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NTPC Green Energy Limited

Initiating Coverage

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NTPC Green Energy

The green energy play

We initiate coverage of NTPC Green Energy Ltd (NGEL) with a BUY and a TP of INR 121 at 14.5x EV/EBITDA FY29 EBIDTA discounted at 12% to arrive at Mar-28 TP. NGEL is the renewable energy arm of NTPC Ltd (NTPC), India's leading energy producer, with a strong presence in thermal energy. Through NGEL, NTPC plans to expand its existing renewable energy operating capacity from ~8GW as of Dec'25 to 60GW by FY32. As of December 2025, NGEL has a presence in nine states, through subsidiaries as well as JVs. NGEL's capacity addition plans, backed by NTPC's proven execution, positions it to capture India's accelerating renewable energy demand. Alignment with the government's 500GW RE plan target by FY30 provides a substantial growth runway, while a clear focus on profitable growth and disciplined capital allocation enhances NGEL's investment appeal. Strong parent support from NTPC—its vision, resources, and deep industry experience—helps de-risk execution. NTPC Group's goal of 45-50% non-fossil portfolio and 60GW RE by 2032 underpins NGEL's long-term pipeline visibility. Collectively, these factors position NGEL favourably for sustainable scaling creation of lasting shareholder value. NTPC, via NGEL, aims to build and diversify its expertise and capacity in new energy growth areas like Energy Storage Systems (ESS), Green Hydrogen, Electrolysers, and Green Ammonia production, which have seen wide industry participation in the form of capacity building and investment commitments in recent years, and are expected to contribute significantly to the Indian economy.

- **Enhanced demand visibility due to expected economic growth:** India is currently the most populous country with another ~300 million people to be added to the population by 2060, as per the UN. Population growth as well as increasing per capita GDP and purchasing power are expected to increase energy demand and increase energy generation. Given that India's GDP per capita growing at an ~7-8% CAGR since 2000 and our view that it will continue to outpace global growth rates, we believe energy demand will meaningfully rise in India. Our analysis of per capita GDP and per capital power consumption growth with developed economies suggests 0.9-1.1x power demand elasticity to GDP growth, which augurs well for Tier 1 RE developers.
- **NGEL is NTPC backed; enjoys trust of PSU/state governments/financial institutions:** which according to us is one the most formidable competitive advantages. We believe this as NGEL may benefit from support of states and partnerships with state RE engines, PSU JV, and partnerships including C&I opportunities. The company's plan to deploy large GW volumes makes it a formidable capital consumption platform, which financial institutions like. Scale benefits help better supply chain sourcing of raw material and capital (domestic and global). The theme of "Green" also has access to the lowest global cost of capital.
- **Ability to quickly expand and execute large-scale projects:** NTPC Ltd (the parent company) has more than 50 years of experience (founded in 1975) in executing large-scale energy projects in India. NGEL is expected to benefit from its parent's expertise to deliver better execution. As large capacities continue to get commissioned, benefits may be accrued in the form of economies of scale which could drive lower operating expenses per MW, while continuing to develop in-house expertise in the RE sector. NGEL is one of the largest renewable energy companies in India and is currently at the cusp of its growth inflection point. By 2032, NGEL is targeting a portfolio of operational capacity that exceeds 60GW, implying portfolio growth of more than 6-7x over the FY26E capacity.

BUY

CMP *(as on 16 Mar 2026)*	INR 99
Target Price	INR 121
NIFTY	23,409

KEY STOCK DATA

Bloomberg code	NTPCGREE IN
No. of Shares (mn)	8,426
MCap (INR bn) / ($ mn)	830/8,980
6m avg traded value (INR mn)	733
52 Week high / low	INR 118/84

STOCK PERFORMANCE (%)

	3M	6M	12M
Absolute (%)	9.1	(6.5)	2.3
Relative (%)	20.0	1.8	0.1

SHAREHOLDING PATTERN (%)

	Sep-25	Dec-25
Promoters	89.01	89.01
FIs & Local MFs	4.63	4.8
FPIs	1.79	1.61
Public & Others	4.57	4.58
Pledged Shares	-	-

Source: BSE

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- **Capacity additions to drive revenue and EBITDA growth:** From FY26E to FY29E, we anticipate revenue and EBITDA to grow at an 82% CAGR, reaching INR 147.1bn, respectively. Our assumptions include stable pricing when it relates to solar and wind tariffs, which is something we have seen play a role over the past five years with industry players.
- **Key risks:** (i) Concentrated pool of utilities and off-takers; (ii) Business viability and profitability dependent on the availability and cost of solar modules, solar cells, wind turbine generators and other material; (iii) Business model prone to cost overruns and delays that may adversely affect operations and cash flows; (iv) Revenues sensitive to fixed tariffs, changes in tariff regulations, and sector regulations and policies; (v) The operations are considerably sensitive to seasonal disruption, natural calamities, and/or civil disruptions; (vi) Timely receipt of receivables from counterparties, including government entities, is essential for business sustenance; (vii) Time gap between making large upfront investments and realization of expected returns is considerable; (viii) Timely availability of power evacuation infrastructure.

Consolidated Financial Summary

Particulars (INR mn)	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
Revenue	1,697	19,626	22,096	27,951	72,347	121,241	167,125
EBITDA	1,514	17,440	19,167	24,511	63,666	106,692	147,070
APAT	1,712	3,429	6,857	8,228	9,874	11,849	14,219
Diluted EPS (INR/sh)	0.2	0.4	0.8	1.0	1.2	1.4	1.7
P/E (x)	484.7	242.1	121.0	100.9	84.1	70.0	58.4
EV/EBIDTA (x)	583.6	54.9	52.7	48.6	22.6	15.8	13.3
RoCE (%)	6.1	5.3	4.3	3.3	5.3	5.5	5.7

Source: Company, HSIE Research

Valuation: expected to remain elevated with strong earnings momentum

NGEL has given guidance of FY26/27/28/29 new renewable capacity addition at 5/8/8/8GW. With likely India INR 30-35GW renewal annual capacity addition in the base case, consolidation in market and new drivers like PSP, EV, Data Centers, and BESS may push NGEL's HSIE estimate of annual capacity addition beyond 8GW. NGEL is best placed to deliver a growth surprise as balance sheet is not a constraint for capacity addition of 8GW+, its trajectory of power demand growth, emergence of new energy drivers, and market share gains. Given the growth we see on the horizon for NGEL, we believe the valuation at current level is particularly attractive, without adding any optionality around growth surprise and new drivers. We expect NGEL's valuations to remain elevated, given: 1) strong growth visibility driven by derisked execution; 2) attractive debt financing rates that are locked in for higher periods; 3) bargaining powers in the supply chain as dominant developer; 4) land has been acquired, PPA tied up, limiting risk of execution delays on this count. **Downside risks:** 1) execution ramp-up delays, particularly with JVs; 2) aggressive bidding; and 3) delay in connectively.

Valuation methodology: BUY with SOTP-based TP of INR 121/sh

We have up-streamed NGEL and JV EBIDTA in the EBIDTA line. Ascribed 14.5x EV/EBIDTA multiple on FY29, factoring in large part of strong growth that gets captured with cumulative operational capacity including JV's reaching **27.4GW**. Beyond this growth in operational capacity can be 8GW+ which is still 15-20% on installed base. From the arrived EV we reduce NGEL and JV share of debt to arrive at the NGEL+ JV share of Equity Value. We then discount this by 12% cost of capital to arrive at 1-yr forward Mar-28 Target price of INR 121/sh for the company. NGEL portfolio mirrors REITs where the weighted average life of asset (WALA) or PPA is 25yrs and as developer NGEL keeps adding new assets which could be a volume growth of 15-20% for interim period and 3% terminal growth. This increases the WALA

of the assets making them kind of perpetual. With land in tow post PPA expiry and capex on solar modules, then same site at much lower capex can see new PPA sign-ups and extension of project life. REITs currently trade at 5.5-6% NOI yield which implies 16.5-18x EV/EBIDTA multiples 1-yr forward. REIT's typically have 5% rent escalation and 5.5% dividend yield and new asset addition contributes further growth. Overall, 10-12% growth is what REITs can deliver. We believe renewable players will eventually deliver large OCF and distribute dividends if growth tapers down and this shall result in them mirroring REITs. We have ascribed 20% discount to REITs EV/EBIDTA multiple and arrive 14.5x EV/EBIDTA target multiple for NGEL.

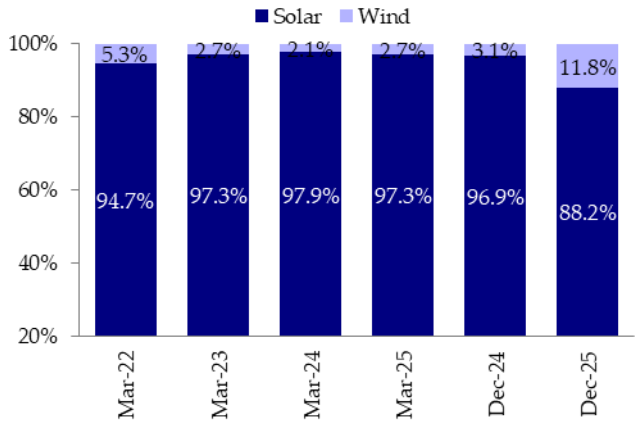
SOTP-based TP of INR 121/sh

EV/EBITDA (INR mn)	FY26	FY27	FY28	FY29
EBITDA	24,511	63,666	122,648	167,789
EV/EBITDA (x)	22.5	16.1	15.5	14.5
Enterprise Value	551,489	1,025,016	1,901,050	2,432,934
Debt	361,446	608,254	994,467	1,300,850
Cash	(35,174)	(17,187)	(7,147)	(8,751)
Equity Value	225,217	433,948	913,731	1,140,835
Price per share (INR/sh)	27	**52**	**108**	**135**
Discounting FY29 price per share @12% discount			**121**	
CMP	**99**			
Upside (%)	**22**			

Source: HSIE Estimates

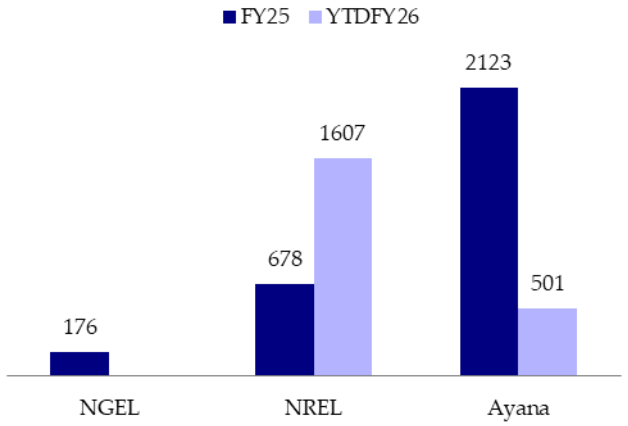
Focus Charts

Exhibit: Generation mix (%)



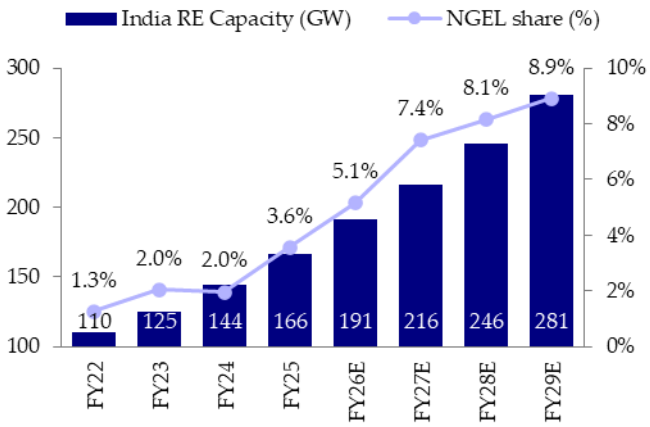
Source: NGEL and HSIE Research

Exhibit: NGEL Group capacity addition (MW)



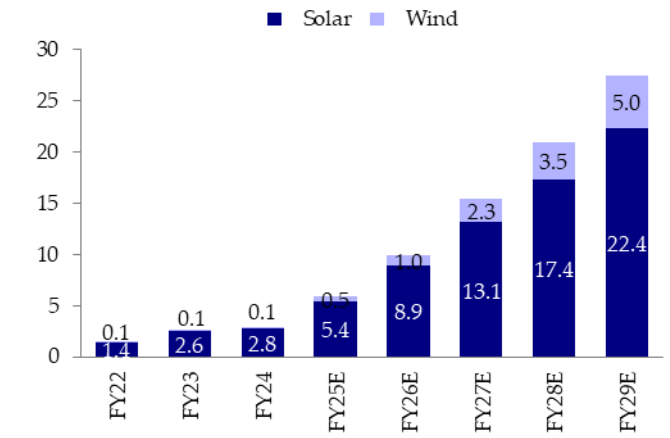
Source: NGEL and HSIE Research

Exhibit: NGEL share as a % of India RE Capacity



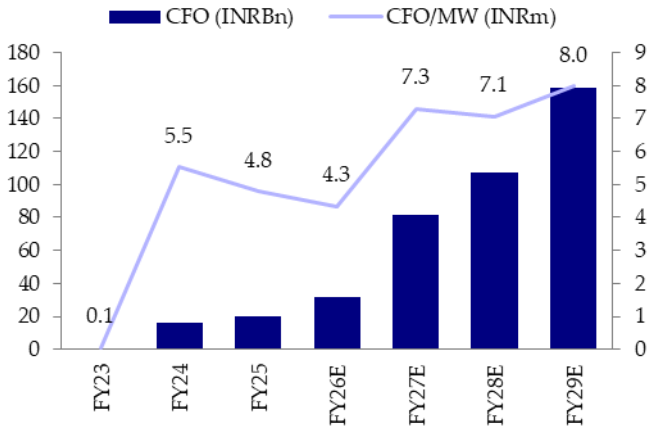
Source: NGEL and HSIE Research

Exhibit: NGEL Capacity mix (GW)



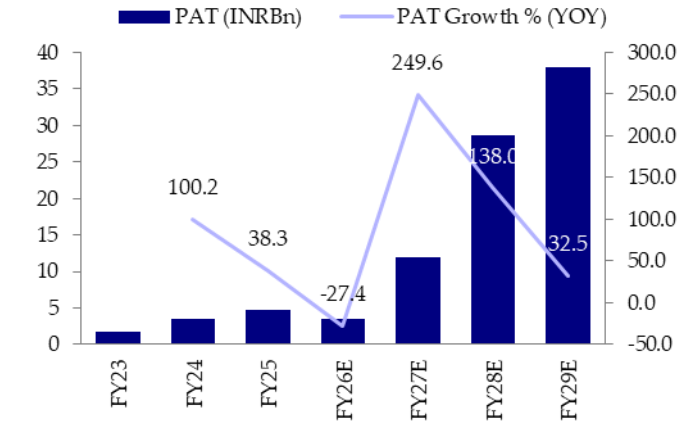
Source: NGEL and HSIE Research

Exhibit: CFO/MW remains strong with uptick expected from FY27E



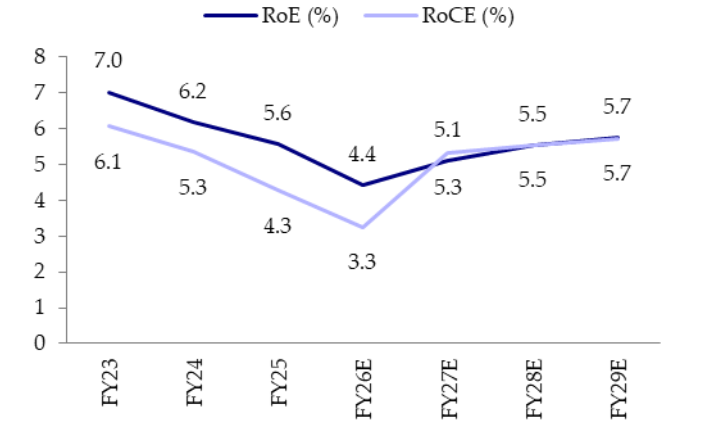
Source: NGEL and HSIE Research

Exhibit: PAT growth rate stabilizes as base widens from FY27E



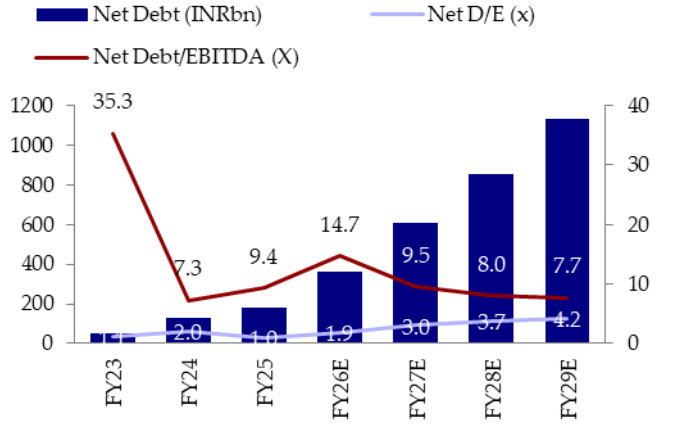
Source: NGEL and HSIE Research

Exhibit: RoE and RoCE trend during FY23-FY32E period



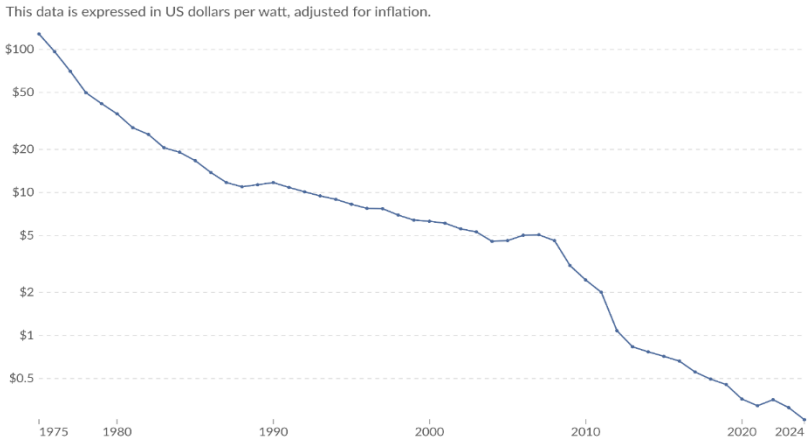
Source: NGEL and HSIE Research

Exhibit: Net D/E and Net Debt/EBITDA to improve albeit increase in Net Debt



Source: NGEL and HSIE Research

Exhibit: Global solar module prices



Source: IRENA

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Investment Thesis

Strong operational portfolio; stronger development pipeline

- Strong operational capacity of 7.3GW of solar projects and 717MW of wind projects, with 15.5GW of projects in contracted and awarded stage and 9.1GW projects in the pipeline, resulting in the overall portfolio of 32.6GW. Additionally, for 37.3GW projects, the Memorandum of Understanding (MoU) has been entered with joint venture partners/off-takers for the development of multiple projects including the Renewable Energy (RE) Round-the-Clock (RTC) power projects.
- The entire 15.5GW of current contracted and awarded capacity is expected to be operationalized by FY29. Almost 2x the jump from the current operational capacity.
- NGEL enjoys lower financing cost benefit by virtue of being a CPSE; this benefits its profitability and IRRs and can expedite capacity expansion.
- It has strong ability to grow with the acquisition of Ayana Renewables to support inorganic growth and tap commercial and industrial (C&I) segment via Open Access PPAs.
- JVs with states eases land availability issues and speeds up approvals for NGEL, which has built a land bank of 2.5 lakh acres in solar-rich states of Rajasthan and Gujarat; the same can accommodate 50 GW+ renewables capacity, against its target of over 25GW by 2029. Its tie-ups with state governments as JV partners also helps in de-risking land acquisitions, regulatory approvals, etc. In return, it is making states as equity partners or stakeholders and parallelly securing PPAs.
- Further, as per NGEL's management, transmission connectivity is granted for its entire portfolio. Our channel checks with industry participants highlight land availability and transmission connectivity for power evacuation as key challenges for RE capacity development, where we think NGEL has an advantage vs peers given the CPSE relationships.
- Dropping of BESS prices on the back of increasing efficiency and newer technologies has made it easier for the company to access inexpensive storage capacity at scale, similar to the solar price reduction witnessed in the past decade.
- Duck curve is getting deeper – requires more storage, benefiting NGEL, which is focusing on solar + BESS and standalone BESS.
- CEA resource adequacy study suggests lower thermal PLF and higher RE on the back of bullishness in demand from states and Solar + BESS; standalone BESS witnessed cost reductions.

