Ancillary Services from BESS in India 2026: Revenue, Rules and Bankability

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How ancillary-services markets can improve BESS economics in India in 2026, with rules, tariffs, dispatch logic and lender concerns.

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India's battery energy storage system market is often discussed through three familiar lenses: energy arbitrage, solar shifting and firm renewable supply. But by 2026, one more lens has become commercially important: ancillary services.

For developers, utilities, system operators and lenders, ancillary services from BESS are no longer just a technical side note. They are increasingly relevant to project sizing, EMS design, interconnection architecture, contract structure and debt underwriting. A 50 MW/100 MWh battery designed only for evening peak discharge will look very different from a battery expected to participate in fast frequency response, reserve support or AGC-linked balancing.

This matters because India's grid is changing quickly. RE penetration is higher, conventional flexibility is under pressure, intraday ramps are steeper, and balancing costs are receiving more regulatory attention. As variable renewable energy scales and more solar-heavy portfolios enter state and open-access supply structures, the value of fast-response assets rises.

The key question for market participants is not whether BESS can technically provide ancillary services. It can. The real question is: under India's 2026 market design, can ancillary-service revenues materially improve project economics, and can those revenues be treated as bankable?

The short answer is yes, but selectively. The opportunity is real, yet the underwriting approach must remain conservative.

Why ancillary services matter more in India's 2026 power system

India's power system needs flexibility at multiple timescales:

- sub-second and second-level response for frequency containment
- minute-level balancing for AGC and system corrections
- hourly balancing for renewable forecast deviations and demand swings
- evening peak support during solar drop-off periods
- local network support where RE injection stresses grid infrastructure

Historically, much of this flexibility came from thermal units, hydro and system-level reserve management. But several structural changes are increasing the attractiveness of BESS:

- Utility-scale solar and wind additions continue to reduce midday prices and deepen evening ramps.
- More RTC and FDRE procurements require delivery discipline even when generation profiles move against schedule.
- State DISCOMs are under pressure to improve power quality and reduce balancing costs.

- Grid operators increasingly value assets that can respond accurately within seconds instead of tens of minutes.
- Congestion and renewable curtailment make location-specific balancing support more valuable.

Battery systems are especially well suited where speed, accuracy and cycling flexibility matter more than long-duration bulk energy. A BESS can move from charge to discharge almost instantly, follow AGC commands, maintain standby reserve and provide repeated response during the day, subject to SOC constraints.

In practical commercial terms, ancillary services may do one or more of the following for a BESS project:

- create an additional revenue stream beyond energy arbitrage
- improve effective asset utilisation during non-peak hours
- support hybrid RE+BESS portfolios aiming for firmer schedules
- reduce dependence on a single contracted use case
- strengthen the strategic value of a battery located near constrained or high-value nodes

However, not every battery should be modelled around this revenue stack. Market access, telemetry, operator approvals, offtake restrictions and dispatch hierarchy all matter.

What counts as ancillary services in the Indian context

In India, ancillary services are not a single uniform product in the way some mature international markets package them. The framework has evolved through CERC regulations, system-operator mechanisms and balancing-market development. In 2026, practitioners should think in terms of functional services rather than assume a broad, fully liquid merchant ancillary market.

The most relevant BESS-linked services include:

- frequency response and fast balancing support
- reserve regulation through AGC-compatible dispatch
- deviation management support for portfolios with variable RE output
- ramp-rate smoothing and schedule compliance support
- reactive power and grid-support functionality, where technically configured and contractually recognised
- black-start potential in select configurations, though this remains a niche and highly site-specific use case

Different projects access these values differently.

For a centralised grid-support battery tied to transmission infrastructure, the value may come through system-operator dispatch or utility procurement. For an RE+storage hybrid, the value may be partly internal: avoiding penalties, supporting contractual firmness or reducing imbalance exposure. For a C&I-oriented battery, ancillary value may be more limited unless regulations, aggregation models or utility-facing contracts explicitly allow it.

This distinction is critical. Developers often overstate ancillary-service upside by applying international market benchmarks that do not reflect Indian dispatch rules or market depth. A realistic 2026 India model should separate:

- contracted revenue

n- quasi-contracted operational savings

- probabilistic merchant upside

Only the first category is normally fully financeable. The second may be partially recognised if based on robust operating assumptions. The third should usually sit outside base-case debt sizing.

