

THE EXTENSION OF POWER DISTRIBUTION CONCESSIONS

ANALYSIS OF THE BRAZILIAN CASE FROM THE
PERSPECTIVE OF LATIN AMERICAN COUNTRIES





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INTRODUCTION

The activity of electricity distribution, being a natural monopoly and a public service, aims for efficient provision and universal access. It operates under a regulated regime, where compensation and tariffs are moderated by regulations, unlike what would be a free market regime. In some countries, a concession-based model is applied, which aims to establish the legal and regulatory framework for service provision, as well as the rights and obligations of the involved parties.

Latin America is a region with a diversity of regulatory models, while maintaining the common goal of promoting supply quality, consumer satisfaction, ensuring economic and financial balance for all parties, and sustainable development within the energy sector.

The activity of electricity distribution initially played a role focused on expanding the grid and integrating new consumer units into the system. Nowadays, it faces the challenge of provide this service while also meeting the demands of growing electrification and incorporation of distributed energy resources.

To contribute to the ongoing debate in Brazil regarding the extending of electricity distribution concessions, this document is structured into three parts. The first part presents an analysis describing the regulatory models for electricity distribution in the member countries of ADELAT (Association of Latin American Electricity Distributors). The second part contextualizes the Brazilian regime and analyzes the discussion

around the guidelines proposed by the Ministry of Mines and Energy for the ongoing extension process. The final part offers concluding considerations to contribute to the discussion about the model to be applied in the extension of concessions that best serves the public interest. Additionally, Table 1 objectively addresses six key themes in the evaluation process of the distribution model in Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, and Peru: 1) Contracting model, 2) Contract duration and terms, 3) Extension conditions, 4) Contract obligations, 5) Contract suspension, and 6) Compensatory remuneration for assets. Furthermore, a concise characterization of European distribution models is also presented.

Strategic Vision for the Extension of Power Distribution Service in ADELAT Member Countries.

CRITERION	ARGENTINA	BRASIL	CHILE	COLOMBIA	ECUADOR	GUATEMALA	PERU
Contracting Model	Concession	Concession	Concession	Authorization	Authorization	Authorization	Concession
Term and Duration	95 years	30 years	Indefinite term for old concessions and temporary term for new operators.	Indefinite term	Term established in the qualification title.	50 years	Indefinite term
Extension Conditions	A management period is established every 10 years (currently suspended).	It can be extended for an additional 30 years.	Not applicable to old concessions, and there is no provision for extension for new operators.	There are no extensions, as the term is indefinite.	It can be extended if it is convenient for the State's interest.	No provision for extensions	There are no extensions, as the term is indefinite.
Contract Obligations	Factors considered include regulated tariffs, quality, and consumer service.	Factors considered include regulated tariffs, quality, safety, asset control, and consumer service.	Factors considered include regulated tariffs, quality, third-party access, investment plan, and consumer service.	Application of regulated rates for an indefinite term, quality, investment plan, consumer care, energy loss prevention.	Application of regulated rates, system expansion, quality, consumer care.	Application of regulated rates, system expansion, quality, maintenance, third-party access.	Application of regulated rates, system expansion, quality, consumer care, third-party access.
Contract Suspension	When annual penalties exceed 20% of the DSO annual income.	When it does not meet quality and economic-financial management requirements.	When less than 2/3 of the investment plan works are completed.	When it does not comply with regulatory requirements.	Cases according to LOSPEE - "Termination of the operating authorization."	When annual penalties exceed 20% of annual revenue, if the DSO denies third-party access permission, if poor service quality is verified, or by mutual agreement.	When requirements regarding quality, supply of regulated demand, or payment to generators are not met.
Compensation for Assets	Through the sale of majority shares deducted from debts.	Determined by calculating the Net Regulatory Remuneration Base (not depreciated).	Determined by calculating the Net Regulatory Remuneration Base.	Determined by calculating the Net Regulatory Remuneration Base.	No compensation is foreseen because it concerns the State itself.	Through the valuation of auctioned assets minus incurred costs.	Auctioned assets are valued, and the incurred costs to maintain operations are subtracted.



It is observed that many countries do not set a specific term for electricity distribution concessions. When they do, the duration is considerably long. This is because prices are continuously regulated, and service quality is constantly monitored and evaluated. Nevertheless, public interest should always guide discussions regarding the best model and conditions when signing contracts for energy supply services.

Additionally, this is complemented by a detailed discussion about the process of extending electricity distribution concessions in Brazil. In summary, there are two groups of distribution concessions in Brazil:

(i) The first group consists of both state-owned and private concessionaires. Their concession contracts were initially extended for 20 years in 1995 and later renewed for an additional 30 years between 2015 and 2018. In both cases, the extension was granted without any financial counterpart; compliance with economic, financial, and

quality clauses was the only requirement.

(ii) The second group includes concessionaires that were privatized through auctions held between 1995 and 2001, with a 30-year contract term. For these companies, the right to operate the concession was acquired through bidding. Starting in 2025, the contracts for 20 distribution concessions belonging to the second group—those companies privatized after 1995—will expire. These contracts fall under Law No. 9,074, which regulates the granting and extension of concessions and permits for public services.

There is a legal and contractual provision regarding the possibility of extending these contracts, subject to the discretion of the granting authority, namely the Ministry of Mines and Energy (MME), once satisfactory service compliance has been verified.

To contribute to the discussion on this topic, distribution companies and other agents have

presented their contributions within the Public Consultation 152/2023 by the Ministry of Mines and Energy (MME). They have registered specific positions and reservations regarding the proposal originally presented by the Ministry in Technical Note No. 14/2023/SAER/SE (NT 14). The extension process is still ongoing, and a second technical note, Technical Note No. 19/2023/SAER/SE (NT 19), has been published by the MME. This note analyzes the contributions made by agents during the aforementioned public consultation. As the next steps, we anticipate the publication of final guidelines by the Casa Civil through a decree, followed by regulation from the National Electric Energy Agency (ANEEL).

In summary, there are four key points from this ongoing debate in Brazil:

Minimum criteria for extending expiring concessions:

The MME establishes two criteria that distribution companies must meet to extend their concessions. The first criterion relates to supply quality, based on indicators such as frequency and average duration of interruptions (FECi and DECi). The second criterion refers to the economic and financial management efficiency of the concession, with the requirement that EBITDA exceeds the sum of QRR (Regulatory Reintegration Quota) and Debt Interest. The choice of these criteria demonstrates adherence to existing regulations and allows for an objective evaluation by the granting authority. This contributes to a legal certainty and predictability environment within the sector, while also preserving equality among distribution companies.

Social counterparts and financial resources:

The MME recommends that the extension of expiring concessions should be accompanied by social counterparts addressing issues related to

distribution improving. These counterparts take the form of investments in energy efficiency and the modernization of distribution grids. Regarding the financial resources for implementing these social counterparts, the MME presented four possibilities in its Technical Note No. 14 (NT 14): (i) Eventual economic surplus obtained by the concessionaires; (ii) Resources currently allocated to energy efficiency programs; (iii) Other income related to ancillary and complementary activities, as well as those related to penalties applied by distributors (such as excess demand and reactive energy); (iv) Surpluses from the regulatory capital cost due to tax benefits granted to certain regions of the country. However, after sector contributions highlighted the inadequacy of collecting counterparts based on measuring economic surpluses and tax benefits from SUDAM/SUDENE (due to legal, fiscal, and regulatory issues), the initially proposed sources for social counterparts had a critical analysis by the MME. In the recent Technical Note No. 19 (NT 19), the MME acknowledges the inadequacy of collecting counterparts based on measuring economic surpluses and the legal impossibility of capturing SUDAM/SUDENE tax benefits.

