



NTPC Green Energy Ltd

Industry: Renewable Energy

Date: 18th Nov, 2024

Rating
SUBSCRIBE



NTPC Green Energy Ltd

Issue Highlights

NTPC Green Energy Ltd's IPO is a book built issue of Rs 10,000 Crores. The issue is entirely a fresh issue of 92.59 crore shares.

Objects of the Offer are: The net proceeds of the Fresh Issue are to be utilised in the following manner:

Particulars	Rs. Cr
Investment in the wholly owned Subsidiary, NTPC Renewable Energy Limited (NREL) for repayment/ prepayment, in full or in part of certain outstanding borrowings availed by NREL	7500
General corporate purposes*	[•]
Total	[•]

*The amount utilised for general corporate purposes shall not exceed 25% of the Issue Proceeds.



19th
Nov 2024
ISSUE OPENS

to

22nd
Nov 2024
ISSUE CLOSES

ISSUE DETAILS	
Price Band	₹102 to ₹108 per share
Face Value	₹10 per share
Total Offer Size	925,925,926 shares (aggregating up to ₹10,000 Cr)
Fresh Issue	925,925,926 shares (aggregating up to ₹10,000 Cr)
Issue Type	Book Built Issue IPO
Minimum lot	138 shares
Listing on	NSE, BSE

Outlook

- As of September 30, 2024, NTPC Green’s portfolio comprises 16,896 MW, including 3,320 MW of operational projects and 13,576 MW of contracted and awarded projects.
- The company has an additional 9,175 MW under pipeline through MOUs and term sheets, bringing its total pipeline and portfolio capacity to 26,071 MW.
- NTPC Green plans to scale operational capacity from 3.3 GW (as of September 2024) to:
 - 6.3 GW by FY25 (+3 GW addition).
 - 11.3 GW by FY26 (+5 GW addition).
 - 19 GW by FY27 (+8 GW addition).
 - 26 GW+ by FY30.
- NTPC Group aims to expand its non-fossil-based capacity to 45-50% of the portfolio by 2032, including achieving 60 GW of renewable capacity.
- Valuation Advantage: At a post-issue market cap of ₹91,000 crore, NTPC Green’s valuation stands at ₹3,490 crore per GW of FY30e of expected capacity, offering a 40% discount compared to peers when compared to their expected capacity in FY2030e:
 - Tata Power: ₹5,967 crore per GW of FY2030e estimate (Future Capacity by FY30e: 21.7GW)
 - JSW Energy: ₹6,659 crore per GW of FY2030e estimate (Future Capacity by FY30e: 19.2 GW)
- Despite its aggressive expansion pipeline, NTPC Green’s per-GW valuation significantly trails its peers, offering substantial upside potential for investors.
- We have a ‘SUBSCRIBE’ rating for NTPC Green Energy Ltd’s IPO.

Indicative Timeline

On or before

Finalization of Basis of Allotment	Monday, Nov 25, 2024
Unblocking of Funds	Tuesday, Nov 26, 2024
Credit of shares to Demat Account	Tuesday, Nov 26, 2024
Listing on exchange	Wednesday, Nov 27, 2024

IPO Reservation

QIB Shares	Not less than 75% of the Net Issue
HNI Shares	Not more than 15.00% of the Net Issue
Retail Shares	Not more than 10.00% of Net Issue



Company Overview

NTPC Green Energy Limited (NGEL) is a wholly owned subsidiary of NTPC Limited, a 'Maharatna' central public sector enterprise. As of September 30, 2024, NGEL stands as India's largest renewable energy public sector enterprise (excluding hydro), both in terms of operating capacity and power generation. The company plays a pivotal role in NTPC Limited's strategic commitment to sustainability, leading its energy transition efforts toward a cleaner, renewable-based energy portfolio. With a diverse mix of solar and wind energy projects spread across multiple states in India, NGEL aims to solidify its position as a leading contributor to the country's renewable energy goals.

