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Investment opportunities in renewable power generation in India

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1. India's ambitious renewable energy generation target

- India is set to achieve 175 gigawatts (**GW**) of renewable energy by the end of FY 2021-22, making it the third largest renewable power generating country globally
- The country has set world-leading targets of 523 GW of renewable energy and 34 GW of battery storage by 2030
  - 30 GW of renewable energy capacity installed since the beginning of FY2017-18, coupled with an additional 50 GW awarded to date
  - Share of solar power in India's total installed capacity went up from 1.3% in 2015 to 8.7% in 2019
- Meeting these ambitious renewable energy targets, plus associated grid integration and expansion requirements, will require USD 500-700 billion of new investment by 2030.
- Renewable power generation in India has emerged as an attractive investment option for large-scale private and institutional investors in light of a range of factors such as sustained policy and regulatory push, long-term contracts providing cash flow certainty, known risks that can be priced in advance, mature ecosystem of experienced stakeholders and plug-and-play modular architecture, among others.

2. Recent trends

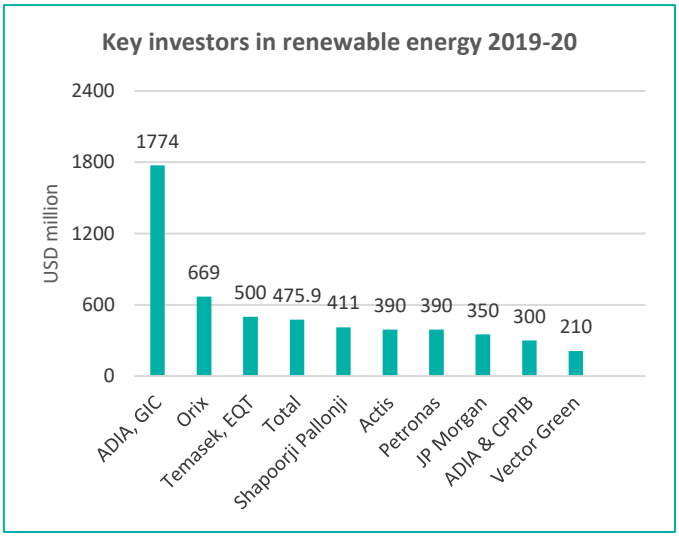
2.1 Increased deal activity

- Even during the Covid-induced lockdown, last few months have seen renewable energy and storage sectors continue to achieve record-breaking milestones. Several bids were awarded during the lockdown period even as deal activity has continued at a fast clip during.
- Top 10 deals during 2019-20:

Company name	Deal type	Acquirer/Investor	Deal Value (USD million)
Adani Green Energy	Equity	Total	2500
Greenko Energy Holdings	Equity + Green Bonds	GIC and ADIA	2124
Renew Power	Offshore Bonds + Dollar Bonds + Equity	HSBC, JP Morgan and Barclays, Goldman Sachs, ADIA and CPPIB	1050
Adani Green Energy	Green Bonds + Equity	Total	837.99
IL&FS	M&A	Orix	669
Sterling & Wilson	IPO + Equity	27 anchor investors. Leading investors – Nomura, Schroder, ADIA	608
O2 Power	Equity	Temasek, EQT	500
Azure Power	Green Bonds + Equity	CDPQ	436.1
Acme Clean Tech Solution	M&A	Actis	390
Amplus Energy Solutions	Equity	Petronas	390

Source: IEEFA India: Investment trends in renewable energy 2019/20

2.2 Investment analysis



Source: IEEFA India: Investment trends in renewable energy 2019/20

2.3 Tax exemption to Sovereign Wealth Funds

- 100% tax exemption granted to Sovereign Wealth Funds of foreign governments in respect of their interest, dividend and capital gains income from investments in infrastructure and other notified sectors before March 21, 2024 with the only conditionality on such an exemption being minimum lock-in period of 3 years.

2.4 Tax relief to boost investment

- New concessional corporate tax of 15% will be applicable to new domestic companies engaged in the generation of electricity in order to incentivize investment in power sector.

2.5 Focus on battery storage

- With an ambitious target of achieving 40% of installed capacity based on renewable sources by 2030, energy storage appears to be the key to unlocking the true potential of renewable energy and realizing this target in India. The India Energy Storage Alliance (**IESA**) has estimated over 70 GW and 200 GWh of energy storage capacity in India by 2022, which is among the highest in the world.
- Energy storage systems vary in form and size depending on the type of stored energy and include batteries (capacity range of 100-200 MW), pumped storage hydropower (capacity range of 250-1000 MW), flywheels (capacity range of 10-20 MW) and pressurized gas storage systems (capacity range of 0-180 MW). Apart from bridging the gap between demand and supply of electricity (and thereby increasing reliability), energy storage systems help minimize deviation from schedule.
- In 2019, Tata Power, AES Corporation, and Mitsubishi Corporation inaugurated India's first 10 MW grid-scale battery-based energy storage system in Delhi. Several States have also invited bids for launching a renewable project with a provision for battery storage.
- Niti Aayog will soon invite bids for setting up factories to produce 'advance chemistry cell' batteries used in electric vehicles, with a total capacity of 50 GWh, over a term of 10 years. The Bidders will be provided a subsidy (linked to the output manufactured and the value addition achieved by the private entities) for setting up the manufacturing facility.

