manager while ReNew and Greenko are the largest RE IPPs

Overview by installed capacity % (FY19)

Total ~78 GW



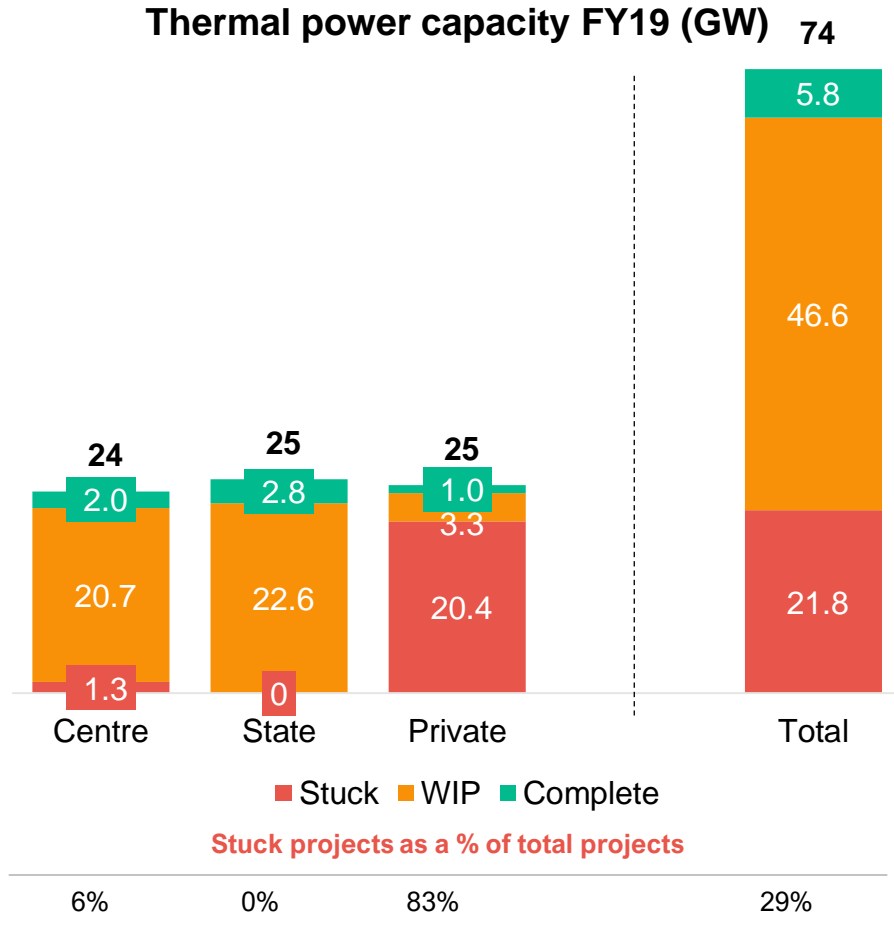
Confidence level ●

Note(s): \*Suzlon Energy manages wind energy assets through its O&M arm and does not own them  
 Source(s): Central Electricity Authority, Company websites, PGA Labs analysis



# Thermal power project status: Private sector has witnessed the highest stuck project capacity in thermal power generation sector

Equal distribution of projects among different sectors in FY19; state sector has negligible stuck capacity

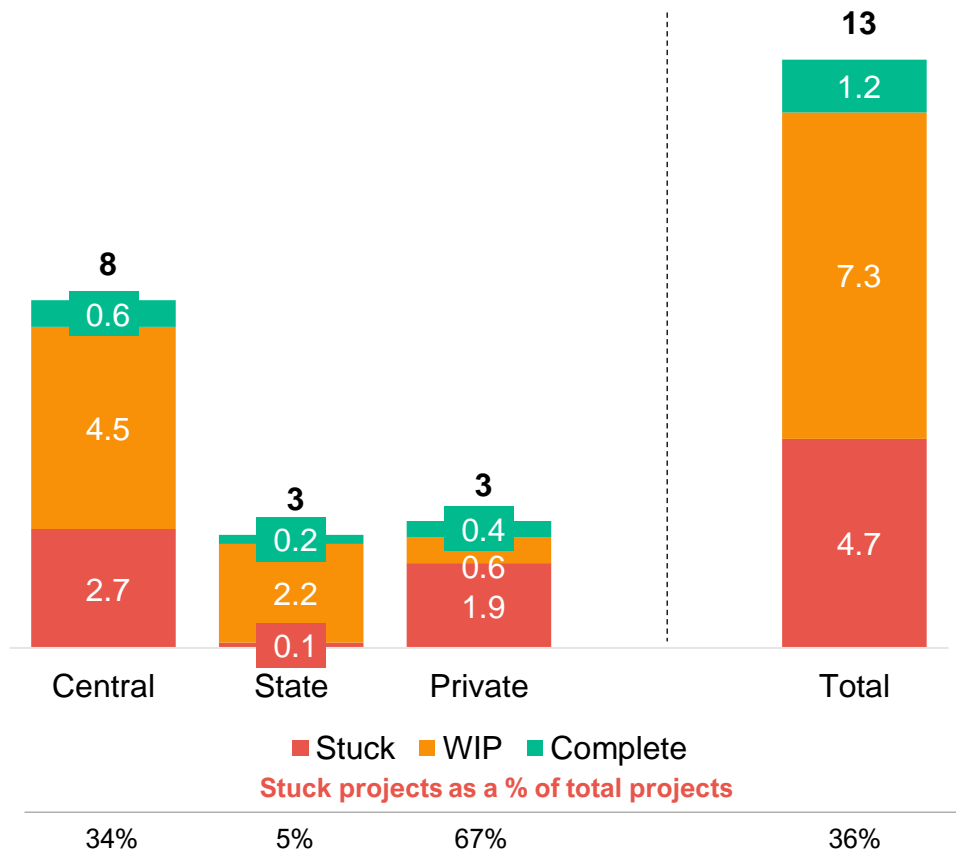


	Company	Completed (GW)	WIP (GW)	Stuck (GW)	Key stuck projects (capacity in GW)	Broad reasons for project delays
Central	एन टी पी सी NTPC	2	19.1	1.3	• Nabi Nagar Thermal Power Plant (1.3)	• Delay in land acquisition due to protest by villagers • Cash slow issues with contractor
	Others (1)	-	1.6	-		
State		-	5.7	-		
		-	5.1	-		
		-	4.0	-		
	Others (7)	2.8	7.8	-		
Private	LANCO	-	-	4.0	• Lanco Vidarbh (1.3)	• Financial problems faced by the company
	RattanIndia	-	-	2.7	• Nasik Thermal Power Plant (0.84)	• Financial problems faced by the company
	Others (20)	1.0	3.3	13.7		
	<b>Total</b>	<b>5.8</b>	<b>46.6</b>	<b>21.8</b>		

# Hydro power project status: Central and private sectors have higher stuck project capacity; cash flow issues primary concern for private projects

Central government primarily owns hydro power projects; state sector has lowest stuck capacity

Hydro power capacity FY19 (GW)



	Company	Completed (GW)	WIP (GW)	Stuck (GW)	Key stuck projects (capacity in GW)	Broad reasons for project delays
Central	NHPC	-	1.8	2.5	• Subansiri Lower (2)	• Agitation by activists due to fear of dam safety and downstream impact
	NTPC	-	0.6	0.2	• Lata Tapovan (0.17)	• Construction stopped due to High Court order
	<b>Others</b>	<b>0.6</b>	<b>2.1</b>	-		
State	JKRDC	-	0.03	0.04	• Lower Kalnai (0.04)	• Payment dispute with sub-contractors
	MAHAGENCO Maharashtra State Power Generation Co. Ltd.	-	-	0.08	• Koyna Left Bank PSS	• Additional budget yet to be sanctioned
	<b>Others</b>	<b>0.2</b>	<b>2.2</b>	-		
Private	GVK	-	-	0.85	• Ratle Hydro Electric Power (0.85)	• Law and order issues and Indus Water Treaty
	ENTEGRA	-	-	0.4	• Maheshwara Hydel Power (0.4)	• Cash flow issues with the company
	Jal Power Corporation Ltd.	-	-	0.12	• Rangit IV (0.12)	• Cash flow issues with the company
	<b>Others</b>	<b>0.4</b>	<b>0.6</b>	<b>1.4</b>		
<b>Total</b>		<b>1.2</b>	<b>7.3</b>	<b>4.7</b>		

# EPC company: L&T has reduced its dependence on power generation projects post FY14; trade payables have increased whereas receivables are consistent