It is necessary to recognize that the current regulatory model already includes the sharing of efficiency benefits obtained by concessionaire companies with consumers, and that these benefits are deducted from the tariff in each cycle, making it more accessible and generating benefits for the consumer. ANEEL includes, in various aspects of the tariff review methodology, elements that seek to reflect these efficient values, whose regulatory reference is established based on the observation of the real costs of the companies. In fact, the current model applies the X Factor (productivity gain sharing factor) on total costs, the incidence of the weighted cost of capital (regulated WACC) on the Regulatory Base

of Amortized and Depreciated Assets (net BRR) of the real company, and reference competition and benchmarking models to define efficient levels for operation and maintenance costs, electrical losses and the quality of service. It is recognized that the incentive regulation applied by the agency has generated significant results for consumers in terms of tariff accessibility in the costs manageable by the distributor (Parcel B).

Digitization and modernization of grids:

the MME points out that the digitization of grids represents a gain opportunity for both consumer and concessionaire, and emphasizes this issue as something to consider in the concession extension process. However, the issue of grid digitization is too important to be simply “coupled” to ongoing discussions about concession extensions, deserving a separate and detailed discussion about its guidelines. In addition, its effects must be perceived equitably and uniformly in all concessions, instead of just in a part. In the appropriate scenario it will be possible to investigate and debate with society, how digitization will be adequately remunerated and, ultimately, how it will contribute to the energy transition. In this sense, a new role to be played by distributors in the context of the energy transition requires that (i) regulation adjusts quickly with appropriate incentives to the anticipated changes, reconciling reasonable tariff, quality improvement and economic-financial balance; and that (ii) the grantor allows greater flexibility in contractual instruments so that regulation can adapt to technological changes, given the evolution of the predominant technological process.

Remuneration of investments in modern technologies:

the MME proposes to incentivize investments in the modernization of grids and services. Incentives are an integral part of the desired technological advancement, so

that the project is economically viable for the concessionaire, allowing long-term investments in infrastructure and benefiting society with provision of services and development of strategic assets for the country or region. In this sense, a deeper debate is desired, without a delay in the term to the extension of the concessions. It is essential that investment needs are correctly assigned over time, so that their recognition and remuneration are sufficient and timely to guarantee the modernization of the grids, in a sustainable way for businesses, taxing customers only at a level compatible with their income and needs.

When comparing with models in other markets, it can be observed that the Brazilian regulatory model, based on incentive regulation, has allowed improvement of quality indicators, system expansion, universalization of electricity supply and, at the same time, distribution of efficiency benefits to society.

Within the context of the energy transition, the electricity distribution sector plays an essential role, due to its strategic position in the chain of the electricity industry. Therefore, distributors must have a solid economic-financial health to be leaders in innovation and, thus, serve as a boost for the transition.

The grids modernization implies a corresponding modernization of the regulatory frameworks to provide predictability and guarantee to the distributors in the remuneration of investments, and transmit efficient price signals to consumers. However, these regulatory improvements result from a continuous review process, being feasible and advisable to be carried out in a deep and separate way from any relevant discussion about the contractual regime applied to the distribution and the extension of contracts, when applicable.

The design of the contractual models must maintain as a premise the fulfillment of the minimum requirements capable of guaranteeing supply quality, consumer's satisfaction, economic-financial balance of the parties and sustainable development of power sector, in addition to the necessary flexibility for the evolution and adaptation of regulatory frameworks to the challenges of energy transition.

In the Brazilian case, complying with the requirements of quality and economic-financial sustainability, extension is the alternative that best serves the public interest, as it avoids interruption or deterioration in the service and the risks of frustration in possible tenders.

01

INTERNATIONAL EXPERIENCES



In the electricity markets of Latin America, patterns of similarity are found in relation to the organizational model of activities and its opening to private initiative.

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In this sense, Latin American electricity industry has gone through development cycles, the last one being characterized by restructurings and opening to private capital in the 1980s and 1990s. These transformations have led to the signing of contracts with the granting powers to carry out the exploitation of concessions.

In the case of distribution activities, which are grid industries (natural monopolies), the objective of efficiency in the provision of public

service prevails, highlighting the guarantee of universal access and moderate tariffs. In these contracts, the main concern lies in the capacity of the private agent to make investments, operate facilities, and provide quality services.

Therefore, the objective of this study is to evaluate the state of legal-regulatory development in distribution contracts, understanding the context of Argentina, Chile, Colombia, Ecuador, Guatemala, and Peru, which have companies members to the Association of Latin American Electricity Distributors (ADELAT), as well as a summarized characterization of European distribution models. In addition, this work is complemented by a detailed exposition of the

Brazilian reality, supporting the ongoing process of concession extensions.

For this, a research of the legislation was carried out and some distributors from each country were interviewed, about the main attributes in the contracting model of electricity distribution: the contract model, term and duration, extension conditions, main contractual obligations, suspension of the contract and indemnity remuneration of assets.

This work will also support the evaluation of the regulatory environment, derived from the normative regime adopted in these Latin American countries, which can generate legal insecurity, to a greater or lesser extent, related to the performance evaluation of distributors throughout the concessions. In the extension process of contracts, the instability of the rules and application criteria can affect negotiations inefficiently, as well as the public entities decisions that do not adequately consider the impacts on the electricity sector and economic agents.

In order to contribute to the debate on the exploitation regime of electricity distribution concessions, a descriptive portrait with key information from the aforementioned countries is presented below. Based on this, six important topics for the strategic evaluation of contractual regimes for the electricity distribution will be addressed.



1.1. ARGENTINA

1.1.1

Contracting Model

The electricity distribution is carried out through a public concession. The main legislation governing the electricity market in Argentina is Law 24.065/91, which established the public concession regime for electricity, along with decrees 1398/92 and 1289/19. The granting power is the Secretary of Energy, and it is expected that in the future it will become the responsibility of the Autonomous City and the Province of Buenos Aires (CABA-PBA). Currently, the regulatory agency is the ENRE (National Electricity Regulatory Entity).

1.1.2

Term and Duration

The concession is valid for 95 years, applying the same period without distinction between distributors, from the initial date in 1992. However, the total duration of the concession can be divided into several management periods: the first of 15 years and the following ones of 10 years each. However, only at the end of the management and at the beginning of the next 10-year period, a change in the shareholding control of the distributor may occur, with the prior authorization of the Granting Power.

1.1.3

Extension Conditions

The contract can be extended only once for 10 years by request of the distributor, at least 18 months before the expiration date. And after 10 years, a new mandatory concession tender will be carried out, from which the following points stand out:

a) At least 6 months before the final period, the regulator may carry out a tender, indicating the tariff provisions that will apply for the next 5 years.

.....

b) The current distributor may participate in the new tender. If the offer is equal to or higher than the best economic offer of the other participants, the current operator continues to own the assets. If the offer is lower, the current operator will receive an award paid by the proponent who wins the tender. In this way, the current operator will receive compensation for the assets within the following 30 days by the new concessionaire.

.....

c) In addition, the regulator will appoint during a period of two years, one year before and one year after the tender, a supervisor responsible for ensuring the information flows in the tender process and transfer of assets.

1.1.4.

Contract Obligations

The distributor must deliver the service in the concession areas according to the quality levels established by the regulator, in order to apply the current tariff. For this, it must make investments to maintain the level of quality required in the distribution service and not represent a danger to public safety.

It must also provide to the population for the public electricity service. It may not mortgage or pawn the distribution assets, nor participate in acts that imply unfair competition or abuse of dominant position in the market.

1.1.5.

Contract Suspension

The concession contract can be terminated if the total annual penalties exceed 20% of the annual revenue.

1.1.6.

Compensation for Assets

In the event of a concession contract auction, all assets owned by the concessionaire related to distribution service will be evaluated based on the majority shares held by the current operator. These assets will then be acquired by the new owner. Here's a detailed breakdown of the process:

(i) The majority shares (Class A) are guaranteed by the National Government (Article 35). If necessary, the government executes this guarantee and sells those shares (Article 38).