3. Enabling steps that have significantly de-risked investment in renewable power generation in India

There has been significant progress on a range of parameters which had earlier kept investor interest in India's renewable power generation sector fairly subdued. The entire sectoral ecosystem has matured significantly, with known risks that can be priced upfront. Through policy intervention and other aspects, key risks pertaining to project development (well-developed network of EPC contractors and an established chain of procurement, supply, import, transport, erection and commissioning), equipment supply (proven network of imported/domestic module suppliers, inverters and BOS (Balance of Systems) providers), land acquisition, financing (100% FDI under automatic route and abundant local capital to eliminate currency fluctuation risk), energy off-take arrangements, project exits have been addressed over the last few years, which underscores the investor interest in this sector.

3.1 Policy support

Government of India has taken several steps to ensure continuing policy support to renewable energy generation in the country.

- **Constitution of Renewable Purchase Obligation Cell**
  - To promote renewable energy targets, obligations have been imposed by various State Electricity Regulatory Commissions (**SERCs**) on buying utilities/distribution licensees (**Discoms**), captive power plants and other large electricity consumers to purchase energy from renewable projects.
  - These Renewable Purchase Obligations (**RPO**) require such entities for purchasing a certain percentage of their requirements from renewable energy sources.
  - Regulatory framework also provides for purchase of Renewable Energy Certificates (**RECs**) in lieu of purchasing renewable power by obligated entities from the National Load Dispatch Centre. This provides an avenue for small as well as large RE generators to take the benefit of REC mechanism without worrying about the power purchase agreement for sale of renewable power.
  - Notably, as of March, 2018, 83 trading sessions were held with transactions of more than USD 820 million being carried out by Power Exchanges.[1]

- **Key initiatives of MNRE/MoP**
  - Under Intended Nationally Determined Contribution, India endeavors to reduce its emissions intensity by 33-35% between 2005 and 2030. To this effect, it is focusing on accelerating the use of clean and renewable energy by 40% by 2030.
  - The Government has revised the target of Grid Connected Solar Power Projects from 20 GW by the year 2021-22 to 40 GW by the year 2021-22 under the National Solar Mission.
  - In July 2020, MNRE issued Guidelines under Section 63 of the Act to enable procurement of Round-the-clock (**RTC**) power by DISCOMs from grid-connected renewable energy power projects, in order to facilitate renewable capacity addition and fulfilment of RPO requirement of DISCOMs, improve bankability of projects and ensure reasonable returns to the investors.
  - In June 2020, MNRE introduced a new mode (**Mode 8**) for development of UMREPPs under the 'Development of Solar Parks and Ultra Mega Solar Power Projects' scheme. This mode offers a range of incentives to Solar Power Park Developers (**SPPDs**) such as assistance in identification and acquisition of land, facilitating all required statutory clearances, compensation for development of internal infrastructure including cost of transmission to STU/CTU point (CFA of INR 20 lakh/MW or 30% of cost of development of UMREPPs, whichever is lower, will be provided).
  - In March 2020, MNRE directed SECI/NTPC being the renewable energy implementing agency to compensate project developers towards Change in law claims through annuity in terms of CERC RE Regulations by utilizing the Payment Security Fund.

- **Initiatives taken during Covid-19**
  - All Renewable Energy implementing agencies of the MNRE are directed to treat disruption of supply chains due to spread of Covid-19 in China or any country as Force Majeure.
  - All Renewable Energy implementing agencies may grant suitable extension of time for projects based on evidences/documents produced by developers in support of their respective claims of disruption in the supply chains.
  - Power may be scheduled even if Payment Security Mechanism (**PSM**) is established for 50% of the amount for which PSM is to be otherwise established contractually.
  - Government will treat letter of comfort (undertaking) issued by state-run financial institutions like Power Finance Corporation (**PFC**), REC and Indian Renewable Energy Development Agency Ltd (**IREDA**) at par with bank guarantees to improve business environment for clean energy projects and attract investments. Must-run status of renewable projects remains unchanged during the period of lockdown (no curtailment due to low demand) and payments to renewable generators is to be done on regular basis. Thereafter, MNRE also granted all renewable projects a blanket extension equivalent to the period of lockdown plus additional 30 days for normalization.

[1] https://posoco.in/wp-content/uploads/2018/08/REC_REPORT_17082018_fPRINT.pdf

3.2 Enabling judicial and regulatory ecosystem

Over the last few years, the judiciary and sector regulators have passed a number of judgments and orders to provide certainty to investors, developers and other stakeholders in this sector. These decisions are based on a thorough understanding and analysis of underlying commercial issues and have provided much-needed relief to this sector.

