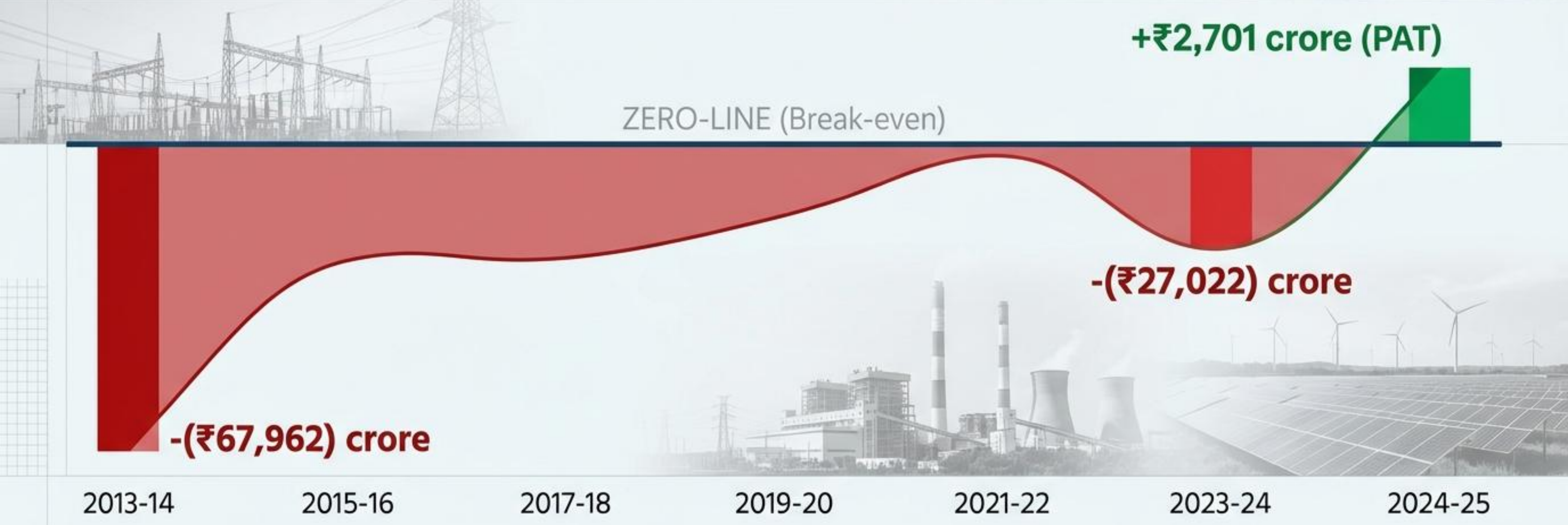
Unmasking the Grid: The Employee Perspective on India's Power Sector Crisis

A data-driven diagnostic of DISCOM debt, policy failures, and the human cost of the Electricity Amendment Bill 2025.

Indian DISCOMs achieve their first collective profit in over a decade



Key Insight:

After years of systemic financial distress, state power utilities posted a collective Profit After Tax (PAT) of ₹2,701 crore in 2024-25, marking a macroeconomic turning point for the nation’s infrastructure sector.

Operational efficiency gains drive the national financial recovery

AT&C Losses

Primary FY24-25

15.04%

10-year progression
Dropped from 23.96%
in 2015-16

Billing Efficiency

Primary FY24-25

87.59%

10-year progression
Rose from 80.69%
in 2015-16

Collection Efficiency

Primary FY24-25

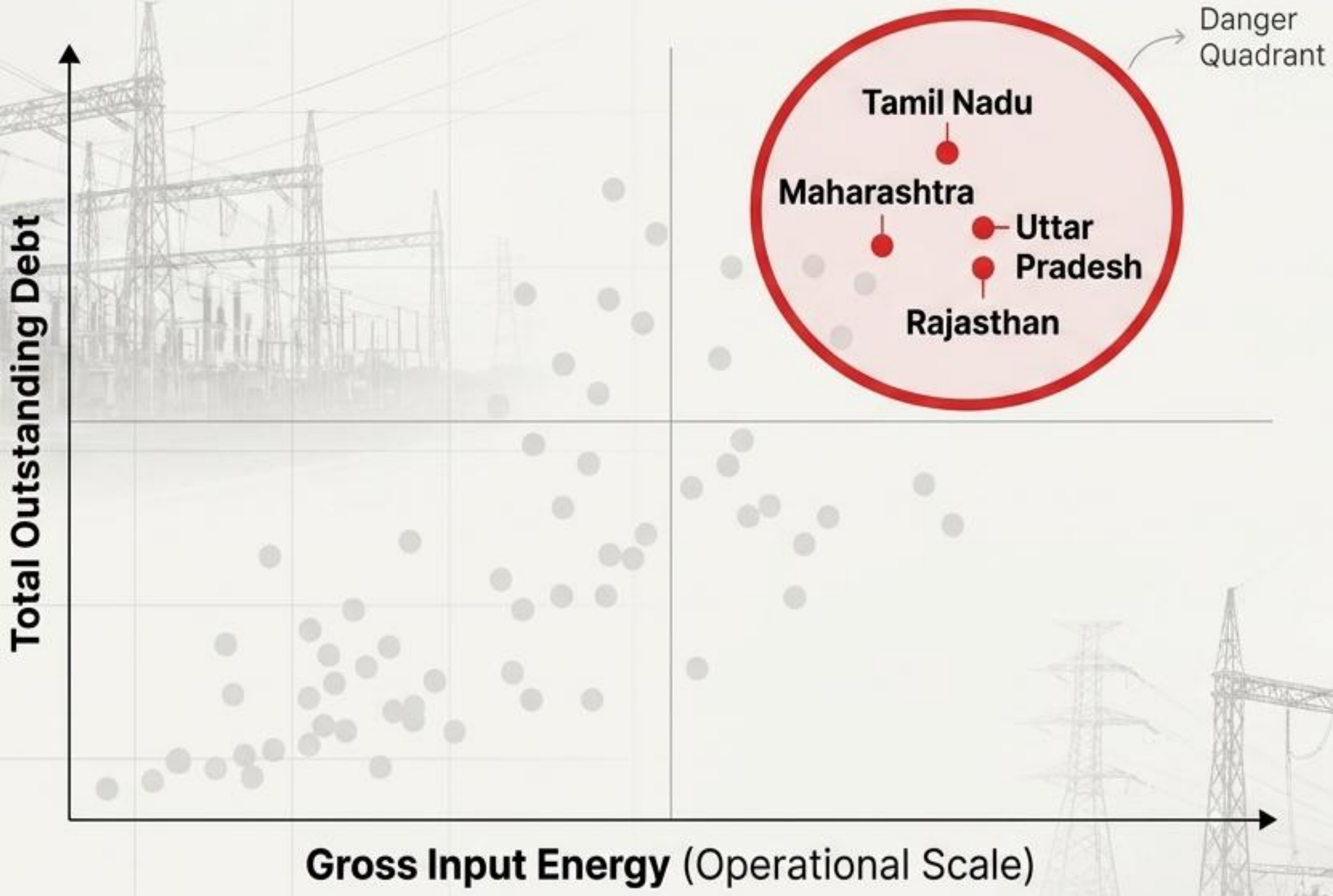
97.00%

10-year progression
Reached up from 94.24%
in 2015-16

The return to profitability is fundamentally grounded in **reducing physical power theft** and **distribution losses**, coupled with improved realization of billed revenue.