**Revenue\***  
INR 896.6B

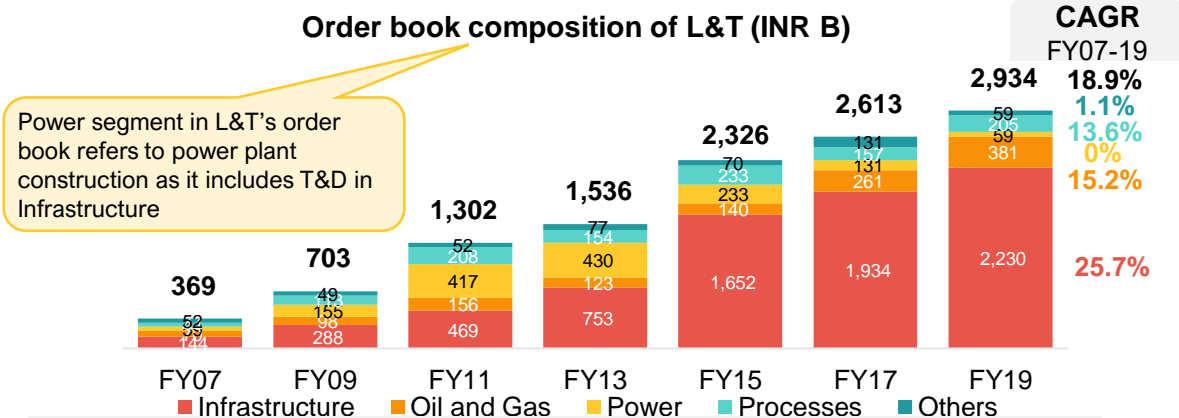
**EBITDA\***  
INR 114.5B

**PAT\***  
INR 66.8B

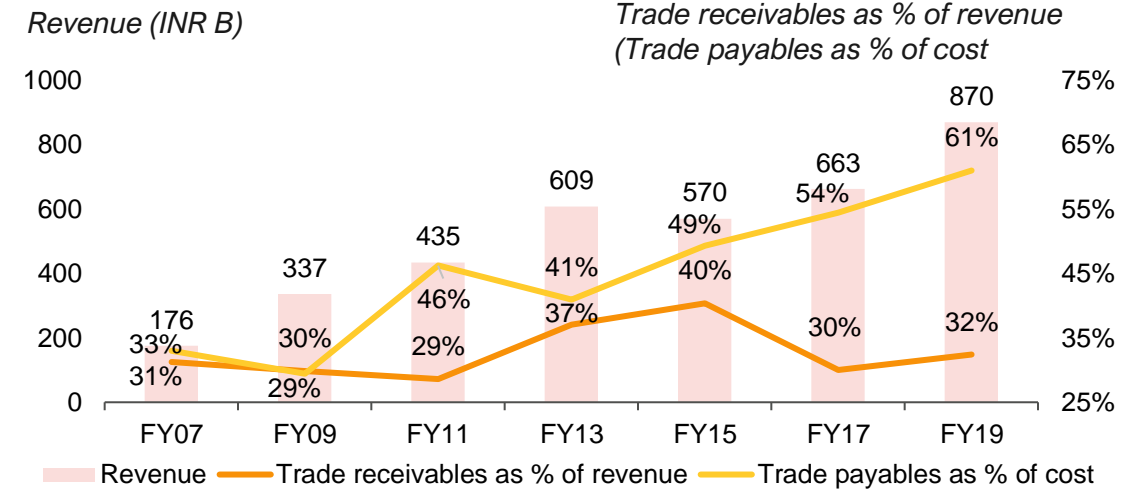
**Order book size\***  
INR 2,934.2B

**Contribution of power generation projects to L&T's order book has considerably declined post peak in FY13**

**WC requirement has considerably declined primarily due to increase in trade payables**



Power segment in L&T's order book refers to power plant construction as it includes T&D in Infrastructure



	% share in order book						
	FY07	FY09	FY11	FY13	FY15	FY17	FY19
<b>Infra.</b>	39%	41%	36%	49%	71%	74%	76%
<b>Oil</b>	19%	14%	12%	8%	6%	10%	13%
<b>Power gen.</b>	16%	22%	32%	28%	10%	5%	2%
<b>Proc.</b>	12%	16%	16%	10%	10%	6%	7%
<b>Other</b>	14%	7%	4%	5%	3%	5%	2%

	FY07	FY09	FY11	FY13	FY15	FY17	FY19
<b>DPO<sup>1</sup></b>	106	97	144	144	168	191	207
<b>DRO<sup>2</sup></b>	107	94	99	124	143	107	107
<b>DIO<sup>3</sup></b>	79	80	19	17	20	15	18
<b>CCC<sup>4</sup></b>	80	77	-26	-3	-5	-69	-82

Note: \* represents values for FY19; Revenue refers to operating revenue; Sub-contracting expenses have been considered as a part of COGS for calculating DPO, DIO and CCC  
<sup>1</sup>DPO is no. of days taken to pay off the suppliers; <sup>2</sup>DRO is number of days taken to receive payment from customers; <sup>3</sup>DIO is no. of days taken to liquidate inventory; <sup>4</sup>CCC is no. of days taken to convert its investment in inventory into cash flow from sales  
 Source: Company website, Annual reports, PGA Lab Analysis



# EPC company: Power EPC firms face high payment delays from asset owners due to underlying stress in private sector firms; average CCC of 3-5 months



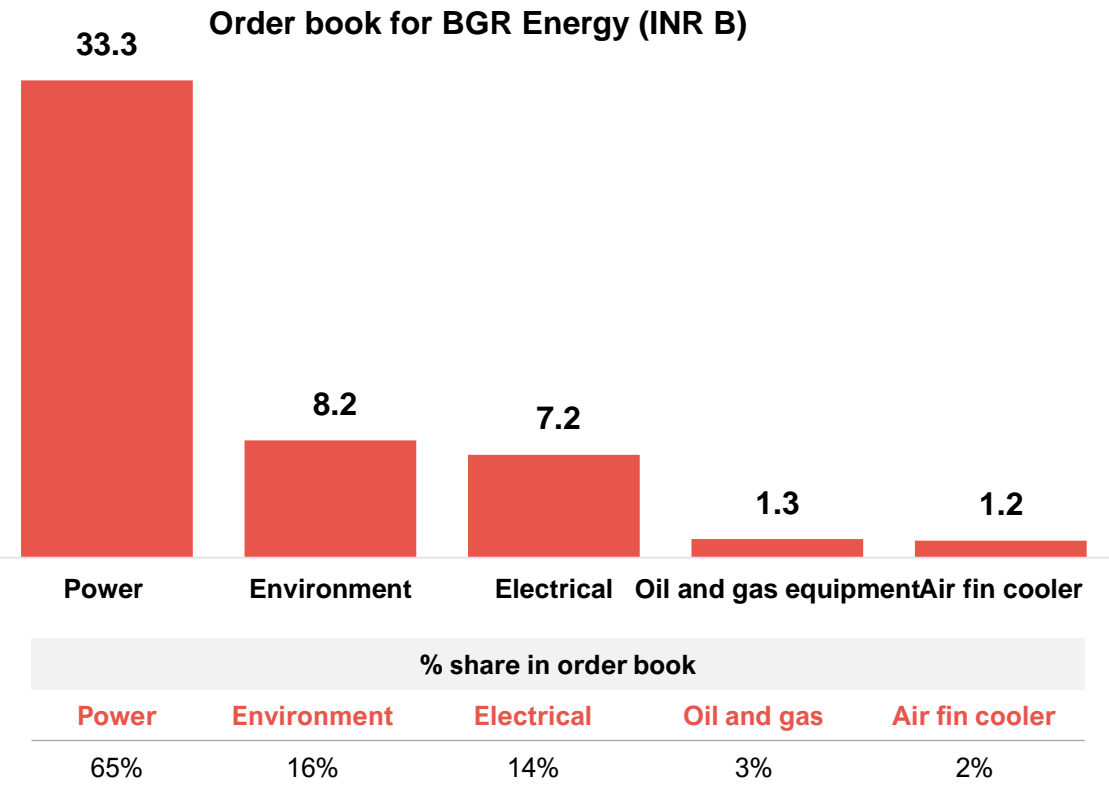
**Revenue\***  
INR 32.8B

**EBITDA\***  
INR 3.3B

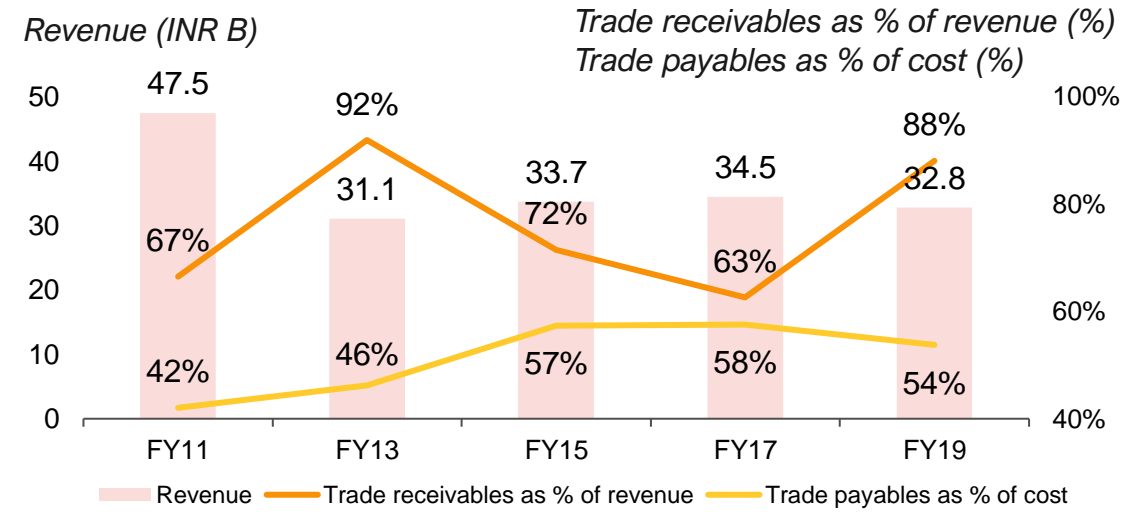
**PAT\***  
INR 0.15B

**Order book size\***  
INR 51.3B

Power projects contribute to 65% of the order book of BGR Energy



High WC requirement for BGR Energy as DRO is consistently higher than DPO; revenue stagnant post FY11



	FY11	FY13	FY15	FY17	FY19
DPO	129	190	202	210	197
DRO	197	321	280	253	328
DIO	3	6	7	6	6
CCC	72	137	85	49	136

Note(s): \* represents values for FY19; Revenue refers to operating revenue  
Source(s): Company website, Annual report, PGA Labs analysis

# RE company: Suzlon Energy has witnessed higher working capital requirement due to higher inventory levels; average DRO is 120-180 days