Looking beyond base demand – new demand drivers emerging

The Central Electricity Authority (CEA) has projected electrical energy requirements to grow at a 6.6% CAGR from FY26–35. However, we anticipate that actual growth may exceed these projections, driven by emerging catalysts such as Data Centers and Pumped Storage Projects (PSP), both of which necessitate solar or hybrid power solutions. Our modeling — which evaluates multiple scenarios combining Solar, Wind, and BESS (Battery Energy Storage Systems) indicates a base demand requiring approximately 35GW of new solar capacity annually. Incremental demand from PSPs and data centers will likely push this requirement even higher. Consequently, the growth trajectory for renewable energy players with robust balance sheets may see a "positive surprise" due to these new demand drivers. For well-capitalized entities like NGEL, where equity capital is not a constraint, this higher-than-expected growth could catalyze significant valuation multiple expansion.

Year	Projected Peak Electricity Demand (GW)	Projected Electrical Energy Requirement (BU)	Requirement of Cumulative Installed Capacity of Energy Storage System (GW)	Capacity Addition Requirement of Energy Storage System (GW)	Likely PSP Capacity Addition as on 30.11.2025 (GW)	PSP with Solar - 100%	Mix Solar - 40%+ Wind 60%	Data center Solar requirement (GW)	Add base power demand addition through solar (GW)	Total demand to be met by solar (GW)
2025–26	270	1,804	9	–	–					
2026–27	289	1,929	17	8	3	17.5	7.3	3.1	35	45.6
2027–28	305	2,072	26	9	1	7.0	2.9	4.5	30	37.0
2028–29	325	2,227	42	16	6	38.1	15.9	3.5	37	56.4
2029–30	345	2,388	62	20	14	81.0	33.8	5.9	37	76.7
2030–31	364	2,546	72	10	21	127.1	53.0	6.0	35	94.2
2031–32	388	2,703	93	21	9	52.8	22.0	6.2	44	72.6
2032–33	407	2,874	118	25	14	82.4	34.4	6.4	35	75.9
2033–34	427	3,045	143	25	12	70.8	29.5	6.6	37	73.1
2034–35	446	3,215	161	18	–			6.8	35	41.9
	-		743	152	79	477	199	49	326	573

Source: CEA, HSIE Research

Working model of installed Solar and Wind capacity (standalone and hybrid) required to operate 1 GW Pump Storage Project (PSP) delivering 1 GW RTC

1 GW PSP delivering 1GW RTC for 24 hours	
Capacity (GW)	1
Daily delivered energy (GWh/day)	24
Round Trip Efficiency (%)	75%
Required Renewable energy (GWh/day)	32
Solar capacity factor	
India	25%
Daily solar generation (GWh/day)	6.0
Required GW Solar	5.3
Solar GW capacity required	6-7
Wind only system modelling	
CUF factor wind	30%
Daily energy need (GWh)	7.2
Required wind capacity (GW)	4.4
Wind only GW capacity required	**4-5**
Choosing a hybrid mix	
Solar	40%
Wind	60%

PSP Daily energy generation	
Days	1
Hours	24
Energy generation (GWh/day)	24
Round Trip Efficiency (%)	75%
Required Renewable energy (GWh/day)	32
Solar generation (GWh)	12.8
Wind generation (GWh)	19.2
Solar Capacity required (GW)	2.1
Wind Capacity required (GW)	2.7
Optimal balanced mix	
Solar (GW)	2.5
Wind (GW)	3
Pure solar	6.0
Final Design	**GW**
Only Solar Capacity (GW)	6-7
Only Wind Capacity (GW)	4-5
Hybrid Plant Total	
Solar (GW)	2.5-3
Wind (GW)	2.5-3

Source: HSIE Research

Data Center IT Load (GW) - Solar Power + BESS requirement

Data Center IT Load (GW)	1	
PUE (x)	1.2	
Actual power consumption (GW)	1.2	
Total hrs of consumption	24	
Total energy consumption (GWh/day)	28.8	
Solar Production window - 9AM to 4PM (hrs)	7	During these hrs solar must power data center live and charge the battery to run the remaining hours
BESS to power data center for remaining hrs	17	

Source: HSIE Research

BESS requirement (hrs)	Usable Storage (PUE X 1GW)	Round trip efficiency (%)	Charge energy needed (GW)	For running data center 24hrs we need 7hrs solar +17hrs BESS. Bess requirement in GWh	Solar live power in GWh for 7hrs to data center (A)	Compute Battery charge (GWh) adjusted for 90% Round trip efficiency (B)	Total Solar Energy to be generated GWh (A+B)	Solar Capacity Required (GW) for 7hrs operation
4	4.8	90%	5.3	20.4	8.4	22.7	31.07	4.4
6	7.2	90%	8	20.4	8.4	22.7	31.07	4.4
12	14.4	90%	16	20.4	8.4	22.7	31.07	4.4
							Average round up	**4.5**

Source: HSIE Research

	Solar requirement (GW)	Wind Requirement (GW)	BESS (GWh)
Only Solar (GW)	6	0	
Only Wind (GW)	0	4	
Solar + BESS	4.5		23
Hybrid = Solar Wind + Wind + BESS	40%	60%	
	2.4	2.3	3.6
Average solar for 1GW Data center IT Load	**3.5**		

Source: HSIE Research

Data Center Capacity Addition – solar power requirement

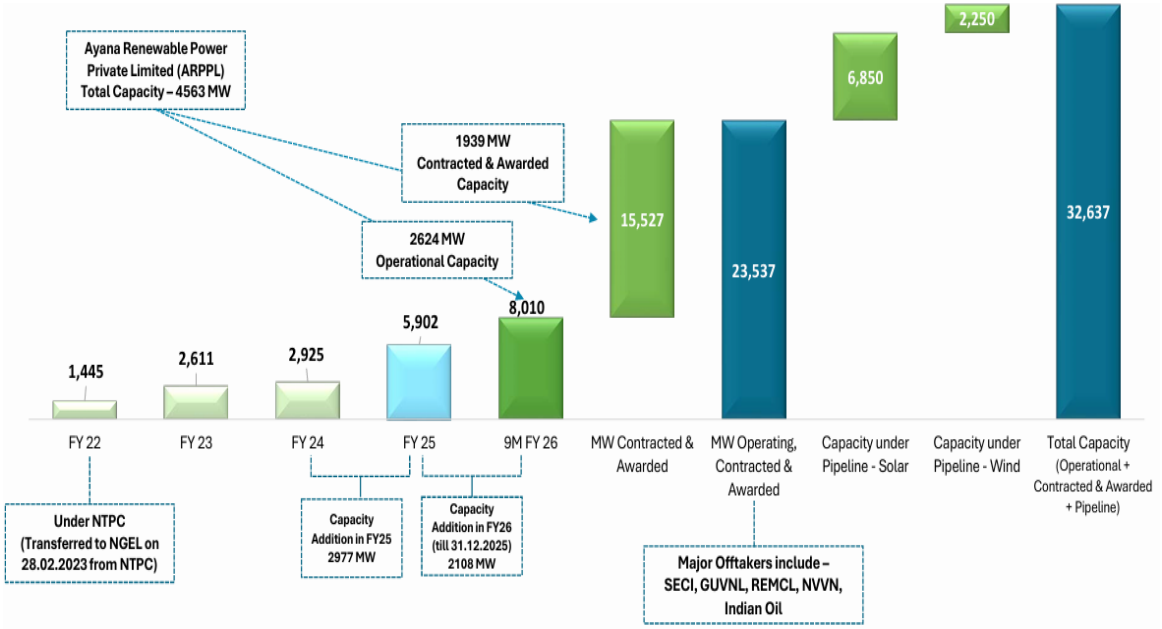
Year	2020	2021	2022	2023	2024	2025	2028	2030
Installed IT load	0.5	0.6	0.7	1.0	1.4	1.7	4.8	8.3
Incremental Demand for Solar Power (GW)						5.8	**10.8**	**22.9**

Source: HSIE Research

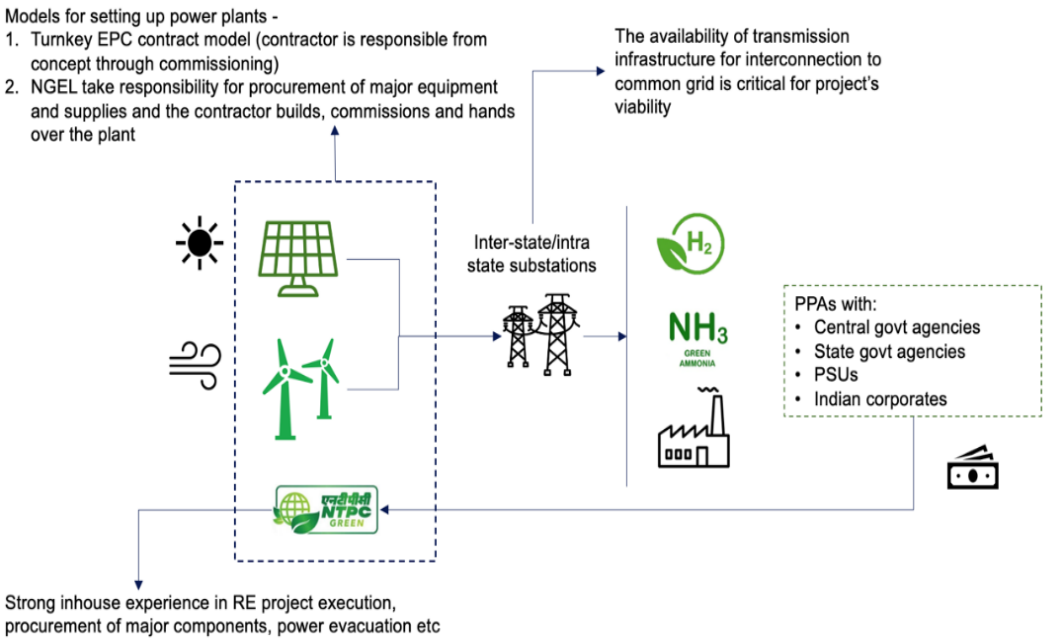
Business overview – Capacity formation over the years

- NGEL is established to build, acquire, manage, and bolster NTPC's focus in the renewable energy space.

Exhibit: NGEL portfolio



Source: NGEL Dec'25 Investor Presentation



Source: Company

Portfolio composition: solar domination, BESS new growth driver

NGEL's portfolio majorly comprises of solar energy projects, while also developing wind and hybrid projects in its portfolio. Of this, solar energy is ~97% of the wind/solar mix while solar is expected to comprise of ~85/70/68% in FY27/30/32E, indicating substantial capacity additions until FY32, based on the current pipeline. Operational Capacity as on Jan'26 stood at 8478 MW_{DC}.

Particulars (MW_{DC})	Company Operating Data				Carved-out Operating Data[1]
	Dec'25	March'25	March'24	March'23	March'22
Megawatts Operating					
Solar	7,293	5,419	2,825	2,561	1,395
Wind	717	483	100	50	50
Total	**8,010[2]**	**5,902**	**2,925**	**2,611**	**1,445**
Megawatts Contracted & Awarded					
Solar		13,525	9,771	5,750	4,616
Wind		3,752	2,000	500	150
Total	**15,527[3]**	**17,277**	**11,771**	**6,250**	**4,766**

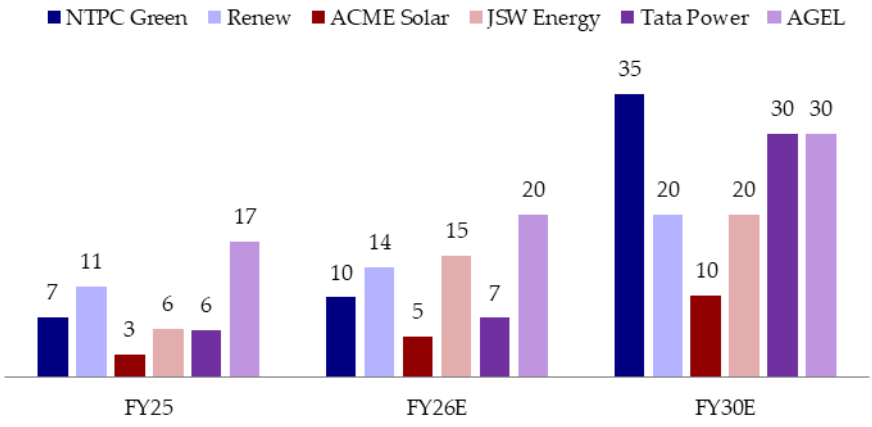
(1) The Carved-out Operating Data is based on the carved-out consolidated operating data pertaining to RE Assets of NTPC Limited, NREL and NGEL for FY2023 and FY2022. This Carved-out Operating Data is not NGEL's operating data under the leadership of its current management and board.
(2) Includes operational capacity of Ayana Renewables: 2624 MW.
(3) Includes capacity of Ayana Renewables: 1939 MW.
Source: Company

On BESS, NGEL is developing 1990 MWh won through TBCB route, 1520 MWh at co-located solar projects of NTPC, 5280 MWh co-located near existing solar projects. Additionally, 5000 MWh at existing thermal projects is being developed by NTPC and viability gap funding of INR 18 lakh per MWh shall be receivable. Further, the work on 160 MWh CO2 based energy storage system at Kudgi is currently under progress.

We expect solar capacity contribution to fall from 92% in FY25 to 65%+ in FY32E as the company focuses on diversifying its portfolio. NGEL has also focused on plain-vanilla wind or solar/hybrid projects with BESS that have IRRs in the range of mid to low teens while shying away from complex FDRE projects that have mid to high-teen IRRs.

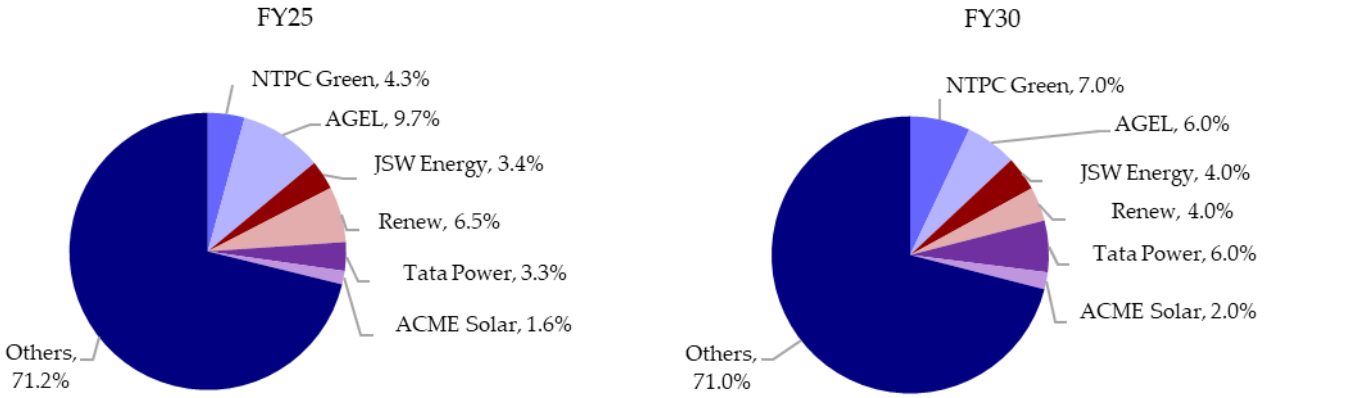
Our estimates factor installed capacity rising at 33.2% CAGR over FY25-32E period to ~60 GW. New projects should benefit from higher capacity utilization given the use of bifacial modules and trackers.

