



Corporate PPA Portfolio Design in India 2026: ToD Load, Banking and OA Strategy

By Sudarshan Karwee · 30 August 2026 · growthifye.com

How C&I buyers can design open-access PPA portfolios in India using ToD load shape, banking rules and landed-cost economics in 2026.

Indian C&I consumers evaluating open-access renewable procurement in 2026 are no longer solving for one number: the quoted solar or hybrid tariff. The real commercial question is how to design a procurement portfolio that matches load shape, tariff category, banking rules, state charges, curtailment risk and internal credit constraints. A plant that looks cheap at Rs 3.10/kWh can become expensive if it leaves high evening drawal on the discom, triggers unfavorable time-of-day purchase, or depends on banking in a state that has tightened settlement.

This is where portfolio design has become a board-level issue. Instead of asking whether open access is cheaper than grid power in general, sophisticated buyers are asking a narrower and more useful question: what combination of third-party open access, group captive participation, residual grid supply and short-term balancing delivers the lowest annual landed cost at acceptable operational risk?

For developers, lenders, utilities and policymakers, this shift matters. More projects now succeed or fail not on generation assumptions alone, but on load-matching quality and regulatory fit. This article looks at that portfolio-design problem in 2026, with specific attention to ToD load behaviour, banking mechanics, day-night supply gaps and procurement architecture.

Why portfolio design matters more than headline tariff in 2026

In many industrial states, medium- and high-tension consumers still face all-in grid tariffs in the approximate range of Rs 7.0-10.5/kWh depending on voltage, subsidy cross-recovery, demand charges and ToD treatment. Against that benchmark, open-access solar or hybrid may appear attractive at first glance. But the spread between quoted renewable tariff and final delivered energy cost depends on multiple layers:

- transmission charges
- wheeling charges
- wheeling loss and transmission loss
- cross-subsidy surcharge where applicable
- additional surcharge where applicable
- standby or balancing arrangements
- banking charges, banking loss and settlement methodology
- SLDC fees, scheduling and metering costs
- residual grid procurement at evening and seasonal peaks

In 2026, these variables differ sharply by state. For example, one state may allow monthly banking with a banking charge linked to injected energy, while another may restrict banking to certain technologies, prohibit banking during peak months, or settle unused banked units at a low pooled power purchase cost. The same 25 MW solar project can therefore produce materially different buyer economics depending on consumption profile and location.



This is why CFOs and energy managers increasingly need a portfolio view rather than a single-PPA view. The objective is not merely to maximize renewable percentage on paper. It is to minimize weighted landed energy cost while preserving operational reliability and keeping compliance manageable.

Start with load shape, not project supply

The first mistake many buyers make is starting from what developers are offering rather than from their own interval consumption profile. In practice, open-access sourcing should begin with 15-minute load data for at least 12 months, ideally 24 months if the facility has undergone production changes.

What matters is not just annual kWh consumption but:

- day vs night demand split
- weekday vs weekend production pattern
- seasonal load variation
- contracted demand and maximum demand trend
- shutdown periods and maintenance outages
- process criticality during evening hours
- reactive power and power-factor implications where relevant

A factory with 70% daytime load and regular Sunday shutdown may be well suited to plain-vanilla solar open access even if banking is imperfect. By contrast, a process plant running three shifts with a flat 24x7 load may see weaker value from a solar-only structure because residual night procurement remains large and often expensive.

This is where [Demand & ToD analysis](/coreservices/greenenergyppa/demandandtodanalysis) becomes central. In a 2026 procurement context, buyers should segment annual consumption into at least four buckets:

- direct renewable coincidence: units that can be consumed instantaneously when generated
- bankable surplus: units likely to be injected and later withdrawn within permitted rules
- non-bankable spill: units exposed to low settlement value or forfeiture
- residual deficit: units still procured from the discom or market

The economic value of each bucket is different. Direct coincidence often offsets the highest variable retail energy component. Banked units are worth less once charges and losses are considered. Spill can destroy economics entirely if oversized capacity is contracted. Residual deficit may remain costly if concentrated in peak ToD blocks.