Important judgments

Case name	Settled principle
Power Grid Corporation of India Ltd v. ACME Solar Holdings & Ors **CERC | May 09, 2020**	▪ If any Application bank guarantee (**BG**) or construction phase BG furnished by the LTA applicant, for which a corresponding quantum through PPA or PSA has been executed with a identified beneficiary, is deposited during the application stage, such BG has to be returned. ▪ If the beneficiary is identified, then no such BG ought to be submitted at the application stage.
Ayana Ananthapuramu Solar Pvt Ltd v. Andhra Pradesh Electricity Regulatory Commission & Ors **APTEL | Feb 27, 2020**	▪ DISCOMS cannot unilaterally seek reduction of trading margin in deviation of express provisions of Request for Selection document, PPA and PSA. ▪ Effective date under the Power Purchase Agreement will be considered as the date on which the adoption proceedings have attained finality.
Azure Power India Pvt Ltd v. Solar Energy Corporation of India & Anr **CERC | Feb 03, 2020**	▪ Imposition of Safeguard Duty notified in July 2018 is a Change in Law event. ▪ Payments to developer by intermediary procurer were held not be conditional upon the payment to be made by DISCOMs to the intermediary procurer, as the PPA and PSA are back to back in nature and Developers are to be compensated by the intermediary irrespective of the intermediary being paid by the DISCOMs.
ACME Kurukshetra Solar Energy Private Ltd & Ors v. NTPC Ltd & Ors. **CERC | Jan 28, 2020**	▪ Introduction of Good and Services Laws (**GST Law**) was held to be a Change in Law event. ▪ Billing and payment between developer and intermediary procurer is not conditional upon intermediary procurer making payments to DISCOMs, thereby bringing much needed relief to the solar power developers who were not getting the payments from intermediaries due to non-payment by the DISCOMs.
Renascent Power Ventures Pvt Ltd v. UPERC & Ors **APTEL | Sep 27, 2019**	▪ Once the PPA has been executed and acted upon, it is not open for a party to seek reduction of tariff. Such reduction is beyond the jurisdiction and scope of state commissions. ▪ Upon the decision being appealed before the SC, the same was rejected at the threshold of being admitted.
ACME Rewa Solar Energy Pvt Ltd v. Solar Energy Corporation of India Ltd **CERC | May 02, 2019**	▪ CERC declared the imposition of Safeguard Duty (**SGD**) notified in July 2018 as a Change in Law event and directed intermediary procurer to provide consequential compensation to the developer.
Madhya Pradesh Power Management Company Ltd v. Renew Clean Energy Pvt Ltd & Anr **Supreme Court | Apr 05, 2018**	▪ Delay in commissioning of the project due to unavoidable circumstances cannot be a ground for termination of the PPA between developer and DISCOM. ▪ Bearing in mind the investments made by the developer in purchasing the land and other developments of the project, the Hon'ble SC held that termination at the final stage of the commissioning of the project, the termination of the PPA by DISCOM is arbitrary and unfair.
Chamundeshwari Electricity Supply Company Ltd v. Saisudhir Energy Pvt Ltd & Anr **APTEL | Mar 21, 2018**	▪ APTEL through the said judgment has upheld the principle that a party cannot be subjected to adverse financial consequences for reasons beyond its control and declared the non-availability/non-commissioning of the transmission lines as a Force Majeure event.
Gujarat Urja Vikas Nigam Ltd v. Solar Semiconductor Power Company (India) Pvt Ltd **Supreme Court | Oct 25, 2017**	▪ SC reiterated the settled legal position on maintaining sanctity of contracts by interpreting the provisions of the Electricity Act 2003 that inherent jurisdiction of the electricity regulator is circumscribed and cannot be used to substantially alter the terms of a binding contract.
Energy Watchdog v. Central Electricity Regulatory Commission **Supreme Court | Apr 11, 2017**	▪ Guidelines have force of law and hence are binding upon the parties entering into a contract based on such guidelines. Where, the guidelines are silent/non-existent on a particular matter/issue, then a regulator may exercise its general regulatory powers to adjudicate/regulate such disputes. ▪ The said judgment also is of immense importance on the issue of frustration of a contract under the Indian Contract Act, 1872 owing to Force Majeure events and lays down important principles to decipher situations where frustration or impossibility to perform can be claimed in a contract.

3.3 Land acquisition

Land acquisition risk in this sector is now minimal, as can be witnessed from a number of large solar projects in the country. There are preferential and beneficial local state laws designed for renewable energy projects, and land can be acquired or leased. Solar parks eliminate land acquisition risk entirely.

- **Land acquisition process has been streamlined:** As on March 2019, 42 solar parks with cumulative capacity of 23,449 MW have been approved in 17 States. Over 100,000 lakh acres of land has been identified for various solar parks out of which over 75,000 acres have been acquired. Furthermore, the presence of 7 of the world's largest solar parks in India,

including the largest in the world[2], is indicative of the improvement in land acquisition over the last few years

- Bhadla Solar Park – 2,250 MW – Rajasthan – 14,000 acres
- Shakti Sthala solar power project – 2,050 MW – Karnataka – 13,000 acres
- Ultra-Mega Solar Park – 1,000 MW – Andhra Pradesh – 5,932 acres
- Rewa Solar Power Project – 750MW – Madhya Pradesh – 1,590 acres
- Kamuthi solar power plant – 648MW – Tamil Nadu – 2,500 acres
- A 1,500 MW solar park is set to become operational in Kadapa in Andhra Pradesh

- **Railways land besides tracks[3]:** Indian Railways announced that about 51,000 hectares of land alongside the railway tracks on Indian Railways' land was available for installing solar plants with a potential to generate 10 GW of clean energy. Immediate plans pertain to setting up 1,000-MW solar power plants and about 200-MW wind power plants by 2021-22.
- **Land alongside major ports[4]:** India's 12 major ports plan to set up 83 MW solar photovoltaic power plant projects from their own resources. The step is part of the Green Port Initiative launched by the Ministry of Shipping. The 12 major Indian ports are as follows: Kandla, Mumbai, JNPT, Marmugao, New Mangalore, Cochin, Chennai, Ennore, V O Chidambarnar, Visakhapatnam, Paradip and Kolkata (including Haldia) which handle approximately 61% of the country's total cargo traffic.

