

# CEEW-CEF Market Handbook Q3 2023–24

8 February 2024



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:

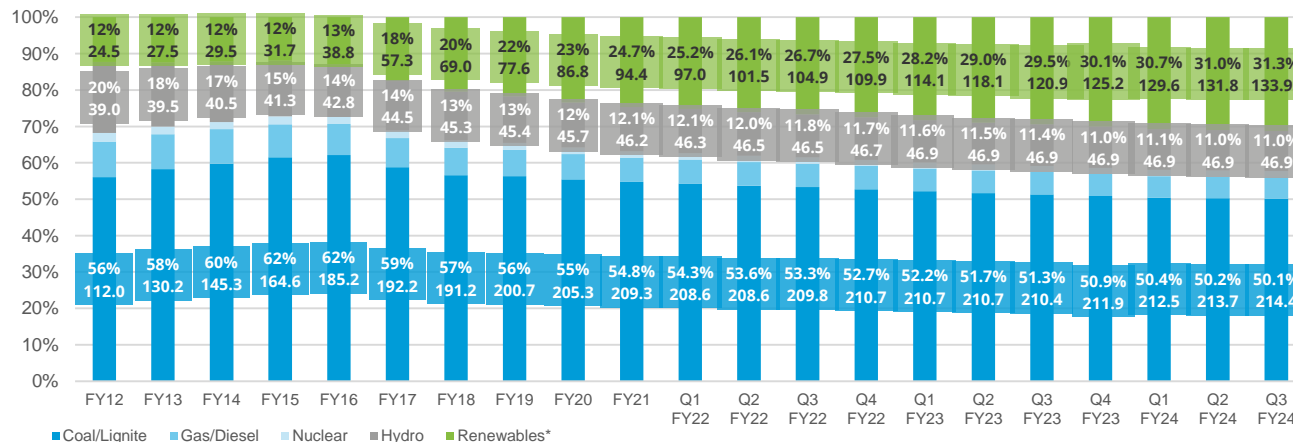
1. What is India's generation capacity and energy mix?
2. What are the key trends in renewable energy (RE) tariffs?
3. What is the current situation of the discom payment delay situation?
4. How have the power market reforms progressed?
5. What are key trends in the electric vehicles (EV) and energy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

# Contents

	Generation Capacity and Energy Mix	4
	Coal Phase-Out	6
	RE Auctions	7
	Discom Payables	8
	Power Markets	9
	Policy and Regulatory Developments	10
	Renewable Energy Finance	11
	Energy Storage	15
	Electric Mobility	16
	Annexures	17
	About Us	21

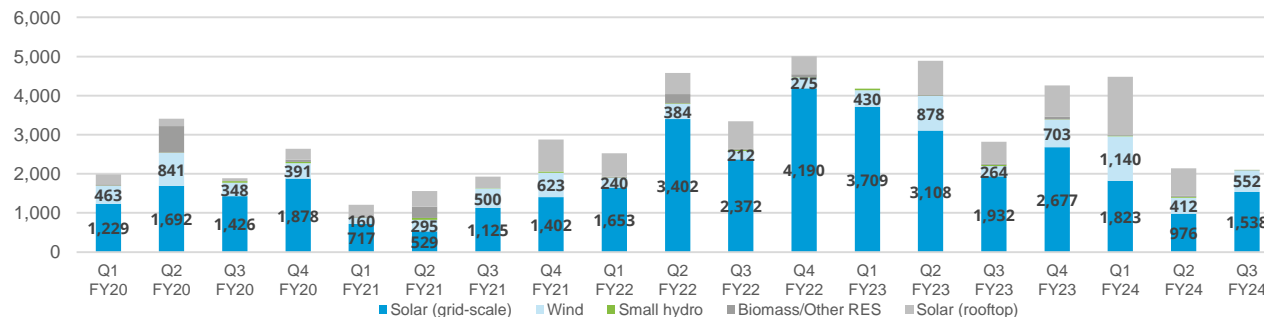


## Installed capacity mix (GW)



Source: Central Electricity Authority (CEA). \* Includes solar rooftop capacity (11078.95 MW as of December 2023).

## RE capacity addition (MW)



Source: Ministry of New and Renewable Energy (MNRE).

## Takeaways & Outlook

**In Q3 FY24, a net generation capacity of 2.9 GW was added (vs 2.5 GW in Q3 FY23).** The total net capacity addition comprised renewable energy (RE) (2.1 GW), coal-based (730 MW) and large hydro-based (60 MW) capacity. No new gas, diesel or nuclear capacity was added in this quarter.

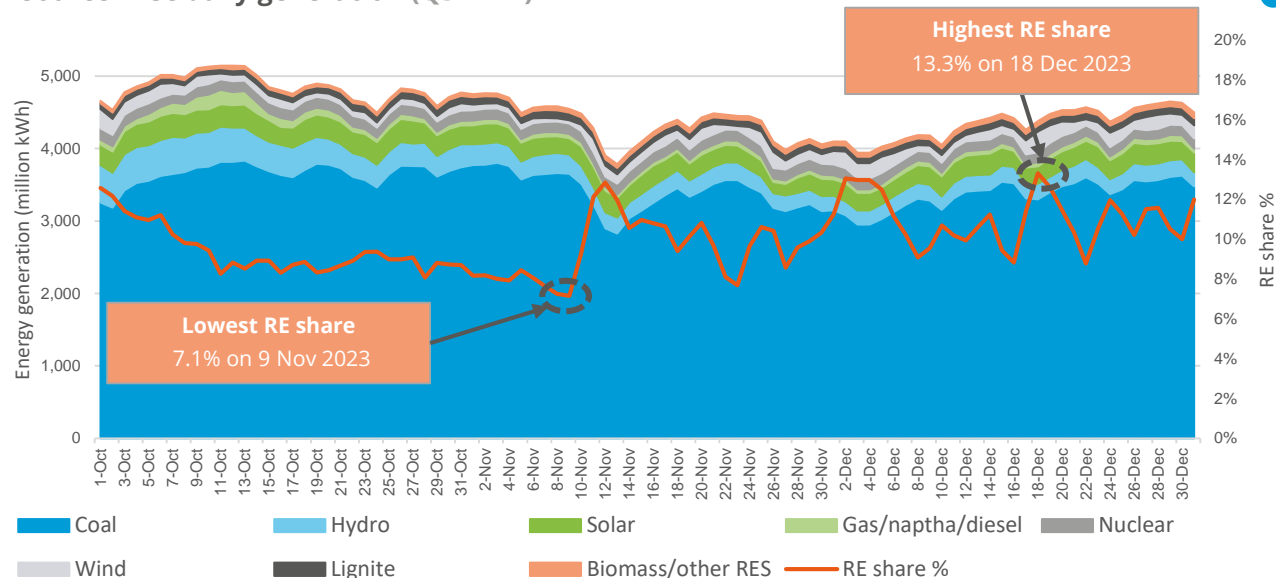
**In RE, solar (grid-scale and rooftop) continued to dominate capacity addition, accounting for 1,538 MW (73.1%) in Q3 FY24** (vs 2,489 MW in Q3 FY23). Wind capacity addition stood at 552 MW (26.2%) in Q3 FY24 (vs 264 MW in Q3 FY23). Small hydro (4 MW) and biopower (9 MW) contributed 0.2% and 0.4%, respectively.

