

EXECUTIVE SUMMARY - DSO BRIEF

LIBERALIZATION OF RETAIL MARKETS IN LATIN AMERICA

NEW SCENARIOS FOR ELECTRICITY DISTRIBUTION







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INTRODUCTION

The liberalization of electricity markets is transforming the electricity sector, promoting competition and allowing consumers to freely choose their energy suppliers. This evolution has brought with it a series of structural changes in the organization of the sector, generating a more complex and challenging environment for electricity distribution companies that see their traditional function modified, going from operating in vertical integration schemes to playing a role within an environment where commercialization can be open to multiple actors, which poses regulatory, technical and operational challenges to maintain the stability and quality of the service.

Liberalization is intended to improve the efficiency of the sector, encourage innovation in service, and benefit consumers through cost reduction. In addition, it allows consumers to expand the possibilities of comparison and choice of suppliers or products that can best meet their specific needs, as well as reject suppliers with a lower quality than desired, based on criteria of quality, transparency, support, opportunity, among others. However, there are trade-offs between measures aimed at reducing prices and other objectives such as security of supply, efficiency and energy transition. In addition, there are challenges related to the coexistence of distribution and retail activities, which requires careful consideration of the costs and impacts of opening.

Another fundamental aspect is the adaptation of the network infrastructure to the new market dynamics, ensuring that they can support an environment with a greater number of suppliers and that measurement and demand management technologies facilitate efficient interaction between consumers and suppliers. To achieve effective liberalization, regulations are necessary to ensure fair conditions of competition and promote innovation in service, facilitating the incorporation of renewable energies and the implementation of innovative business models.

The feasibility of reducing the limits on access to the free market depends on the market having reached a sufficient level of maturity and having certain essential conditions, such as an adequate number of actors in the retail market, availability of energy at competitive prices in the wholesale market, interoperable information systems and platforms, and robust regulation and supervision capable of acting to avoid distortions and guarantee conditions of fair competition. In the absence of these conditions, the reduction of limits can entail significant risks, such as the loss of revenue for distribution companies due to an abrupt migration of users without a clear transition scheme; or market concentration when there is not enough diversity of suppliers.

A key element is the design of transition mechanisms that allow an orderly migration of consumers to the free market, avoiding price volatility and guaranteeing stability of supply. Distribution companies play a central role in this process, as they are responsible for the continuity of the service and the implementation of the infrastructures to withstand competition in the market. Therefore, it is essential that regulatory changes contemplate schemes that allow them to maintain their operational and financial viability while facilitating the entry of new players.

Agility and transparency in the processes of changing suppliers ensure that competition translates into real benefits for consumers. However, this objective cannot be separated from the role played by distribution companies as intermediaries in these processes. To this end, it is essential that the procedures are clear and accessible, not only for consumers, but also for distribution companies, allowing them to integrate changes of supplier into their systems without generating greater costs or administrative complications. The digitization of procedures, the harmonization of technical and contractual requirements, and the creation of mechanisms that facilitate the comparison of bids are key elements. Likewise, distribution companies must have robust platforms that allow them to register and process requests for supplier change in an automated manner, minimizing errors and optimizing response times.

In some countries, “one-stop shops” have been implemented that make it easier for consumers to manage their supplier changes and simplify the interaction between retailers and distribution companies, promoting greater efficiency. These centralized systems allow DSOs to keep track of changes made, avoiding duplication and administrative errors. In addition, the implementation of maximum deadlines for the realization of the change benefits all parties, guaranteeing an orderly flow of operations and strengthening confidence in the system.

A key aspect in this process is the protection of consumers against contractual abuses or unethical practices by suppliers. Distribution companies can play a role in providing objective data on consumption and verifying technical conditions for switching suppliers. In addition, regulations should include protective clauses, such as the prohibition of hidden charges, the regulation of penalties for early termination and the guarantee of access to clear information about the terms of the contract.