Exhibit: Expected capacity (GW) of leading players by FY30



Source: Companies, HSIE Research

Capacity Contribution by leading players



Source: Companies, HSIE estimates

Operational and Under-Development Capacity of Major Players

NTPC Green Energy

GW	Operational Capacity	Capacity Under Development
Solar	7.3	18.5
Wind	0.7	6.1
Hybrid	-	-
Standalone BESS	-	0.1
PSP	-	-
Other	-	-
Total	**8.0**	**24.7**

Tata Power

GW	Operational Capacity	Capacity Under Development
Solar	4.4	0.9
Wind	0.8	0.5
Hybrid	1.0	1.7
Hydro	0.8	1.8
PSP	-	2.4
FDRE	-	2.6
Total	**7.0**	**9.8**

Adani Green Energy

GW	Operational Capacity	Capacity Under Development / Targeted Capacity*
Solar	11.9	23.6
Wind	2.2	4.3
Hybrid	3.1	(0.6)
Standalone BESS	-	
PSP	-	5.5
Other	-	-
Total	**17.2**	**32.8**

JSW Energy

GW	Operational Capacity	Capacity Under Development
Solar	2.1	4.4
Wind	3.6	2.4
Hybrid	0.3	6.8
Hydro	1.6	0.2
Total	**7.7**	**13.7**
Standalone BESS (GWH)	-	3.2
PSP (GWH)	-	26.4

**by FY2030*

ACME

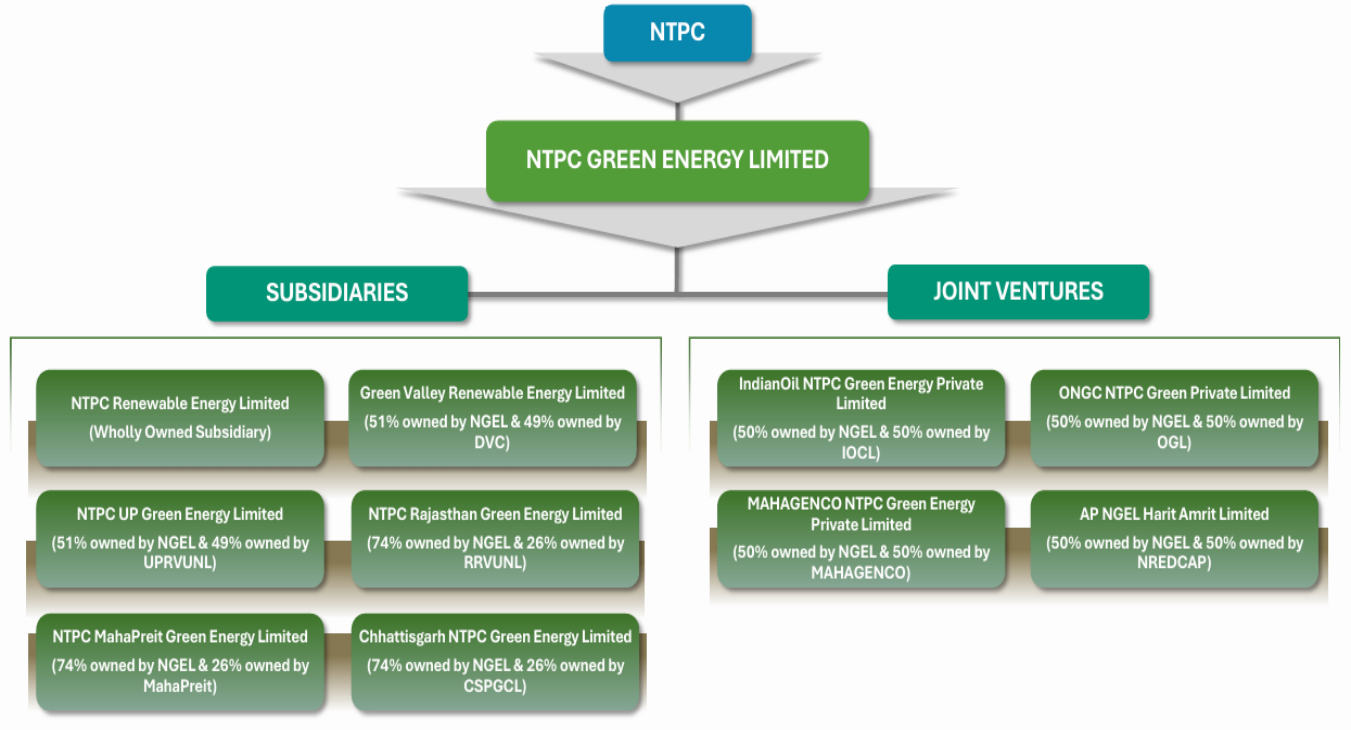
GW	Operational Capacity	Capacity Under Development
Solar	2.8	0.3
Wind	0.1	0.0
Hybrid	-	0.8
PSP	-	
FDRE	-	3.9
Total	**3.0**	**5.0**
Standalone BESS (GWH)	-	0.6

Renew Power

GW	Operational Capacity	Capacity Under Development
Solar	6.0	5.1
Wind	5.5	0.9
Hybrid	-	-
Hydro	0.1	-
BESS	-	1.4
Total	**11.6**	**7.4**

Source: BSE Disclosures

Exhibit: NGEL corporate structure as of Dec'25



*Ayana renewables is housed under ONGPL
Source: NGEL Dec'25 Investor Presentation

NGEL's RE portfolio spread across nine states

Source: HSIE Research

Operational projects details as of Dec'25

Project Name	Location	Commercial Operations Date (COD)[1]	PPA Capacity (MW)	Tariff (INR/kWh)
Solar Projects				
NTPC Green Energy Limited (NGEL)				
Rajgarh	Madhya Pradesh	30-Apr-14	50	7.87
Anantapur	Andhra Pradesh	10-Aug-16	250	5.96
Bhadla-I	Rajasthan	25-Mar-17	260	5
Mandsaur	Madhya Pradesh	01-Sep-17	250	5
Bilhaur	Uttar Pradesh	08-Apr-21	225	3.17 (140 MW) / 3.02 (85MW)
Jetsar	Rajasthan	25-Mar-22	160	2.5
Fatehgarh	Rajasthan	05-Aug-22	296	2.86
Sambhu Ki Bhurj-I	Rajasthan	06-Aug-22	250	2.86
Sambhu Ki Bhurj-II	Rajasthan	01-Mar-25	300	2.86
Devikot	Rajasthan	13-Dec-22	240	2.86 (150MW) / 2.74 (90 MW)
Ettayapuram	Tamil Nadu	15-Dec-22	230	2.69
Nokhra	Rajasthan	03-Jun-23	300	2.86
Ayodhya	Uttar Pradesh	31-Jul-24	40	3.88

Source: Company

Project Name	Location	Commercial Operations Date (COD)[1]	PPA Capacity (MW)	Tariff (INR/kWh)
NTPC Renewable Energy Limited (NREL)				
Chhattargarh	Rajasthan	29-Mar-24	150	2.01
Bhensada	Rajasthan	20-Mar-25	320	2.01
Shajapur	Madhya Pradesh	29-Jun-25	325	2.33 (220MW) / 2.35 (105 MW)
GUVNL – I (Sadla)	Gujarat	17-Jan-25	63	1.99
GUVNL – II (Radhanpur, Mesanka, Limbdi)	Gujarat	11-Dec-24	150	2.2
Khavda - I	Gujarat	30-Dec-25	1,032	2.57
Khavda - II	Gujarat	18-Dec-25	300	2.53
Ayana Renewable Power Private Limited				
Anantpur Solar Parks Private Limited	Karnataka	06-Oct-17	20	4.36
Tungabhadra Solar Parks Private Limited	Karnataka	10-Nov-17	20	4.36
Bhadla Renewable Power Private Limited	Rajasthan	22-Nov-18	50	2.62
Adyah Solar Energy Private Limited-I	Karnataka	29-Mar-19	300	2.91
Acme Chittorgarh Solar Energy Private Limited	Rajasthan	01-Jan-20	250	2.72
Tirunveli Solar Power Private Limited	Tamil Nadu	29-Jan-20	100	3.47
Ayana Ananthpuramu Solar Private Limited	Andhra Pradesh	30-Mar-21	250	2.73
Ayana Renewable Power One Private Limited	Rajasthan	22-Dec-21	300	2.54
Ayana Renewable Power Three Private Limited	Rajasthan	08-Feb-25	300	2.38
IRCON Renewable Private Limited (IRPL)	Karnataka	17-Sep-25	400	2.57
Hindalco (RTC) - Jatavira	Gujarat	17-Oct-25	113	4.25
Solar Total			**7,294**	
Wind Projects				
NTPC Green Energy Limited (NGEL)				
Rojmal	Gujarat	10-Nov-17	50	4.19
NTPC Renewable Energy Limited (NREL)				
Dayapar-I	Gujarat	31-Jul-25	146	2.34
Ayana Renewable Power Private Limited				
Ayana Renewable Power Six Private Ltd	Karnataka	20-Feb-24	300	2.78
GUVNL- APR12PL	Gujarat	19-Mar-25	142	2.9
Hindalco (RTC) – Charakhada	Gujarat	21-Aug-25	79	4.25
Wind Total			**717**	
Total Operational Portfolio			**8,011**	

(1) The commercial operation date herein above table is the latest commercial operation date of respective power projects i.e. the commercial operation date of last phase where the respective projects are commissioned in various phases.

Source: Company

NGEL BESS projects details as of Dec'25

Project Name	Location	PPA Capacity (MW/MWh)	Tariff (INR/kWh)	Off-taker
Pothencode	Kerala	40/160	457,000	NHPC
Sreekantapuram	Kerala	40/160	434,000	NHPC

Source: Company

NGEL also has assets which have been contracted and awarded but are not operational (under-construction), as of Dec 31, 2025, details of which are as follows

Projects contracted and awarded but are not operational, as of Dec 31, 2025				
Project Name	**Location**	**PPA Capacity (MW)**	**Tariff (INR/kWh)**	**Off-taker*/Region**
Solar				
NTPC Renewable Energy Limited (NREL)				
GUVNL-I	Gujarat	138	1.99	GUVNL
Bhadla II	Rajasthan	500	2.17	SECI
Khavda-I	Gujarat	223	2.57	Telangana Discom, DVC, MES, MPPMCL, JKPCL
SECI H Tr IV	Gujarat	300	2.34	SECI
GSECL-I	Gujarat	200	2.89	GUVNL
GSECL-II	Gujarat	225	2.67	GUVNL
REMCL-II	Rajasthan	250	4.37	REMCL
SECI Solar TR-XIII	Rajasthan	250	2.57	SECI
SECI Solar TR-XIV	Rajasthan	200	2.58	SECI
NTPC-PFC Solar	Rajasthan	900	2.53	NTPC
RECPDCL	Gujarat	550	2.56	NTPC
Khavda-IV	Gujarat	695	2.8	NVVN
Khavda-II	Gujarat	1,200	2.8	NVVN
Khavda-V	Gujarat	500	2.78	GUVNL
REMCL-I	Rajasthan	650	4.12	REMCL
SECI Hybrid TR-VII	Rajasthan	200	2.53	SECI
SJVN 1200	Rajasthan	200	2.53	SJVN
SECI Solar TR-XVI	Rajasthan	200	2.48	SECI
SECI S TR-XVII (1)	Rajasthan	500	3.52	SECI
NHPC Tranche VII (2)	Rajasthan	670	3.09	NHPC
UPPCL - Lalitpur	Uttar Pradesh	600	2.56	UPPCL
UPPCL - Chitrakoot	Uttar Pradesh	400	2.56	UPPCL
Green Valley Renewable Energy Limited (GVREL)				
Tilaiya	Jharkhand	155	*	DVC
Panchet-I	West Bengal	75	*	DVC
Panchet-II	Jharkhand	80	*	DVC
Indian Oil NTPC Green Energy Limited (INGEL)				
Bhuj Solar	Gujarat	600	*	IOCL
Tutikoran	TN	200	*	IOCL
Ayana Renewable Power Private Limited (ARPPL)				
IRPL	Karnataka	100	2.57	IRCON
REMCL (RTC) - Gadana	Rajasthan	450	4.12	SECI
Hindalco (RTC) - Jatavira	Gujarat	75	4.25	Hindalco
Kadappa	Andhra Pradesh	250	2.71	SECI
Pavagada	Karnataka	150	4.35	REMCL
Solar Total		**11686**		
Wind				
NTPC Renewable Energy Limited (NREL)				
Dayapar-I	Gujarat	4	2.34	SECI
Dayapar-II	Gujarat	200	2.89	SECI
Dayapar-III	Gujarat	150	2.53	SECI
REMCL-I	Gujarat/Karnataka	1,050	4.12	REMCL
SECI Hybrid TR-VII	Gujarat/Karnataka	100	3.15	SECI
REMCL-II	Karnataka	400	4.37	REMCL

Project Name	Location	PPA Capacity (MW)	Tariff (INR/kWh)	Off-taker*/Region
Indian Oil NTPC Green Energy Limited (INGEL)				
Dwarka Wind	Gujarat	356	*	IOCL
Anantpur	Andhra Pradesh	200	*	IOCL
Dhawangiri	TBD	468	*	IOCL
Ayana Renewable Power Private Limited (ARPPL)				
REMCL (RTC) - Asperi	Andhra Pradesh	297	4.12	Indian Railway
REMCL (RTC) - Jagalur	Karnataka	251	4.12	Indian Railway
Hindalco (RTC) - Charakhada	Gujarat	13	4.25	Hindalco
Hindalco (RTC) - Nemakkal	Andhra Pradesh	53	4.25	Hindalco
Asperi	Andhra Pradesh	150	4.35	REMCL
Nakathrana	Gujarat	50	4.35	REMCL
Yellburga	Karnataka	100	4.35	REMCL
Wind Total		**3842**		
Total		**15,528**		

1. Solar Project with Energy Storage System (ESS) component 250 MW/1000 MWh
2. Solar Project with Energy Storage System (ESS) Component 335 MW/670 MWh

Source: Company

Exhibit: NGEL Group projects under pipeline

Projects under pipeline, as of Dec 31, 2025		
Company/Bilateral Agreement	**Technology**	**PPA Capacity (MW)**
Greenko Zeroc Pvt Ltd	Solar	2,000
GVREL	Solar	350
MNGEPL	Solar	2,500
NUGEL	Solar	2,000
Greenko Zeroc Pvt Ltd	Wind	2,250
Total		**9,100**

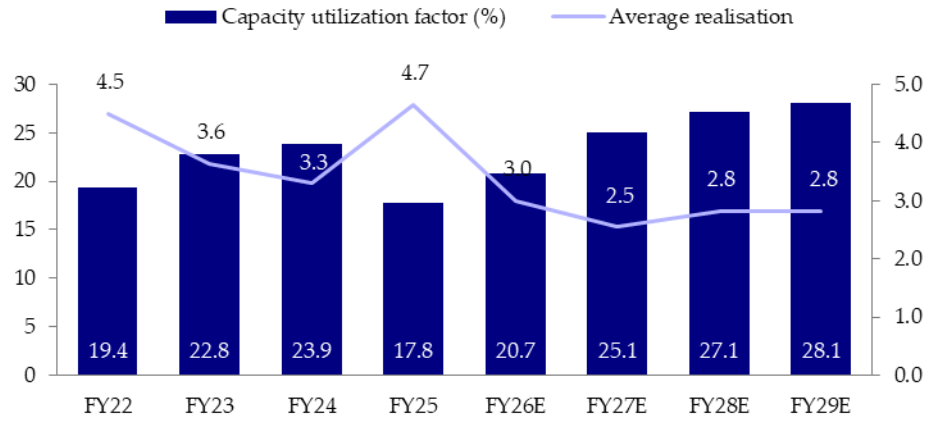
Source: Company

- **Revenue visibility remains firm supported by long term PPA's:** Tenure for renewable projects comprises short-term and long-term periods. Short-term PPAs often have Group Captive and Open Access Counterparties, with a duration of up to 15 years, whereas long-term PPAs have fixed counterparties for a period of 25 years.

  Projects in NGEL's portfolio comprises of nearly 100% PPA's with long term counterparties. Nearly 100% of NGEL's existing capacity is tied up with Discoms, SECI, Public sector enterprises supported by 25-year long-term Power Purchase Agreements (PPAs) which provides considerable visibility on steady potential of earnings and cash flows. Currently, the average remaining life of PPAs in NGEL's portfolio stands at 21 years, providing fair visibility on long term revenues.

- Average realization of the portfolio over FYE26-29 is expected to be in the range of INR2.7/kWh – INR 3/kWh, vs the realization of INR 3.3/kWh to INR 4.5/kWh witnessed over FY22-FY24. This is in line with the gradual reduction in industry RE tariffs in the past few years. Since NGEL does not have third-party PPAs as on date, benefits accrued from usually higher merchant prices will not be visible, leaving marginal scope for upside earnings surprise.

Exhibit: NGEL's realization per/kWh and blended CUF (%)



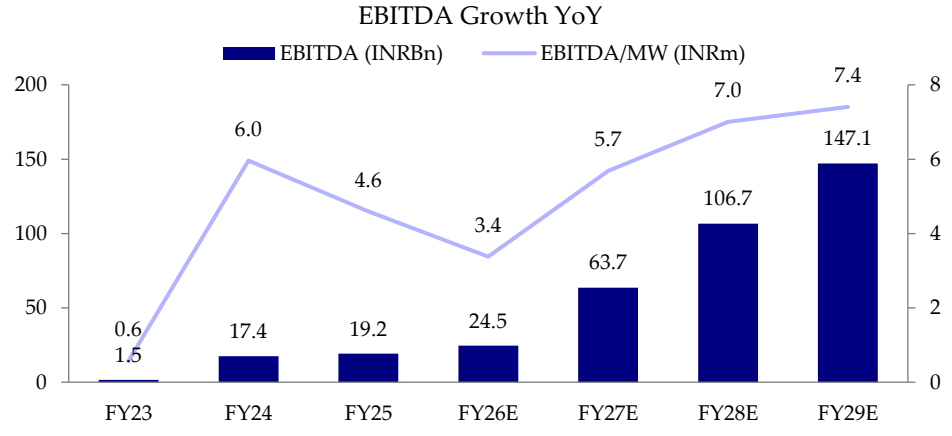
Source: Company, HSIE Research

Particulars	Carved-out Operating Data (1)	Company Operating Data				
	FY22	FY23	FY24	FY25	9MFY25(3)	9MFY26
Electricity generation (kWh mn)						
Solar	1,864	3,759	5,591	6,644	4,693	8,781
Wind	104	103	122	184	152	1,178
Total	**1,968**	**3,863**	**5,712**	**6,828**	**4,845**	**9,959**
Capacity utilization factor (%) (2)						
Solar	19.2%	22.7%	24.0%	24.2%	22.5%	21.2%
Wind	23.7%	23.6%	19.8%	21.0%	11.7%	27.6%
Total	**19.4%**	**22.8%**	**23.9%**	**24.1%**	**21.9%**	**21.8%**

1) Our Carved-out Operating Data is based on the carved-out consolidated operating data pertaining to RE Assets of NTPC Limited, NREL and our Company for Fiscal 2023 and Fiscal 2022. This Carved-out Operating Data is not our operating data under the leadership of our current management and board.
2) Capacity utilization refers to the weighted average of CUF of installed capacity in the portfolio as on given date.
3) Excludes Ayana acquired on 27.03.2025
Source: NGEL

Benefits of scale can be a potential upside as NGEL plans to develop large renewable energy projects through tie-ups with states in the medium term. This can drive benefits of lower corporate overheads and project oversight. Higher bargain power with vendors can be an additional upside in the capex phase.

Exhibit: 72.9% EBITDA CAGR reflects some scale benefits



Source: Company and HSIE Research

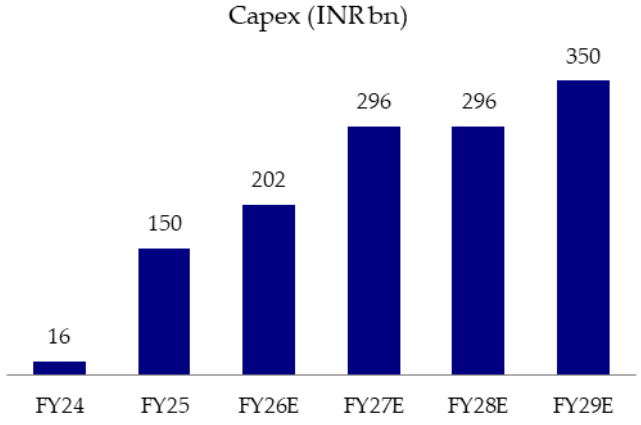
Heavy capex but manageable: As highlighted earlier, NGEL plans to increase operational capacity to 60GW+ (almost 20x) by FY32, and this would incur significant capex outlay. Management has guided for Rs2.4 trillion in cumulative spend by FY32E (including PSP and the required input power capacity) to achieve the desired target. Based on our estimates of ~60GW generation capacity by FY32E. Historically, NGEL's blended capex has been in a range of Rs60-80mn per MW of operational capacity. Within this range, the cost of setting up solar capacity is about Rs45mn/MW (which can be further broken down as 50% module cost, 35% balance systems and the remaining would be the cost of land). For wind, the cost is higher at about Rs65mn/MW for the large 5.2MW wind turbines. A similar Rs50mn/MW capex would also be incurred for the PSP project with the initial 500MW block commissioned by FY27-end.

