Open Access Landed Cost Model India 2026: Tariff Waterfall for Corporate PPAs

By Sudarshan Karweer · 07 September 2026 · growthifye.com

A practitioner guide to landed-cost modelling for open access PPAs in India 2026 across tariff, charges, losses, banking and RPO.

Corporate buyers still lose money on open access deals for one simple reason: they negotiate the headline PPA tariff, but approve the investment on the wrong landed-cost model. In 2026, that gap is even more dangerous. State-level changes in banking, additional surcharge trajectories, time-of-day retail tariffs, captive compliance scrutiny, and tighter scheduling discipline mean that a Re 0.20-0.60/kWh modelling error can decide whether a deal creates value or destroys it.

This article focuses on one topic only: how to build and interpret a practical landed-cost waterfall for open access and corporate PPAs in India in 2026. It is intentionally different from approval timelines, banking reform, third-party versus group captive structuring, cross-state mechanics, curtailment, tenure or CFA-focused discussions. The aim here is to help C&I buyers, developers, lenders, utilities and policymakers align on the economics that really matter at delivery point.

Why landed cost, not PPA tariff, is the real decision metric

For most Indian C&I consumers, the relevant benchmark is not the generator tariff quoted at the project busbar. The right benchmark is the avoided cost of grid procurement at the consumer meter for each time block, month and contract year.

A solar PPA at Rs 3.10/kWh may look cheaper than a discom tariff of Rs 8.20/kWh. But once you add open access charges, losses, banking fees, imbalance cost, residual power purchases during non-generation hours and compliance costs, the effective landed cost can move to Rs 5.20-6.40/kWh or higher, depending on the state and structure. That can still be highly attractive, but only if measured against the right retail tariff components and load shape.

The common mistake is comparing one blended annual PPA number against one blended annual utility tariff. That shortcut ignores five variables that dominate 2026 outcomes:

- hourly generation versus hourly consumption mismatch
- state-specific charge stack
- treatment of losses in energy accounting
- banking settlement rules and expiry
- residual grid consumption during non-solar or non-windy blocks

In practice, the finance case should be approved only after a 15-minute or 30-minute interval model, or at minimum a month-wise time-of-day model. This is where [Demand & ToD analysis](/coreservices/greenenergyppa/demandandtodanalysis) becomes essential, because the value of each renewable unit depends on when it offsets retail consumption.

The 2026 tariff waterfall: from generator tariff to meter-level cost

A robust landed-cost model should start with the ex-generator tariff and then build a waterfall of adders and adjustments until it reaches effective cost at the consumer meter.

A simplified 2026 waterfall includes:

- PPA energy tariff
- transmission charges, where applicable
- wheeling charges
- transmission and wheeling losses
- cross-subsidy surcharge, if applicable
- additional surcharge, if applicable
- SLDC or scheduling charges
- banking charges and banking loss, where allowed
- standby or balancing cost for residual grid drawal
- DSM or deviation-related impact, directly or indirectly through pass-through clauses
- RPO or compliance treatment where relevant
- taxes, duties and metering-related costs, if not already embedded

Consider a stylised intra-state third-party solar open access example for 2026:

- PPA tariff: Rs 3.20/kWh
- wheeling charge: Rs 0.45/kWh
- SLDC and scheduling impact: Rs 0.05/kWh
- CSS: Rs 1.20/kWh
- AS: Rs 0.65/kWh
- wheeling loss: 8%
- banking charge: Rs 0.10/kWh
- banking loss / settlement haircut equivalent: 3%

If 1.00 kWh is injected, and net delivered energy after losses and banking adjustment is around 0.89-0.90 kWh equivalent, the effective energy cost before residual drawal can already move near Rs 5.70-6.00/kWh on delivered units, depending on charge application methodology. If the consumer then buys the remaining evening requirement from the grid at Rs 8.50-10.50/kWh marginal cost, the portfolio economics depend heavily on daytime load coincidence.

This is why two consumers in the same state can see sharply different savings from the same developer quote. The one with a strong daytime industrial load and low monthly mismatch may save Rs 1.50-2.50/kWh on replaced units. The one with peaky evening load and weak daytime coincidence may save far less, even before contract risk is considered.

