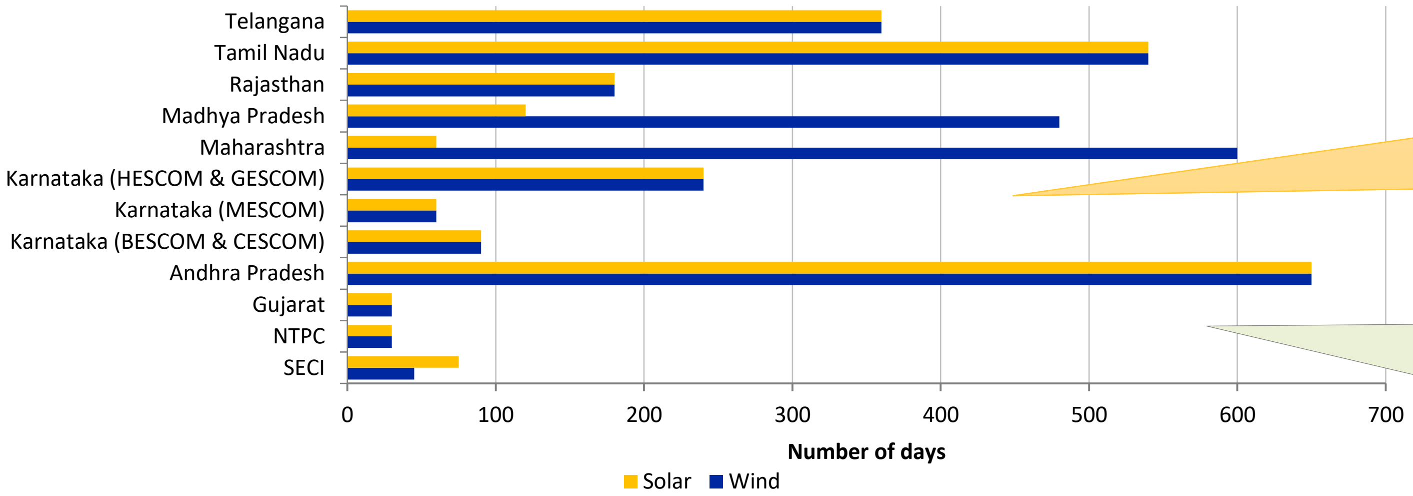
Timely payments from NTPC/GUVNL/SECI; mixed payment pattern by discoms

Exhibit 56: Trends in receivable days as of December 2021 for wind and solar IPPs across states



Delays observed in receiving payments from BESCOM of 3-4 months in FY22 YTD against timely payments seen over the past few years

Extent of delays have gone up sharply in MP and Maharashtra; payments cleared at interim rate in AP with tariff issue pending

Source : ICRA Research

- Payments from NTPC ([ICRA]AAA/Stable/A1+) /SECI ([ICRA]AAA/Stable/A1+) supported by presence of letter of credit, payment security fund (for SECI) and tripartite agreement with GoI, RBI & State Governments. Payments from GUVNL ([ICRA]AA- (Stable)/A1+) supported by its strong financial profile.

Distribution sector reforms remain key to turnaround discom finances

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Given the history of slow progress in improving operating efficiencies and lack of timely tariff revisions, delicensing / privatization seems to be the way out in turning around the distribution segment

Effective implementation of capex initiatives under the revamped reform scheme including smart metering programme remains key to improve operating efficiencies

Discoms should make use of solar power for supply to agriculture feeders to improve efficiencies and lower subsidy dependence

Implementation of direct benefit transfer (DBT) for subsidy likely to reduce delays in subsidy realization from states and improve accuracy on billing & collection for discoms