Regulation should also promote access to information, ensuring that users have clear data on prices, contractual conditions and quality of service, which will help strengthen confidence in the liberalized market and encourage greater user participation in it. To this end, the development of advanced measurement and automation technologies is essential, such as the implementation of smart meters, the digitization of consumption information and the integration of energy data management platforms that facilitate the operation of the market.

Another relevant factor is the education and awareness of consumers about their rights and responsibilities. In this regard, distribution companies can also contribute by providing information on change processes, and using their digital platforms to disseminate educational material. In addition, information programmes, good practice guides and the participation of consumer associations can empower users, allowing them to make more informed decisions that are appropriate to their needs.

In some markets, the gradual opening has been accompanied by the implementation of protection schemes for the most vulnerable consumers, ensuring that those who cannot access competitive conditions continue to have a reliable supply at reasonable prices. Distribution companies, as the actors closest to end users, have a deep understanding of the needs of these consumers and can collaborate in the design and implementation of these protection measures, provided that appropriate compensation mechanisms are established. It is also essential that the regulation includes mechanisms to manage the risk of consumer non-payment, balancing its protection with the economic sustainability of the sector. This includes the establishment of guarantee systems that minimise financial risks for retailers

and distribution companies, as well as the application of flexible payment schemes that allow continuity of supply in situations of economic crisis or social emergency.

Finally, it is crucial to periodically evaluate supplier change processes to detect opportunities for improvement and adapt regulations according to market evolution. This exercise should include a detailed analysis of the impact of these processes on the operation of distribution companies, ensuring that their role as critical actors in the electricity system remains sustainable and efficient. A flexible regulatory framework based on the joint experience of consumers, retailers and distribution companies will allow the continuous optimisation of the system, favouring competitiveness and guaranteeing a positive experience for users.



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FOSTERING COMPETITION IN RETAIL MARKETS

The potential efficiency gains with market opening, which can lead to lower prices and other advantages for consumers derived from choice, are conditional on the exercise of free competition. Some countries have implemented measures to promote competition, such as rules to guarantee access to energy for independent traders, rules that allow consumers to switch suppliers without facing economic barriers, limitations on the automatic renewal of contracts to avoid situations of “capture” of customers by a company, and rules so that customers have the possibility to group together to bargain collectively with distribution companies. These measures not only improve consumers’ bargaining power, but also promote competition between suppliers to offer better rates and conditions.

In this context, distribution companies play an essential role in providing equitable and transparent access to the grids for all retailers, ensuring that transactions between them and end consumers are carried out efficiently and without discrimination. The infrastructure operated by distribution companies is the axis on which competition develops, and its modernization is key for markets to evolve towards more dynamic and transparent models. In this sense, DSOs can collaborate by providing reliable information on consumption and the technical conditions necessary for contract management, acting as a neutral bridge between suppliers and consumers.

The scope of retail activity differs between jurisdictions. While in all markets retailers purchase energy on behalf of their customers, other services such as billing and metering can also be competitive activities or offered as part of the distributor’s regulated service. From DSO’s perspective, it is essential to ensure that any changes in the delineation of roles preserve their financial and operational sustainability. The integration of complementary services, such as metering and billing, within the regulated offer of distribution companies can not only optimize costs, but also ensure a uniform and quality service for consumers, especially in areas where suppliers do not have a significant presence. In any case, utilities play a crucial role in ensuring the infrastructure and systems so that these activities can be performed reliably and efficiently, but separating activities such as billing or metering may require additional investments in interoperability technologies, data management, and information systems, increasing the complexity and operating costs of the electricity system as a whole. In the same way, the standardization of contracts, the harmonization of rules and the elimination of unnecessary bureaucratic burdens can facilitate the entry of emerging suppliers, but these measures must be accompanied by investments in systems and processes by distribution companies to avoid disruptions in service.