The 2026 case for portfolio procurement instead of one monolithic PPA

A single-source renewable strategy can work for some consumers, but portfolio procurement is gaining ground because it handles the mismatch between variable supply and industrial load more rationally. In practical terms, a portfolio may include:

- a solar open-access PPA sized to daytime baseload
- a smaller wind or hybrid component to improve shoulder-hour coverage
- residual utility supply for night and contingency needs
- selective exchange or short-term procurement for exceptional peaks where regulations permit



Why not simply contract a large hybrid or round-the-clock product? Because not every buyer needs 90%+ hourly matching, and the premium for firm supply can be significant. In 2026, depending on state, tenure and contract design, indicative tariffs may look roughly like this:

- solar OA: around Rs 2.8-3.6/kWh ex-busbar for strong locations and bankable offtakers
- wind OA: around Rs 3.4-4.4/kWh depending on site and seasonality
- solar-wind hybrid OA: around Rs 3.8-5.0/kWh
- firm/RTC renewable structures with storage support: often above Rs 5.0/kWh and in many cases materially higher after shaping costs

These are not delivered costs. After state-specific charges, landed cost can move up by Rs 1.0-3.5/kWh or more. The right question is therefore whether paying a premium for more shaped renewable supply is cheaper than allowing some residual discom drawal.

For many C&I buyers, the answer in 2026 is a “right-sized solar-plus-residual” portfolio rather than a fully shaped renewable contract. A consumer with 40 million units annual demand and strong day load may find that covering 35-45% of annual usage through solar OA generates better savings than attempting 70-80% coverage with aggressive banking assumptions and expensive balancing.

Banking rules are now a portfolio variable, not a side note

Banking used to be treated as a generic advantage in open access. In 2026 that approach is outdated. Banking design now directly influences capacity sizing, contract structure and expected savings.

Key banking parameters buyers must evaluate include:

- whether banking is permitted for captive, group captive and third-party alike
- monthly vs annual settlement
- banked energy drawal allowed in peak and off-peak blocks
- charges as a percentage of banked units or in Rs/kWh
- deemed losses applied to withdrawal
- treatment of unutilized banked units at month-end or year-end
- restrictions during high-demand seasons or solar hours

Consider a simple illustration. A buyer contracts solar expected to generate 15 million units annually. Suppose 11 million units are directly consumed and 4 million units are injected for banking. If banking charge plus effective loss reduces usable value of those 4 million units by 18%, then only 3.28 million units of effective benefit remain. If 1 million of that cannot be withdrawn in high-value evening periods and is instead settled at a low administrative rate, the weighted savings may drop sharply.

This is why oversizing supply based on gross annual consumption is dangerous. In states with restrictive banking, the optimal contracted renewable volume may be materially below what annual kWh alone would suggest.

For developers, this also changes bid strategy. Projects tied to buyers with peaky daytime demand and low spill risk can sustain sharper tariffs than projects serving flatter loads in restrictive banking states. For lenders, the takeaway is that offtaker load shape and state banking rules deserve almost as much scrutiny as irradiation and CUF.

Third-party or group captive: choose based on portfolio fit, not ideology



The 2026 market still debates third-party versus group captive as if one model is universally superior. In reality, the choice should follow the buyer's portfolio objective and compliance appetite.

Third-party open access may suit buyers who want:

- minimal equity commitment
- simpler balance-sheet treatment
- faster decision-making across multiple plants
- supply flexibility where captive compliance is hard to maintain

Group captive may suit buyers who can support:

- upfront equity participation
- annual consumption discipline
- shareholder coordination
- compliance monitoring on 26% equity and 51% consumption principles

The practical issue is that procurement architecture affects portfolio flexibility. If a company has multiple facilities with uneven load growth, third-party structures may offer easier reallocation or staged contracting. If the company has stable anchor loads and seeks surcharge advantages available under prevailing state framework, group captive may improve delivered economics.

However, buyers should compare these structures on full landed cost and governance burden, not just on nominal surcharge treatment. The hidden cost of non-compliance risk, shareholder misalignment, or poor allocation between participating users can erode headline benefit.

This is where [Sourcing strategy](/coreservices/greenenergyppa/sourcingstrategy) and PPA structuring & negotiation add real value. The right model depends on state regulation, load certainty, board appetite for equity exposure and financing plan. It is often sensible to keep part of the portfolio in one structure and leave room for later expansion under another.

