THE RULE OF LAW AND MEXICO'S ENERGY REFORM

Economic Competition and the Energy Sector: The Electricity and Natural Gas Markets

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About the Study: The Rule of Law and Mexico's Energy Reform/Estado de Derecho y Reforma Energética en México

The 2013 changes to the constitutional framework and the summer 2014 enabling legislation in Mexico's energy industry represent a thorough break with the prevailing national narrative as well as the political and legal traditions of twentieth century Mexico. Mexico is about to embark on an unprecedented opening of its energy sector in the midst of important unknown factors, as well as a fiercely competitive and expanding international energy market. Mexico is one of the last developing countries to open its energy sector to foreign investment, and although there are important lessons that can be learned from other countries' experiences, this does not imply that the opening will be necessarily as successful as the government promises or that the implementation of the new laws will go smoothly. Almost certainly, after the enabling legislation goes into effect, important questions of law will emerge during the implementation, and unavoidably, refinements to the legislation will have to take place.

The book "Estado de Derecho y Reforma Energética en México," published in México by Tirant lo Blanch and written in Spanish, is the culmination of a major research effort to examine rule of law issues arising under the energy reform in Mexico by drawing on scholars and experts from American and Mexican institutions in order to bring attention to the different component parts of the new Mexican energy sector from a legal standpoint.

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Introduction

On June 11, 2013, the Mexican Congress approved the most recent constitutional reform dealing with economic competition. Without a doubt, this is one of the most important and notable actions of the government in power. Through constitutional determination, the new Federal Commission of Economic Competition (COFECE) was set up, which, in its capacity as a autonomous constitutional body, was vested with a set of new powers aimed at eliminating barriers to competition and free market participation, regulating access to essential consumables, and ordering the separation of assets for the purpose of eliminating their anticompetitive effects.

In terms of of sanctions and procedures, it is noteworthy that the reform has established special penalties to severely punish monopolistic practices and concentration phenomena. It announced specific prohibitions related to cross-subsidies and preferential treatment and limited the means of defense to indirect *amparo* (protection) proceedings, while, at the same time, reserving such disputes for specialized courts.[1]

The aforementioned regulatory changes are valuable in and of themselves because they were aimed at strengthening economic competition in Mexico. Even though the economic competition policy is the result of more than twenty years' development and, after successive reforms, the existing regulatory framework approaches the best international practices in terms of its design, it is certain that the conditions under which some economic sectors operate in Mexico reflect a reality that is still far from a competitive marketplace, and the benefits that such markets generate.[2] This situation is especially obvious in sectors that operate through network infrastructures.

The situation described above can be attributed to specific factors of an institutional, political, economic, social and/or cultural nature that together condition the effective application of competition standards. Nonetheless, it is also pertinent to point out that each sector or market offers a different panorama that needs to be recognized both by the rules of competition as well as by the regulation of that industry. Based on such consideration, in this paper three types of elements or conditions are presented that, if not recognized in a timely manner by the industry regulator and by the entity with jurisdiction, may limit the effective application of the most recent reform in the natural gas and electricity industries.

First, we will show the main obstacles documented by economic regulation in terms of creating competitive markets in the industries mentioned above. Second, we will refer to the different developments and maturities of the natural gas and electricity markets in Mexico. Third, we will present some of the elements that may limit the development of competitive markets on the level of regulatory design of the energy sector.

The Energy Sector and Its Natural Resistance to Competition

Technical, Economic, and Social Conditioning

The design of regulatory models that can be applied to different markets for goods or services must start with the acknowledgement of the set of technical, economic, and even social conditions inherently related to the different productive activities that will be subject to regulation. In the case of the energy sector, such acknowledgement has received a lot of attention in the specialized literature, as certain conditions of the energy markets are precisely what make it so difficult to articulate regulatory goals and can limit the competitive development of such industries. Such a condition has suggested that in energy markets—particularly among those operating through network infrastructures, such as electricity and natural gas—traditional competition analysis is not applicable, and it is necessary to design more sophisticated analyses. The following are some examples:[3]

Gas and electricity markets exhibit a vertical structure that is conditioned by large amounts of investment, by levels of production with decreasing outputs by scale, and in some cases, by the presence of high sunken costs, traits that lead to very long process of capitalization and recovery of investment and, in some segments, the presence of natural monopolies. This condition requires that the regulatory framework that applies to such sectors operate under conditions of stability, transparency, and in consideration of goals consistent with the characteristics of the industry, considering that it is only in such a scenario that participants can set up adequate commercial strategies that have effective economic consequences.

In the gas market, a consumable derives its price based on the price of oil (a substitute good), and the supply is composed of domestic product and gas from imports. This opens the possibility for the operation of wholesale markets[4] and makes the integration of regional supply blocks viable; as a result, its regulation faces the challenge of incentivizing and articulating markets that, due to their economic impact and geographic location, go beyond national borders.

