Wind Power Projects In India

India Wind Energy Market Outlook 2026 was recently published by the Global Wind Energy Council (GWEC) and MEC Intelligence (MEC+).

What does the Report emphasize?

- Wind energy's critical link to India's green energy transition.
- India can add another 23.7 GW of capacity within the next 5 years provided
    - Necessary enabling policies, facilitative instruments, and the right institutional interventions are put in place.

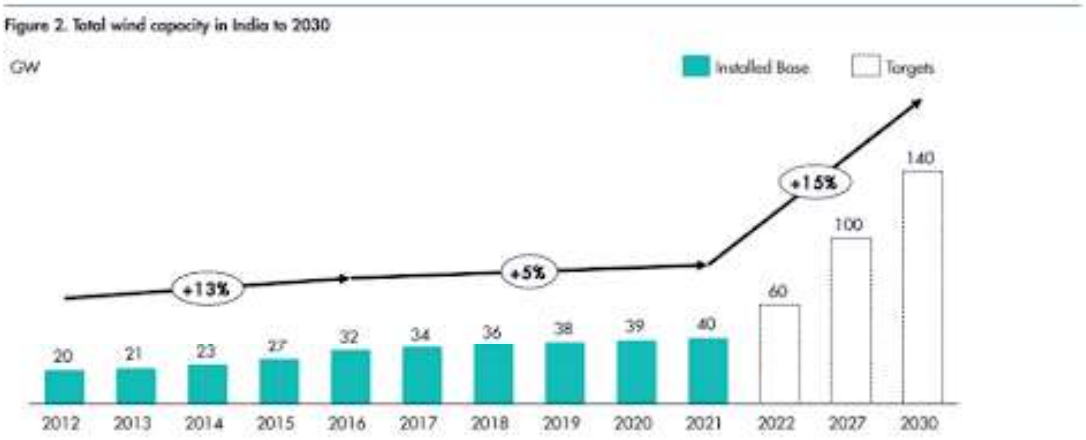
Need of Wind Energy Development:

- India's power demand is projected to grow at 6% annually towards 2030, driven by economic growth,
    - Which will continue to shoot emissions upward without rapid displacement of fossil fuels by Renewable Energy (RE).
- 56% of greenhouse gas (GHG) emissions in India come from power generation.
- Decarbonization of the power sector in India, including the phaseout of coal and fossil fuels and the acceleration of RE
    - Will be a key factor for India's overall energy transition.
- As per India's Intended Nationally Determined Contributions (INDC)

- India has committed to sourcing half its electricity in 2030 from non-fossil fuel sources and installing 60 GW of wind power by 2022.
- Only 40 GW of wind power capacity has been established, so far.

Key highlights of the report:

- In India, wind energy makes up a major share of the RE generation mix, with 37.7%3 (40.1 GW) of cumulative installed RE capacity as of March 2022.
- India has a high potential of 302 GW technical onshore wind resource at 100m height and 695 GW technical onshore wind resource at 120m.
- But the overall estimated potential dwarfs the current installed capacity.



Slowdown in installed capacity:

- 2017-2021: Wind energy installations have drastically slowed down to a 5% growth rate,
  - In comparison with ~13% growth over the period of 2012-2016.

- There has been a slowdown in installed capacity since the advent of the auction regime in 2017 to award tenders which led to large orders but highly competitive bids.

- Markets are concentrated around a few substations of Gujarat and TN, which were home to the strongest resource potential and lowest cost of land.
  - This created bottlenecks and slowed down project activity.
- The low cost of solar-based power is creating a wider gap with wind-based energy and hence delays in the signing of Power Supply Agreements for already auctioned projects.
- Supply chain instability caused by the Covid19 pandemic and the impact of the Ukraine war have led to availability issues of cargo ships and a spike in fuel costs, resulting in an increase in logistics prices.

Recommendations:

Outlook provides insight into how it can unlock the full potential of wind resources with 5 broad recommendations:

1. Promote technology exchange and alignment to the global wind supply chain.
2. Exploit repowering opportunities that offer an efficient pathway for India to maximize productivity and socioeconomic benefits from sites

already designated for onshore wind power production.

3. Strengthen consensus and coordination between central and state govts.
4. Address the legacy challenges which have disrupted the development of wind energy.
5. Finalize and implement offshore wind development roadmaps.