Revenue*
INR 49.8B

EBITDA*
INR 0.43B

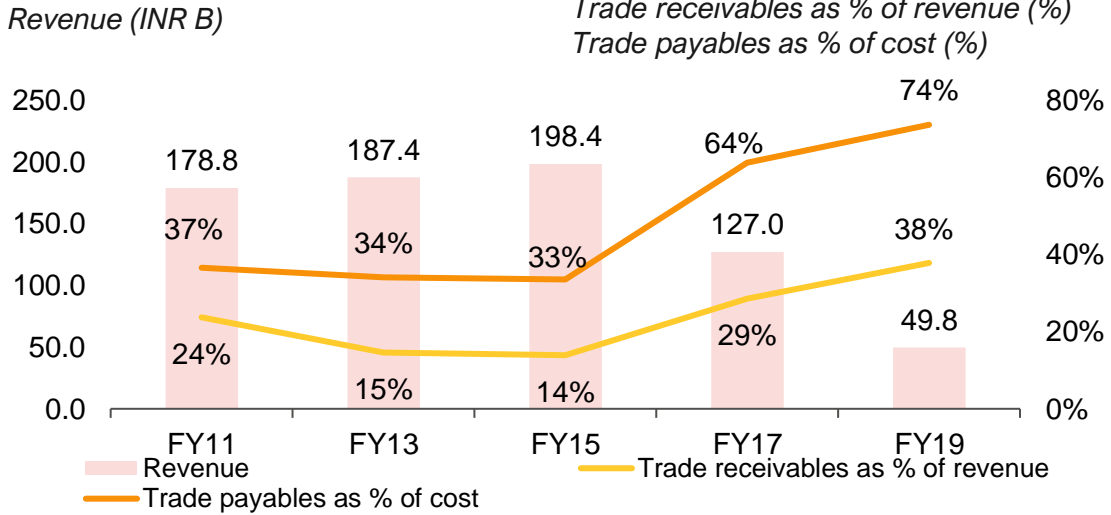
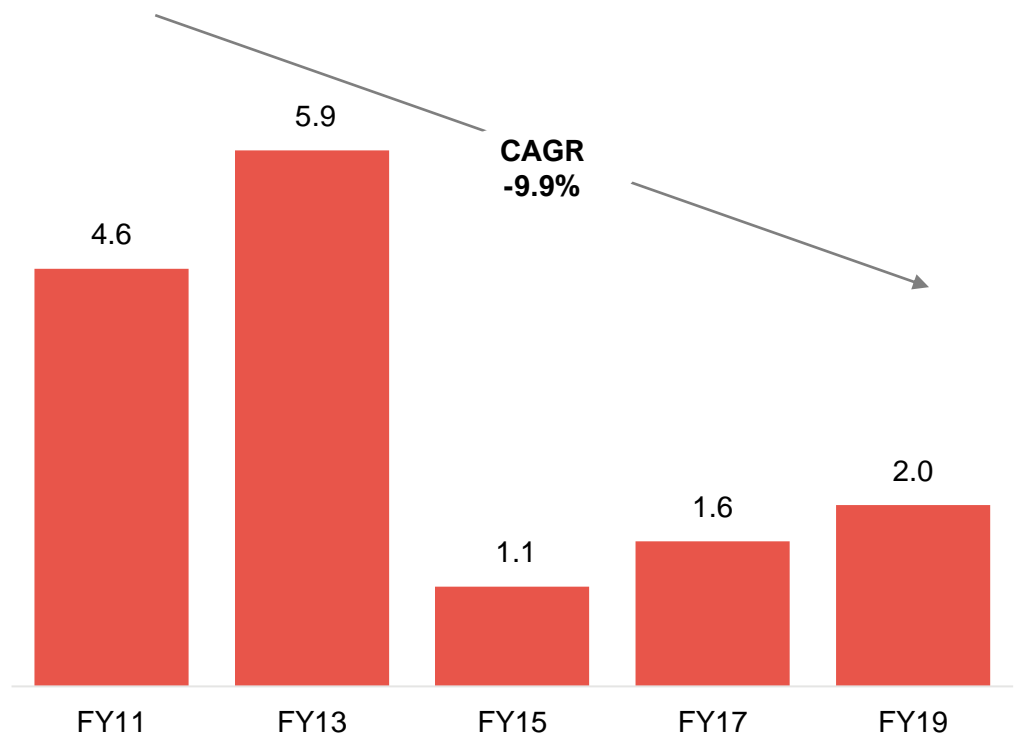
PAT*
(INR 15.4B)

Order book size*
INR 76B

Order book volume has declined considerably post FY13; company back in slow recovery post FY15

WC requirement considerably higher in FY19 due to higher DIO; average CCC is ~100 days

Order book volume for Suzlon Energy (GW)



	FY11	FY13	FY15	FY17	FY19
DPO	125	140	132	188	290
DRO	76	78	50	88	178
DIO	167	145	99	145	366
CCC	118	83	17	45	254

Source(s): Company website, Annual report, PGA Labs analysis

# COVID impact: COVID is expected to impact RM, labor and capex availability for construction in the short-term

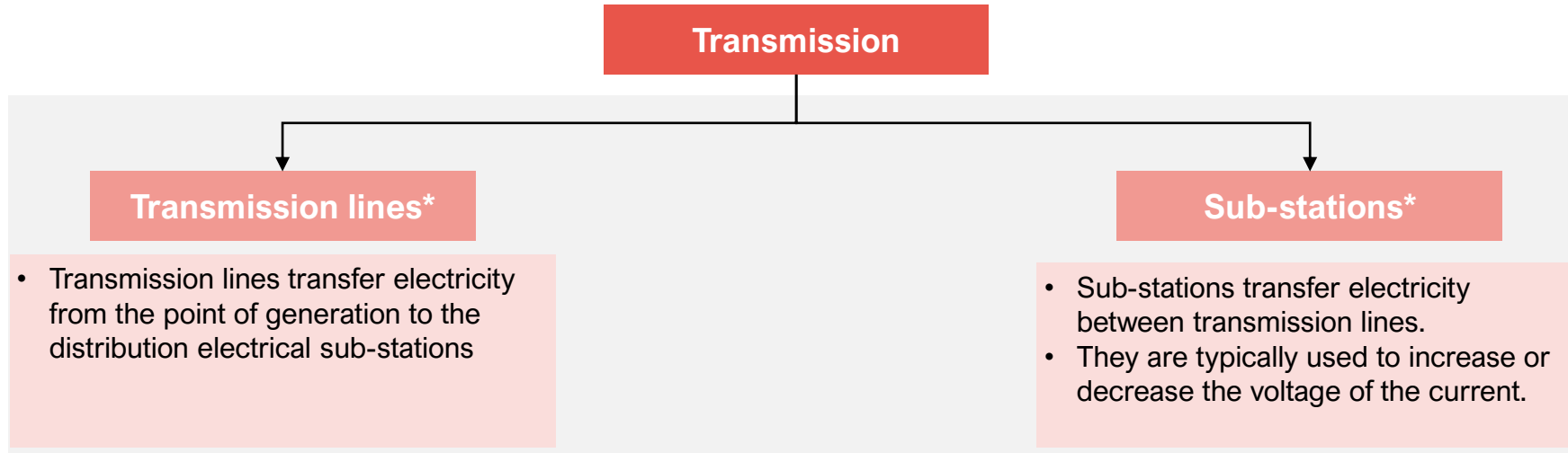
		Supply side factors				Demand side factors			
		<b>RM and equipment</b>	<b>Labor</b>	<b>Payment terms and costing</b>	<b>Availability of finance</b>	<b>Payment terms and pricing</b>	<b>Electricity demand</b>		
<b>2008 crisis</b>  <b>Covid-19 crisis impact</b>	<b>Overall</b>	<ul style="list-style-type: none"> <li>No restriction on availability of raw materials and equipment</li> </ul>	<ul style="list-style-type: none"> <li>No restriction of availability of labor for construction</li> </ul>	<ul style="list-style-type: none"> <li>No major impact as there was limited impact on construction activity and electricity consumption</li> </ul>	<ul style="list-style-type: none"> <li>ECBs reduced due to exchange rate fluctuations.</li> <li>Benchmark <b>PLR increased from 13.25% to 14%</b></li> </ul>	<ul style="list-style-type: none"> <li>No major impact as electricity consumption did not decline</li> </ul>	<ul style="list-style-type: none"> <li>Demand increased in long-term as power consumption started increasing</li> </ul>		
	<b>Short-term (1 to 3 months)</b>	<ul style="list-style-type: none"> <li><b>EPC company: Limited availability</b> of RMs due to disruption; <b>imports from China to be hit</b></li> <li><b>Asset owners:</b> RM (coal etc.) to remain available</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Labor starts <b>joining back</b> in month 2 and 3. <b>Contract labor may not be available</b></li> <li><b>Asset owners:</b> Labor available</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Delay vendor payments. Cost (RM etc.) might decrease due to reduced demand.</li> <li><b>Asset owners:</b> Increase in AP due to delay in DISCOM payments. <b>No impact on project cost</b></li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company – WC</b> loans for ongoing projects not to be affected.</li> <li><b>Asset owners:</b> Short-term increase in PLR. <b>Government projects (PFC-funded) to be less affected</b></li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company: Terms fixed in the contract</b>, but AR might increase</li> <li><b>Asset owners: Moratorium on payment</b> will increase AR. PPA prices to be unaffected</li> </ul>	<ul style="list-style-type: none"> <li>Decline in demand due to closure of industrial and commercial establishments</li> <li>Resultant decline in capacity utilization</li> </ul>		
	<p>Covered in essential commodities</p>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Resumption of RM supply. <b>Imported equipment supply to remain disrupted</b></li> <li><b>Asset owners:</b> Normal supply</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> More than <b>80% laborers</b> join back. <b>Contract labor starts returning.</b></li> <li><b>Asset owners:</b> Labor available</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> AP reduces as customer payments resume. Cost remains subdued</li> <li><b>Asset owners:</b> AP starts reducing as DISCOM payments resume</li> </ul>	<ul style="list-style-type: none"> <li><b>Asset owners:</b> Power sector lending might resume with <b>government push in the form of reduced lending rates.</b> RE projects to resume but high NPA stress in private thermal projects to continue</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> AR to start declining as payments resume</li> <li><b>Asset owners:</b> AR start reducing as DISCOM payments resume, and non-PPA prices to start increasing</li> </ul>	<ul style="list-style-type: none"> <li>Demand starts increasing as offices and industries start opening slowly.</li> <li>Capacity utilization still below peak levels.</li> </ul>		
<b>Long-term (9 to 12 months)</b>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Full-scale resumption of construction</li> <li><b>Asset owners:</b> Normal supply</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Full labor joins back</li> <li><b>Asset owners:</b> Labor available</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> Supplier payments normalize</li> <li><b>Asset owners:</b> AP normalizes</li> </ul>	<ul style="list-style-type: none"> <li><b>Asset owners:</b> Power sector lending to thermal projects remains affected, but normalizes for others</li> </ul>	<ul style="list-style-type: none"> <li><b>EPC company:</b> AR normalize</li> <li><b>Asset owners:</b> AR and pricing normalize</li> </ul>	<ul style="list-style-type: none"> <li>Demand back to pre-COVID levels</li> </ul>			