On the other hand, dismantling all barriers without adequate controls could increase systemic risk in the market, which could ultimately affect supply stability and lead to negative impacts on consumers. Therefore, establishing minimum solvency and operational capacity requirements for new suppliers is a fundamental measure to guarantee market stability. At the same time, mechanisms must be designed that allow distribution companies to recover the additional costs associated with the integration of new suppliers in their concession areas. This holistic approach will promote a competitive environment without compromising the continuity and quality of the electricity supply.

Distribution grids are the physical link that connects end consumers with retailers and generators, and their management involves costs and complexities that distribution companies must assume. An efficient market design must ensure that retailers can access the grids under fair and non-discriminatory conditions, but also that DSOs have mechanisms that allow them to recover the costs associated with increasing interoperability, digitalisation and maintenance of infrastructure, and that the specific obligations imposed on distribution companies do not generate disadvantages that compromise their competitiveness or sustainability.

Retailers need to purchase energy to serve their customers. When there is a high concentration in the generation market, an integration between generation and retail, or barriers to entry, this can result in a concentration in the retail market, granting advantages to those with privileged access to energy. To mitigate these inequalities, some countries have implemented mandatory sales policies that seek to ensure that all retailers can access energy under equitable conditions. However, in some markets, distribution companies face minimum long-term energy contracting requirements, established to promote the diversification of generation sources or the promotion of renewable energies, which often puts them at a disadvantage compared to independent retailers. This occurs because distribution companies, by complying with these requirements, tend to acquire energy at prices higher than those of the spot market, while independent retailers, not being subject to the same obligations, can offer more competitive rates to their customers. This imbalance generates distortions in the retail market, affecting both the competitiveness of distribution companies and the perception of fairness in the system.

The design of tariff schemes is essential to guarantee the economic sustainability of the system, promote competition and protect consumers in liberalized markets. In this context, regulators have implemented differentiated tariff schemes to separate the costs associated with distribution from those associated with retail. This approach seeks to avoid cross-subsidies; However, in many cases, independent retailers are not subject to the same strict regulations as distribution companies, which can create an uneven playing field that distorts competition. In addition, the evolution of liberalized markets has given rise to new modalities, such as dynamic rates based on hourly prices. However, the implementation of these tariffs requires smart metering, and clear regulation that protects the most vulnerable consumers against price volatility. Regulatory schemes must establish clear criteria for setting tariffs for access to distribution grids, ensuring that they are fair, non-discriminatory, and reflect the real costs of operation and maintenance. This includes measures that recognise the investments needed to modernise infrastructure, incorporate digital technologies and adapt to the dynamics of liberalized markets.



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CONSUMER PROTECTION IN LIBERALIZED MARKETS

To the extent that the electricity retail markets are liberalized, new consumers with lower levels of consumption enter the free market. These consumers tend to differentiate themselves from larger users in their less experience in participating in the free market, and for the most part they do not have structures in place to analyze and monitor potential risks. That is why consumer protection is a key element in ensuring that openness does not lead to disadvantages for end-users. To achieve this goal, it is essential to have robust regulation and effective supervisory mechanisms that ensure a balance between competition, accessibility to the service and the protection of consumer rights.

Market monitoring is a key element in preventing abuse and detecting irregularities. In retail markets, regulators and other decision-makers can collect data on prices, costs, and products offered by suppliers as input to analyze market outcomes. To this end, it is essential to develop advanced monitoring tools that allow identifying patterns of anti-competitive behavior. The implementation of mandatory reporting systems and periodic audits of suppliers can also be an effective strategy to improve transparency and prevent concentrations of power in the market. In addition, the visibility of the information of the suppliers can regulate their behaviour.

The existence of independent supervisory bodies also strengthens the capacity to detect and sanction irregularities, ensuring a level competitive environment for all participants. These bodies should have political and financial independence, as well as the power to apply sanctions proportionate to the seriousness of the infractions. Collaboration between national regulators and international agencies can also contribute to the identification of best practices and the strengthening of regulation against anti-competitive conduct in the electricity market.