In turn, electricity is a preferred good that impacts all productive processes, does not have any substitutes, and presents a demand that is almost perfectly price-inelastic. Furthermore, electricity represents secondary energy that cannot be stored on a large scale. The aforementioned characteristics create some problems, among them the difficulty of making provisions over the medium or long term based on the energy contributed by the different types of plants, and the technical and economic impossibility of a single power-generating technology covering the entire demand for electricity.

Based on these conditions and from a public policy perspective, in matters related to electricity, incentives must be provided for the diversification of sources of energy, and for ensuring that economic regulation successfully allows agents competitive pricing on technologies of different origin that also exhibit fluctuations throughout the day in accordance with the relationship between demand and installed capacity. Therefore, the establishment of *spot* markets, market operators, and system operators is recommended.

So far, we have only referred to some technical and economic conditions of the gas and electricity sectors; however, in order to understand the difficulty that such sectors pose both for regulation as well as for the rules for the defense of competition, it is also necessary to refer to the specific social impact of such sectors.

Electricity and gas represent a basic service for citizens and companies; they are goods that are crucial for quality of life, social interrelations, industry, transportation, and communications. Therefore, regulation strives to guarantee the regular and continuous functioning of such productive segments at all times and proceeds to apply techniques of administrative intervention such as public service, general interest activities, or universal services, techniques directed at ensuring equality of access for users, continuity, adaptability, quality and efficiency of service, transparency in terms of its management, and non-discriminatory treatment of users.

Additionally, to the extent that these productive activities have repercussions on the environment, regulation tends to pursue the goal of promoting the rational consumption of energy and the lowest environmental impact through the incorporation of clean energies. However, it can also be observed that in the name of the social and environmental impact of these industries, generalized policies of subsidies and regulations with public burdens have been established that occasionally operate to the detriment of the competitive functioning of the sectors.

Industry Trends

Based on the acknowledgement of the characteristics described in the preceding section, the regulatory models that have liberalized the gas and electricity sectors have generally focused on the incorporation of markets both in terms of generation/production as well as distribution and supply. Additionally, regulation tends to be established that is aimed at guaranteeing access for third parties to the central networks of the systems; under certain circumstances, measures are adopted that lead to the vertical disintegration of ownership of the transportation, storage, and distribution networks.

Regarding such models and their effective operation, the literature regarding economic regulation has reported the difficulty of generating significant competition in the aforementioned segments, which prevents the participants in the sector and consumers from receiving and responding to the signals of a contestable market. Among the documented problems, the following are noteworthy:[5]

1. Significant asymmetries between competitors so that incumbents have more incentives to exercise market power.
2. Barriers of entry as a result not only of the presence of sunken costs, but also of the vertical integration between transportation and supply activities, capacity restrictions on small competitors, and the existence of *switching costs*.
3. Lack of transparency regarding pricing and asymmetrical information between entering companies and existing market participants. For example, it has been observed that the fact that competition in electrical markets requires “repeated

interaction" between a reduced number of economic agents, with transparency regarding price, demand, and indirect knowledge of the costs of their rivals, could give rise to collusive agreements in terms of price setting, particularly between companies with similar cost structures and capacities.

4. Network congestion making it possible for competitors who are located in congested regions to increase prices without the risk of being displaced by competitors located outside the network congestion points. Such a condition requires a much more precise determination of the relevant market, with special attention being paid to network restrictions and the influence that competitors have over them.
5. The low price elasticity of the demand for electricity, which only reinforces the market power of its generators, a trend that is exacerbated by the fact that consumers cannot stockpile this commodity to cover periods of high demand.
6. The technological convergence between gas and electricity. Although this may exert competitive pressure from one productive sector upon the other, it might also limit the entry of independent retailers into the market.
7. Lack of investment, which is associated with long recovery processes, particularly in sectors such as electricity, which furthermore requires a margin of reserve to ensure supply.

The aforementioned characteristics have caused the specialized literature to focus its attention on the creation of tools and regulatory models that make it possible to better characterize and simulate the functioning of oligopolistic markets, upon which the analyzed productive processes tend to operate. Among such tools, we have the following: the *spot* market vs. long-term bilateral contracts, rules for price setting by auction, regulatory mechanisms for the recognition of sunken costs, capacity payments, virtual capacity sales for larger companies, indicators of market shares, corporate decisions accompanied by sophisticated competition analyses that permit vertical integration between generators and traders, and open access databases for competitors.

