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EDITORIAL ANALYSIS

India's Cheapest Power is Here: Why the Grid Must Catch Up

THE HINDU

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The Hindu 23 June 2026 GS3

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INTERVIEW ANGLE

"If renewable power is now India's cheapest electricity, why is so much of it still being curtailed, and who should pay to fix the grid that cannot absorb it, the discoms, the Centre, or the consumer?"

Every fact web-verified against primary sources (https://ujiyari.com/how-we-verify/)

THE LIFT LINE

India has done the hard part of the energy transition first, and almost by accident made it look easy. Solar power, once the expensive idealist's choice, is now simply the cheapest electricity the country can buy. The harder, less glamorous task remains: building a grid clever and flexible enough to actually use it. The cheapest power in India is here. The grid must now catch up, or the savings will be curtailed away before they ever reach a switchboard.

THE CORE ARGUMENT

The Hindu's editorial makes a deceptively simple point with large policy consequences. For two decades, the binding constraint on clean energy was cost. That constraint has collapsed. Solar tariffs in recent auctions have settled near Rs 2.5 to 3.5 per unit, and even solar bundled with multi-hour battery storage now clears in roughly the same band, comfortably below the cost of new coal-fired power. Cost is no longer the reason India runs on fossil fuels.

The new constraint is the grid itself. Renewable power is variable: the sun sets, the wind drops, and output swings sharply within a single day. India's transmission and balancing infrastructure, built around steady, dispatchable thermal plants, was never designed for this. The result is a paradox (https://ujiyari.com/vocab/paradox/). The country is generating record volumes of the cheapest electricity it has ever produced, while

simultaneously curtailing renewable output because the grid cannot evacuate, store or absorb it. The editorial's warning is that without urgent investment in grid modernisation, storage and demand-side flexibility, India will keep paying for cheap power it cannot use.

HOW TO THINK ABOUT THIS

The instinctive frame for an aspirant is "renewables good, coal bad." That frame is now obsolete and will not survive a tough interview. The sharper way to think about this is to separate two distinct questions that are easily conflated.

The first is generation: can India produce enough clean electricity cheaply? The answer is now an emphatic yes. The second is system integration: can the grid deliver that electricity reliably, at the right place and the right time, around the clock? The answer is, not yet.

This distinction matters because the policy levers are completely different. Generation was solved by competitive reverse auctions and falling panel costs. Integration cannot be auctioned into existence. It requires capital-heavy, long-gestation infrastructure: transmission lines, substations, grid-scale batteries, pumped hydro, smart meters and flexible tariffs. It also requires institutional reform of the financially fragile distribution companies that sit between the cheap power and the consumer. Treat this editorial, then, as a story about a system whose centre of gravity has moved from the power plant to the wire and the battery.

The Duck Curve Problem

The single most useful concept here is the "duck curve." Picture the demand the grid must meet from sources other than solar across a day. As rooftop and utility solar flood the system at midday, that residual demand collapses into a deep belly. Then, as the sun sets and households switch on lights, fans and appliances, demand surges back up in a steep neck. The resulting shape resembles a duck.

The belly forces conventional plants to back down sharply at noon. The neck forces them to ramp up violently within a couple of hours in the evening. Thermal plants dislike both. Backing down wastes capacity and money; ramping up fast is technically stressful and slow. The evening peak, crucially, is precisely when solar contributes nothing. Without storage to shift midday solar into the evening, the grid is forced either to curtail cheap daytime solar or to fire up expensive peaking power after dark. The duck curve is the technical heart of why cheap generation alone does not deliver cheap, reliable supply.

THE INSTITUTIONAL AND DATA CONTEXT

The scale of India's achievement is genuine and worth stating precisely for the exam.