Analytical Blueprint

Sectoral debt remains critically concentrated in four major states



The Danger Quadrant

State DISCOMs from **Tamil Nadu, Maharashtra, Uttar Pradesh,** and **Rajasthan** together account for:

55%

of the total national sectoral debt

35%

of the national gross input energy

Analytical Blueprint

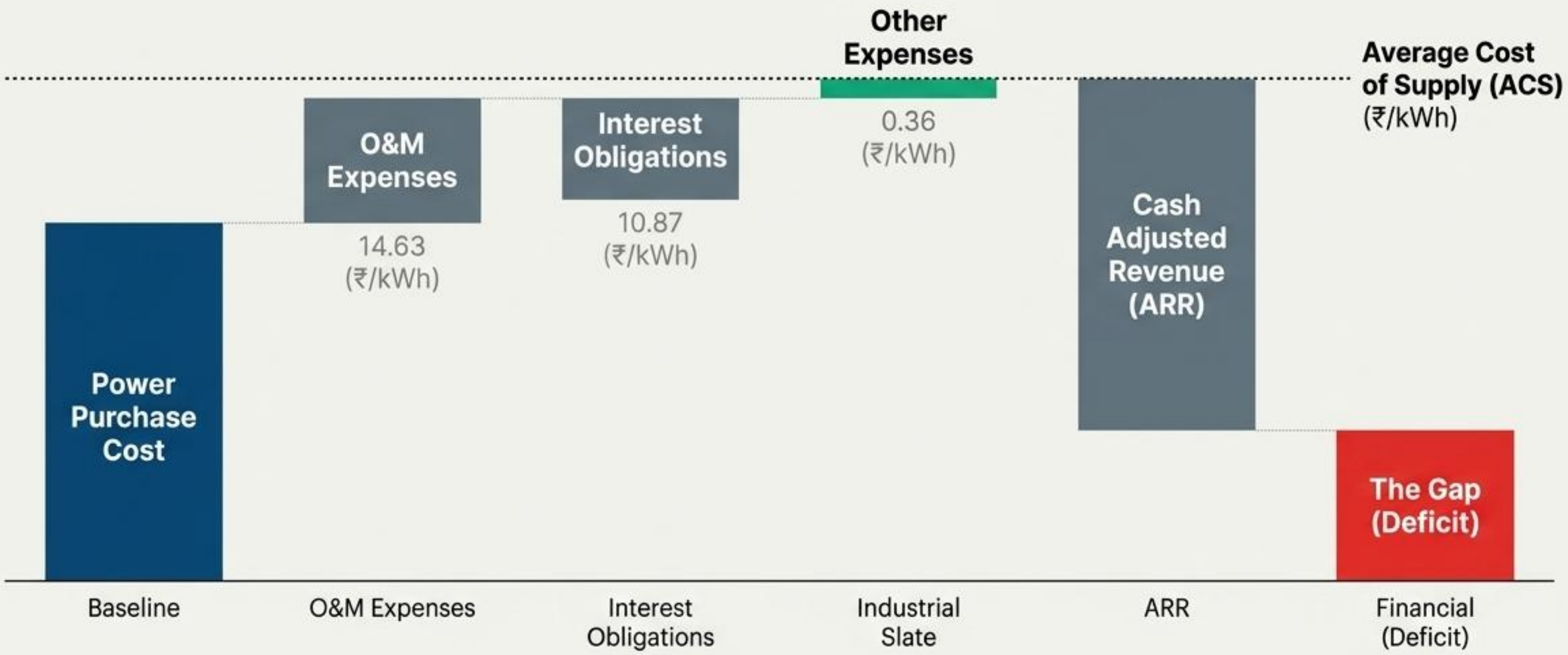
Financial health diverges sharply across the largest state utilities

The Big 6 Financial Health Matrix (FY24 Data)

State	PAT (₹ Cr)	AT&C Losses (%)	ACS-ARR Gap (₹/kWh)	Payables (Days)
Gujarat	+4,119	4.47%	-0.39 (Surplus)	39 days
Karnataka	-2,414	7.85%	0.55	93 days
Maharashtra	-19,846	6.73%	1.24	228 days
Rajasthan	-2,024	17.49%	0.31	39 days
Uttar Pradesh	-6,902	31.10%	0.53	445 days
Tamil Nadu	-1,196	10.53%	0.11	63 days

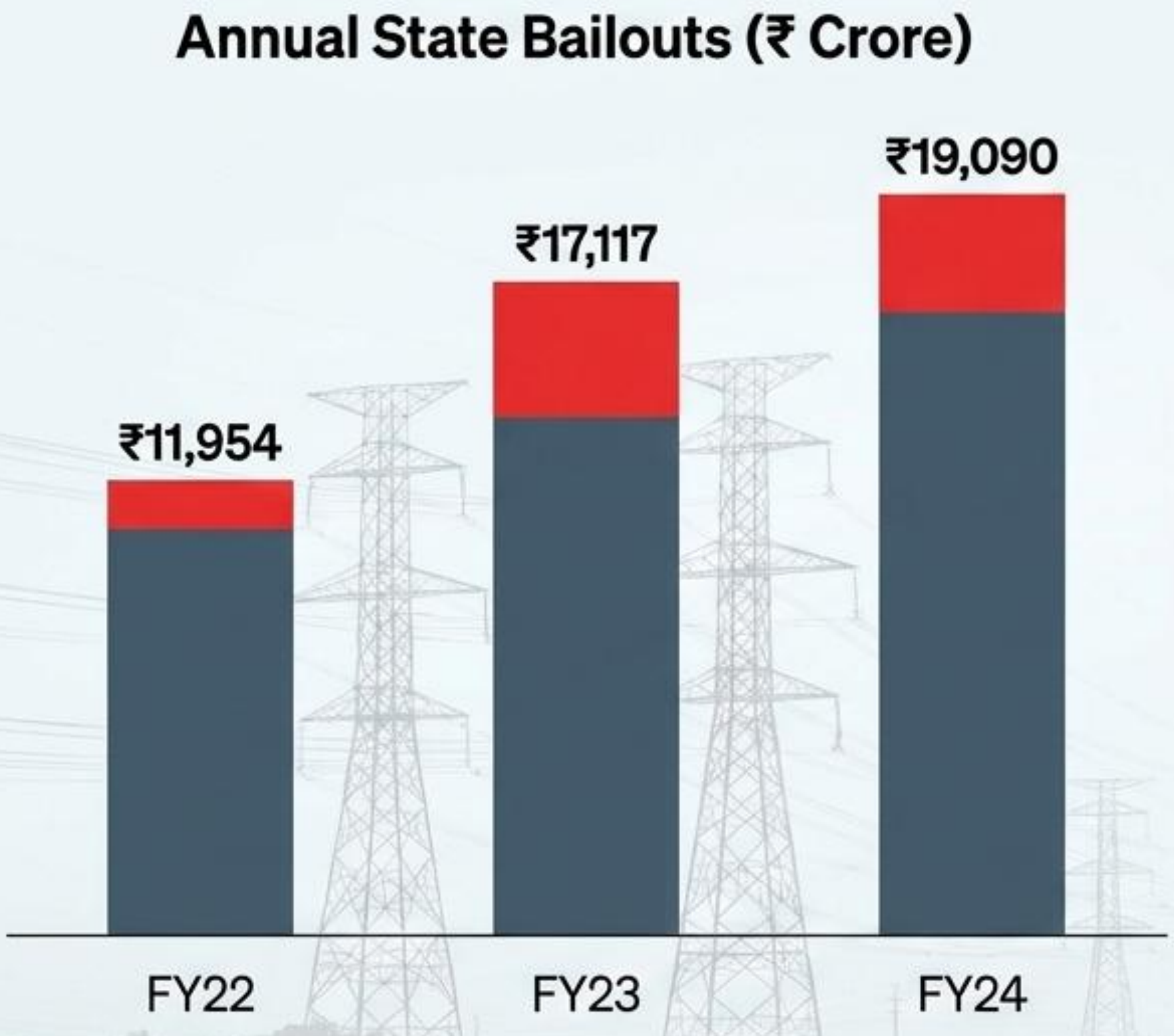
Tamil Nadu demonstrates moderate operational efficiency (AT&C / Payables), but masks a high underlying financial deficit.

