# Power Distribution Tariffs in India - 2024

A Comprehensive Analysis of Retail Supply Tariffs in India for FY 2024-25

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## Power Price Breakdown: Unpacking the Major Cost Drivers for Discoms

- **Power Purchase Cost (PPC):** This remains a significant component of the Average Revenue Realization (ARR) for Discoms, typically accounting for around **65% to 75% as of April 2024**. Fluctuations in fuel prices and the increasing cost of cleaner generation technologies can impact PPC.
- **Transmission Charges and O&M Expenses:** These are the next major contributors. Transmission charges currently range from approximately **8% to 12%,** while O&M expenses can vary between **5% to 18%,** depending on Discom efficiency and infrastructure investments.
- **Low Discom Efficiency:** High Aggregate Technical & Commercial (AT&C) losses continue to plague Discoms. These losses, currently estimated to be between **15% and 20% nationally** (down from previous FY due to some improvement efforts), directly translate to higher retail tariffs to compensate for revenue shortfalls. Poor collection efficiency further compounds the financial woes of Discoms.
- **Cross-Subsidization:** Expanding energy access through initiatives like **Saubhagya** has been successful, but it has also increased the number of low-paying consumers on the grid. This, combined with government subsidies for agriculture and other sectors, puts pressure on Discom finances and contributes to a rise in retail tariffs for non-subsidized consumers.
- **Tariff Rationalization:** The ongoing debate around tariff rationalization hinges on whether electricity is a public service or a market commodity. Striking a balance between cost recovery and affordability for consumers remains a challenge. The current complex tariff structure, with varying approaches adopted by different states, reflects this ongoing policy discussion.

## Powering Up India: Can Tariff Reforms Unlock Financial Sustainability for Discoms?

Power distribution utilities rely on tariffs to generate revenue, cover expenses, and fund network expansion. While this business model appears sound, many distribution companies (discoms) still suffer significant losses. This raises the question: Where does the system falter? Is it due to discoms prioritizing consumer interests or the authorities' attempts to create politically acceptable policies?

Achieving an unbiased understanding of power distribution is complex, but it is clear that the authorities' intentions can impede the financial stability of discoms. This ongoing issue highlights the need for tariff rationalization as a potential solution. As of April 2024, power distribution tariffs vary significantly across different states in India. For instance, Delhi charges around **₹4-5 per kWh** for residential consumers using up to 400 units per month, while states like Maharashtra have higher rates, approximately **₹8-9 per kWh** for similar consumption levels. This disparity in tariffs reflects the broader challenges in aligning costs and revenues.

One critical factor is the lack of a mandate for state discoms in India to adjust their supply costs annually. Additionally, net metering payouts are based on the average cost of electricity supply or the cost of supply for only 8-9 of the 29 states. So, why aren't discoms adjusting their tariffs accordingly? The cost of generating electricity has risen, especially for thermal power, due to increased fuel costs and technological advancements aimed at reducing emissions.

To fully understand the financial challenges faced by discoms, we must consider the various factors contributing to their economic difficulties. The Indian power sector is heavily regulated, compelling discoms to provide essential services without the flexibility to set prices based on current costs. Regulators, however, cannot be solely blamed, as their ability to address political considerations is limited.

The financial woes of discoms are influenced by a combination of regulatory constraints, political intentions, and economic realities.

**Addressing these issues through tariff rationalization and a more adaptive pricing mechanism, considering the current tariffs and their variations across states, could improve the financial health of discoms, ensuring a more sustainable power distribution system in India.**

## Discoms Charting a New Course: Open Access and Renewables in Karnataka, ToD and Demand-Based Pricing in Maharashtra

### 1. Karnataka: Open Access & Reduced Cross Subsidies

Karnataka has made significant strides in tariff rationalization by promoting Open Access and reducing cross-subsidies. The Karnataka Electricity Regulatory Commission (KERC) revised its tariff structure to reflect the actual cost of supply more accurately. Key measures included:

- Reducing the tariff burden on industrial and commercial consumers by 20% over three years.
- Gradually increasing tariffs for agricultural users while offering incentives for adopting efficient irrigation technologies.
- Enhancing the Open Access framework, allowing large consumers to procure power directly from the market, thus promoting competition and efficiency.