3.4 Introduction of reverse bidding[5]

Award of PPAs/bidding mechanism follows a transparent process. Online, real time bidding on 'reverse bidding' basis eliminates subjectivity and opaqueness and allegations of preferential treatment, thus minimizing project procurement risk and the possibility of challenge to award of PPAs/projects.

- A reverse auction mechanism helps in ensuring transparency in the entire bidding process. Under this mechanism, sellers which meet certain minimum criteria are eligible to submit non-negotiable price bids. The buyer (typically a utility) then selects winning sellers based on the lowest priced bids first, and signs non-negotiable standard contracts with the winning sellers, incorporating the prices bid by that seller.
- Under 'close bidding', the bidder cannot change its bids. The reverse auction gives chance to bidder to outbid their competitors which helps in discovering the best tariff for consumers.
- The process has matured over the years, with over 150 GW of PPAs having been frozen using this process (84.40 GW of installed capacity, 36.68 GW under implementation while 29.58 GW tendered). Inherent risks are well-known and can be priced in by investors, leading to one of the cheapest renewable energy tariff in the world.

3.5 Transmission

Transmission and evacuation constraints have long plagued this sector. Delays in securing right of way, forest clearances, re-routing requirements and other constraints often resulted in cost overruns, thereby putting pressure on the return and debt coverage metrics for the developers. However, a range of positive developments have helped address these challenges.

- **Strengthening the grid infrastructure:** While the Power Grid Corporation of India Ltd (**PGCIL**) - has lined up 14 transmission projects for strengthening the network[6], Indian Credit Rating Agency (**ICRA**) expects an investment of approx. 25 billion over the five-year period from FY21 to FY25 in the power transmission segment at an all-India level, driven by evacuation infrastructure for RE projects. The Centre has lined up 14 transmission projects under the tariff-based competitive bidding (**RBCB**) route for evacuating power from 25 GW renewable energy projects.
- **Green Corridor[7]:** The Green Energy Corridor Project aims at synchronizing electricity produced from renewable sources, such as solar and wind, with conventional power stations in the grid. For evacuation of large-scale renewable energy, Intra State Transmission System (**InSTS**) project was sanctioned by the Ministry of Power in 2015-16. With a cost is USD 1.6 billion, the project includes approximately 9400 km transmission lines and substations of a total capacity of 19000 MVA to evacuate 20,000 MW of large-scale renewable power and improvement of the grid in the implementing states.
- **RTEM spot market for instances where there is a vacuum in PPAs[8]:** The proposed real time market provides an alternate mechanism for generators to access larger energy market in an attempt to address vacuum in PPAs. It is expected that shorter bidding time, faster scheduling, and defined processes (e.g. gate closure) will enable the participants to access resources throughout the all India grid, promoting competition and leading to better portfolio management by the utilities with efficient power procurement planning, scheduling, despatch, and imbalance handling. This will also help ensure that power plants with low tariffs do not get into 'stressed assets' category in future even without power purchase contracts with states.

[2] https://mercomindia.com/top-solar-parks-india-infographics/ https://www.nsenergybusiness.com/features/largest-solar-power-plants-india/

[3] https://www.financialexpress.com/budget/railway-budget-2020-indian-railways-to-set-up-eco-friendly-large-solar-power-capacity-alongside-tracks/1844797/ https://timesofindia.indiatimes.com/city/bhopal/solar-plant-along-railway-track-in-bina-to-generate-power/articleshow/73897096.cms

[4] https://www.livemint.com/industry/energy/with-an-eye-on-china-india-to-offer-land-near-major-ports-for-solar-equipment-manufacturing-11597316045422.html

[5] https://energy.economictimes.indiatimes.com/news/renewable/reverse-bidding-in-renewable-energy-sector-to-continue-r-k-singh/65953083 https://energy.economictimes.indiatimes.com/news/renewable/solar-tenders-and-reverse-auctions-in-india-the-way-forward-sunil-jain-ceo-hero-future-energies/69883713

[6] https://energy.economictimes.indiatimes.com/news/power/indias-power-transmission-segment-may-attract-rs-1-8-lakh-cr-investment-by-fy25-report/77425521

[7] https://mnre.gov.in/green-energy-corridor

[8] https://pib.gov.in/PressReleasePage.aspx?PRID=1628935

- **REC Certificates[9]:** Renewable Energy Certificates (**RECs**) are a market-based instrument that certifies the bearer owns 1 MWh of electricity generated from a renewable energy resource. Once the power provider has fed the energy into the grid, the REC receive can then be sold on the Power Exchange as an energy commodity. These help large power procurers in meeting their Renewable Purchase Obligations and are traded on two power exchanges - Indian Energy Exchange (**IEX**) and Power Exchange of India Ltd (**PXIL**).