Regulatory and market structure in 2026: what developers should actually track

By 2026, ancillary services for BESS in India must be analysed through four layers of market structure.

First, CERC and grid-code alignment. Projects connected to the ISTS or participating in centralised market mechanisms must comply with scheduling, metering, telemetry, SCADA and communication requirements. A battery that cannot meet response verification standards is not an ancillary-services asset in practice, even if the cells and PCS are technically capable.

Second, system operator protocols. NLDC/RLDC and associated dispatch frameworks matter because ancillary participation depends on command-and-control architecture, response measurement and settlement logic. Developers need clarity on who dispatches, how response is measured, what non-performance penalties apply and whether SOC reservation is compensated.

Third, exchange and market-coupled evolution. As balancing and reserve products mature, there may be increasing opportunities for batteries to monetise flexibility, but liquidity, price discovery and product design remain uneven. India is progressing, but not yet at the stage where every battery can simply plug into a deep ancillary market and assume stable monthly income.

Fourth, state-level utility procurement. In several cases, the most practical route for monetising ancillary value is not pure market participation but a bilateral or tendered service requirement from DISCOMs, load-serving entities or transmission-linked agencies. In such cases, the revenue quality depends heavily on tender design, availability definitions, minimum response performance and payment security.

Developers should specifically track the following 2026 questions:

- Is the ancillary service explicitly permitted under the project’s connectivity and PPA framework?
- Can the battery reserve SOC for dispatch without breaching its primary contracted obligation?
- Are availability payments offered, or only performance-linked energy payments?
- Is the telemetry and dispatch infrastructure accepted by SLDC/RLDC/NLDC?
- Are there separate metering boundaries for energy and ancillary settlement?
- How are degradation costs accounted for in compensation design?
- Is the asset allowed to stack revenues, or does one use case take precedence?

These questions often matter more than the headline tariff.

Revenue reality: what ancillary services can add to BESS economics

In 2026, ancillary-service income for Indian BESS should generally be modelled as an incremental value stream, not the sole revenue pillar, unless there is a specific contracted procurement.

For merchant-style or semi-merchant projects, a practical approach is to estimate ancillary value in Rs lakh per MW per month or Rs per MW per hour of reserved capacity, then cross-check against cycling, SOC lock-up and missed arbitrage opportunity.

In the current Indian context, indicative revenue scenarios vary widely by project structure:

- contracted utility support models may justify capacity-style payments for availability and response readiness
- hybrid RE+BESS projects may capture value indirectly by reducing deviation penalties and improving schedule adherence
- market-exposed batteries may see episodic high-value dispatch opportunities, but inconsistent monthly realisation

As a broad practitioner rule, developers should be cautious of models claiming ancillary revenues alone can transform a marginal BESS into a highly bankable project. In many cases, ancillary participation may improve project IRR by 100 to 250 basis points, not by 800 basis points. That still matters, especially for tightly structured projects, but only if assumptions are credible.

Some economic trade-offs are easy to underestimate:

- Reserved SOC reduces arbitrage flexibility.
- Fast response increases equivalent cycling stress, depending on control strategy.
- Higher availability obligations may require oversizing at the cell or inverter level.
- Revenue variability may be substantial if dispatch volumes are uncertain.
- Performance penalties can erode upside if the controls architecture is immature.

For example, a 100 MW/200 MWh battery participating partly in peak shifting and partly in ancillary reserve may need to hold 15% to 25% of usable capacity in readiness during specified windows. If evening arbitrage spreads are strong, the opportunity cost of reserved energy can be material. Conversely, if spreads compress due to widespread solar and more battery additions, ancillary reservation may become relatively more attractive.

That is why co-optimisation matters. Revenue modelling must compare:

- pure arbitrage dispatch
- firming-first dispatch
- ancillary-priority dispatch
- blended dispatch with SOC floors and response reservation

A serious model should run at least 15-minute resolution, and in some applications 5-minute logic is preferable, especially where AGC-style response or high-frequency balancing signals are relevant.

Technical design choices that determine whether ancillary revenue is real

A battery does not become an ancillary-services asset just because the bid deck says so. The plant must be designed, tested and operated for that role.