Deconstructing the ACS-ARR Gap mechanism



The fundamental unit economics of Indian DISCOMs depend on balancing heavily weighted power purchase costs and mounting legacy interest obligations against actual revenue realization.

Tamil Nadu relies on massive state government loss takeovers



The Fiscal Strain

- The state government absorbs **60% to 75%** of the DISCOM's annual losses, artificially masking the utility's true financial deficit.
- Tamil Nadu assumed an extreme **39% to 52%** of the overall national loss takeover burden during this period.
- This massive annual outgo severely strains broader state finances, consuming **0.4% to 0.6%** of the state's Gross State Domestic Product (GSDP).

The Efficiency Myth vs. The Structural Reality

The Mainstream Myth	The Employee Reality
Core Driver: Inefficient State DISCOMs and bloated state workforces.	**Core Driver:** 70-80% locked-in Power Purchase Agreement (PPA) costs and systemic underfunding.
Primary Metric: Aggregate Technical & Commercial (AT&C) losses.	**Primary Metric:** Regulatory chokeholds, RE integration costs, and unpaid government dues.
Proposed Solution: Privatization, market competition, and unbundling.	**Proposed Solution:** Structural debt relief, equitable grid planning, and preserving the universal service obligation.
Consumer Impact: Free markets will lower retail tariffs.	**Consumer Impact:** Privatization will skyrocket agricultural and domestic tariffs.

A ₹7.08 Lakh Crore Debt and the Official Misdiagnosis

The Official Narrative

The Claim: State distribution companies (DISCOMs) are bleeding money due to poor billing, inefficiency, and high Aggregate Technical & Commercial (AT&C) losses.

The Blame: Directed downward at state utilities and their 2.7 million employees.

The Prescribed Cure: The Electricity Amendment Bill 2025, mass privatization, and stripping away worker protections.

The Structural Reality

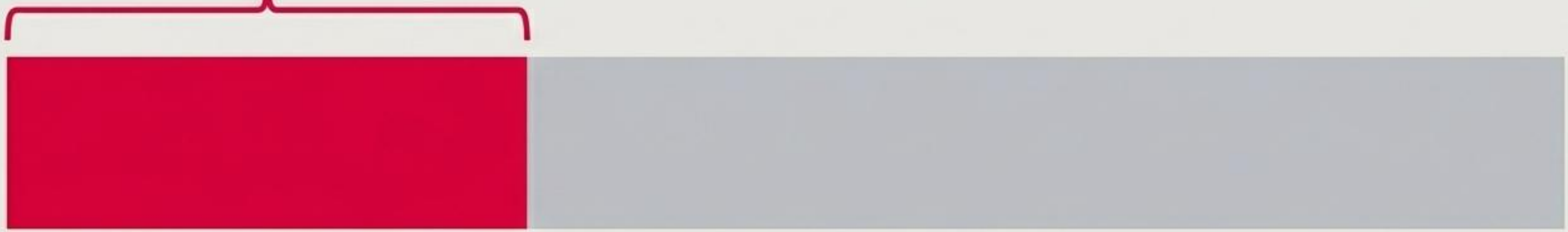
The Hidden Truth: Data reveals that DISCOM financial distress is a top-down systemic failure driven by high power purchase costs, unyielding PPAs, and chronic government defaulting.

The Bottom Line: You cannot fix a systemic financial hemorrhage by breaking the physical workers who maintain the grid.

Commercial Loss is a Synonym for Government Default

AT&C Loss as a Flawed KPI

~33% Strictly Unpaid Government Department Bills



(Municipalities, public water schemes, hospitals, police)

Total Sector Trade Receivables

Despite government departments being the biggest defaulters, the burden of ‘loss’ is mathematically attributed to the utility’s collection efficiency KPIs, punishing employees for state-level financial indiscipline. Smart meters cannot disconnect a government hospital.

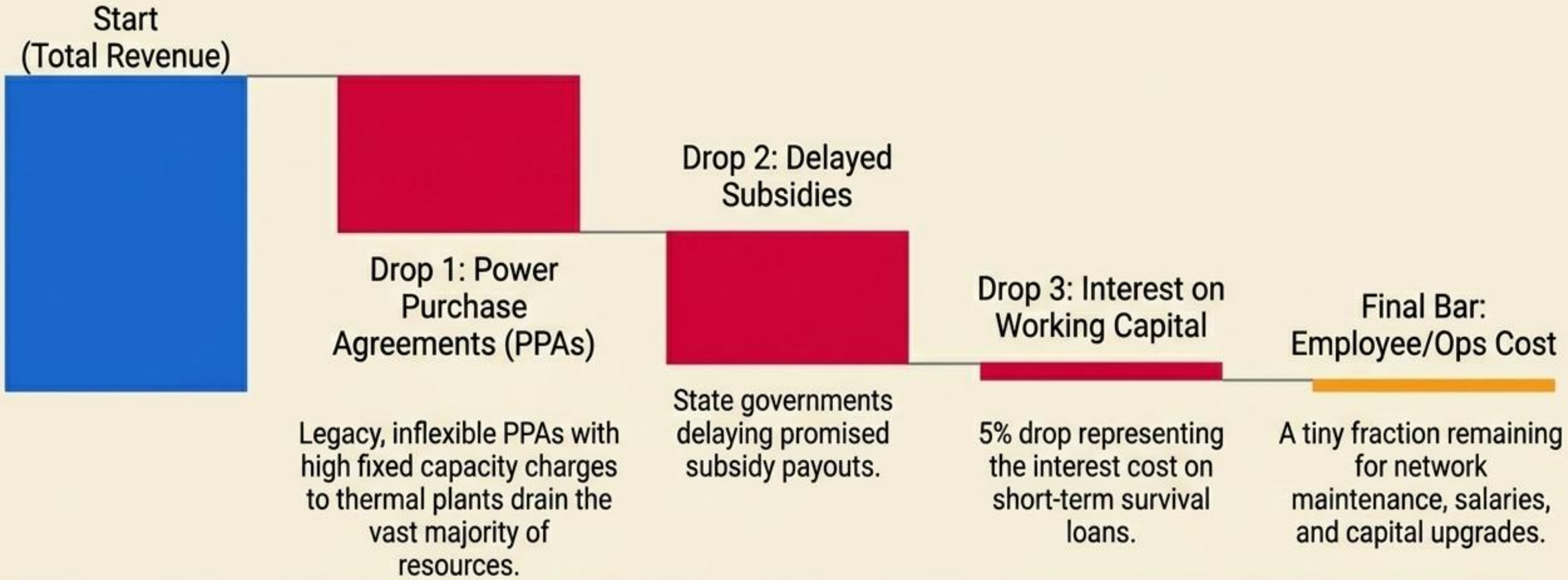
Why AT&C Loss is a Deceptive KPI

The PPA Anchor: Power Purchase Agreements dictate 70-80% of total supply costs. These are rigid, high-capacity fixed charges for legacy thermal plants, immune to local operational efficiency.