3.6 Durability of PPAs

PPAs are now standardized and provide reasonable allocation of risks. Procurement, investment, construction and operational risk can be effectively identified and priced upfront. Furthermore, SECI and NTPC as intermediate buyers effectively provide a form of sovereign guarantee, in addition to increasing the bankability of PPAs by removing direct exposure to state DISCOMS.

- **Tariff payment obligations:** SECI and NTPC have assumed direct obligations for tariff payment (monthly bills and supplementary bills, including change in law payments) under their recent PPAs. This is almost akin to a 'sovereign guarantee' wherein SECI and NTPC PPAs fare better on tariff payment obligations compared to directly selling to Discoms. Additionally, certain critical provisions (such as the establishment of payment security mechanism and payments towards grid-related compensation) are to be met only if Discoms comply with them.
- **Long term offtake commitment[10]:** A bankable PPA is essentially a long-term offtake agreement executed with a creditworthy off-taker and having a sufficient tenor to enable repayment of debt by providing an adequate and predictable revenue stream. Given the maturity of PPA T&Cs in the renewable energy sector, the attendant risks are well known and can be factored in by the investors.
- **Construction risk:** Under PPAs, construction risk is to be assumed by developers. However, construction periods provided are quite liberal and, in any case, Force Majeure extensions have been given in several instances.
- **Exit from projects:** Exits are permissible under PPAs, which allow change in shareholding after initial lock for a specified period after COD. This period typically varies from 1 to 3 years.

3.7 Amendments to Electricity Act, 2003

A Draft Electricity Amendment Bill 2020 was issued in April 2020 and is now awaiting notification pursuant to the consultative process. This Bill contains a host or provisions meant to give a fillip to renewable energy sector in India. Some of the salient aspects are detailed below.

- **National Energy Policy for Renewables and Hydro with committed targets:** The proposed Section 3A of the Amendment Bill enables a policy environment for the Central Government to issue a National Renewable Energy Policy for promotion of electricity generation from renewable sources of energy and prescribe a minimum percentage of purchase of electricity from renewable sources of energy. The Amendment Bill proposes to delegate the power with the Central Government to prescribe modalities for bundling the renewable power with the thermal power and prescribe Renewable Generation Obligation (**RGO**). With introduction of RGO, the thermal power generating companies (may also include captive thermal generation) could be made obligated to generate and invest in renewable energy, however the extent/percentage of such RGO will be notified by the Central Government.
- **Deemed tariff adoption under Section 63 of the Electricity Act:** Owing to disputes before SERCs and CERC qua tariff adoption (subsequent to a competitive bidding process) under Section 63 of the Electricity Act, 2003, the Amendment Bill introduces a 60-day time period for adoption of tariff by the appropriate commission. Failing adoption within 60 days, the tariff would be deemed adopted.
- **Electricity Contract Enforcement Authority:** It is also proposed to establish the Electricity Contract Enforcement Authority (**ECEA**) to decide on matters regarding the enforcement of contractual obligations on purchase or transmission of electricity. Given that some of the biggest challenges faced by renewable project developers and power generators relate to violations or non-fulfillment of contracts and agreements, formulation of ECEA can assist in expeditious enforcement

3.8 Local solar module manufacturing

Local manufacturing of solar modules will help reducing the reliance on imported modules, whose prices are often impacted by varying geo-political and trade aspects.

- Some of the firms looking to set up solar equipment manufacturing in India include Goldman Sachs and Canada Pension Plan Investment Board backed Renew Power that plans to set up a 2 GW cell and module manufacturing facility.
- Recently, Adani Green Energy Ltd, that already has a 1.5 GW solar PV cell and modules manufacturing capacity, bagged a manufacturing-linked solar power generation contract that entails setting up 2 GW of additional solar cell and module manufacturing capacity.

4. Conclusion

Investment capital available globally currently exceeds renewable energy opportunities. Renewable energy prices in India have now stabilized at rates 20-30% below the cost of existing thermal power, and up to half the price of new coal-fired power. With the decreasing cost of debt and solar module prices, it is an opportune time for the government of India to accelerate the energy transition through better regulation and policy definition in the power sector. Some suggested steps are as follows:

- Reduce off-taker risk by ensuring Discoms both honor contracts and make payments to generators
- Ensure Discoms comply with renewable purchase obligations (**RPO**), that is, either buying electricity generated by specified 'green' sources, or in lieu of that, purchasing renewable energy certificates (**RECs**)
- Create policy certainty and explore innovative financial solutions in order to attract more funds.

With the global appetite changing in favor of cheaper deflationary renewable energy technologies, and with over 130 and counting globally significant banks and financial institutions committing to divest their funds from the fossil fuel sector, the present opportunity is indeed significant.