INDICATOR	STATUS (AS OF 2026)
Non-fossil installed capacity	Crossed 50 percent of total installed capacity, achieved in 2025, five years ahead of the 2030 NDC target
2030 target	500 GW non-fossil energy capacity (announced at COP-26, Glasgow)
Global rank	India ranks among the top three globally in renewable installed capacity (IRENA)
Recent annual addition	Non-fossil capacity addition in 2025-26 was the highest in any single year
Solar / solar-plus-storage tariffs	Roughly Rs 2.5 to 3.5 per unit in recent auctions
Storage need by 2031-32	Over 400 GWh estimated by the Central Electricity Authority

The policy architecture to address integration already exists, which makes the execution gap the real story:

- **Green Energy Corridors (GEC):** Inter-state and intra-state transmission lines built specifically to evacuate renewable power from high-resource states such as Rajasthan, Gujarat and Tamil Nadu to demand centres. Phase II is under implementation.
- **ISTS charge waiver:** Waiver of Inter-State Transmission System charges for renewable and co-located storage projects, extended to projects commissioned within defined windows, lowering the delivered cost of clean power across state borders.
- **PLI for Advanced Chemistry Cell (ACC) batteries:** A Production Linked Incentive scheme to build domestic battery manufacturing, reducing import dependence and the cost of grid-scale storage.
- **Energy Storage Obligation (ESO):** A trajectory (https://ujiyari.com/vocab/trajectory/) mandating that a rising share of consumed energy be sourced from storage, creating guaranteed demand for batteries and pumped hydro.
- **National Electricity Plan (NEP):** The CEA's medium-term blueprint that now explicitly factors in large storage and transmission build-out alongside generation.
- **Viability Gap Funding (https://ujiyari.com/terms/viability-gap-funding/) (VGF) for BESS:** Central support to make early battery storage projects bankable while costs are still falling.

The point for an aspirant is that India does not lack a policy toolkit. It lacks execution speed, financing depth, and crucially, healthy distribution companies able to sign and honour long-term contracts.

THE COUNTER-VIEW

A disciplined answer must engage the strongest objection, not dismiss it. The counter-argument runs as follows.

First, there is a real risk of over-building too fast. Transmission lines and storage are capital-intensive assets with long lives. If demand growth, battery costs or technology choices are misjudged, India could lock in stranded or under-utilised infrastructure whose costs are eventually loaded onto consumers and already-stressed discoms. Storage costs are still falling steeply; an aggressive build-out today may look expensive against next year's prices.

Second, the discom question cuts both ways. Distribution companies are the weakest link, carrying large accumulated losses. Asking them to fund modernisation or commit to long-term storage purchase agreements may simply deepen their financial stress and push up retail tariffs, hurting the very consumers the transition is meant to serve.

Third, variability cannot be wished away entirely. Some baseload and firm capacity, whether from hydro, nuclear, or a residual fleet of flexible gas and clean coal, may remain necessary for system security, and an ideological rush away from all firm power could threaten grid stability. The honest position is that the grid must be modernised intelligently and sequenced carefully, not maximally and immediately.

WAY FORWARD

The constructive path lies in treating the wire and the battery as the new strategic frontier, with the same urgency once given to generation.

1. **Front-load transmission.** Accelerate Green Energy Corridors Phase II and inter-state lines so that surplus power in resource-rich states reaches deficit regions, treating transmission as the binding constraint it has become.
2. **Scale storage deliberately.** Use VGF, the ESO trajectory and the ACC battery PLI to build battery and pumped-hydro storage, but phase deployment to ride falling cost curves rather than overpaying early.
3. **Make demand flexible.** Roll out time-of-day tariffs, smart prepaid meters and demand-response programmes so consumers and industry shift load to sunny, low-cost hours, flattening the duck curve from the demand side rather than only the supply side.
4. **Fix the discoms.** No grid modernisation survives insolvent distribution companies. Tariff rationalisation, loss reduction and the success of schemes such as the Revamped Distribution Sector Scheme are preconditions, not afterthoughts.
5. **Keep firm capacity in the mix.** Retain a calibrated (https://ujiyari.com/vocab/calibrated/) role for hydro, nuclear and flexible firm power for system security, while pivoting new investment decisively toward clean generation, storage and grids.

The overarching principle is sequencing. Cheap generation is necessary but not sufficient. India must now make its grid as smart as its solar parks are cheap.

PYQ LINKAGE

This editorial sits at the intersection of several recurring UPSC themes and should be mapped to past questions to internalise the examiner's angle.

