Performance Improvement Plans (PIP) for operational and financial health of distribution utilities

January 2026

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Predominant situation of poorly performing electric utilities in emerging countries

- Bad service quality in electricity supply and commercial aspects
- Poor operating condition of electricity networks (long periods with insufficient investments)
- High total losses (technical and commercial)
- Low values of collection rates of billed amounts
  - CRI = (kWh billed/kWh injected) x ($ collected/$ billed)
- Outdated customers and network databases (if existing)
- Inexistence of corporate tools needed for an efficient, transparent and accountable management in key business areas (commercial, network planning and operations, corporate resources)
- Lack of “customer orientation” in management – Low priority allocated to customer service
  - “Utility exists because it has customers to serve” not a strong driver for management in monopolistic companies
- **Need to cut the “vicious circle”: bad service quality-----low willingness to pay higher tariffs---insufficient revenues-------deterioration of service quality**
  - **Poor management is one of the key reasons explaining the situation**

Discoms performance in India

- AT&C losses = 16% in India vs. 7.5% global benchmark, 3-5% in China (The Economist)
- Full cost recovery gap = INR 0.39 /kWh in FY24
- Absolute cash gap of INR 58,000 crore, -30% over FY23
- After subsidy, gap reduced to INR 0.19/kWh
- Source: MoP, Apr-2025

Objectives of the Performance Improvement Plan (PIP)

- Provide good service to customers in all dimensions (electricity supply and commercial aspects)
- Achieve operational sustainability:
  - **Run by a team of local managers having the right technical skills and ethics, with the support of state-of-art tools.**
  - Executing operation in all business areas with efficiency, transparency and accountability
  - Enhancing governance within the company and to external stakeholders
- Create conditions to achieve financial sustainability through the application of a tariff system with charges in each category allowing recovery of costs incurred for efficient service delivery.

Components of the PIP

- Component 1: Organizational restructuring
  - Assessment of the current organizational structure of the company
  - Gap analysis with best practices in comparable cases in emerging countries
  - Proposal of new organizational structure and roadmap for implementation
  - Preparation and implementation of a training plan to strengthen capacities in all positions of the organizational structure

Components of the PIP

- Component 2: Incorporation/upgrade of management information systems (MIS) and process reengineering for efficient, transparent and accountable execution of operations in all business areas.

  - Network planning and operations, with high priority allocated to attending and solving complaints received from customers regarding outages and other incidents in electricity supply

  - Commercial Management System (revenue cycle of postpaid customers, management of prepaid customers, attending customers via Digital Contact Center and agencies).

  - Corporate resources: accounting, finances, human resources, procurement, logistics, corporate planning.

  - Geographic information system (GIS) to build up and keep updated reliable network and customers databases, including customers indexing

Components of the PIP

- Component 3: Implementation of a “revenue protection program (RPP)” supported by Advanced Metering Infrastructure (AMI) , initially focused on sales to large and medium customers

