

CEEW-CEF Market Handbook Q3 2024-25

6 February 2025



Image: iStock



CEEW-CEF Market Handbook

India is undergoing an energy transition from fossil-based to clean energy. Evidence-based decision-making can accelerate the process.

CEEW Centre For Energy Finance's Market

Handbook aims to help key investors, executives and policymakers with evidence-based decision-making by:

- Identifying and analysing trends critical to India's energy transition
- Presenting data-backed evidence based on the most relevant indicators
- Connecting the dots and presenting a short-term market outlook

The handbook attempts to comment and answer on some critical questions such as:

1. What is India's generation capacity and energy mix?
2. What are the key trends in renewable energy (RE) tariffs?
3. What is the current situation of the discom payment delay situation?
4. How have the power market reforms progressed?
5. What are key trends in the electric vehicles (EV) and energy storage markets?

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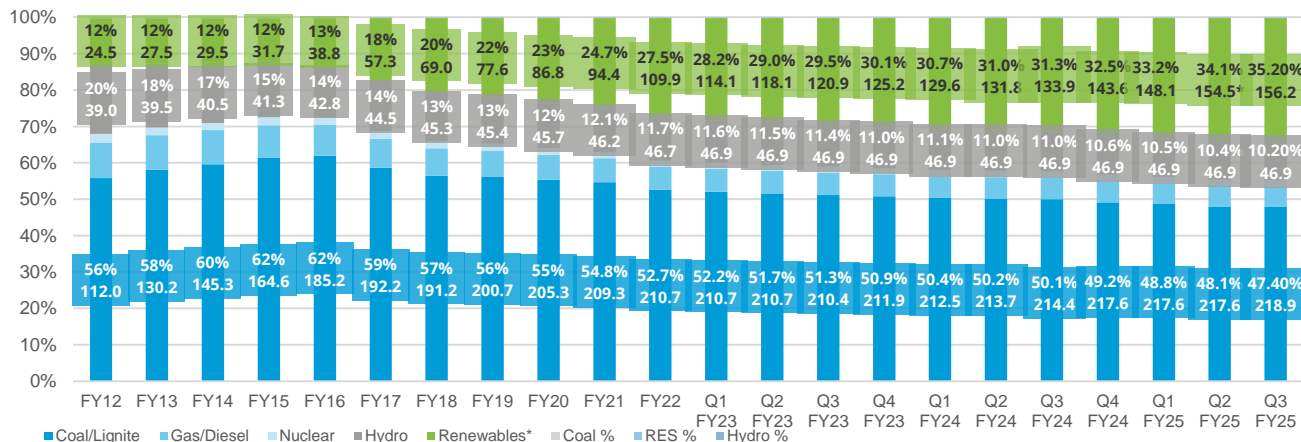
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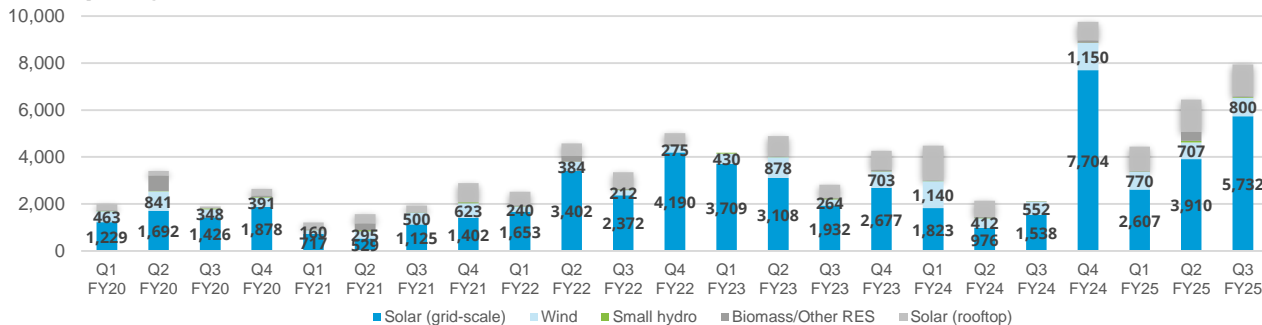
Generation capacity: 9.3 GW generation capacity added in Q3 FY25; total installed RE capacity crosses the 209 GW mark

Installed capacity mix (GW)



Source: Central Electricity Authority (CEA). *Includes solar rooftop capacity (15671.49 MW as of December 2024).

RE capacity addition (MW)



Source: Ministry of New and Renewable Energy (MNRE). #RE includes solar, wind, biomass, small hydro and large hydro capacity.

Takeaways & Outlook

In Q3 FY25, net generation capacity of 9.3 GW was added (vs 2.9 GW in Q3 FY24). The total net capacity added comprised renewable energy (RE) capacity (7.9 GW), including 0.04 GW of small hydro capacity) and coal-based capacity (1.3 GW). No new gas, diesel and nuclear capacity was added in this quarter.

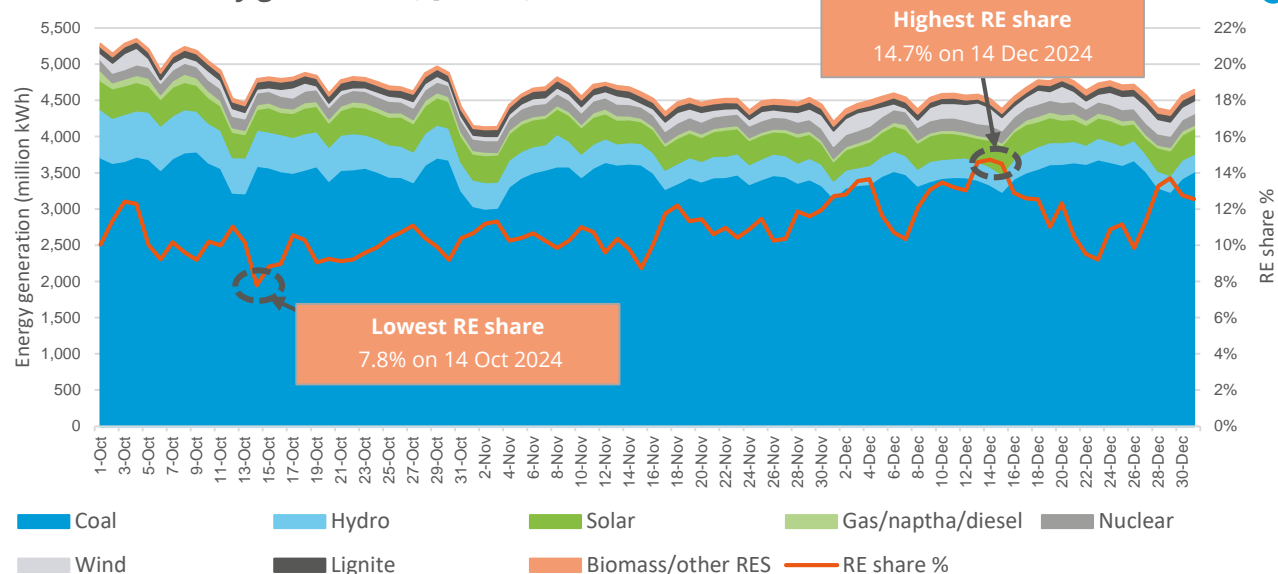
In RE, solar (grid-scale and rooftop) continued to dominate capacity addition, accounting for 7,103 MW (89%) (vs 1,358 MW in Q3 FY24) of total RE addition. Wind capacity addition stood at 800 MW (10%) in Q3 FY25 (vs 552 MW in Q3 FY24). Small hydro and biopower contributed 25 MW (0.3%) and 19 MW (0.2%) respectively.