The Mexican Energy Sector: The Same Name for Markets of Different Stages

Having described some factors that favor oligopolistic trends and anticompetitive behavior in the energy sectors operating through network industries, it is necessary to refer to another element that must be considered both by the entity with jurisdiction as well as by regulators: the recognition of the condition of the natural gas and electricity markets in Mexico, considering that the most recent reforms in energy matters and economic competition must operate in these industries.

This analysis is relevant because, unlike in the hydrocarbons sector where the energy reform faces the challenge of transitioning from a monopoly forged over almost 76 years to a competitive market, in the case of gas and electricity reform must start with the

acknowledgement that the Mexican legislation of the 1990s, approved within a context of commercial openness driven to a large extent by the signing of the North American Free Trade Agreement (NAFTA), advanced in terms of the liberalization of both sectors—particularly in the case of natural gas—so that the introduction of an open-competition model in such productive segments is not entirely unknown, although there is an industrial/corporate dynamic which imposes its own path towards the new legal framework under which the energy markets will operate.

The Natural Gas Sector in Mexico

The first policy of the liberalization of the gas industry took place in 1995 through the adoption of a legal framework that strove to implement an efficient industrial structure based on the incorporation of markets in potentially competitive fields and sectors and the regulation of both natural and legal monopolies. Specifically, private investment participation was established for the transportation, storage, distribution, and national and international trading of natural gas.

Throughout the 18 years of its duration, the regulatory model that was incorporated in 1995 fostered the receipt by Mexico of significant levels of domestic and foreign investment both in distribution as well as import, storage, and regasification terminals.[6] However, one of the main design problems created by such a regulatory model was the dominant role in the industry reserved for Petróleos Mexicanos (PEMEX Gas y Petroquímica Básica or PGPB).

Although according to the domestic legislation, PGPB was required to operate as a regulated agent of the new market, it remained in charge of first-hand sales—in its position as the only domestic producer—and of the operation of its transportation network, retaining the ownership and operation of its pipelines as the main permit-holder of the system. Although subject to the obligation of providing open and non-discriminatory access to the networks, it was also qualified to carry out storage and trading activities.

The industrial architecture of this first industry-opening model had two clear components:[7] a public sector that through national companies (the Federal Electricity Commission [CFE] and PEMEX) consumed 90% of its production without any incentives for efficient production, and a private sector forced to import two-thirds of its consumption through PEMEX, which controlled the National Pipeline System.[8] What were the repercussions of this model?

1. The position of PEMEX as a monopolist of first-hand sales created distortions in terms of competition for the remainder of the segments, insofar as PEMEX was operating as a dominant agent in transportation and trading.
2. The permanent setting of prices and its poor reflection of market dynamics discouraged potential competition.
3. In Mexico, bringing gas to a region for the first time was, for many years, subject to an anchor project, such as CFC electric power plants, which made it possible to guarantee consumption and use of the gas pipeline and offered profitability to the

investor in the new infrastructure, although they did not represent a structural solution aimed at strengthening incipient markets.

In summary, the industry-opening model of the 1990s promoted an industrial and corporate structure that helped characterize Mexico as a country with low volumes of extraction,[9] a high level of natural gas flaring[10] associated with the extraction of crude oil, and a gas pipeline system that, particularly since 2011 and as a result of the lack of public and private investment, showed clear signs of saturation and gave way to an intensive import policy with effects on the final consumers.[11]

As stated in the most recent reform,[12] in view of the described scenario, the drive to utilize natural gas should be a central part of the energy policy of the federal government. Competitive markets not only strive to achieve diversification of the primary energy sources of Mexico in order to advance toward energy security efficiently, but also seek to protect the environment.[13]

The Profiles of the New Model: Natural Gas

The new regulation model applicable to the natural gas industry represents a clear expansion of the regulatory model incorporated in 1995. Under the new constitutional[14] and legal framework, the participation of private domestic and foreign investment in the exploration and exploitation of oil and gas is permitted and, therefore, the legal monopoly under which PEMEX had been operating in hydrocarbon production and first-hand sales is eliminated. The new legislation maintains the central regulatory elements of the preceding regulatory model, although it incorporates important additions in market regulation and on an institutional level, such as the following examples:

1. The principle of subsidiarity. The general principle of private participation is established in all segments of the natural gas industry so that only in properly justified cases will the state participate directly through assignments in infrastructure development.[15]
2. Bidding as the general rule for the assignment of qualifying titles. Contracts for exploration and exploitation of hydrocarbons will be granted by bidding and assigned through an auction system.[16]
3. Permits. Processing, transportation, storage, and distribution still require the granting of permits with a term of up to 30 years,[17] a requirement that also applies to trading, import, and export. In no case will exclusive permits be granted, except for permits for natural gas distribution via pipeline determined beforehand by the Energy-Regulating Commission (CRE). Permits may be transferred to another party upon a request filed by the party with the administrative authority and after obtaining the opinion of the Federal Commission of Economic Competition (COFECE) for the purpose of preventing cross-participation in activities.[18]