In a competitive environment, the quality of service is a key aspect for the consumer, as it determines their confidence and willingness to participate. Regulations must ensure that suppliers comply with minimum quality standards, avoiding prolonged interruptions, undue charges, abusive clauses, deficiencies in customer service and any practices that could compromise reliable access to energy.

Dispute resolution mechanisms that allow consumers to file complaints easily and receive quick and effective responses are also essential. The digitization of complaints and grievance processes, through accessible and transparent online platforms, can improve consumer confidence in the market. In addition, regulators should encourage the creation of independent consumer protection entities that act as mediators in disputes between users and suppliers, ensuring that decisions are fair and aligned with international best practices.

Transparency and access to information in retail markets are essential to ensure effective competition, protect consumer rights, and build trust between consumers and suppliers. Consumers should have clear and understandable information about prices, contract terms, additional costs associated with the service, and available supplier options. Implementing

price comparison websites (PCWs), pages that aggregate information from multiple offers on a centralized platform, can be useful for this purpose. This way, consumers who want to switch to a better deal can easily research options, identify potential savings, and access details about the pricing structure. These platforms must be developed with high standards of usability and accessibility, ensuring that all consumers, regardless of their level of knowledge, can interpret the information and use it to make appropriate decisions. In addition, requirements for transparency and standardization in information on prices and conditions of service can be established, to allow a fair comparison between the different offers in the market.

An additional aspect of transparency is the ability for consumers to have access to their consumption and billing history in real-time. This requires smart metering (AMI) systems and data management that allow consumers to visualize their consumption, understand how their energy habits affect their billing, receive personalized recommendations to improve their energy efficiency and make more informed decisions to optimize their consumption.

The Supplier of Last Resort (SLR) is an essential mechanism to guarantee the continuity of supply in situations in which a supplier cannot meet its obligations, either due to financial defaults or due to its exit from the market. This mechanism can be extended to protect inactive consumers or those in a situation of economic vulnerability, guaranteeing that after being transferred to the SLR, they can switch to another supplier without penalties. In many countries, the SLR not only functions as a backup against market failures, but also plays a social role by providing basic supply conditions to customers in situations of default.

In many cases, distribution companies are designated as SLRs because of their existing infrastructure, market knowledge, and historical relationship with consumers. While this can be operationally efficient, it also involves challenges such as the need for additional resources to manage unpredictable volumes of transferred customers, ensure supply stability, and manage the financial risks associated with consumers with a high probability of default. Therefore, it is crucial that the regulations that define the role of the SLR ensure adequate compensation to distribution companies for the operational and financial costs they assume in this role. This includes clear cost recovery mechanisms, tariff structures that reflect the associated risk, and contractual terms that minimize the financial impact. Regarding the SLR, this can be done through competitive bids or regulatory designations, ensuring that the criteria prioritize the technical and financial capacity, and the operational experience of the supplier. This designation must be accompanied by regulatory guarantees that allow distribution companies to efficiently comply with this responsibility without compromising their financial sustainability or their main operation as distribution grid operators.



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RETAIL MARKETS AND CONSUMER PROTECTION LANDSCAPE IN LATIN AMERICA

Retail activity in Latin America is highly diverse in terms of its degree of liberalization, the involvement of suppliers, and consumer protection measures. While some countries have made progress in opening up their markets, implementing competitive schemes with multiple actors and options for end users, others maintain highly regulated structures in which retail is an activity restricted to state-owned entities or concessionaires with limited market conditions. However, hybrid models prevail, in which large consumers can access a free market, while residential users remain in a regulated scheme with tariffs established by the State.