- **Q3 FY24:** 2.1 GW
- **Q2 FY24:** 2.2 GW
- **Q1 FY24:** 5.8 GW
- **Q4 FY23:** 4.3 GW

**In Q3 FY24, the total installed RE capacity reached 133.9 GW, with 73.3 GW of solar, 44.7 GW of wind, 10.8 GW of biopower, and 4.9 GW of small hydro capacity.**

As of October 2023, 78.9 GW of RE capacity was under-construction, which comprised 50.1 GW solar, 16.2 GW wind, 12.3 GW hybrid, and 85 MW small hydro projects.

## Source-wise daily generation (Q3 FY24)



## RE share snapshot

Q3 FY22			Q3 FY23			Q3 FY24	
	RE share %	Day		RE share %	Day		RE share %
Highest	12.6%	18 October 2021		13.8%	2 October 2022		13.3%
Lowest	7.0%	23 December 2021		8.0%	10 October 2022		7.1%
Average (Daily)	9.1%	NA		10.4%	NA		11.6%

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.

## Takeaways & Outlook

The total power generation increased significantly by 13.5% in Q3 FY24 (416 billion kWh) compared to Q3 FY23 (366 billion kWh) and decreased by 10.5% in comparison to Q2 FY24 (464 billion kWh), owing to lower-than-expected rainfall in October 2023, and above normal temperatures in November 2023, resulting in hot weather conditions vs the same period in the previous fiscal year.

- October: Up by 24.6%
- November: Up by 10.5%
- September: Up by 5.8%
- Total Q3 FY24: Up by 13.5%

In Q3 FY24, RE generation increased significantly by 26.6% vs the same quarter in the previous fiscal year (Q3 FY23). Coal/lignite-based generation was up by 19.6%; however, hydro decreased by 29.7% for the same period.

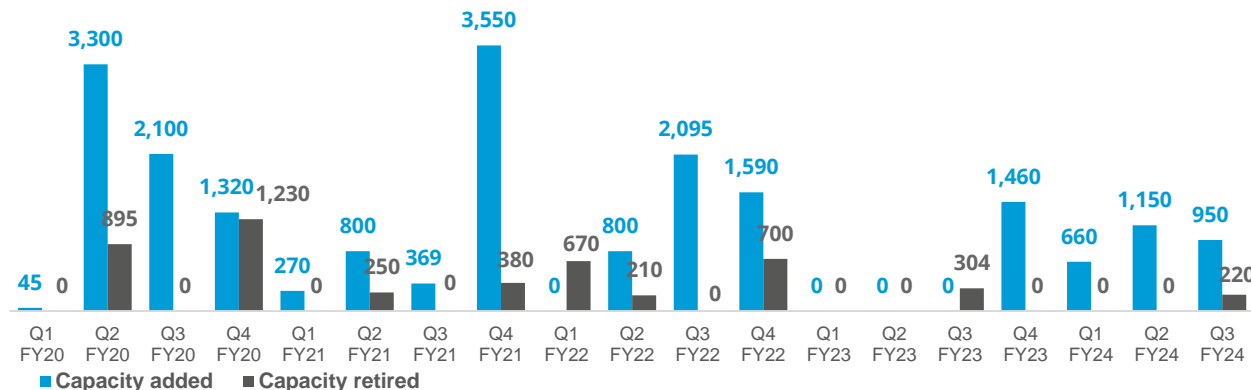
From an average daily generation perspective, the RE and coal/lignite share increased in Q3 FY24 compared to Q3 FY23, whereas the hydro share significantly decreased.

- RE: Share up from 10.4% to 11.6%
- Hydro: Share down from 10.3% to 6.4%
- RE + Hydro: down from 20.6% to 18.0%
- Coal/lignite: Share up from 74.9% to 76.9%

# Coal phase-out: 950 MW of new coal capacity added, PFC/REC's exposure to conventional generation falls below 40%

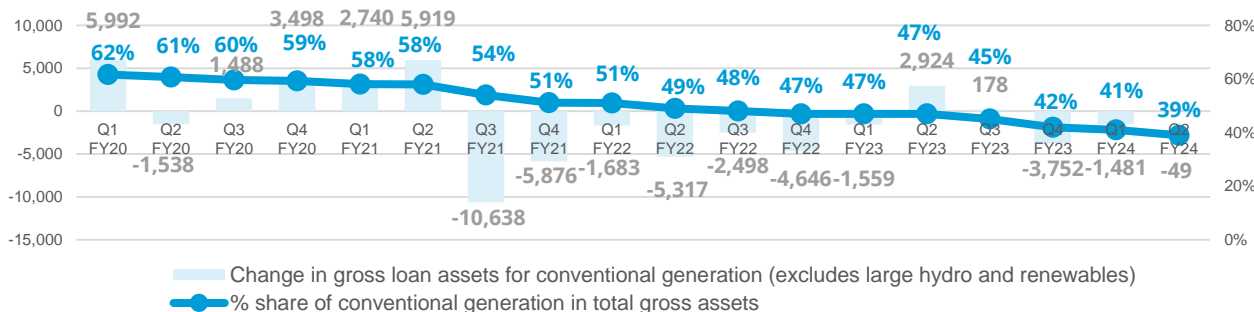
6

## 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 FY24.

## Takeaways & Outlook

In Q3 FY24, 950 MW of new coal capacity was added, while 220 MW of coal capacity was retired. New coal capacity includes 800 MW TPS in Vijayawada, Andhra Pradesh, and 150 MW in Shirpur, Maharashtra. 220 MW of UPRVUNL's Parichha TPS was retired in October 2023.