4. Principles of operation of services. Activities carried out by permit holders will be subject to the principles of homogeneity, regularity, continuity, guarantee of supply, uniformity, and non-discrimination in terms of quality, timeliness, quantity, and price.[19]

5. Separation of activities (transportation-storage-distribution via pipeline-trading). According to the new legal framework, the same party will be able to hold different permits that apply to the different industry segments;[20] however, in order to promote prices based on market competition and to avoid conflicts of interest and anticompetitive practices, rules are established that restrict the activities that are carried out by each industry participant:[21]

    a. Natural gas pipeline transportation and storage permit holders will not be able to trade hydrocarbons except in cases of emergency, acts of God, or force majeure.[22]
    b. Traders of natural gas will be able to participate in the capital stock of permit holders for pipeline transportation and storage activities related to the same, provided that they do not exceed the limits established for such purposes by the CRE. Cross-subsidies are expressly prohibited.[23]
    c. PEMEX will be authorized to participate in the trading of natural gas provided that it makes transparent the information regarding the costs of services offered to its users.[24]
    d. Integrated systems. Natural gas pipeline transportation and storage systems that are interconnected can set up "integrated systems" in order to expand coverage or provide system benefits in terms of improvements in safety, continuity, quality, and effectiveness in the provision of services.[25]
    e. Non-compliance with regulations on rates, separation of activities, and improperly discriminatory practices, and with resolutions issued by the COFECE are some of the reasons for cancellation of permits.[26]

6. Open access. Permit holders who render services of transportation, distribution, and storage via pipelines are under obligation to provide open access to their facilities and services through interconnection in a non-discriminatory manner and through consideration.[27]

7. Capacity and restrictions on hoarding. The design of the transportation infrastructure considers an excess capacity that makes it possible to cover the needs of personal consumption by users and of trading with third parties. However, users who do not effectively use their capacity reserve should make it available on a secondary market that must be governed by open processes and rules preventing discriminatory practices.[28]

8. Regulation favoring competition and asymmetrical regulation. The CRE will issue regulations on prices, rates, and maximum considerations for the different regulated activities until a declaration of effective competition as determined by COFECE exists.[29] Additionally, general regulatory competence is established, based on the opinion of the entity with jurisdiction, in order to promote efficient development of competitive markets in those sectors. Among others aspects,

such rules may establish strict legal separation between permitted activities or the functional, operational, and accounting separation of the same; cross-participation; the issuance of codes of conduct, limits on participation in the capital stock, as well as the maximum share that economic agents may hold in the trading market; and, as the case may be, in the capacity reserve in the transportation pipelines and storage facilities.[30]

The first-hand sale of natural gas will be regulated by the CRE and must be carried out at the processing or injection points. Trading by persons under the purview of PEMEX or its subsidiary agencies will also be subject to asymmetrical regulation in order to limit the dominant power of such persons; this rule will be in force until increased participation of economic agents is achieved, promoting efficient and competitive development of the markets.[31]

9. Institutional design:
    a. Centralized planning is entrusted to the Ministry of Energy (SENER), with the technical opinion and regulatory powers of the National Hydrocarbons Commission (CNH) and the CRE.[32]
    b. Institutional strengthening of coordinated regulating bodies. Both the CNH as well as the CRE will have their own legal personality, technical and administrative autonomy, and budgetary self-sufficiency, meaning that they will have revenue from contributions and the use of their services.[33]
    c. The National Natural Gas Control Center (CENAGAS) will be in charge of independently managing the national transportation and storage pipeline system for fuel.[34] This organization will be entitled to auction strategic natural gas transportation projects through transparent and competitive processes and may also receive support from productive state-owned companies.[35]

The Electrical Sector in Mexico

Prior to the most recent reform, the industrial and institutional structure of the electrical sector reflected the constitutional restriction that established state exclusivity in the generation, conduction, transformation, distribution, and supply of electric energy *to provide a public service* through its decentralized organizations (the CFE and, until 2009, Luz y Fuerza del Centro).

It is important to point out that the aforementioned constitutional law did not exclude private participation in the sector in an absolute way. Therefore, in 1992, within a context characterized by the high consumption of energy, a great dependency on energy from hydrocarbons, the absence of electrical services for 25% of the population, and an enormous financial deficit of the CFE, an important legal space was opened to come up with new industry-financing solutions based on private capital.