Source(s): PGA Labs analysis



# Power transmission consists of 2 key components – Transmission lines and sub-stations

Definition



Key players

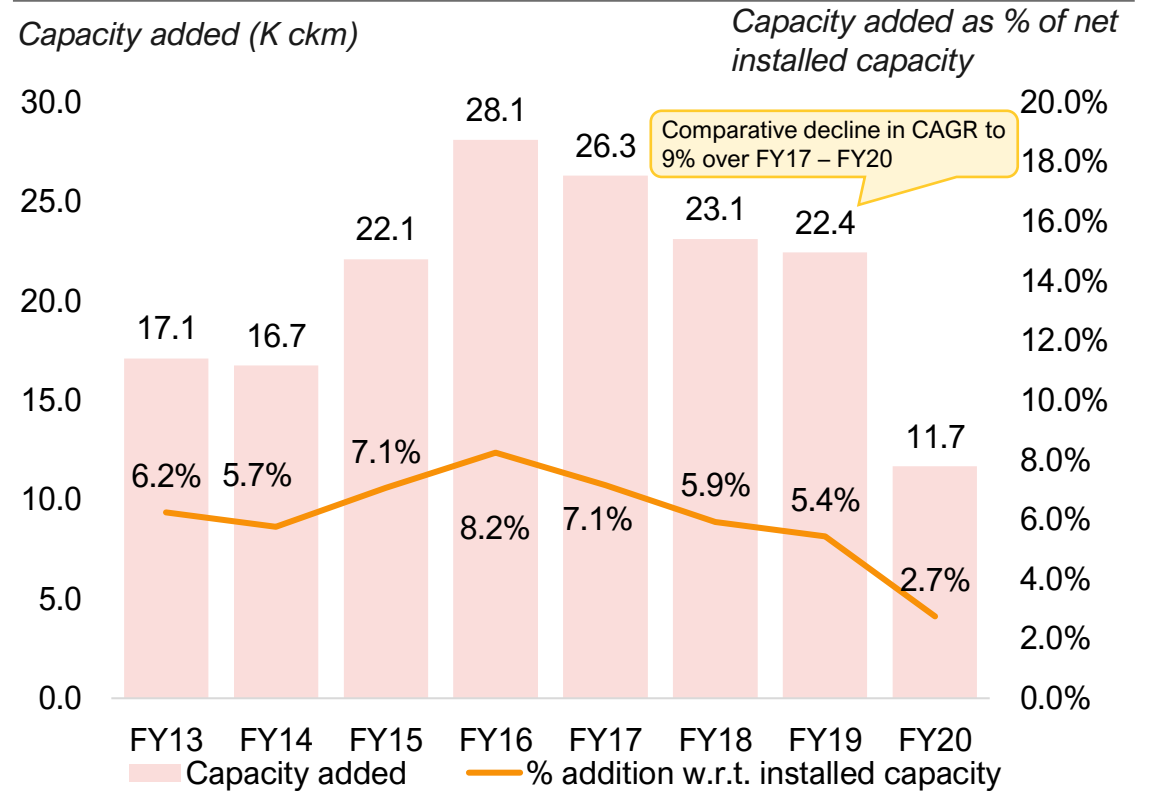
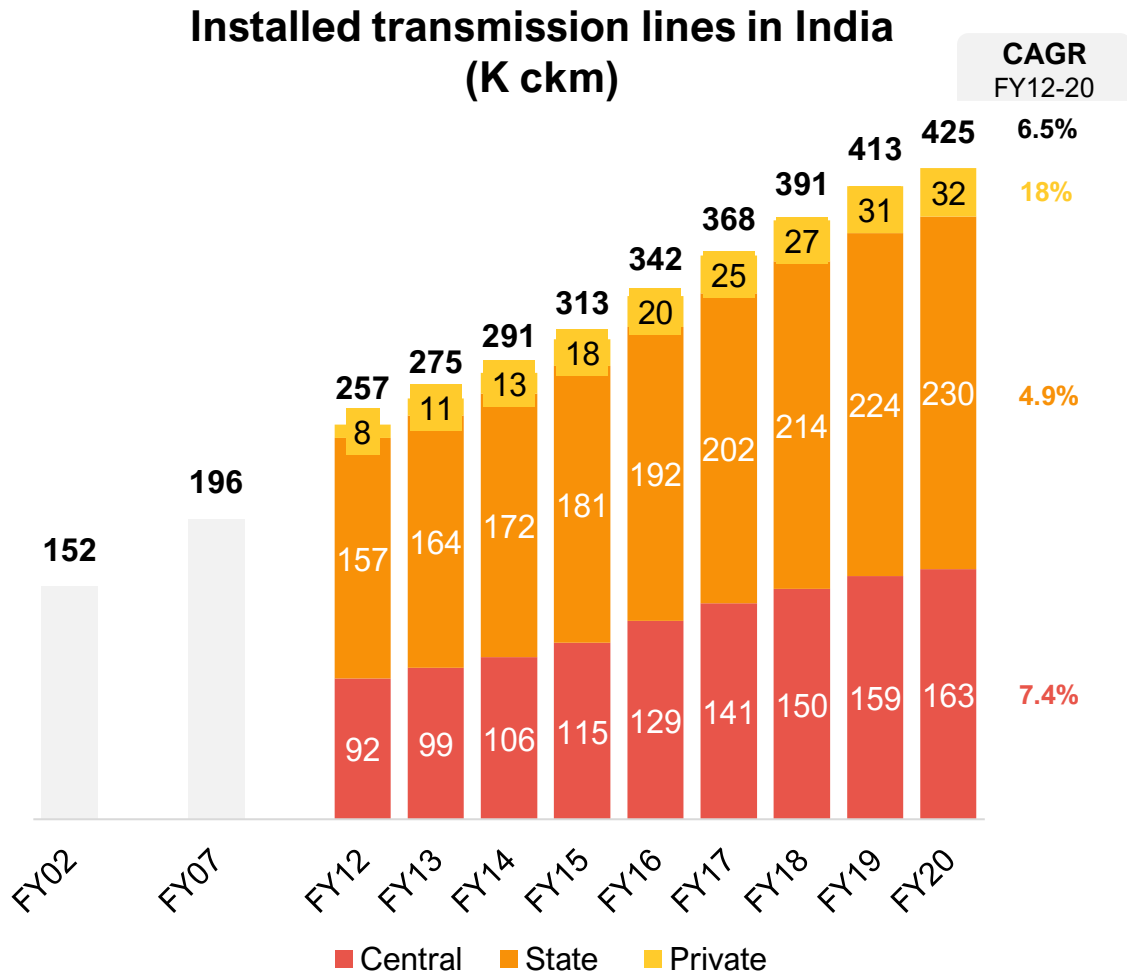
Central	Private
State	

Note(s): \* Transmission lines and sub-stations referred in the report are those equal to or above 220 kV  
 Source(s): PGA Labs analysis

# Sector overview: 92% of transmission lines are owned by government companies; moderate CAGR of 6.5% in line with GDP growth of India

Private companies have observed faster growth than government companies during FY12-20

Capacity addition as a % of net capacity has consistently declined post FY16



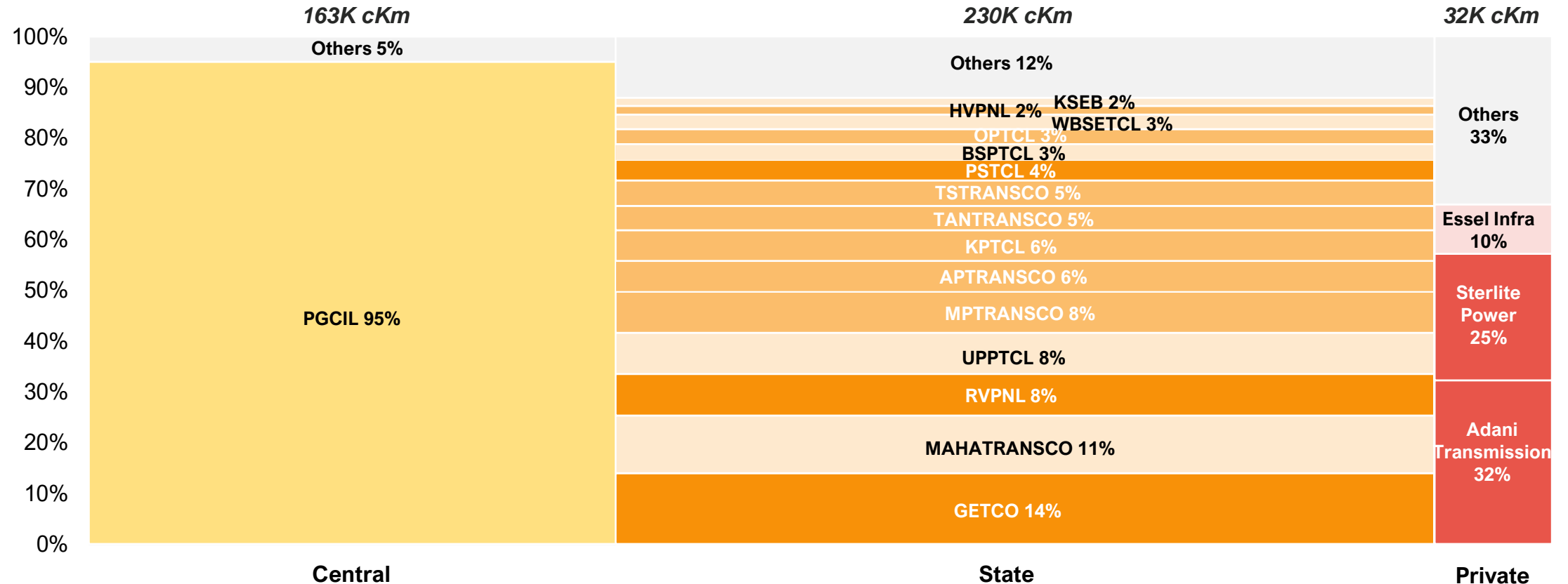
#### Key reasons for declining % capacity addition