### 2. Maharashtra: Time-of-Day Tariffs and Demand-Based Pricing

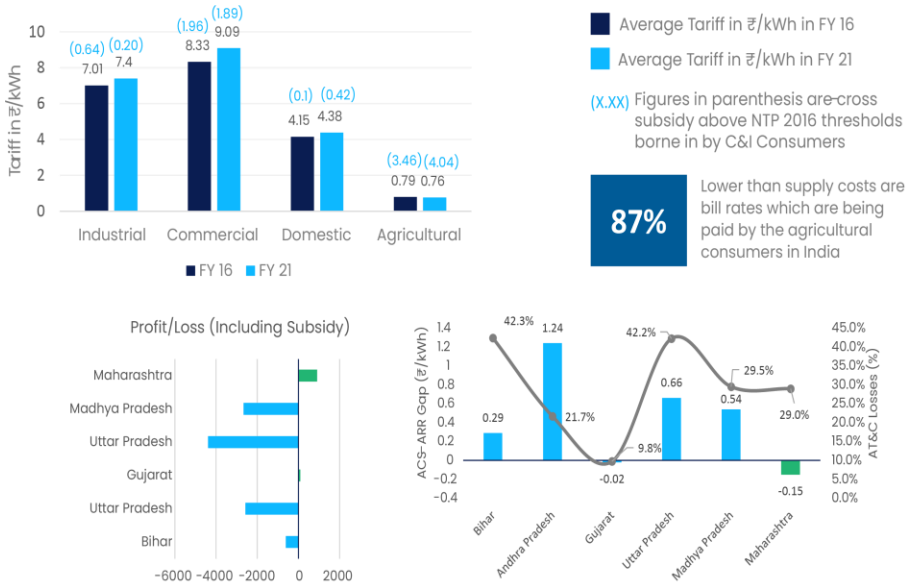
Maharashtra has adopted innovative tariff rationalization measures, including Time-of-Day (ToD) tariffs and demand-based pricing, implemented by the Maharashtra Electricity Regulatory Commission (MERC). These measures have helped balance the load on the grid and align consumer behavior with supply costs:

- Introducing ToD tariffs, which charge higher rates during peak demand periods and lower rates during off-peak times, incentivizing consumers to shift their usage.
- Implementing demand-based pricing for industrial consumers, encouraging them to optimize their energy use.
- Providing incentives for rooftop solar installations, reducing dependence on subsidized grid power.

Furthermore, despite the National Tariff Policy 2016's limits on cross-subsidies at 20% of the average cost of power supply, this regulation is not adequately implemented in the country. As of April 2024, there are significant discrepancies in the average tariffs for different consumer categories. **For example, commercial users are charged tariffs that are 55% higher than the national average cost of power supply, while industrial users face tariffs that are 25% higher. Conversely, domestic and agricultural consumers benefit from tariffs that are 30% and 90% lower than the cost of power supply, respectively.**

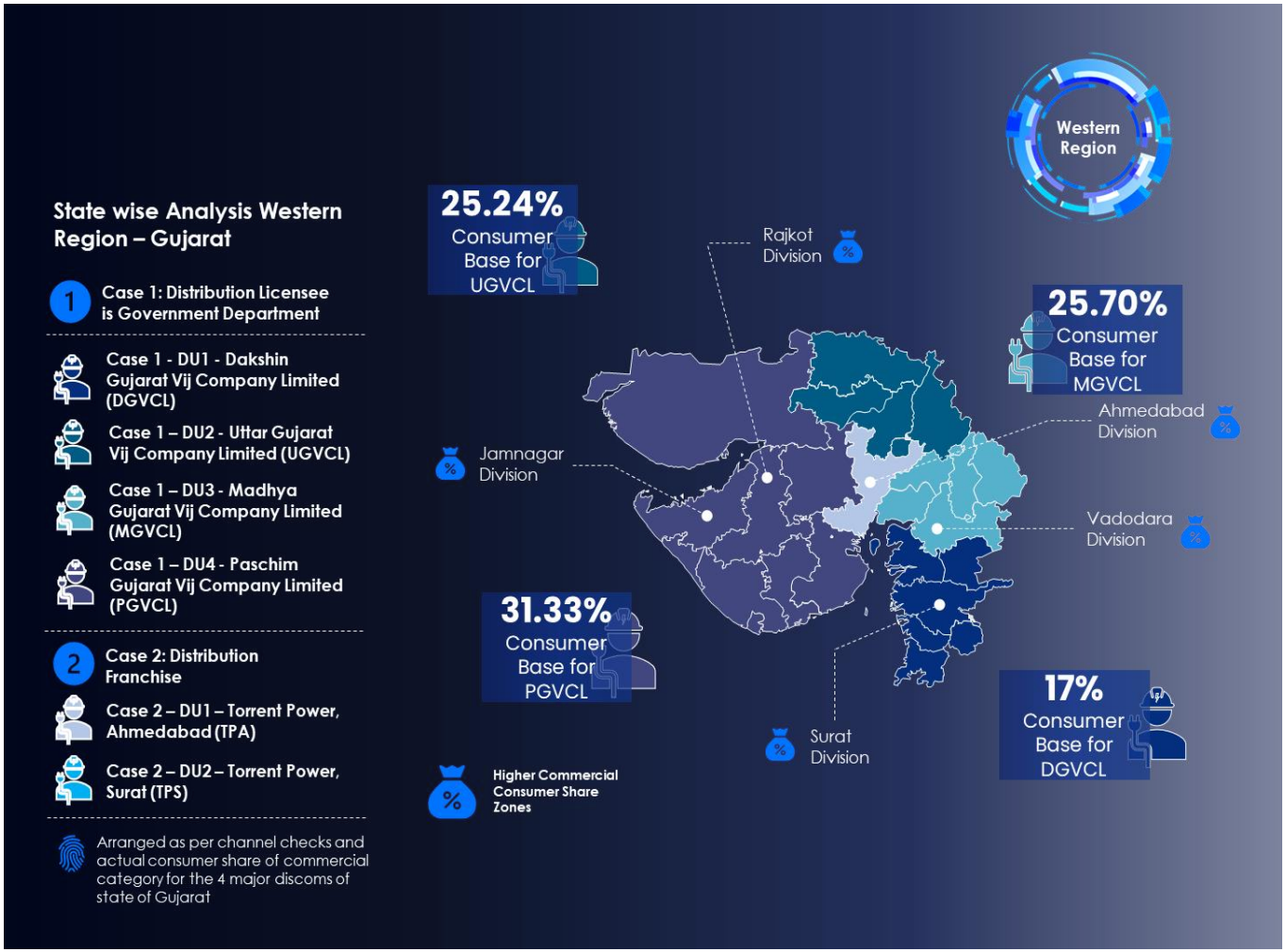
These disparities underscore the persistent challenges in achieving a balanced and fair tariff structure. The excessive burden on commercial and industrial users not only escalates their operational costs but also hampers overall economic growth. This situation drives many of these users to seek alternative power procurement sources through **Open Access**, **further eroding the revenue base of discoms**. Conversely, the substantial subsidies for domestic and agricultural consumers, though politically popular, significantly strain the financial viability of discoms. Addressing these imbalances is crucial to ensuring a sustainable and efficient power distribution system in India. The failure to implement a more equitable tariff structure exacerbates financial instability in the power sector, necessitating urgent reforms to align costs more closely with revenues.