.....

(ii) The proceeds from the sale of these shares are used to offset the concessionaire's debts (Article 9) and also contribute to compensation for damages to the grantor. The compensation varies: 30% if the breach occurs in the first third of the operation period, and 10% if it occurs in the last third (Article 38).

If the grantor is in breach, the contract is terminated (Article 39), triggering the aforementioned sale and debt deduction process. In this case, damages compensation is added to the concessionaire's value.

Electricity operators must also establish insurance policies for their assets to minimize operational risks.



1.2. CHILE

1.2.1.

Contracting Model

Electricity distribution services in Chile operates under a public concession model. Multiple concessions can be assigned based on the geographical areas. The primary legislation ruling the Chilean electricity market is the General Law of Electric Services (D.F.L N° 4/20.018) and its associated regulations. The granting authority is the Ministry of Energy, and the regulatory body is the National Energy Commission (Comisión Nacional de Energía, CNE).

Concessions in Chile can be granted over areas that are already partially or fully allocated to existing companies. New concessionaires receive the same rights and obligations as the existing concessionaire in the designated area, with shared territorial responsibilities. Consequently, no legal monopoly or exclusive rights are granted to the new concessionaire within the allocated zone.

1.2.2.

Term and Duration

Although the model was initiated in 1988, there have been changes in the extension of territorial concessions. The duration of a “definitive concession” can be indefinite, which has commonly been applied. Additionally, the law allows to implementing temporary concessions.

1.2.3.

Extension Conditions

Generally, concession contracts do not specify extension terms, as no agreed-upon final deadline is established. Therefore, no predefined extension conditions exist.

Over the past 20 years, there have been no cases

of contractual termination. However, in such a situation, the Granting Authority must identify a provisional service operator. If a concession is withdrawn, the President of the Republic will initiate a new bidding process for service allocation within one year. The Granting Authority will define the conditions for the new bidding process in its regulation:

a)Investment Plan definition, specifying new reinforcement, maintenance, and improvement activities for existing infrastructure. This plan should include a timeline for execution, details of new asset acquisitions, and the expected timeframe for each.

b)To participate in the concession bidding process, companies must provide a guarantee bond. This bond must be at least 10% of the value of all assets and rights to be acquired during the concession bidding process. The granting authority evaluates and determines this value. If there are no interested parties, the bidding process may reopen, subject to changes in economic participation conditions.

c)All incurred costs will be deducted from the proceeds obtained through the concession award. The remaining balance will be allocated to the previous concessionaire. In cases where there are debts related to infrastructure, the balance will be deposited to the Santiago Tribunal.

1.2.4.

Contract Obligations

Distribution concessions give the right to use national public assets for establishing overhead and underground power lines within the respective concession area.



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Distributors are required to submit an investment plan to the regulatory authority and execute it based on the government's final decision. Additionally, they must comply with all legal and regulatory norms related to concessions, particularly technical standards for quality and continuity of supply.

Distributors must adhere to the terms and conditions outlined in Chile's General Law, ensuring service provision to all consumers within their concession area. These distribution companies are obligated to provide service to anyone who requests it, whether the user is located within the concession area or connected to the company's facilities via their own or third-party lines.

For systems with an installed capacity exceeding 1,500 kilowatts, distribution companies must ensure quality according to standards and maximum variation limits set by regulations. In systems with a capacity equal to or less than 1,500 kilowatts, service quality is determined through mutual agreement between the concessionaire and the respective municipality.

Distributors are required to submit an investment plan to the regulatory authority and execute it based on the government's final decision. Additionally, they must comply with all legal and regulatory norms related to concessions, particularly technical standards for quality and continuity of supply.

Article 47 of D.F.L. N°4/20.018 establishes that concessionaire may transfer the contract to third parties with prior authorization from the Ministry of Energy and the National Energy Commission, provided that economic efficiency is demonstrated in the sales process without affecting consumer tariffs.

1.2.5. Contract Suspension

According to Article 39 of D.F.L. N°4/20.018, the concession can be revoked if:

a) The concessionaire fails to comply with the terms of the concession contract.

.....
b) At least two-thirds of the planned works are not completed within the established timeframe, as indicated in the investment plan submitted by the distributor to the granting authority, excluding cases of force majeure and accidental circumstances.

According to Article 41 of D.F.L. N°4/20.018, the concession can also be revoked in case of non-

compliance with service quality requirements specified by law, regulations, or the concession contract. However, the concessionaire has the right to request a grace period for rectification. In such cases, the Ministry of Energy may authorize the Superintendency to take measures at the concessionaire's expense to ensure provisional service. If, within a three-month period, the concessionaire does not resume operations to guarantee continuity, the President of the Republic may declare the concession void and arrange its transfer to third parties.

Lastly, as stipulated in Article 47 of D.F.L. N°4/2018, the concession can also be revoked if, within six months following the asset transfer, the new concessionaire fails to comply with the General Law.

1.2.6.

Compensation for Assets

Asset remuneration is determined by the regulator, considering the residual lifespan of the assets. This lifespan depends on their class and is established based on the country's technical and accounting standards.

Additionally, these assets are insured according to guidelines outlined in the concession contract, using policies aligned with international standards. The insurance is renewed annually at the local level and covers both own damages and third-party liabilities.



1.3. COLOMBIA

1.3.1.

Contracting Model

The main rules governing the electricity market in Colombia are Laws 142/94 and 143/94. These laws establish general criteria and policies for the public utility services in Colombia, as well as procedures and mechanisms for their regulation, control, and supervision. The Electricity Law aligns with constitutional principles, regulates activities related to electricity generation, transmission, distribution, and trading, creates a competitive market environment, strengthens the sector, and defines the state's role.

While there is free competition in electricity generation and trading businesses, transmission and distribution activities are treated as monopolies. The distribution of electricity does not occur under a concession regime, so there is no concession award process for this activity. Instead, private or state-owned companies participate in the market and the Regulatory Commission for Energy and Gas (Comisión de Regulación de Energía y Gas, CREG) authorizes specific remuneration for operating distribution assets through individual resolutions. This authorization allows companies to apply distribution charges in the market where they operate. These distribution charges are part of the overall unit cost (CU) formula for providing electricity services. The specific resolution on income and charges is based on a general methodology for remunerating distribution activities, as referenced in the following section (1.3.6).

Electricity distributors are regional natural monopolies with remuneration regulated by the CREG (Regulatory Commission for Energy and

Gas). Their remuneration is based on criteria related to financial sufficiency, efficiency, and service quality. Any customer can access the distribution grid by paying a connection fee and/or a usage fee.

1.3.2.

Term and Duration

The regulation for electricity distribution do not establish a predefined final operating term. The validity of the concession is understood to continue as long as the company operates and maintains distribution assets within a commercialization market.

1.3.3.

Extension Conditions

Since there is no predetermined end date for the operation of distribution companies, there are no pre-established extension conditions.

1.3.4.

Contract Obligations

Penalties may be imposed on the distribution company due to failures in service provision, often associated with customer complaints and quality indicators.

The adoption of service quality regulation based on SAIDI and SAIFI indicators is integrated into incentive schemes for companies to improve the country's average quality. The incentive, whether positive or negative, for each SAIDI or SAIFI indicator is calculated based on variables reported by the DSO.

The country's legislation encourages investments aimed at expanding the distribution grid and coverage, as well as enhancing service quality in terms of continuity and efficiency. These investments are remunerated through the service tariff.



The regulation for electricity distribution do not establish a predefined final operating term. The validity of the concession is understood to continue as long as the company operates and maintains distribution assets within a commercialization market.

1.3.5.