The most important design variables include:

- response time of PCS and controls
- EMS sophistication and dispatch hierarchy logic
- SCADA, telemetry and secure communication links
- metering architecture for settlement-grade measurement
- SOC management strategy
- thermal design for repeated response duty

- augmentation plan to maintain contracted performance over time

Developers should also think carefully about duration. A 0.5-hour or 1-hour battery may be excellent for some fast-response applications, but weak for stacked use cases requiring both reserve support and peak energy discharge. By contrast, a 2-hour battery may be more flexible commercially, though more capital intensive.

In 2026, utility-scale BESS capex in India continues to vary by chemistry, duration, integration scope and procurement route, but many competitive projects still need disciplined use-case design to justify costs. Ancillary value can help, but only if the technical envelope supports reliable delivery.

This is also where interconnection studies become crucial. If a battery is expected to provide system support, the point of interconnection, fault-level implications, protection coordination and communication readiness cannot be afterthoughts. Lenders increasingly ask whether the grid-support function is actually embedded in the technical design package or merely assumed in the financial model.

What lenders will underwrite, and what they will haircut

Debt providers in India are becoming more comfortable with BESS, but ancillary-service revenue is still assessed conservatively.

As of 2026, most lenders are likely to classify BESS revenue into three buckets:

- high-confidence contracted payments
- medium-confidence operational savings or portfolio support benefits
- low-confidence merchant or emerging-market ancillary income

Only the first bucket is usually fully recognised in base-case debt sculpting.

For a lender to place serious value on ancillary revenue, the project typically needs:

- a clear legal right to provide the service
- defined dispatch and settlement rules
- tested telemetry and control compliance
- compensation linked to measurable availability or performance metrics
- credible degradation modelling under the expected duty cycle
- payment security from a creditworthy counterparty or robust market settlement mechanism

Typical lender concerns include:

- revenue volatility due to immature product design
- unclear priority between PPA obligations and ancillary dispatch
- weak evidence for long-term utilisation assumptions
- battery degradation under high-frequency response duty
- counterparty risk where utility finances are stretched
- absence of historical market data for forecasting

As a result, many financed models will either exclude merchant ancillary upside from the base case or apply steep haircuts, sometimes 50% or more to sponsor estimates. This is not resistance to innovation. It is standard project-finance discipline.

Sponsors can improve financeability by structuring ancillary value in bankable ways:

- seek availability-based payments in addition to utilisation-linked payments
- define SOC reservation and compensation explicitly in contracts
- align dispatch priority with primary offtake obligations
- include performance bands and realistic cure mechanisms
- support revenue assumptions with sensitivity cases, not just a single upside scenario

Best-fit use cases in 2026

Not all BESS projects should chase ancillary services. The best-fit use cases in India today are more selective.

The strongest candidates are:

- transmission-connected batteries procured for grid support and balancing
- RE+BESS hybrids where ancillary participation complements firmness obligations
- utility-contracted batteries in states facing renewable balancing stress
- strategically located systems near congested nodes where flexibility has network value

The weaker candidates are often:

- behind-the-meter batteries without a clear market access route
- projects whose economics rely entirely on a still-evolving merchant ancillary market
- under-sized batteries trying to serve too many use cases simultaneously
- projects lacking telemetry, controls and tested dispatch interfaces

For policymakers, the implication is straightforward. If India wants ancillary services from BESS to scale meaningfully, tender and market design must reward not just energy discharged, but readiness, speed, accuracy and sustained performance. Capacity reservation without compensation will under-incentivise participation. Pure energy settlement may also fail to capture the full system value of fast-response assets.

For developers and C&I buyers, the practical takeaway is equally simple: ancillary revenue is valuable, but only after technical eligibility, dispatch rights and contractual precedence are settled. It should be modelled as part of a co-optimised stack, not as a headline assumption pasted onto every battery business case.

In 2026, the Indian BESS market is moving from generic enthusiasm to use-case discipline. Ancillary services are part of that transition. The winners will be those who combine regulatory realism, detailed dispatch modelling, disciplined degradation assumptions and bankable contract structures.

If you are evaluating a BESS project, hybrid portfolio or utility procurement with ancillary-service potential, contact Growthifye’s advisory desk for project-specific support on sizing, dispatch modelling, bankability and grid-integration strategy.

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