- **Renewable Energy Capacity:** NGEL has established itself as a leader in India's renewable energy sector. As of September 30, 2024, the company had an operational renewable energy capacity of 3,220 MW in solar and 100 MW in wind projects across six states, accounting for a total of 3,320 MW. Additionally, it has a contracted and awarded portfolio of 13,576 MW, bringing its total portfolio capacity to 16,896 MW. Including projects under development (pipeline capacity of 9,175 MW), the overall capacity extends to 26,071 MW.
- **Strategic Parentage and Vision:** As a subsidiary of NTPC Limited, India's largest power generation company, NGEL benefits from its parent's robust support, expertise, and financial resources. NTPC Group, which contributed ₹7500 Crores to NGEL as equity, is committed to increasing its non-fossil fuel-based capacity to 60 GW by 2032, targeting a portfolio comprising 45–50% renewable energy. NTPC Group also brings a legacy of five decades of operational and project execution excellence and a pan-India presence with a total installed capacity exceeding 76 GW as of September 30, 2024.
- **Revenue Contributions and Off-taker Relationships:** Renewable energy accounted for 96.17% of NGEL's revenue in FY 2024 and 95.43% in the first six months of FY 2025. All nine of NGEL's revenue-generating off-takers during this period were government agencies or public utilities, ensuring stability and reliability through long-term power purchase agreements (PPAs) with an average tenure of 25 years. NGEL has agreements with 17 off-takers across 41 solar and 11 wind projects, reflecting its strong relationships with key stakeholders in the renewable energy ecosystem.
- **Geographical Presence and Diversification:** NGEL's operational portfolio spans resource-rich states such as Rajasthan and Gujarat, known for their favorable conditions for renewable energy development. The projects are distributed across seven additional states, mitigating geographical and location-specific risks while catering to sustained demand from Central and State government agencies.
- **Commitment to Sustainability:** NGEL's operations align with India's international climate commitments, including Article 6.2 of the Paris Agreement. The company integrates sustainability into its growth strategy, ensuring its renewable energy initiatives contribute significantly to the nation's clean energy transition.

- **Technological Innovation and Operational Excellence:** NGEL employs advanced technologies to optimize efficiency and maximize the lifespan of its renewable energy assets. These include:
 - Robotic dry cleaning for photovoltaic arrays.
 - Drone-based thermography for performance monitoring.
 - Mechanized module washing and vegetation removal for improved maintenance.
 - Real-time dashboards for generation performance monitoring.
 - CCTV surveillance and string-level I-V tracing for security and monitoring.
 - NGEL adopts diverse models for project execution, including the turnkey EPC model for wind projects and self-managed procurement strategies for solar projects. For operations and maintenance (O&M), it relies on third-party service providers, complemented by in-house expertise to improve operational efficiency.
- **Focus on Emerging Energy Solutions:** Aligned with global trends in decarbonization, NGEL is venturing into new energy solutions:
 - Green Hydrogen Hub in Pudimadaka, Andhra Pradesh: Spread over 1,200 acres, this hub aims to produce 1,100 TPD of green hydrogen, which will be converted into green ammonia, green methanol, and sustainable aviation fuel. The project also includes facilities for renewable energy component manufacturing and export-oriented infrastructure.
 - Round-the-Clock Renewable Energy Projects: NGEL is developing 2.7 GW of round-the-clock capacity, including one of the world's largest RTC renewable energy projects of 1.3 GW.
 - Battery Energy Storage Systems (BESS): With India's projected demand of 41.7 GW/208 GWh of battery storage by FY 2030, NGEL is proactively investing in grid-scale storage solutions. Pilot projects include battery storage at NTPC thermal plants for grid stabilization.
- **Partnerships and Collaborations:** NGEL is a preferred partner for PSUs and private entities in renewable energy development. Key collaborations include:
 - Joint ventures with Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL) and Mahatma Phule Renewable Energy & Infrastructure Technology Limited (MAHAPRET) for renewable energy parks and green hydrogen projects with capacities up to 10 GW and 25 GW, respectively.
 - Collaboration with private corporates through MOUs for pipeline capacity projects.