- **GS3, Energy:** "India's energy security (https://ujiyari.com/terms/energy-security/) is at stake. Discuss the role of renewable energy in achieving this." The grid-integration angle is the contemporary upgrade to this classic prompt; firm answers now must go beyond capacity addition to storage and transmission.
- **GS3, Infrastructure:** Questions on infrastructure as the binding constraint on growth map directly onto the transmission and storage bottleneck described here.
- **GS3, Environment and Climate:** India's NDC and COP-26 commitments, the 500 GW target, and the panchamrit (https://ujiyari.com/terms/panchamrit-climate-goals/) pledges are standard. Use the "crossed 50 percent ahead of schedule" milestone as a high-value factual anchor.
- **Prelims angle:** Be precise on Green Energy Corridors, ISTS charge waivers, the ACC battery PLI, Energy Storage Obligation, the National Electricity Plan and the CEA's role. These are exactly the kind of scheme-and-institution facts the prelims rewards.

The way to think about the next decade of India's power sector, and to write about it, is this: the country has won the battle of cost. The battle of the grid has only just begun.

Source: India's Cheapest Power is Here: Why the Grid Must Catch Up — Ujiyari.com | Free UPSC & State PCS Editorial Analysis

KEY ARGUMENTS AT A GLANCE

Renewable electricity has become India's cheapest power source, but the real frontier of the energy transition has shifted from generation to a grid that is too rigid, under-invested and storage-poor to absorb variable supply.

✓ SUPPORTING

- Solar and solar-plus-storage tariffs near Rs 2.5 to 3.5 per unit have made clean power cheaper than new thermal, removing cost as the barrier to scale.
- The duck curve and the intermittency of solar and wind create steep ramping needs that an inflexible thermal-heavy grid cannot meet without curtailing renewables.
- Weak inter-state transmission, slow storage build-up and rigid demand make cheap generation worthless if the electricity cannot be evacuated, stored or shifted to when it is needed.

⚠ COUNTER

Aggressive grid and storage spending could lock in stranded assets or raise tariffs for already-stressed discoms if demand growth, technology costs or sequencing are misjudged.

→ WAY FORWARD

Front-load investment in Green Energy Corridors and inter-state lines, scale battery and pumped storage through viability gap funding and storage obligations, mandate time-of-day tariffs and demand-side flexibility, and fix discom finances so cheap green power actually reaches consumers.

MAINS ANSWER FRAMEWORK

QUESTION

India has achieved record-low renewable energy tariffs and crossed 50 percent non-fossil installed capacity ahead of schedule, yet grid infrastructure remains the binding constraint on absorbing this cheap, variable power. Critically examine the technical and institutional bottlenecks in India's power grid, and suggest measures for grid modernisation, storage and demand-side flexibility to ensure cheap green power reaches the consumer. (250 words)

INTRODUCTION

India has crossed 50 percent non-fossil installed capacity five years ahead of its 2030 NDC target, and renewable tariffs have fallen to record lows. The constraint on the transition is no longer the cost of generation but the ability of the grid to absorb cheap, variable power.

BODY

Solar and solar-plus-storage tariffs near Rs 2.5 to 3.5 per unit now undercut new thermal generation, yet much of this cheap output risks curtailment. The problem is structural.

Solar generation peaks at midday and collapses by evening, producing the duck curve and steep ramping demands that a thermal-heavy fleet meets slowly and expensively. Inter-state transmission remains congested despite the Green Energy Corridors, so power surplus in Rajasthan or Gujarat cannot always reach deficit states.

Grid- scale storage, the natural answer to time-shifting solar into the evening peak, is only now scaling, with the Central Electricity Authority estimating over 400 GWh of storage needed by 2031-32. Policy tools exist, the ISTS charge waiver for storage-backed projects, the PLI for advanced cell chemistry batteries, energy storage obligations and the National Electricity Plan, but execution lags.

Underlying all this are financially weak discoms that cannot fund modernisation or sign long-term storage contracts.

CONCLUSION

Cheap generation is necessary but not sufficient. India must now treat transmission, storage and demand flexibility as the strategic core of its transition, backed by sound discom finances, so that the cheapest power in the country actually lights up the most homes.

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