The main goal of the 1992 reform[36] was the creation and express recognition of a new electricity-producing segment open to domestic and foreign private initiative. To this end, the new legal framework included the figures for independent production of electrical

energy (PIE) and small production, redefined the figures of self-sufficiency and cogeneration of electricity, and permitted individuals to import electricity for personal consumption purposes, as well as for export. However, 21 years later and in the context of a growing demand for energy,[37] stagnation of the productive infrastructure, complex industrial organization, high dependency on thermal energies,[38] the need for investment, and a manifest insufficiency of public resources,[39] the viability of the electrical sector under the 1992 regulation model has remained doubtful.

Some indicators that may clearly illustrate the need for regulatory change required by this sector are the following: Mexico's effective capacity of electric energy generation in the North American region;[40] the distribution of energy losses, which are up to 15% (practically double those of other member countries of the Organisation for Economic Co-operation and Development [OECD]);[41] the level of public service coverage, which historically has not reached 100% in rural areas or areas difficult to access;[42] and the pricing level, which has traditionally stayed below cost as part of a policy of macroeconomic and social stability (30% subsidy), while Mexico's electricity fee for industrial consumption is one of the highest among OECD countries.[43]

Additionally, it is important to point out that although it is certain that the CFE currently generates most of the electricity, over the years private investment in the electricity generation has been consolidated and now represents 36.7% of the total installed capacity and accounts for 47.8% of the nation's authorized generation of energy. As a matter of fact, some claim that over the coming years more than 50% of investment will come from the private sector.[44] In any case, it must also be pointed out that the lack of competition in terms of electricity generation and the presence of long-term contracts may also have added to the delay in incorporating infrastructure with state-of-the-art technology.[45]

In light of this scenario, it is simple to recognize the goals that needed to be established by the most recent reform of the electrical sector: to guarantee, through a competitive market, a reliable, efficient, and safe supply of electricity coming from diversified generation sources, at a lower cost and with less environmental impact not only to ensure a social good of paramount necessity, but also to promote domestic economic growth.

The Profiles of the New Model: Electricity

In the case of the electrical sector, the reform represents a substantial modification of the system of industrial organization insofar as it is aimed at overcoming the monopsony, or single-buyer, model to instead establish one of free competition in the segments of generation and trading, while at the same time permitting private participation in the segments of electrical transportation and distribution through contracts with the CFE.. The characteristics of the new model are as follows:

1. Planning and control of the National Electrical System are strategic areas for the state and as a result, no private participation is permitted.[46]

2. Transmission and distribution. In such segments, which also represent strategic areas subject to the regulation of public service,[47] it is permitted for the state, through CFE or other productive state-owned companies, to enter into contracts[48] with domestic or foreign individuals that are subject to rate regulation and conditions for the provision of services, for the purpose of financing, maintaining, managing, operating, and expanding the infrastructure necessary to provide the public service of electric energy transmission and distribution. In any case, it is up to the CFE to provide transportation and distribution services; for this purpose, it will remain subject to a regulation that provides incentives for the expansion and efficient operation of networks. Carriers and distributors will operate in accordance with instructions from the National Energy Control Center (CENACE) and will participate in network expansion and modernization projects as determined by SENER.[49]

3. Generation and trading.[50]Under the new legislation, these activities represent areas open to the free participation of private parties, both domestic and foreign, in which the state also participates through its productive companies. These activities will operate subject to rules of free competition and within the electricity market. These activities, plus the importation of energy linked to the National Electrical System, remain subject to the granting of permits by the CRE, except in the case of electricity generation that is less than .5MW, that is for personal use, in cases of emergency, during service interruptions, or in the case of isolated power supply (subject to authorization).[51]

4. Wholesale electricity market. This is the space where energy transactions will be carried to reflect the costs of supplying energy through the national electric system.[52] Every day, generators will report their offers based on generation cost, while traders and qualified users will report their demand. The CENACE, in its position as operator of the *spot* market, will determine the level of generation that makes it possible to cover demand at the lowest price possible considering the restrictions of the electrical system, and will calculate the balance price. It is important to note that, parallel to the market, participants will be authorized to enter into long-term contracts among themselves based on freely negotiated energy prices. The legislation distinguishes between qualified users[53] and basic supply users. Qualified users will be able to participate directly in a wholesale market for electric energy, while basic supply users will be served by the CFE, which must purchase the energy through auctions to guarantee the lowest costs for users. The market will operate subject to rules of transparency and access to information in accordance with the criteria determined by the CRE.[54]

5. Open and impartial access. This regulatory element strives to guarantee competition between public and private companies for use of the transmission and distribution networks.[55] For this purpose, carriers and distributors are bound by contract to connect electric power plants to their networks and to connect with load centers under conditions that are not unduly discriminatory, whenever this is technically feasible.[56]