The Unpaid Dues Crisis: 1/3rd of all sector trade receivables—a staggering ₹85,000 crore—are simply unpaid electricity bills from government departments and local bodies.

Takeaway: Blaming frontline workers for AT&C losses is a smokescreen that hides the **burden of systemic government defaults** and **delayed, non-cost-reflective tariff hikes**.

The Debt Waterfall: How Revenue is Eaten Before it Reaches the Ground



The financial hemorrhage occurs at the boardroom and policy levels, long before it reaches the operational frontline.

The Cascading Burden of Non-Capex Borrowing

₹2.5 Lakh Crore

Total short-term working capital loans taken by states to clear generator dues (approx. to cloodies (approx. **36%** of total national DISCOM borrowing).

44% to 86%

The staggering percentage of total borrowings in eight key states (accounting for **43%** of national losses) diverted strictly to **non-capex, survival end-use**.

The Impact

Interest burdens consume **5%** of annual DISCOM expenses, crowding out capital investments and leaving local utility offices severely understaffed with thousands of vacant posts.

The Weaponization of Central Penalties

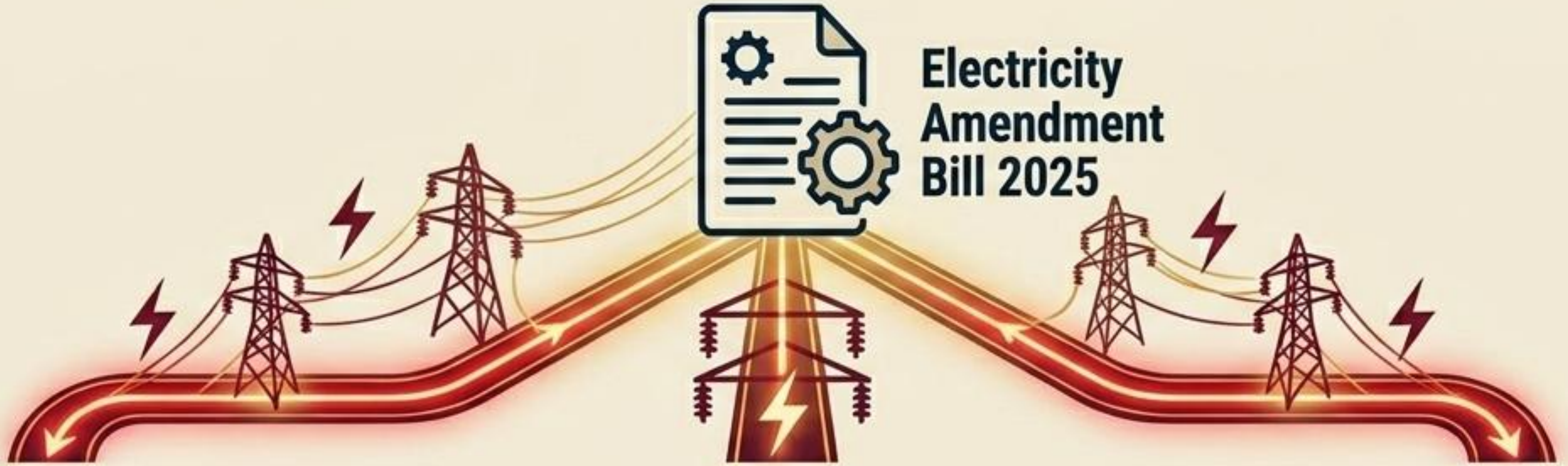
DISCOMs face immediate suspension of short-term power trading rights on national exchanges (**PRAAPTI portal**) if central generators are not paid upfront.

States forced to take massive, high-interest working capital loans just to comply and keep lights on.

Non-capex working capital loans now account for 36% of total DISCOM borrowings (₹2.5 lakh crore in 8 states), adding a 5% interest burden.

The Toxic Cure: The Electricity Amendment Bill 2025

Introduced to 'reform' the sector, the Bill acts as a mechanism to exploit systemic debt, forcing privatization under the guise of competition.



Threat

Network Sharing

Mandates state DISCOMs to provide open, non-discriminatory access to their physical physical networks for private supply licensees.

Threat

Universal Service Exemption

Empowers regulators to exempt DISCOMs from supply obligations to large consumers (>1 MW demand).

Threat

Cross-Subsidy Eradication

Demands full elimination of cross-subsidies paid by manufacturing enterprises and railways within five short years.

The Trojan Horse: The Electricity (Amendment) Bill 2025

Multiple Licensees

Permits private DISCOMs to supply electricity using the public network built by the state, introduc fragmented accountability.

Ending Universal Service

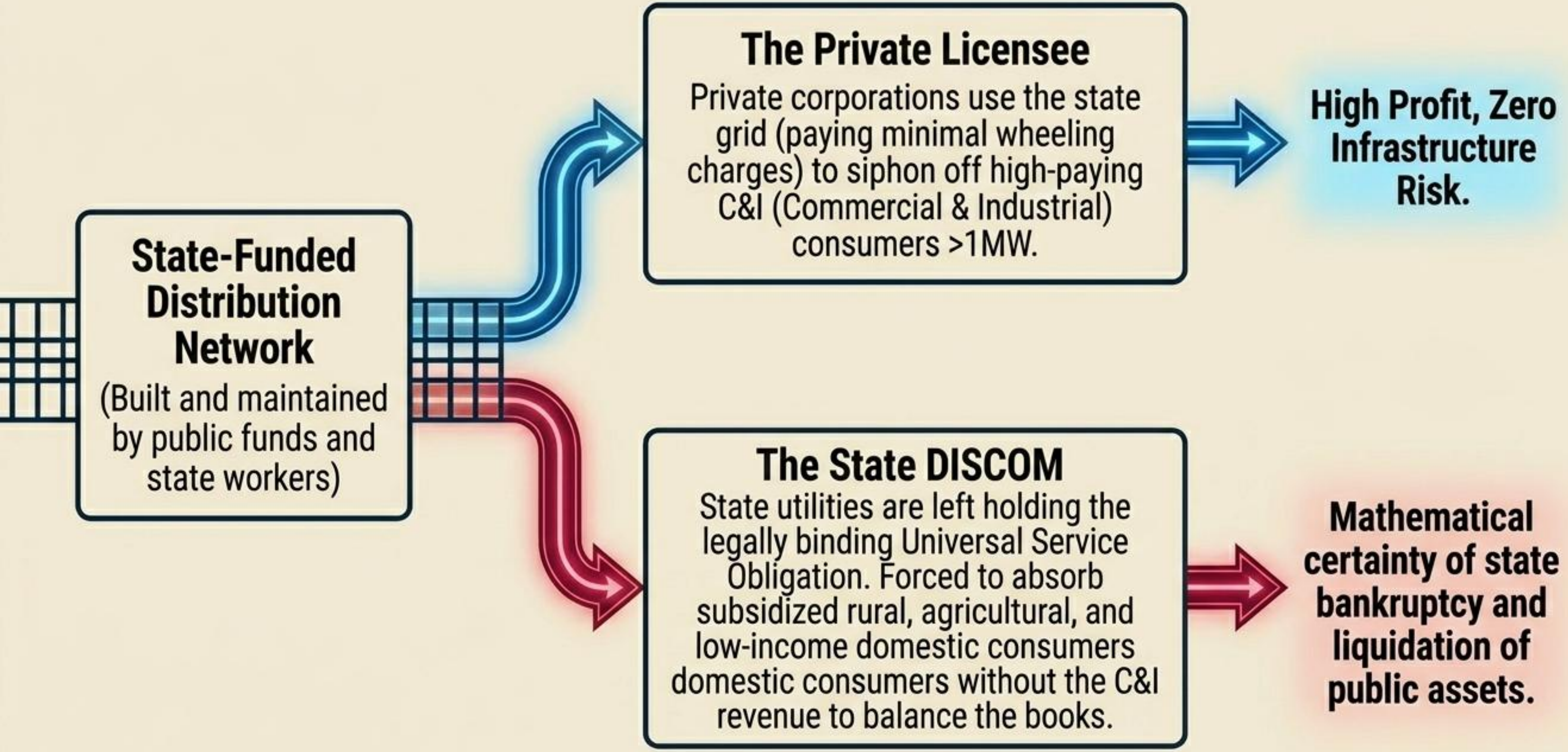
Empowers SERCs to exempt distribution licensees from supplying power to consumers whose demand exceeds 1 MW.

