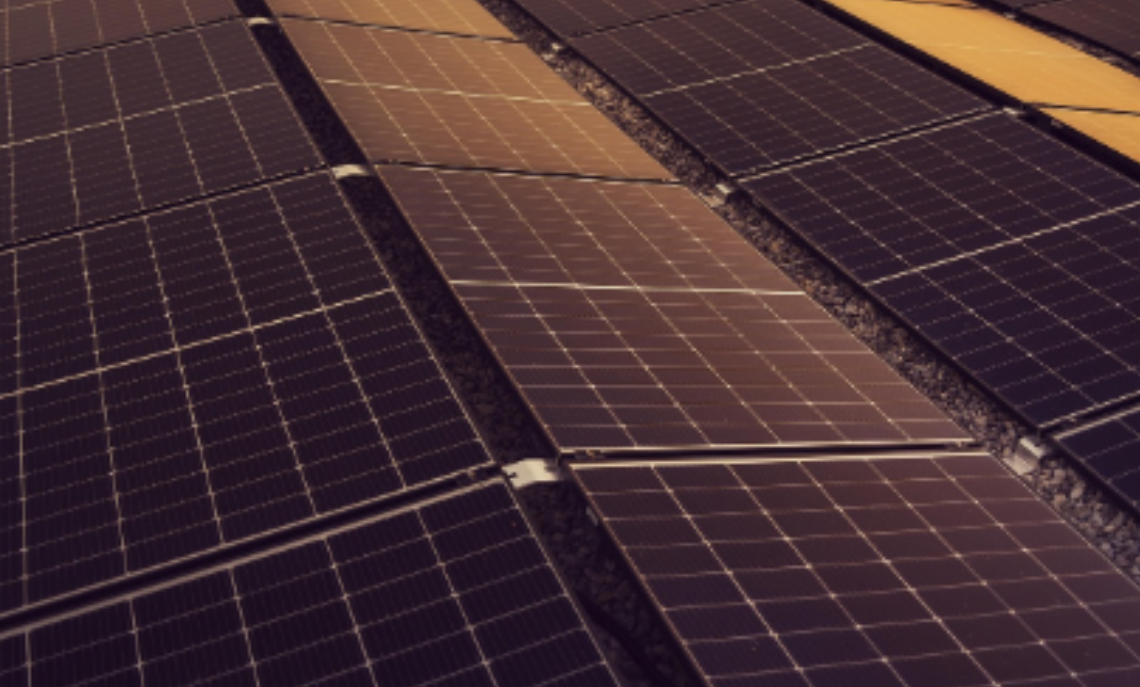


Beyond Panels – The Battery & Storage Race India Must Win

Blog 3
Written By Mukesh Kumar





The Next Chapter of India's Solar Journey

India shines in capturing sunlight and crafting panels.

Now, the challenge is storing that power for 24×7 use.

Without batteries, solar fades at night or during peak hours.

If generation is the heart of India's 280 GW solar dream, storage is its backbone.



India's Storage Status (2025)

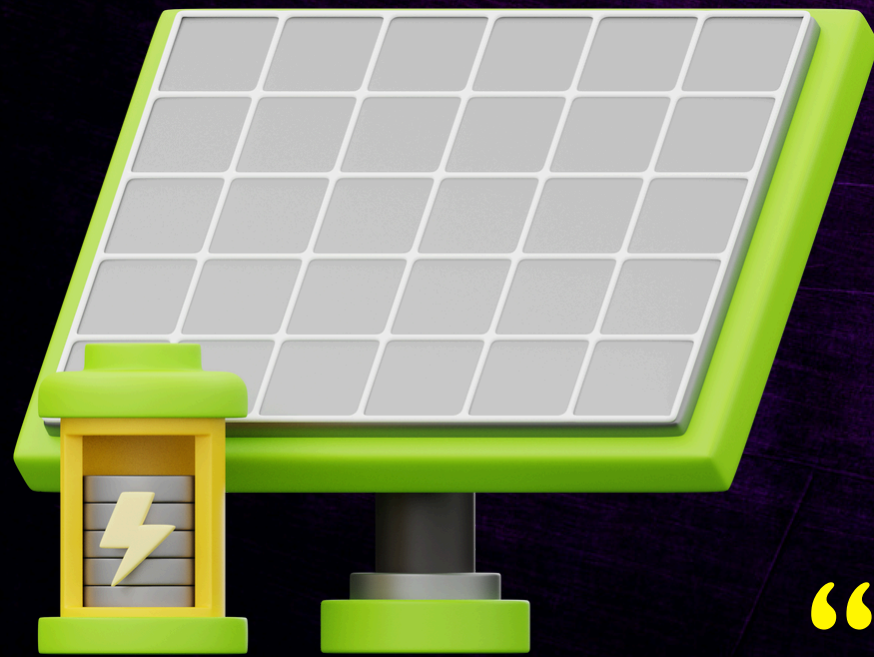
As of October 2025, India has around 500 MWh of grid-scale storage installed and 7 GWh under construction — a solid start but short of the 100 GWh required by 2030 to support 280 GW of solar capacity.