6. Separation of activities. The different parts of the electrical supply cycle (generation, transmission, distribution, trading, and provision of primary inputs) must be carried out under strict legal separation in order to foster open access and the efficient functioning of the sector. Likewise, the supply of basic services is separated from other modalities of trading, and carriers and distributors are not authorized to sell energy. Under the new legislation and without prejudice toward the authorities vested in the COFECE, SENER will establish the terms of strict legal separation that are required to foster open access and efficient operation of the electrical sector. The CRE will be authorized to establish the accounting, operational, or functional separation of the constituents of the electrical industry whenever necessary, according to its judgment, for the regulation of this industry.[57]
7. Pricing regulation. The Ministry of the Treasury and Public Credit (SHCP) has the authority to establish final rates for basic service users. In turn, the CRE will regulate rates for transmission and distribution services, the operation of the providers of basic services, CENACE operation, and related services not included in the wholesale electricity market.[58]
8. Conditions for the provision of public service. According to the legislation, the sector will operate under conditions of continuity, efficiency, and safety in compliance with the requirements of universal public service, clean energies, and reduction of contaminating emissions.[59]
9. Declaration of conditions of effective competition: Whenever SENER, the CRE, CENACE, or any other person considers that conditions of effective competition in any market do not exist, they must request that COFECE carry out the appropriate analysis so that the necessary measures may be taken in order to establish conditions of free competition and participation, as the case may be.[60]
10. Principle of energy sustainability. The participants in the electrical industry will have obligations regarding the incorporation of clean energies and the reduction of contaminating emissions.[61] The legislation establishes a system of clean energy certificates through which SENER will determine the percentage of energy that must be generated from clean sources every year.[62]
11. Universal Electrical Service Fund. This fund strives to finance electrification in rural communities and marginalized urban areas. Among other sources, the Fund will be financed through excess revenue resulting from the management of energy losses in the electrical market.[63]
12. Institutional framework:
    a. SENER. This government body will be in charge of the centralized planning of energy policy. SENER will establish the initial conditions under which the market will operate[64] as well as the necessary criteria for legal separation in order to guarantee open access to and the efficient operation of the electrical sector. SENER will issue the criteria for the granting of clean energy certificates and will ensure operation of the electrical market through its

power to impose sanctions. SENER will obtain technical opinions from the CRE and CENACE.[65]

b. Institutional strengthening of coordinated regulating bodies. The CRE will have its own legal personality, technical and administrative autonomy, and budgetary self-sufficiency. Its main powers include regulating and granting permits for electricity generation, issuing authorizations for imports, establishing methodologies for the calculation of repayments, defining contractual models, determining the conditions for provision and carrying rates for transmission and distribution, setting maximum prices, determining the operating rules of CENACE, regulating connected services, and resolving disputes in interconnected matters.[66]
c. CENACE. CENACE will be in charge of operational control of the national electric system as well as the operation of the wholesale electricity market; its most important functions include guaranteeing open and nondiscriminatory access to the national transmission network and general distribution networks, impartially establishing criteria for interconnection and available capacity, and proposing the expansion of networks for social benefit. This organization is in charge of engaging in the coordinating actions that are necessary to satisfy the demand for energy at the lowest cost and to provide the necessary stability for the electrical system.[67]

Elements of Institutional and Regulatory Design: Possible Limits to the Operation of Competition Rules

In general, we believe that the constitutional and legal reform of the natural gas and electricity industries is correct in refining regulatory models whose objective is to ensure that such markets operate competitively. In the case of gas, the reform not only eliminates—at least in terms of regulations—the monopolistic position of PEMEX both in terms of production as well as first-hand sales, but also introduces new regulatory elements that have a favorable impact on the establishment of competitive markets, such as the obligation to grant open access, the separation of activities, the restrictions regarding capacity accumulation, and the management of the National Gas System by an independent operator. In terms of electricity, an industrial organizational model will be installed that overcomes the regulatory single-buyer scheme and creates markets in terms of generating and trading on the basis of private participation in the transmission and distribution segments.

Nonetheless, it is important to note that these are reforms that create a significant regulatory burden, particularly in the case of the natural gas industry,[68] which will require that regulators find a proper balance between the application of *ex ante* and *ex post* regulation and maximum transparency in the administrative procedures that need to be implemented in conjunction with such regulation. Regarding these objectives, some elements are presented below that may represent limits or delays in terms of the competitive operation of the new markets.