- Q3 FY25: 7.9 GW
- Q2 FY25: 6.4 GW
- Q1 FY25: 4.4 GW
- Q4 FY24: 9.8 GW

In Q3 FY25, the total installed RE# capacity crossed 209 GW, including 97.9 GW of solar, 48.2 GW of wind, 46.9 GW of large hydro, 11.3 GW of biopower and 5.1 GW of small hydro capacity.

Energy mix: total power generation increased by 3.2% in Q3 FY25 versus Q3 FY24; hydro generation was up by 27.4% versus Q3 FY24

Source-wise daily generation (Q3 FY25)



RE share snapshot

	Q3 FY23		Q3 FY24		Q3 FY25	
	RE share %	Day	RE share %	Day	RE share	Day
Highest	13.8%	2 October 2022	13.3%	18 December 2023	14.7%	14 December 2024
Lowest	8.0%	10 October 2022	7.1%	9 November 2023	7.8%	14 October 2024
Average (Daily)	10.4%	NA	11.6%	NA	11.0%	NA

Takeaways & Outlook

The total power generation increased by 3.2% in Q3 FY25 (429 billion kWh) compared to Q3 FY24 (416 billion kWh) and reduced by 8.5% in comparison to Q2 FY25 (469 billion kWh).

- **October: Up by 0.8%**
- **November: Up by 3.8%**
- **December: Up by 5.3%**
- **Total Q3 FY25: Up by 3.2%**

In Q3 FY25, RE generation decreased by 2.2% compared to the same quarter in the previous fiscal year (Q3 FY24). Coal/lignite-based generation saw a slight increase of 0.04%; while hydro generation increased by 27.4% during the same period.

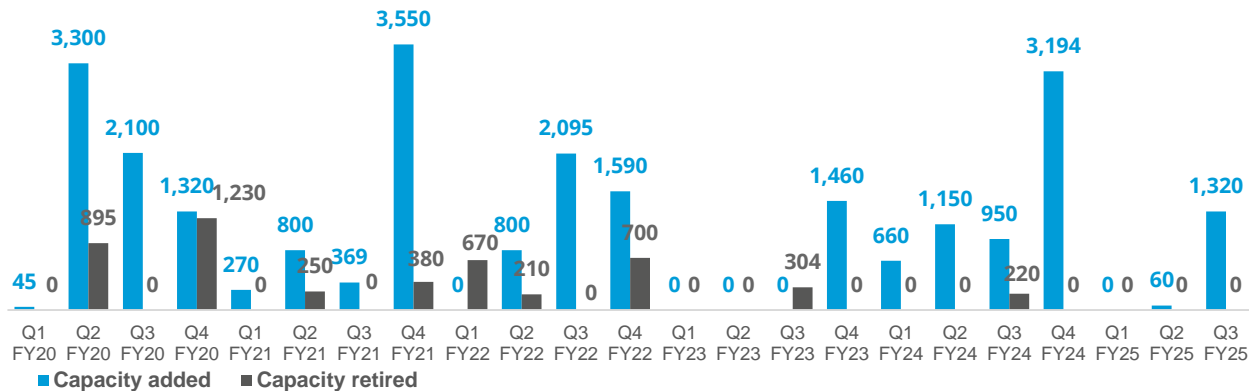
From an average daily generation perspective, the share of hydro increased while the shares of coal/lignite and RE decreased slightly, in Q3 FY25 compared to Q3 FY24.

- **RE:** Share slightly down from 11.6% to 11.0%
- **Hydro:** Share up from 6.4% to 7.9%
- **RE + Hydro:** Share slightly up from 18.0% to 18.9%
- **Coal/lignite:** Share down from 78.9% to 76.5%

Source: POSOCO. Note: RE technologies include solar, wind, biomass, waste-to-energy, and small hydro and do not include rooftop solar and large hydro (>25 MW) generation.

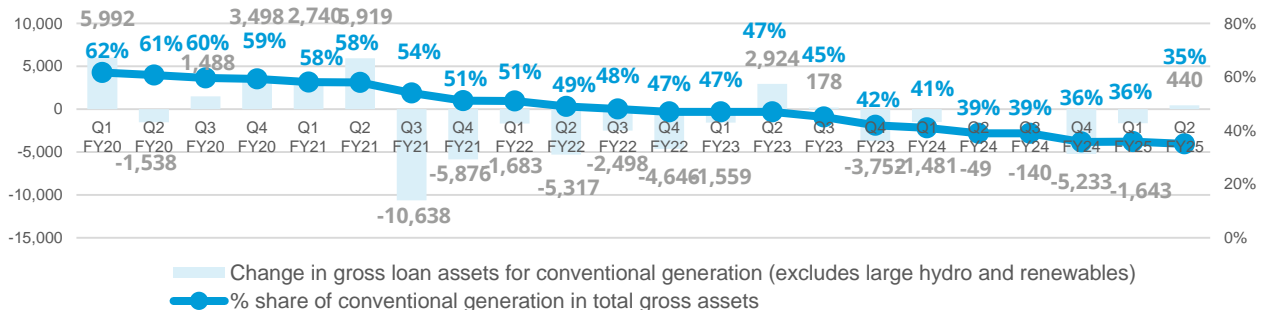
Coal phase-out: 1.3 GW of new coal capacity added in Q3 FY25; share of conventional generation in the PFC/REC loan book reduced to 35%

Coal capacity added versus retired (MW)



Source: CEA.

Coal financing by Power Finance Corporation (PFC)/ Rural Electrification Corporation (REC) (INR crore)



Source: PFC investor presentations; figures are derived from the same. Note: Sector-wise PFC loan asset data break-up is unavailable for Q3 FY25.

Takeaways & Outlook

In Q3 FY25, 1,320 MW of new coal capacity was added, while no capacity was retired. In December 2024, NUPPL's Ghatampur TPP Unit-1 and UPRVUNL's Jawaharpur STPP Unit2 were commissioned, with a capacity of 660 MW each.

PFC/REC, India's largest power financier, continued to show a downward trend in the share of conventional generation, declining to 35% in Q2 FY25 from 39% in Q2 FY24.

PFC/REC continued its diversification trend by financing transmission and distribution (T&D) and RE generation projects (including large hydro). This accounts for around 48% (INR 2,37,227 crore) and 13% (INR 64,277 crore) of its total loan book as of Q2 FY25 vs 47% (INR 2,11,715 crore) and 11.6% (INR 52,126 crore) in Q2 FY24, respectively.

In October 2024, PFC secured the largest-ever foreign currency term loan from an Indian PSU of USD 1.265 billion. The floating rate loan stood at an average rate in 4.21% in October 2024. The loan is denominated in G3 currencies - USD, EUR and JPY, and has a 5-year tenor. It was extended by a syndicate of lenders with operations in GIFT IFSC, with SBI accounting for the largest share in the syndicate.