Financing of projects of NGEL's renewables portfolio: Renewable projects are often funded through debt and equity in the ratio of 75:25/60:40 and so on depending on the financial flexibility. Further, renewable energy developers, including NGEL also utilize non-fund-based limits from banks and project financing tools to fund debt for its projects before eventually refinancing project finance loans with long-term debt instruments that match project cash flows. As the rate of annual capacity additions picks up, the need for working capital and project finance facilities at consolidated level also increases for RE project developers.

To fund capacity expansion, NGEL has primarily relied on debt, while also utilizing proceeds from the recently concluded IPO. At the end of 2024, the net debt/EBITDA stood at 7.3x, However, given capex occurs before revenue generation, leverage tends to balloon before it comes down as the site becomes operational. The cumulative principal outstanding debt as of Sept-25 stood at INR 77.3Bn and is expected to increase given the high capex phase till FY29E.

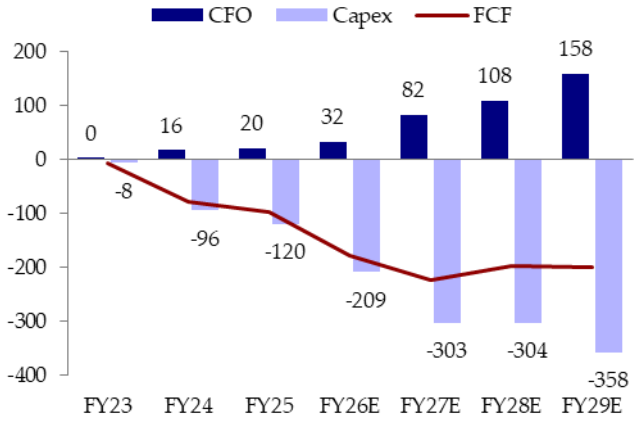
Rising cash flow: As outlined earlier, we estimate NGEL's EBITDA will increase at 82% CAGR by FY29E, and this should result in operating cash flow CAGR of 71% during this period. Cumulatively, we estimate INR379bn of operating cash flow in FY26E-29E (against required capex of Rs1.2trn mentioned earlier).

Exhibit: NGEL capex estimates



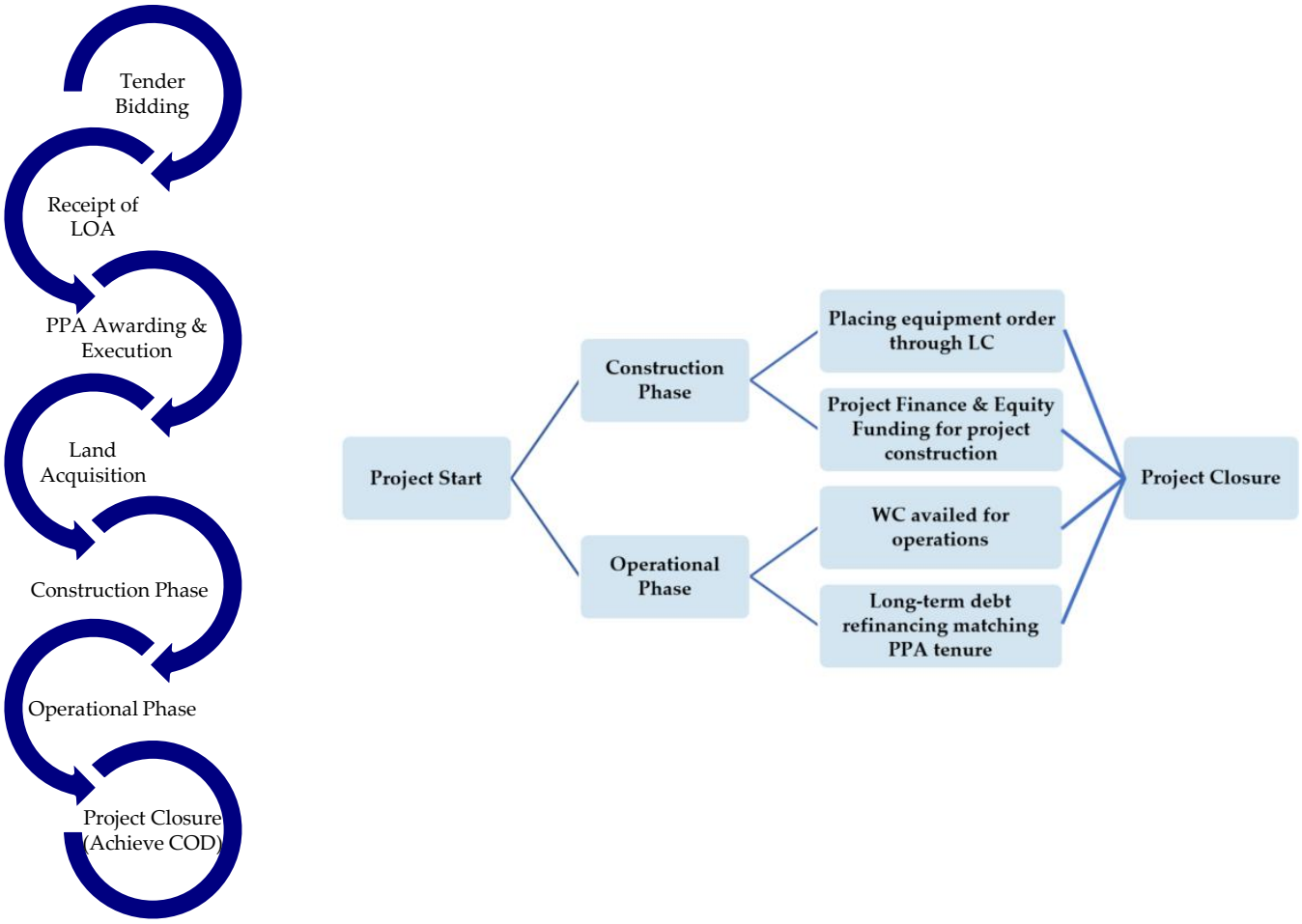
Source: Company and HSIE Research

Exhibit: FCF to remain subdued due to consistent expansion



Source: Company and HSIE Research

Exhibit: Life cycle of renewable energy projects



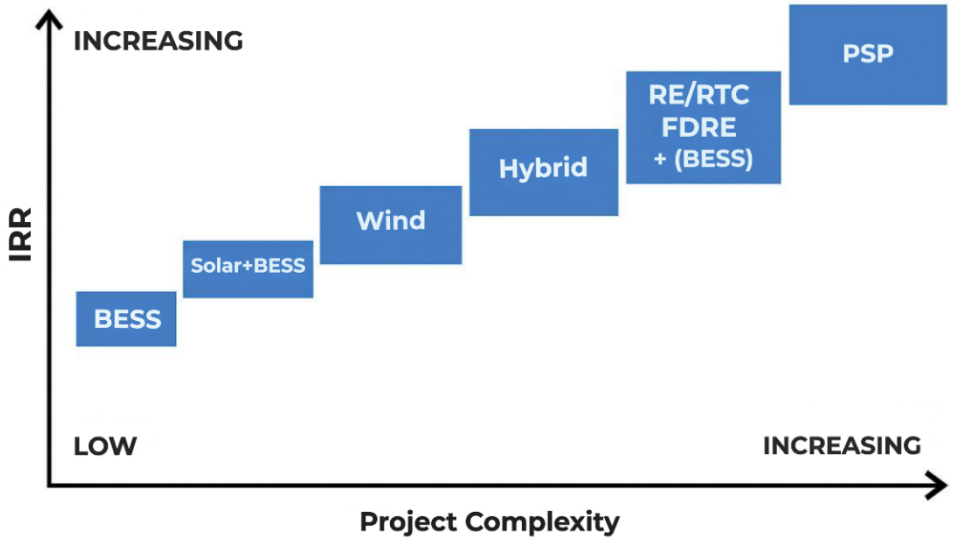
Source: NGEL and HSIE Research

- **Focus on projects in new energy solutions like green hydrogen, green chemicals, and storage:** NGEL is also focusing on initiatives including developing battery storage and around-the-clock renewable energy projects of 2GW. A green hydrogen hub is also under development at Pudimadaka, AP, which is spread over 1,200 acres for production of green hydrogen, its derivatives, and manufacturing of RE-related components and systems.

  Further, MOUs with state entities such as Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RRVUNL) for the development of RE projects up to a total capacity of 25GW, including green hydrogen and its derivatives, such as green ammonia and green methanol, with a capacity of up to 1 million MT, is also expected to diversify RE offerings.

  Entry into joint venture agreement with New & Renewable Energy Development Corporation of Andhra Pradesh Ltd for developing solar/wind/hybrid with or without storage of up to 25GW, production of green hydrogen to the tune of 0.5 MMTPA and green derivatives (green ammonia, green methanol etc.) through a suitable mode and developing pump hydro projects up to 10GW capacity in Andhra Pradesh.

Exhibit: Complexity of projects and the corresponding IRRs in the RE space witnessed by developers



Source: HSIE and company

Acquisition of Ayana Renewables to support inorganic growth

- NGEL's and ONGC Green's 50:50 JV ONGCPL recently acquired NIIF-backed Ayana Renewables with an asset size similar to players like ACME Solar for INR 195bn. The acquisition is in line with NTPC's goal to partner with PSUs and state governments to achieve the desired generation capacity target.
- Ayana's generation portfolio stands at ~2.1GW, with an average tariff of INR 3.03/kWh dominated by solar. The under-construction portfolio stands at 1.9GW with an average tariff of 3.7/kWh and a healthy mix of solar and wind projects, albeit being plain vanilla in nature, it would take its overall portfolio to 4.1GW.

Exhibit: SWOT analysis of NTPC Green

Strengths	Weaknesses
▪ NGEL being a CPSE, is able to borrow debt at roughly 100 bps lower interest cost vs its peers. ▪ NTPC's management has experience in executing relatively more complex thermal and hydro projects. ▪ JVs with states reducing land acquisition complexities. ▪ Partnership with PSUs willingness to partner with NGEL supports its own green energy ambitions.	▪ Execution pipeline is of relatively simpler projects that have limited entry barriers. ▪ Demerger reduces NTPC's B/S support vs peers that are able to deploy excess cash from other businesses into RE. ▪ Historical evidence of delays in execution like other PSUs, NGEL has missed its target by a wide margin.
Opportunities	**Threats**
▪ Lower financing cost increases headroom for greater IRRs. ▪ NTPC branding supports entry to newer markets and exploit its existing relationships for RE goals. ▪ Solar + thermal tender offers collaborating with NTPC on execution and scale. ▪ Well-placed to capture new opportunities in BESS and other tender models. ▪ With complex tenders expected to become preferred model for RE procurement, NGEL can exploit better than its peers that are less focused on wind energy.	▪ Increasing PSUs may be resulting in crowding out. ▪ Lack of H2 commercialization can result in capex write-downs. ▪ Increased unplanned RE penetration can cause grid instability resulting in curtailment of RE generation ▪ High competition from both domestic and international players, could pressure margins and profitability. ▪ Delay in PPAs signing may expose NGEL to risks that may affect its future cash flows.

Exhibit: NGEL Group (including JVs) operational and financial snapshot

Particulars	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
Capacity (GW)	2.6	2.9	5.9	9.9	15.4	20.9	27.4
Growth (%)	-	12.0	101.8	67.8	55.5	35.7	31.1
Blended Tariff/Average Realisation (INR/kWh)	3.6	3.3	4.7	3.0	2.5	2.8	2.8
Growth (%)	-	(9.2)	40.9	(35.5)	(15.1)	10.6	0.3
Generation (mn units)	3,863	5,712	6,901	14,595	28,332	43,130	59,381
Growth (%)	-	47.9	20.8	111.5	94.1	52.2	37.7
Revenue (INR mn)	1,697	19,626	22,096	27,951	72,347	121,241	167,125
Growth (%)	-	1,056.6	12.6	26.5	158.8	67.6	37.8
EBITDA (INR mn)	1,514	17,440	19,167	24,511	63,666	106,692	147,070
Growth (%)	-	1,052.0	9.9	27.9	159.7	67.6	37.8
EBITDA Margin (%)	89.2	88.9	86.7	87.7	88.0	88.0	88.0
EBITDA / MW (INR mn)	0.6	6.0	4.6	3.4	5.7	7.0	7.4
Growth (%)	-	928.4	(22.9)	(26.6)	68.5	23.1	5.8
PAT (INR mn)	1,712	3,429	6,857	8,228	9,874	11,849	14,219
Growth (%)	-	100.2	100.0	20.0	20.0	20.0	20.0
OCF (INR mn)	173	16,161	19,989	31,532	81,612	107,583	158,296
Growth (%)	-	9,258.1	23.7	57.7	158.8	31.8	47.1

Source: Company, HSIE estimates

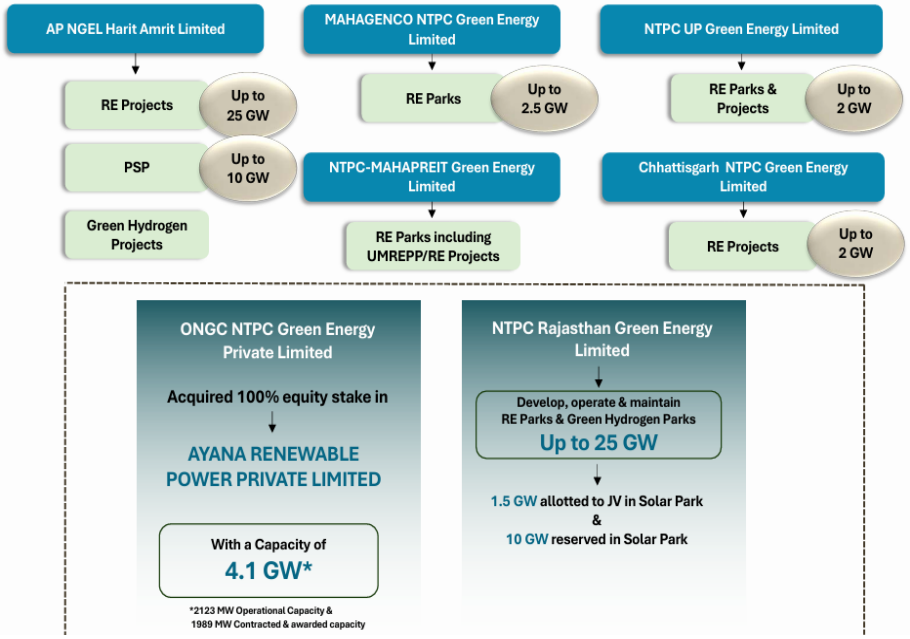
Competitive moats that support investment thesis

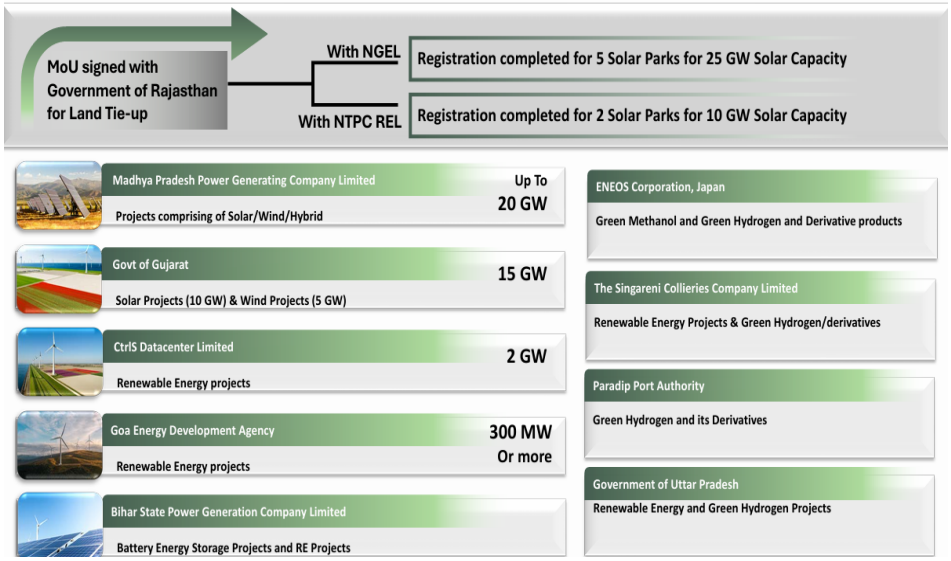
- NGEL is promoted by NTPC Ltd, which has extensive experience in executing large-scale projects and developing long-term relationships with off-takers and suppliers and having financial strength.
- Experienced team in renewable energy project execution and procurement as well as operations and maintenance.
- The availability of transmission infrastructure for interconnection to common grid is critical for the project's viability. NGEL evaluates the power evacuation capacity available at the nearby inter-state/intra state substations using its in-house expertise. The project commissioning timelines are generally aligned with respect to the substations' readiness for evacuation of power. The overall process involves submitting various applications to relevant statutory bodies and independent system operators for securing grid connection approvals, installation of transmission lines including arrangement of a right of way. NGEL benefits from the long-term experience of the NTPC Group in connecting its projects to the grid.
- For solar energy projects, construction includes design, engineering, procurement, structure, module and inverter installations, substation construction, interconnection work, and the balance of plant construction. In solar projects, NGEL has diversified its strategy for setting up power plants from using turnkey engineering, procurement, and construction (EPC) contract model (where the contractor is responsible from concept through commissioning) to a model where NGEL will take responsibility for procurement of major equipment and supplies and the contractor builds, commissions and hands over the solar plant. NGEL also uses the turnkey EPC contract model based on specific project conditions.
- For wind energy projects construction includes turbine installations and the balance of plant, which encompasses transmission lines and substation. In wind projects, NGEL generally uses the turnkey EPC model, entering into contracts with OEMs for manufacturing, installing, and commissioning wind turbines and the balance of plant. However, it has also started bifurcating the total project scope into balance of plant (including procurement of land) and supply and installation of wind turbine generators.
- **Duck curve getting deeper** – requires more storage, benefiting NGEL which is focusing on Solar + BESS and standalone BESS. The net load or duck curve has continued to get deeper in India and within next 10-15 years, solar would reach a stage where every other source will need to be backed down during peak solar hours in India (ex-thermal) indicating excess generation and thus the greater demand for storage, i.e., greater need of batteries for grid balancing. A trend visible in US, Europe and Australia.
- CEA resource adequacy study suggests lower thermal PLF, higher RE based on inputs provided by the states on the back of PPA signing momentum, indicating thermal coal capacity addition of 70GW until FY32, yet thermal coal generation to remain stagnant at ~1,100 billion units through FY32, considering thermal coal PLF expected to drop to 50% by FY32 (vs. 65% in FY24). Eagerness towards wind adoption is witnessed by the states, will drive growth for wind (100GW as per CEA's optimal generation mix report). But solar + battery estimates appear slightly more aggressive vs CEA's optimal generation mix report. Solar and BESS would account for almost 50% of FY32 capacity mix as per resource adequacy reports.
- **Partnerships provide long runway:** NGEL has built Joint ventures with multiple PSU, signed MOUs with international entities like Eneos Corporation, Japan and also with multiple states that provide a platform to fulfill renewable energy demands of these individual entities and states whose requirements are expected to be in mid-high double digit GWs by 2032.

