

FRAMES model for financially sustainable DISCOMs



Center for Study of Science, Technology and Policy

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India is the third largest producer of electricity in the world, yet less than 50% of Indian households have access to electricity for more than 12 hours. One of the primary reasons for this poor electricity supply at the consumer end is the distressed financial condition of power distribution companies (DISCOMs). This distress is caused by high aggregate technical and commercial (AT&C) losses and the wide gap between the costs incurred and revenues realised by the DISCOMs. To tackle this, the Ministry of Power (MoP) launched a flagship scheme — Ujwal DISCOM Assurance Yojana (UDAY) — to improve the operational efficiencies of DISCOMs by reducing AT&C losses and bridging the gap between costs and revenues. However, even after the implementation of UDAY, the factors contributing to power sector losses continue for most DISCOMs.



One of the aims of the UDAY scheme was to reduce AT&C losses to 15% by 2019. Since the launch of the scheme, AT&C losses across India reduced to only 18% in 2018–19 from 21% in 2015–16. Another aim of the scheme was to ensure commercial sustainability of DISCOMs by bridging the gap between revenues and costs. While the overall gap reduced from ₹0.60/kWh in 2015–16 to ₹0.17/kWh in 2018–19, 21 of the 27 states that have signed up for the scheme are unlikely to meet the target.

According to a National Institute of Public Finance and Policy study, the UDAY portal data suggest that there are serious concerns that the DISCOMs would not be financially sustainable in the long run. It is, therefore, necessary for DISCOMs to run their business on effective commercial principles by addressing the underlying issues and initiating measures to ensure financial viability. The financial viability of a DISCOM can be realised by encouraging commercial accountability at the field level. Currently, commercial accountability is centralised at the corporate-office level of each DISCOM. The zones/divisions and operational departments (subdivisions and section offices) of DISCOMs are held accountable for project implementation, network operation, and maintenance, but not for earning profits from the services rendered.

Because employees at the operational level focus mainly on the maintenance of power supply rather than revenue realisation, DISCOMs are unable to effectively relate the input energy with the revenue realised from its sale at the field level. Therefore, there is a need to make employees at the field level accountable and responsible for revenue realisation. Center for Study of Science, Technology and Policy (CSTEP) has developed a framework for feeder-wise revenue analysis and monitoring of energy sales (FRAMES) at the 11 kV-feeder level.

Under FRAMES, each feeder would be treated as a profit centre and each feeder manager as the head of this profit centre. The framework can be used to calculate the target revenue that a feeder needs to earn commensurate to the energy received by it. The revenue that a feeder has to earn depends on the type of consumers it caters to and electricity charges (tariff) that it can collect from these consumers. Further, feeder revenue is also impacted by losses in the feeder, as part of the energy will be lost during transfer of power from the feeder to end consumers. Thus, the feeder can only earn revenue for the energy that has been received by the consumers. In FRAMES, all the three aspects — allowable losses in the feeder, the consumer mix of the feeder, and the

tariff approved for it — are considered while calculating the target revenue of the feeder. CSTEP has also developed a FRAMES tool to showcase the monthly target sales and revenue from the feeders. At the end of every month, the feeder manager can input the actual sales and revenue in the tool which can then be compared with the target revenue of the feeder. Any deviation between the realised and target revenue has to be mitigated by taking corrective measures by the feeder manager. The target revenue for consecutive years can be adjusted on the basis of the reduction in the losses (if any) achieved by the feeder and any tariff revisions approved by the regulatory commission.

FRAMES enables the feeder manager to identify the reasons for any revenue leakage — whether it is due to ineffective billing and collection in the feeder or due to technical issues in the distribution network. Once the feeder manager is aware of the reasons for the leakage, they can take appropriate measures to reduce/eliminate it.

The implementation of FRAMES would lead to the inculcation of financial discipline in feeder managers owing to the incentive/penalty mechanism attached to it. Feeder managers can be incentivised or penalised for any reduction or increase, respectively, in losses in their feeder network. In addition, FRAMES can act as a knowledge-sharing platform wherein a better performing feeder can share its loss-reducing and revenue-earning best practices with other feeders.

FRAMES can be implemented in DISCOMs without any modification in their existing administrative setup and can be replicated for all feeders under a DISCOM's jurisdiction. Moreover, the framework can be used by officials at the circle/zonal level for monitoring operations at the consolidated levels of subdivision and division offices. The officials at the corporate level can utilise it as a decision-making tool to improve the commercial viability of DISCOMs.

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