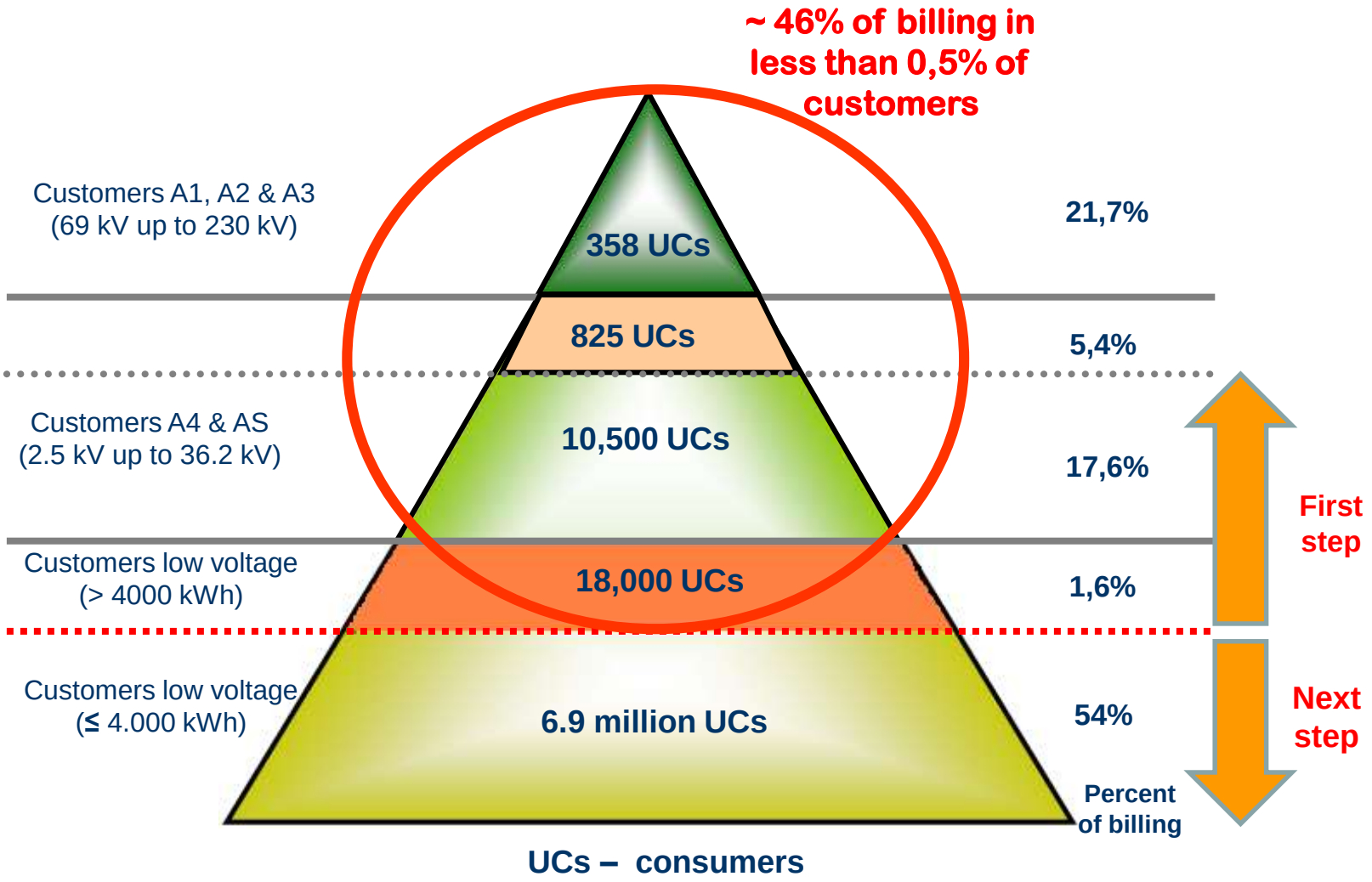
- Component 4: Identification and implementation of investments in rehabilitation/upgrade of existing networks aimed at addressing situations requiring urgent correction and enhancing operational flexibility

Component 3: Revenue Protection Program (RPP) supported by AMI

- **Objective:** every unit (kWh of electricity) consumed is metered and billed on a permanent basis

- **How the objective can be achieved:** structure of market served by electricity utilities in general shows the "ABC or Pareto effect"
  - 1-2% of large (industrial, commercial, large residential) customers represent >50% of current sales
  - First phase targets this "high value" segment
  - Medium and small consumers progressively incorporated over time

CEMIG: the largest distribution company of Brazil - Structure of market (ABC effect)



RPP- Conceptual approach and core features

- **Conceptual approach: systematically recording and monitoring consumption of customers and adopting consistent corrective action help to ensure full metering and billing of consumption on a permanent basis**
- **Core features:**
  - Application of “advanced metering infrastructure (AMI)” makes implementation of RPP technically viable and financially very attractive
  - Organizational arrangements and operational procedures must be adopted by the utility to monitor consumption of targeted users in a systematic manner: creation of Metering Control Center (MCC)
  - Field inspections are carried out in case potentially irregular consumption situations are detected through systematic monitoring, and corrective action adopted as needed

CEMIG's Metering Control Center

THANKS FOR YOUR ATTENTION!

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