Contract Suspension

The regulation of electricity distribution does not establish pre-defined extension conditions, nor does it include a contractual suspension provision. The government, through CREG, defines the regulatory methodology for assessing service quality in distribution (as outlined in Resolution 015 of 2018). Additionally, the Superintendency of Public Utility Services oversees and controls the efficiency and quality of electricity services, as well as the supervision of entities providing such services. Within this framework, there are specific causes for intervening in public utility companies.

1.3.6.

Assets Remuneration

CREG defines the remuneration methodology for distribution grids. Distribution tariffs are reviewed every five years and updated monthly based on the Producer Price Index (PPI), along with other periodic adjustments specified in regulations.

Asset remuneration is determined through an inventory system that includes both electrical and non-electrical assets. The value is based on the definition of Constructive Units (standardized assets such as transformers, grids, substation plants, and others). These assets are priced by consulting historical prices from a specified

period, considering input from both distributors and manufacturers. The regulatory authority updates this valuation every five years. Starting in 2018, the regulatory model for remuneration began accounting for asset depreciation based on remaining useful life periods defined by the regulator.

To calculate annual asset remuneration, the regulator defines Constructive Units based on voltage level and category. Examples include substations, control centers, transformers, and other relevant components. In this context, the regulatory authority plays a crucial role in the methodological of distribution remuneration, as well as in the definition of rates.



1.4. ECUADOR

1.4.1.

Contracting Model

The main laws ruling the electricity market in Ecuador are the Organic Law of Public Electricity Service (LOSPEE) and its amendments, as well as the General Regulation of the Organic Law of Public Electricity Service (RGLOSPEE) and its amendments. The granting authority is the Ministry of Energy and Mines, and the regulatory authority is the Agency for Regulation and Control of Energy and Non-Renewable Natural Resources (ARCERNNR).

Depending on the characteristics of the company, a specific regime applies to the operation of energy services. For public and mixed companies, an operating authorization is granted according to Article 28 of the LOSPEE. For private and popular and solidarity economy companies, a concession contract is applied according to Article 29 of the LOSPEE. All energy distribution

companies in Ecuador are currently considered public enterprises.

1.4.2.

Term and Duration

The Ministry of Energy and Mines is responsible for granting, modifying, and terminating habilitation titles for participation in distribution activity. This ensures compliance with the service provision established by the Ministry in the respective Habilitation Title (operating authorization).

1.4.3.

Extension Conditions

Article 139 of the General Regulation of the LOSPEE states that "In the case of operating authorizations, if it is in the interest of the State, the parties may agree to extend the operating authorization on terms that are convenient for this purpose."

Since only public companies hold habilitation titles by the Granting Authority, the process of updating their respective operating authorizations is managed without urgency, ensuring that the lack of updates does not impact the distributor's operations.

1.4.4.

Contract Obligations

Each company engaged in distribution activities has to expand its system in accordance with the planning guidelines set by the Ministry of Energy and Mines. This expansion should be sufficient to meet any necessary demand for electricity services within an exclusive geographical area specified in the habilitation title. The distributor must also comply with the quality levels required by the regulatory authority, ARCERNNR.

1.4.5.

Contract Suspension

The operating authorization can be terminated



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Article 139 of the General Regulation of the LOSPEE states that “In the case of operating authorizations, if it is in the interest of the State, the parties may agree to extend the operating authorization on terms that are convenient for this purpose.”

under the following circumstances, as outlined in the LOSPEE - Article “Termination of the operating authorization”:

1. When the purpose of the operating authorization has been fulfilled.

2. Upon the expiration of the operating authorization term.

3. By mutual agreement between the parties, duly motivated and not detrimental to the State’s interest.

4. If the holder of the operating authorization voluntarily resigns.

5. Due to expiration.

6. In cases of dissolution and/or liquidation of the holder of the operating authorization.

7. If the holder of the operating authorization (in the case of a private or popular and solidarity economy company) goes bankrupt.

8. Based on other reasons specified in the corresponding operating authorization.

In the event of termination based on any of the paragraphs mentioned above, the former concessionaire remains liable for environmental damages, which also entails the obligation to restore ecosystems and compensate affected individuals and communities, if applicable.

In addition to the causes for termination specified in the general regulation of the LOSPEE and the operating authorization, the Ministry of Energy and Electricity may declare the termination of operating authorizations once any of the nine specified cases occur (for example, failure to carry out the planned investments in the operating authorization without justification) as outlined in the LOSPEE - Article “Grounds for termination of the operating authorization.”

1.4.6.

Compensation for Assets

In the case of Ecuadorian distribution companies (which are entirely state-owned), no

compensation is provided to the concessionaire since the state itself is the owner.

The guarantees established in the RGLOSPEE Regulation (Article 143) are not required for public companies that hold signed authorization titles. The guarantee requirements specified in the operating authorization contracts apply to mixed companies.



1.5. GUATEMALA

1.5.1

Contracting Model

Electricity distribution in Guatemala are carried out through authorizations granted by the Ministry of Energy and Mines (MEM) via a government agreement, which is subsequently formalized in a contract between the parties. The main legislation governing this topic is the General Electricity Law and its regulations, dating to 1996 when the modernization of the electricity sector began, including its opening to private capital. The National Electricity Commission (Comisión Nacional de Energía Eléctrica, CNEE) is a technical body within the Ministry of Energy and Mines (MEM) with functional independence to regulate the electricity subsector.

1.5.2

Term and Duration

The authorization for electricity distribution allows the grantee to utilize public domain assets in accordance with the General Electricity Law. This authorization is granted by the Ministry of Energy and Mines through a Government Agreement and cannot exceed a term of fifty years. It also cannot be exclusive, allowing third parties to compete with the grantee in the same service.

Electricity distribution in Guatemala is carried out by three major private distributors and 16 small municipal electric companies. For the former, the Ministry granted authorizations in 1998 with the goal of divesting them from the State and initiating sectoral opening. This move facilitated the expansion of electricity coverage, ensured supply reliability, and attracted foreign investments to enhance the electrical infrastructure.

1.5.3

Contract Obligations

Electricity distributors have the following obligations:

- a) Efficiently provide electricity distribution services.

.....
- b) Supply electricity in accordance with the terms stipulated in the authorization contract, recognizing compensation for using transmission and distribution system tariffs.

.....
- c) Observe all tariffs, terms, and conditions approved by the National Electricity Commission (Comisión Nacional de Energía Eléctrica).

.....
- d) Entering into contracts for purchasing and transmitting electricity within the authorized zone.

.....
- e) Allow third parties to use their grids, systems, and distribution facilities by paying tolls.

.....
- f) Carry out expansions requested in accordance to the General Electricity Law and its regulations.

.....
- g) Adhere to the Technical Quality Standards for Distribution established by the National Electricity Commission.

.....

.....
h) Maintain their transformation and distribution facilities that form part of the National Interconnected System.
.....

i) Take preventive and safety measures to prevent interruptions in distribution systems. Additionally, they must promptly restore damaged lines and equipment to ensure service provision.
.....

j) In case of termination of the distribution authorization, the distributor must continue providing service until necessary measures are taken to ensure continuity.
.....

k) Obtain and keep easements on public domain or private property necessary for operating under the granted authorization.
.....

l) Comply with the obligations established by the General Electricity Law and its regulations.
.....

1.5.5.

Contract Expiry

The termination of the authorization contract is possible under the following circumstances:

i. If the value of annual penalties exceeds 20% of annual revenues.
.....

ii. If the distributor refuses to allow third parties to use the facilities subject to service provision.
.....

iii. By mutual agreement between the parties, duly motivated and without harming the State's interest.
.....

iv. If the distributor reasonably determines that continuing the authorized activity is not viable.
.....



The authorization for electricity distribution allows the grantee to utilize public domain assets in accordance with the General Electricity Law. This authorization is granted by the Ministry of Energy and Mines through a Government Agreement and cannot exceed a term of fifty years. It also cannot be exclusive, allowing third parties to compete with the grantee in the same service.