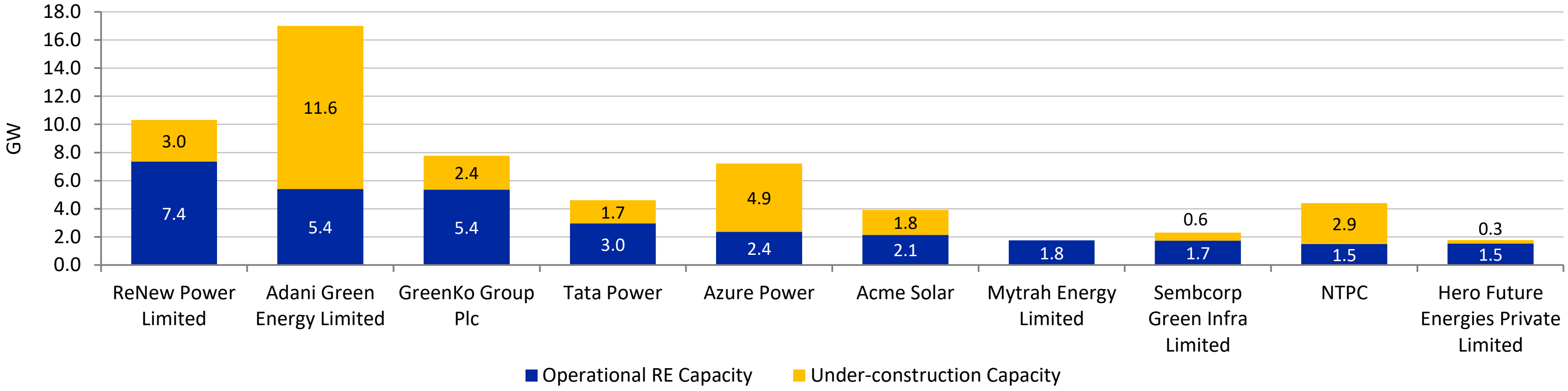
Strong political will is required in implementing these reforms especially in the wake of upcoming elections in few key states. Delays in implementation of reforms would lead to discoms turning to the state & Central governments for bailout schemes every five-six years

Profile of Key IPPs

Private IPPs driving the capacity addition in RE segment

Top 10 IPPs account for 30% of the all India RE capacity

Exhibit 57: IPP wise operational & under-construction RE capacity as per the data in public domain as of December 2021

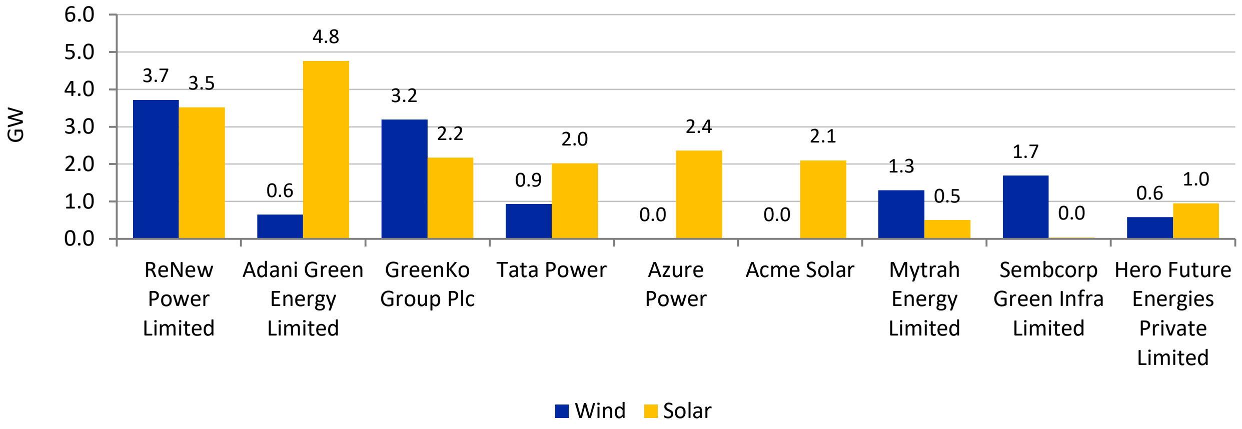


Source: ICRA Research, Company websites

- The capacity addition in renewable energy is driven by the private sector, with the operational RE-based capacity of the ten major IPP players in India at about ~32 GW, constituting 30% of the overall RE capacity. Outside the top ten, there are other growing platforms like Ayana, Apraava Energy, Sprng Energy, Torrent Power, Vector Green and O2 among others. Funding for many of these platforms is supported by global PE funds, sovereign wealth funds and pension funds. These groups also have significant capacity under development awarded through the competitive bidding route. This apart, PSUs like NTPC, NLC and CIL have raised their RE capacities and have ambitious plans to growth their RE portfolio amid growing ESG considerations.