RE auctions and tenders: innovative procurement format tenders accounted for 74% of auctions completed and 83% of REIA tenders announced

14.8^{GW}

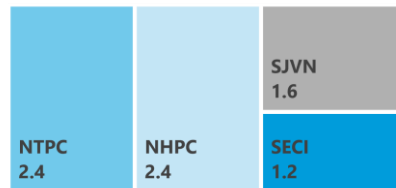
RE auctions concluded in Q3 FY25

Notable auctions	Capacity allotted (MW)	Least tariff discovered (INR/kWh)
SJVN, pan India, FDRE (tranche II), 1200 MW (October 2024)	1,200	4.25
MSEDCL, Maharashtra, wind solar hybrid (phase IV), 1650 MW (October 2024)	1,650	3.6
NTPC, pan India, wind solar hybrid, 01, 1200 MW (October 2024)	1,200	3.28
RUMSL, Madhya Pradesh, solar, 170 MW (December 2024)	170	2.15
SECI, pan India, solar with ESS (tranche XVII), 2,000 MW with 1,000MW/4,000MWh (December 2024)	2,000	3.52
GUVNL, Gujarat, solar (phase XXV), 500 MW with 500 MW greenshoe option (December 2024)	1,000	2.55

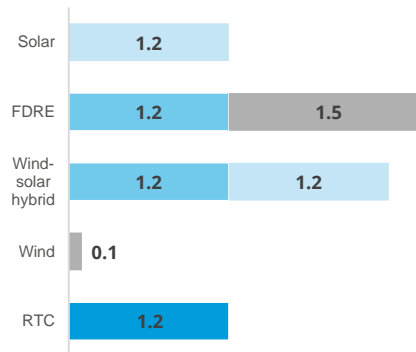
7.6^{GW#}

RE tenders announced in Q3 FY25

Capacity announced by REIAs in GW



Technology-wise REIA tenders announced in GW



Takeaways & Outlook

Auctioned RE capacity stood at 14.8 GW in Q3 FY25, of which innovative procurement formats took the major share standing at 11 GW (74%), while vanilla solar and wind stood at 3.6 GW (24%) and 0.2 GW (2%) respectively. 80% of the auctioned capacity in Q3 FY25 was by central bidding agencies, such as SECI's 2,000 MW solar with 1,000 MW/4,000 MWh storage and SJVN's 1,200 MW FDRE auctions.

The auctioned RE capacity in Q3 FY25 was similar to Q2 FY25, but significantly higher than Q1 FY25.

- Q3 FY25: 14.8 GW
- Q2 FY25: 14.7 GW
- Q1 FY25: 6.2 GW
- Q4 FY24: 18.66 GW

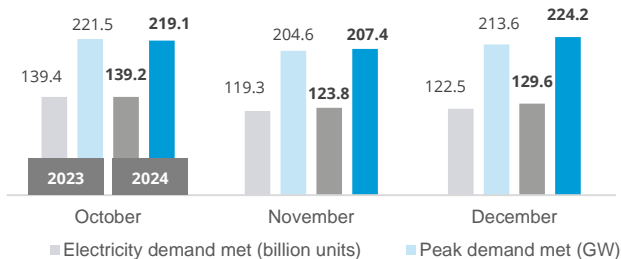
In Q3 FY25, the designated REIAs announced 7.6 GW capacity of RE tenders, of which vanilla procurement formats accounted for 17% of the tenders announced. Innovative procurement formats accounted for 83%. With this, REIAs have met ~60% of the annual bidding trajectory target in the first three quarters of the financial year.

Source: SECI and state renewable agencies.

SECI = Solar Energy Corporation of India; MSEDCL = Maharashtra State Electricity Distribution Company Limited; RUMSL = Rewa Ultra Mega Solar Limited; GUVNL = Gujarat Urja Vikas Nigam Limited; REIA = Renewable Energy Implementing Agencies. #Excluding standalone storage tenders. Note: Bids issued = tenders announced.

Power markets: Q3 FY25 recorded 16% increase in traded volumes on the IEX (vs Q3 FY24), with falling market clearing prices in various segments

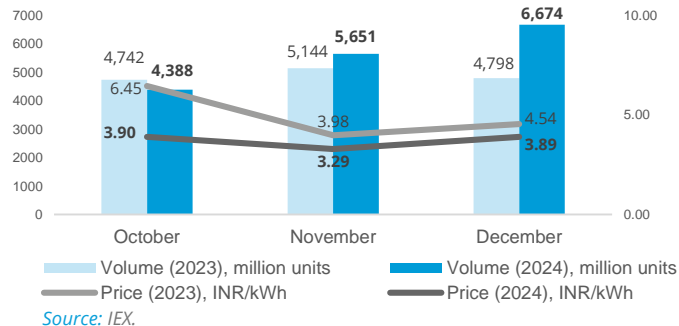
Power supply position (peak and electricity demand)



Source: CEA.

Electricity demand met increased by 3% in Q3 FY25, compared to Q3 FY24. The peak demand met in October was lower while that of November and December were higher in Q3 FY25 (vs respective months of the previous FY).

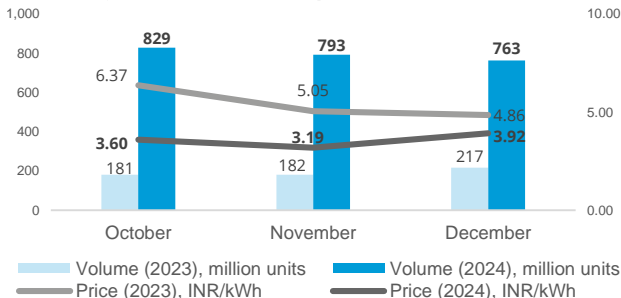
Day-ahead spot market snapshot (IEX)



Source: IEX.

Higher volumes were traded in the day-ahead spot market in Q3 FY25 (vs Q3 FY24), with lower market clearing prices. Lower MCPs offer an opportunity for DISCOMs and open access consumers to optimise their power procurement costs.

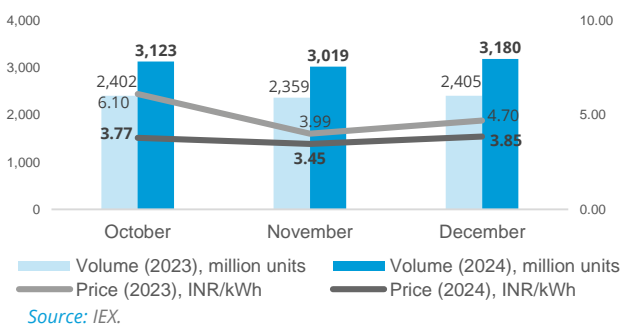
Green day ahead market snapshot (IEX)



Source: Indian Energy Exchange (IEX). *Day-ahead contingency.

Volumes traded in the green day-ahead market (GDAM) were significantly higher in Q3 FY25 (vs Q3 FY24), recording an increase of 311% in Q3 FY25 (vs Q3 FY24). The rise in supply side volumes aided the discovery of moderate prices on the exchanges.

Real-time market snapshot (IEX)



Source: IEX.

In Q3 FY25, the RTM segment registered 9,322 million units of volume traded, registering 30% increase compared to Q3 FY24. Market clearing prices discovered in this quarter were also lower (vs Q3 FY24), due to high supply side liquidity.

Takeaways & Outlook

The average monthly electricity demand (met) in Q3 FY25 slightly increased, compared to Q3 FY24, with an uptick of 3%, standing at 130.9 billion units. India's energy requirements increased slightly in November - December 2024, owing to the below-normal minimum temperatures and cold to severe cold waves recorded during the winter months in various parts of the country.