The share of **conventional generation** in the PFC/REC loan book **further declined to 39% in Q2 FY24 from 47% in Q2 FY23**. In Q2 FY24, **transmission and distribution projects** accounted for **~47%** (INR 2,11,715 crore) and **RE projects (including large hydro)** accounted for **11.6%** (INR 52,126 crore), vs 42% and 10.1% in Q2 FY23, respectively.

In October 2023, **REC committed INR ~40,000 crore** to financing two green hydrogen initiatives (with Acme and Avaada to set up green hydrogen and ammonia facilities) and a conventional power project (660 MW x 2 with OPGC) in Odisha.

In December 2023, REC, the nodal agency to implement the *Revamped Distribution Sector* (RDSS) programme signed a **loan agreement of USD ~215 million** with KfW development bank to propel reforms in India's distribution sector.



## Notable auctions

Capacity  
awarded (MW)

Least tariff discovered (INR/kWh)

RRVUNL, Rajasthan, solar,  
810 MW (October 2023)

810

2.64

NHPC, pan India, solar, 3000  
MW (November 2023)

3,000

2.52

SJVN, pan India, FDRE, 1500  
MW (November 2023)

1,184

4.38

RECPDCL, pan India, wind, 100  
MW (November 2023)

100

3.58

SECI, pan India, solar ISTS  
XII, 1000 MW (December 2023)

1,000

2.52

PFC Consulting, pan India,  
solar, 1250 MW (December  
2023)

1,250

2.53

GUVNL, pan India, solar, 500  
MW (December 2023)

390

2.63

NTPC, pan India, wind-solar  
hybrid, 1500 MW (December  
2023)

1,104

3.35

SECI, pan India, solar ISTS XI,  
2000 MW (July 2023)

2,000

2.6

## Bid spotlight: SJVN, pan India, FDRE (RE with ESS), 1500 MW (November 2023)

### Tariff and winners

- **Tariff discovered:** 4.38 INR/kWh.
- **Winners:** ACME, Hero Solar, Juniper Green, Renew Power, Bluepine, Tata Power RE, and O2 Power.

### Key provisions

- **Annual CUF:** Minimum 40%
- **Criteria for power supply:** Any generating system including solar, wind or any other RE resource, combined with ESS keeping an availability of minimum 90% during peak hours.
- **Number of peak hours:** RE projects with firm delivery of power for four hours.
- **Identification of injection point:** Energy would be injected at a minimum of 220 kV, with the arrangement being made by the renewable power developer.

### Comments

- FDRE provides firm and dispatchable RE power as per discoms' requirement.
- The energy storage system (ESS) component charged with RE sources bought under this RfS shall be eligible for RPO compliance.

## Takeaways & Outlook

RE auctioned capacity stood at 8.84 GW in Q3 FY24 and was dominated by the renewable energy implementation agencies such as NHPC's 3000 MW solar, SJVN's 1500 MW FDRE and NTPC's 1500 MW wind-solar hybrid tenders. State bidding agencies RRVUNL and GUVNL concluded solar tenders (1,310 MW) in this quarter. **PFC Consulting was a new entrant**, concluding 1,250 MW of solar auction.

**Q3 FY24 witnessed a significant uptick in total auctioned capacity** compared to previous quarters.

- **Q3 FY24: 8.84 GW**
- **Q2 FY24: 5.41 GW**
- **Q1 FY24: 7.65 GW**
- **Q4 FY23: 1.80 GW**

The share of **vanilla solar** (72.9%) dominated the auctioned capacity this quarter, followed by **FDRE and wind-solar hybrid (innovative procurement formats)** contributing to 26% of total auctioned capacity in Q3 FY24.

**In Q3 FY24, the lowest discovered solar and wind tariff stood at INR 2.52/kWh** (NHPC, 3000 MW and SECI, 1000 MW) and **INR 3.58/kWh** (RECPDCL, 100 MW) respectively.

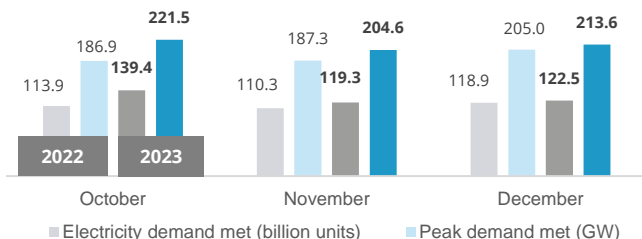
Source: SECI and state renewable agencies.

SECI = Solar Energy Corporation of India; RRVUNL = Rajasthan Rajya Vidyut Utpadan Nigam; NHPC = National Hydroelectric Power Corporation; SJVN = Satluj Jal Vidyut Nigam, RECPDCL = REC Power Development and Consultancy Limited; PFC = Power Finance Corporation; GUVNL = Gujarat Urja Vikas Nigam Limited; FDRE = Firm and Dispatchable Renewable Energy #Auctioned capacity = Awarded capacity.

# Power markets: peak power demand continued to exceed the 200 GW mark in Q3 FY24, PAT Cycle-II trading concluded

9

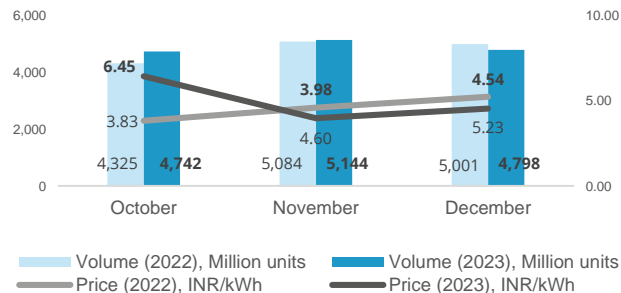
## Power supply position (Peak and electricity demand)



Source: CEA.

**Peak demand met in Q3 FY24 increased** compared to Q3 FY23 due to government interventions that ensured supply-side liquidity. The unprecedented demand surge in October is due to an increase in electricity consumption and below-average rainfall.