Exhibit 1: The Impact of Cross Subsidy Mechanisms on Power Discoms in India: A Look at Market Distortions




Source: eninrac research, DISCOMs, VB Tariff Tool

# Past Report Excerpts

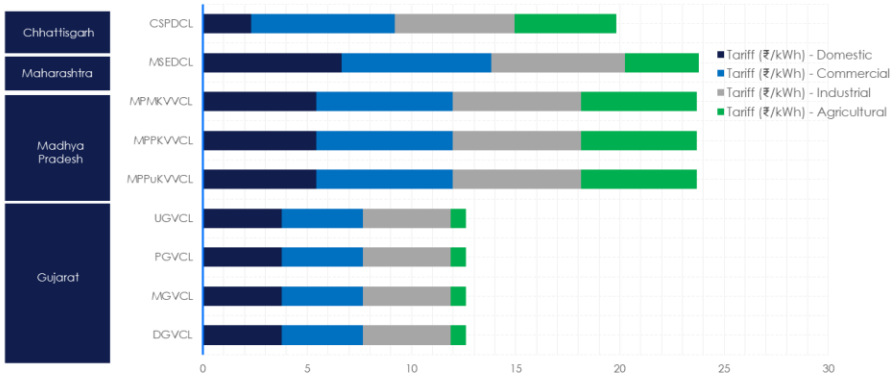



Source: eninrac research, DISCOMs, VB Tariff Tool

# Past Report Excerpts

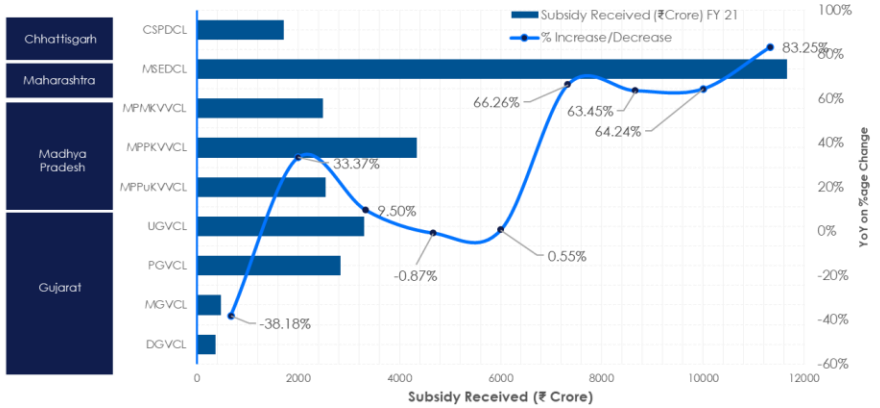
### Billing Rate as per Consumer Category (FY 2021)

