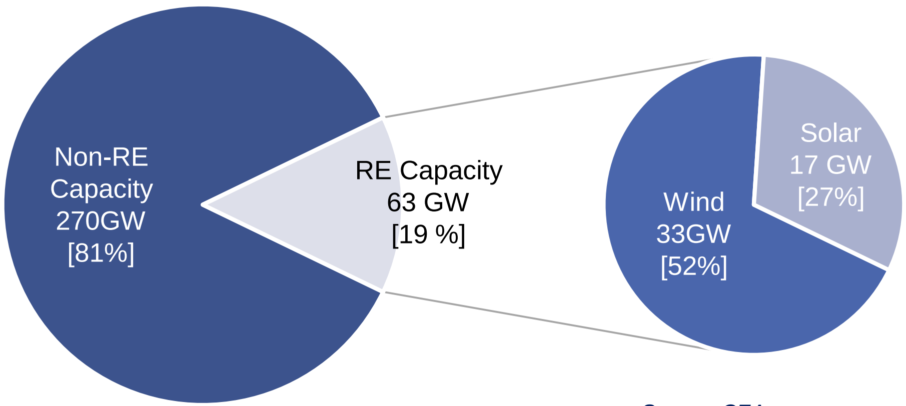
National Power Summit – Hyderabad

9th February 2018

Renewable Energy Capacity in India

Renewable Energy Installed Capacity

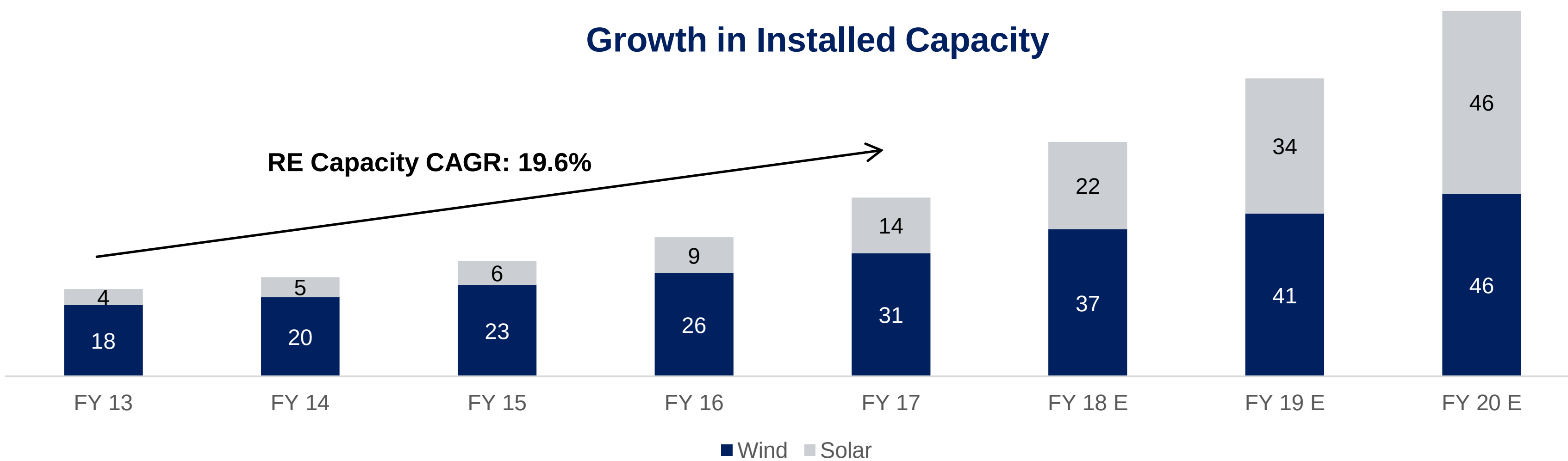
(Sep, 2017)