- Projects getting stuck due to **delays in government approvals and land acquisition-related protests**
- Less focus on technology and innovation during execution leading to delays
- Delay in **completion of power generation projects**

# Competitor landscape: PGCIL has the highest transmission line network in India; state government owned companies own 54% of the transmission line network

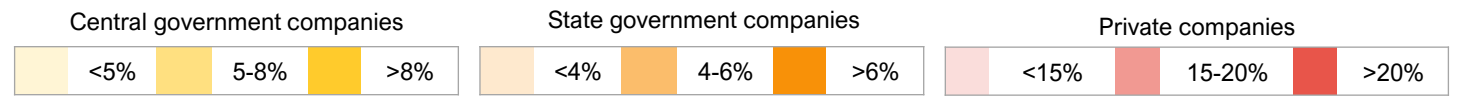
Capacity overview by transmission line length (FY20)

Total ~ 425K cKm



Confidence level ●

CAGR over last 5 years (FY15 – 20) →

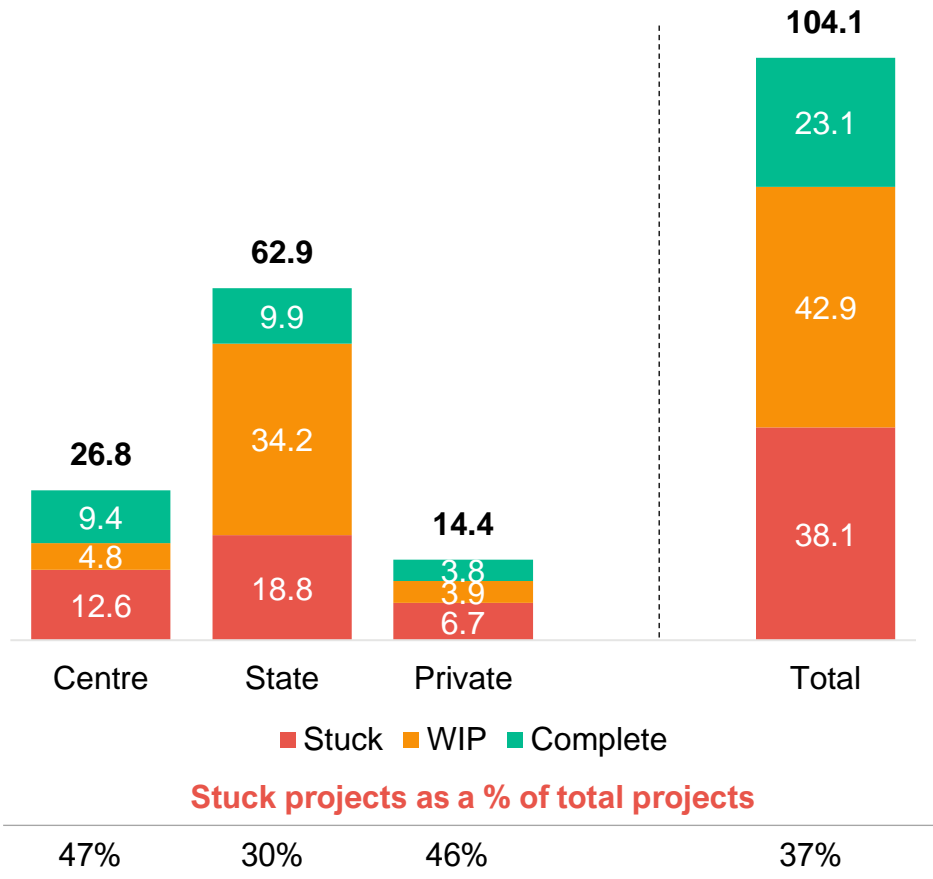


Source(s): Central Electricity Authority, Company websites, PGA Labs analysis

# Project status: State government owned companies have the highest number of WIP projects; RoW and contractor performance key issues impacting growth

Stuck projects accounted for 37% of total projects completed or under construction in India

Transmission line length (K ckm)



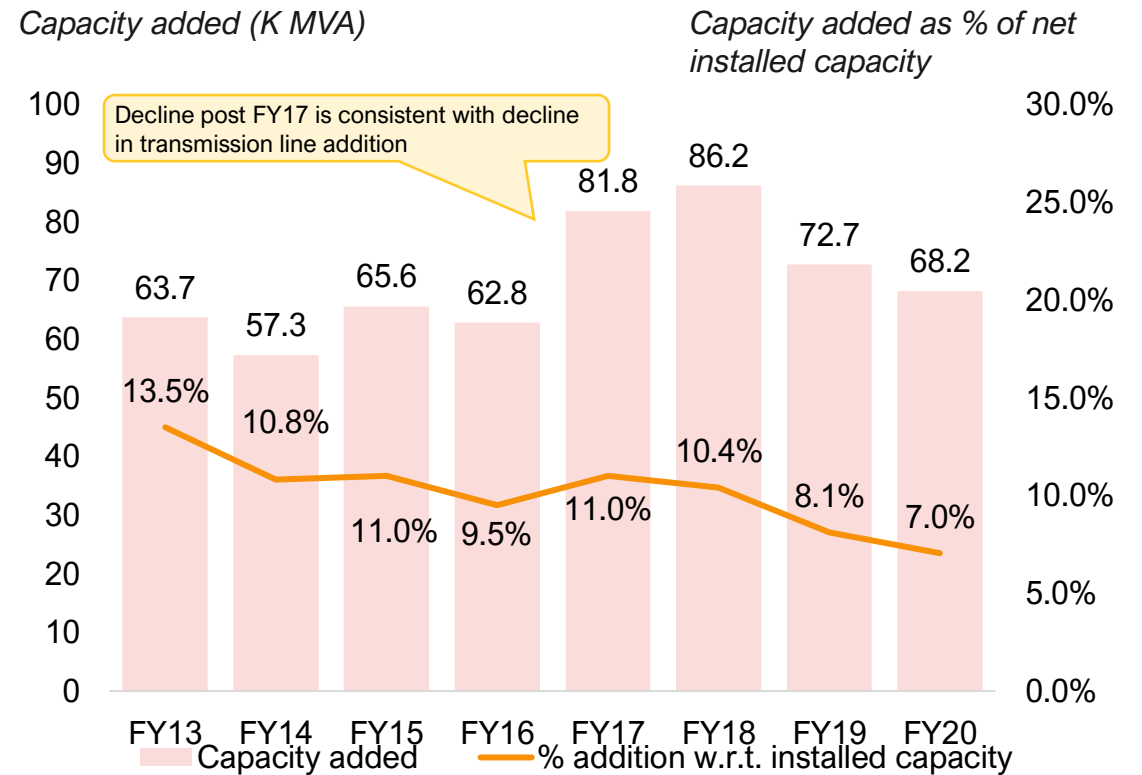
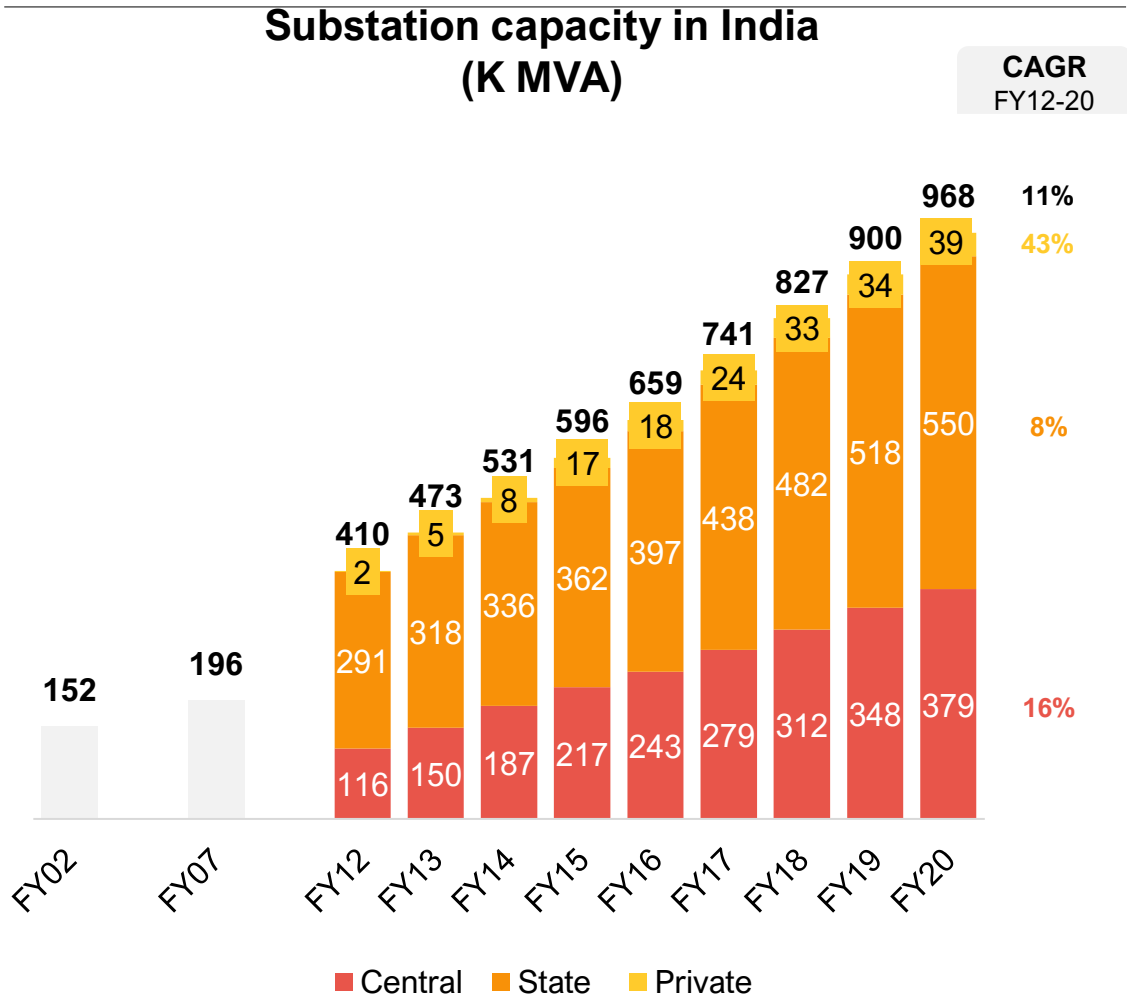
	Company	Completed (K ckm)	WIP (K ckm)	Stuck (K ckm)	Key stuck projects (length in K ckm)	Broad reasons for project delays
Central	पावरथिड	9.2	3.3	11.7	• Raigarh – Pugular Link (~3.5)	• RoW issues due to fields and buildings • Delay in approvals – Forest and Finance dept.
	<b>Others (2)</b>	<b>0.2</b>	<b>1.5</b>	<b>0.9</b>		
State	MAHATRANSCO	0.8	7.3	5.0	• Mundra Zerda line (~0.6)	• Delay in tender processing • RoW – fields
	MAHATRANSCO	0.4	1.6	2.2	• Babhaleshwar – Kudus line (~0.4)	• RoW issues – fields • Farmer protests
	MAHATRANSCO	0.5	3.8	1.6	• Rasipalayam - Dharmapuri line (~0.4)	• RoW issues • Delay in approvals
	<b>Others (27)</b>	<b>8.2</b>	<b>21.5</b>	<b>10.0</b>		
Private	Essel Infra	-	-	2.4	• Warora – Warangal (~0.7)	• RoW issues – fields and buildings • Delay in approvals
	Sterlite Power	1.2	0.9	0.7	• Khandwa Pool – Dhule line (~0.4)	• Delay in approval – Power dept.
	<b>Others (34)</b>	<b>2.6</b>	<b>3.0</b>	<b>3.6</b>		
	<b>Total</b>	<b>23</b>	<b>43</b>	<b>38</b>		