Capacity mix of key IPPs in the RE segment

Exhibit 58: Distribution of operating capacity of key players in the renewable energy sector



ReNew Power Limited and Greenko Group PLC are leading players in wind energy with more than 3.0 GW, while Adani Green Energy leads the operating solar portfolio with 4.8 GW

Source: ICRA Research, Company websites

- The top five IPPs contribute ~27% of the overall wind capacity in India, with Renew Power Limited and Greenko Group PLC being the leading contributors with an operating portfolio of more than 3.0 GW. Apart from them, Sembcorp Green Infra Limited and Mytrah Energy Limited have operating wind capacities of greater than 1 GW. With respect to solar power capacity, Adani Green Energy leads the way, buoyed by their acquisition of SB Energy assets earlier this year. The top five players contribute to ~30% of the overall solar energy capacity. Ease of execution in setting up solar power plants against wind power assets, higher certainty witnessed in solar irradiation over wind speeds and better location diversity is greater thrust on solar energy capacity in IPPs RE portfolio.

Financial performance of IPPs driven by growing asset base

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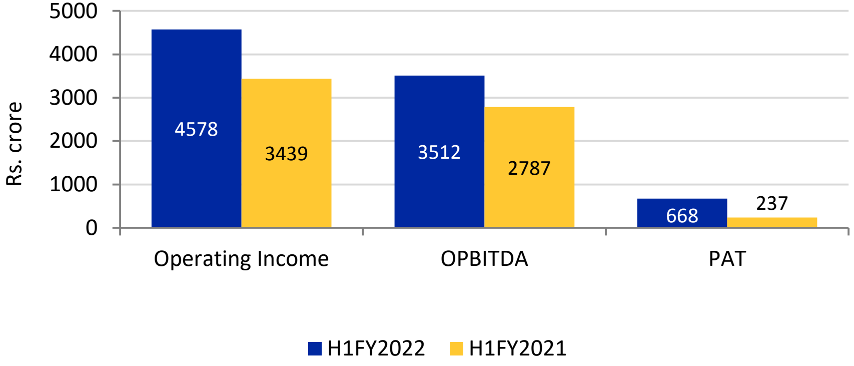
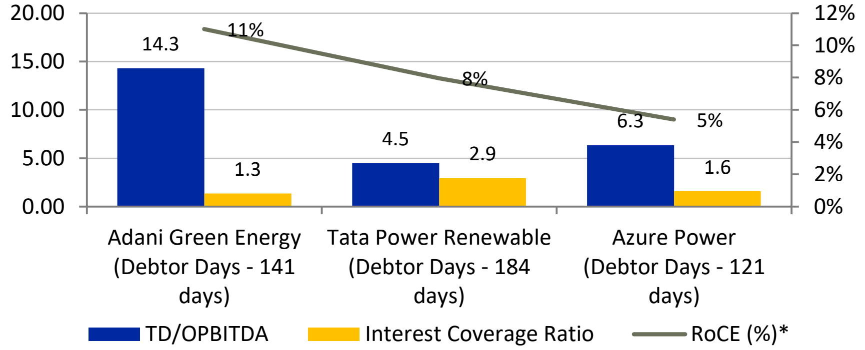
Exhibit 59: Financial performance of key players in RE sector



Source: ICRA Research, performance of Adani Green, Tata Power Renewable and Azure Power

Exhibit 60: Leverage, coverage and return metrics for key listed players in RE sector



*Source: ICRA Research, Company results, TD/OPBDITA as of H1 FY2022, *Debtor days & RoCE data as of FY2021*