Risks & concerns

- **Revenue Concentration Risk:** NTPC Green Energy's revenue is heavily reliant on a concentrated pool of customers. In Fiscal 2024, over 87% of its revenue came from just five offtakers, with the largest single offtaker accounting for nearly 50% of the revenue. This dependency continued in HIFY25, where the top five offtakers contributed 82.96% of the revenue, and the top nine made up 97.96%. Furthermore, all the company's offtakers over the last three years were government-owned entities, with no private sector involvement. This lack of diversification increases the vulnerability of NTPC Green Energy to financial or operational disruptions among its key customers.
- **Supplier Dependency:** The company relies significantly on a limited number of suppliers for solar modules, wind turbines, and other essential components. In HIFY25, the top ten suppliers accounted for 92.65% of procurement, a sharp increase from 77.71% in Fiscal 2024. Alarming, the largest supplier's share grew from 19.59% in Fiscal 2024 to 36% in HIFY25. This high dependency on a few suppliers exposes the company to potential supply chain disruptions and pricing pressures, which could impact project timelines and profitability.
- **Project Execution Challenges:** Timely project execution remains critical to NTPC Green Energy's growth. Delays in projects like GUVNL – I & II and Shajapur, attributed to the COVID-19 pandemic, resulted in completion timelines extending by 4 to 7 months, though without significant cost overruns. However, co-locating hybrid solar and wind projects poses additional challenges due to the need for site-specific conditions such as optimal irradiation and wind speeds. Delays or cost escalations caused by regulatory bottlenecks, local protests, or unforeseen weather conditions could adversely affect the company's operational performance.
- **Geographic Concentration of Operations:** A substantial portion of NTPC Green Energy's capacity is concentrated in Rajasthan, accounting for 61.74% of operational capacity in Fiscal 2024, from 59.59% in Fiscal 2023. This regional dependency makes the company particularly susceptible to localized risks, including political instability, natural disasters, and state-specific regulatory changes. Such events could disrupt operations or impose additional costs.





- **Tariff and Power Purchase Agreement (PPA) Risks:** The company generates most of its revenue from long-term, fixed-tariff PPAs, which contributed 96.17% of revenue in Fiscal 2024 and 96.94% in Fiscal 2023. While these agreements ensure predictable revenue streams, any inefficiency in project execution or delays in PPA finalization could jeopardize financial performance. Moreover, competitive bidding in the renewable energy space has intensified, increasing the risk of losing out on future project awards.
- **High Indebtedness and Exposure to Interest Rate Fluctuations:** NTPC Green Energy had consolidated borrowings of ₹17,057.5 Crores as of September 30, 2024, with its debt-to-equity ratio rising to 2.08x from 1.11x in March 2023. As all borrowings are linked to floating interest rates, the company faces significant exposure to interest rate volatility. Rising inflation and repo rate hikes could further strain debt servicing, impacting profitability and cash flows.
- **Heavy Dependence on Solar Projects:** Solar energy projects contributed 90.78% of the company's revenue in HIFY25 and 93.77% in Fiscal 2024, whereas wind energy projects accounted for only 4.65% and 2.40%, respectively, during these periods. This concentration in the solar segment limits diversification and heightens the company's exposure to risks associated with solar technology, including price volatility in components and sector-specific regulatory changes.
- **Auditor Concerns Regarding Financial Reporting:** The statutory auditors flagged concerns over NTPC Green Energy's financial reporting, particularly the absence of balance confirmations for trade receivables and pending reconciliation of financial adjustments. Additionally, significant expenditures related to the Green Hydrogen Hub in Andhra Pradesh (₹1003.45 Crores) were recorded under "Right of Use" assets, with amortization starting in February 2024. These issues raise questions about the company's financial transparency and governance practices.

FINANCIALS

Income Statement (Rs. Cr)	H1FY25	FY24	FY23
Revenue from Operations	1,082.3	1,962.6	169.7
Other Income	50.4	75.1	0.9
Total Income	1,132.7	2,037.7	170.6
Expenses	149.4	216.1	18.3
EBITDA	932.9	1,746.5	151.4
Depreciation	357.8	642.8	49.9
EBIT	575.1	1,103.7	101.5
Finance Cost	377.8	690.6	49.9
EBT and Exceptional Items	247.7	488.2	52.5
Share of profits of JV accounted for using equity method	(1.4)	(0.0)	-
PBT	246.4	488.2	52.5
Tax	71.1	143.5	(118.7)
PAT	175.3	344.7	171.2
EPS	0.30	0.73	4.66

Key Performance Indicators

Particulars	H1FY25	FY24	FY23
Total Borrowings (Rs. Crores)	17,057.5	12,796.7	5,417.8
Debt to Equity ratio	2.1	2.1	1.1
Debt service coverage ratio	1.4	1.7	0.1