Further providing upside is NGEL's focus on new energy initiatives such as Green Hydrogen parks, BESS, Green Methanol and Green Ammonia among other derivative products.

We believe these partnerships; Joint Ventures are essential for NGEL to reach its 60GW by the year 2032.

Exhibit: Collaborations & Strategic Partnerships





Source: NGEL Dec'25 Investor Presentation

NTPC group's decades long experience and wisdom in execution of power projects in India and the recent confirmation as Schedule A CPSE status to NGEL makes it a preferred partner for state entities for achieving their own RE goals and RPO obligations.

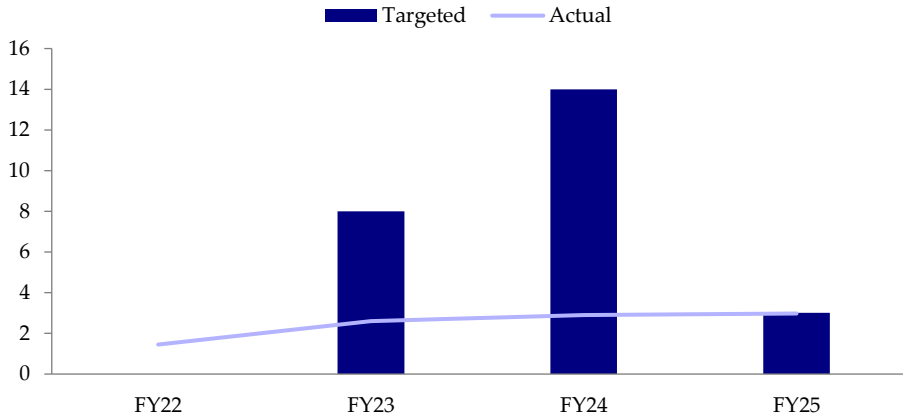
These partnerships provide cushion to NGEL and long runway of sustainable growth even if new RE tender awarding witnesses slowdown.

It also provides easy availability of land for development of new RE projects for NGEL from respective states supported by joint development MOUs.

Major headwinds

Competition with other PSU's: There's a limit to how much market share NTPC can acquire – we expect that to be limited to 10% for NGEL, since government would want to avoid crowding out private investment. PSUs in general have an erratic history when it comes to achieving their lofty targets. Even NGEL has missed its own FY24/25 targets by a significant margin.

Exhibit: Installation targeted vs. Actual Installed (GW)



Source: Company and HSIE Research

- **Cost overruns, delays in achieving COD may adversely affect:** The business and cash flows can be affected on account of mismatch caused in delayed COD and debt repayments. Further, exacerbated due to reliance on third party EPC and O&M, and fixed tariffs.
- **There is a time gap between making significant upfront investments in RE projects and receiving revenue**: NGEL has substantial capex requirements and may require additional financing to meet those requirements, considering NGELs growth may be higher than its RoE, it needs to raise additional funds as internal cash flows might be insufficient to fulfill capex needs. We expect NGEL's current cash + future internal accruals to be sufficient to support capacity additions by another 25GW, to further advance the portfolio size and reach desired capacity target it will need additional fund-raise (even after accounting for equity contribution from JV partners).

Exhibit: Capex incurred by NGEL

Particulars (INR mn)	Restated Consolidated Financial Information		Special Purpose Carved-out Combined Financial Statements	
	FY2025	FY2024	FY2023	FY2022
Capital Expenditure	129,140	88,827.19	30,596.89	49,666.66

Source: Company

- **Growth significantly relies on land and grid availability:** Availability of land is a crucial factor for NGEL, this is mitigated to a large extant considering NGEL has MoU with multiple states.
- **Competitive pricing pressures:** The renewable energy sector in India is highly competitive, with aggressive bidding leading to lower tariffs under Power Purchase Agreements (PPAs). This competitive environment can make projects economically unviable and impact NGEL's equity internal rates of return (IRRs).
- **Connectivity challenges in project delivery:** With the rapid increase in RE capacity addition, there is a growing gap between RE power generation and the availability of evacuation infrastructure, considering transmission infrastructure is unable to keep pace with RE awarding and development. The delays in the

development of transmission infrastructure are owing to a host of structural and procedural bottlenecks, including RoW disputes, prolonged land acquisition processes, restrictions on equipment procurement and multi-agency approval requirements.

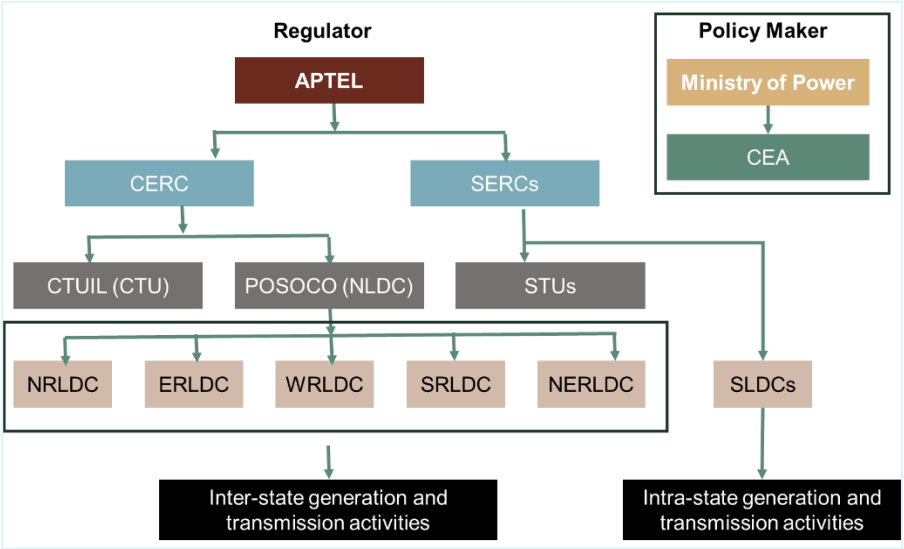
Institutional and regulatory complexities have further slowed progress. With electricity being a concurrent subject, both central and state authorities play key role in planning and regulation. This dual framework has increased regulatory complexities and has further slowed progress, resulting in multiple approval layers, causing uncertainty and long delays, from project conceptualization to commissioning.

This is visible with CTUIL's recently revoking approval for 6.3GW of transmission connectivity over delays in project development.

- **Supply chain shortages:** Shortages of components such as transformers, control relay panels, tower parts, insulators, HVDC and gas insulated switchgears (GIS) have led to higher procurement costs and delays in execution of transmission and power generation projects. Factors such as doubling of transformer costs in last seven years too have affected the demand.

Industry overview

Exhibit: Institutional and structural framework of power sector in India



APTEL - The Appellate Tribunal for Electricity; CERC- Central Electricity Regulatory Commission; CEA- Central Electricity Authority; WRLDC- Western Regional Load Despatch Centre; ERLDC- Eastern Regional Load Despatch Centre; SRLDC- Southern Regional Load Despatch Centre; NLDC: National Load Despatch Centre (Now called as GRID-INDIA); NRLDC- Northern Regional Load Despatch Centre; NERLDC- North-Eastern Regional Load Despatch Centre;
SLDC- State Load Despatch Centre; CTU- Central Transmission Utility; STU- State Transmission Utility.
Source: Crisil

Power demand supply scenario

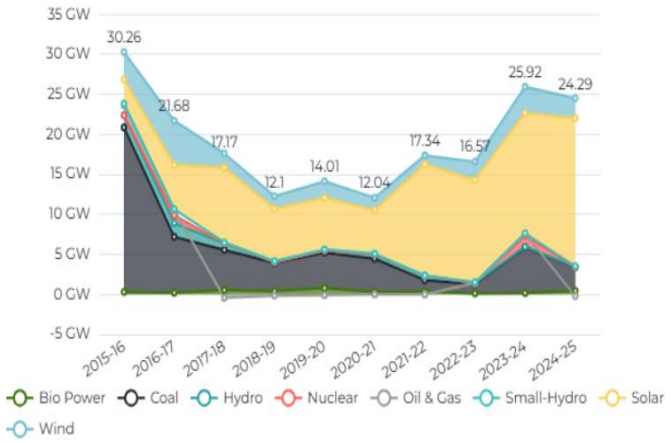
Current generation profile is dominated by conventional (coal, lignite, natural gas, oil, hydro and nuclear power) sources, although non-conventional sources (such as wind, solar, and biomass and municipal waste) are rapidly gaining traction. Transmission and distribution infrastructure has expanded over the years for the evacuation of power from generating stations to load centers through the intra-state and inter-state transmission system (ISTS).

India witnessed robust growth in capacity addition over the past decade, led by delicensing of the power-generation business through the Electricity Act, 2003. This has resulted in the total installed generation capacity as of December 2025 was ~520 GW, of which ~175 GW of capacity was added after FY18.

Capacity addition is expected to continue to be on the bright side considering India has already witnessed RE installed capacity crossing 50%+ of the overall installed capacity in FY2025 from the targeted FY2029.

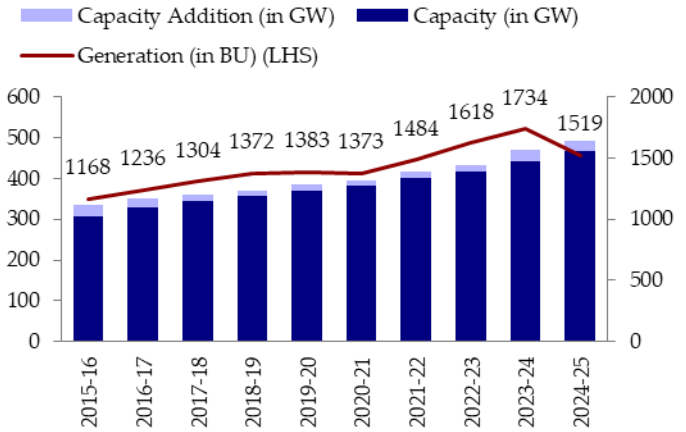
BESS capacity additions, aimed at storing renewable energy during off-peak hours of power demand to support peak supply, are expected to commission starting fiscal 2025, with 23-24 GW of BESS capacity likely to be added through FY29.

Exhibit: India annual capacity additions



Source: ICED (Niti Aayog)

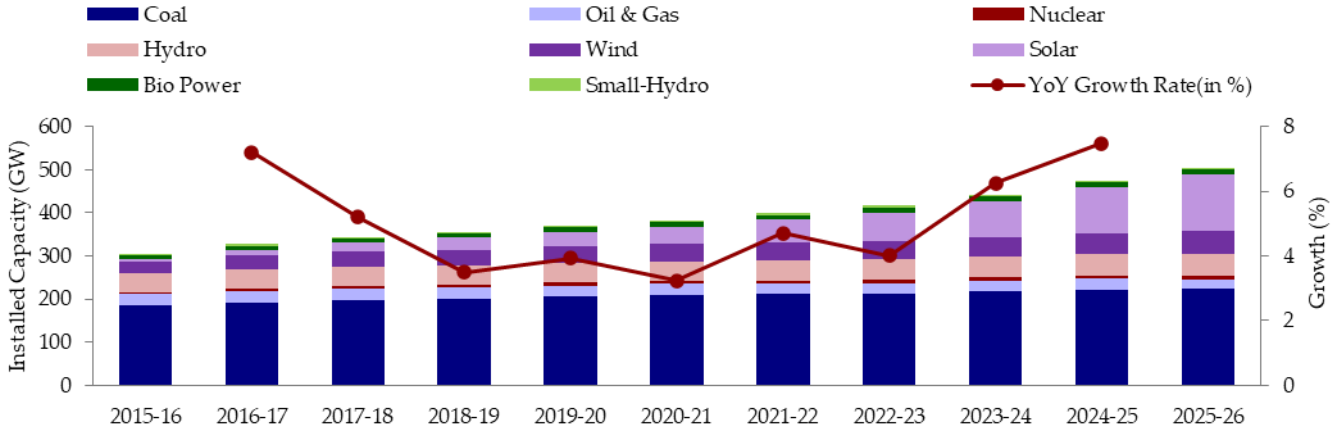
Exhibit: India Overall Capacity (GW) and Generation (BU) trend



Source: ICED (Niti Aayog)

While conventional sources have maintained its dominant position over the years and accounts for ~44.5% as of October 2025. The RE installations, have reached ~250 GW as of October 2025, compared with 114 GW as of March 2018 with growth has been led by solar rising rapidly to ~129.9 GW from 22 GW over the same period.

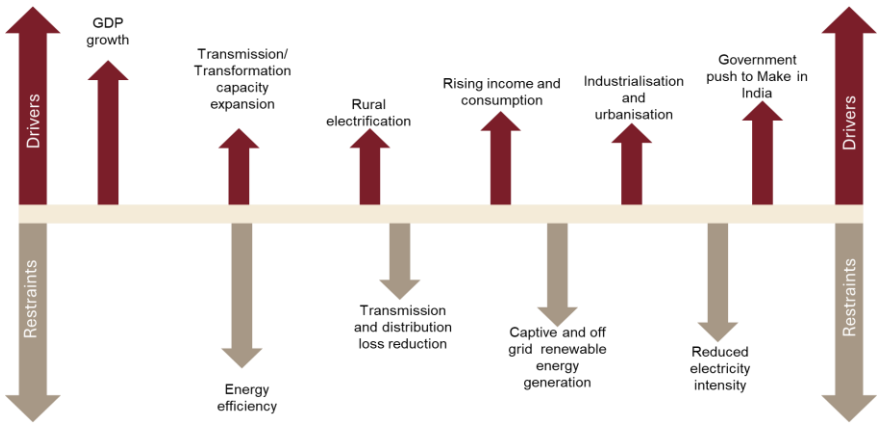
Exhibit: Installed Power Sources mix (GW) and YoY Trend (%)



Source: ICED (Niti Aayog)

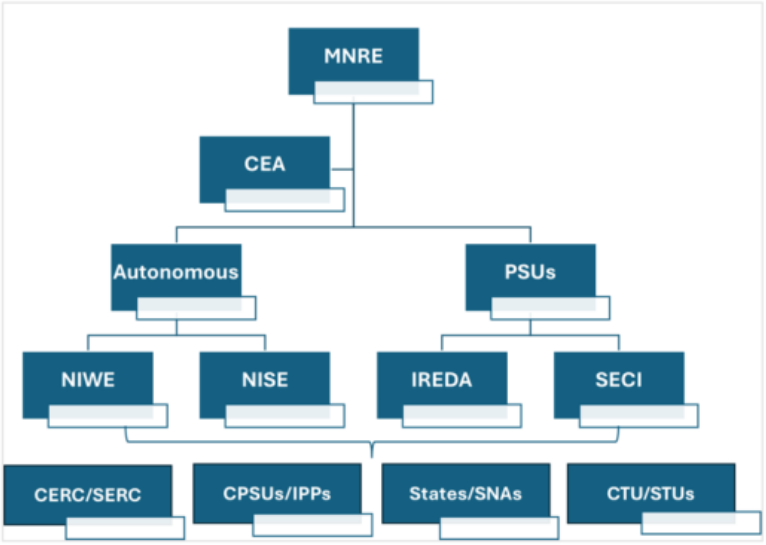
Long term Demand drivers and constraints

Exhibit: Factors influencing power demand



Renewable energy (RE)

Exhibit: Different stakeholders in renewable energy



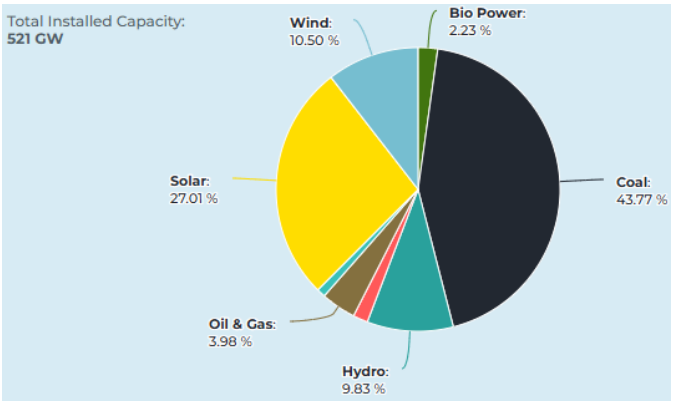
Source: NGEL DRHP

RE installations have increased fivefold to ~250 GW as of October 2025, as compared with ~63 GW as of March 2012 (source: MNRE), led by various central and state-level incentives. As of October-2025, installed grid connected RE generation capacity (incl. large hydro) in India constituted ~50% of the total installed generation base in India. This growth has been led by solar power, which has grown to ~82 GW from merely ~0.09 GW over the discussed time period (i.e., from March 2012).

Exhibit: Top 5 states with RE capacity (Ex. Hydro) – January 2026

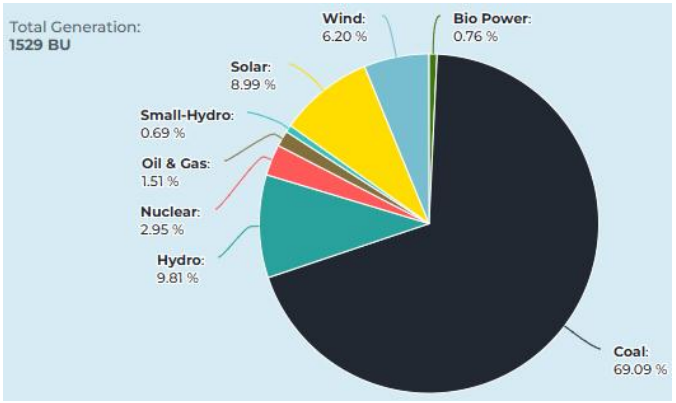
Source: Niti Aayog

Exhibit: Source wise installed capacity



Source: Niti Aayog

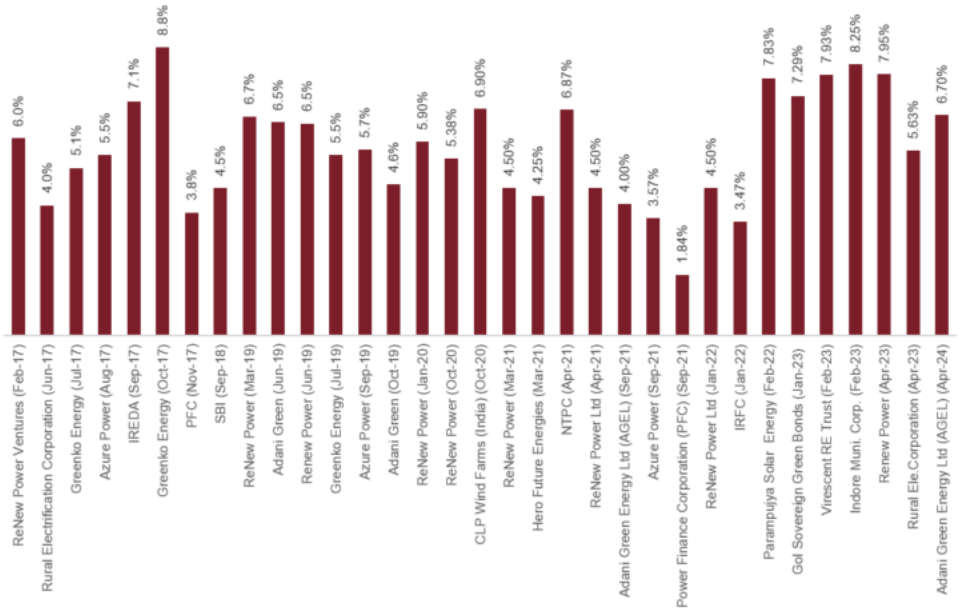
Exhibit: source wise generation



Source: Niti Aayog

Increase is RE financing has been supported by availability and evolution of funding mechanisms

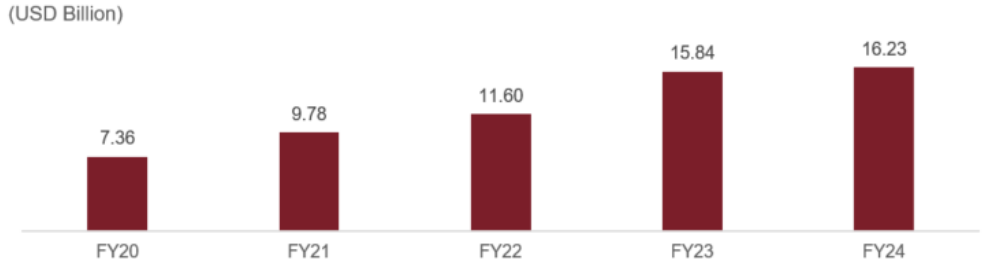
- Funding from lending institutions such as PFC, IREDA, REC, and PFS
- Green bond/masala bonds market yields of recent bond issuances are mentioned in the chart below.



