Twitter Thread by Balaji Vaidyanath ■■



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Can marketing gimmicks and hysteria trump over physics and bad economics? It certainly can in India and many other countries. But let's take India. Consider this: India's total solar capacity is 40,000 MW. Excluding roof top & off grid, the ground mounted solar is 35,000 MW ■

This on-grid ground mounted capacity is spread over 210,000 acres or 850 square kms. For perspective, Mumbai's land area is 650 square kms. 1.3x! If you fill the whole of Mumbai with solar panels plus an additional 30% of Mumbai, you get 35,000 MW - our current solar capacity

Now consider this. The unsung hero that is Nuclear. If you move all of India's 22 reactors (7500 MW) to Mumbai, it will fit into just 1000 acres. 50% of Bandra.

So, this gigantic solar capacity must be producing insane amount of power for us right?

Units produced last year by our:
Solar - 50 billion units
Nuclear - 43 billion units

Greater Mumbai's annual electricity requirement - 21 billion units!

Meaning 40% of India's total solar capacity is enough for just one city. Solar needs 180x more land to produce 1 unit of power versus nuclear! This may not seem apples to apples because as a 'hot' country we need to exploit 300 days of sunshine isn't it?

Our solar must be producing more power compared to say solar in Germany given our weather conditions? Both India and Germany have similar capacities in solar. Germany (10 degrees celsius average) produced 50 billion units. India (25 degrees celsius average) produced 50 bn too!

Hey this is a price that needs to be paid for 'clean and green' energy. But wait..

https://t.co/YjGcjPhmo3

“From elevating temperatures locally to increasing water stress and alienating crop or grazing lands, solar power plants will remain false solutions that cause more problems than they solve unless they are subject to stringent environmental due diligence and public critique.”

https://t.co/9d1azJUfCx

Lastly, the industry’s little secret. What happens to the panels after it’s estimated life of 25 years?

https://t.co/clac1xyjpr

"By 2035, discarded panels would outweigh new units sold by 2.56 times. In turn, this would catapult the LCOE (levelized cost of energy, a measure of the overall cost of an energy-producing asset over its lifetime) to four times the current projection.”

Solar’s close companion Wind is no angel. Thousands of tons of turbine blades will end up as land fills in India. Fossil fuels are demonized as it is easy to quantify the emission when coal and gas are burnt. Wind and solar get away with murder due to perceived ‘greenness’.

National Solar Mission wants to achieve 100 GW which means 2 more Mumbais full of panels that could’ve otherwise been used for nature. Instead 10xing our amazing nuclear capabilities with a fraction of land would enable cheap, plentiful, reliable and green energy.

More renewables = More CO2.

#Makenucleargreatagain

END

Source: CEA, NPCIL, https://t.co/PCTatBY23h

My thread on why nuclear: https://t.co/J9bMxmXvgs

> A humble prediction. Seeds are being sown around the world for a comeback of nuclear energy. In the next decade, we can see government\u2019s around the world approving more nuclear reactors as they realize they aren\u2019t going anywhere near net carbon zero with wind and solar. \U0001f9f5
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> — Balaji Vaidyanath \u26a1\ufe0f (@nbalajiv) July 6, 2021