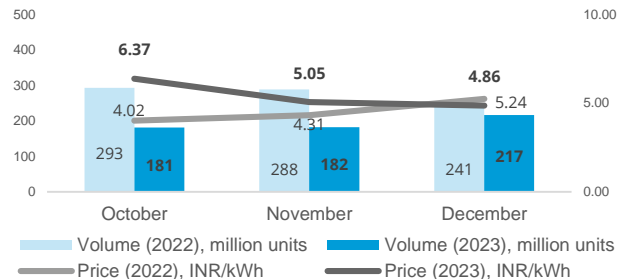
## Day-ahead spot market snapshot (IEX)



Source: IEX.

The high market clearing prices (MCP) and trade volumes on the day-ahead market (DAM) in **October 2023 are due to the electricity demand uptick**. November–December experienced downward trends in MCP, allowing their consumers to optimise their power procurement costs.

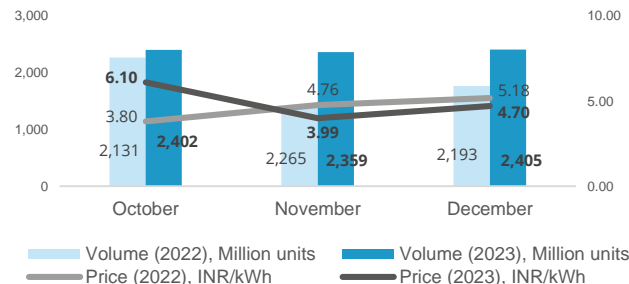
## Green day ahead market snapshot (IEX)



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

Volumes traded in the **green day-ahead market (GDAM)** were **significantly** lower in Q3 FY24 (vs Q3 FY23). GDAM achieved a volume of 579.6 MU in Q3 FY24, with October 2023 witnessing 194 market participants – highest for the quarter.

## Real-time market snapshot (IEX)



Source: IEX.

**Higher volumes were traded on the real-time market (RTM)** in Q3 FY24 (vs Q3 FY23). This signals a higher reliance of the discoms and industries on the market to balance their power demand-supply on a real-time basis.

## Takeaways & Outlook

In Q3 FY24, India's peak power demand continued to cross the 200 GW mark, owing to below-average rainfall in October 2023 followed by above-normal temperatures in November and the onset of winter in December 2023. **The average monthly electricity demand (met) in Q3 FY24 saw an uptick of 11.1% vs Q3 FY23**, standing at 127.08 billion units.

**In Q3 FY24, 2.02 million solar RECs were traded at an average price of INR 0.76/kWh on IEX.** There was no trading of non-solar RECs.

In October 2023, 5,814 **energy saving certificates (ESCerts)** were traded at the average floor price of INR 1,840/ESCert. This marked the conclusion of trading of ESCerts for PAT Cycle-II, with a total of 13.2 lakh ESCerts being traded during this cycle.



# Policy and regulatory developments: MERC amended rooftop solar regulations; a fresh push for the wind energy sector; Rajasthan RE policy targets 90 GW installation by 2030

10

## MoP approved procedure for implementation of uniform renewable energy tariff

- In October 2023, MoP approved the procedure for implementation of a uniform renewable energy tariff (URET).
- The procedure is applicable to the central pool of projects connected to interstate transmission systems (ISTS).
- The commencement date for each category of the central pool will be notified by the central government and will have a five-year duration.
- It aims to incentivise discoms to purchase RE power and stimulate the growth of the RE sector.

## MERC amended Grid-interactive Rooftop Renewable Energy System Regulations 2023

- MERC, through the Grid Interactive Rooftop Renewable Energy Generating Systems (first amendment) Regulations, 2023, has increased the net-metering cap for rooftop solar projects from 1 MW to 5 MW.
- MERC also introduced the concept of Group Net Metering in the amended regulation.
- It also stated that no grid support charges shall be levied on rooftop projects until Maharashtra's rooftop installed capacity reaches 5000 MW.

## MNRE released National Repowering and Life Extension Policy for wind power projects

- In December 2023, MNRE issued the National Repowering and Life Extension Policy for wind power projects to supersede the 'Policy for repowering of the wind power projects' issued in 2016.
- The objective of the policy is to optimise the utilisation of wind energy resources by maximising energy yield per km<sup>2</sup> of the project area and utilising the latest state-of-the-art onshore wind turbine technologies.
- The National Institute of Wind Energy has estimated the repowering potential of ~25 GW.

## Rajasthan Renewable Energy Policy, 2023 released

- In October 2023, the Energy Department, Government of Rajasthan, notified the RE policy 2023. It superseded solar, wind and hybrid policies, 2019.
- It aims to reach 90 GW RE installed capacity by 2029-30.
- The policy has outlined technology-based provisions and incentives.

## MNRE updated ALMM list

- In October, MNRE updated the ALMM list with a total enlisted capacity of 20,339 MW till 27 October 2023.
- In November, three new manufacturers were added to the ALMM list.

## MEA notified offshore wind energy lease rules, 2023

- The Ministry of External Affairs (MEA) has notified offshore wind energy lease rules, 2023.
- These rules will regulate the grant of lease of offshore areas for installation and commissioning of offshore wind energy projects.

## Takeaways & Outlook

Q3 FY24 provided a fresh push for both the onshore and offshore wind energy sectors through the release of a repowering policy for old wind projects in India and the notification of lease rules for offshore wind energy project development.

In October 2023, the Cabinet Committee approved Green Energy Corridor (GEC) phase-II for evacuation from a 13 GW RE Project in Ladakh.

In addition to Rajasthan's RE policy release, in November 2023, Haryana issued its draft of Solar Power policy, 2023 with a target of installing 6 GW of solar capacity by 2030.

On the green hydrogen front, in October 2023, Maharashtra issued the Green Hydrogen Policy, 2023, with a target of producing 500 tonnes of green hydrogen per annum by 2030. In addition, MNRE issued the final R&D roadmap for the green hydrogen ecosystem in India.

## Notable deals (Q3 FY24)

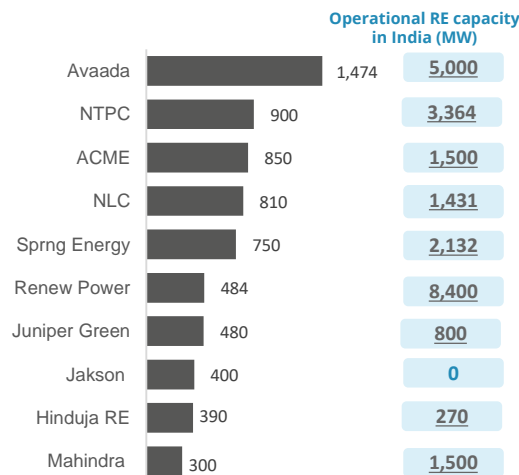


Source: CEEW-CEF Compilation.