Build the commercial model around avoided tariff, not generic savings claims

A credible 2026 open-access business case should be built against the buyer's avoided tariff by time block, not against average annual grid tariff alone. For example:

- A solar unit consumed at noon may offset only the marginal energy charge in one tariff category.
- A banked unit withdrawn in evening may offset a higher ToD import rate, but only if the rules permit that withdrawal and after losses.
- A surplus unit settled by the utility at an administrative rate may have very low realized value.

A robust model should therefore calculate savings in layered form:

- direct offset value by 15-minute or hourly time band
- value loss due to banking inefficiency
- residual grid cost after renewable supply
- fixed charge implications if any demand reduction is expected or not expected
- outage and curtailment sensitivity
- escalation assumptions for grid and PPA components



Illustratively, if a consumer's blended utility energy cost is Rs 8.40/kWh, that does not mean every OA unit saves Rs 8.40. Daytime avoidable energy may only be Rs 6.80 in one block, while evening imported power may be Rs 9.60 in another. A solar portfolio with poor hourly matching could therefore produce lower realized savings than expected from average tariff comparison.

This is the central landed-cost lesson of 2026: matching matters as much as tariff.

What developers, lenders and policymakers should take away

Developers should move beyond generic “up to 40% savings” messaging. Buyers increasingly reward proposals that show state-specific delivered economics, monthly shape analysis, banking sensitivity and contract flexibility. [Competitive developer selection] (/coreservices/greenenergyppa/competitivedeveloperselection) is no longer only about the lowest ex-busbar tariff; it is about who can demonstrate workable annual portfolio value.

Lenders should test whether projected offtake savings depend excessively on optimistic banking or unrealistic daytime coincidence. Credit quality is not only an offtaker balance-sheet issue; it is also an economic durability issue. If savings collapse after a banking-rule amendment or load-profile shift, payment resilience may weaken.

Utilities and policymakers should note that clearer rules on banking, settlement and standby improve procurement efficiency and reduce disputes. Even when charges remain substantial, transparent and stable frameworks allow C&I users to size procurement rationally. Unpredictable treatment pushes consumers either toward under-procurement or toward contracts that later become contentious.

For C&I buyers, the most important operational takeaway is simple: do not buy annual renewable energy volumes in isolation. Buy a portfolio that fits your load curve, tariff structure and compliance capacity.

A practical 2026 checklist for C&I buyers

Before issuing an RFQ or term sheet, buyers should complete the following:

- collect at least 12 months of 15-minute consumption and billing data
- map day, shoulder and night usage by facility
- identify state-specific open-access charges and likely revisions
- test banking value under conservative assumptions
- compare third-party and group captive on all-in economics and governance burden
- evaluate whether solar-only, hybrid, or phased procurement is optimal
- model residual discom cost after renewable procurement
- stress-test savings under curtailment, lower generation and load reduction scenarios
- align legal, finance, tax and operations teams before contract finalization

In many cases, the best answer is not the largest renewable contract available. It is the contract set that minimizes spill, preserves optionality and keeps delivered power cost below utility alternatives over the full tenor.

India's open-access market in 2026 offers genuine savings opportunities, but only for buyers who treat procurement as a portfolio design exercise rather than a tariff-shopping exercise. The winners will be those who combine load analytics, state-regulation literacy and disciplined commercial structuring.



If your team is evaluating open-access procurement, banking exposure, or the right mix of third-party and group captive structures, contact Growthifye's advisory desk for a practical review of your options, approvals pathway and landed-cost economics.

Explore Growthifye's related capabilities

This analysis connects directly to our advisory practice: [Demand & ToD analysis](/coreservices/greenenergyppa/demandandtodanalysis) · [Sourcing strategy](/coreservices/greenenergyppa/sourcingstrategy) · [Competitive developer selection](/coreservices/greenenergyppa/competitivedeveloperselection) · [PPA structuring & negotiation](/coreservices/greenenergyppa/ppastructuringandnegotiation).

ABOUT THE AUTHOR

Sudarshan Karweer — Chief Executive Officer, Growthifye

Over 23 years in management consulting — concept to scale — building and scaling new-age digital and energy businesses. An EY alumnus, Sudarshan leads Growthifye's renewable energy & storage advisory, EPC, transmission engineering and green-financing practices for developers, utilities and C&I consumers across India.
Contact: info@growthifye.com · +91 84510 99371 · growthifye.com

This article is for general information only and does not constitute engineering, financial or legal advice. © Growthifye. Sharing with attribution is welcome.