- The consolidated revenues for ICRA's sample entities increased by 33% in H1 FY2022 on a YoY basis, led by addition of new RE capacity, mainly or Adani Green Energy. The operating margins remain high at 75% to 80% given the limited operating costs. However, the net profit margins are relatively low given the high depreciation and interest expenses. Nonetheless, the net profitability has witnessed an improvement in H1 FY22 over H1 FY21 led by higher revenues and OPBDITA.
- With respect to leverage and coverage metrics, the leverage level for Adani Green Energy is relatively high with significant debt availed in H1 FY2022 for its under development projects and addition of debt from SB Energy acquisition. The interest coverage ratio and leverage metrics for Tata Power remains the most comfortable supported by a depreciated asset base. The debtor days for the three players lie between 4-6 months, higher than the expected 60 days largely due to exposure of certain assets to the state distribution utilities.

Rising global Green Bond issuances by Indian RE developers

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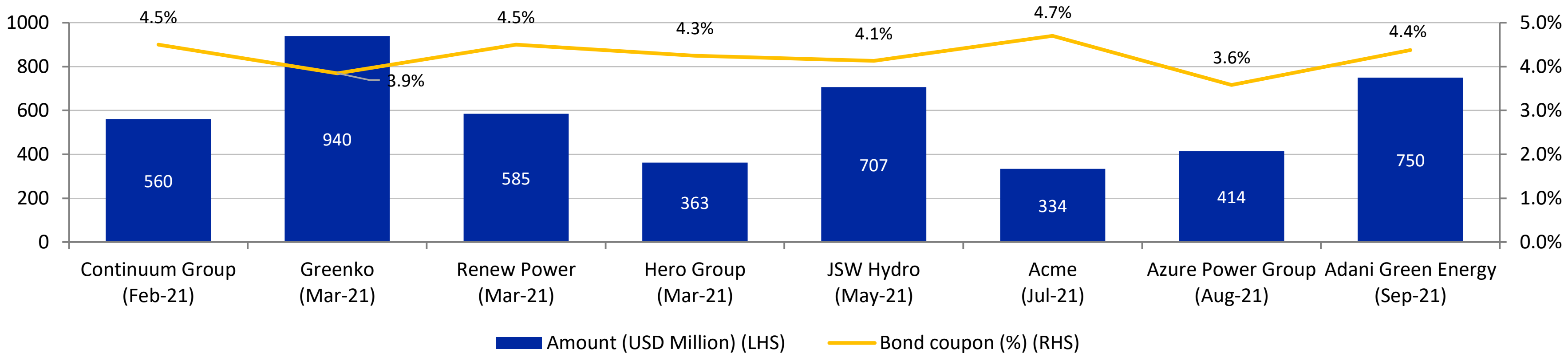
Exhibit 61: Recent issuance of international green bonds by Indian RE developers