Necessary Institutional Coordination

According to the legislation in force both in the case of electricity as well as natural gas, it can be affirmed that the laws do not succeed in clearly delimiting areas of competence regarding policy authority, regulatory authority, and proper management or administration authority.[69] Additionally, it should be noted that the mandate of ensuring a highly competitive market remains, according to the new legal rules, in the hands of different authorities such as SENER,[70] the CNH,[71] the CRE,[72] and, of course, COFECE itself.[73]

The two characteristics indicated above may contribute to creating a balance of power among the different government bodies, although, in case the *expertise* and objectives of each body is not recognized, it might at the same time foster inefficient application of the new legal framework. In this respect, it must be noted that unlike the natural gas legislation, which recognizes the necessary institutional cooperation between COFECE and the industry authorities, in the case of electricity there are scenarios under which the administrative authority practically exercises functions that, based on constitutional mandate and expertise, are originally reserved for the competitive entity.[74] This not only invites analysis in terms of legality but also calls for the necessary acknowledgement of institutional capacities.

Under such an institutional model, it is essential to create effective coordination mechanisms[75] and timely actions by government bodies that must not be limited to the imposition of regulation upon the participating players in the sector, but rather should, for example, first and foremost conduct an analysis of the natural gas and electricity markets that makes it possible to successfully arrive at a shared institutional vision regarding the sector with a view toward its subsequent and permanent monitoring. To date, unlike in the liquefied petroleum (LP) gas sector, where COFECE issued a declaration of effective competition for some geographic segments during the last ten years, in the case of natural gas, such a market analysis still remains to be carried out.

Distinction between the Market Goals and Social or Distributive Goals

One of the recurring challenges of network industries is the conciliation of and balance between economic, productive, and social interests that are inherently related with the industry. In this respect, price regulation will always be problematic, inasmuch as it must be ensured that the collection goals are properly reconciled with the competitive model. This supposition remains clearly confirmed by considering, for example, that the Electrical Industry Act establishes that the setting of rates for basic service will continue to be handled by the SHCP for the purpose of guaranteeing price stability for domestic users and low consumption, while the setting of transmission and distribution rates, to be handled by the CRE, is intended to ensure through incentives that these activities reduce their costs.[76] Under this model, Productive State Companies (CFE) could operate based on criteria of effectiveness that are different from those of the market.

Furthermore, the application of the legislation in effect imposes upon the regulator the challenge of not limiting the benefit of competitive markets with respect to social or

productive projects. We refer in particular to the regulation regarding matters of national content,[77] social coverage or strategic projects,[78] and the obligations associated with social impact, sustainable development, and clean energies,[79] as well as the so-called "Obligations of Universal Service,[80] considering that the absence of transparent procedures, clear financing rules, and, in some cases, asymmetrical regulation could mean advantages for specific participants in the industry and excessive costs to the detriment of the market and consumers.

Finally, an aspect that deserves particular attention is the fact that, according to the new electricity legislation, non-qualified users—who, in other terms, are associated with basic supply—remain excluded from the electrical market; this prevents this consumer segment from directly electing a supplier and, considering that basic supply will operate under the legal rules of the priority areas, might at the same time permit the generalized application of subsidies.

Bidding Procedures: The Rule or an Exception?

One especially noteworthy aspect of the new legislation concerns the changes that are introduced in matters of bids (market competition).

Although it is certain that in the natural gas sector, the new legislation establishes that the assignment of contracts in hydrocarbon exploration and extraction is carried out through bidding rounds as a general rule, the reform introduced bidding procedures that are "diluted" to such a degree that, in some cases, they inexplicably exclude the participation of the competitive body. This eliminates a central stage of analysis regarding the detection of discriminatory requirements, unjustified restrictions in accordance with the nature of the project, and broad or narrow deadlines that may, as the case may be, favor the exchange of information between agents, and in general may lead to important omissions in terms of measures promoting and protecting competition. In particular, we are referring to the following procedures:

1. Migration of assignments to hydrocarbon exploration and extraction contracts without any participation from COFECE during the design stage of bidding guidelines.[81]
2. Contracts for natural gas exploration and extraction of may be awarded directly, without any bidding, to holders of mining concessions as long as the natural gas is contained in and produced by the mineral coal vein.[82] Although this could be justified from a geological and operational perspective, it is certain that this scenario excludes, as a general rule, market response to the assignment of a productive project of this nature.
3. Regarding the granting of permits for natural gas distribution via pipeline, the reform establishes that the CRE has the power to conduct bidding rounds, although the regulatory framework does not provide any more details with respect to the origin of this determination.[83]

4. The law permits directly awarding to PEMEX, any of its subsidiaries or affiliated productive companies, or any other productive state-owned company, a hydrocarbon trading contract with a term ending no later than December 31, 2017, and which cannot be extended or renewed.[84] We believe that the possible justification for such a bidding scenario is unclear, and that three years can have a significant impact on the competitive trend in the trading segment.