The five modelling errors that most often distort open access economics

1. Comparing OA power against the wrong retail benchmark

Not every component of the utility bill is avoidable through open access. Some charges are demand-linked, some continue as fixed obligations, and some energy charges vary by time slot. A clean model should separate:

- energy charges avoided

n- demand charges avoided, partially avoided or unchanged

- power factor, electricity duty or other non-energy elements
- standby charges or minimum billing conditions

If a buyer compares OA energy against the full blended bill including fixed charges that do not reduce, savings will be overstated.

2. Ignoring loss gross-up

Losses are often treated casually in management presentations. They should not be. If total transmission and wheeling losses are 10-18% depending on route and voltage level, then each delivered unit requires more than one injected unit. This effectively raises the delivered energy cost even when nominal charges look stable.

3. Assuming all banked units retain equal value

In several states by 2026, banking is constrained by monthly settlement, restricted carry-forward, time-slot treatment or settlement at pooled/power-purchase cost for surplus. A banked noon solar unit is not necessarily equal in value to an evening consumed unit. If excess injection is settled at a low rate while shortfall is purchased from the discom at a high retail rate, poor sizing can erode the economics quickly.

4. Underpricing residual power

For solar-led portfolios, the residual grid draw after sunset is not a side issue; it is part of the total power portfolio cost. Any serious board note should show:

- OA renewable cost on matched energy
- grid cost on unmatched energy
- combined portfolio landed cost
- savings versus business-as-usual discom procurement

5. Treating charges as static over PPA tenor

A ten-year or fifteen-year deal cannot be appraised on year-one charges alone. Open access charges have changed repeatedly across states. CSS may trend down in some cases, AS may persist or be revised, banking may tighten, and retail tariffs may rise faster than OA charges in some states. Sensitivity cases are mandatory.

A practical 2026 modelling framework for buyers, developers and lenders

The most useful approach is to run three layers of analysis: energy matching, charge application and scenario testing.

Layer 1: Energy matching

Use at least 12 months of historical consumption, preferably 15-minute interval data. Match this against expected renewable generation by month and time block.

For solar:

- identify weekday versus weekend daytime demand
- quantify seasonal underutilisation during monsoon and winter shifts
- map plant shutdown periods
- estimate surplus injection probability each month

For wind or hybrid:

- test monsoon-heavy generation concentration
- evaluate night-time coincidence benefit
- incorporate seasonal variability and P90/P50 bands

The output should be:

- annual matched renewable consumption
- annual surplus eligible for banking or settlement
- annual residual grid purchase
- time-of-day replacement profile

Layer 2: Charge application

Apply the state-specific charge stack exactly as notified or as contractually expected. This is where many desktop models fail because they use averages rather than rule-based treatment.

The model should identify:

- whether CSS applies based on third-party or captive route
- whether AS applies in the relevant consumer category and voltage level
- wheeling and transmission charges by route
- loss treatment by network segment
- banking fees and adjustment logic
- settlement treatment for unutilised banked power
- metering, scheduling and SLDC costs

The same generator tariff can produce very different delivered costs under third-party and group captive structures. But the answer is not ideological. Captive may avoid CSS and sometimes improve economics materially, yet it brings equity participation, consumption compliance, shareholding tests and governance obligations. Third-party may be operationally simpler for some buyers despite higher charge incidence. The correct answer emerges only after charge-layer modelling and compliance feasibility are examined together.

Layer 3: Scenario testing

In 2026, a board-ready model should run at least these scenarios:

- base case under current charges
- downside case with higher AS or tighter banking
- downside case with lower daytime plant load factor at the consumer end
- downside case with 5-10% lower generation
- upside case with retail tariff escalation outpacing OA cost inflation
- merchant or surplus settlement downside where applicable

Lenders should pay particular attention to downside cases, because DSCR comfort often depends less on nominal tariff and more on persistence of consumer savings across regulatory shifts.