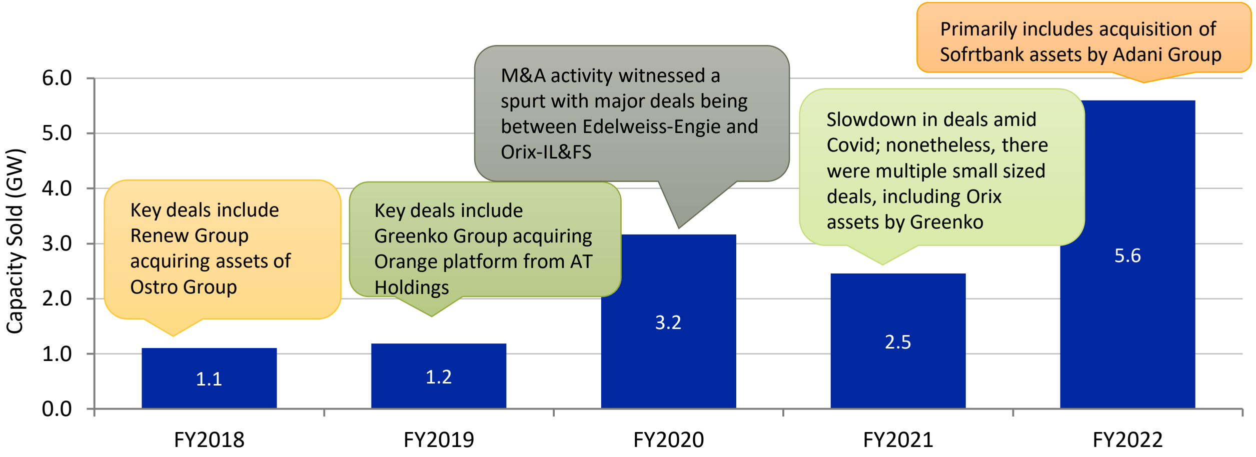


Source: ICRA Research

- **Indian RE developers raised close to US$ 4.7 billion at competitive rates through green bonds in the international market over the past eight months** through pooling of assets, with the latest issuer being Adani Green Energy issuing US$750 million in September 2021. The cost of funding remains highly competitive for these bonds after including the cost of hedging, supported by demonstrated track record of these projects, presence of PPAs with highly creditworthy central counterparties for majority of these assets and the growing focus on ESG among international and domestic investors. Given the large funding requirement for meeting the capacity targets and the challenges to solely arrange funding from domestic markets, developers with strong financial credentials are expected to access the international bond market, making this an important avenue for funding.

Heightened M&A Activity in the RE sector in India

Exhibit 62: Trends in M&A activity in the renewable energy sector in India



Source: ICRA Research

Exhibit 63: Key M&A Deals – Sep 2021 to MTD Dec 2021

Buyer	Seller	Capacity (MW)
Torrent Group	Surya Vidyut Limited	156 (Wind)
Adani Group	Essel Green Energy	40 (Solar)
Virescent (KKR)	Focal Energy	49 (Solar)
Ayana Group	ACME Solar	250 (Solar)

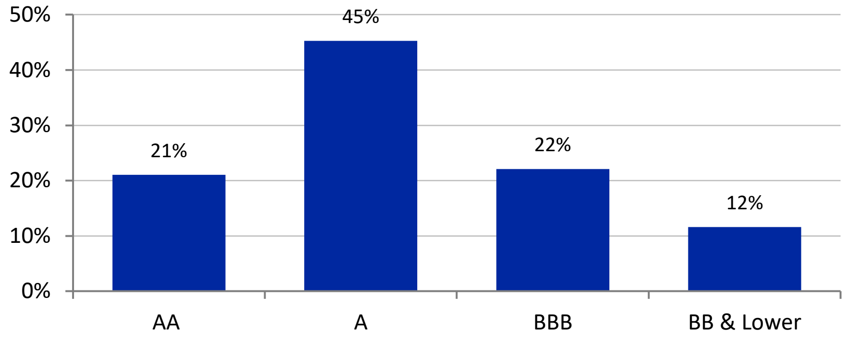
- The renewable energy sector in India has witnessed an increased M&A activity over the past five years with a portfolio of over 13.5 GW changing hands. In FY2022, Adani Group's acquisition of ~5 GW assets from Softbank has been the major deal after witnessing a slowdown in the M&A activity in FY2021.
- Strong global investors' interest in the sector and benefits arising from having a diversified and large asset base, are likely to result in further consolidation in the industry. Most of the deals in the renewable energy space have been completed with EV/EBITDA multiple in the range of 7.5x to 10.0x, varying with the balance life of the asset, PPA tariff, PPA counterparty, operating performance and platform size & associated human infrastructure.