Source: NGEL DRHP

- Pension funds/endowment funds
- Funding from multilateral banks and International Solar Alliance (ISA)

Exhibit: Investment deals in the Indian RE sector



Source: NGEL DRHP

Exhibit: Major recent deals in RE segment

Month / Year	Target Company	Deal Type	Acquirer / Investor	Deal Value (USD Mn)	Stake Acquired (%)
Nov-18	Solar farms of Suzlon (acquired by CLP India)	Acquisition	CLP India	Rs. 325M (USD value not disclosed) *	100%
Nov-18	Solar Projects of Suzlon (acquired by Canadian Solar)	Acquisition	Canadian Solar	Rs. 545M (USD value not disclosed) *	100%
Dec-18	Cleantech Solar	Equity Stake	Shell	N/A	49%
Jan-19	Solar Projects from FS India Devco	Acquisition	Adani Green Energy	Rs. 16.9M (USD value not disclosed) *	51%
Apr-19	Suzlon Solar Projects (Ostro/ReNew Power)	Acquisition	ReNew Power	N.A (value not disclosed)	Stake sale
May-19	AMP Solar – Captive SPV	Equity Stake	Cipla	Rs. 129M (USD value not disclosed) *	26%
Dec-19	Rattan India Solar Portfolio	Acquisition	Vector Green	Undisclosed	–
Feb-20	Adani Green Energy Ltd (AGEL)	Equity Stake	Total (TotalEnergies)	$510 Mn	50%
Apr-20	Rising Sun Energy	Equity Stake	Yinson Renewables	INR 554M (USD value not disclosed) *	37.50%
Apr-20	Shapoorji Pallonji Infra Capital (SP Infra)	Acquisition	KKR	INR 15.54 Bn (USD value not disclosed) *	–
May-23	Amp Energy India	Divestiture	ICG	N/A	–
Dec-24	O2 Power (Renewable platform)	Add-on Acquisition	JSW Energy	$1,500 Mn	N/A
Mar-25	Stride Renewable Energy (371 MW Solar Portfolio)	Buyout	Actis Capital	N/A	–
Jun-25	AM Green – Greenko Renewable Energy Plants	Stake Purchase	Greenko	N/A	N/A

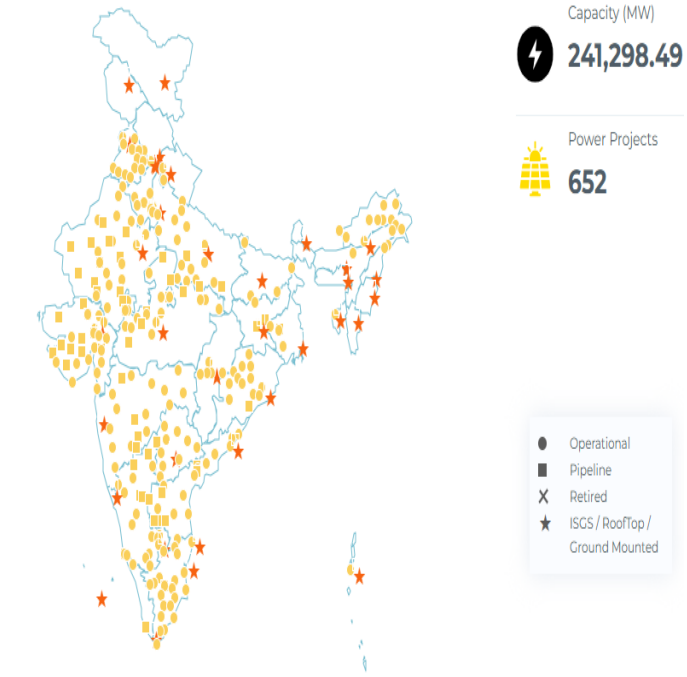
Source: Re-solve, Mergr

Overview of India's solar sector

Solar capacity stood at 25.73% as of October 2025 of the overall mix, growing considerably from FY2015-16, comprising 365 solar projects with overall capacity of 129.9 GW as of October'25. Further, 279 solar projects with a capacity of 93.7 GW are in the commissioning pipeline.

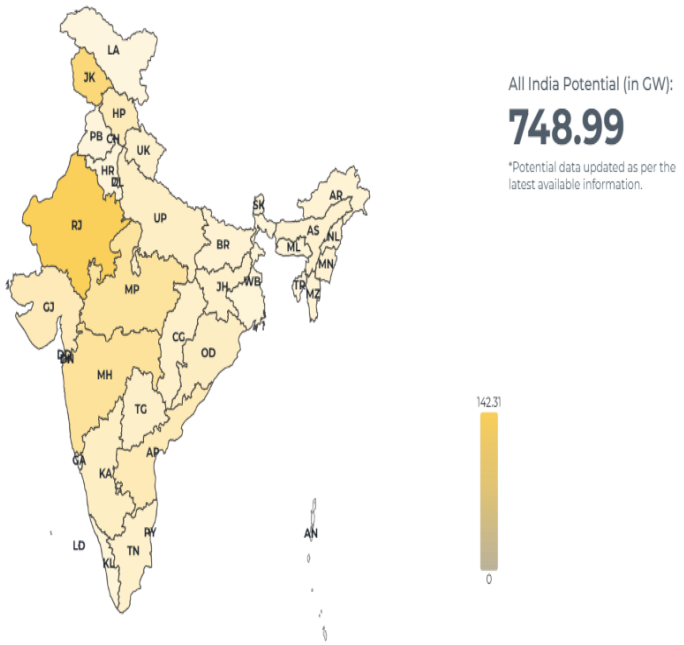
India has solar energy potential of 3343.37GW at 6.69% wasteland as per Niti Aayog.

Exhibit: Operational and under-construction solar projects as of Jan-26



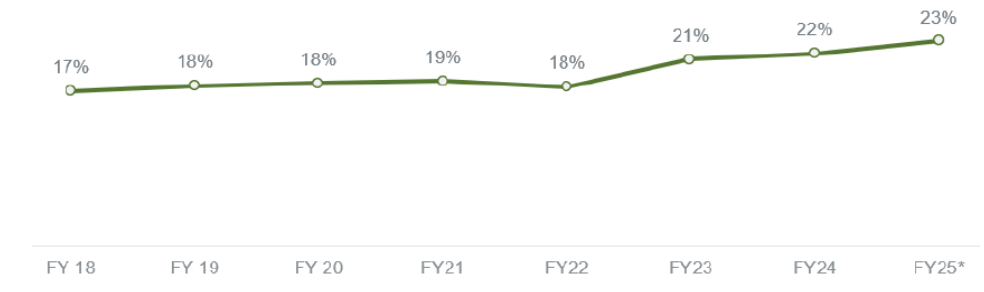
Source: Niti Aayog

Exhibit: State-wise solar potential at 3% waste land area



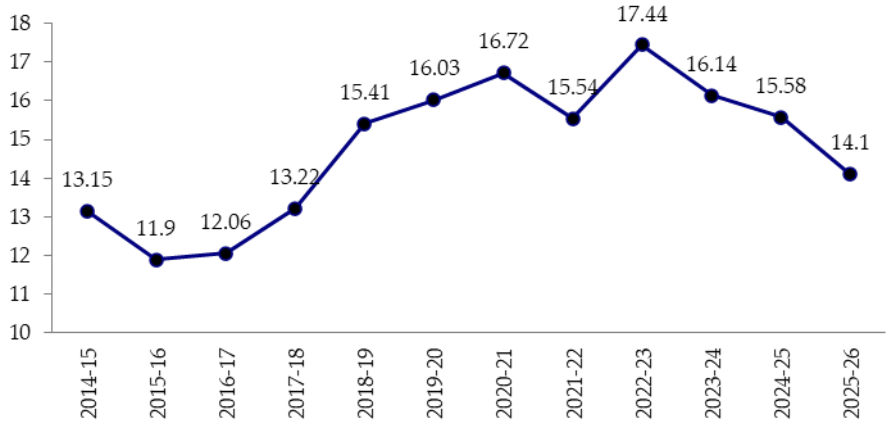
Source: Niti Aayog

Exhibit: Generation performance continues to improve with better module technology



Source: NGEL DRHP

Exhibit: Solar CUF/PLF (%) generation for 10-year period (2015-2025)



Source: Niti Aayog

Exhibit: Cell efficiency (%) of various module technologies

Types of Solar Panels	Efficiency and Lifespan
Monocrystalline solar panels	Efficiency: 19-20% Lifespan: 30-40 years
Polycrystalline solar panels	Efficiency: 16-17% Lifespan: 20-25 years
Thin-film solar panels	Efficiency: 11-12% Lifespan: 10-20 years
DSSC solar panels	Efficiency: ~11% Lifespan: ~6 years
OPV solar panels	Efficiency: 10-12% Lifespan: ~10+ years
Perovskite solar panels	Efficiency: 25-35% Lifespan: ~2.5 years
CPV / HCPV solar panels	Efficiency: Up to 41% Lifespan: 20+ years
Bifacial solar panels	Efficiency: Up to 22 %Lifespan: 25+ years
PERC solar panels	Efficiency: 19-22% Lifespan: 25+ years
Mono-PERC half-cut bifacial solar panels	Efficiency: Up to 22.5% Lifespan: 25-30 years

Source: Solar Square

Exhibit: Cost competitiveness and other advantages supporting solar

Parameter	Solar	Wind	Hydro	Biomass	Coal
Utilization Factor	~20-25%	~25%-30%	~40-45%	70-80%	80-85%
Clean energy	Yes	Yes	Yes	No	No
Time to construct	Less	Moderate	More	Moderate	More
Initial Cost	Moderate	High	Very high	High	High
O&M Cost	Low	High	Low	Moderate	Moderate
Impact of environment	Low	Medium	High	Medium	High
Water requirement for cleaning/cooling purpose	Low	NA	NA	Medium	High

Source: Crisil

Key growth drivers in solar power development

- Declining solar module and cell prices
- Regulatory support from the government in the form of ALMM scheme for modules, cells, and wafers/ingots
- Green hydrogen and green ammonia push

Key challenges/bottlenecks in solar power development

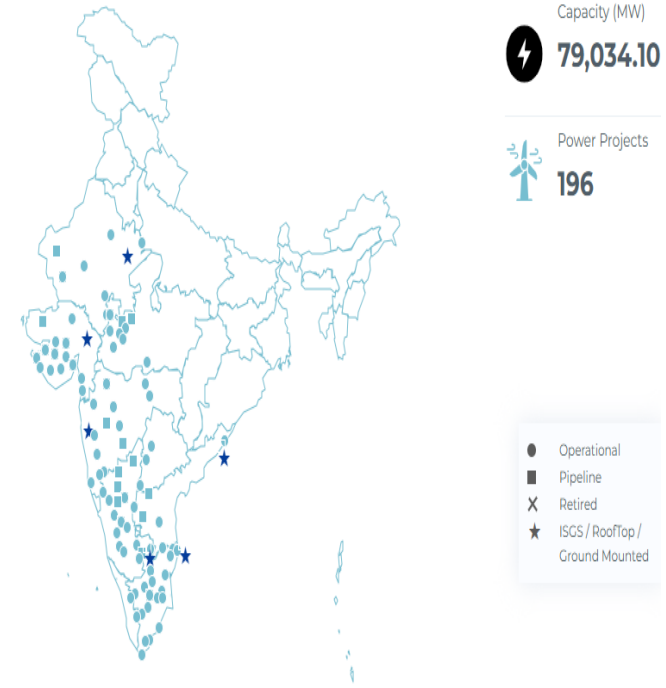
- Availability of contiguous land parcels
- Adequacy of evacuation infrastructure
- Availability of low-cost capital

Overview of wind sector in India

Solar capacity stood at 10.6%, as of October 2025 of the overall mix, growing considerably since FY2015-16, comprising 102 solar projects with overall capacity of 53.6GW as of October'25. Further, 98 wind projects with a capacity of 26.3GW are in the commissioning pipeline.

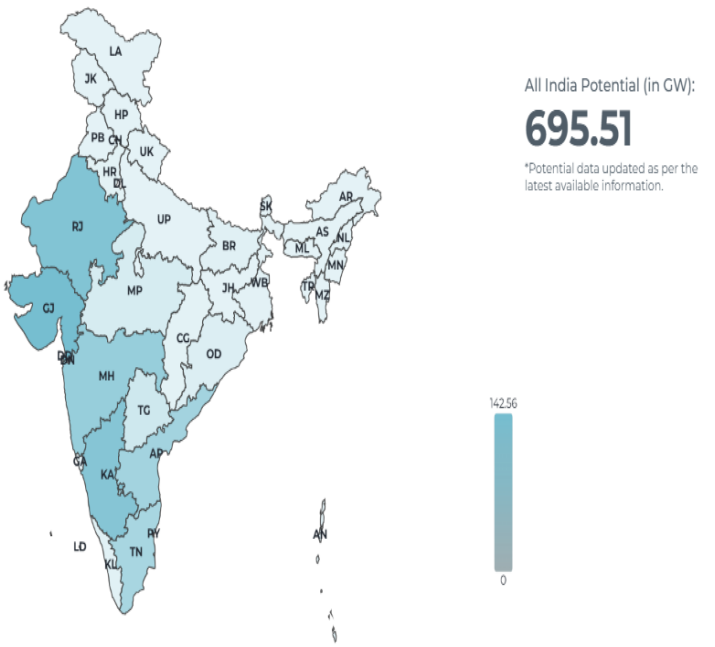
India has wind energy potential of 1163.9GW at 150 meters above ground level (AGL), as per Niti Aayog.

Exhibit: Operational and under-construction wind projects as of Oct-25



Source: Niti Aayog

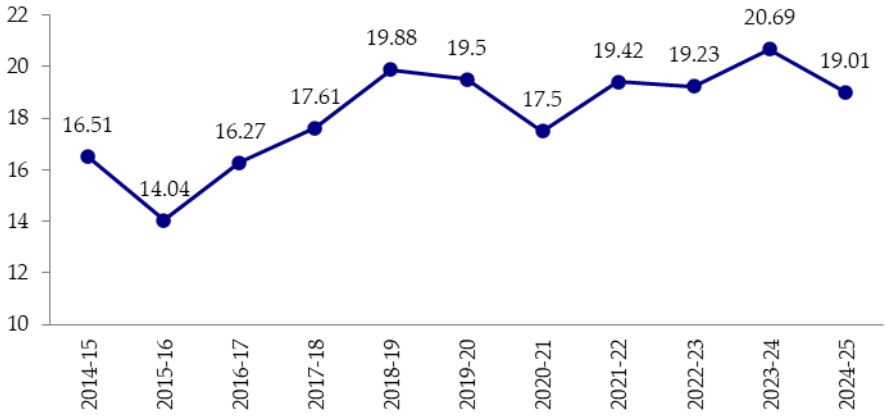
Exhibit: State-wise wind energy potential at 120m height



Source: Niti Aayog

The weighted average discovered tariffs for allocated capacity for FY25 stood at INR 3.4/kWh as against INR 3.1-3.3/kWh tariff required for earning 10-13% equity IRRs.

Exhibit: Wind CUF/PLF (%) generation for 10-year period (2015-2025)

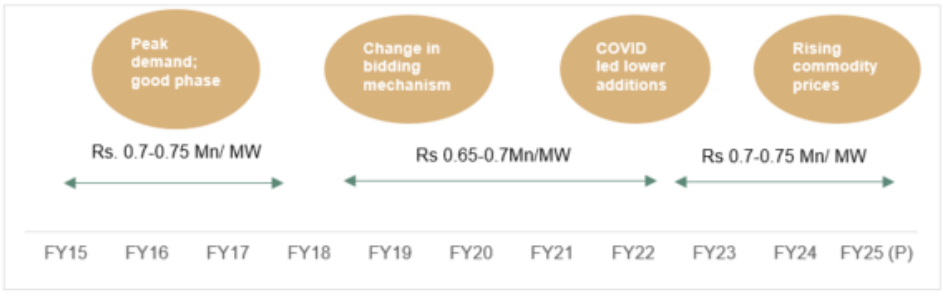


Source: Niti Aayog

Exhibit: Rising commodity prices leading to higher capital costs

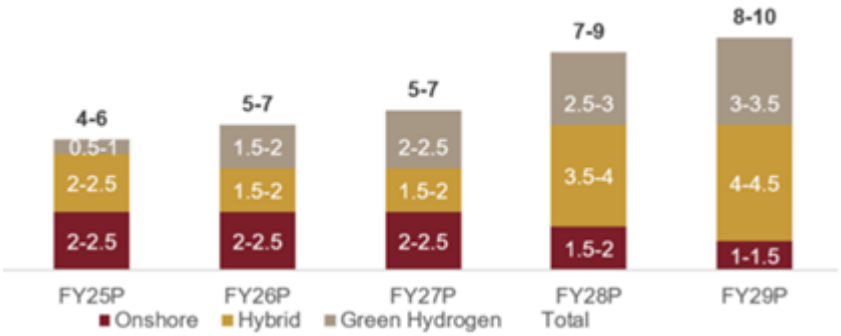
Source: NGEL DRHP

Exhibit Rising inflation and commodity prices leading to higher O&M costs



Source: NGEL DRHP

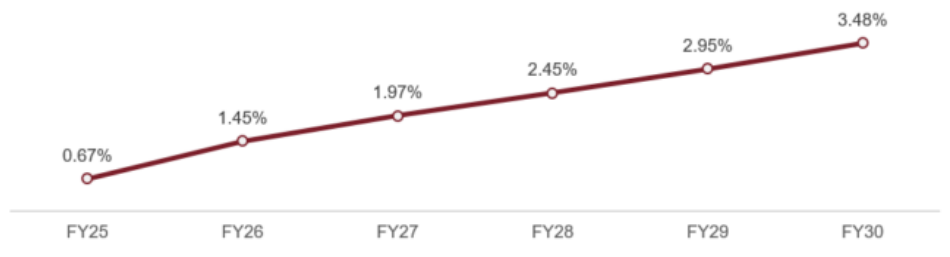
Exhibit: Expected annual wind power capacity additions



Source: NGEL DRHP

Key factors to drive wind energy capacity additions

- New tender models such as hybrid, round-the-clock, peak power supply and FDRE projects, all of which require a mix of resources, including wind.
- Improved technology such Newer wind turbines being launched
- Large-scale central allocations
- The upward revision in RPO targets of MoP
- Revised wind RPO trajectory



Source: NGEL DRHP

- Accelerated depreciation acting as a key driver for capacity additions.
- High industrial tariffs in select states such as Maharashtra, Karnataka, Tamil Nadu, and West Bengal.