Cross-Subsidy Elimination

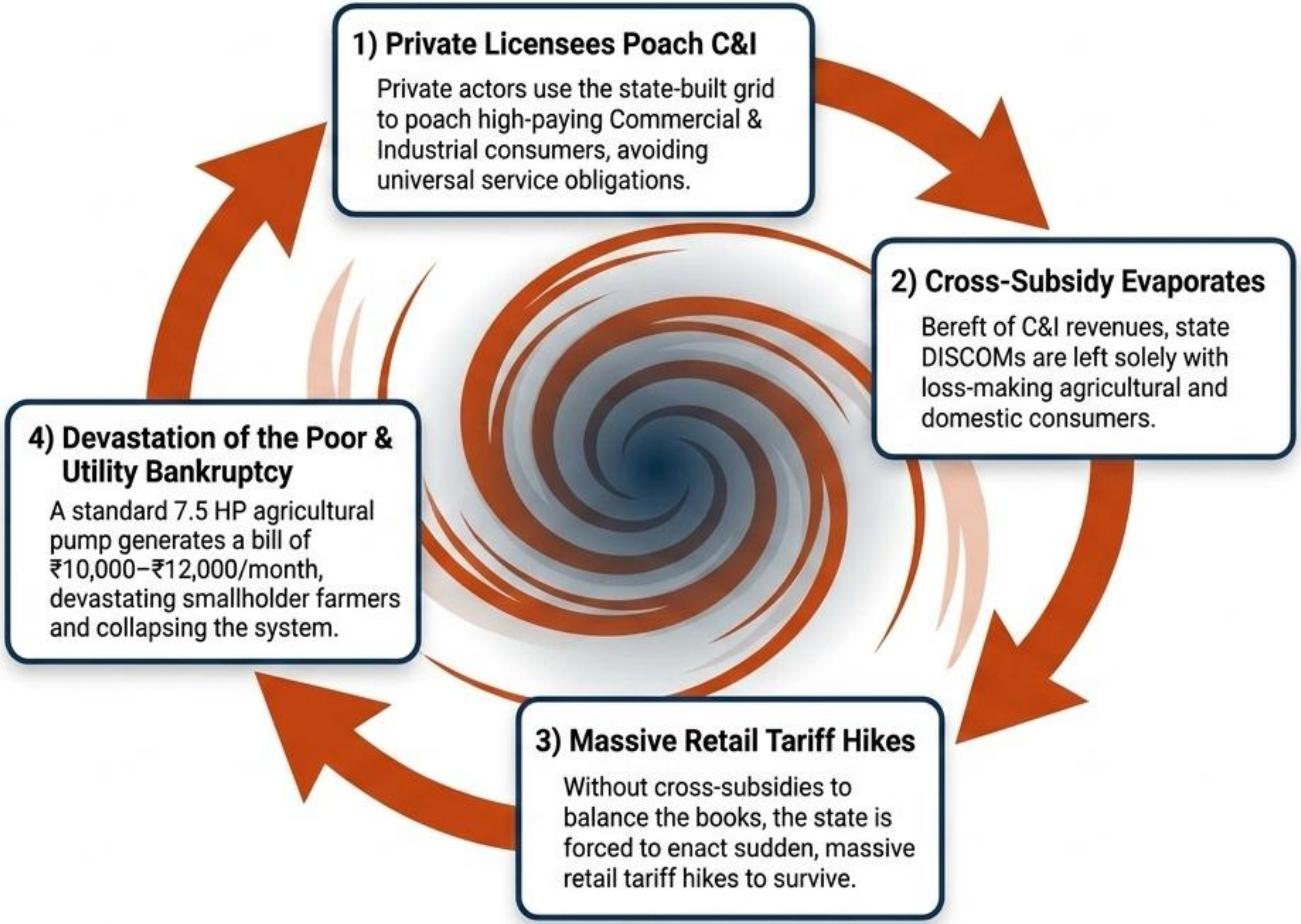
Mandates that cross-subsidies paid by manufacturing enterprises and railways must be fully eliminated within five years.

The Employee Thesis: To 2.7 million power workers, this is not "competition."
It is corporatism designed to legally dismantle the public utility by stripping its profitable assets while socializing its liabilities.

The Cherry-Picking Mechanism: Privatizing Profit, Socializing Risk



The ‘Cherry-Picking’ Death Spiral



The Fatal Reality of Eliminating Cross-Subsidies

The 2025 Amendment mandates phasing out cross-subsidies within five years to make Indian manufacturing globally competitive.

The Corporate Gain

Large manufacturing and industrial enterprises see a massive reduction in their per-unit electricity costs as their historical cross-subsidy burden is erased.

The Citizen's Burden

Moving to cost-reflective tariffs removes the financial shield for the vulnerable.

The Ground Reality:
A standard 7.5 horsepower agricultural pump set operating for just six hours a day will suddenly generate a monthly electricity bill of **₹10,000 to ₹12,000**.

Takeaway: This policy transfers the financial burden directly from corporate balance sheets onto the backs of smallholder farmers and the working class.

The Odisha Illusion: Privatization is Not a Financial Cure

The privatization of Odisha's DISCOMs is frequently cited as the blueprint for reform. However, delayed payments, accumulating debt, and political interference persist under private management.

₹6,129 Crore

The massive debt that the erstwhile DISCOMs still owed to the state-owned GRIDCO as of September 2024.

The Reality: The state entity (GRIDCO) continues to absorb the systemic financial stress, subsidizing bulk supply tariffs to keep the private distribution licensees afloat. The debt was not solved; it was merely hidden in the state generation/transmission ledger.

The Policy Reality Matrix

	Stated Goal	Ground Reality
Electricity Amendment Bill 2025	Increase consumer choice and efficiency.	Corporate cherry-picking of profitable C&I loads; state utilities dumped with loss-making universal supply obligations.
TBCB (Tariff Based Competitive Bidding)	Lower transmission tariffs by ~30% through private competition.	Private players balk at counter-party risks; state utilities left to build emergency evacuation lines on RTM (cost-plus) basis.
Cross-Subsidy Phase Out	Rationalize markets and boost industrial competitiveness.	Massive tariff shocks for rural households; forces states into heavy debt to fund Direct Benefit Transfers (DBTs).
Smart Metering	End billing inefficiencies.	Curbs constitutional rights to universal access for the poor; prioritizes ₹25,000 crore meter contracts over critical grid maintenance.

