

Challenges of the Electric Energy Distribution Sector

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This article presents a brief analysis of the challenges faced by the distribution sector, resulting from the **New Institutional Model** associated to society's current demand.

The **electricity sector's** so-called **New Institutional Model**, presented by the Ministry of Mines and Energy, has defined the following objectives: to ensure the safe supply of electric energy; to promote tariff moderation, by means of efficient contracting of energy for regulated consumers; and to promote social insertion within the electricity sector, particularly through service universalization programs.

The New Model established the de-verticalization of the sector, separating the generation, transmission and distribution segments. Competition was established in the generation segment, while in the transmission and distribution segments free access was ensured to agents with technical and economical regulation.

The current stage of technological and economical development of Brazilian society imposes elevated demand on infrastructure, both generally and particularly for the electric energy segment, as the majority of businesses require electric energy in its varying forms to meet not only lighting needs but a range of other necessities too, such as: operation of machines, air conditioning, voice and data communication, process automation, general processing, transports, etc. There is also the behavior of people, life habits and consumptions standards to consider, which increasingly include the demand for electricity.

This growing use has resulted in very elevated demand levels in relation to safely meeting consumption needs, along with issues related to reliability and quality of the electricity provided.

On the other hand, the advent of universalization and the Luz Para Todos (Light For All) program fostered an expansion of distribution networks, without the resulting and proportional increase of the sold load. Thus, the expansion of networks had significant impact on service demands, especially regarding economic effort to maintain service quality, and the economic balance of concession, as the networks were expressively expanded precisely in areas of difficult access and low loads, in which a number of electricity companies almost doubled the extension of their power networks.

Within this scenario, companies need expressive investments in electric assets and also in their processes to ensure service in concession areas within the standard established by the regulating agent and that required by clients. Even though these two standards do not always coincide, concessioners need to meet their requirements, whether through regulatory obligation or through pressure from the diverse client segments, as well as needing to maintain economic balance of concession, to make it viable in the long-term.

Thus, the distribution segment, the risks and challenges of business, are linked to the effectiveness and efficiency of asset management and obtaining a suitable remuneration from them and, as such, it is necessary for companies to have a management process able to

provide the answers necessary to the regulation model, with compatible deadlines and costs.

On the other hand, the cost of service is another challenge faced by companies, because, as seen previously, on the one side there is strong pressure to increase structure to face demands head on and on the other the regulating entity is focused on tariff moderation. Here we also note that management operational processes are decisive in the results of the business.

The distribution of electric energy involves complex processes in terms of logistics, quantity and quality of materials, suppliers, technical and safety requirements, speed in services, volume of service, expansion works, deadlines, etc. It is clear that in this scenario, only efficient processes are able to provide the necessary answers. Efficient processes are understood as a well-designed flow, clear procedures, intensive use of technology and support tools and appropriate training. Another relevant point is the attractive cost-benefit ratio between the investments necessary for process improvement and the respective benefits.

The change in the tariff review methodology that will be applied in the third cycle of reviews, currently at a phase of consolidation by the regulating entity, presents strong indications of boosting the efficiency of companies, despite a few points that can be discussed.

Within this scenario it is noted that the process and management models adopted to present have been tapped dry and there is a need to find alternatives that ensure that quality and cost converge with the goals established by the regulating entity and that they cater to business needs.