



## **Solar Power Is Crucial In Meeting Both Energy Requirements As Well As India's Commitment To Mitigate Climate Change. However, The Lofty Target Set Forth May Be Far-Fetched". Discuss The Challenges Facing The Indian Solar Industry. Also, Mention The Recent Steps Taken By The Government In Augmenting This Sector (250 Words)( GS3 Environment & Energy)**

### **Approach :**

- Brief intro on RE sector.
- India's solar policy.
- Challenges facing the sector.
- Steps taken by the government.

India has set an ambitious target of **175 GW renewable energy by 2022**, which will expand to **500 GW by 2030**. This is slated to be the *world's largest expansion plan in renewable energy*. Solar energy forms a crucial component, both in meeting India's growing power needs as well as in **achieving net zero carbon emissions by 2070**, under the **Paris Agreement**.

**India's solar policy** : It is through the **Jawaharlal Nehru National Solar Mission** that the government for the first time focussed on developing solar power in India. Under this scheme, the **total installed capacity target** was set to **20 GW by 2022**, which was revised in 2015 to **100 GW** and in 2021, the solar target is pegged at **300 GW by 2030**.

Since 2011, India's solar sector has grown at a **CAGR** of around **59%** from **0.5 GW (2011) to 55 GW (2021)**, which is approx. half the renewable energy capacity. Within the 55 GW, **grid connected utility-scale projects contribute 77%**, while the rest comes from grid-connected rooftop & off-grid projects. India ranks **5<sup>th</sup>** in terms of **installed solar power capacity**.

### **Challenges :**

- India is likely to **miss the 2022 target** of installing **100 GW** solar capacity. Till now, **only 50%** of the target – **60 GW of Utility-scale & 40 GW of rooftop solar capacity**, has been met. India's target of **300 GW (2030)** may **remain unmet by 86 GW (or one-third)**.
- India's **rooftop solar power is a challenge** in its solar-adaptation policy. Out of **4 GW** set for residential sector, **only 1.1 GW Factors impending** rooftop solar installation – pandemic induced supply chain disruption, regulatory roadblocks, limits to net metering, taxes on imported cells & modules, unsigned power supply agreements, unpredictable future open access charges, etc.
- Besides, there are also **macro & structural problems** plaguing this sector.
- **Supply side – Very low tariffs** : although lower tariffs help consumers, it seems



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devastating for DISCOMs. Cheap tariffs compromise on quality & innovation. Also **banks are reluctant to lend due to unsure profit sustainabilities** . Negotiation on **Power Purchase Agreements** become difficult if tariffs fall too low.

- Unavailability of land, complicated land acquisition process, inadequate transmission infrastructure, lack of skilled man force.
- **Increased tax obligations** for energy companies – DISCOMs paid around **8000 cr. (\$1.1 billion) of indirect tax** between **2017-2019**. To uplift domestic manufacturing, **25% duty** is imposed on solar cells & **40%** on PV modules.

### Governmental steps taken :

- **45 Solar Parks** of aggregate capacity **37 GW** have been approved (**1 solar city per State**).
- Solar Parks in **Pavagada (2 GW)**, **Kurnool (1 GW)** and **Bhadla-II (648 MW)** included in top 5 operational solar parks.
- **World's largest renewable energy park of 30 GW** with a solar-wind **hybrid** project is under installation in **Gujarat**.
- Introduction of **Sovereign Green Bonds** in public sector projects.
- **PLI scheme in Solar-PV manufacturing** with an outlay of **24,000 cr.** Introduced under **Atma Nirbhar Bharat 3.0**. Additional allocation of **Rs. 19,500 cr. for the solar PLI Scheme** announced in **Budget 2022**.
- Incentivising **grid-connected rooftop solar installations** in residential, institutional & social areas through **Central Financial Assistance**.