.....
v. When there is evidence that inadequate service is being provided, which must be verified by the National Electricity Commission.

1.5.6.

Compensation for Assets

The termination of the authorization contract results in the revocation of the authorization. In any case of authorization termination, the distributor must ensure service continuity in accordance with the General Electricity Law and its regulations. The Ministry of Energy and Mines has the right to temporarily possess the distributor until all rights and assets related to the authorization are auctioned publicly.

The value obtained in the auction will be deducted from all incurred expenses and outstanding sums owed by the distributor, including those due under the authorization contract, the General Electricity Law, its regulations, or any other amounts due for damages, rights, easements on public domain or private property, and any other. The remaining balance will be delivered to the distributor, who commits not to oppose the public auction.



1.6. PERÚ

1.6.1

Contracting Model

The contracts related to electricity distribution services are established through the public concession regime. The main legislation ruling the electricity market in Peru is the Law of Electric Concessions (LCE - Decree Law 25844) and its regulations. The granting authority is the Ministry of Energy and Mines, and the regulatory authority is the Supervisory Bureau for Investment in Energy and Mining (Osinergmin).

1.6.2.

Term and Duration

In the Peruvian model, "definitive concessions" are granted for distribution activities. These concessions are granted for an indefinite period, subject to compliance with the obligations established in the Law of Electric Concessions.

1.6.3

Extension Conditions

In the Peruvian distribution concession model without a time limit(definitive concession), there are no pre-established extension conditions for operation.

1.6.4

Contract Obligations

According to current legislation, the distributor's main obligations include ensuring service quality, as established in applicable norms such as the Technical Standard for Electric Service Quality (NTCSE). The distributor must also ensure demand for its regulated users for the next 24 months, supply energy to those who request it within its concession area or to those who connect to its areas using their own grids within a maximum period of one year. Additionally, the distributor must allow third parties to use all its systems and grids for electricity transportation

(subject to conditions).

In general, Peruvian concessionaires must maintain assets and perform adequate maintenance for efficient operation. They should provide technical and economic information to the regulatory entity and comply with current legal provisions.

1.6.5.

Contract Suspension

The expiration of a concession occurs for the following reasons:

i. When the quality standards established in the concession contract are not met.

.....
ii. If the distributor fails to guarantee demand for regulated users for the next 24 months (unless a tender has been called, and no proposals have been received to meet all requirements).

.....
iii. When there is non-payment to generating companies for the supply of energy and capacity intended for the public electricity service.

In cases where the conditions specified in the Law of Electric Concessions are met, the expiration of the concession is issued through a Supreme Resolution by the Minister of Energy and Mines. In such cases, provisional administrative intervention of the concession is carried out to ensure continuity of operation.

1.6.6.

Compensation for Reversion of Assets

When the concession expires, the distributor's assets are auctioned. The value obtained in the auction is used to cover incurred expenses to maintain the concession's operability. The remaining balance is delivered to the previous concessionaire.



1.7. EUROPA

1.7.1

Contracting Models

The liberalization process of European electricity markets gained significant momentum in the 1990s with the adoption of Directive 96/92/EC, which established common rules regarding electricity production, transmission, and distribution. This framework directive sets out general principles and minimum requirements for opening to competition, allowing Member States to choose the most appropriate modalities for implementing these principles.

Regarding distribution activities, the Directive requires Member States to designate an independent entity to manage the grid impartially. This ensures fair and non-discriminatory access to the grid.

Although EU provisions do not mandate the application of a concession system for distribution grids or the use of public tenders for

their allocation, the most widespread model in Europe is the concessions/authorizations, where a DSO operates in most of the national territory.²

1.7.2.

Term, Duration and Extension Conditions

In European countries, provisions related to distribution predominantly foresee a concession or authorization system without expiration or with an option for renewal. Models without expiration are used in Spain, Greece, the United Kingdom, Croatia, Finland, and Austria. Meanwhile, the renewal option is implemented in France, Portugal, Sweden, and Romania (maximum once).

The duration and structure of the concession regime have undergone some modifications in countries like France and Portugal.

In France, concession contracts have been renegotiated, resulting in their consolidation and duration, which currently ranges between 20 and 30 years. Additionally, in February 2024, the contract for the municipality of Paris was renewed until 2050, incorporating guidelines

from the Paris Climate Plan. The objective is to promote a faster, more local, and more equitable transition while enhancing the resilience of the grid. In Portugal, there is a unique concession assigned at national level for medium and high voltage electricity distribution that, in 2009, was extended until 2044.

¹ In France, Enedis has 95% market share; in Greece, Hedno (100%); in Portugal, EDP (99%). Something similar happens in Croatia, Albania, Estonia, Lithuania and Latvia.

ELECTRICITY DISTRIBUTION CONCESSIONS AND EXTENSION CASES IN BRAZIL



Brazil stands out for achieving universal access to electricity, as evidenced by the results of the PNAD (National Household Sample Survey) conducted by IBGE on General Characteristics of Households and Inhabitants in 2022. The survey revealed that almost all households in the country (99.8%) had access to electricity, either through the general grid (99.4%) or an alternative source (0.4%). This access is consistent across all regions of the country, with minimal variation of only 0.8% between the North Region (99.1%) and the Southeast, South, and Central-West Regions (99.9%).

Access to electricity significantly surpasses coverage for other services. In 2022, 86.0% of households had direct waste collection services, while 85.5% relied on the general water

distribution grid as their main water supply source. Additionally, 69.5% of households had sewerage or a septic tank connected to the general grid. This underscores the crucial role of electricity distribution and the effectivity of Brazilian energy agents in ensuring satisfactory supply coverage. The development of distribution activities was based on grid expansion and the integration of new consumer units into the system. However, currently, electricity distribution faces the challenge of meeting the growing demand for electrification and the incorporation of distributed energy resources.

This chapter discusses the extension of electricity distribution concessions in Brazil, by presenting the historical context of the Brazilian contractual regime and the proposed guidelines by the

Ministry of Mines and Energy for the ongoing process.

2.1. HISTORICAL CONTEXT OF DISTRIBUTION CONCESSIONS IN BRAZIL

The Brazilian Federal Constitution of 1988, conceived during the country's democratization process, reflected a movement toward opening the economy to private investment. The liberalization efforts of the 1990s reinforced this openness to private capital, along with a focus on greater efficiency. This was achieved through the implementation of the Brazilian electric sector restructuring project (RE-SEB).

The initial phase of restructuring involved the de-verticalization of companies, the establishment of contracts, and the creation of new institutions to ensure the functioning of the new architecture. Among these institutions were the National System Operator (Operador Nacional do Sistema, ONS) and the National Electric Energy Agency (Agência Nacional de Energia Elétrica, ANEEL). Due to the 2001 energy rationing, a new sector restructuring became necessary. The challenge was to provide mechanisms capable of enabling system expansion by articulating financing solutions and risk allocation in a growing market. The guiding principles of this reform were moderate tariffs, service continuity, quality, fair investor remuneration, and universal access.

The first Brazilian general norm regarding concessions for electricity generation, transmission, and distribution was Decree

41.019/1957. Concessions were successively extended under this decree (or left with an indefinite term) until the enactment of Law 9.074/1995. Based on Article 22 of this law, distribution concessions that remained under state control were extended for 20 years by the Ministry of Mines and Energy (MME). Therefore, the first renewal of concession contracts for state-owned companies occurred starting in 1995.

During the same period, federal and state distribution concessions were subject to privatization through tenders, ensuring a 30-year duration for new concessions. This extended term of 10 years served as a significant incentive for privatization.