Exhibit: Expected investments in the wind energy generation sector in India (INR trn)

Source: NGEL DRHP

Evolution of new tender models

To improve the quality of power supplied to off-takers some key changes were made to tender structures. From plain vanilla solar/wind/thermal tenders to the following:

Tender type	Description
Round the clock (RTC)	Ensures round-the-clock availability of power to the off-takers with or without storage.
Assured Peak Power Supply (PPS)	Meet the power requirements of the off-takers during peak hours through a combination of RE and ESS.
Solar + Battery Energy Storage Systems (BESS)	Small-scale tenders with mandatory fixed solar and BESS Components.
Standalone Energy Storage Systems (ESS)	Fulfils on-demand power requirement of the off-takers, treats "ESS as a service".
Firm and Dispatchable Renewable Energy (FDRE)	Demand profile following ESS tenders ensuring firmness and dispatchability of renewable energy.

Source: HSIE Research

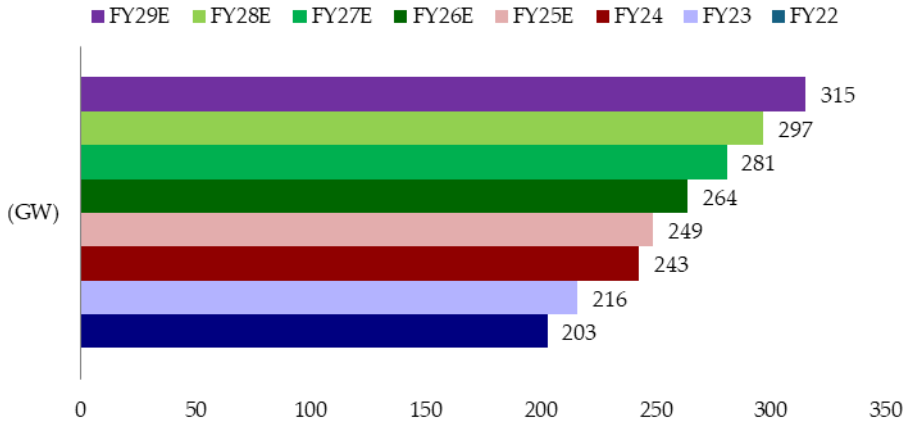
A key feature across these tenders is the increase in the quantum of generation and mandate use of storage that would be essential to supply power during peak hours, since peak power deficit increased to 2-3 percent during non-solar hours.

Exhibit: Higher tariff range at INR 3-5 /kWh to maintain returns similar to regular trend

Particulars	Plain Hybrid	FDRE	RTC	PPS
Weighted Average Tariff (INR/kWh)	3.05	4.59	4.21	4.70
Capacity Allocated till Q1FY25 (GW)	15.0	4.2	1.7	1.2
Key Players	Multiple	ACME, Juniper, Tata Power, ReNew, O2, Hero and others	NTPC, Ayana, Shell, Torrent, O2, ReNew, ACME and Tata	Hero, Renew, ACME and Amp Solar

Source: NGEL DRHP

Exhibit: Peak power demand expected to cross 300GW by FY29E



Source: CEA, HSIE Research

Exhibit: Growth in RE is also on account of RPO mandating discoms to source a stipulated portion of power generated from renewable energy

Year	Wind RPO	HPO	Other RPO	Total RPO
2022-23	0.8%	0.4%	23.4%	24.6%
2023-24	1.6%	0.7%	24.8%	27.1%
2024-25	2.5%	1.1%	26.4%	29.9%
2025-26	3.4%	1.5%	28.2%	33.0%
2026-27	4.3%	1.8%-	29.9%	36.0%
2027-28	5.2%	2.2%	31.4%	38.8%
2028-29	6.2%	2.5%	32.7%	41.4%
2029-30	6.9%	2.8%	33.6%	43.3%

Source: MOP

Because RE sources such as wind and solar are intermittent on a standalone basis due to their reliance on availability of sun and wind and cannot be sourced during all times of the day or on demand. Furthermore, because the availability is intermittent, grid balancing can be negatively affected and may cause stability issues and underutilization of the transmission system at times during the day.

The part of the energy generated from solar and wind power projects is used to charge the energy storage systems (BESS), which is further discharged during deficit periods such as evening-peak periods or other non-solar hours. Excess power generated can be sold to power merchant exchanges or off-takers at a specified discount, such as 50% of PPA tariff.

FDRE solves this problem where integration of solar energy (for daytime) and wind (for night time) and fills in the gaps in energy storage systems (ESSs) to store surplus power. Hence, the business models of RE projects have also evolved from plain vanilla wind/solar projects to ⟶ hybrid co-located solar and wind ⟶ round-the-clock (RTC) RE supply with CUF commitment on monthly and annual basis ⟶ peak power RE constructs and FDRE with load-following characteristics that is anticipated to provide assured RTC power from renewables.

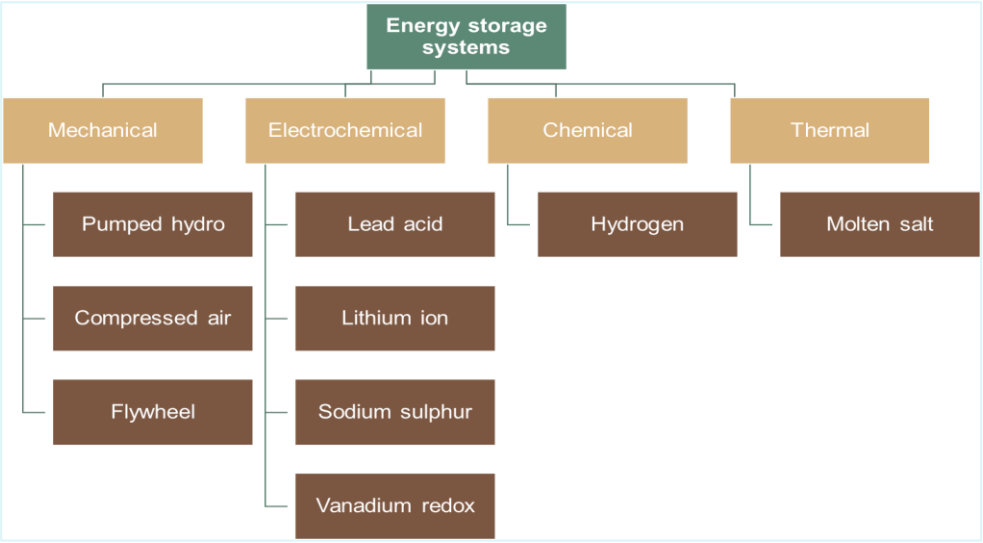
Typical CUF/PLF requirement as per contracts is 40–50%, which comes closer to thermal CUF/PLF (60–70%).

FDRE projects typically have peak power requirements in the morning (one–two hours) and evening (one–two hours) in addition to the annual requirement of 40–50% annual CUF as per PPA terms. The projects are sized considering energy storage system along with solar and wind availability to ensure minimum CUF benchmark as per PPA terms. The configuration for solar, wind, and storage capacity is derived through an hourly model prepared for 365 days x 25 years in order to carry out energy balancing as per the RFS/PPA for contracted capacity.

Overview of energy storage technologies

Energy storage technologies can be broadly divided into four segments – mechanical, electromechanical, chemical, and thermal storage. However, only a few technologies are available on a commercial scale worldwide. Technologies such as pumped hydro storage (PSP), lithium, and sodium batteries are available commercially and are being used for different applications. Other technologies such as compressed air, flywheel, and thermal and hydrogen storage have yet to demonstrate their commercial viability at scale.

Exhibit: Major types of storage technologies



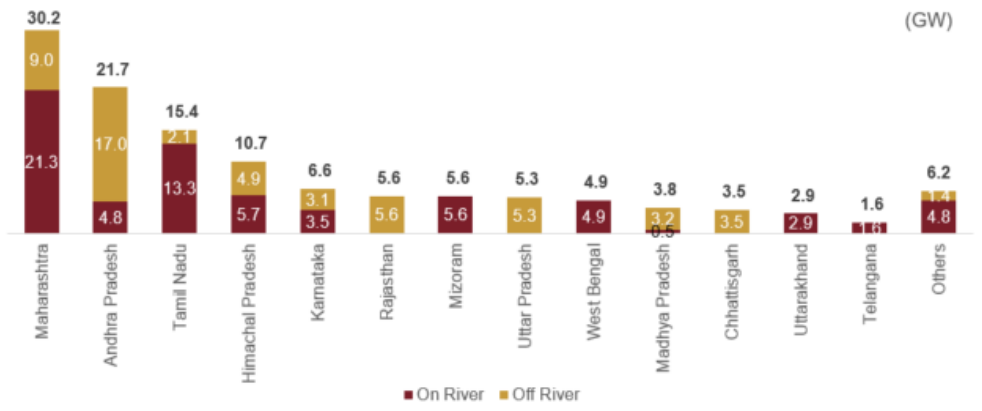
Source: NGEL DRHP

Pumped Hydro Storage Project (PSP) is the most widely used and commercially available means of energy storage technology in India. However, the total installed capacity of PSP is minuscule (~4% of the exploitable potential) in the country.

Potential of PSP in India

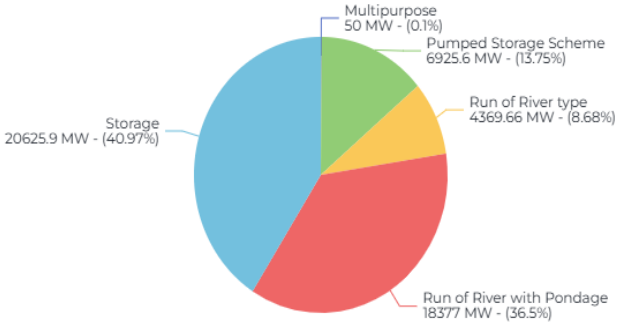
The identified potential of PSP in the country is about 124GW (comprising 114 PSP). However, the operational capacity of PSP is merely <0.1 GW (Oct), which indicates the large potential growth in this segment, considering 10+ GW of PSP projects in an under-construction pipeline.

Exhibit: State-wise PSP potential in India



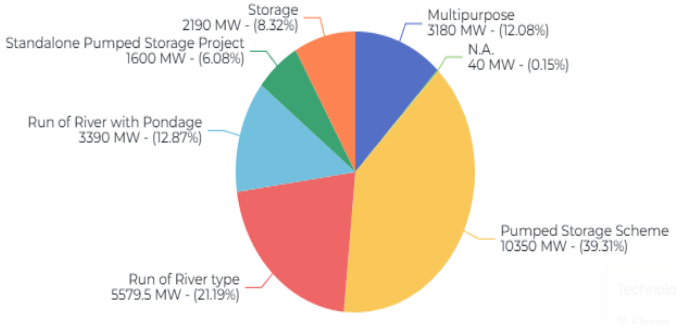
Source: Company

Exhibit: Operational hydro capacity based on technology



Source: CEA

Exhibit: Pipeline of hydro capacity based on technology



Source: CEA

PSP has witnessed limited traction due to the limitations in identification of suitable sites, relatively complex implementation, long gestation period, and high capital cost that make viability a major issue.

The guidelines released by the MoP in April 2023 addressed many of these issues. However, traction in PSP projects will depend on steps to make tariffs attractive to discoms and mitigate implementation risk to fuel private sector participation.

Battery energy storage

Battery Energy Storage Systems (BESS) is another form of storage technology, which has a very high energy density, making it appropriate to offer ancillary services.

More importantly, BESS can be installed easily, requires less time for set-up, and can be used for a wide range of grid support activities, such as energy time shift, distribution deferral, and energy arbitrage.

Risks include high investment costs, availability of changing technology, and replacement or disposal after 7-10 years, depending upon usage.

As of September 2025, 500MWh of BESS capacity is operational, ~700MWh of capacity is expected to come online by Dec 2025.

Of the total ESS capacity, 47% are under various stages of execution, 22% are cancelled, and 30% is under tendering process.

Exhibit: 10 projects operational with total 0.5GWh installed capacity

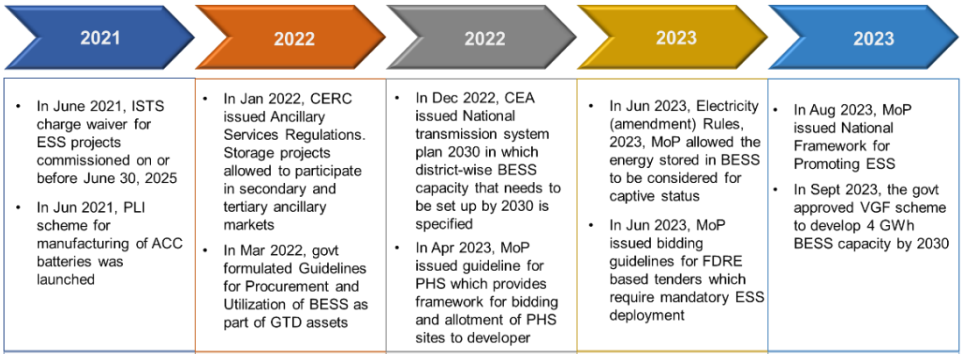
Tendering Authority	Location	RE (MW)	ESS (MW)	Tender Scope	Category	Winner	Technology	Winning Bid (INR)
TPDDL	Delhi	0	10	EPC	Standalone	Fluence	BESS	-
BRPL	Delhi	0	40	BOOT	Standalone	Indigrid	BESS	57L/MW/Year
NLC	Andaman & Nicobar	20	8	EPC	Solar + ESS	L&T	BESS	133 Cr. (INR 6.99/kWh)
GPCL	Modera	6	15	EPC	Solar + ESS	Mahindra-Susten	BESS	65 Cr.
SECI	Lakshadweep	1.7	1.4	EPC	Solar + ESS	Sunsource	BESS	-
SECI	Chhattisgarh	100	120	EPC	Solar + ESS	Tata Power	BESS	770 Cr.
GSECL	Kutch	35	57	EPC	Solar + ESS	L&T	BESS	335 Cr. (INR 5.6/kWh)
SECI	Karnataka	400	100	BOO	RTC	ReNew	BESS	INR 3.06 / kWh
SECI	Rajasthan	300	150	BOO	Peak Power	ReNew	BESS	INR 4.4/kWh
NTPC	Uttar Pradesh	0	3	EPC	Standalone	Rays Power Infra	Vanadium Flow	-

Comparison of PSP vs BESS

Parameters	PSP	BESS
Capital cost	Total capital cost for a closed loop PSP ranges around ~INR. 50-60 Mn/ MW*	Lithium-ion battery storage can range from USD 550-700/kW (for a four-hour storage solution)
Efficiency	75-80%	80-85%
Land requirement	~2,000 m²/MW	~100 m²/MW
Ideal storage duration	6 – 12 hours	Up to 4 hours
Response time	30-90 seconds	In milliseconds
Project life	40 – 50 years (life of dam/reservoir is over 80 years)	Up to 8 years
Construction period	4 – 5 years, it also depends upon other external and socio-political factors	1 year
Operating cost	Lower	Higher since batteries need to be replaced after certain period
Estimated levelized tariff	INR 4 – 6 per kWh	INR 5 – 7 per kWh
Environmental impact	Need substantial reservoirs which may cause environmental consequences, such as habitat destruction and changes in water flow downstream	Disposal of batteries is a major concern. If not taken care properly, may end up in landfills, posing risks of corrosion, flammability, and environmental contamination
Execution and operational risk	Long approval process for land, environmental and forest clearances Rehabilitation and resettlement issues Limited naturally suitable sites Long gestation period with high construction risk Managing water requirement, especially in case of any adverse events	Shortage of rare minerals and metals Limited manufacturing capacity Cost volatility Performance deterioration and fire risk in extreme ambient conditions Constant degradation and self-discharge

Source: Crisil

Policies and key driving factors for storage projects



Source: Crisil

Exhibit: ESS tenders floated till September 2025

Stage	Number of Tenders	RE (GW)	ESS (GWh)	PSP (GWh)	BESS (GWh)
NIT	7	1.21	2.31	2.00	0.31
RfS	28	4.11	41.64	26.25	15.39
Bidding Closed	7	2.40	16.58	12.00	4.58
Cancelled	31	11.43	42.72	34.63	8.22
Awarded	32	13.34	36.38	0.00	36.38
Under Construction	30	19.43	57.33	39.45	17.88
Operational	10	0.86	0.50	0.00	0.50
Total	**145**	**52.78**	**197.46**	**114.33**	**83.26**

Source: IESA

Green hydrogen

Hydrogen is classified into different types based on its color, which is often an indication of its production method, purity, or intended use and also use of fuel for production of hydrogen.

Sr. No.	Colour	Fuel	Process	Products
1	Brown/Black	Coal	Steam Reforming/ Gasification	H_2+Co_2 (released)
2	White	N/A	Naturally occurring	H_2
3	Grey	Natural Gas	Steam Reforming	H_2+Co_2 (released)
4	Blue	Natural Gas	Steam Reforming	H_2+Co_2 (% Captured and stored)
5	Turquoise	Natural Gas	Pyrolysis	H_2+C (Solid)
6	Purple/Pink	Nuclear Power	Electrolysis	H_2+Co_2
7	Green	Renewable Energy	Electrolysis	H_2+O_2

Source: Crisil

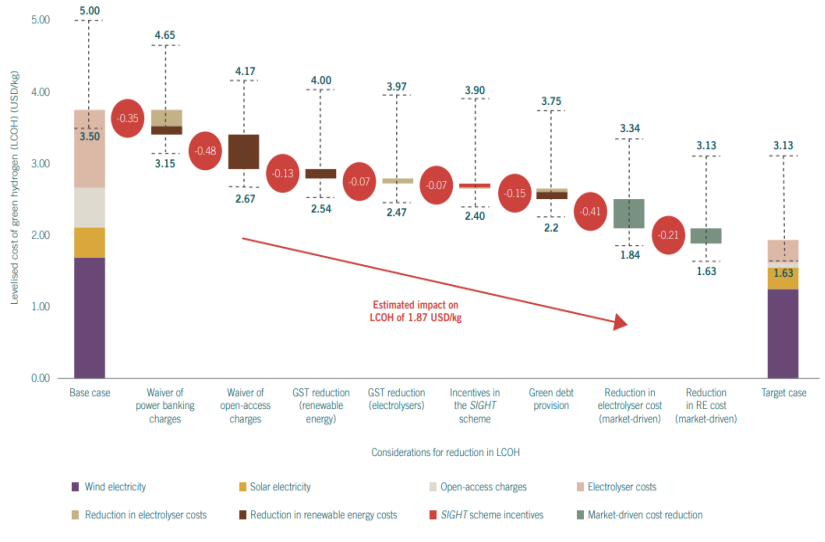
Government support

The National Green Hydrogen Mission approved by the government on 4 January 2022, aims to develop green hydrogen production capacity of ~5 million metric tonne per annum (MMTPA) with an associated renewable energy capacity addition of about 125 GW. This target is likely to bring in over INR. 8trn investments by 2030, as per government estimates.