Data Source: Company filings & CSEC Research

Particulars (Rs. Cr)	H1FY25	FY24	FY23
EQUITY AND LIABILITIES			
Share Capital	7,500.0	5,719.6	4,719.6
Other Equity and Reserves	781.0	512.6	167.9
Borrowings	20,698.4	17,646.1	10,585.9
Other Liabilities	3,428.9	3,328.1	2,958.0
TOTAL EQUITY AND LIABILITIES	32,408.3	27,206.4	18,431.4
ASSETS			
Fixed Assets	19,076.1	17,573.0	14,758.1
CWIP	9,030.5	7,138.1	1,749.3
Cash & Cash Equivalents	1,455.4	472.1	72.7
Other Assets	2,846.2	2,023.2	1,851.2
TOTAL ASSETS	32,408.3	27,206.4	18,431.4

Key Performance Indicators

Particulars	Q1FY25	FY24	FY23
Net Debt/ EBITDA ratio	15.9	6.8	4.1
Cash ROE (% of average equity)	7.39%	17.76%	N.A.
Return on Average Equity	2.43% (not annualized)	6.20%	13.35%

Date: 18th Nov, 2024

Operating, Awarded and Contracted Capacity (MW)

Particulars	H1FY25	FY24	FY23	FY22
Megawatts Operating				
Solar (MW)	3,220.0	2,825.0	2,561.0	1,395.0
Wind (MW)	100.0	100.0	50.0	50.0
Total (MW)	3,320.0	2,925.0	2,611.0	1,445.0
Megawatts Contracted and Awarded				
Solar (MW)	10,576.0	9,571.0	5,750.0	4,616.0
Wind (MW)	3,000.0	2,000.0	500.0	150.0
Total (MW)	13,576.0	11,571.0	6,250.0	4,766.0
Megawatts Operated Contracted and Awarded				
Solar (MW)	13,796.0	12,396.0	8,311.0	6,011.0
Wind (MW)	3,100.0	2,100.0	550.0	200.0
Total (MW)	16,896	14,496.0	8,861.0	6,211.0

Operating Data

Particulars	H1FY25	FY24	FY23	FY22
Electricity generation (kWh millions)				
Solar	3,118.0	5,590.7	3,759.5	1,863.9
Wind	124.2	121.8	103.3	103.6
Total	3,242.1	5,712.5	3,862.8	1,967.5
Capacity Utilization Factor (%)				
Solar	24.6%	24.0%	22.7%	19.2%
Wind	28.3%	19.8%	23.6%	23.7%
Total	24.7%	23.9%	22.8%	19.4%

Segment wise revenue bifurcation (Rs. In Crores)

Particulars	HIFY25	%	FY24	%	FY23	%
Renewable Energy Sales						
Solar	982.5	90.8%	1,840.3	93.8%	1,365.2	94.2%
Wind	50.3	4.6%	47.1	2.4%	40.1	2.8%
Consultancy project management and supervision fee	14.0	1.3%	10.0	0.5%	-	0.0%
Other operating revenues recognized form Govt Grants	32.8	3.0%	65.1	3.3%	44.4	3.1%
Interest from Customers	2.6	0.2%	-	0.0%	-	0.0%
Revenue From Operations	1,082.3	100.0%	1,962.5	100.0%	1,449.7	100.0%

Off-taker wise revenue bifurcation (Rs. In Crores)

Period	HIFY25		FY24		FY23		FY22	
	in Rs. Crores	% of revenue from operations	in Rs. Crores	% of revenue from operations	in Rs. Crores	% of revenue from operations	in Rs. Crores	% of revenue from operations
Telangana Discoms	509.46	47.07%	975.53	49.71%	461.31	31.82%	18.47	2.03%
Uttar Pradesh Power Corporation	87.67	8.10%	138.16	7.04%	146.86	10.13%	139.92	15.37%
Off-taker	108.33	10.10%	227.85	11.61%	233.20	16.09%	222.78	24.47%
Off-taker	104.05	9.61%	204.95	10.44%	212.37	14.65%	213.86	23.49%
Off-taker	82.96	7.67%	176.55	9.00%	189.29	13.06%	185.80	20.41%
SECI	88.36	8.16%	88.89	4.53%	87.07	6.00%	11.49	1.26%
Off-taker	26.95	2.49%	10.31	0.53%	-	0.00%	-	0.00%
Off-taker	25.77	2.38%	53.87	2.74%	57.88	3.99%	56.92	6.25%
Gujarat Urja Vikas Nigam Ltd	26.63	2.46%	39.97	2.04%	40.66	2.80%	40.69	4.47%
Total	1060.17	98.04%	1916.08	97.64%	1428.64	98.54%	889.93	97.75%