As the expiration date approached for previously extended concession contracts, the Federal Government issued Provisional Measure (MP) 579/2012, later converted into Law 12.783/2013. This law provided for the renewal of distribution concessions covered by Article 22 of Law 9.074/1995, allowing a one-time renewal for up to thirty years. However, specific guidelines were not defined. To ensure proper regulation, Decree 8.461/2015 was published, establishing efficiency and quality targets supervised by ANEEL (National Electric Energy Agency) for the renewal of distribution concessions. The conditions set by Decree 8.641/2015 for concession renewal included specific objectives for each concessionaire, aiming to guarantee service quality and maintain economic-financial balance. These specific goals were outlined in contractual annexes.

In addition to these actions, six other state-controlled distributors belonging to Eletrobras chose not to renew their concessions. Their

³ El 18/11/2021, la ANEEL publicó la Resolución Normativa 948/2021 que regula las operaciones aplicables a los delegatarios de distribución, transmisión y generación de energía eléctrica. La resolución consolidó varias resoluciones anteriores vigentes, incluida la REN 896/2020, que establecía los indicadores y procedimientos para el seguimiento de la eficiencia relacionada con la continuidad del suministro, los criterios de eficiencia relacionados con la gestión económico-financiera de las concesiones de servicio público de distribución de energía eléctrica, y los procedimientos aplicables en caso de incumplimiento.

service provision was temporary until a new concessionaire took over. The privatization process for these concessionaires, whose contracts expired in 2015, occurred between July and December 2018. The transfer of ownership control was associated with a 30-year concession renewal, extending until 2048. This second round of renewals also followed the regime established by Law 12.783/2013.

In summary, the main additional requirements established during the second renewal were as follows: (i) a review of the economic clauses of the contract (for example, changing the IGPM to IPCA as the index for Parcel B, related to non-manageable costs); (ii) efficiency clauses regarding the continuity of supply by the concessionaires; and (iii) efficiency criteria related to economic and financial management.

Therefore, in the renewals covered by Law 12.783/2013, there was no financial burden on the concessionaires.

There are two groups of distribution concessions in Brazil::

(i) The first group, comprising state-owned and small private concessionaires, had its concession contract extended for 20 years in 1995, which was further renewed for an additional 30 years in 2015. In both cases, the renewal occurred without any financial counterpart; compliance with economic-financial and quality clauses was the only requirement.

(ii) The second group includes concessionaires that were privatized through auctions held between 1995 and 2001, with a 30-year contract term. For these companies, the acquisition of the exploitation rights was done through bidding.

Starting in 2025, the contracts for 20 electricity distribution concessions from the second group will expire. These companies were privatized after 1995 under Law 9.074/1995, which regulates the granting and renewals of concessions and permits for public services.

The legal and contractual provisions allow for extending these contracts at the discretion of the granting authority, provided that the service is adequately fulfilled. ANEEL (National Electric Energy Agency) must verify compliance with the minimum criteria for renewal, and in case of non-compliance, a new bidding process must be conducted to select another concessionaire. In 2023, the Ministry of Mines and Energy (MME) initiated the process of establishing guidelines for the renewal of these concessions.

Therefore, the details of the renewal process covering the concessions expiring between 2025 and 2031 are discussed below, providing a summary of the ongoing debate in Brazil.

.....

2.2. EXTENSION OF CONCESSIONS EXPIRING IN BRAZIL FROM 2025 TO 2031

.....

On July 22, 2023, the Ministry of Mines and Energy (MME) published Portaria nº 737/GM/MME, announcing Public Consultation 152/2023 ("CP 152"), which led to Technical Note 14/2023/SAER/SE ("NT 14"). The NT 14 presents a proposal for guidelines regarding the treatment of electric power distribution concessions expiring between 2025 and 2031.

This renewal process is still ongoing, with a second technical note published by the MME, Technical Note 19/2023/SAER/SE ("NT 19").

The next steps include the publication of final guidelines by the Casa Civil through a decree, followed by regulation by ANEEL (Brazilian Electricity Regulatory Agency).

To contribute to the discussion, the relevant distribution companies and other agents submitted their contributions during MME's CP 152, expressing their specific positions and reservations about the original proposal. The key points of this debate are summarized below.

2.2.1. MINIMUM CRITERIA FOR CONCESSION EXTENSION

There are two criteria presented by the MME that distribution companies must meet to enable the renewal of their concessions. The first criterion relates to supply quality based on indicators of frequency and average duration of interruptions (FECi and DECi). The second criterion refers to the economic-financial management efficiency of the concession (EBITDA greater than the sum of QRR - Regulatory Reintegration Quota - and Debt Interest)



In the Peruvian model, “definitive concessions” are granted for distribution activities. These concessions are granted for an indefinite period, subject to compliance with the obligations established in the Law of Electric Concessions.

It is worth noting that these minimum criteria, in addition to being included in the sector's regulation according to ANEEL Normative Resolution 948/2021, have already been widely discussed in two phases of Public Hearing ANEEL 38/2015 and incorporated into the most recent concession contracts since 2015. The choice of these criteria demonstrates adherence to the current regulation and allows for an objective evaluation by the Granting Authority, contributing to an environment of legal certainty and predictability in the sector, as well as preserving equity among distribution companies.

Regarding quality, which is the main objective of REN 948/2021, there are no major controversies within ANEEL, indicating that this norm has adequately fulfilled its role. However, discussions and questions surrounding economic and financial indicators suggest that the experience with these indicators may provide an inadequate view of the concession's condition. Given that this rule has technical limitations related to how the indicators are calculated, the economic-financial conditions intended for continuous monitoring of concession sustainability should consider adjustments in their calculation.

It is also noteworthy that, according to Technical Note 14/2023, the MME proposed that non-compliance with the established minimum criteria should not be an impediment to the renewal of the concession. However, in case of non-compliance, the concessionaire should be required to either (i) submit a recovery and correction plan for the identified faults and violations, approved by ANEEL; or (ii) change the corporate control. In the latter case, the new controller must demonstrate “technical capacity in managing distribution concessions.” NT 19, which analyzes the contributions of agents on CP 152, clearly includes item (ii) mentioned above.

Regarding the inclusion of new indicators for a concession termination process, this matter should be exclusively addressed within the regulatory framework. The analysis should consider various factors surrounding this sensitive issue, such as the harmony between different incentives already applied by ANEEL to improve quality, the complexity of each concession area, and, above all, the tariff impacts resulting from expanded requirements. Simply adding new indicators without proper motivations could increase the perception of risk among distributors and, consequently, regulatory instability. It is essential that this rule be straightforward, clear, and predictable.

2.2.2. SOCIAL COUNTERPARTIES AND FINANCIAL RESOURCES

Both Technical Notes 14/2023 and 19/2023 recommend the renewal of expiring concessions to be accompanied by social counterparties to improve the distribution segment. This ensures that investments focus on energy efficiency and the modernization of distribution grids. The investments should align with an Investment Plan prepared by the concessionaire and approved by the MME, taking into account the regional reality of each concession.