[9] https://www.investopedia.com/terms/r/rec.asp

[10] https://www.saurenergy.com/solar-energy-news/long-standing-issues-of-long-term-power-purchase-agreements https://www.dfc.gov/sites/default/files/2019-08/10%20Elements%20of%20a%20Bankable%20PPA.pdf

BAKER BOTTS

Indian renewable energy industry: Opportunities for European and US investors

As indicated in the White Paper, foreign players (particularly those from Europe and the US) are expected to play a key role in India's renewable energy sector as equity investors, lenders, equipment and technology suppliers, contractors and consultants. The sheer scale of India's renewable energy sector as already the world's third largest and with world leading targets for installed capacity in renewable generation and battery storage by 2030 demands attention from the international investment community and this White Paper is welcome.

As has been apparent in the US and Europe for some time, 'green' energy and ESG compliant investment is top of mind in boardrooms across the planet and the range of investors in the sector has grown from traditional utilities and banks to embrace the full range of corporates (across energy, technology, manufacturing and retail in particular), a wide range of alternative capital sources from infrastructure funds, pension funds and sovereign wealth funds, traditional energy players such as oil companies embracing renewable energy and technology providers leading the energy transition. Add to this is the opportunity to gain or add to a presence in one of the world's fastest growing and dynamic economies. These remarks will focus on three main areas of opportunity, particularly for European and US investors.

Joint venture opportunities

Many investors will look to team up with well qualified local partners and we can expect significant JV activity in the sector to exploit multiple transaction or business line opportunities. We expect there to be a slew of JVs announced between foreign investor groups and Indian companies in the coming years to develop opportunities in the Indian renewable market and to use these JV structures to potentially pursue similar opportunities in other markets (e.g., the Middle East, South Asia or Africa). It is noted that a number of the transactions referred in the White paper were conducted through JVs and many of the investment promotion initiatives referred to in the White Paper will be welcomed by investors considering JV operations in Indian renewable sector.

Corporate power procurement

The last decade has seen the rapid development and transformation of the contractual and market structures in the Europe and the US for the purchase and sale of electricity (and ancillary services such as frequency regulation) by corporates, which are no longer willing to simply buy electricity from the grid (with or without hedges), largely due to economic and ESG factors. This has coincided with a rapid development of options for both generators and offtakers in the evolution from the traditional 'busbar' PPA (involving the long-term supply of electrons to a busbar delivery point), the dramatic growth of virtual PPAs (**vPPAs**) and the next generation of renewable PPAs involving more complex procurement strategies, such as Google's Carbon Free Energy (**CFE**) Program. These PPAs address the issue of renewable intermittence in light of customer 24/7 demand requirements and deploy solutions so that the customer is genuinely using renewable power 365 days a year. The development of these PPA solutions has taken place alongside the development of financially settled hedge products. While the US has led the way in such developments, there has been rapid growth in the European vPPA market to a market now of over 8GW. We can anticipate that Indian and foreign corporates will focus on PPA structures as a key risk management tool for their power procurement and as a key cornerstone to meet ESG objectives for their Indian operations and globally. The measures outlined in the White Paper to improve the legal and regulatory issues involved in the interpretation and enforcement of contracts in India is to be welcomed.

Battery storage

Energy storage is a key precursor to fulfilment of India's ambitious renewable energy objectives and there are signs already that foreign investors such as AES from the US and Mitsubishi Corporation from Japan have already committed to investments in storage in India. Energy storage projects offer investors access to a wide range of customers including generators, grid operators and industrial and residential consumers and 'prosumers'. Investors will be very interested in exploring Indian market opportunities which offer the incentives discussed in the White Paper and importantly a large scale of opportunity. Clearly the future looks bright for energy storage in India.

In summary, India stands out as a hugely significant market for European and US investors due to the type of incentives and developments referred to in the White Paper and the sheer size of the market. In the new business environment where non-traditional energy investors are assessing their place in the energy transition and may have other reasons to commence or enhance their presence in the Indian market, investment in India's renewable energy sector would seem an attractive proposition.

With world leading targets for installed capacity in renewable generation and battery storage by 2030, the sheer scale of India's renewable energy sector demands attention from the international investment community. The focus on 'green' energy and ESG compliant investment will further amplify this interest and we expect a slew of JVs announced between foreign investor groups and Indian companies in the coming years to develop opportunities in the Indian renewable market, and to use these JV structures to potentially pursue similar opportunities in other markets.

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CLAYTON UTZ

Investment into renewable projects: An Australian perspective

In recent years there has been a growing demand for Australian financial institutions, equity funds, pension funds and companies to incorporate Environmental, Social and Governance (**ESG**) requirements into their investment strategy and many Australian funds have committed to net zero emissions in their investment portfolios by 2050. With Australian investors in renewable projects currently having issues with network connection and noting the comparatively small renewable market in Australia, we have seen Australian investors looking to expand their investments overseas to diversify their investment portfolios.

Potential for Australian super fund investment in renewables projects

Certain Australian super funds have sought to diversify their investment portfolios, pivoting towards clean energy projects. This trend follows Australian superannuation funds such as HESTA, AustralianSuper, UniSuper and REST committing to net zero emissions in their investment portfolios by 2050. This will likely amplify the interest in renewable energy assets in India and elsewhere.