PEER COMPARISON

Particulars	NTPC Green Energy Ltd	JSW Energy Ltd	Tata Power Ltd
Operational Capacity as on 30 Sept, 2024 (MW):			
Solar	3,220	675	3,529
Wind	100	2,166	835
Hybrid			674
Hydro	-	1,391	880
Thermal	-	3,508	9,303
Total Operational Capacity	3,320	7,740	15,221
Upcoming Capacity (MW):			
Solar	10,576	3,339	1,118
Wind	3,000	2,786	-
Hybrid	-	4,756	4,729
Hydro	-	240	600
Thermal	-	350	-
Total Upcoming Capacity (MW)	13,576	11,471	6,447
Pipeline underway (MW)	9,175	-	-
Total Expected Portfolio till 2030e (MW)	26,071	19,211	21,668
Financial Metrics:			
Market Cap (Rs. Cr)	91,000 (Post Issue)	127,937	129,299
FY24 Revenue	1,963	11,486	61,449
FY24 PAT	345	1,725	4,280
FY24 ROE%	6.20%	8.74%	14.00%

Industry Outlook

India's renewable energy sector is poised at the forefront of a global shift towards sustainable energy solutions, driven by ambitious government initiatives, substantial capacity additions, and robust economic demand. At the COP26 summit in Glasgow, India set ambitious targets to reduce its GDP's emissions intensity by 45% by 2030, achieve 50% of its cumulative installed power capacity from non-fossil fuel sources by the same year, and reach net-zero emissions by 2070. This policy push is accompanied by India's global ranking as the fourth-largest nation in renewable energy installations, including wind and solar, making it the second-largest renewable energy market in the Asia-Pacific region after China (Source: CRISIL Report, November 2024). The installed capacity of renewable energy, including large hydro projects, surged from 63 GW in FY2012 to approximately 201 GW by September 2024, marking a transformative phase in India's energy landscape. Solar power has been a key growth driver, increasing exponentially to 91 GW as of September 2024 from a mere 0.09 GW in March 2012. This growth underscores India's ability to harness its geographical advantage of over 300 days of sunshine annually and its substantial solar potential, estimated at 748 GW (Source: MNRE).

The sector is underpinned by rising power consumption trends and India's evolving socio-economic landscape. Power demand, which has grown at a CAGR of 8.4% between FY2021 and FY2024, is expected to maintain steady growth at 5.5%-6% over the next five years, supported by infrastructure-linked capex, railway electrification, increased EV penetration, and urbanization. Despite this, per capita electricity consumption in India remains at a relatively low 1,331 kWh in FY2023, compared to 2,500 kWh in Brazil and 5,300 kWh in China. This presents a significant growth opportunity, as India's per capita electricity consumption is projected to grow at a 5%-7% CAGR to 1,600-1,650 kWh by FY2029, driven by improved electricity access, quality, and economic expansion (Source: CRISIL Report, November 2024).

Policy measures are a cornerstone of the sector's development. Initiatives such as the "PM Surya Ghar Muft Bijli Yojna" with a budget of ₹75,000 Crores aim to electrify 1 Crore households, while the National Solar Mission and Renewable Energy Implementation Agencies (REIAs) aim to auction 50 GW of renewable energy capacity annually until FY2028. Additionally, the Central Public Sector Undertaking (CPSU) Scheme Phase-II has sanctioned 8.2 GW of solar PV projects with viability gap funding, fostering investments and rapid adoption of solar technologies.

India's growing urbanization and industrialization necessitate an increasingly clean energy mix. Renewable energy now constitutes 45% of the installed generation base, aided by significant advancements in grid infrastructure, battery energy storage systems (BESS), and government incentives. CRISIL projects over 180-190 GW of renewable energy capacity to be added between FY2025 and FY2029, with solar energy accounting for 137-142 GW. The rapid adoption of innovative solutions such as floating solar panels, advancements in PV efficiency, and cost optimization has made solar energy the most attractive renewable source in the country.

Nonetheless, challenges persist. Technical losses in transmission and distribution (T&D) infrastructure, estimated at 20-25 BUs annually, remain a bottleneck, although programs such as the Revamped Distribution Sector Scheme (RDSS) aim to address these inefficiencies. Decentralized renewable solutions like rooftop solar and captive consumption in key industries are also expected to impact grid-based power demand. The top four captive-consuming industries—iron and steel, aluminum, sugar, and cement—are anticipated to add 3-4 GW of capacity, reducing dependence on grid power.