In Q3 FY25, 2.7 million solar RECs were traded at an average price of INR 0.23/kWh on IEX. In contrast, in Q2 FY24, 1.3 million solar RECs were traded at an average price of INR 0.57/kWh. An increase of 31% was recorded in the REC volumes traded during Q3 FY25 (vs Q3 FY24). There was no trading of non-solar RECs in both quarters.

Following a notification from the Bureau of Energy Efficiency in July 2024, the trading of ESCerts under PAT Cycle III remained paused in Q3 FY25.

Policy and regulatory developments: various operational guidelines for PM Surya-Ghar components published; new GEOA regulations announced

Various operational guidelines for rooftop solar installation under PM Surya Ghar issued by MNRE

- In October 2024, [guidelines](#) for the innovative projects component, with an outlay of INR 500 crores, was announced. This includes identification and funding of innovative solar technologies, application or integration techniques.
- The [guidelines](#) for the service charge component, with an outlay of INR 657 crores, were also issued in October 2024. This component includes coverage of service charges associated with the implementation of various components.
- The [guidelines](#) for Payment Security Mechanism (PSM) and CFA for rooftop solar installations through RESCO and Utility Led Aggregation (ULA) models were also issued. The corpus for RESCO is INR 100 crores.

Andhra Pradesh formulates Integrated Clean Energy Policy, 2024

- In October 2024, the Integrated Clean Energy [Policy](#) was released. It aims to add over 160 GW of RE capacity.
- It also targets an investments worth INR 10,00,000 crores, and generate direct and indirect employment for 7,50,000.

Delhi and Himachal Pradesh announced their green energy open access regulations

- In October 2024, the DERC released green energy open access (GEOA) [regulations](#) for Delhi NCR; In December 2024, the HPERC released GEOA and Banking [Regulations](#) for Himachal Pradesh.
- The eligibility for a GEOA consumer is 100kW or more.
- Banking is allowed on a monthly basis and the charges would be 8% of the energy banked.

MNRE Releases guidelines for green hydrogen Pilot Projects

- In November 2024, MNRE released [guidelines](#) for pilot projects for production and use of green hydrogen, with an outlay of INR 200 crore till FY 25-26.
- It is intended to support innovations including those in floating solar, biomass, and wastewater, based production.
- It aims to decentralize the use of green hydrogen for cooking, heating, off-grid electricity generation, and off-road vehicles.

MNRE updates List I under ALMM and proposes to issue List II for solar PV cells for ALMM implementation

- In December 2024, MNRE released an [updated List I](#) of ALMM for solar PV modules, with mentions about the minimum module efficiency parameters.
- MNRE also proposed to [issue](#) List II under ALMM Order, it specifies models and manufacturers of solar PV cells
- Net-metering, open access RE, and other rules and mandates for solar PV modules for existing and new projects were also [released](#).

Budgetary support scheme for hydro electric projects modified by Ministry of Power

- In December 2024, the MoP modified the [scheme](#) for budgetary support for enabling infrastructure for hydro electric projects to include ropeways, railway sidings, communication infrastructure, and transmission lines, for projects above 25 MW capacity.
- It has an outlay of INR 12,461 crores.

Takeaways & Outlook

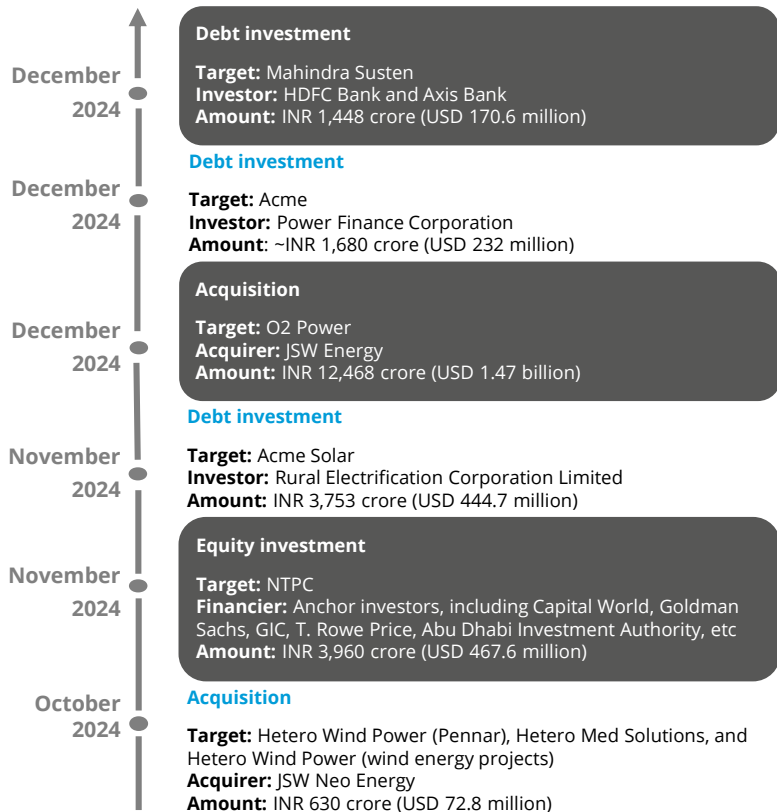
In October 2024 Ministry of Power launched a central financial assistance [scheme](#) for hydro electric projects in the North Eastern Region, with an outlay of INR 4,136 crores.

In October 2024, MNRE [released](#) New Solar Power Scheme under *Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan* (PMJANMAN) and *Pradhan Mantri Janjatiya Unnat Gram Abhiyan* (PM JUGA). It will cover one lakh un-electrified households in tribal and PVTG areas, identified by the Ministry of Tribal Affairs through off-grid solar systems. PMJANMAN has a provision of setting up 1,500 multi-purpose centres, while PM JUGA aims to solarize 2,000 public institutions. The scheme has an outlay of INR 915 crores.

In November 2024, MNRE [invited](#) proposals for Centre of Excellence under Research and Development Scheme of the National Green Hydrogen Mission, with an outlay of INR 400 crores. Further in November 2024, Bihar Electricity Regulatory Commission released its multi-year distribution tariff regulations for FY26 to FY 2027-28. In December 2024, Arunachal Pradesh announced its MYT for FY26 to FY30, while Karnataka amended its MYT 2024 to include tariff based competitive bidding for projects above a certain threshold.

Renewable energy finance: market concentration in RE auctions decreased in Q3 FY25 with participation from 37 RE developers

Notable deals (Q3 FY25)



Source: CEEW-CEF Compilation; NTPC = National Thermal Power Corporation.

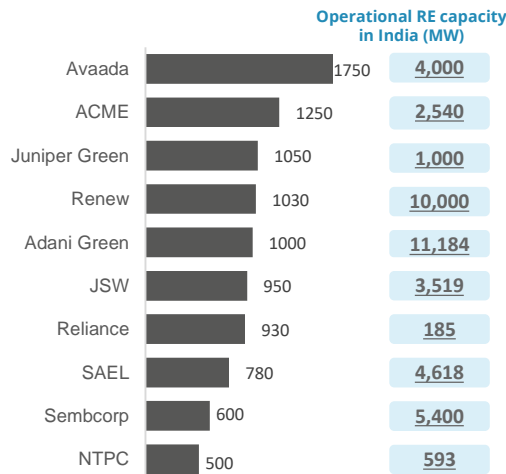
41%

Q3 FY25

Market concentration in auctioned RE capacity

Note: Market concentration is calculated as the ratio of the top five RE capacities awarded to the total RE capacity auctioned

Developer-wise* RE capacity auctioned during Q3 FY25 (14,812 MW)



Source: CEEW-CEF Compilation. *Note: Includes the top ten developers in terms of auctioned capacity.