El Salvador and Brazil are leading countries in the region in terms of opening up their market. In the first case, the entire market is liberalized, and in the second, migration is possible for all customers connected to medium and high voltage. For their part, in Argentina, Chile, Colombia, Ecuador, Guatemala and Peru, there are stricter limits to access the free market, ranging from 30 kW in Buenos Aires to 1000 kW in Ecuador. In Argentina, users can enter the wholesale market through different modalities, depending on their level of demand, which provides some flexibility in market share. In countries such as Chile, Colombia, Guatemala and Mexico, in addition to the demand limits to access the free market, there are requirements such as the installation of meters with telemetry, the signing of contracts with authorized suppliers, or the registration of consumers with the Ministry of Energy and Mines, which introduces an additional layer of complexity. At the other extreme, Costa Rica has not liberalized its market, which implies that all users must purchase their energy through distribution companies, without the option of choosing between different suppliers.

This heterogeneity responds to multiple factors, such as the history of energy development in each country, the ability of its regulatory frameworks to adapt, and the availability of infrastructure to facilitate competition. In some cases, liberalization has been driven by the need to attract private investment and improve efficiency in service delivery, while in others the state model has prevailed with the aim of guaranteeing affordable tariffs and stability in supply.

Regarding the coexistence of distribution and retail activities, the regulatory frameworks of most Latin American countries allow these activities to be integrated under the same company, without strict separation requirements. Instead, the regulations focus on establishing certain rules that limit the abuse of a dominant position and the possible information asymmetries that could affect competition in the retail market. This flexible regulatory approach seeks to maintain the operational efficiency of integrated companies, avoiding unnecessary costs arising from separation, while implementing safeguards to ensure competition.

Consumer protection is another fundamental aspect that varies between countries in the region. In the most open markets, advanced mechanisms of transparency in information and strict rules have been developed to prevent anti-competitive practices. On the other hand, in more regulated markets, consumer protection often relies on government subsidies, tariff regulations, and state control mechanisms to prevent market abuses.

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CHALLENGES AND OPPORTUNITIES FOR DSOS

In an environment where retail activity is open to competition, distribution companies must adapt to a more dynamic landscape, characterized by the diversification of suppliers, the evolution of regulatory frameworks and the change in the relationship with consumers and suppliers. This implies that distribution companies no longer have an exclusive role in the provision of the service, but become distribution system operators (DSOs) that facilitate the participation of different actors on equal terms.

One of the central aspects of liberalization is the definition of an appropriate model of integration or separation between distribution and retail activities. There are different approaches, ranging from full integration to functional, accounting or even legal separation between activities. Choosing the right model depends largely on the characteristics of the market, the maturity of the competition and the regulatory conditions of each country.

In some countries, the regulation has chosen to keep retail within the structure of the distribution companies, allowing vertical integration that facilitates service continuity and minimizes transaction costs. In other markets, strict separation has been proposed to promote competition and avoid conflicts of interest. Imposing a total separation between distribution and retail is not consistent with international best practices as it limits the number of actors, can generate operational inefficiencies and increase the costs of providing the service. Other countries have adopted intermediate models such as functional separation, which imposes some obligations on distribution companies to guarantee neutrality in access to the grid, avoiding discrimination between retailers and ensuring equal conditions for all actors. To achieve this, requirements such as operational independence and the prohibition of sharing sensitive information between the distributor and its affiliated retailers (the “Chinese wall” technique) are established. Likewise, transparent management of billing and metering processes is required, ensuring that all retailers receive the same treatment. There are also other proposals to compensate for the competitive advantage of distribution companies, such as restrictions on the use of a distributor’s brand or logo by the retailer of the same economic group. Another alternative is accounting separation, where distribution and retail activities are maintained under the same entity, but with separate financial records. This makes it possible to ensure greater transparency without significantly impacting operational efficiency.

The separation of activities also presents operational and financial challenges, as it involves adjustments in the cost structure and distribution rates. Removing economies of scale that previously benefited the distributor can increase administrative and operational costs, which could be reflected in an increase in end-user rates. In addition, separation can lead to fragmentation in customer service, making it difficult to resolve issues and reducing efficiency in service delivery. Defining the right model requires a balance between promoting competition, operational efficiency and financial sustainability, and should focus on promoting transparency and avoiding anti-competitive practices, rather than on restricting the participation of certain actors. International experience suggests that allowing the integration of activities, accompanied by regulatory mechanisms and partial restrictions on the relationship between affiliated DSOs and retailers, and oversight that ensure transparency and limit conflicts of interest, offer an appropriate balance between integration and competition.