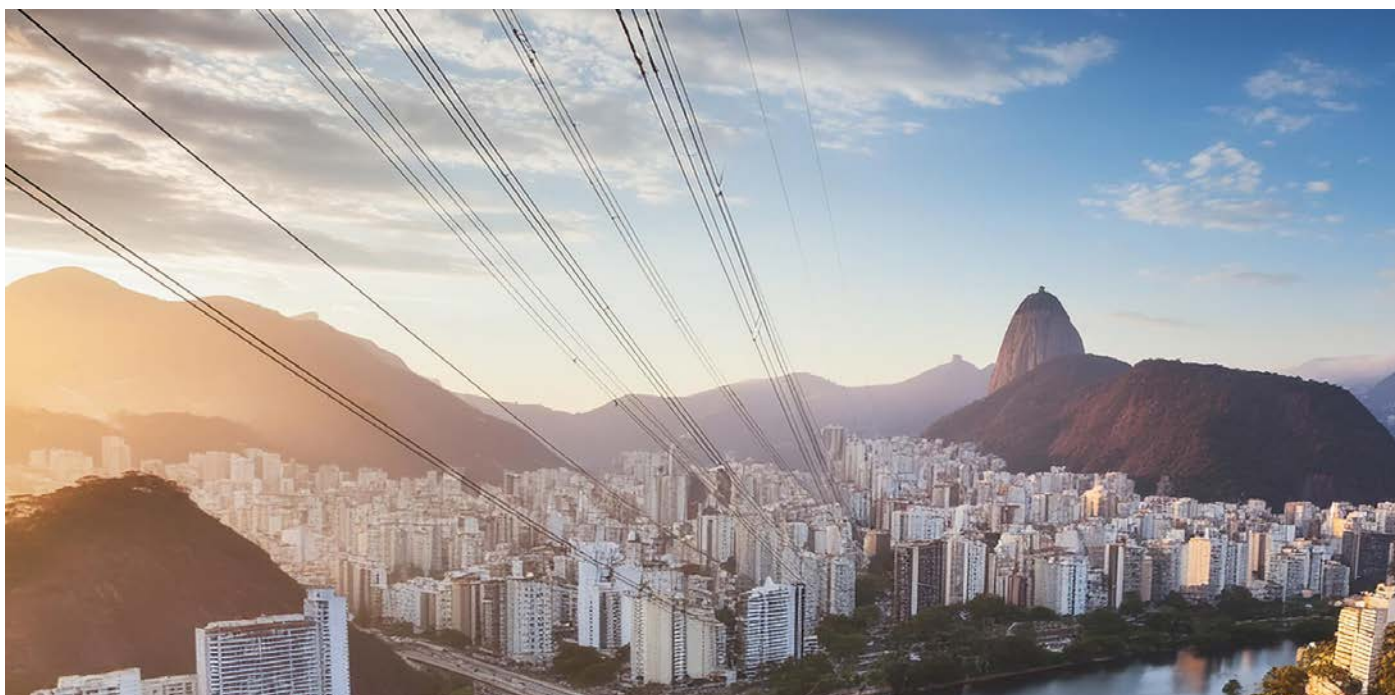
According to Technical Note 19, the MME provides examples of using these resources for the following purposes: (i) Implementing energy efficiency programs in public buildings; (ii) Energy efficiency in areas of the concession where non-technical losses are significant; (iii) Supporting economic and social development initiatives through actions within the electric sector; (iv) Installing solar panels to reduce electricity

costs in operating cisterns and artisanal wells in communities affected by water scarcity; and (v) Reinforcing the distribution grid in a specific region, directly impacting increased electricity consumption.

Regarding the sources of financial resources for social counterparties, the MME presented four possibilities in its Technical Note 14/2023: (i) Eventual economic surplus obtained by concessionaires; (ii) Resources currently allocated to energy efficiency programs; (iii) Other revenues related to ancillary activities and penalties imposed by distributors (e.g., excess demand charges and reactive energy penalties); and (iv) Surpluses from regulatory capital costs due to tax benefits granted to certain regions of the country. Based on legal, fiscal, and regulatory aspects, the origin of the initially proposed resources for social counterparties was subject to scrutiny by stakeholders during the Public Consultation, leading to critical analysis by the MME.

Regarding the calculation of a potential economic surplus, it is essential to recognize that Brazil's electric sector, particularly the distribution segment, operates within a robust legal and regulatory framework. ANEEL is an independent and autonomous regulatory authority whose actions must remain balanced and diligent. It has the capacity to assess specific cases through a collegial direction and a qualified technical team, acting consistently with the public interest.

The concept of "capturing economic surplus" could be detrimental to both the concessionaire and the consumer. It implies intervention in the regulatory regime adopted by ANEEL and distorts the incentive structure of the existing tariff regulation. Brazil's regulatory model follows a price cap regime, where tariffs are determined based on efficient costs of operations and compliance with agreed quality and sustainability criteria.



In other words, the current regulatory model already includes sharing the efficiency benefits obtained by concessionaire companies over time with consumers. These benefits are deducted from the tariff in each cycle, making it more accessible and generating advantages for consumers. ANEEL considers various aspects of the tariff review methodology to reflect these efficient values, with regulatory references based on actual costs incurred by companies.

The current model applies a Factor X (productivity gain-sharing factor) to total costs, regulates the weighted average cost of capital (regulated WACC) against the net regulatory base of amortized and depreciated assets (BRR), and uses reference competition models and benchmarking to define efficient levels for operating and maintenance costs, electrical losses, and service quality. It is recognized that the incentive-based regulation implemented by the agency has significantly benefited consumers in terms of tariff accessibility for distributor-managed costs (Parcela B).

Therefore, real remuneration above or below the regulatory remuneration is a natural consequence

of the price cap regime and incentive-based regulation, as per the scheme adopted for the distribution segment. This scheme assumes the temporary appropriation of efficiency gains. Consequently, any investigation into economic surplus does not align with the established regulatory framework, invalidating the MME's original proposal to consider an eventual surplus as one of the sources of resources for social counterparties.

In NT 19, the MME expresses its agreement regarding the inadequacy of charging counterparties based on the measurement of an economic surplus. This is due to the absence of a bidding process that reveals the value of the concession and the difficulty in finding parameters that can estimate the future potential for value generation beyond regulatory standards. There is a lack of evidence regarding the existence of a metric that can adequately define the indicator to estimate the economic surplus.

Another aspect to consider is the lack of equity concerning previous renewals of distribution concessions. The historical treatment granted during the 2015 concession renewals did not



The choice of these criteria demonstrates adherence to the current regulation and allows for an objective evaluation by the Granting Authority, contributing to an environment of legal certainty and predictability in the sector, as well as preserving equity among distribution companies.

include costs associated with economic surpluses. At that time, it aligned with the incentive-based regulatory model. It is crucial to emphasize that adopting incentive-based regulation entails a continuous pursuit of efficiency, driven by the possibility of temporarily appropriating gains. Only with appropriate incentives can a concessionaire assume additional risks through innovation, which can generate efficiency gains and consequent moderation of tariffs.

A similar case related to legal impediments is the tax benefits associated with the SUDAM/SUDENE Program granted to electric distributors operating in regions covered by these agencies. The program aims to stimulate development in specific areas located in the southeast, north, and northeast of Brazil, by reducing income tax on profits generated from operations, subject to a specified period and conditional on increased investments. This incentive is, therefore, tied to an onerous obligation, as per Article 178 of the National Tax Code (CTN).

Unlike the reasoning in Technical Note 14/2023, we cannot speak of “surpluses from regulatory capital costs.” In practice, the income tax that companies forego due to the SUDAM/SUDENE Program serves to facilitate investments in the incentivized area while stimulating regional development. The uncollected funds have a

specific and legally defined purpose, rather than being used to increase freely distributed profits or dividends. The Ministry of Mines and Energy (MME) has considered the legal viability of continuing with this proposal. After consultation, their Legal Advisory issued an unfavorable opinion regarding the reversal of the tax benefit. They emphasized the current stance of the Judiciary, which opposes such a possibility. Given this legal complexity and with the aim of acting prudently, the recommendation is not to use the SUDAM/SUDENE tax benefit as a counterpart for extending concession contracts.

In this sense, Technical Note 19 specifies that resources for implementing social counterparties will come from the resources allocated to the Energy Efficiency Program (PEE), “Other Revenues” related to the distributors’ ancillary activities, and penalties related to exceeding demand and reactive energy. Notably, the economic surplus and the regulatory capital cost surplus due to tax benefits are excluded from the scope of possible resources for implementing social counterparties.

2.2.3. DIGITIZATION AND MODERNIZATION OF GRIDS

Expanding the range of services that can be provided by concessionaires will alter the existing relationship with energy consumers. Consumers will gain real-time access to information about their consumption, financial management, and new tariff arrangements.