Private power producers build transmission lines till the nearest grid

# Sector overview: Substation capacity has increased at 11% CAGR over FY12 – FY20, which is slower than growth during FY07 – FY12

Private players' participation has grown faster than government firms in the substation operations

Substation capacity addition as % of installed capacity has declined post FY17



### Key reasons for declining % capacity addition

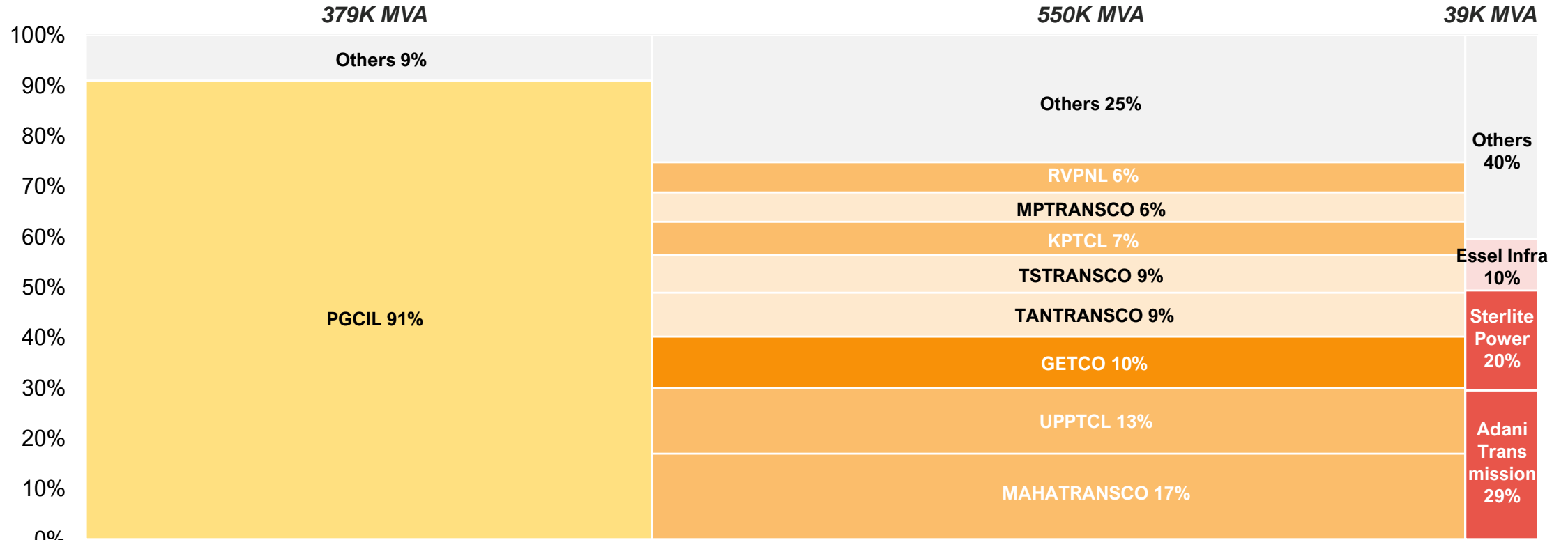
- Projects getting stuck due to **delays in government approvals**
- Delays in corresponding transmission line projects
- Delay in completion of power generation projects



# Competitor landscape: PGCIL has the highest installed sub-station capacity in India; State government owned companies own 57% of sub-station network

Capacity overview % by sub-station capacity (FY20)

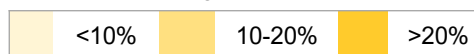
Total ~ 968K MVA



**Central**

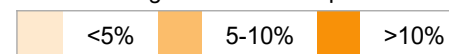
CAGR over last 5 years (FY15 – 20)

Central government companies



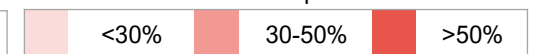
**State**

State government companies



**Private**

Private companies

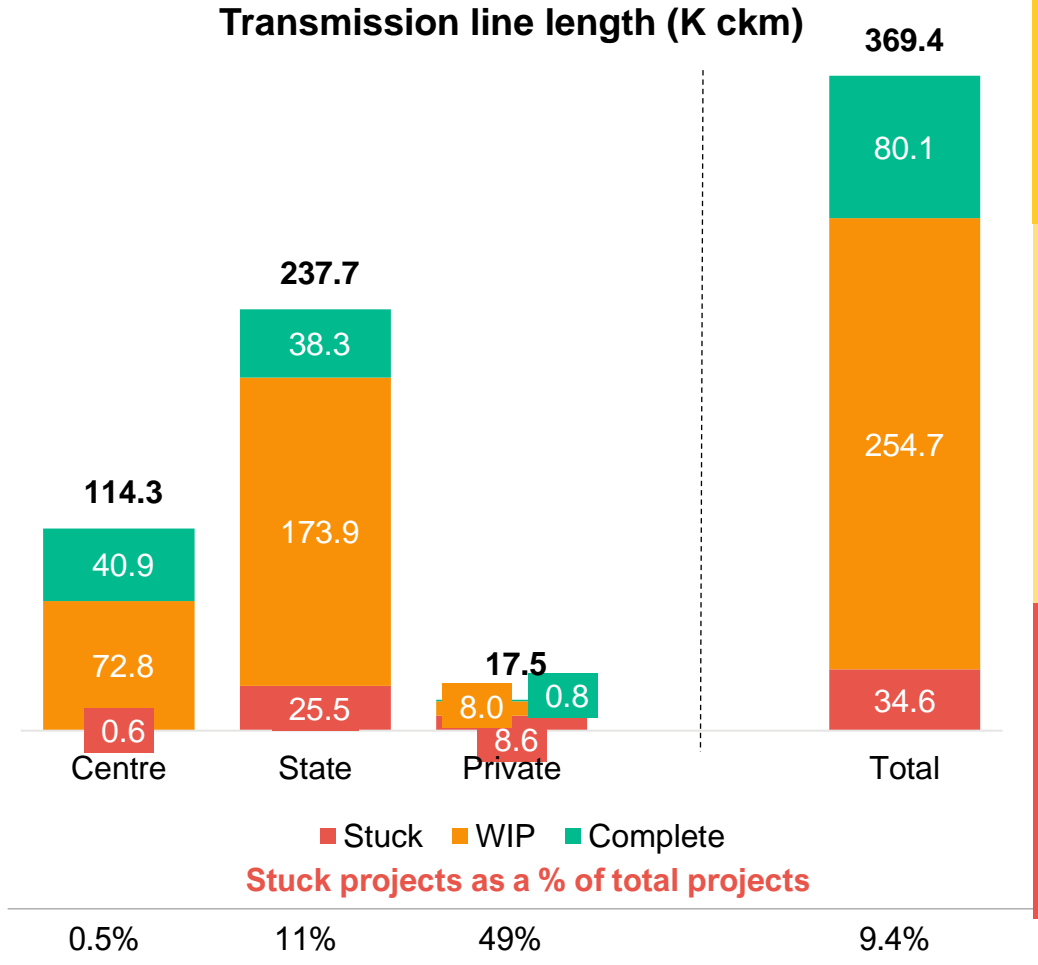


**Confidence level** ⓘ



# Project status: State government owned companies have the highest number of WIP projects; delay in tendering and local agitation key issues impacting growth

Stuck projects accounted for 9% of total projects completed or under construction in India