Grid In Crisis: The Collision of Rapid RE and Transmission Bottlenecks

The uncoordinated, rapid deployment of solar and wind capacity has far outpaced the physical transmission infrastructure (which lags by 12-24 months).

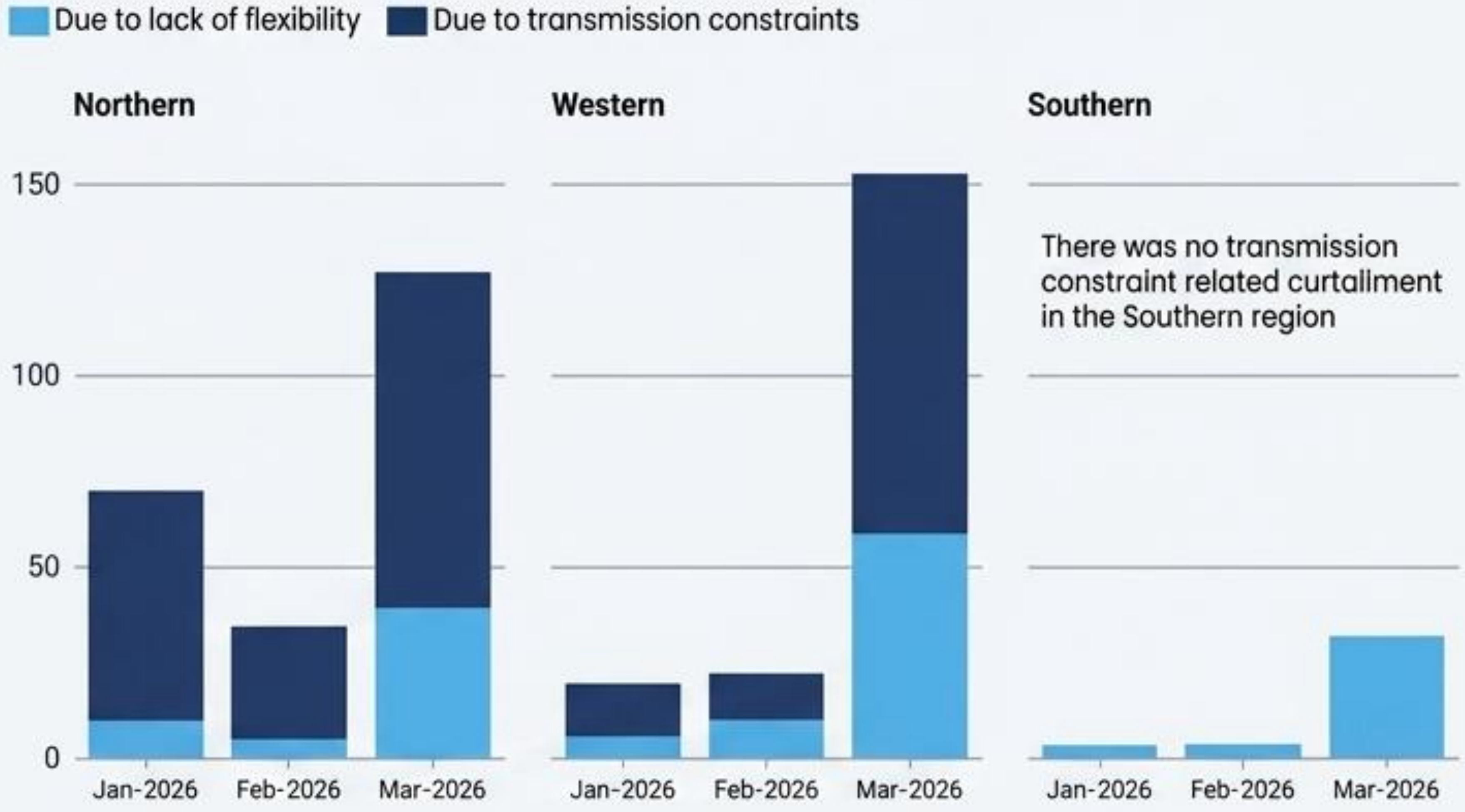
300 GWh Curtailed

The volume of renewable energy forcibly curtailed in Q1 2026 alone due to pooling station congestion in the Northern and Western grids.

The T-GNA Risk

Under the Temporary General Network Access framework, developers receive zero financial compensation for grid congestion, compressing project **IRRs by 100-200 basis points** and slowing clean energy momentum.

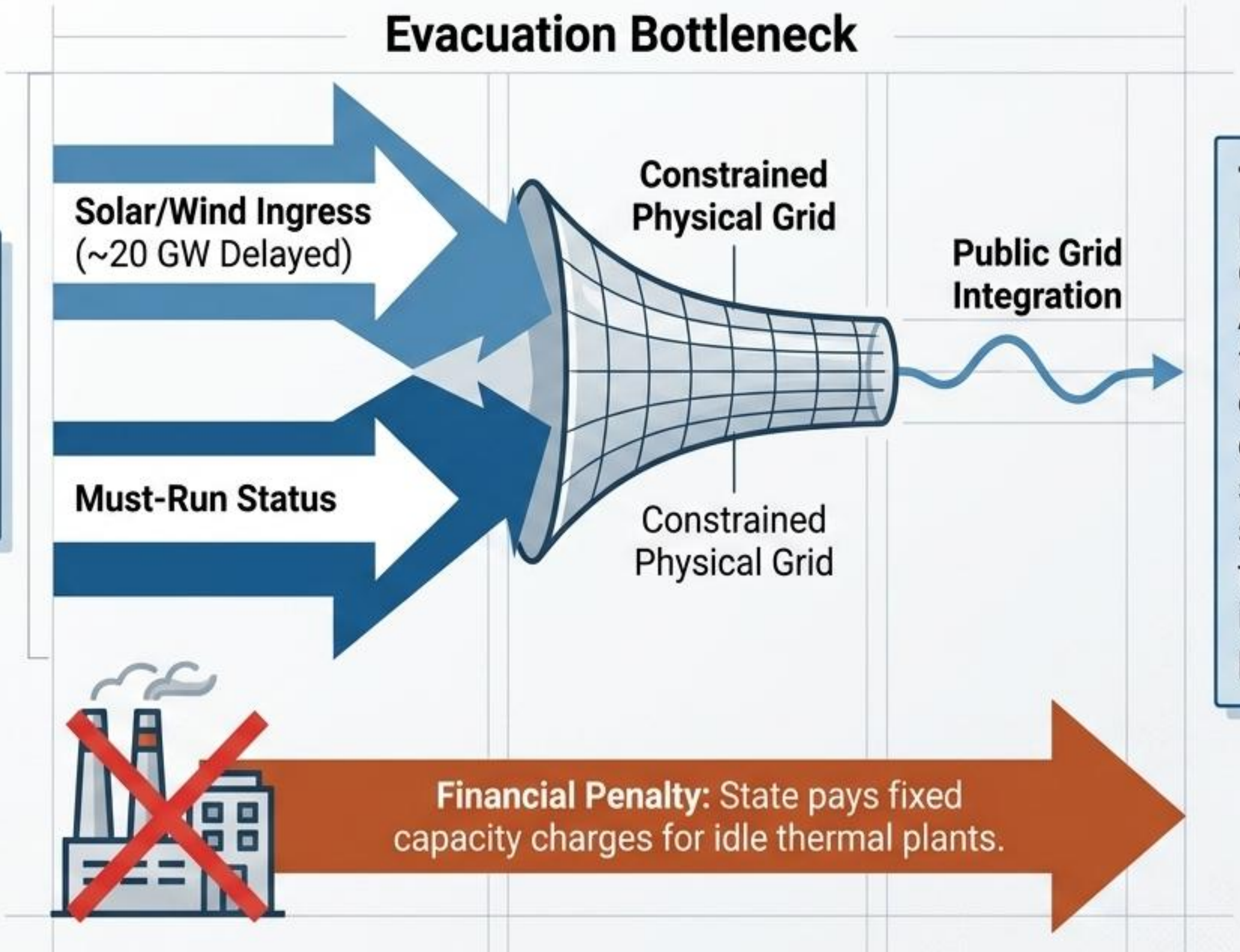
Renewable energy curtailment on the inter-state transmission system, GWh