## 54% Q3 FY24 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 awarded*

### Developer-wise\* RE capacity awarded during Q3 FY24 (8,838 MW)



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

## Takeaways & Outlook

The market concentration saw a decline in Q3 FY24 to 54% (vs 78% in Q3 FY23). 20 RE developers emerged as winners in Q3 FY24, with 17 private sector players accounting for ~80% of the auctioned RE capacity. Three public sector players accounted for the remaining ~20% in this quarter.

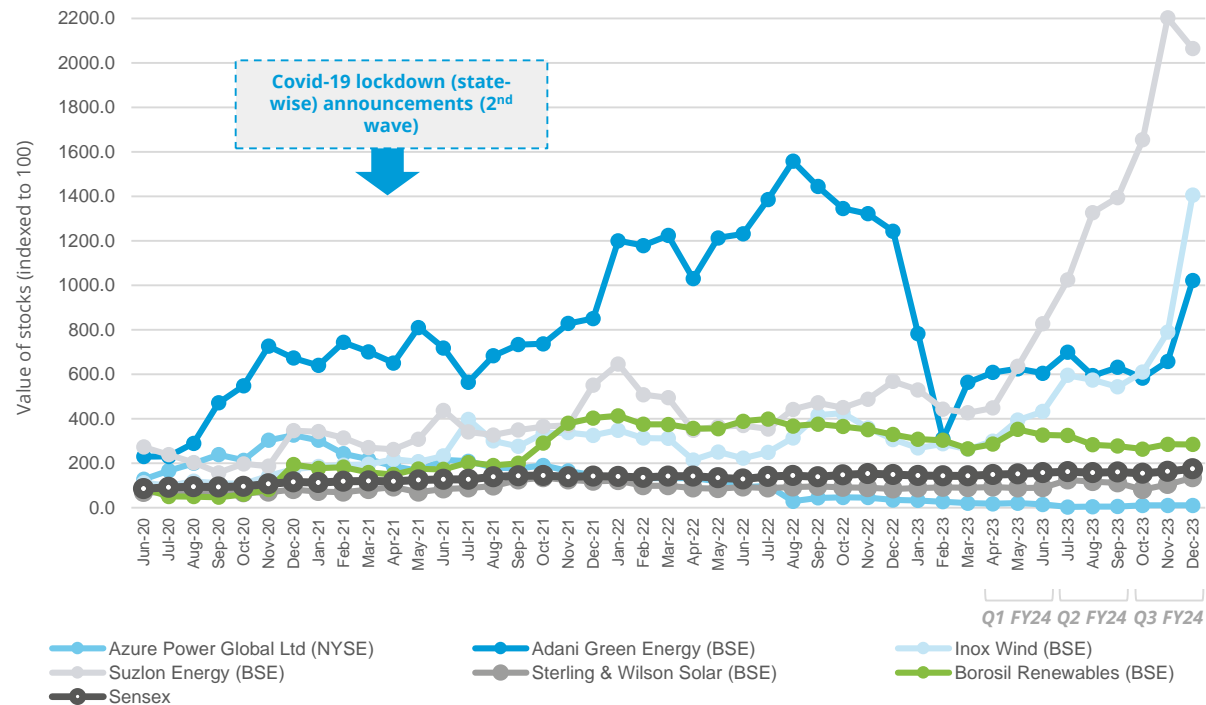
In the **private sector**, among other developers, Avaada Energy, Acme, Sprng Energy, Renew Power, Juniper Green and Jakson Power emerged as winners. **Among the public sector undertakings (PSU)**, NTPC, SJVN and NLC India emerged as winning bidders.

In Q3 FY24, the deal activity consisted of both debt and equity investments from domestic and international sources for RE project development.

In November 2023, IREDA conducted its IPO which witnessed a 5x oversubscription.

**Waaree plans on raising around USD 300–350 million through an IPO**, following the ~USD 121 million (INR 1,000 crore) raised in August 2023 to fund 6 GW of solar module manufacturing capacity.

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



Source: Money Control.

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

## Takeaways & Outlook

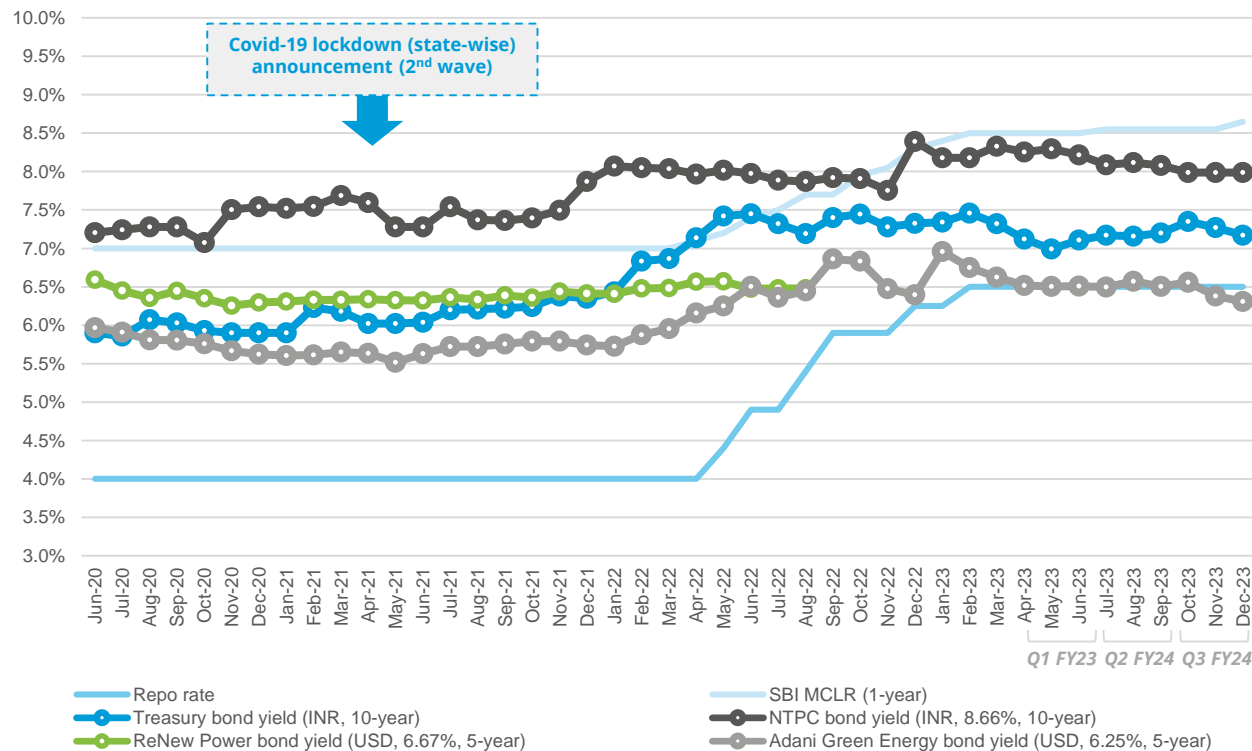
In Q3 FY24, most listed RE stocks and the Sensex recorded strong upward trends compared to Q2 FY24.