Environmental, Social and Governance (ESG) considerations

There has been a growing demand for Australian financial institutions and companies to incorporate ESG considerations in their investment decision making to assist with establishing long term sustainable returns. In fact, the Australian Prudential Regulation Authority (**APRA**) outlines in their Prudential Practice Guide (SPG 530 - Investment Governance) that factors such as ESG can be incorporated into a super fund trustee's decision-making process where such considerations do not conflict with requirements in the Superannuation Industry (Supervision) Act (**SIS Act**) to act in fund beneficiaries' best interests. Notably, recent data has identified that companies with the highest ESG ratings have proven more resilient in the coronavirus market crash as at April 2020.[11] Superannuation funds may therefore be inclined to consider incorporating ESG as a critical factor in their portfolio investment decisions. Investment into Indian renewables projects could also be attractive to Australian banks which must comply with robust ESG due diligence requirements as part of their credit risk assessments. Notably, as at December 2020, Australia's four major banks have signalled they will align their portfolios to a target of net zero emissions by 2050, with most aiming to cease lending to thermal coal companies by 2030. This could provide the impetus for Australian financial institutions to look toward investing in foreign energy projects such as in India.

Australian investment into India

The Federal Government has previously recognized the potential for investment opportunities in strengthening the Indian renewables sector through the Australia-India Energy Dialogue.[12] The strong political, economic and community ties shared between Australia and India is exemplified by both governments signing the Comprehensive Strategic Partnership on June 04, 2020. The Governments of Australia and India have also set up an annual bilateral agreement to open up Australia-India Energy at a Ministerial level between the Australian Minister for Energy and Emissions Reduction and the relevant Indian Minister. The four working groups are Renewable Energy and Smart Grids; Power and Energy Efficiency; Coal and Mines; and Oil and Gas.

In 2019, Australia's largest pension fund AustralianSuper agreed to invest up to USD 1 billion in India's National Investment and Infrastructure Fund, which primarily invests in equity capital in India's transportation, energy and urban infrastructure.[13] Acknowledging the projected rapid increase of renewable power generation out to the year 2035, the Australian Department of Foreign Affairs & Trade has stated that Australia would cooperate closely with India in regional and global forums on energy security and efficiency including from India "with a possible Australian investment presence in India".[14]

While a large number of renewables projects in Australia have reached financial close over the last 5 years, the market is very fragmented with many project sponsors and financiers now taking significant losses on account of factors such as the national grid not being able to support the large number of renewables projects, ever increasing competition and commoditization, etc. These factors have led to an increasing interest in investment opportunities in renewable energy sector outside the country. While Australian investment into the Indian renewable market is in its early stages, with bilateral government involvement as well as a strong desire from Australian companies and pension funds to look to other markets for investment into renewable projects, we hope to see growth in the coming years.

With Australian investors in renewable projects currently having issues with network connection and noting the comparatively small renewable market in Australia, we have seen Australian investors looking to expand their investments overseas to diversify their investment portfolios. While Australian investment into the Indian renewable market is in its early stages, with bilateral government involvement as well as a strong desire from Australian companies and pension funds to look to other markets for investment into renewable projects, we hope to see growth in the coming years.

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Investments in India's renewable energy sector: The US perspective

Renewable energy projects are an increasingly well-understood investment vehicle, with relatively mature financing structures, concepts and costs, and investors from the United States are actively seeking opportunities for renewable energy investment across the globe. Further, because the U.S. has leveraged a free-market system (albeit with significant historical subsidy) to promote renewable energy, there are many large investors with diverse experiences and portfolios who are prepared to provide both equity and debt financing as well as significant managerial assistance to a project. Below are a few key points that are important when seeking investments from U.S. investors in a renewable energy project.

Familiar technologies and economies of scale

In October of 2020, the International Energy Agency confirmed what practitioners had anecdotally recognized: solar (and to some extent renewable energy generally) is the cheapest form of energy production in history. The combination of economies of scale in the production of power generation equipment and massive global subsidies – in one form or the other – have primed the pump to create a massive renewable energy manufacturing infrastructure. As a result of the relatively simple construction process – and limited post-construction operational logistical hurdles – investors in the United States find renewable energy investment in other jurisdictions to be de-risked as compared to traditional extractive resource industries. We expect that this trend will accelerate as investors become more familiar with the particular needs of each jurisdiction.

We anticipate that the investor demand for international renewable energy projects will grow significantly over the next five years. A project seeking U.S.-based investors should have the details of the needs of the service area (including applicable storage potential, discussed below), transmission infrastructure, initial construction challenges and a logistical plan (including identification of the manufacturers of the primary hardware) as part of the initial information presentation.

Location, Location, Location

While energy derived from traditional extractive resources tended to follow rough geographic trends in terms of availability (e.g., coal in the Eastern United States and Eastern India, oil and gas in the Persian Gulf, etc.), the availability and viability of renewable resources has much greater variability. As a result, investors from the United States face a different due diligence process than they would undertake for an investment in a conventional extractive power generation resource. Promotors seeking U.S. investment are well-advised to present a comprehensive environmental study that discusses the suitability of the chosen location for the chosen renewable energy technology. A study that is already prepared by a reputable and recognized third-party expert will allow for faster deal analysis and investment commitment.