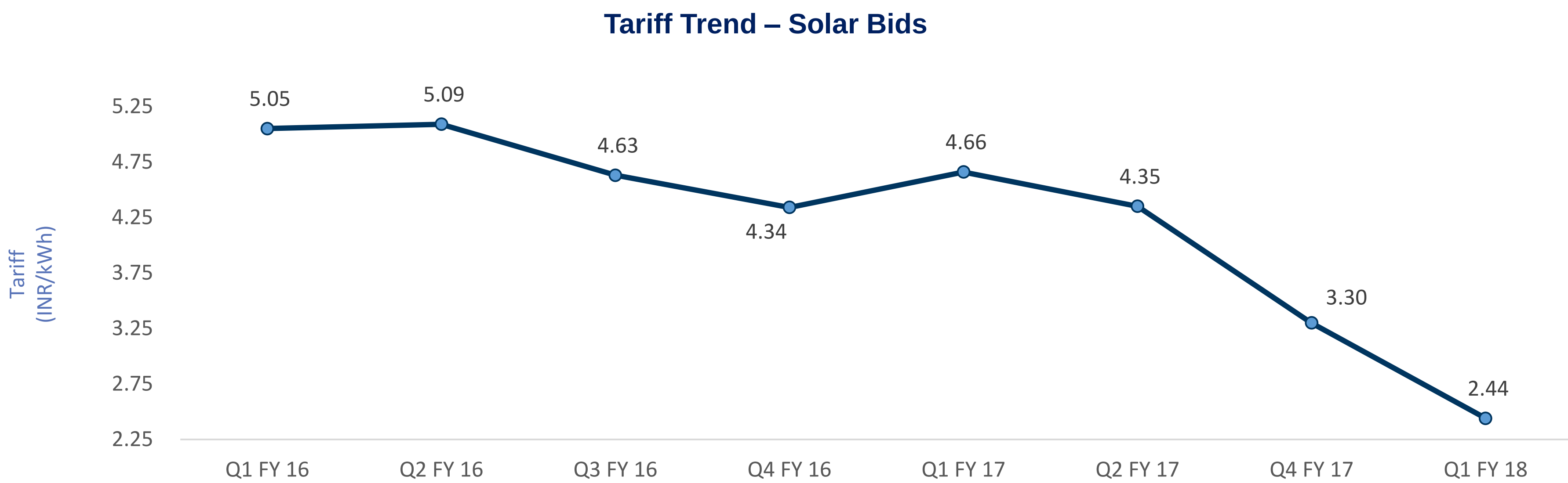
Source: CEA

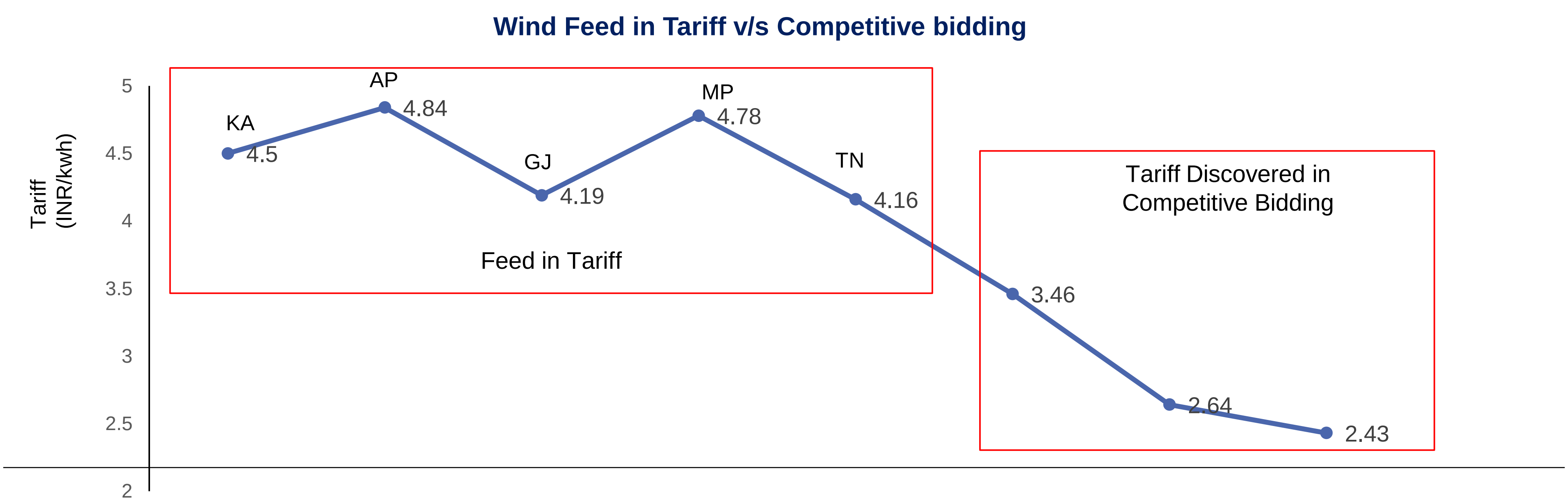
- The share of RE contribution in total power installation of the country has increased from 6% in 2007 to 19% at the end 2017
- RE installed capacity stands at 63 GW as of Dec, 2017.
- Solar and wind capacities have grown at a CAGR of 36.8% and 14.6% respectively over the past four years