The share price of RE developer **Adani Green Energy** was up by 61.78%, while Sterling and Wilson recorded an increase of 19.95% as of December 2023 (vs September 2023).

The wind developer-manufacturers continued to record strong upward trends throughout Q3 FY24. The share price of wind developer-manufacturers **Inox Wind** was up by 158.87%, whereas **Suzlon Energy's** share price was up by 48.06% at the end of December 2023 (vs September 2023).

The share price of solar panel glass manufacturer, **Borosil Renewables** was up by 2.60% at the end of December 2023 (vs September 2023).

## Bond yields\* and key financial rates



## Takeaways & Outlook

The first issuance of FY24's **Sovereign Green Bonds (SGrBs)** was held in this quarter. The **5-year and 10-year bonds** were auctioned in November and December 2023 respectively, with an offering of **INR 5,000 crore each**, with a respective **coupon rate of 7.25% and 7.24%**. Further, as per an RBI notification, SGrBs in FY24 were designated as 'specified securities' under the fully accessible route, allowing all NRIs to buy these securities.

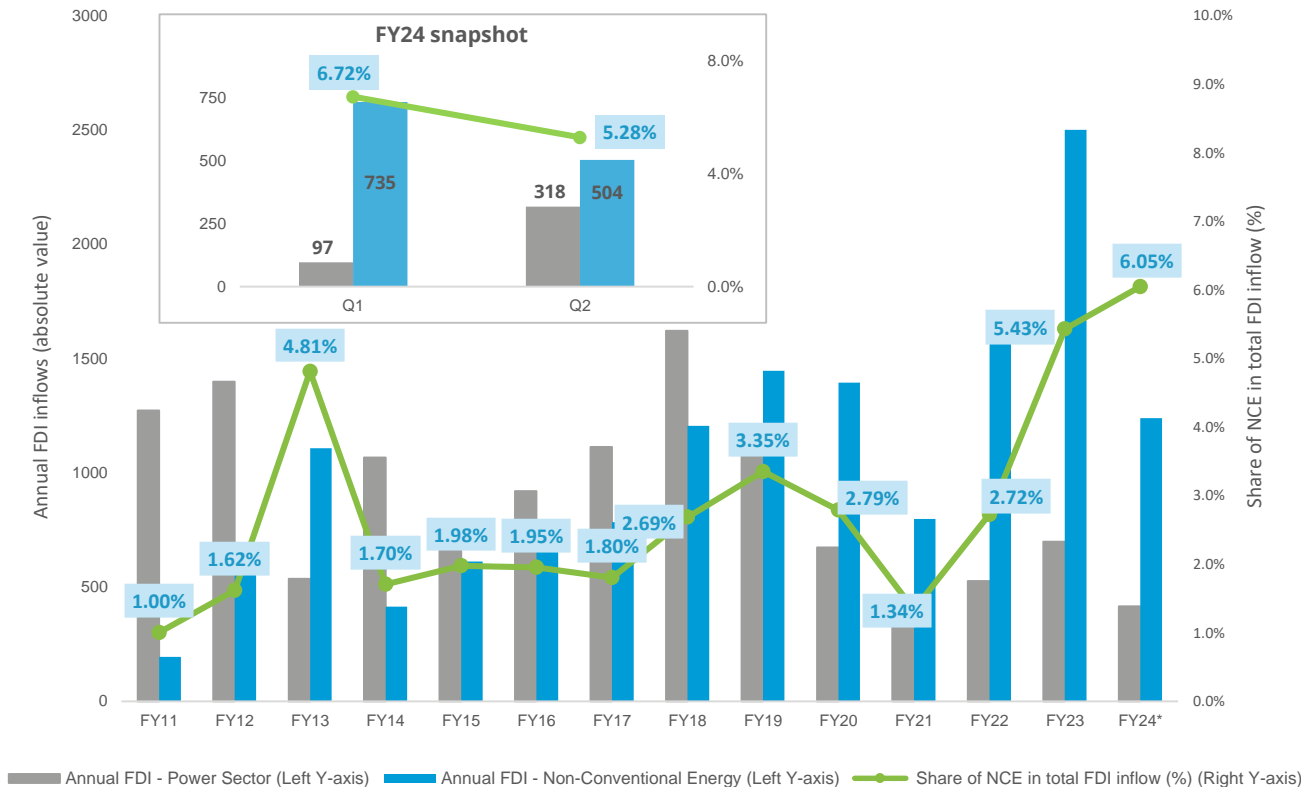
The 10-year treasury bond yield and Adani Green's 5-year bond yield recorded a downward trend throughout this quarter.

**The repo rate and reverse repo rate remained constant throughout Q3 FY24. In December 2023, the SBI MCLR (1-year) rate increased slightly to 8.65% after remaining constant at 8.55% since July 2023.**

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

*Note: Bond prices are the last traded value in each month; \* Current yield. \*\* SLBs are issued with specific sustainability performance targets that include predefined key performance indicators (KPIs) and allow a diverse set of issuers to obtain financing via this route.*

## 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 sector is permitted up to 100% under the automatic route.**

The RE sector in the country has attracted a total FDI equity investment of **USD 4,898.13 million during the last three financial years (FY20-FY23).**

Since FY14, FDI in the RE sector has been increasing, and became **~4x of power sector FDI inflow in FY23.**

**Investments in the RE sector amounted to USD 2.5 billion in FY23, reflecting a year-on-year growth of 56% compared to FY22.**

**As of Q2 FY24, the annual FDI addition in RE amounted to USD 1.2 billion, standing at 6.05% of the overall annual FDI addition.**

Source: Department for Promotion of Industry and Internal Trade. (DPIIT)

Note: Non-conventional energy (NCE) = Renewable energy; \*As of September 2023.