According to NT 14, the MME acknowledges that grid digitization represents an opportunity for both consumers and distributors. NT 19 does not address this issue in its guidelines. The topic of grid digitization

is too significant to be merely “incorporated” into current discussions about concession renewals. It deserves a separate and detailed discussion regarding its guidelines. In the appropriate scenario, investigating and debating how digitization will be adequately remunerated and contribute to the energy transition will be essential.

Preserving established practices while creating flexibility in exploring new business models is crucial. The MME emphasizes grid modernization, but designing an attractive incentive scheme is necessary. Authorizing concessionaires to offer new services should be based on a regulatory framework that ensures legal security and negotiation. This approach will increase concessionaires’ willingness to expand their range of explored business opportunities. The debate on the most suitable methodology for establishing incentives should be independent of the renewal process and linked to the review of regulation procedures defined by ANEEL.

Through Technical Note 19, the MME includes a guideline that allows for differentiating the tariff structure. This flexibility empowers ANEEL to define, based on technical, location, quality, and geographical criteria, the most suitable tariffs for different regions and contexts. The MME emphasizes ANEEL’s capacity to consider the specificities of each concession area, ensuring that tariffs are fair, balanced, and reflect the true costs associated with service provision in various situations.

While Technical Notes 14/2023 and 19/2023 mention the relevance of modernizing the distribution segment, smart grids, the availability of energy resources compatible with the demands of the energy sector transformation, and granting greater flexibility to regulation, there remains some lack of clarity regarding the recognition of certain investments and the application of flexible regulatory mechanisms within the distribution segment.

Energy transformation needs the modernization of existing infrastructure. This includes: (i) Expansion of electric power distribution grids; (ii) Development of energy storage systems; (iii) Deployment of smart meters and grid sensors; (iv) robust telecommunication networks; and (v) Advanced control and monitoring technologies. Modernizing infrastructure is crucial to support the integration of intermittent renewable energy sources and decentralized energy distribution. It underscores the need to rethink the role of electric power distributors in this evolving landscape.

Regarding smart metering, there are fundamental aspects that still need to be addressed to advance its widespread adoption. These include defining operational standards and minimum functionalities for the equipment, identifying the eligible consumer groups for meter replacement, and, most importantly, implementing regulatory improvements to eliminate barriers that hinder these projects from an economic and financial perspective. Beyond meters, modernization also depends on other equipment, such as energy storage systems and control devices within the grid. Technological advancements, coupled with a more detailed understanding of consumers and their regions, will enable optimization in grid usage.

There are significant disparities between concessions and even within the same concession area, reflecting different stages of development and needs within the Brazilian distribution sector. Therefore, it is essential to consider regional realities and urgent demands for each concession, especially given resource constraints for intensive investment demands. Mature concessions require fewer expansion investments and have more room for grid modernization and digitization, while concessions still in the development phase require larger volumes of expansion investments, typically with increasing average costs.

In this context, the new role to be played by DSOs within the energy transition requires that (i) regulation adjusts promptly with appropriate incentives to anticipated changes, reconciling tariff moderation, quality improvement, and economic-financial balance; and (ii) the granting authority provides greater flexibility in contractual instruments so that regulation can adapt to technological changes over time. Therefore, the goal is to create a regulatory model capable of encompassing the diverse realities of the country, fostering the modernization and digitization of grids, and being grounded in economic rationality regarding resource utilization and tariff moderation

2.2.4. REMUNERATION FOR INVESTMENTS IN MODERN TECHNOLOGIES

Intrinsically related to energy transition and the DSO of the future, is the creation of investment conditions that ensure the sustainability of the distribution business. In this regard, Technical Note 14/2023 proposes encourage investments in grid and service modernization, a point that is absent in the guidelines of NT 19. Facing this challenges, it is crucial to engage in broad and coordinated discussions with society about possibilities and pathways that best align with Brazil's realities in terms of sustainable modernization within the distribution sector. Importantly, these discussions can take place without hindering the progress of extending soon-to-expire concessions.

Beyond defining minimum technological and regulatory requirements nationwide, opening this debate aims to ensure fair remuneration for investments made by concessionaires. Encouraging capital-intensive investments is a global practice observed in European countries, the United States, and other regions with

robust distribution and telecommunications infrastructure. However, such incentives must be driven by regulatory mechanisms. The ongoing energy transformations require investments from distributors, even if they lead to market reduction. Consequently, specific regulatory treatment is necessary to address these dynamics.

Incentives play a crucial role in achieving the desired technological advancements. Ensuring that projects are economically viable for distribution companies allows for long-term investments, benefiting society through service provision and the development of strategic assets for the country or region. In this context, a deeper discussion is necessary to explore possibilities and pathways that align with Brazil's realities in terms of sustainable modernization within the distribution sector. Importantly, these discussions need not hinder the renewal of soon-to-expire concessions.

Once the continuity of concessions is assured, distributors will have the freedom and security to consider new business models. This will enable them to define their role in the future electric sector. Properly allocating investment needs over time is essential. Recognition and remuneration must be sufficient and timely to ensure sustainable grid modernization while balancing business requirements and customer needs.

“ Therefore, real remuneration above or below the regulatory remuneration is a natural consequence of the price cap regime and incentive-based regulation, as per the scheme adopted for the distribution segment. This scheme assumes the temporary appropriation of efficiency gains.

FINAL CONSIDERATIONS

Regulation is dynamic, and criteria for adequate service can and should be improved, always based on principles of anticipation and transparency. These principles should guide the continuity of power distribution service, regardless of the contractual regime employed.

Several countries do not adopt a specific deadline for power distribution service (e.g., Chile, Colombia, and Peru). When they do, the validity period is considerably long (e.g., Argentina and Guatemala). This extended duration is precisely because prices are continuously regulated, and service quality is consistently observed and evaluated.

Affordable tariffs and quality are both essential, and involves periodic tariff methodologies review. Incentive-based regulation has allowed productivity gains to be subsequently passed on to consumers, creating a virtuous cycle: increased company efficiency benefits consumers through fair tariffs, enabling a continuous investment cycle to maintain coverage, reliability, and appropriate quality standards.

Comparing Brazil's distribution regulatory model with existing models in other markets reveals that the incentive-based approach has led to improved service quality indicators, system expansion, universalization of energy supply, and efficient gains distributed to society.

Public interest should always guide discussions about the best mechanism to apply, whether

deliberating the end of contracts with expiration dates or evaluating the continuity of operations under the responsibility of a concessionaire with an indefinite contract. In the Brazilian context, meeting quality and economic-financial sustainability requirements, renewal is the alternative that best serves the public interest. It avoids service interruption or deterioration and mitigates risks associated with potential bidding processes.

Within the energy transition context, the power distribution segment plays an essential role due to its strategic position in the electricity industry's chain. Consequently, distribution companies must have sufficiently economic and financial health to lead innovation and serve as drivers of the transition rather than obstacles. The energy transition encompasses not only decarbonization but also decentralization and digitization—the three “D”s. Decentralization will involve new roles for distributors, managing multidirectional electricity flows, and empowering consumers as consumer-generators or consumer-customers. Digitization refers to using new technologies to enhance public electricity distribution services, increase consumer awareness of electricity usage, unlock functionalities, and create new services and business models—such as market opening facilitated by smart energy meters.

The grids modernization involves the evolution of regulatory frameworks to provide predictability and assurance to distribution companies regarding investment remuneration, and to

transmit efficient price signals to consumers. However, such regulatory improvements result from an ongoing review process. It is feasible and advisable to conduct this review comprehensively and separately from any discussions related to the contractual regime applied to power distribution and the renewal of contracts, where applicable. The design of contractual models should prioritize meeting requirements that ensure service quality, consumer satisfaction, economic-financial balance, and sustainable sector development. Additionally, flexibility is essential to adapt regulatory frameworks to the challenges posed by the energy transition.

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