Growth in Installed Capacity



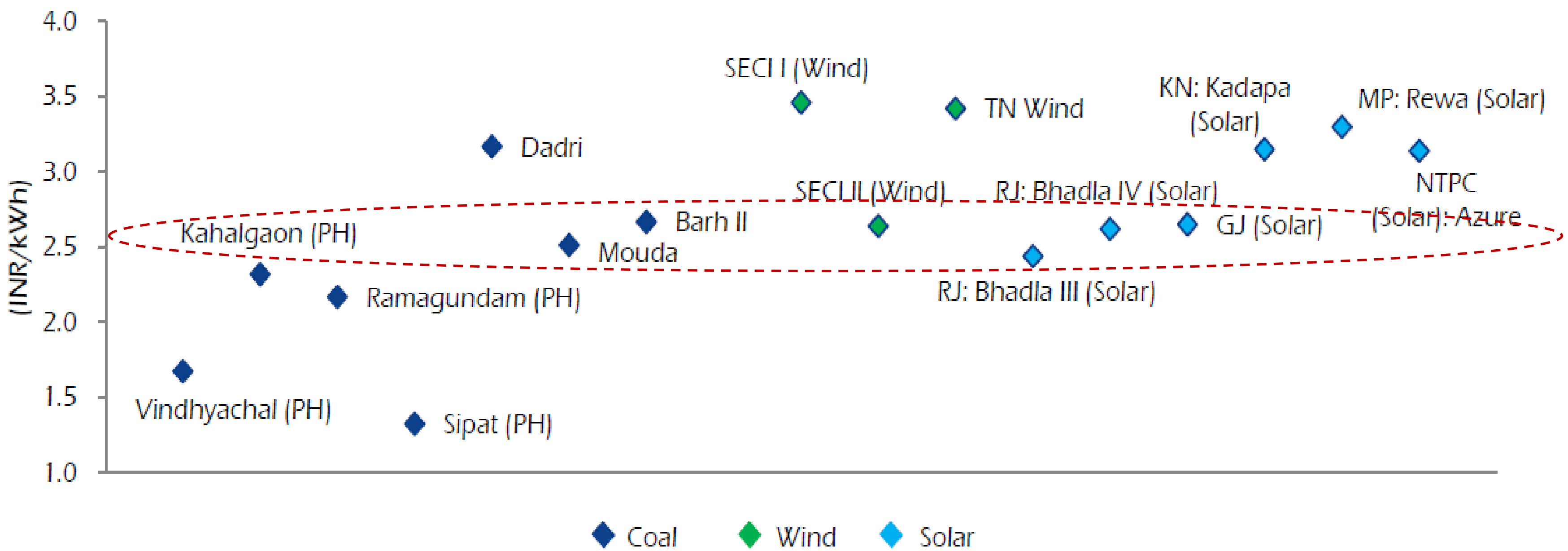
Solar and wind tariffs have witnessed a sustained reduction…





… leading to these tariffs now becoming competitive even with variable cost of thermal generation