Indian companies are charging ahead:

- Reliance New Energy: Building a 10 GWh battery gigafactory in Gujarat.
- Ola Electric, Exide, Amara Raja, Tata Power: Scaling battery production for EVs and stationary storage.

The ACC PLI Scheme (₹18,100 crore) targets 50 GWh of advanced batteries by 2030, offering ₹2,000–2,500 per kWh incentives to winners like Reliance and Ola through competitive bidding.

“Today's battery factories are tomorrow's power banks for India.”





The Battery Battle – Lithium, Sodium or Solid-State?

India is testing multiple battery technologies at once:

Type	Pros	Cons	Best Use
Lithium-ion	Proven, high efficiency	85 % materials imported (mainly from China)	EVs, rooftop solar
Sodium-ion	Low cost, uses local minerals	Lower energy density	Stationary storage
Solid-State	Safer, lighter, faster-charging	Early-stage & expensive	Future EVs & grids

“India’s next battery could be born here, not imported.”



The Price of Power

Battery storage costs **₹8 – ₹10** per Wh in 2025.

When it **drops to ₹5** per Wh by 2030, solar + storage systems will become truly affordable for homes and factories.

Storage **means freedom** — from power cuts and from 85 % import reliance on lithium-ion materials.

The Policy Push

The ACC PLI program fuels fresh investment, while states like **Gujarat and Tamil Nadu launch energy storage parks** and battery recycling zones (1 GWh/year capacity, target 5 GWh by 2030).

This echoes the solar manufacturing boom of 2018 — but this time, it's about storing what we generate.





Batteries Everywhere – Homes to Highways

Storage is reshaping India's power use:

- **Rooftop Solar:** Home batteries enable 24/7 solar electricity.
- **EVs:** Cars charge by day, power homes at night.
- **Rural Microgrids:** Solar by day, batteries by night for off-grid villages.

“When homes begin storing sunlight, India becomes truly energy independent.”

Recycling and Resource Security

Millions of batteries will eventually retire — and recycling will decide how green this transition really is.

India's current battery recycling capacity is ~1 GWh per year (Gujarat & Karnataka), with a target of 5 GWh by 2030.

Recovered metals like lithium, cobalt, and nickel will reduce import dependence and support local manufacturing.

“The cleanest battery is the one that is reused.”



The Economic Opportunity

By 2030, India's battery ecosystem could:

- ✓ Create 10 lakh + green jobs.
- ✓ Save billions in imports.
- ✓ Build an export market for solar + storage in Asia & Africa.
- ✓ Cut global emissions dramatically.