The liberalization of the retail market entails the need to move forward with new operating and business models, including the digitalization of the grid, the adoption of advanced measurement and data management technologies, and enhancing mechanisms for interaction with suppliers and end customers. In this sense, distribution companies can implement interconnected digital platforms that facilitate the exchange of information in real time between the different market players, ensuring transparency and accuracy in the measurement of consumption. The incorporation of smart meters, advanced data analysis systems and energy management platforms will facilitate a more efficient operation, allowing distribution companies to optimize the use of infrastructure and reduce technical and non-technical losses. Finally, the transition to a more competitive retail market raises the need to improve interoperability between distributor and retailer platforms. The integration of systems that allow information to be shared in a standardized and secure manner will be essential to avoid distortions in the market and ensure fair and equitable competition.

In a liberalized market, the relationship between distribution and retail companies takes on a new dynamic, characterised by greater complexity in operational management and a growing need for regulation to ensure equity in access to the grid. Distribution companies, while maintaining responsibility for the grid infrastructure, must guarantee non-discriminatory access to all retailers, ensuring non-discriminatory conditions in billing, access to data metering and customer management. This principle of neutrality is key to promoting effective competition and avoiding the consolidation of dominant positions in the retail market.

In turn, the presence of multiple suppliers requires efficient coordination mechanisms to guarantee continuity of service, avoid errors in billing and ensure the quality of customer service. The proliferation of suppliers with different business models, billing schemes and tariff structures imposes challenges for distribution companies, who must manage the relationship with these actors without generating barriers to entry for new market entrants.

In addition, transparency in the relationship between distribution and retail companies is essential to prevent conflicts and promote a balanced competitive environment. The implementation of mechanisms for monitoring and auditing the interactions between these actors is essential. It is necessary to establish clear regulations that limit possible conflicts of interest and guarantee equity in the contractual relationship between distribution and retail companies. The increase in market complexity can generate disputes between DSOs, retailers and consumers, either due to differences in billing, problems in the continuity of supply or disagreements in the interpretation of contracts. The coexistence of multiple suppliers and the variability in the conditions of contracts can generate uncertainty for consumers and make it difficult to resolve conflicts. To mitigate these issues, it is essential to establish transparent and standardized protocols for billing, changing suppliers, and compensation in the event of service failures. In addition, dispute resolution mechanisms can be established that allow disputes that arise to be addressed quickly and equitably, such as the use of mediation instances prior to the judicialization of conflicts. Finally, regulators can create specialized conflict resolution units that can act as a prior and mandatory instance in disputes between retailers, DSOs and consumers.



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INTERNATIONAL GOOD PRACTICES IN MARKET LIBERALIZATION AND CONSUMER PROTECTION

The liberalization of electricity markets has been a key process in various economies around the world. Some countries have implemented progressive models to avoid disruptions and ensure an orderly transition, and there is also diversity in the roles attributed to distribution and retail companies. In Germany and the UK, opening up started with large industrial consumers before spreading to residential users. This approach made it possible to assess the impact of competition on different scales of consumption and adjust regulation according to market needs. In the United States, some states have completed their liberalization processes, allowing consumers (including industrial, commercial, and residential) to purchase electricity from competing retailers, although residential customers' participation rates in free markets remain low in most states.

There are several models in terms of the definition of the activities that are considered competitive. In Illinois and Pennsylvania, suppliers compete for energy procurement, while other services (including billing and customer service) are managed by distribution companies. Restricting the scope of competition in this way makes it easier for new suppliers to enter, but it also reduces their ability and incentives to innovate.

To avoid conflicts of interest in the case of companies that simultaneously carry out distribution and retail activities, many markets have established functional separation requirements. For example, the European Union adopted the China Wall technique for vertically integrated enterprises. Abuse of market power through insider trading and price manipulation is also prohibited.