Solar Energy: Driving India's Renewable Revolution

- Solar power has emerged as the cornerstone of India's renewable energy strategy, leveraging the nation's abundant solar irradiance, low land costs, and declining technology prices. As of September 2024, India's installed solar capacity stands at 91 GW, a dramatic increase from just 2.6 GW in FY2014. Solar now accounts for nearly 45% of the total renewable capacity, positioning India as a global leader in solar energy deployment.
- India's solar success has been propelled by policy frameworks like the Jawaharlal Nehru National Solar Mission, which set ambitious targets for scaling solar power, and schemes such as the Kisan Urja Suraksha Evam Utthaan Mahabhiyan (KUSUM), which promotes decentralized solar solutions for agriculture. Solar parks have been a key enabler, with landmark projects such as the Bhadla Solar Park in Rajasthan, the world's largest, boasting an installed capacity of 2,245 MW.
- The steep decline in solar photovoltaic (PV) module prices has made solar power competitive with conventional energy sources. The Levelized Cost of Electricity (LCOE) for utility-scale solar projects in India is now ₹2.20–2.80/kWh, among the lowest globally. Domestic manufacturing initiatives like the PLI Scheme for High-Efficiency Solar PV Modules, with a budget of ₹19,500 crore, are further strengthening the supply chain by incentivizing the production of advanced cell and module technologies such as TOPCon and HJT.
- Floating solar power plants are emerging as a promising frontier, particularly in states with limited land availability. Projects such as the 2 GW floating solar installation in Omkareshwar, Madhya Pradesh, demonstrate the potential of innovative solutions in harnessing solar energy. Similarly, the rooftop solar segment has gained traction, with over 10 GW of cumulative installations, driven by declining costs and favorable net metering policies. By FY2030, rooftop solar is projected to contribute nearly 40 GW to the overall solar capacity.
- The challenge, however, lies in scaling energy storage solutions to mitigate the intermittency of solar power. India's nascent Battery Energy Storage Systems (BESS) market is expected to grow rapidly, supported by pilot projects like the SECI-commissioned 1,000 MWh storage facility. Integration with hybrid models combining solar, wind, and storage is being explored to optimize grid stability and enhance dispatchability.



Wind Energy: Harnessing India's Coastal Potential

- India's wind energy sector, with a cumulative installed capacity of 45 GW as of September 2024, has long been a cornerstone of the country's renewable energy framework. Concentrated primarily in the high-wind-resource states of Tamil Nadu, Gujarat, Karnataka, Maharashtra, and Rajasthan, wind power contributes approximately 22% of India's total renewable capacity. The sector has been supported by a mature ecosystem, comprising indigenous manufacturing capabilities and a favorable policy environment.
- Onshore wind has dominated the landscape, with notable projects like the Muppandal Wind Farm in Tamil Nadu, one of the largest globally, boasting a capacity of 1,500 MW. Recent technological advancements, such as higher-capacity turbines and improved blade designs, have pushed capacity utilization factors (CUFs) to over 35%, enhancing project viability. The repowering policy, which allows older turbines to be replaced with modern, high-capacity units, is expected to unlock an additional 30 GW from existing sites.
- Offshore wind, while still in its infancy, holds immense potential given India's 7,500 km-long coastline. The FOWIND and FOWPI initiatives, supported by the European Union, have laid the groundwork for offshore wind development, with Gujarat and Tamil Nadu identified as key regions. The Gujarat Offshore Wind Project, targeting a capacity of 1 GW, is expected to be India's first large-scale offshore wind farm. Offshore projects, though capital-intensive, offer higher CUFs (50–60%) and scalability, making them a critical focus area for meeting India's renewable energy targets.

Challenges and Opportunities

- Despite its progress, India's wind energy sector faces challenges such as land acquisition bottlenecks, delayed clearances, and insufficient grid infrastructure. The sector has witnessed subdued capacity addition in recent years, with annual installations dropping to 1.7 GW in FY2024 compared to a peak of 5.5 GW in FY2017. To revive growth, the government is emphasizing hybrid projects that combine wind and solar to maximize resource utilization. Hybrid tenders floated by SECI have received enthusiastic responses, with tariffs ranging between ₹2.80–3.00/kWh, showcasing the economic viability of such solutions.
- The integration of wind and solar into the grid remains a critical focus area. Initiatives like the Green Energy Corridor aim to augment transmission infrastructure and enable seamless evacuation of renewable power. Furthermore, India is exploring regional interconnections, such as the One Sun One World One Grid (OSOWOG) initiative, to export surplus renewable energy to neighboring countries and foster global collaboration.