Takeaways & Outlook

In Q3 FY25, 14.8 GW of RE capacity was auctioned. The private sector players monopolised the winning bids, with NTPC being the only public sector enterprise to win a bid (500 MW capacity in SECI's 2,000 MW solar with 1,000 MW/4,000 MWh storage tender) in this quarter. Gentari Renewables, EG Green and Sunsure Energy were new entrants in the wind solar hybrid segment in this quarter.

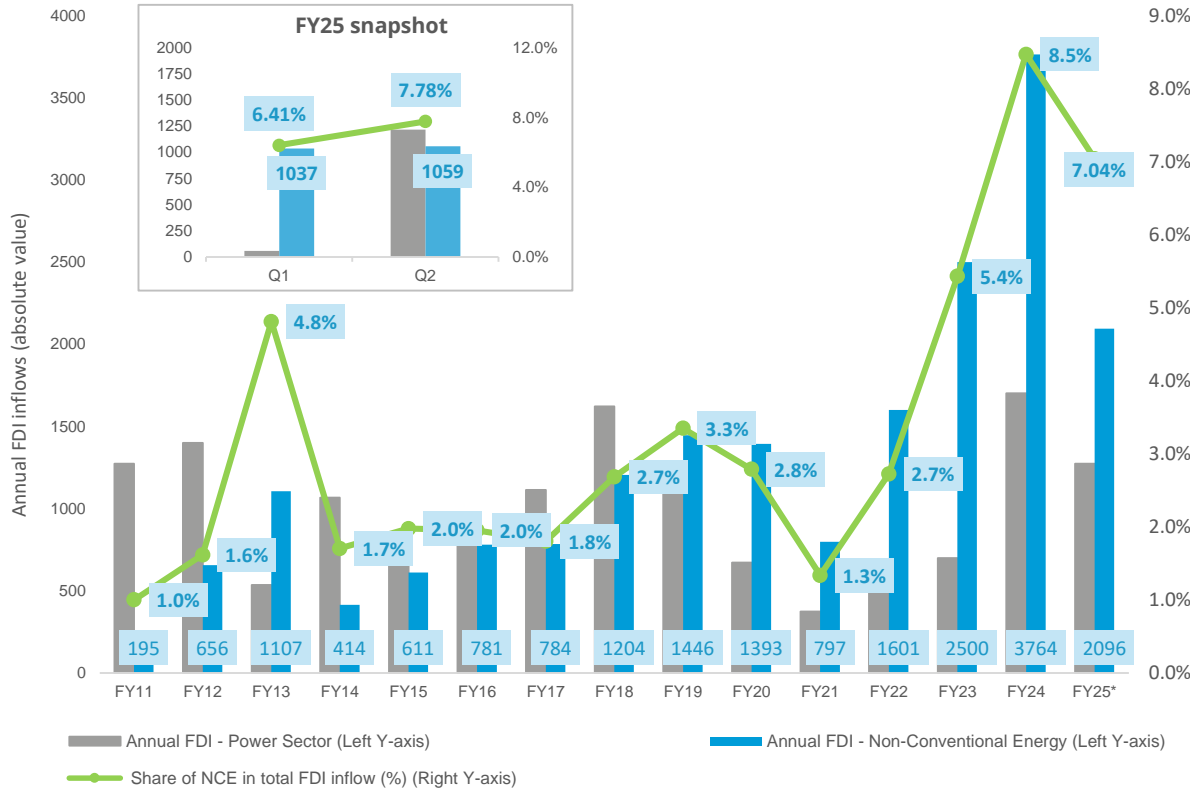
The market concentration witnessed a sharp decline in Q3 FY25 to 41% (vs 76% in Q2 FY25). Avaada Energy, Acme and Juniper Green accounted for ~27% of the RE auctioned capacity (out of a total of 37 bid winners in Q3 FY25).

In Q3 FY25, the deal activity consisted of acquisitions, debt and equity investments from domestic and international sources for RE projects in India.

RE developer Vikram Solar filed its draft red herring prospectus to raise funds through an initial public offering (IPO) of up to INR 1,500 crore in October 2024. Further, NLC India is preparing for an IPO for their joint venture with Rajasthan Rajya Vidyut Utpadan Nigam Limited, NLC India Renewables Limited, by the first quarter of FY26.

Renewable energy finance: FDI continues momentum in FY25, surging to ~USD 2 billion in Q2 FY25, marking the strongest second quarter on record

Foreign direct investment in India (USD million)



Takeaways & outlook

Under the extant foreign direct investment (FDI) policy of the Government of India, FDI in the renewable or non-conventional energy (RE) and power sectors is permitted up to 100% under the automatic route.

Annual FDI addition in RE for FY25, as of Q2 amounted to ~USD 2 billion.

Q2 FY25 saw an increase of ~110% over Q2 FY24 in FDI in the RE sector. The share of this sector in the cumulative FDI flows accounted for 7.7% in Q2 FY25, similar to that in the previous quarters.

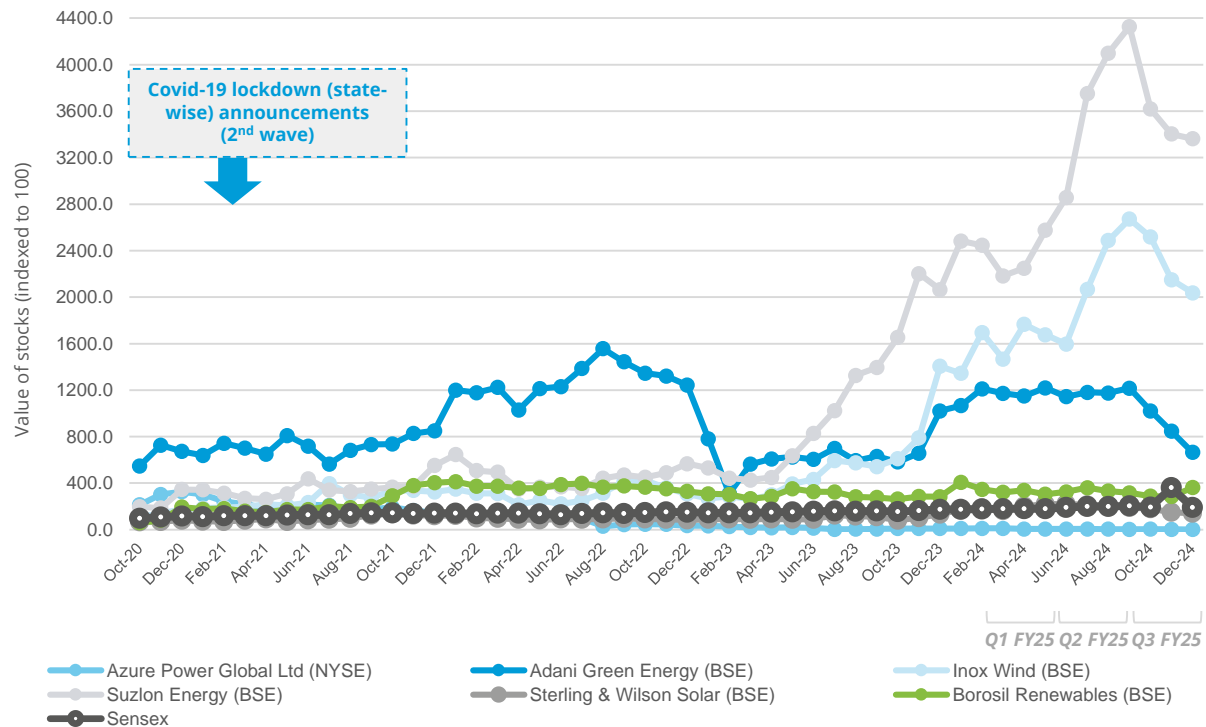
FDI in the **power sector** saw a **significant increase in Q2 FY25**, amounting to **~USD 1.2 billion**, and accounting for **~9% of cumulative FDI addition** for the same quarter.