Recent RE bids and Variable Costs of Thermal Capacity



At the current tariffs, even without a must-run status, RE capacity is competitive with thermal capacity in the merit order dispatch

Source: NTPC, SECI, MNRE, Tata Power, Elara

Telangana is a leading state in India in solar sector

S. No.	Resource	Cumulative capacity commissioned (in MW)
1	Solar Energy	3045
2	Wind Energy	101
3	Biomass Based	68
4	Co-Generation with Bagasse	130
5	Municipal Solid Waste	19
6	Industrial Waste	22
7	Small Hydro	44
8	Biomass Co-Generation	14
9	Biogas off grid	1
TOTAL		**3444**

- Telangana is one of the leading state in the country in terms of Solar Power Installation.
- Telangana having vast solar potential with average insolation of 5.5 kwh/m2 with more than 300 sunny days.
- As per study conducted by National Institute of Solar Energy (NISE), Telangana has solar power potential of 20.4 GW.

Telangana Power Sector: Challenges and Risks

Significant Coal based capacity has crossed useful life

- KTPS ABC (720 MW) and RTS B (62.5 MW) have lived their useful life
- KTPS Stage V (500 MW) has crossed 20 years
- Can this capacity be replaced by Solar in phases? This will require about 5000 MW of Solar

Infirm nature of Solar

- With Solar capacity already about 22 % of Telangana's Contracted Capacity, will there be grid balancing issue?
- But as the significant capacity contracted by State discoms is Hydro, Telangana State can increase further mix of renewables, without any need of significant investment in Storage or any other steps for grid balancing
- But in medium to long term Telangana needs to implement Ancillary Market for Grid Balancing and strengthen SLDC

Significant increase in Demand

- With 24 x 7 free power to farmers and significant load increase on account of lift irrigation scheme, Telangana requires capacity addition in a limited timeframe
- Solar capacity can not only be added in less than a year but also at a tariff which is cheapest

Challenges faced by Solar Investors in Telangana: an amendment in Solar Policy is urgently required

Significant payment delay	• Solar developers are getting payment more than 3 months later than due date • We are prioritised almost last in the order of payment. We urge utility to make payment to all generators prorate to their invoice value
Implementation of Solar Policy : Vat and Stamp Duty Refund; deemed NA limited to 5 acre/ MW	• Though recently there has been some progress on this issue, but the lack of process clarity has already led to significant delay • deemed conversion of land use is permitted to the extent of 5 Acre/MW (AC Capacity); considering DC overloading and use of trackers by developers; the actual land requirement is higher which may also be considered deemed NA
Open Access provisions in the Policy	• While the solar policy provides for a very positive framework for selling power from solar plants through Open Access (OA), but the same is not implemented • We suggest that utility may charge the required wheeling and banking charges to make sure that they don’t incur losses on account of OA, but the OA transactions should be facilitated post that
Ease of doing business	• Estimate sanction of engineering charges and the process of getting the transmission approval is very slow • Inspection of every transmission line foundation, drawing approval of transmission line and the whole related process is very slow • There should be no need of taking approvals for drawings or equipment for the components to be installed within the plant boundary of developers

Summary

- With Solar becoming the cheapest source of power in Telangana, it should be the choice for any future capacity addition. Further unlike conventional power which has variable cost which increases year on year basis solar project tariff remain constant for 25 years.
- Telangana should notify Wind Policy for the state in order to harness wind power potential of the state, as per NIWE the state has wind potential of 4244 MW at 100 meter hub height. However, till date only 100 MW of wind capacity is installed.
- Payment delay of more than 3 months is leading to significant impact on the financials of the investor and we urge Discoms to make payment to all generators on prorate basis
- An amendment to Solar Policy is required to address gaps in implementation of Open Access for Solar Projects, Deemed NA provision limited to 5 acres/ MW and reference to procedures required for reimbursement of Stamp Duty and VAT
- Significant steps are required to resolve multiple process related issues in getting approvals and construction of transmission lines

Thank You

Parag Sharma, COO,
Renew Power.

Mobile - 9810052210