Diversification is in demand

In part due to the COVID-19 pandemic, U.S. investors are seeking to further de-risk their renewable energy investments or financings through smaller investments in multiple projects. Pre-packaged projects involving multiple different modes of energy production and service areas are a means to satisfy that demand. U.S. investors are also keenly aware of the involvement of recognizable names in projects that serve to lend significant credibility to a project. Promoters seeking U.S. investment are particularly well-positioned when they are able to provide a broad portfolio of potential investments as well as demonstrate significant institutional interest (with internationally recognizable names) in the projects.

Innovative storage

Renewable energy projects tend to attract larger private equity funds and U.S. strategic investors that are seeking relatively lower risk investments with sustainable returns. However, a significant area of venture capital interest in the renewable energy space is in storage technology for renewable energy. The well-documented variability of most renewable energy sources will require significant investment in the form of energy storage in order to fully transition from extractive energy sources to renewable energy sources. As a result, projects that emphasize an innovative, scalable and replicable energy storage system will be prime candidates for equity financing that would otherwise be deemed as too significant a risk for the traditional renewable energy investing group.

Significant growth

We anticipate that the investor demand for international renewable energy projects will grow significantly over the next five years. With the influence of the Paris Accords, the overwhelming international push toward clean energy and the incentives for renewable energy generation capacity that will be promoted by the newly-elected Biden administration, the demand for renewable energy will significantly increase. Meanwhile, the massive infusion of capital from the U.S. Federal Reserve during the COVID-19 pandemic combined with historically low interest rates in the United States will result in U.S. investors seeking investments that provide yield combined with relatively limited risk. We believe international renewable energy projects are well-positioned to satisfy those demands.

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Spanish investment in India's renewable power sector

Given the concerns around climate change threats, there is increasing focus on the need for switching a carbon-based energy industry to one with zero carbon emissions. In this context, renewable energy markets are poised to emerge as interesting and attractive options for investors. The particular time taken by such markets to reach their peak will vary across regions depending, among others, on the economic development of the relevant region, quantum of energy demand and the attendant regulatory framework.

In this sense, the Indian renewable energy market has again become very attractive for European investors, particularly for investors such as private equity and sovereign wealth funds that have been (and are) facing a period of high liquidity and very low interests rates, thereby triggering the need for exploring alternative investments with a good balance between risk and return.

The combination of falling renewable technology prices with a huge population makes the Indian renewable energy market particularly attractive. While the growth experienced in the Indian renewable energy market in the recent years has been absolutely amazing, there is still significant headroom for expansion given the fact that India's per-capita consumption of electricity is far from reaching its peak. Consumer demand for electricity will be boosted by accelerating urbanization and we believe that this market still has a big margin for growth and offers significant opportunities for investors.

"The Indian renewable energy market has become very attractive for European investors. The predictable yields, interesting returns and lower risk associated with renewable energy projects in India are attractive attributes for foreign institutional investors and fund managers while committing funds. Spanish investors are closely following the trends in India and we expect this interest to translate into significant deal activity over the next few years.

The recent consistent regulatory policies in India generally and the country's renewable energy sector specifically are contributing to attract the interest of Spanish and European investors. As per the comments of some investors that have shared their views with us, the Indian renewable energy market is matured or near to be matured and characterized by predictable yields, interesting returns and lower risk that matches what foreign institutional investors and fund managers seek when committing their funds. This market also appears to be very attractive for medium and big international developers and EPC companies that are keen to diversify their portfolio and willing to explore other markets.

However, there are some challenges that need to be addressed for fully encouraging Spanish investors to explore the Indian market and commit their investments there. The Indian renewable energy market was very attractive for Spanish investors in the past, although some of them had adverse experiences relating to difficulties to enforce breached contracts, choosing the appropriate local partners, etc.. These experiences, coupled with concerns around sovereign risks, delay in payments, tariff caps and sanctity of contracts, may make Spanish investors adopt a wait-and-watch approach while considering entering the Indian market again. In this regard, while investors are looking forward to seeing how the new tariff policy and the payment security mechanism for power generators will be implemented in practice, they believe that there is still some margin to improve the attractiveness of the market by easing land-acquisition norms, revisiting aggressive tariff caps on reverse auctions and improving the transmission grid infrastructure.

On a related note, the Spanish renewable energy market (which still faces many challenges) is currently very active. The spate of opportunities popping up in the local market may well have discouraged Spanish investors to actively seek opportunities outside the home market. Furthermore, the proximity of the Spanish culture to LATAM may also have predisposed Spanish investors to first seek international opportunities in that region instead of India (even though, there are a large number of Spanish companies already present at the Indian market).

It would seem that Spanish investors are patiently looking at the Indian renewable energy market, waiting for it to take further steps to encourage investor confidence. The investors recognize the market potential and are closely following the trends in the Indian market and, perhaps, as the Spanish energy market becomes less active in terms of M&A opportunities, they will be willing to explore additional opportunities in India and elsewhere. We can only hope that it will not be too late for Spanish investors to take positions in the market and they will still be able to take advantage of the opportunities the Indian market offers

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