Ember analysis of daily network access margins reported by Grid India on the inter-state transmission system (ISTS), from December 2025 onwards.
Northern, Western and Southern refer to regional power grids in India; Eastern and North Eastern regions are excluded due to limited RE presence.

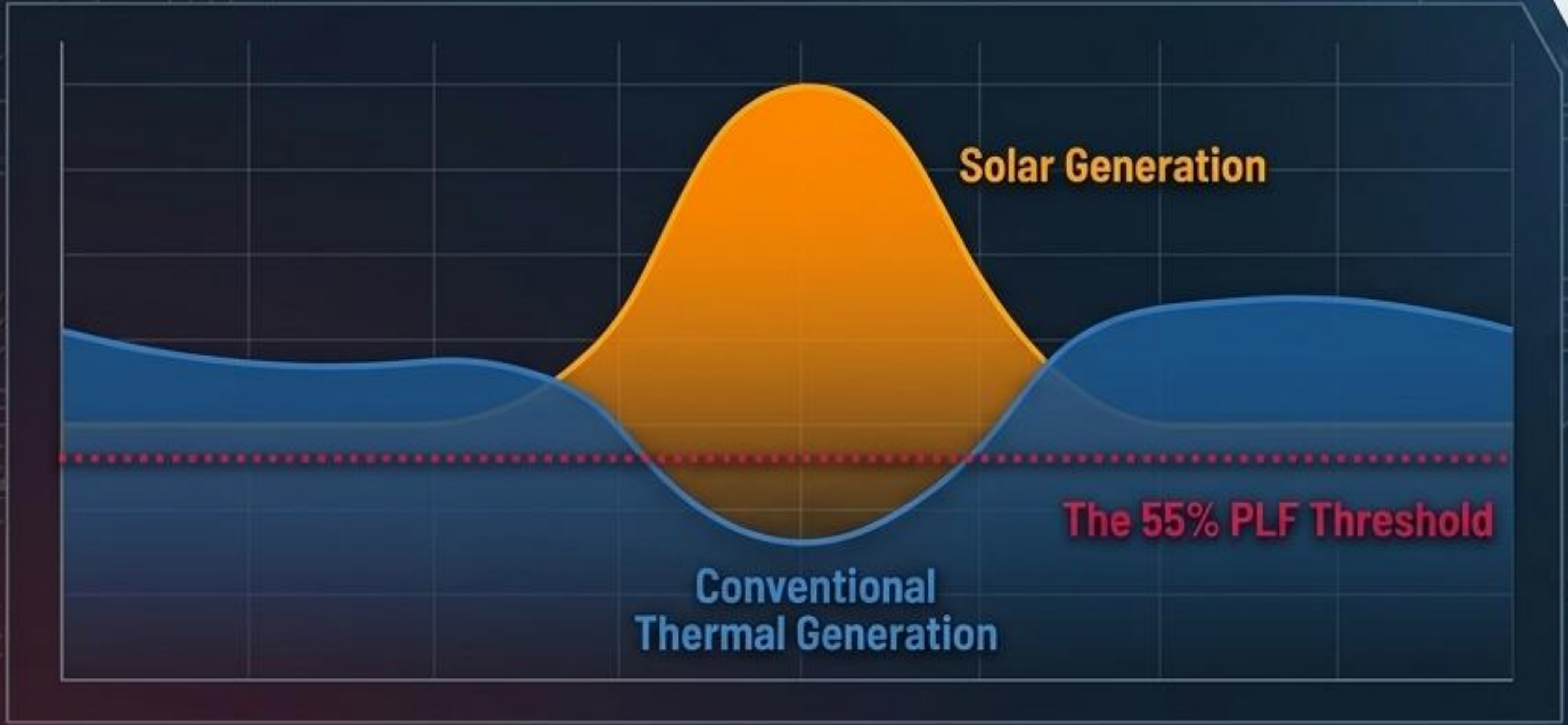
The Renewable Energy Paradox & Transmission Constraints

Grid Congestion: In Q1 2026, transmission constraints forced the curtailment of **470 GWh** of RE.



T-GNA Failures: Under **Temporary General Network Access**, developers face **uncompensated curtailment**, **curtailment**, while the state infrastructure struggles, socializing the cost of private RE integration onto the public grid.

The 'Must-Run' Squeeze: Stranding State Thermal Assets



The mechanical stress:
Unregulated, intermittent renewable energy surges at noon. Because RE has "must-run" status, grid operators are forced to drastically back down conventional thermal units.

The threshold:
Coal-fired units become economically unviable and technically unstable at a Plant Load Factor (PLF) below 52%-55%.

The Result:
The rapid ingress of inverter-based RE is rendering up to one-third of India's state-owned coal capacity financially unviable, turning public infrastructure into stranded assets while private RE generators are guaranteed dispatch.

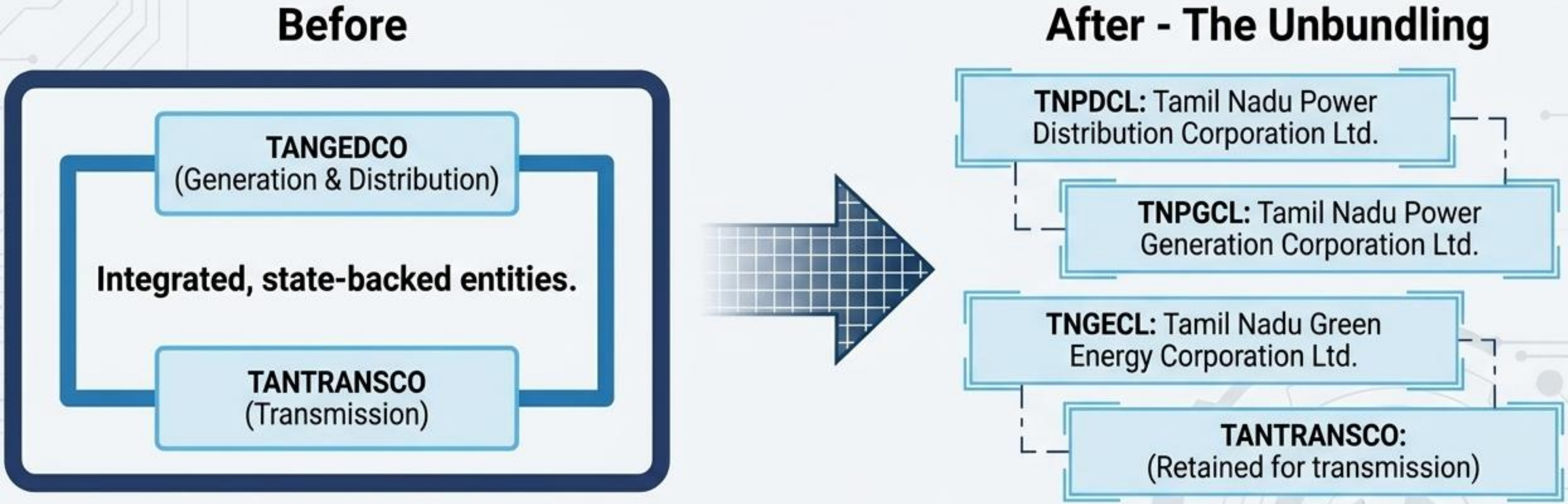
Privatizing the Profits of Transmission

The central push for **Tariff-Based Competitive Bidding** (TBCB) hands lucrative lines to private developers via SPVs, structurally skewing risk.