Company	Completed (K MVA)	WIP (K MVA)	Stuck (K MVA)	Key stuck projects (length in K ckm)	Broad reasons for project delays	
Central	पावर्ध	40.9	66.2	0.3	• Chandigarh UT (GIS) s/s (320 MVA)	• Work yet to be taken up
	Others (2)	-	6.6	0.2		
State	MAHAVITARAN	5.4	6.0	7.0	• Tembhorni ICT (1169 MVA)	• Not in STU Plan
	STATE POWER CORPORATION	2.9	26.4	5.7	• Kadapperim (780 MVA)	• Work yet to be taken up
	OCC	6.4	23.8	5.6	• Pipavav S/S (1000 MVA)	• Yet to do NIT
	Others (31)	23.6	117.7	7.1		
Private	Sterlite Power	0.6	4.3	4.0	• Khandwa PS (KTL - TBCB) (3000 MVA)	• Agitation from farmers for land acquisition
	adani Transmission	0.2	-	1.0	• Dhanbad s/s (NKTL-TBCB) (1000 MVA)	• Waiting for NoC permissions
	Others (6)	-	3.7	3.6		
<b>Total</b>	<b>80</b>	<b>254</b>	<b>34</b>			

Source(s): Central Electricity Authority, PGA Labs analysis

# EPC company: KEC International has grown across sectors with Railways growing the fastest; trade receivables and payables in the range of 40-45%



**Revenue\***  
INR 110B

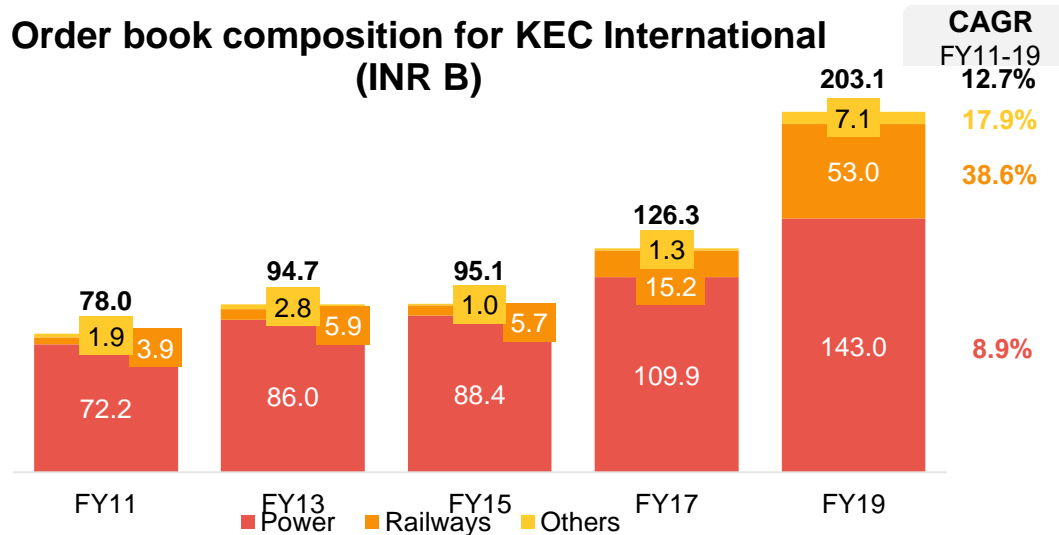
**EBITDA\***  
INR 28.9B

**PAT\***  
INR 4.9B

**Order book size\***  
INR 203.1B

Order book size of KEC International has grown at 12.7% CAGR over FY11-19; power accounts for 70% of order book

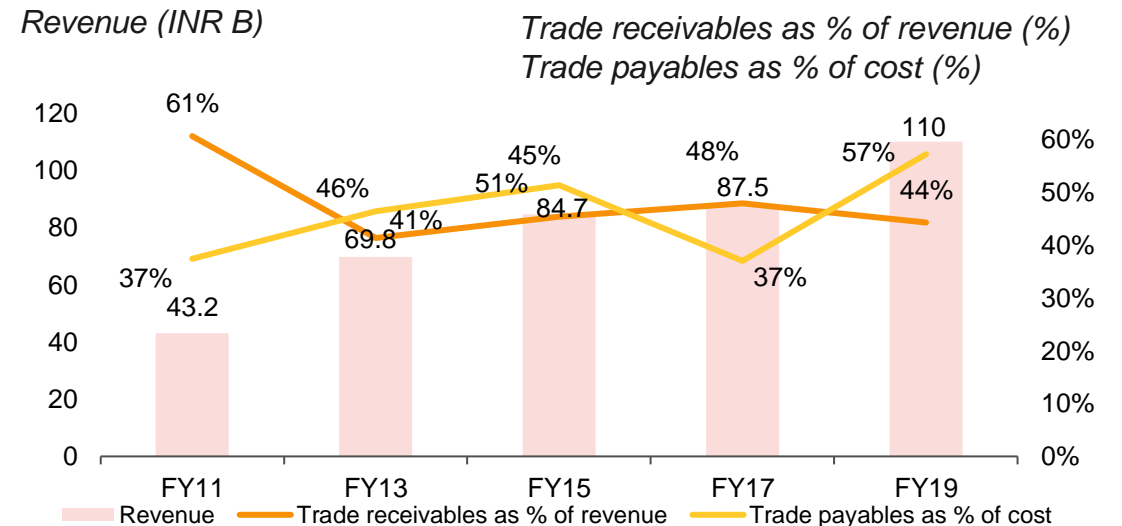
**Order book composition for KEC International (INR B)**



**% share in order book**

	FY11	FY13	FY15	FY17	FY19
<b>Power</b>	93%	91%	93%	87%	70%
<b>Railway</b>	5%	6%	6%	12%	26%
<b>Others</b>	2%	3%	1%	1%	4%

CCC has decreased from FY11 leading to decrease in WC requirement; DRO is consistent but DPO has increased



	FY11	FY13	FY15	FY17	FY19
DPO	122	160	184	130	214
DRO	193	141	165	185	164
DIO	33	28	27	23	29
CCC	105	10	8	78	-21

High DPO indicates substantial delay in vendor payments

Note(s): \* represents values for FY19; Revenue refers to operating revenue  
Source(s): Annual reports, PGA Labs analysis

# COVID impact: COVID-19 is expected to impact the RM and labor supply in short-term, along with a medium to long term impact on cash flow for capex


		Supply side factors				Demand side factors		
		RM and equipment	Labor	Payment terms and costing	Availability of finance	Payment terms and pricing	Transmission line capacity	
2008 crisis	<b>Overall</b>	No restriction on availability of raw materials and equipment	No restriction of availability of labor for construction	No major impact as there was limited impact on construction activity and electricity consumption	ECBs reduced due to exchange rate fluctuations. Benchmark PLR increased from 13.25% to 14%	No major impact as electricity consumption did not decline <small>Transmission companies sign long-term TSA with DISCOMs which specifies tariffs as per line availability</small>	Demand increased in long-term as power consumption started increasing	
	COVID-19 crisis impact	<b>Short-term (1 to 3 months)</b>	<b>EPC company:</b> Limited availability of RM due to disruption Equipment imports from China to be hit. <b>Asset owners:</b> No impact on maintenance	<b>EPC company:</b> Labor starts joining back in month 2 and 3. <b>Contract labor might not be available.</b> <b>Asset owners:</b> Labor remains available	<b>EPC company:</b> AP to increase as vendor payments delayed. RM and equipment costs to decline due to demand reduction. <b>Asset owners:</b> AP to increase as AR increases. Cost to remain unimpacted	<b>EPC company – WC</b> loans for ongoing projects to be unaffected <b>Asset owners:</b> Short-term increase in PLR. Govt. projects (PFC-funded) to be less affected.	<b>EPC company:</b> AR to increase. Price not impacted <b>Asset owners:</b> Moratorium on payment for DISCOMs will increase AR. <b>Pricing will remain unchanged</b>	No short-term transmission line capacity increase due to overall decline in electricity consumption
		<b>Medium-term (4 to 8 months)</b>	<b>EPC company:</b> Resumption of RM supply Equipment import to remain disrupted. <b>Asset owners:</b> No impact on maintenance	<b>EPC company:</b> More than 80% laborers join back. <b>Contract labor starts returning to</b> <b>Asset owners:</b> Labor remains available	<b>EPC company:</b> AP to start declining but payments to remain delayed. Cost of RM / equipment remain low as suppliers liquidate inventory <b>Asset owners:</b> AP to start declining	<b>EPC company –</b> No impact on WC loans for ongoing projects <b>Asset owners:</b> Cautious funding by banks to private sector. PLR might decline if govt. injects liquidity.	<b>EPC company:</b> AR declines as payments resume <b>Asset owners:</b> AR reduces as DISCOMs resume payments. No effect on pricing.	No major transmission line capacity increase as new power projects still stuck due to capex availability issues.
		<b>Long-term (9 to 12 months)</b>	<b>EPC company:</b> Construction activity back to pre-COVID level <b>Asset owners:</b> RM / equipment available	<b>EPC company:</b> Full labor joins back <b>Asset owners:</b> Labor remains available	<b>EPC company:</b> AP and cost back to pre-COVID levels <b>Asset owners:</b> AP to return to pre-COVID level	<b>EPC company –</b> No impact on WC loans for ongoing projects <b>Asset owners:</b> Cautious funding by banks. PLR back to pre-COVID level	<b>EPC company:</b> AR return to pre-COVID level. <b>Asset owners:</b> AR return to pre-COVID levels.	Demand to increase in long-term as new RE projects operationalize and require power evacuation.