In some countries, liberalization has been accompanied by mechanisms to protect consumers, especially those in vulnerable situations. The United Kingdom, France and New Zealand have implemented digital price comparison platforms (PCWs), managed by the regulator or some independent organization. In Germany and Great Britain there are no official PCWs, but there are websites run by private companies, which receive compensation from the suppliers who publish their information. In the European Union, Directive 2019/944 established criteria for tariff and contract comparison tools.

In the United Kingdom there is a regulation of "simple tariff options" that seeks to simplify packages, discounts and rewards, and includes standardization in the presentation of rates and cost projections based on actual consumption. Similarly, the European Union has made progress in reporting standards for bills, including price breakdowns, consumption comparisons, information on consumer rights, information on the mix of sources used (including environmental impact), and contact with consumer organisations and the dispute resolution body. In Pennsylvania, suppliers are required to use the terms set forth in a state glossary in all marketing materials.

As for the requirements for supplier changes, the European Union establishes a maximum period of three weeks from the date of application. It is expected that, by 2026 at the latest, the process for the change should not last more than one working day. Additionally, some marketplaces have implemented requirements to alert customers when their contracts are

about to end, to prevent suppliers from setting higher rates at the end of the contract. As for early termination charges or migration fees, some marketplaces focus on clear disclosure of these fees at the beginning of the contract. In Texas, suppliers can charge early termination fees, but they can't charge for switching to another retailer. In Australia, New Zealand, Illinois, New York, Pennsylvania, and Great Britain, suppliers may charge fees for early termination or change of supplier, but they must disclose them first. Early migration fines may be levied in the Netherlands, but they are subject to limits set by the Electricity Act. In Germany and Italy, retailers are prohibited from charging termination fines or migration fees. In France, consumers can terminate their contract at any time without penalty, but they may have to pay for the out-of-cycle reading and grid rates specified in the contract. However, if the consumer owes debts to the supplier, the supplier can block the change. Some markets have pre-renewal notice requirements. In Illinois, the supplier must notify the customer 30 to 60 days prior to the automatic renewal date, by a separate means from the bill. In Pennsylvania, notice must occur 45 to 60 days before the expiration of the contract.

An alternative to individual migration is collective migration arrangements. Collective bargaining allows for increased competition by aggregating buyers to exert greater purchasing power. In addition, it mitigates information asymmetries and reduces pricing research costs. Collective bargaining takes place in a variety of ways in Britain, the Netherlands and the USA. In the latter case, it is known as Community Choice Aggregation (CCA), and it allows a municipality or county to negotiate energy for all of its residential and small commercial customers. In the Netherlands, a similar program exists through "Consumentenbond", a non-profit organization that negotiates, on behalf of its members, collective energy prices with suppliers, through competitive auctions. In Britain, consumers can meet and ask an independent organisation to represent them and negotiate agreements with suppliers on their behalf, although the scope of this service is still relatively small.

In relation to the requirements that an inbound supplier must meet, these vary considerably between jurisdictions. In Australia, requirements include organizational and technical capacity, financial resources to operate and manage market risk, and no previous revoked licenses. In Illinois, Pennsylvania, and Texas, there are credit scoring requirements. In Germany, there are also credit requirements. In Britain, retailers have an obligation to reduce carbon emissions. There are no formal entry requirements in New Zealand, but the Electricity Authority monitors compliance with guidelines relating to vulnerable contracts and consumers, and the regulator publishes lists of compliant and non-compliant traders.

Some markets have incorporated mediation and arbitration systems to resolve disputes between suppliers and customers. In Italy, consumers can contact a free conciliation service set up by the regulator. In Germany, they can contact the Conciliation Board (Schlichtungsstelle Energie), and the service is free of charge and non-binding. In New Zealand there is a process in which an arbitrator holds a conciliation conference and issues a recommendation. Dispute resolution mechanisms are also in place. In Australia (NEM), state and territory ombudsmen receive, investigate and facilitate the resolution of consumer complaints. In the Netherlands, if the process cannot be resolved between the customer and the supplier, the consumer can contact the aggregator organization that represents him.