Worked illustration: why load shape matters more than tariff negotiation

Take two C&I consumers in the same state, both offered an intra-state solar OA PPA at Rs 3.15/kWh.

Consumer A:

- continuous process plant
- strong daytime load of 8-10 MW
- annual consumption 60 GWh
- daytime coincidence with solar: 78%
- minimal monthly surplus

Consumer B:

- batch manufacturing with variable shifts
- annual consumption 60 GWh
- daytime coincidence with solar: 46%
- frequent holiday and weekend surplus

Assume similar charge stack after losses and applicable OA charges raises the matched solar landed cost to around Rs 5.35/kWh. Assume residual grid power costs Rs 9.20/kWh marginally.

For Consumer A, the high coincidence means most solar units directly replace expensive grid energy. Blended portfolio cost can fall materially, with annual savings potentially 18-26% depending on exact tariff book and demand-charge impact.

For Consumer B, a larger fraction of injected energy is banked or settled, some at lower realised value. More evening and non-coincident demand remains on discom supply. The same PPA can yield only single-digit percentage savings, and in a tighter banking regime the economics may become marginal.

This is why negotiation should not start and end with asking the developer for another Rs 0.10/kWh discount. In many cases, better sizing, hybridisation, feeder selection, contract seasonality, or alternative route selection creates more value than headline tariff compression.

That is the commercial logic behind [Sourcing strategy](/coreservices/greenenergyppa/sourcingstrategy) and [PPA structuring & negotiation](/coreservices/greenenergyppa/ppastructuringandnegotiation): optimise the portfolio before optimising the quote.

How regulators and utilities should read landed-cost debates in 2026

For policymakers and discoms, landed-cost analysis is also important because it clarifies where the real tension lies.

C&I migration to open access is not driven by ideology; it is driven by differential between retail tariffs and delivered alternative procurement cost. Where that gap is too wide, migration pressure rises. Where charge design becomes unpredictable, transactions slow, lenders widen risk premia, and only the most sophisticated buyers proceed.

A transparent framework helps all parties:

- consumers can make investment-grade decisions
- developers can quote structures that are actually financeable
- lenders can underwrite stability of savings
- discoms can better understand migration drivers and retention economics
- regulators can test whether surcharge and banking design is balancing system needs without creating avoidable uncertainty

The 2026 market is already showing this divergence. States with relatively clearer operational rules, predictable charge application and workable settlement mechanisms continue to attract stronger C&I interest. States with volatile charge revisions or restrictive implementation see slower closure, more renegotiation, or portfolio shifts toward other procurement models.

What a good internal investment memo should include

Before signing any open access or corporate PPA, a serious internal approval note should contain the following:

- contracted tariff and escalation, if any
- route selected: third-party or group captive
- month-wise and ToD-wise load-generation match
- state charge stack with notification references
- losses and gross-up methodology
- banking assumptions and settlement treatment
- residual grid power assumptions by time slot
- annual and seasonal landed cost at meter
- sensitivity to charge revision and load change
- compliance assumptions including captive tests where relevant
- savings versus discom baseline on matched energy and blended portfolio basis
- clear list of pass-through items in the PPA and energy operating agreement

If this memo cannot be built from available data, the deal is not ready for signature.

The decision rule for 2026: choose the structure that wins after delivery, not before

The best open access deal in India in 2026 is not the one with the lowest quoted tariff. It is the one that produces the lowest reliable delivered cost after charges, losses, settlement rules and residual power are all included, while remaining operationally executable through the PPA term.

That means buyers should evaluate open access on a delivered-cost basis, developers should present transparent tariff waterfalls rather than sales headlines, and lenders should insist on scenario-tested portfolio economics. It also means utilities and regulators should recognise that market behaviour is shaped by meter-level economics, not brochure-level tariffs.

For corporate PPAs, disciplined landed-cost management is now the core of decision-making, not a postscript to contracting.

If you are evaluating a new open access procurement strategy, renegotiating an existing portfolio, or testing third-party versus captive economics, contact Growthifye's advisory desk. We can support your Demand & ToD analysis, PPA structuring & negotiation, and Landed-cost management with transaction-grade models for 2026 India.

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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

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