The initial outlay for the mission is INR.197.44bn, including INR.174.9bn for the Strategic Interventions for Green Hydrogen Transition Program (SIGHT), INR.14.66bn for pilot projects, INR 4bn for R&D, and INR 3.88bn toward other mission components.

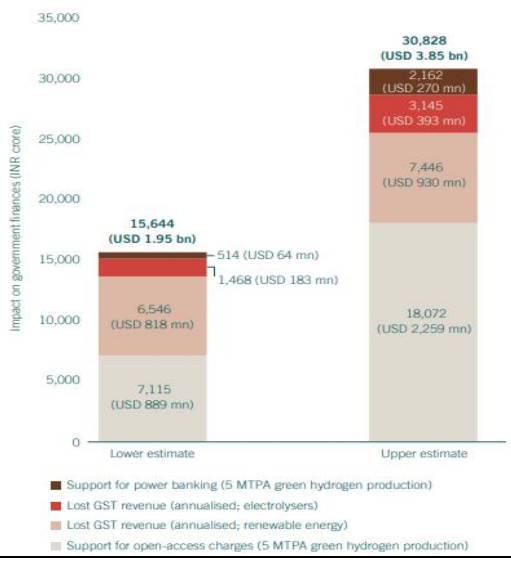
Further, waiver of inter-state transmission charges shall be granted for a period of 25 years for green hydrogen and green ammonia projects commissioned before 31st December 2030.

Exhibit: Estimated impact of the policy considerations on green hydrogen production costs



Source: CEEW

Exhibit: Estimated impact of the considerations on finances of state and central governments (INR crore)



Source: CEEW

Challenges in storage and transportation of hydrogen

Storage and transportation of hydrogen pose significant challenges due to its unique properties. The challenges include low energy density, material compatibility issues, compression and liquefaction energy losses, temperature sensitivity, high storage costs, safety requirements, and purity requirements. To store hydrogen, it must be compressed or liquefied, which requires high-pressure tanks or low-temperature storage.

Electrolysers

Electrolyser technologies vary with respect to cell design, variation within components, and degree of technology maturity. Alkaline and PEM electrolysers are the most advanced technologies with higher adoption rates compared to other technologies. On the other hand, solid oxide and anion exchange membrane (AEM) electrolysers have high potential but are much less mature technologies.

India may witness a 20GW electrolyser demand by 2030. Key industry players are boosting the electrolyser production capacity such as Adani New Industries Ltd (ANIL) setting up a 5GW integrated electrolyser plant and signing the agreement with Cavendish Renewable Technology (CRT) to manufacture electrolysers based on AE, PEM, and SOEC technologies. Ohmium, which has a PEM electrolyser capacity of 500 MW/year set up in Karnataka, plans to increase its capacity to 2 GW in the near future. Greenko and John Cockerill partnered in March 2022 to set up a 2 GW electrolyser manufacturing plant in Andhra Pradesh. H2E Power Systems is constructing a 1GW electrolyser plant in a phased manner while exploring all four electrolyser technologies. Further, Reliance has partnered with Stiesdal and L&T with HydrogenPro to set up AE-based electrolyser plants in Gujarat and Maharashtra, respectively.

Table: Existing major electrolyser manufacturers globally

Manufacturer	Country	Technology	Existing Capacity	Expansion Plans
LONGi	China	Alkaline	1.5 GW	5 GW by 2025
PERIC	China	Alkaline/PEM	1.5 GW	-
Sungrow	China	Alkaline/PEM	1.1 GW	1.1 GW by 2024
John Cockerill	Belgium	Alkaline	1.0 GW	8 GW by 2025
Thyssenkrupp	Germany	Alkaline	1.0 GW	5 GW by 2025
Plug Power	US	PEM	1.0 GW	10-12 GW by 2025
ITM Power	UK	PEM	1.0 GW	5 GW by 2024
Nel	US	Alkaline/PEM	0.5 GW	4 GW by 2025
Bloom Energy	US	SOEC	2.0 GW	-

Source: Company

Incentives for electrolyser manufacturing under the SIGHT program

The MNRE has issued guidelines for the implementation of the SIGHT program in June 2023. This program consists of two components: an incentive scheme for electrolyser manufacturing (component-I) and an incentive scheme for hydrogen production (component-II). The national green hydrogen mission has allocated a total of INR. 174.90bn for the SIGHT program, with INR 44.40bn allocated for electrolyser manufacturing and INR. 130.50bnfor green hydrogen production.

Component-I focuses on the electrolyser scheme with an allocation of INR. 44.40bn, aiming to maximize domestic electrolyser manufacturing capacity. The first phase of the SIGHT program would assist in developing 1,500MW of manufacturing capacity. The incentives for electrolyser manufacturing would be provided based on manufacturing capacity, calculated in rupees per kilowatt, for a period of five years from the start of electrolyser manufacturing.

Subsequently, in August 2024, SECI announced the snapshot of opening of enevlope-2 under SIGHT (Tranche II) for a total capacity of 1.5GW.

Landscape of leading project developers

Key players in the renewable energy sector include NTPC Green Energy (~3.5 GW operational solar and wind), Adani Green Energy (~10.9 GW operational wind, solar and hybrid), Renew Power (~8.3 GW operational wind and solar), ACME Solar (1.32 GW operational solar), TATA Power RE (~4.5 GW operational solar and wind), Greenko (5.4 GW operational wind and solar) and JSW Neo (operational ~0.7 GW Solar and 1.7 GW wind) as of 31 March, 2024. These players also have sizeable quantum of capacity under consideration/development.

Consolidated Financial Statements

Income Statement (INR mn)

Year ending March	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
Net Revenues	**1,697**	**19,626**	**22,096**	**27,951**	**72,347**	**121,241**	**167,125**
Growth (%)	**-**	***1,056.6***	***12.6***	**26.5**	**158.8**	**67.6**	**37.8**
Cost of Operations (Power Charges + O&M)	92	1,250	1,514	2,180	5,788	9,699	13,370
Employee Expenses	28	370	643	702	1,447	2,425	3,342
Other Operating Expenses	63	566	773	559	1,447	2,425	3,342
EBIDTA	**1,514**	**17,440**	**19,167**	**24,511**	**63,666**	**106,692**	**147,070**
EBIDTA/MW	*0.6*	*6.0*	*4.6*	3.4	5.7	7.0	7.4
EBIDTA (%)	*89.2*	*88.9*	*86.7*	87.7	88.0	88.0	88.0
EBIDTA Growth (%)	-	*1,052.0*	*9.9*	27.9	159.7	67.6	37.8
Depreciation	499	6,428	7,583	12,020	19,217	26,986	37,803
EBIT	**1,015**	**11,012**	**11,585**	**12,491**	**44,448**	**79,706**	**109,266**
Other Income (Incl. EO Items)	9	751	2,561	1,817	1,494	2,532	3,084
Interest	499	6,906	7,607	9,746	32,940	50,473	70,335
Share of profits/(loss) of JV/Associates	-	-	(12)	119	1,515	2,792	3,780
PBT	**525**	**4,857**	**6,526**	**4,680**	**14,518**	**34,558**	**45,795**
Tax	(1,187)	1,429	1,785	1,240	2,491	5,930	7,858
APAT	**1,712**	**3,429**	**6,857**	**8,228**	**9,874**	**11,849**	**14,219**
EO items (net of tax)							
RPAT	**1,712**	**3,429**	**6,857**	**8,228**	**9,874**	**11,849**	**14,219**
APAT Growth (%)	**-**	***100.2***	***100.0***	**20.0**	**20.0**	**20.0**	**20.0**
EPS	0.2	0.4	0.8	1.0	1.2	1.4	1.7
EPS Growth (%)	**-**	***100.2***	***100.0***	***20.0***	***20.0***	***20.0***	***20.0***

Source: Company, HSIE Research

Balance Sheet (INR mn)

As at March	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
SOURCES OF FUNDS							
Share Capital	47,196	57,196	84,263	84,263	84,263	84,263	84,263
Reserves	1,678	5,125	100,140	103,580	115,607	144,234	182,171
Total Shareholders' Funds	**48,874**	**62,321**	**184,403**	**187,843**	**199,870**	**228,497**	**266,434**
Minority Interest	1	1	918	918	918	918	918
Long Term Debt	52,435	121,645	173,014	332,460	561,182	786,150	1,054,173
Short Term Debt	1,743	6,322	6,707	28,986	47,072	73,913	78,753
Total Debt	**54,178**	**127,967**	**179,722**	**361,446**	**608,254**	**860,062**	**1,132,926**
Lease Liabilities	7,192	10,592	14,688	16,034	17,508	19,123	20,893
Other Non-Current Liabilities	16,946	19,344	22,839	13,784	19,821	23,252	22,894
Deferred Taxes	10,865	12,300	14,085	15,325	17,816	23,746	31,605
TOTAL SOURCES OF FUNDS	**138,055.8**	**232,524.6**	**416,655.0**	**595,351**	**864,188**	**1,155,600**	**1,475,670**
APPLICATION OF FUNDS							
Net Block	147,581	175,730	218,159	408,296	685,089	954,113	1,266,139
CWIP	17,493	71,381	139,834	146,826	154,167	161,876	169,970
Intangible Assets	-	-	-	-	-	-	-
Investments	-	0	31,994	38,452	49,625	60,798	71,972
Other Non-Current Assets	11,300	12,415	21,180	21,180	21,180	21,180	21,180
Total Non-current Assets	**176,374**	**259,526**	**411,167**	**614,754**	**910,061**	**1,197,966**	**1,529,260**
Inventories	93	245	317	383	991	1,661	2,289
Debtors	3,255	7,048	5,165	3,446	8,920	14,948	20,604
Cash & bank balances	727	1,156	360	476	2,134	4,741	2,970
Bank balances other than cash and cash equivalents	-	3,565	34,814	16,710	5,013	4,011	2,005
Other Financial Assets	3,806	439	1,614	1,614	1,937	2,325	2,790
Other Current Assets	58	84	777	777	777	777	777
Total Current Assets	**7,940**	**12,538**	**43,047**	**23,407**	**19,772**	**28,461**	**31,435**
Creditors	1,023	625	891	935	2,711	5,372	6,439
Other Financial Liabilities	44,489	37,902	35,116	40,431	59,202	59,202	69,966
Other Current Liabilities & Provisions	746	1,013	1,553	1,442	3,732	6,253	8,620
Total Current Liabilities	**46,258**	**39,540**	**37,559**	**42,809**	**65,644**	**70,828**	**85,024**
Net Current Assets	**(38,319)**	**(27,002)**	**5,488**	**(19,402)**	**(45,872)**	**(42,366)**	**(53,589)**
Misc Expenses & Others			(0)	(0)	(0)	(0)	(0)
TOTAL APPLICATION OF FUNDS	**138,056**	**232,525**	**416,655**	**595,351**	**864,188**	**1,155,600**	**1,475,670**

Source: Company, HSIE Research

Cash Flow Statement (INR mn)

Year ending March	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
PBT	***525***	***4,857***	***6,526***	***4,680***	***14,518***	***34,558***	***45,795***
Non-operating & EO items	(53)	(1,141)	(2,971)	(1,817)	(1,494)	(2,532)	(3,084)
Interest expenses	493	6,818	7,607	9,746	32,940	50,473	70,335
Depreciation	499	6,428	7,583	12,020	19,217	26,986	37,803
Working Capital Change	(1,291)	(773)	1,273	6,902	16,431	-1,902	7,446
Tax paid	-	(27)	(28)	-	-	-	-
OPERATING CASH FLOW (a)	**173**	**16,161**	**19,989**	**31,532**	**81,612**	**107,583**	**158,296**
Capex	(7,514)	(95,529)	(119,851)	(209,148)	(303,351)	(303,718)	(357,924)
Free cash flow (FCF)	(7,342)	(79,367)	(99,862)	(177,616)	(221,739)	(196,136)	(199,628)
Investments	(131,050)	(1)	(32,007)	(6,458)	(11,173)	(11,173)	(11,173)
Other financial assets	(778)	(20)	(166)	-	-	-	-
Other Non-Current Assets	(2,716)	-	-	-	-	-	-
Other Financial Liabilities (for capital expenditure/assets acquisition)	35,158	-	-	(9,054)	6,037	3,431	(358)
Non-operating income	3,857	6,925	4,646	1,817	1,494	2,532	3,084
INVESTING CASH FLOW (b)	**(103,043)**	**(88,624)**	**(147,378)**	**(222,843)**	**(306,994)**	**(308,929)**	**(366,371)**
Share capital Issuance	50,830	10,000	118,420	-	-	-	-
Debt Issuance/Repayments	53,778	73,789	51,754	181,725	246,808	251,808	272,864
Dividend Payment	-	-	-	-	-	-	-
Lease Obligations	(575)	(492)	(625)	1,346	1,474	1,615	1,770
Others	-	-	-	-	-	-	-
Interest expenses	(499)	(6,846)	(12,401)	(9,746)	(32,940)	(50,473)	(70,335)
FINANCING CASH FLOW (c)	**103,535**	**76,451**	**157,148**	**173,324**	**215,342**	**202,950**	**204,299**
NET CASH FLOW (a+b+c)	**664**	**3,988**	**29,759**	**(17,987)**	**(10,040)**	**1,604**	**(3,776)**
Opening Cash & Equivalents	63	727	1,156	361	476	2,134	4,741
Adj - EO Items	-	-	-	-	-	-	-
Cash from Acq of Subsidiary	-	-	-	-	-	-	-
Bank balances other than cash and cash equivalents	-	(3,560)	(30,554)	18,103	11,697	1,003	2,005
Closing Cash & Equivalents	**727**	**1,156**	**361**	**476**	**2,134**	**4,741**	**2,970**

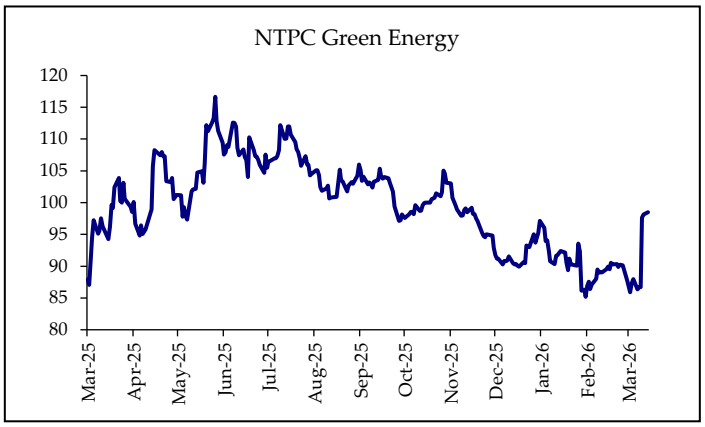
Source: Company, HSIE Research

Key Ratios

Particulars	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E
Average CUF (%)	22.8	23.9	17.8	20.7	25.1	27.1	28.1
Generation (kWh millions)	3,862.8	5,712.5	6,901.0	14,595.1	28,332.3	43,130.2	59,381.5
Average Operational Capacity (MW)	2,611.0	2,925.0	4,419.3	8,030.5	12,902.0	18,152.0	24,152.0
Capacity Addition (MW)	1,166.0	314.0	2,977.0	4,000.0	5,500.0	5,500.0	6,500.0
Year End Capacity (MW)	2,611.0	2,925.0	5,902.0	9,902.0	15,402.0	20,902.0	27,402.0
PROFITABILITY (%)							
EBITDA Margin	89.2	88.9	86.7	87.7	88.0	88.0	88.0
EBIT Margin	59.8	56.1	52.4	44.7	61.4	65.7	65.4
APAT Margin	100.9	17.5	31.0	29.4	13.6	9.8	8.5
RoE	7.0	6.2	5.6	4.4	5.1	5.5	5.7
Core RoCE	5.2	4.5	2.7	1.9	5.2	6.7	7.0
RoCE	6.1	5.3	4.3	3.3	5.3	5.5	5.7
ROIC	3.3	2.3	2.5	1.8	1.5	1.2	1.1
FCFF/Sales	(4.3)	(4.0)	(4.5)	(6.4)	(3.1)	(1.6)	(1.2)
EFFICIENCY							
Cash conversion ratio	0.1	0.9	1.0	1.3	1.3	1.0	1.1
Tax Rate (%)	(225.9)	29.4	27.4	26.5	17.2	17.2	17.2
Asset Turnover (x)	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Inventory (days)	20	5	5	5	5	5	5
Debtors (days)	700	131	85	45	45	45	45
Other Current Assets (days)	831	10	39	31	14	9	8
Payables (days)	220	12	15	12	14	16	14
Other Current Liab (days)	161	19	26	19	19	19	19
Cash Conversion Cycle (Days)	500	124	76	38	36	34	36
Net Working Capital Cycle (Days)	**1,171**	**115**	**90**	**50**	**31**	**24**	**25**
OCF/EBITDA	0.1	0.9	1.0	1.3	1.3	1.0	1.1
Net Debt/EBITDA (x)	35.3	7.3	9.4	14.7	9.5	8.0	7.7
Net D/E	1.1	2.0	1.0	1.9	3.0	3.7	4.2
Interest Coverage	2.0	1.6	1.5	1.3	1.3	1.6	1.6
PER SHARE DATA							
EPS (INR/sh)	0.2	0.4	0.8	1.0	1.2	1.4	1.7
CEPS (INR/sh)	0.3	1.2	1.7	2.4	3.5	4.6	6.2
DPS (INR/sh)	-	-	-	-	-	-	-
BV (INR/sh)	5.8	7.4	21.9	22.3	23.7	27.1	31.6
VALUATION							
P/E	484.7	242.1	121.0	100.9	84.1	70.0	58.4
P/BV	17.0	13.3	4.5	4.4	4.2	3.6	3.1
EV/EBITDA	583.6	54.9	52.7	48.6	22.6	15.8	13.3
OCF/EV (%)	0.0	1.7	2.0	2.6	5.7	6.4	8.1
FCF/EV (%)	(0.8)	(8.3)	(9.9)	(14.9)	(15.4)	(11.6)	(10.2)
FCFE/Market Cap (%)	5.6	(0.7)	(5.8)	0.5	3.0	6.7	8.8
Dividend Yield (%)	-	-	-	-	-	-	-

Source: Company, HSIE Research

Price History



Rating Criteria

BUY:	>+15% return potential
ADD:	+5% to +15% return potential
REDUCE:	-10% to +5% return potential
SELL:	>10% Downside return potential

Disclosure:

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