Rating Trends in Renewable Energy Sector

Ratio of upgrades to downgrades improved in 8M FY2022 led by solar power IPPs

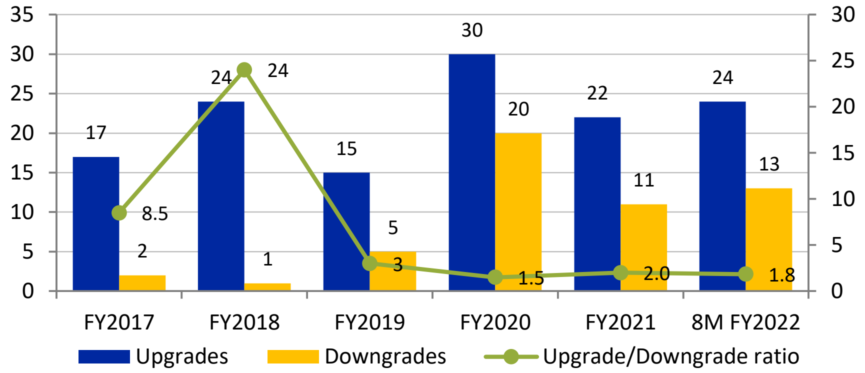
Credit rating movement for ICRA-rated wind and solar IPPs

Exhibit 64: Rating distribution for ICRA-rated wind and solar IPPs



Source: ICRA Research

Exhibit 65: Trends in rating upgrades and downgrades for solar and wind IPPs



- In 8M FY2022, the sector witnessed 24 upgrades and 13 downgrades. The upgrades were primarily seen in the solar power segment, supported by demonstration of strong generation performance, reduction in project risk, improvement in parent credit profile, increase in debt service reserve, debt refinancing with favourable terms leading to improvement in coverage metrics.
- The downgrades during this period were owing to a change in the sponsor profile, weak generation performance and delays in receiving payments from off-taker along with non-invocation of debt service reserve by the lenders in a timely manner. The wind and solar IPP portfolio has 3% of the ratings on negative outlook, owing to the uncertainty over the resolution of the tariff issue for entities exposed to the Andhra Pradesh discoms.

Key rating actions over the past three months (I)

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Company Name	Previous Rating	Revised Rating	Remarks
Anantapur Solar Parks Private Limited	[ICRA]A (CE) (Stable)	[ICRA]A+ (CE) (Stable)	Improvement in the credit profile of the parent, i.e., Ayana Renewable Power Private Limited (ARPPL, rated [ICRA]AA-(Stable)/A1+)
Tungabhadra Solar Parks Private Limited	[ICRA]A (CE) (Stable)	[ICRA]A+ (CE) (Stable)	
Nisagra Renewable Energy Private Limited	[ICRA]A- (Stable)	[ICRA]A (Stable)	Satisfactory operational performance along with improvement in its coverage metrics post reduction in interest rate on project debt
Fourth Partner Energy Private Limited	[ICRA]BBB+ (Stable) / [ICRA]A2	[ICRA]A- (Stable) / [ICRA]A2+	Large equity commitment of US$ 125 million from investors, demonstrated ability to raise debt capital at a competitive cost and scaling up of solar power operating capacity under the subsidiaries
VSV Renewables Private Limited	[ICRA]BBB+ (Stable)	[ICRA]A- (Stable)	
Enviro Solaire Private Limited	[ICRA]A+ (Stable)	[ICRA]AA (Stable)	Improvement in its debt coverage metrics, following favourable refinancing of the project debt
Belgaum Solar Power Private Limited **INR Energy Private Limited** **Mamadapur Solar Private Limited**	[ICRA]A- &	[ICRA]A (Stable)	Strong investor profile and satisfactory operating track record of the solar assets

Key rating actions over the past three months (II)

Company Name	Previous Rating	Revised Rating	Remarks
SunBorne Energy Gujarat One Private Limited	[ICRA]A- &	[ICRA]BBB+ (Stable)	Deterioration in the generation performance in FY2020 and FY2021 which has resulted in moderation of debt coverage indicators
Vena Energy Power Resources Private Limited	[ICRA]BBB (Negative)	[ICRA]BB (Negative)	Weakening of the liquidity position of the company, given the continued delays in realisation of payments from offtaker amid the tariff issue
Shivalakha Solar Energy Private Limited	[ICRA]BB (Negative)	[ICRA]BB- (Stable)	Weak generation performance leading to subdued debt coverage metrics

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