# Energy storage: seven tenders with energy storage announced; power sector InvIT IndiGrid to deploy a BESS Project

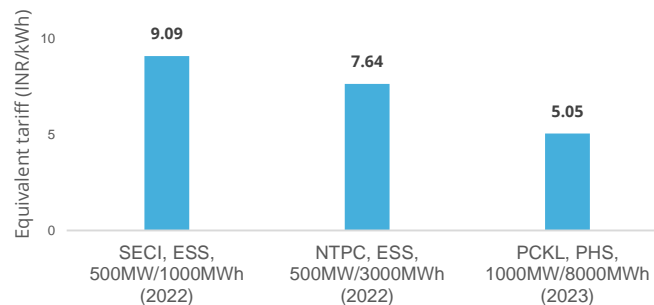
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## ESS tenders: announced

Project location & tender issue date	Application & technology	Details
Pan India (GUVNL) November 2023	250 MW/500 MWh BESS, phase – II	RFS released in Q3 FY24
Pan India (SECI) November 2023	1000 MW, RE with ESS (FDRE-V)	RFS released in Q3 FY24
Pan India (NTPC) November 2023	3000 MW, RE with ESS (FDRE T-III)	RFS released in Q3 FY24
Pan India (NHPC) October 2023	1500 MW, RE with ESS (FDRE)	RFS released in Q3 FY24
Pan India (REMCL) October 2023	750 MW, RE RTC with or without ESS	RFS released in Q3 FY24
Pan India (MPPMCL) October 2023	500 MW, PHS	RFS released in Q3 FY24
Madhya Pradesh (RUMSL) October 2023	400 MW, FDRE with 600 MW solar	RFS released in Q3 FY24

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.

## IndiGrid's 20 MW/40 MWh BESS project in Delhi

### BRPL's 20MW/40 MWh BESS project in Delhi

- The BESS project capacity is 20 MW/40 MWh and will be deployed for BSES Rajdhani Power Limited (BRPL).
- Debt financing of 70% of the total capital investment will be provided by the Global Energy Alliance for People and Planet (GEAPP).
- Primary applications of the BESS project are energy time-shift and ancillary services.
- The project will be on a BOOT basis.
- The project is expected to generate annual revenue of around INR 12 crore with a concession tenure of 12 years post-commercial operation date (COD).

Source: [IndiGrid](#) Press release.

## Takeaways & Outlook

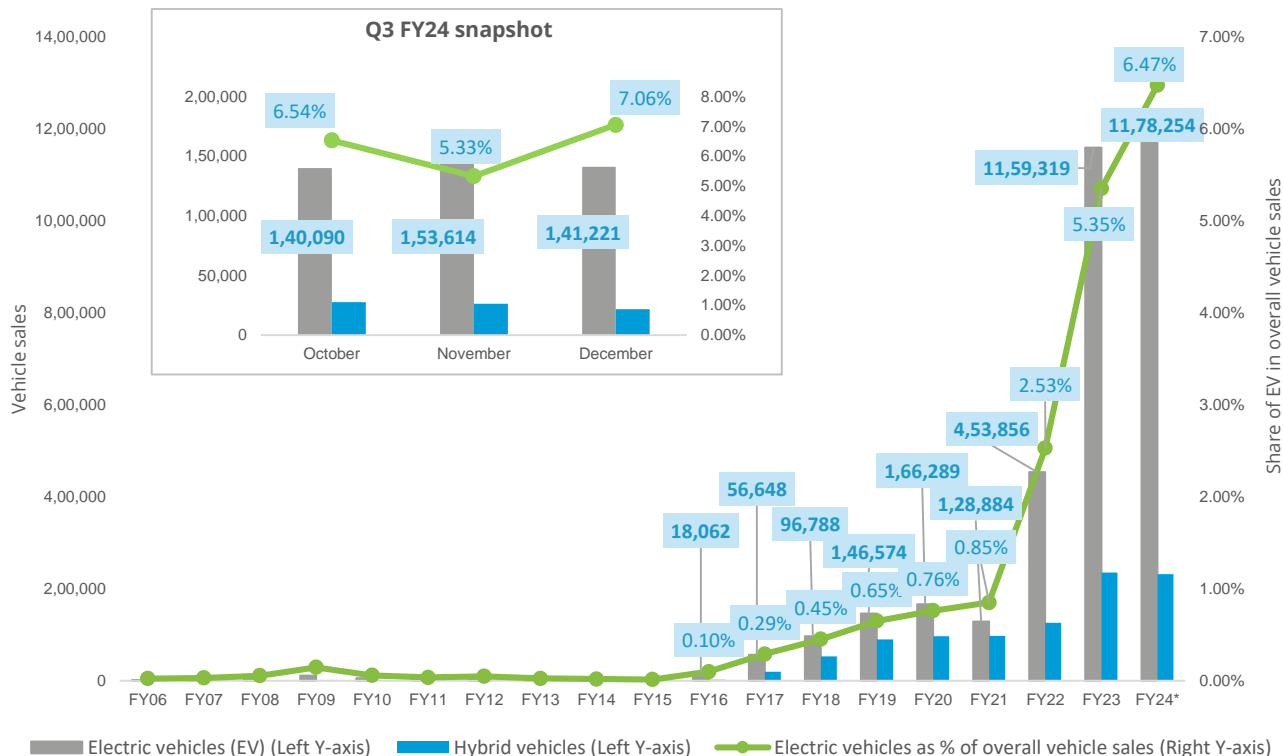
In this quarter, seven new tenders, including **firm and dispatchable RE (FDRE), RE RTC (with or without ESS) and standalone energy storage tenders**, were announced.

**SJVN** concluded the **first 1,500 MW FDRE** auction in this quarter with the **least tariff discovery at INR 4.38 /kWh**. In addition, India's first power sector **InvIT, IndiGrid**, received a **letter of award (LOA)** from BSES Rajdhani Power Limited (BRPL) for the deployment of a **20 MW/40 MWh BESS project**.