Source(s): PGA Labs analysis


















Increasing negative impact ← ● ● ● ● ● ● → Increasing positive impact

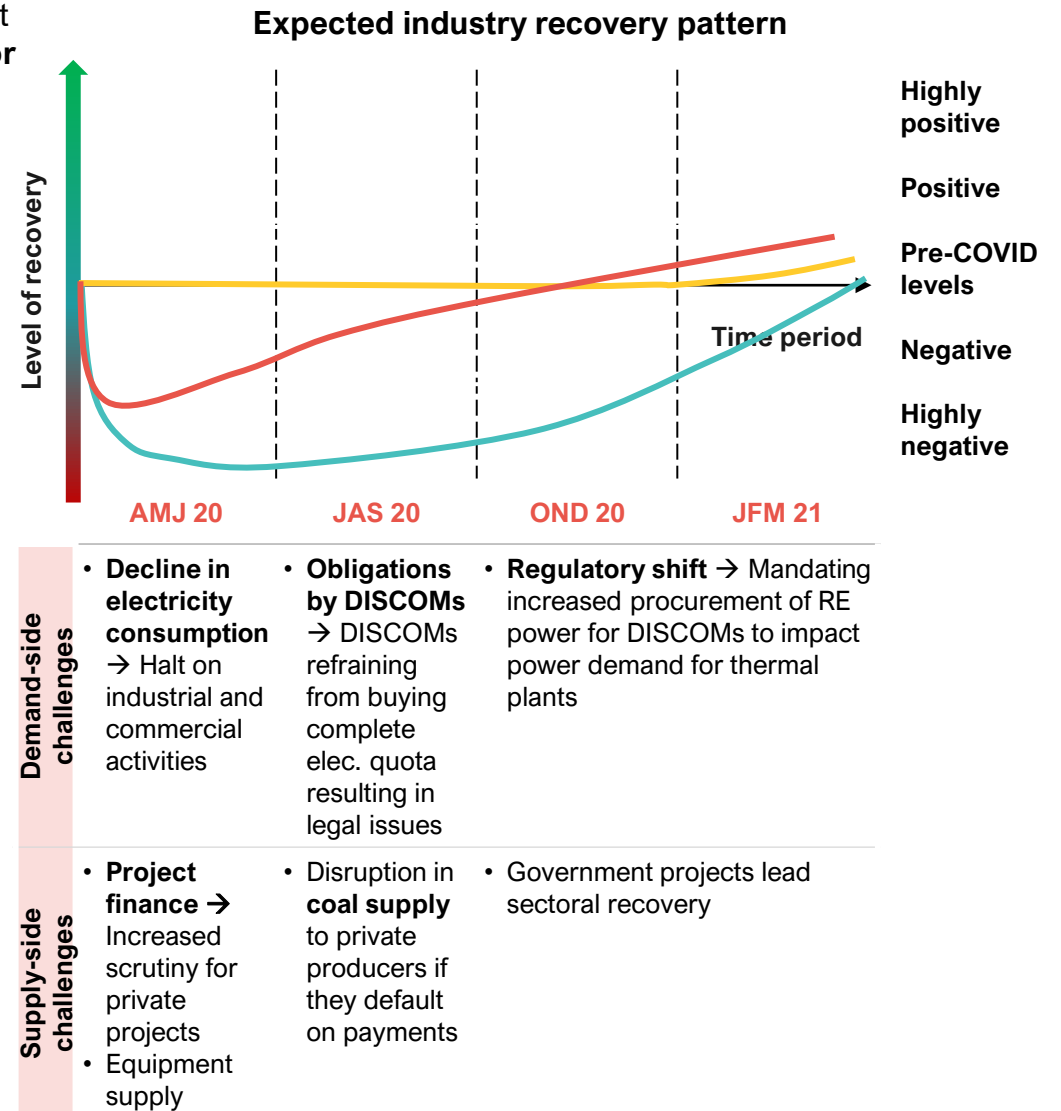
# Future outlook: Power sector is expected to face delays in high-ticket projects; RE and transmission sector to lead sector recovery

 Capacity (FY19)  
356 GW, 425 ckm

 Expected annual growth Rate (FY19-24) 8-10%

 Expected investment source: Public sector

	Generation	Transmission	EPC
Market structure	Oligopoly	Oligopoly	Oligopoly
Players	     	   	   
COVID19 impact			
Industry outlook	<ul style="list-style-type: none"> <li>Higher government intervention → short-term fiscal measures</li> <li>Revenue security → Increased focus on long-term PPAs</li> <li>Re-look at capex plans → Fresh assessment of upcoming projects</li> <li>Acceleration in RE growth → Slowdown in thermal sector to provide boost</li> </ul>	<ul style="list-style-type: none"> <li>Higher government intervention → short-term fiscal measures</li> <li>Re-look at capex plans → Fresh assessment of big-ticket projects due to expected delays in power plant commissioning</li> </ul>	<ul style="list-style-type: none"> <li>Delay in high-ticket projects → Pushback in timelines of high-ticket projects</li> <li>Increase in RE projects → Increased commissioning of RE projects</li> <li>Transmission projects → Evacuation of power from new RE plants to grid</li> </ul>



# Government can play an instrumental role in ensuring good financial health of DISCOMs to ensure cash flow along the supply chain

Power		
	Generation	Transmission
Short-term (1 to 3 months)	<ul style="list-style-type: none"> <li>• <b>Stimulus for DISCOMs</b> to ensure they do not default on their scheduled payments</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Stimulus for DISCOMs</b> to ensure they do not default on their scheduled payments</li> </ul>
	<ul style="list-style-type: none"> <li>• Appropriate <b>extension of timelines</b> of projects stuck due to COVID-related restrictions</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate <b>extension of timelines</b> of projects stuck due to COVID-related restrictions</li> </ul>
Medium-term (4 to 8 months)	<ul style="list-style-type: none"> <li>• Inject liquidity by <b>reducing lending rates</b> and ensure capex supply to asset owners</li> </ul>	<ul style="list-style-type: none"> <li>• Inject liquidity by <b>reducing lending rates</b> and ensure capex supply to asset owners</li> </ul>
	<ul style="list-style-type: none"> <li>• Set up <b>fund for providing WC</b> at competitive interest rates to smaller sub-contractors who might find it difficult to raise additional WC from banks</li> </ul>	<ul style="list-style-type: none"> <li>• Set up <b>fund for providing WC</b> at competitive interest rates to smaller sub-contractors who might find it difficult to raise additional WC from banks</li> </ul>
Long-term (9 to 12 months)	<ul style="list-style-type: none"> <li>• Aggressively chase <b>capacity addition targets</b>, specifically in RE generation</li> </ul>	<ul style="list-style-type: none"> <li>• Aggressively chase transmission projects related to connecting upcoming RE plants with grid</li> </ul>
	<ul style="list-style-type: none"> <li>• Speed up <b>clearance for stuck thermal and hydro power projects.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Speed up <b>resolution of RoW issues and pending government approvals</b> to clear stuck transmission projects</li> </ul>



# Infrastructure

## Specific practitioner expertise



**Madhur Singhal**

Practice Leader

**Asset monetization and investments**



**Aryaman Tandon**

Practice Leader

**EPC and Waste management**



**Shishir Mankad**

Domain Leader

**Infrastructure services**



**Neerav Gupta**

Domain Leader

**Ports and SEZ**



**Ashutosh Somani**

Practice Member

**Airports and Roads**



**Anuj Mahajan**

Practice Member

**Urban development and policy formulation**

## How we help our clients

We work with leading infrastructure asset owners and service providers and help them navigate the uncertainties surrounding the sector and economy



### Portfolio strategy

Optimizing portfolio of clients by assessing current and future growth plans and creating strong pipeline strategies



### Cost optimization

Identifying sustainable opportunities for profit improvement by focusing on strategic cost management



### Growth and scale-up

Growing fast and scaling up by optimizing client offerings to target fast-growing infrastructure segments



### Customer loyalty and experience

Measuring and driving improvement in customer loyalty through detailed customer insights and proven frameworks



### Investment advisory

Assessing market conditions and identifying key assets to acquire / hive off in line with long-term growth plans



### Enablement and implementation

Handholding incubation process of new business units and handling PMO for large-ticket construction projects

## Key management



**Amrit Acharya**  
Cofounder & CEO



**Srinath Ramakrushnan**  
Cofounder



**Vishal Chaudhary**  
Cofounder



**Rahul Sharma**  
Cofounder



**Peeyush Agarwal**  
Head Sales Strategy

## How we help our clients

We work across multiple manufacturing segments(Railways, T&D, Water, Fabrication etc.) to deliver best products at competitive prices



### On Time Delivery

Zetwerk with its manufacturing capabilities ensures 100% On time delivery



### Quality

With a quality team of >50 quality engineers, all manufacturing processes go through a stringent inspection ensuring best in class quality.



### Transparency and Real Time Visibility

Zetwerk's proprietary project management software ensures real time visibility of progress on ground.



### Pan India Presence

With manufacturing facilities in all corners of the country, we act as one stop solution for all your manufacturing needs.



### Small to Large Projects

We execute projects of all sizes ranging from few lakhs to upwards of multiple of crore



We have successfully worked with clients across verticals

**50+** VC firms  
**100+** Investors  
**250+** Engagements

Our people have deep experience in Business research



**Aryaman Tandon**  
 Director  
 Consumer Internet and Ecommerce



**Seema Karwa**  
 Vice President  
 FoodTech, Investments, and Consumer tech



**Abhishek Maiti**  
 Vice President  
 Shared mobility, Hospitality and E-groceries



**Vaibhav Tamrakar**  
 Vice President  
 EdTech, FoodTech, and Mobility



**Mehak Batra**  
 Associate Vice President  
 Healthcare and Analytics

## How we help our clients

We have a wide bouquet of deep business research skills and advanced analysis capabilities. Our research is unique, focusses on “What and Why” and our approach is holistic unlike a typical MR firm.



**Benchmarking (cost, product features)**  
 Comparison of players across relevant parameters



**Sector360: Scan / fact-base**  
 Detailed review and landscape of a sector



**Company360: Company review**  
 Detailed review of company’s details, strategy and operations



**Competitor intelligence**  
 Intelligence and analysis of a company’s tactics



**Survey administration and management**  
 Design, oversee, implement, analyze and present findings



**Voice of the customer**  
 Customer interviews and survey-based analysis



**Web scraping and analytics**  
 Scraping and analysis of public data



**Process mapping and best practices**  
 Enlist best practices

# Connect with us - We will be happy to share perspectives

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