India Data Centre Captive Power Strategy 2026: Group Captive, Deemed Demand and BESS

By Sudarshan Karweer · 18 September 2026 · growthifye.com

A 2026 practitioner guide to group captive power for Indian data centres: ownership tests, tariffs, standby, BESS and lender issues.

India's data centre market is scaling quickly, but power strategy is getting harder, not easier. Utility tariffs for HT consumers remain volatile across states, open-access economics are changing with cross-subsidy and banking constraints, and service-level expectations are becoming stricter as hyperscale and colocation operators commit to uptime, carbon and cost targets at the same time. In that context, captive and group captive structures are back in the conversation for 2026.

For data centres, captive is not just a renewable procurement route. It is a portfolio-design tool that can lower delivered energy cost, improve source diversification, support carbon claims when structured correctly, and create a more lender-friendly long-term supply framework when combined with utility import, diesel backup and battery storage. But many projects still fail at the details: ownership-test non-compliance, poor treatment of auxiliary consumption, unrealistic assumptions on banking, weak scheduling discipline, and no clear plan for standby and deemed-demand charges.

This article focuses on a distinct question from standard open-access strategy: when should an Indian data centre use captive or group captive supply in 2026, and what design choices determine whether the model actually works?

Why captive is back on the table for data centres in 2026

The basic reason is simple. Data centres need firm, high-availability electricity, but their annual energy bill is now large enough that procurement architecture materially changes EBITDA. A 50 MW IT load facility with a power usage effectiveness of 1.45 implies a total facility load of about 72.5 MW at design point. At an 85% average load factor, annual consumption can exceed 540 million units. Even a Rs 0.60 to Rs 1.20 per kWh improvement in delivered power cost translates into roughly Rs 32 crore to Rs 65 crore each year.

In several states, utility HT tariffs for large continuous consumers in 2026 are still commonly in the Rs 7.0 to Rs 9.5 per kWh range all-in, depending on energy charge, demand charge, electricity duty, fuel adjustment, time-of-day treatment and power-factor incentives or penalties. Open-access renewable structures can land lower than that, but only if wheeling, transmission, cross-subsidy surcharge, additional surcharge, banking treatment and scheduling risks remain manageable.

Captive and group captive routes can reduce or eliminate certain surcharge burdens where the legal tests are met. That is why data centre boards and investors are reconsidering them. The value case is strongest where:

- Annual consumption is large and relatively stable
- Multi-year occupancy visibility is good
- The operator can hold or coordinate equity in the generating SPV
- The project can tolerate governance obligations tied to captive compliance
- Battery storage is used to reduce mismatch and standby dependence
- The state's utility tariff trajectory remains high or uncertain

The catch is that captive is not a generic label. It is a compliance structure with consequences for dispatch, ownership, metering, contracting and audit.

Captive and group captive: the tests that matter in practice

Under the established Indian captive framework, a captive generating plant generally requires at least 26% ownership by captive users and at least 51% of electricity consumption by those users on an annual basis, with group captive adding allocation complexity across multiple users. For data centre sponsors, the headline rule is familiar. What often gets missed is how fragile compliance becomes when actual offtake diverges from forecast.

A colocation facility ramping in phases may sign up for a 100 MW captive-linked renewable portfolio, but if customer occupancy delays push down annual offtake, the 51% consumption test can come under pressure. Likewise, if the SPV's generation profile differs from the centre's contracted draw assumptions, annual compliance may weaken unless portfolio balancing has been designed up front.

In practice, 2026 captive planning for data centres should address at least six points before term sheet stage:

- Shareholding design: Who holds the equity, directly or through an approved structure, and how will future investors affect the 26% threshold?
- Consumption allocation: Which legal entity is the captive user, and how is annual consumption measured across phases or campuses?
- Ramp profile: Can the facility absorb enough energy in year 1 and year 2 to protect the 51% test?
- Replacement power: If one generator underperforms, what contracted mechanism protects both supply and compliance?
- Exit mechanics: If a tenant exits or IT load underperforms, can another eligible consumer step in without triggering disputes?
- Audit trail: Are metering, scheduling and settlement records robust enough for regulatory and lender review?