In October 2023, the **Uttarakhand government and JSW Neo Energy signed an MoU for two 1,500 MW pump hydro storage (PHS) projects** worth INR 15,000 crore.

**Additionally, 43 PHS projects, with a cumulative capacity of 55,085 MW**, are under survey and evaluation in India. These included projects in Andhra Pradesh, Karnataka, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Uttar Pradesh.

## Electric vehicle sales in India



*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 (2023), CEEW Centre for Energy Finance.\*Based on sales data up to Q3 FY24; \*\*4W represents Light motor vehicles and Light passenger vehicles.

## Takeaways & Outlook

In Q3 FY24, EV sales recorded a gain of 28.73% compared to Q3 FY23. **The share of EVs in overall vehicle sales stood at 6.19% in this quarter.** The cumulative EV sales in FY24 till Q3 crossed the entire FY23's EV sales.

**The Delhi Motor Vehicle Aggregator and Delivery Service Provider Scheme** was announced in November 2023, mandating fleet aggregators and delivery service providers to completely shift to EVs in a phased manner by 2030, across all segments.

**In December 2023, Bihar's EV policy 2023 was approved**, with an aim to achieve 15% EVs in all vehicle registrations by 2028. The policy introduced **subsidies on motor vehicle tax, purchase incentives for e-4Ws and e-2Ws and subsidies for EV charging.**

**OEMs with the highest EV sales\* in Q3 FY24 were:**

- **2W:** Ola Electric (84,108), TVS Motor (47,911) and Bajaj Auto (31,304)
- **3W:** Mahindra Last Mile (11,654), YC Electric (11,579) and Saera Electric (8,485)
- **4W\*\*:** Tata Motors (15,223), MG Motors (2,873) and Mahindra & Mahindra (1,482)



# Thank you

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Date	Company	Size (USD million)	Sector	Coupon rate (%)	Rating	Tenor (Years)	Purpose
April 2023	ReNew Power	400	Solar and wind	7.95%	BB- (Fitch) Ba3 (Moody's)		Refinancing of existing debt and finance growth initiatives
April 2023	SAEL	161	Biomass		AA (CRISIL, India Ratings)	10	Finance green 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
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

Source: Climate Bonds Initiative and company press releases.

Date	Company	Size (USD million)	Sector	Coupon rate (%)	Rating	Tenor (Years)	Purpose
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
September 2019	ReNew Power	300	Solar and wind	6.45%	Ba2 (Moody's)	5	Capacity expansion and repaying high cost debt
August 2019	Greenko	85	Solar and wind	6.25%	Ba1 (Moody's)	3.5	Refinancing of solar and wind projects

Source: Climate Bonds Initiative and company press releases.

# 85.60%

FAME-II target met

As of 29 January 2024

**Note:** Target of selling 1,562,090 EVs (2W, 3W, 4W and buses) under FAME-II scheme by FY22.

# 615

Number of EV OEMs in India

As of 29 January 2024

# 165

Total FAME II approved models

As of Q3 FY24

### Recent electric vehicle launches



#### Kinetic Green Zulu

Price: INR 94,990 onwards

Range: 104 km

Battery capacity: 2.27kwh Lithium-ion



#### Rivot NX100 Street Rider Max

Price: INR 1,59,000 onwards

Range: 300 km

Battery capacity: 5.76 kWh Lithium-ion



#### Altigreen Neev Tez

Price: INR 4,04,000 onwards

Range: 98 km

Battery capacity: 8.8 kWh Lithium-ion



#### BMW i7 M70 xDrive

Price: INR 2,50,00,000 onwards

Range: 560 km

Battery capacity: 101.7 kWh Lithium-ion

### EV penetration

In Q3 FY24

# 4.65%

2W sold were EV

# 54.84%

3W sold were EV

# 4,35,472

EVs sold

in Q3 FY24

# 26

States notified EV policies

As of Q3 FY24

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



### **Build evidence**

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

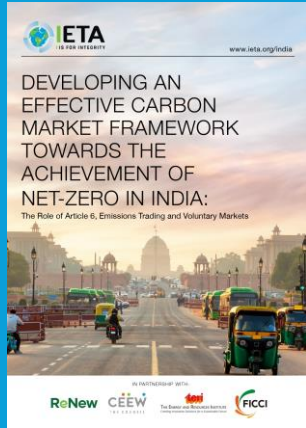
### **Create coherence**

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

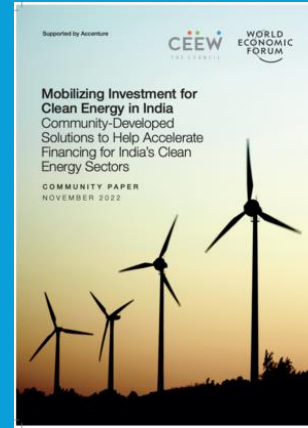
## Our recent publications, dashboards and tools



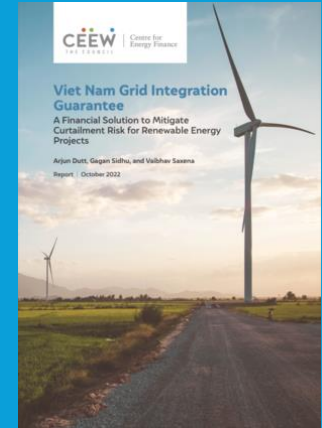
Developing An Effective Carbon Market Framework Towards The Achievement Of Net-Zero In India



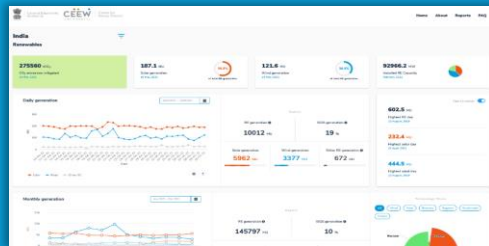
Greening India's Automotive Sector



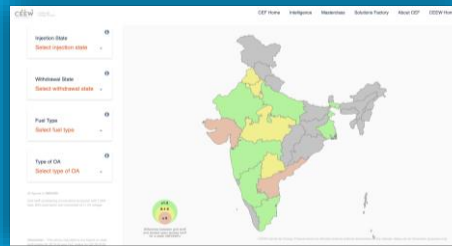
Mobilizing Investment For Clean Energy In India



Viet Nam Grid Integration Guarantee



India Renewables Dashboard



Open Access Tool



Electric Mobility Dashboard