The Path Ahead: Solar and wind energy are expected to account for the lion's share of India's renewable capacity addition, with projections of 140 GW and 40 GW, respectively, by FY2030. The growth trajectory will be supported by an estimated Rs. 16.8 Lakh Crores (\$200 billion) in investments over the next decade, driven by public-private partnerships and foreign direct investments. Innovations in grid-scale storage, policy refinements, and international collaboration will play a pivotal role in achieving India's target of 500 GW of non-fossil fuel capacity by 2030. India's journey in solar and wind energy underscores its commitment to sustainability and energy security, with these sectors positioned to drive economic growth while mitigating climate change impacts. By addressing challenges and leveraging opportunities, India can solidify its position as a global renewable energy powerhouse.

Conclusion: India's renewable energy sector exemplifies the country's strategic response to global climate challenges, aligning environmental objectives with economic growth. The combination of robust policy frameworks, technological innovation, and a favorable investment environment has established India as a leader in renewable energy adoption. Despite existing challenges in infrastructure and energy efficiency, the sector is on a sustainable growth trajectory, propelled by rising demand for clean energy and significant government interventions. As the country accelerates towards its 2030 and 2070 climate goals, renewable energy is poised to be a cornerstone of India's economic transformation, offering immense opportunities for stakeholders while contributing to global sustainability efforts.



Cholamandalam Securities Limited Member: BSE, NSE, MSE, NSDL, CDSL

Regd. Office: Chola Crest, C54 – 55 & Super B-4, Thiru-Vi-Ka Industrial Estate, Guindy, Chennai – 600032.

Website: www.cholasecurities.com | **Email id** – csecsupport@chola.murugappa.com | CIN U65993TN1994PLC028674

Cholamandalam Securities Limited (CSEC) is a SEBI registered stock broker and depository participant. CSEC does not provide investment advisory services.

Investors are advised to consult an independent financial advisor before taking any investment decisions.

RESEARCH			
Dharmesh Kant	Head of Equity Research	+91- 44 - 4004 7360	dharmeshkt@chola.murugappa.com
Balaji H	Compliance Officer	044 - 30007226	balajih@chola.murugappa.com
Prem Kumar R	Customer service	1800 425 4477	premkumarram@chola.murugappa.com

Disclaimer:

This report is for private circulation and for the personal information of the authorized recipient only, and we are not soliciting any action based upon it. This report is not to be construed as an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not provide individually tailor-made investment advice and has been prepared without regard to any specific investment objectives, financial situation, or any particular needs of any of the persons who receive it.

The research analyst(s), Cholamandalam Securities Limited (CSL), AMFI registered mutual fund distributor, who is primarily responsible for this report certifies that: (1) all of the views expressed in this report accurately reflect his or her personal opinions about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this report. This report has been prepared on the basis of information that is already available in publicly accessible media or developed through analysis of Cholamandalam Securities Limited makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete.

The views expressed are those of the analyst and the Company may or may not subscribe to all the views expressed therein Cholamandalam Securities Limited reserves the right to make modifications and alterations to this statement as may be required from time to time without any prior approval. Cholamandalam Securities Limited, its affiliates, directors and employees may from time to time, effect or have effect an own account transaction in or deal as agent in or for the securities mentioned in this report. The recipient should take this into account before interpreting the report.

All investors may not find the securities discussed in this report to be suitable. Cholamandalam Securities Limited recommends that investors independently evaluate particular investments and strategies. Investors should seek the advice of a financial advisor with regard to the appropriateness of investing in any securities / investment strategies recommended in this report. The appropriateness of a particular investment or strategy will depend on an investor's individual preference. Past performance is not necessary a guide to future performance. Estimates of future prospects are based on assumptions that may not be realized. Re-publication or redistribution in any form, in whole or in part, is prohibited. No part of this material may be duplicated in any form and/or redistributed without Cholamandalam Securities Limited prior written consent. The news items appearing in this are collected from various media sources and we make no representations that it is complete or accurate.