For lenders, the biggest concern is not whether the captive idea works in theory. It is whether the annual compliance tests remain bankable under realistic downside cases. Data centre operators therefore need downside modelling, not just base-case savings estimates.

Economics in 2026: where the savings really come from

A common mistake is to compare levelised renewable generation cost directly with utility tariff and declare victory. That is not how delivered power economics should be assessed for data centres.

A more credible 2026 comparison for a captive or group captive structure includes:

- Generation tariff or levelised project cost
- Transmission and wheeling charges by network level
- Scheduling and SLDC charges
- Metering and application costs
- Standby arrangement costs with DISCOM
- Deemed-demand or minimum-demand exposure under utility connection terms
- Curtailment and mismatch balancing cost
- BESS capex or tolling cost, where used

- Round-trip energy losses for storage
- Working capital effects from monthly settlement timing

For many large data centres, the net savings from captive renewable plus storage are not driven by the solar or wind tariff alone. They are driven by the avoided surcharge stack, reduced peak import, and better negotiation position with the utility on contract demand and standby design.

Illustratively, a hybrid portfolio serving a large campus may look like this in 2026:

- Solar-wind group captive supply landed at Rs 4.4 to Rs 5.6 per kWh after network charges in a favourable state configuration
- Utility import for balancing and contingency at Rs 7.5 to Rs 9.0 per kWh effective
- Four-hour BESS arbitrage and resilience stack adding Rs 0.7 to Rs 1.6 per delivered kWh depending on utilisation and financing

If the battery is used only for rare backup, it is hard to justify economically. If it is stacked across peak-shaving, ride-through, diesel avoidance, power-quality support and captive-shape balancing, the business case becomes materially stronger.

That is why captive for data centres should not be modelled as a simple energy purchase. It should be modelled as a reliability-and-cost portfolio.

The overlooked issue: deemed demand, standby and utility interface

Even after a data centre adopts captive supply, it does not stop needing a strong utility relationship. In fact, the utility interface becomes more critical because the site still depends on grid import for balancing, fault support, maintenance windows and abnormal weather periods.

This is where deemed-demand and standby design can erode expected savings.

Many utilities retain demand charges based on sanctioned contract demand, billing demand formulas, or ratchets that do not fall in proportion to reduced net energy import. A data centre that keeps a 100 MVA redundant grid connection for resilience may still pay meaningful fixed charges even if 40% to 60% of annual energy is sourced through captive arrangements. The commercial impact can be substantial.

Suppose a large campus pays effective fixed charges equivalent to Rs 250 to Rs 450 per kVA per month across demand-related components, depending on state and voltage level. On a 100,000 kVA retained demand framework, annual fixed-cost exposure can run into Rs 30 crore to Rs 54 crore before energy import is considered. If procurement teams ignore this while quoting captive savings, the model will disappoint.

Three practical responses are used in 2026:

- Re-optimise sanctioned demand after real operating data is available, rather than preserving an overly conservative initial level indefinitely
- Use BESS to reduce short-duration import spikes so billing demand remains controlled
- Negotiate clearer standby and restoration protocols with the utility at the connection-planning stage, not after commissioning

This is where Growthifye’s [Grid connectivity & redundancy](/coreservices/datacentersenergymanagement/gridconnectivityandredundancy) and [Load & reliability engineering](/coreservices/datacentersenergymanagement/loadandreliabilityengineering) capabilities become commercially relevant, not just technically relevant. The question is not only whether the site can survive a contingency. The question is whether the resilience architecture avoids locking in avoidable fixed-cost drag.

Portfolio design: how captive, utility, diesel and BESS should work together

The best-performing data centre energy strategies in India now treat each source as a specific service layer.

- Utility grid provides bulk reliability, fault-level support and balancing energy
- Captive or group captive renewable plants provide lower-cost energy and carbon performance
- BESS provides fast-response balancing, peak shaving, ride-through and limited backup substitution
- Diesel gensets remain last-resort backup for extended outages and black-start conditions
- EMS orchestrates dispatch, state of charge, import thresholds and reporting

This layered approach matters because data centre load is flat compared with many industrial users, while solar and wind output are variable. Without storage and controls, a captive portfolio can create high residual import during evening ramps and low-wind periods. That weakens both economics and carbon outcomes.