Post FY21, FDI in the RE sector saw a steep increase, amounting to a cumulative ~USD 8.6 billion until FY24, with RE's share of total FDI over the last four years, growing from a low of 1.3% to 8.5% in FY24.

Source: Department for Promotion of Industry and Internal Trade. (DPIIT)
 Note: Non-conventional energy (NCE) = Renewable energy. *As of September 2024.

Renewable energy finance: most RE stocks recorded a downward trend except for solar glass manufacturing

Change in key renewable energy stock prices (indexed to 100)



Takeaways & Outlook

In Q3 FY25, most listed RE stocks and the Sensex trended downwards.

The share price of RE developer **Adani Green Energy** was down up by 45%; however, that of **Sterling and Wilson** was down by 26% as of December 2024 (vs September 2024).

All the wind developer – manufacturers recorded downward trends throughout Q3 FY25. The share price of wind developer–manufacturers **Inox Wind** was down by 24%, whereas **Suzlon Energy's** share price was down by 22% at the end of December 2024 (vs September 2024).

The share price of **Borosil Renewables**, which holds a near-monopoly position in India's solar panel glass manufacturing, was up by 14% at the end of December 2024 (vs September 2024).

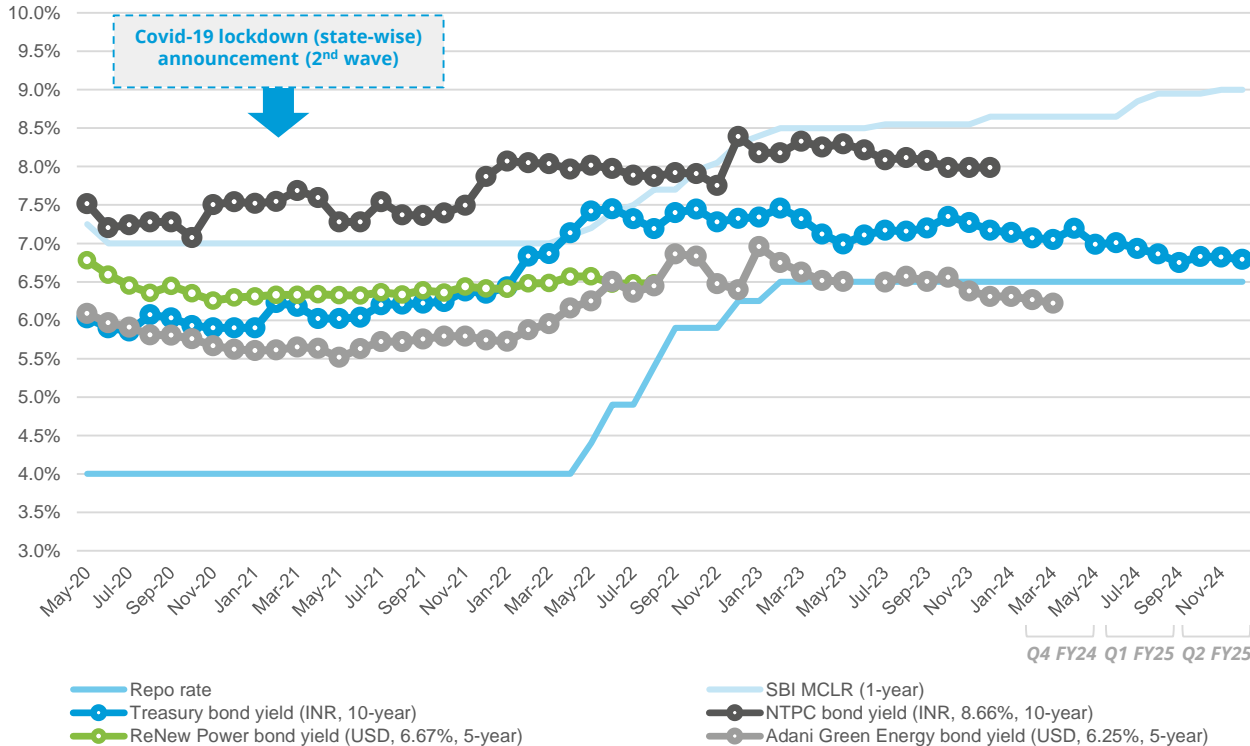
NYSE-listed solar project developer **Azure Power** recorded a downward trend, falling by 47% in December 2024 (vs September 2024).

Source: Money Control.

Note: Share prices are the last traded value in each month.

Renewable energy finance: two sovereign green bonds worth INR 5,000 crore each auctioned in this quarter

Bond yields* and key financial rates



Takeaways & Outlook

In **November 2024**, Reserve Bank of India (RBI) conducted a **sovereign green bond (SGrB) auction worth INR 5,000 crore for a 10-year bond**. Bids amounting to INR 1,500 crore were accepted for this SGrB issuance, whereas the remaining amount was devolved on primary dealers. The offering's coupon rate was yield-based which after auctions came out to be **6.79%**. In **December 2024**, RBI announced a **SGrB auction of INR 5,000 crore for a 30-year bond, with yield-based coupon rate offering of 6.98%**.

In **December 2024**, NHA raised **INR 775 crores from its maiden green bond**, which was also the first of its kind in the roads and highways sector. The bond was issued at a yield of 7.23% per annum, with its end uses earmarked to implement green measures in the Delhi - Mumbai expressway project. It was issued by DMEDL, a wholly owned subsidiary of NHA, and had a base issue size of INR 500 crores, with a green-shoe option to retain oversubscription up to INR 275 crores.

The repo rate and reverse repo rate remained pegged at 6.50% and 3.35% in this quarter. The SBI MCLR (1 year) rate was increased to 9% in November 2024, from its earlier revision to 8.95% in August 2024.

Source: Reserve Bank of India, State Bank of India, Trading Economics, Money Control and BondEvalue.

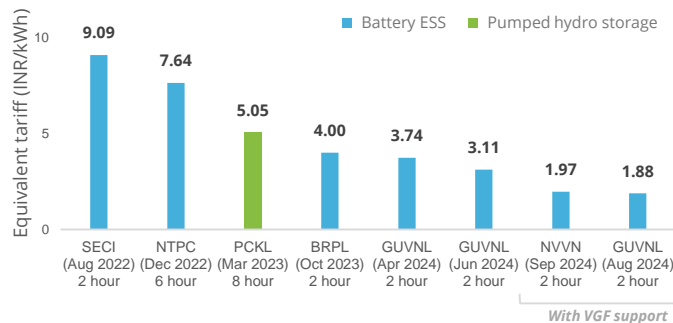
Note: Bond prices are the last traded value in each month; * Current yield.