RTM (Regulated Tariff Mechanism) - The State Burden	TBCB (Tariff-Based Competitive Bidding) - The Private Advantage
• Retains complex, high-risk emergency builds.	• Cherry-picks lucrative, straightforward Inter-State (ISTS) lines.
• Bears the burden of counter-party risk and defaults.	• Guaranteed BOOT model (Build, Own, Operate, Transfer).
• Undertakes the arduous task of Right-of-Way (RoW) acquisition.	• Can lower tariffs by 30%, but avoids all systemic grid risks.

Since 2011, **only 41% of major projects** were routed via TBCB because states must retain control over emergency grid evacuation to ensure public safety.

The Corporatization Pathway: Restructuring Tamil Nadu’s Utilities



Employee Perspective Annotation

This fragmentation is viewed by labor unions not as an efficiency upgrade, but as the preparatory groundwork for piecemeal privatization, isolating profitable green assets (TNGECL) while siloing distribution debt (TNPDCL).

State Reality: The Unbundling of Tamil Nadu

Tamil Nadu (carrying 6% of GSDP as DISCOM debt) is restructuring to manage financial liabilities and force green integration.

Legacy Structure: TANGEDCO & TANTRANSCO

TNPDCL
Public Distribution

Absorbing the retail financial burden and consumer-facing infrastructure.

TNPGCL
Power Generation

Managing the operation of legacy thermal assets.

TNGECL
Green Energy Corporation

A new entity absorbing RE assets and transferred officers to manage the green transition.

TANTRANSCO
State Transmission

Focusing heavily on Phase-I of the Green Energy Corridor to evacuate wind/solar.

The Two-Tiered Human Grid

	Managerial / Corporate	Frontline / Contractual Workers
Dimension: Financial Bailouts	Successive debt takeovers (FRP 2012, UDAY 2015, RDSS 2022) to rescue utility balance sheets.	Severe pay anomalies, delayed promotions, and denial of three promotional pay scales (9, 14, and 19 years).
Dimension: Operations & Risk	Arbitrary political appointments to Board Chairperson and Managing Director roles.	Physical violence in high-conflict areas without the protection of the Power Sector Employees Protection Act or basic cashless medical treatment.

The Frontline Reality: Precarity & Protest

Contractual Exploitation

To meet central 'efficiency' metrics, permanent hiring is frozen. Hazardous, perennial grid maintenance is outsourced to contract workers paid as little as ₹8,000/month with zero job security.

The Pension Fight

A unified demand to scrap the market-linked New Pension System (NPS)—which deducts 10% of salary for market gambles—and restore the defined-benefit Old Pension Scheme (OPS).

State Repression

When UP workers struck after management reneged on a signed tripartite agreement, the state responded not with dialogue, but by invoking the Essential Services Maintenance Act (ESMA) and threatening arrests under the National Security Act (NSA).

The Outsourcing Illusion: 'Efficiency' Built on Exploitation

Contractual Labor (Exploding)

An exploding population of outsourced assistant linemen and substation workers.

Permanent Staff (Dwindling)

Rapidly shrinking due to deliberate hiring freezes to lower "establishment charges". Over a thousand posts sit vacant in local utilities.

Reality Box

These workers execute core, highly hazardous operations (maintaining 765/400/220 kV substations) for wages as low as ₹8,000 per month. They face perennial physical danger without job security, regularisation, or basic insurance.

The Pension Dispute: OPS vs. NPS Mechanics

The Stripping of Security: State power corporations have forced employees onto the market-linked New Pension System (NPS), abandoning the defined-benefit Old Pension Scheme (OPS).

Old Pension Scheme (OPS)

A dignified, guaranteed safety net that public servants historically relied upon after decades of hazardous service.

New Pension System (NPS)

The Mechanics: 10% of a frontline worker's salary is aggressively deducted, matched by a 14% employer contribution, and thrown into unpredictable equity and debt markets.

The Outcome: Upon retirement, the worker's survival is dictated entirely by volatile market performance, stripping away guaranteed life security.

Coercion Over Consultation: The State Repression of Dissent

2.7 Million Voices:
Under the AIPEF and NCCOEEE, millions of engineers and workers have staged massive nationwide rallies against privatization and labor code violations.

Broken Agreements:
In UP, administrations signed formal tripartite agreements to resolve pay anomalies and executive appointments, only to flagrantly bypass them.

Draconian Retaliation:
When workers engage in democratic, token strikes, state governments retaliate by invoking the Essential Services Maintenance Act (ESMA), threatening the National Security Act (NSA), and executing mass suspensions.

Insight: Reform objectives are being enforced through state coercion, entirely bypassing democratic stakeholder consultation.

The Integrated Grid: You Cannot Fix the Machine by Breaking its Makers

- **Synthesis Insight:** Financial reforms (tariff rationalization) and Physical upgrades (RE integration, integration, transmission expansion) **are** utterly dependent on the Human grid executing them.
- **Synthesis Insight:** Genuine efficiency gains cannot be sustained on a foundation of labor precarity.
- **Synthesis Insight:** A financially solvent utility operated by an exploited, demoralized, and physically vulnerable contract workforce is a fragile system waiting to collapse.

A Sustainable Pathway Forward

1

Honest Financial Restructuring

Takeover of accumulated losses by state governments via 20-year bonds, decoupling legacy debt from current operational KPIs. Cease blaming employees for state-level subsidy defaults.

2

Equitable Consumer Protection

Instead of abolishing cross-subsidies to enrich corporations, mandate transparent, fully-funded Direct Benefit Transfer (DBT) mechanisms through state budgets to protect rural and agricultural consumers from tariff shocks.

3

The Human Imperative

Regularize all contractual workers engaged in perennial, hazardous operations. Restore the Old Pension Scheme (OPS). Institute transparent board appointments to root out political corruption.

Synthesis: A Just Transition for the Grid

The Public Grid

Physical

Prioritize equitable grid planning and transmission adequacy (BESS integration) over unregulated, private RE ingress.

Financial

Enact structural debt relief and maintain cross-subsidies to protect universal access, rather socializing risks through the Amendment Bill.

Human

End contractual exploitation, restore the OPS, and enforce democratic stakeholder consultation over state coercion.

Core Takeaway: Electricity is not merely a commercial commodity to be cherry-picked for profit; it is a constitutional social right. True reform protects the workforce that actually keeps the lights on.

True Power Sector Reform is Collaborative, Not Coercive.

The future of India's power grid cannot be secured by privatizing its profits, socializing its debts, and exploiting its frontline workers.
A reliable, future-ready energy system requires returning to the negotiating table with the **2.7 mi-llion** men and women who keep the lights on.