For example, a 20 MW / 80 MWh on-site battery at a large campus may not cover long-duration outages, but it can still create major value by:

- Smoothing captive supply variability over intra-day intervals
- Reducing evening grid draw during high-tariff periods
- Supporting UPS and reducing diesel starts for short disruptions
- Managing power-quality events and transfer stability
- Enabling lower practical contract-demand settings over time

An Energy management systems layer is essential here. Dispatch logic should not be built around one objective only. In 2026, serious operators optimise across at least four simultaneous objectives: reliability, tariff minimisation, captive-compliance support and emissions reduction.

Contract and lender issues that can make or break the structure

Group captive data centre transactions often stall because legal and financing workstreams begin too late. By the time the EPC or supply contract is being finalised, the parties discover that the equity structure, change-in-law treatment or default mechanics do not align with lender requirements.

The issues that deserve early structuring include:

- What happens if captive status is lost for a year due to consumption shortfall?
- Does tariff reopen automatically, or is there a compensation waterfall?
- Who bears additional surcharge or cross-subsidy exposure if regulations change or a dispute arises?
- Is there a must-offtake framework, and how does it interact with data centre outages or expansion delays?
- How are curtailment, deemed generation and forecasting deviations treated?
- Can the data centre step in if the project SPV underperforms operationally?
- Are there restrictions on share transfers that could complicate fundraising or M&A at either the project or data centre level?

Lenders will also test whether the offtaker’s energy demand is sufficiently stable to support annual captive compliance. In a phased campus, this often means aligning project build-out with occupancy ramp, or aggregating more than one site under a carefully designed consumption pool where regulations permit.

For this reason, many successful 2026 structures combine a core captive tranche with supplemental short- or medium-term procurement rather than forcing 100% of expected load into one rigid long-tenor vehicle.

State variation and policy watchpoints for 2026

No India-wide captive strategy is complete without state-specific diligence. The economics and risk profile vary materially by location because charges, open-access treatment, banking rules, electricity duty, demand billing and enforcement posture all differ.

Practitioners should specifically review:

- State open access regulations and 2025-26 amendments
- Treatment of captive and group captive under current DISCOM circulars
- Banking eligibility, if any, and settlement period
- Demand charge and billing demand methodology at the voltage level of connection
- Additional surcharge applicability and litigation status where relevant
- Electricity duty exemptions or non-exemptions for captive supply
- Forecasting, scheduling and deviation settlement treatment for renewable generators
- STU and substation capacity constraints affecting evacuation timelines

Timing risk also matters. If grid bay augmentation or dedicated line approvals take 12 to 18 months, a purely captive-led strategy may not align with a data centre's commissioning schedule. In such cases, an interim utility-led supply design with staged captive integration may be more realistic than an all-at-once approach.

When captive is the right answer, and when it is not

Captive or group captive is usually a strong option for Indian data centres when annual load is large, occupancy visibility is credible, utility tariffs are high, and management is willing to handle ownership and compliance complexity. It becomes especially compelling where the operator wants a long-term hedge against tariff escalation while preserving a strong carbon narrative.

It is less attractive when:

- Load ramp is uncertain or highly back-ended
- The operator wants zero governance involvement in generation assets
- State-level demand charges and standby structure wipe out most expected savings
- Network approvals are likely to delay energisation materially
- The project lacks storage or EMS, creating large mismatch costs

The core lesson for 2026 is that captive is not a substitute for energy architecture. It is one component of energy architecture. Data centres that treat it as a legal workaround often underperform. Data centres that integrate captive supply with BESS, utility-interface design, scheduling discipline and reliability engineering usually do better on both cost and uptime.

For operators evaluating new campuses or retrofitting existing procurement structures, the right approach is a site-specific model covering tariffs, demand charges, captive-compliance sensitivity, BESS dispatch value, outage economics and grid-approval timelines. That is the level at which the board, the lender and the utility conversation become aligned.

If your team is evaluating captive or group captive power for a data centre in India, contact Growthifye's advisory desk. We help clients design bankable power portfolios across [24/7 clean power contracting](/coreservices/datacentersenergymanagement/247cleanpowercontracting), On-site generation & BESS, utility interface and reliability-led energy strategy.

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