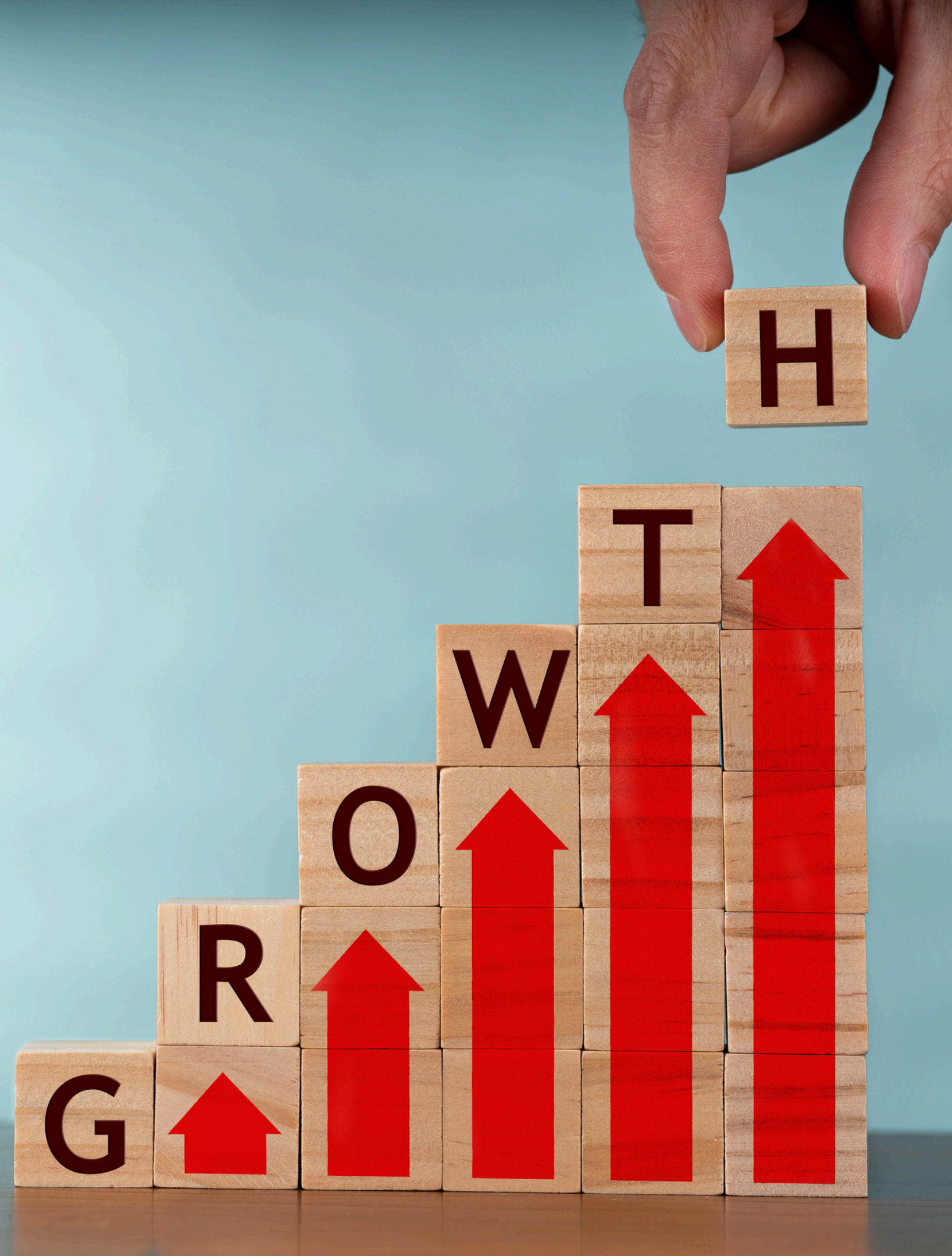
India's panels and batteries together can light up the world.

Storage Growth Snapshot

Timeline	Grid-Scale Storage (GWh)	Key Milestone
Oct 2025	0.5	Initial deployments
Under Construction	7	ACC PLI projects
Target 2030	100	Full solar integration

(Source: MNRE & Mercom India, 2025)

India's Energy Storage Surge





The Road Ahead

To win the battery race, India must:

Fast-track ACC PLI gigafactories.

Fund Sodium-ion & Solid-State R&D.