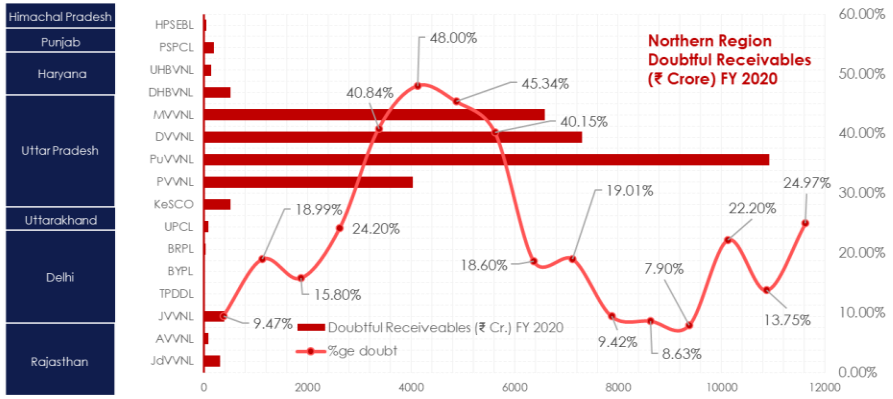
Billing rate are indicative of the amount to be charged by a respective power distribution utility in a given financial year for indulging in power sales for distribution to the different consumer categories. There shall be a track of payment **in ₹/kWh** done for all discoms operational in Western Region for applicable consumer categories.




### Extent of Subsidy Receivables

Extent of subsidy receivables are indicative of the amount of subsidy to be received by a respective power distribution utility in a given financial year for indulging in power sales for distribution to the different consumer categories. There shall be a track of subsidy **in ₹ Crore** done for all discoms operational in Western Region. Further, whether there has been a jump or fall in terms of procurement amount on yoy map shall also be done.

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## Key Signposts – An examination of the factors that affect retail prices & possible solutions to mitigate their impact

| Key Signposts | |
|---|---|
| **1. Power Purchase Cost (PPC) being the greatest contributor to the costs in ARR** | a. PPC is the largest contributor to the average cost of supply, having on an average more than 70% share in the cost for a distribution company<br>b. Coal procurement cost is the major contributor in PPC, and regulation of coal sector is required to stem inefficiency and improve performance so that consumers (of coal) including the power sector, benefit |
| **2. Monetary implications arising due to poor planning of transmission network planners** | a. There has been huge investment in developing transmission network, having said that, its utilization has not been commensurate with the investment<br>b. Owing to under utilization of assets, high cost is being passed on to the consumers and hence, they are being burdened with the monetary implications arising due to forecasts of transmission planner & hence are migrating towards their own captive generation or procuring power through open access resulting into financial losses of DISCOMs |
| **3. Power tariff structure very complex, needs rationalization** | a. States like Delhi and Gujarat have successfully implemented tariff rationalization using a set of guiding principles<br>b. Other states too should follow the suit and rationalize the tariff structure sooner |
| **4. "Latent Power Demand" should be factored by DISCOMs in their power demand forecast** | a. Latent power demand constitutes to a substantial portion of overall power demand in states like West Bengal, Uttar Pradesh, Bihar, Madhya Pradesh etc.<br>b. Hence, there is a need to assess this demand beforehand & include the same in ARR for more realistic retail supply tariff |
| **5. Growing share of Renewable Energy** | a. Despite the availability of green power at INR 2.5/kWh or lower, the benefits for DISCOMs are being offset by transmission and balancing costs. Therefore, distributed generation is being prioritized paving way for more open access transactions for C&I consumers and resulting into revenue losses for DISCOMs |
| **6. There is a need to enhance the efficiency of operations at the distribution level** | a. AT&C losses can be reduced by better reactive power management as done by Tamil Nadu<br>b. SERCs should establish a long-term plan for reducing losses and ensure strict compliance by DISCOMs. AT&C loss reduction has potential to reduce the retail supply tariffs significantly |

## Contents & Coverage – Key Highlights

- Interactive Data to Information (D2I) tool-based analysis for DISCOM wise tariff analysis in India – FY 2024-25
- Impact analysis of CERC tariff regulations 2019-24 and way forward
- Consumer category wise tariff schedule for FY 2024-25
- Consumer category wise revenue contribution for FY 2024-25
- Net Aggregate Revenue Requirement for DISCOMs for FY 2024-25
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- Consumer category wise energy sales analysis
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- Financial & Operational feasibility/condition of DISCOMs

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