Latest ESS tenders: announced

Project location & tender issue date	Application & technology	Details
Kerala, SECI, tranche III, December 2024	125 MW/500 MWh, BESS	RfS released in Q3 FY25
Rajasthan (RVUNL), November 2024	500 MW/1000 MWh, BESS	RfS released in Q3 FY25
Pan India, NHPC, September 2024	1,200 MW solar with 600 MW/1,200 MWh ESS	RfS released in Q2 FY25
Maharashtra (MSEDCL), August 2024	300 MW/600 MWh, BESS	RfS released in Q2 FY25
Gujarat (GUVNL), phase IV, August 2024	400 MW/800 MWh, BESS	RfS released in Q2 FY25
Uttar Pradesh (UPPCL), August 2024	300 MW/1200 MWh, BESS	RfS released in Q2 FY25
Pan India, SECI, August 2024	Assured peak power 2000 MW/8000MWh, FDRE	RfS released in Q2 FY25
Pan India, SJVN, July 2024	1,200 MW, FDRE	RfS released in Q2 FY25

Source: SECI and other REIAs, state bidding agencies. RfS = request for selection; ESS = energy storage system.

Standalone ESS tenders: concluded



Source: SECI, NTPC and state bidding agencies.

NVVN's first storage tender concluded

NVVN's 500 MW/1,000 MWh (2 hour) with VGF support tender concluded

- The BESS project capacity is 250 MW/500 MWh and the auction was carried out through e-bidding followed by e-reverse auction process.
- The minimum bid size was 100 MWh (50 MW x 2 hours).
- The project was on a BOO basis.
- Bhadla, Rajasthan and Banaskantha, Gujarat were identified as the two delivery points for the project.
- Three developers emerged as winners for this auction – Indgrid (250 MW/500 MWh), Kintech Synergy (65 MW/130 MWh) and H.G. Infra Engineering (185 MW/ 370 MWh).
- The least equivalent tariff discovered for this auction stood at INR 1.97 per unit.

Source: CEEW-CEF compilation based on NTPC Vidyut Vyapar Nigam Limited (NVN) RfS document.

Takeaways & Outlook

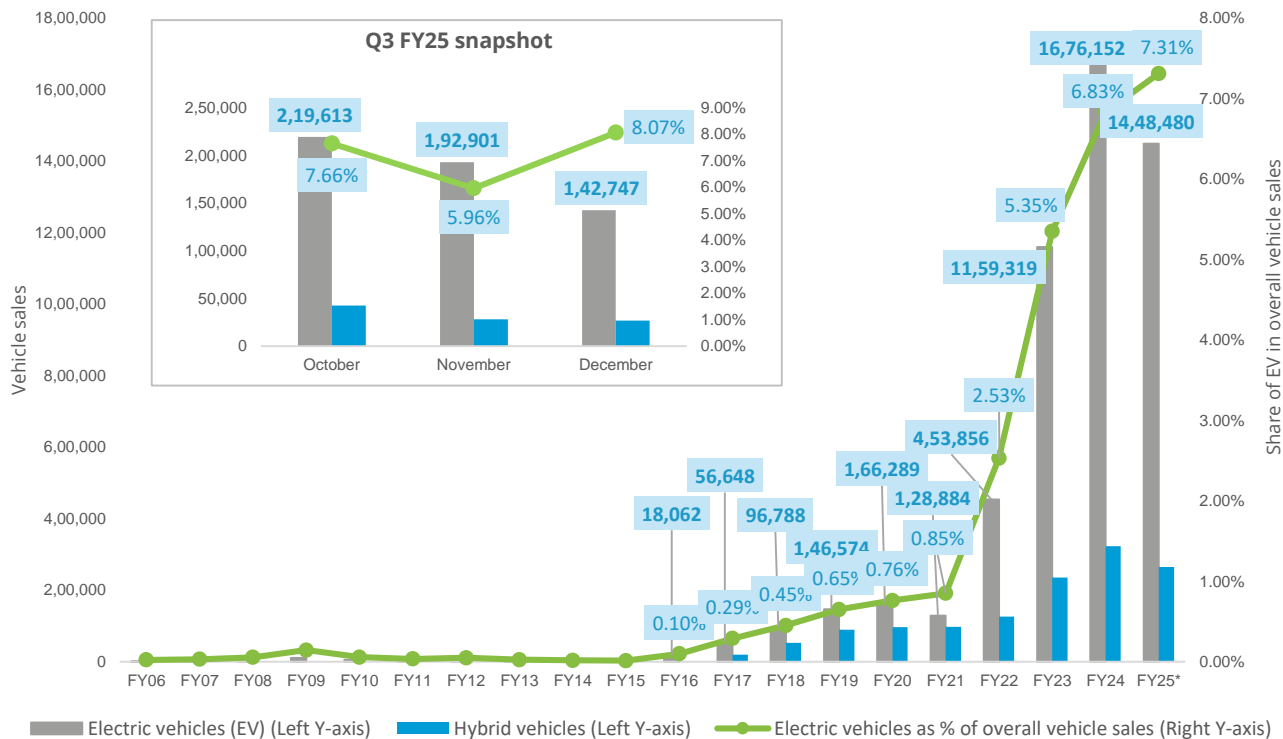
In Q3 FY25, **two new standalone energy storage tenders were announced**. They included SECI's 125 MW/500 MWh (4 hour) storage tender in Kerala, and Rajasthan Raja Vidyut Utpadan Nigam's 500 MW/1,000 MWh (2 hour) storage tender.

Two standalone energy storage tenders were concluded in Q3 FY25. NVVN's 500 MW/1,000 MWh ESS tranche I was awarded to Indgrid, Kintech Synergy and H.G. Infra Engineering, with the lowest discovered tariff standing at **INR 1.97 per unit**. **GUVNL's 500 MW/1,000 MWh BESS (phase IV)** was awarded to H.G. Infra Engineering, Kintech Synergy, Bhilwara Energy and Advait Infratech, with the lowest discovered tariff standing at **INR 1.88 per unit**. Both these tenders would receive viability gap funding support as approved by the Union Cabinet in September 2023 for development of 4,000 MWh of BESS projects by 2030-31.

The renewable energy implementing agencies announced three tenders with storage components in Q3 FY25. These includes two FDRE auctions by NTPC and SJVN, and SECI's 1,200 MW RE RTC tender.

Electric mobility: EV sales increased by 27.7% in Q3 FY25 (vs Q3 FY24); Delhi's government extends EV policy till March 2025

Electric vehicle sales in India



Takeaways & Outlook

In Q3 FY25, the share of EVs in overall vehicles sale stood at 7.05%. EV sales witnessed an increase of 27.7% in Q3 FY25, vs Q3 FY24 and an increase of 11.6% vs Q2 FY25.

In November 2024, Delhi's EV policy, which has earlier expired in December 2023, was extended till March 2025. The subsidies and road tax exemptions pending from January 1, 2024 would be rolled out following the extension of the policy.

OEMs with the highest EV sales* in Q3 FY25 were:

- **2W:** Ola Electric (84,897), TVS Motor (74,791) and Bajaj Auto (73,165)
- **3W:** Mahindra & Mahindra (20,051), Bajaj Auto (16,682), YC Electric (12,380)
- **4W:**** Tata Motors (15,071), MG Motors (9,828) and Mahindra & Mahindra (1,918)

Source: Vahan Sewa dashboard (includes only registered vehicles, unregistered vehicles include low-speed vehicles (< 25 km/hr), e-rickshaws (three-wheelers) and electric two-wheelers, Electric Mobility Dashboard (2024), CEEW Centre for Energy Finance. * Based on sales data up to Q3 FY25; **4W represents light motor vehicles and light passenger vehicles.