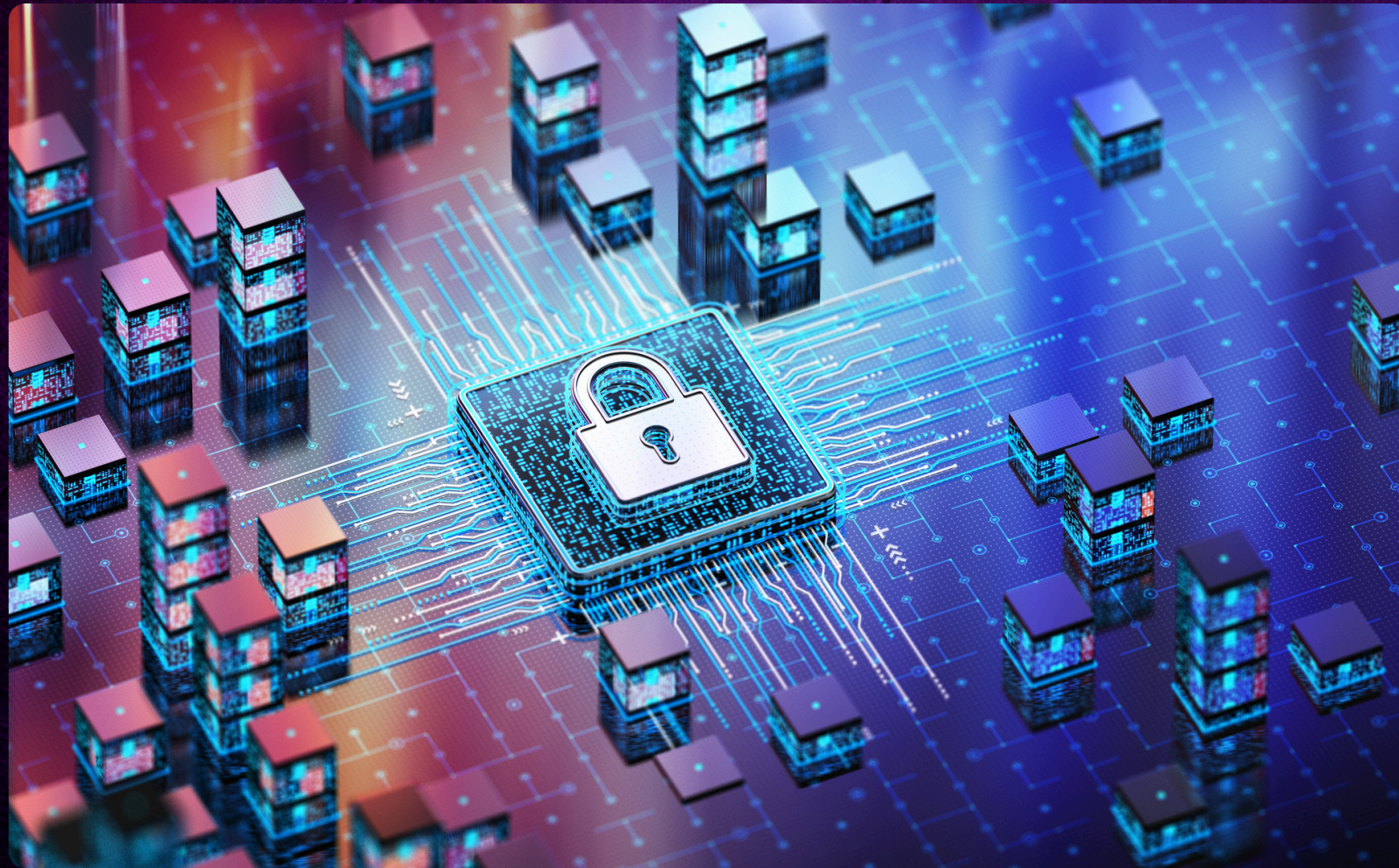
Scale recycling to 5 GWh by 2030.

Mandate storage in solar tenders.

Deploy shared battery banks for village microgrids.

“Panels catch the sun, batteries make it last.”

Storing the Sunlight



India's solar revolution is soaring — but only storage can make it 24×7.

With bold policies, home-grown technology, and joint effort, India can lead the world in battery storage just as it does in solar panels.

“The next decade belongs to those who store sunlight. India is building that future now.”

☀️ **Can India store its own sunshine? Share your thoughts and join SKYGREEN's Daily Solar News!**