As for the figure of the Supplier of Last Resort (SLR), all the countries of the European Union, except Bulgaria, have regulated it as a safeguard against the eventual failure of the supplier. In addition, there are two complementary mechanisms: the first, known as the "default supply mechanism", protects inactive consumers in 12 member states; The second, known as

the “individual or basic supply mechanism”, protects consumers with payment difficulties in 5 Member States. In Germany, the supplier that serves the majority of residential customers in a local distribution grid acts as a SLR. There are about 800 of these grids and the SLR determination is reviewed every three years. SLR rates are not regulated and tend to be more expensive than other available rates, however, there are rules for them to be published and disaggregated by components. Similarly, price changes must be publicly reported along with written notice to customers. In Texas, the regulator assigns a SLR in each area for customers who have not chosen a supplier or who have had their service interrupted. This service comes at a relatively high price due to the costs associated with serving an uncertain number of customers with uncertain electrical loads.

A characteristic of successful markets has been the implementation of monitoring and evaluation mechanisms. In the European Union, regulators carry out regular analyses of market behaviour to detect possible anti-competitive practices and assess price developments. This monitoring also allows regulations to be adjusted based on market dynamics and consumption trends. Measuring the degree of competition in the market is also essential for assessing the success of liberalization. Countries such as Australia and the United Kingdom have established metrics that allow us to analyze the diversification of suppliers and the ease of switching suppliers. In Germany and the Netherlands, surveys have been developed to measure consumer satisfaction and accessibility of information. In addition, customer complaints and claims are monitored to detect possible market abuses and areas where strengthening regulation is required.

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CONCLUSIONS AND RECOMMENDATIONS

Liberalization of the electricity market is a complex process that requires a delicate balance between openness to competition, stability of supply, consumer protection and sustainability of the system. International experience shows that effective liberalization must focus not only on the entry of new actors, but also on ensuring a level playing field for all participants, modernizing infrastructure, and mitigating distortions. Regulation must evolve to accompany these changes and ensure an environment that fosters innovation, without compromising the stability and accessibility of the electricity service. To this end, it is essential that the rules are not excessively restrictive or put retailers linked to the distribution companies at a disadvantage. Markets that have achieved an orderly transition have implemented phased strategies, promoted transparency in consumer information, and established oversight and regulatory adjustment mechanisms to respond to changing dynamics.

In Latin America, where there are diverse realities regarding the structure and maturity of markets, market liberalization should consider aspects such as (i) Gradualness and planning, allowing the adaptation of agents, evaluating impacts, mitigating risks and generating confidence in the market; (ii) Consumer protection and empowerment, with information mechanisms, platforms that allow the comparison of rates and suppliers, and regulations that reduce transaction costs; (iii) Investment in digitalisation and modernization of the grid, including smart metering and management systems that allow for demand optimisation and greater transparency; (iv) Regulation of the Supplier of Last Resort (SLR) that contemplates its scope, functions, remuneration and selection mechanism; and (v) Regulatory supervision and adaptability that allows adjustments according to the maturity of the market and the incorporation of new actors.

On the other hand, the liberalization of the electricity market presents both challenges and opportunities for distribution companies. The transition from being agents with a purely operational function to becoming facilitators of competition and the energy transition implies the need for new business models and investments in technology. Utilities must play a key role in the implementation of smart grids, demand management, and the integration of renewable energy. Likewise, digitalization will allow greater transparency, cost optimization and a more efficient relationship with suppliers and consumers. To achieve the objectives of liberalization, the commitment of regulators, market operators and distribution and retail companies is necessary to build a flexible and inclusive framework, where competition can be developed for the benefit of consumers and the modernization of the sector.