Thank you

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Date	Company	Size (USD million)	Sector	Coupon rate (%)	Rating	Tenor (Years)	Purpose
July 2024	SAEL	305	Solar and waste-to-energy	7.8%	BB+ (Fitch) (expected)	7	Refinancing of existing debt and finance growth initiatives
March 2024	Adani Green Energy	409	Solar and wind	6.7%	BBB- (Fitch) (expected)	18	Refinancing of existing debt and finance green growth initiatives
April 2023	ReNew Power	400	Solar and wind	7.95%	BB- (Fitch) Ba3 (Moody's)	Not available	Refinancing of existing debt and finance growth initiatives
March 2022	Avaada Energy	192	Solar	6.75	AAA (CRISIL, India Ratings)	3	Refinancing of existing debt
March 2022	Greenko	750	Energy storage	5.50%	Ba1 (Moody's)	3	Refinance existing debt and fund the capital expenditures at asset level
January 2022	ReNew Power	400	Solar and wind	4.50%	BB- (Fitch)	5.25	Refinance existing debt and fund capital expenditure
September 2021	Adani Green Energy	750	Solar and wind	4.375%	Ba3 (Moody's)	3	Fund equity portion of capital expenditure for under-construction projects
August 2021	Azure Power	414	Solar	3.575%	Not available	5	Refinance existing higher cost green bond debt
July 2021	Acme Solar	334	Solar	4.70%	Not available	5	Refinancing of existing debt
July 2021	Vector Green Energy	165	Solar	6.49%	AAA (CRISIL, India Ratings)	3	Refinance existing high-cost debt of solar projects
May 2021	JSW Hydro	707	Hydro	4.50%	BB+ (EXP) (Fitch)	10	Repayment of existing green project-related rupee-denominated debt

Source: Climate Bonds Initiative and company press releases.

Date	Company	Size (USD million)	Sector	Coupon rate (%)	Rating	Tenor (Years)	Purpose
April 2021	ReNew Power	585	Solar and wind	4.50%	BB- (Fitch)	7.25	Refinancing of existing debt
March 2021	Greenko	940	Solar and wind	3.85%	BB (Fitch)	5	Redemption of previous fund raise
March 2021	Hero Future Energies	363	Solar and wind	4.25%	BB- (Fitch)	6	Refinancing of existing debt
February 2021	ReNew Power	460	Solar and wind	4.00%	BB- (Fitch)	6	Refinancing of existing debt
February 2021	Continuum Green Energy	561	Solar and wind	4.50%	BB+ (Fitch)	6	Refinancing of existing debt
October 2020	CLP Wind Farms	40	Wind	Not available	AA (India Ratings)	2 to 3	Refinancing of existing debt
October 2020	ReNew Power	325	Solar and wind	5.375%	BB- (Fitch)	3.5	Refinancing high-cost local debt
January 2020	ReNew Power	450	Solar and wind	5.875%	BB-/Stable (Fitch)	5	Refinancing of maturing debt
October 2019	Adani Green Energy	362.5	Solar and wind	4.625%	BBB- (Fitch)	20	Repaying foreign currency loans and rupee borrowings
September 2019	ReNew Power	90	Solar and wind	6.67%	BB (Fitch)	4.5	Refinancing of existing debt
September 2019	Greenko	85	Solar and wind	5.95%	BB- (Fitch)	6.75	Refinancing of existing debt
September 2019	Azure power	350	Solar	5.65%	BB (Fitch)	5	Refinancing of existing debt

32%

PM E-DRIVE target met

As of 24 January 2025

Note: Target of selling 27,95,108 EVs (2W, 3W, rickshaws and carts) under PM -EDRIVE scheme by FY26.

723

Number of EV OEMs in India

As of 24 January 2025

234

Total FAME II approved models

As of Q2 FY25

Recent electric vehicle launches



RUV 350i EX

Price: INR 1,09,999 onwards

Range: 105 km

Battery capacity: 2.3 kWh Lithium-ion



Okaya Ferrato Disruptor

Price: INR 1,60,000 onwards

Range: 129 km

Battery capacity: 3.97 kWh Lithium-ion



Euler Motors HiLoad

Price: INR 1,21,000 onwards

Range: 170 km

Battery capacity: 13 kWh



Hyundai

Price: INR 7,98,000 onwards

Range: 230 km

Battery capacity: 17.3 kWh Lithium-ion

EV penetration

In Q3 FY25

5.65%

2W sold were EV

58.46%

3W sold were EV

5,55,261

EVs sold

in Q3 FY25

25

States notified EV policies

As of Q3 FY25

For more updates visit [CEEW-CEF Electric Mobility Dashboard](https://ceew.ceew.in)

About us: Impacting sustainable development at scale with data, integrated analysis, and strategic outreach

TRANSFORMATIONS

Low-carbon Economy

Energy Transitions

Power Markets

Industrial Sustainability

Sustainable Livelihoods

QUALITY OF LIFE

Clean Air

Sustainable Water

Sustainable Food Systems

Sustainable Cooling

Sustainable Mobility

ENABLERS

Sustainable Finance

Technology Futures

Circular Economy

Climate Resilience

International Cooperation

300+

Multidisciplinary team

380+

Peer-reviewed publications

190+

Instances of increased data transparency

540+

Roundtables & conferences

20+

Indian states engaged

130+

Bilateral & multilateral initiatives promoted

SPECIAL INITIATIVES

CEEW Centre for Energy Finance

Powering Livelihoods

Emerging Economies

UP State Office

Build evidence

Consistent, reliable, and up to date monitoring & analysis of clean energy markets – investment, payment schedules, market trends, etc.

Create coherence

Periodic convening of multi-stakeholder groups to deliberate on market activities in clean energy

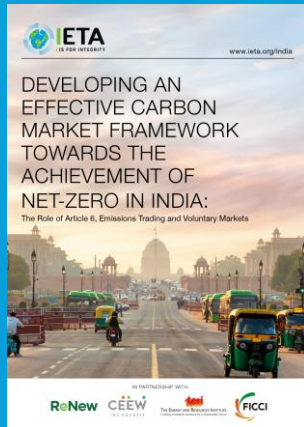
Design solutions

Design and feasibility pilots of fit-for-purpose business models & financial solutions for clean energy solutions

Our recent publications, dashboards and tools



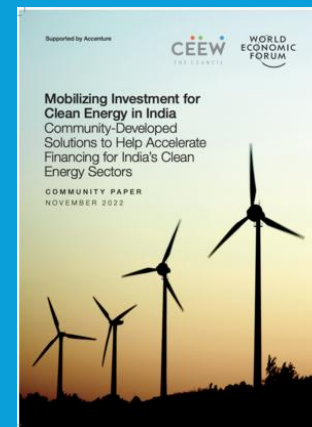
Climate Finance: A Developing Country Perspective



Developing An Effective Carbon Market Framework Towards The Achievement Of Net-Zero In India



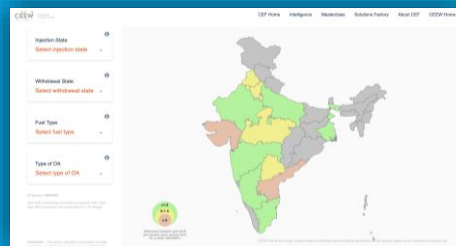
Greening India's Automotive Sector



Mobilizing Investment For Clean Energy In India



India Renewables Dashboard



Open Access Tool



Electric Mobility Dashboard