Insofar as the granting of transmission and distribution contracts in the electrical sector is concerned, the legislation does not mention that the contract assignment mechanism is based on bidding rounds. Instead, it establishes that competitive processes will be applied that guarantee free participation, even though the law does not establish any specific criteria and procedures regarding this matter.[85]

The aforementioned scenarios, insofar as they represent exceptions to the constitutional determination favoring bidding as the mechanism for the purchase and assignment of public resources, leave space for administrative discretion and make the rules of transparency and accountability that apply to such processes even more relevant.[86]

Exclusivity of Distribution (Natural Gas)
Unlike the prior legislation, insofar as the exclusivity of pipeline distribution permits is concerned,[87] the regulatory framework in effect does not establish any specific period or any criteria of economic regulation that would support such a determination. These omissions are perhaps justifiable from the perspective of incentives for investment, since the absence of gains in effectiveness may favor the establishment of barriers of entry.[88]

The Perspective of Integrated/Related Markets

One aspect that is deemed to have hardly been regulated by the new secondary legislation is the conditions that apply to the importation of energy. The fact that imports exert a relevant competitive pressure on the domestic market cannot be set aside; the legislation could have established not only qualifications for the performance of such activity, but also a legal framework giving greater certainty to the industry participants. For example, in the case of electricity, the legislation only establishes that the criteria to carry out such transactions will be determined via "market rules;"[89] in the case of natural gas, the law only refers to the granting of permits by SENER.[90] Additionally, it is notable that neither of the two industry laws mentions the effects on competition that could be the result of granting permits to operators who simultaneously participate in the natural gas and electricity markets, which, without any doubt whatsoever, deserves more thorough analysis in terms of economic competition.

Asymmetrical Regulation
As indicated throughout this text, the new legislation establishes broad regulatory powers not only in favor of SENER, but also of the regulators. In this respect, it can be agreed that the existence of established participants with market power in the energy sector (such as PEMEX for first-hand sales) requires, the imposition of asymmetrical regulation as a part

of the effective operation of incipient markets, an issue that is specifically addressed by the legislation in the case of the natural gas industry.[91] However, it is noteworthy that insofar as the electrical sector is concerned, there are no rules of such a nature, or at least no rules with a similar magnitude.

Therefore, it is absolutely necessary that the body with jurisdiction participate in a timely manner not only in the process of the institutional reorganization of the electrical sector (CFE),[92] but also in the stipulation of the rules according to which existing public and private entities participating in the wholesale electricity market must operate.[93]

Certainty: The Condition for Investment

Finally, an aspect of the reform that must be noted is that many of the central elements of the new regulatory model will be defined in general administrative standards issued by the industry regulator.

In matters of natural gas, the following are included: price regulation, criteria for holding permits for more than one of the regulated activities as well as the conditions of their duration;[94] rules of open access and interconnection procedures;[95] rules for considering transportation and storage facilities as intended for personal use;[96] rules for considering the origin of service suspension, one that might possibly be associated with anticompetitive conduct or be harmful, in the case of a shortage;[97] and mechanisms and criteria to ensure that the general public will have access to information obtained regarding the activities of surface reconnaissance and exploration, and also of exploration and extraction, that are carried out by PEMEX, by any other productive state-owned company, or by any person.[98]

Regarding the electrical industry, we may point out, the Operational Guidelines and Rules of the Electrical Market as an example,[99] which, in addition to interconnection/ connection[100] and auction design criteria,[101] include the guidelines to determine improper use of privileged information,[102] criteria regarding the obligation of continuity,[103] general terms and conditions for the provision of services,[104] criteria for the granting of permits,[105] and contractual and price-regulation models,[106] among others.

It is important to take into consideration that this peculiar legislative articulation, wherein not all regulatory contents mentioned above are a matter of law or even of regulation, represents a scenario with significant room for administrative discretion that, in terms of legal certainty, not only requires maximum transparency from the regulators, but also a solid technical basis and motivation.

Public Policy Implications

The introduction of competition into the productive segments that operate through network infrastructures is normally the result of a long process involving changing the legal and economic rules that are applied to such sectors. As this involves changing the status quo, the reform process requires a change in the behavior and mentality of the agents and authorities that are involved in the sector. These are the characteristics that

have led to the affirmation that the reform of energy markets has not been completed anywhere in the world, and that revisions over time are required in terms of the effectiveness of the regulatory models implemented. With respect to this scenario, public policies aimed at operating in the energy sector must consider the following:

First, the regulatory reforms must be supported by a permanent and comprehensive action program subject to rules of transparency, designed to achieve specific goals, and with a properly defined timeframe. To do so, it will be essential to take as a starting point the economic, technological, and social conditions of each sector as well as the stage of maturity present in each case of market introduction.

Second, as part of the processes of introducing competition, the challenge of reconciling productive segments that operate under a monopoly and segments that are suitable for the operation of competitive markets will be expected to arise. . For such a delicate balance, it must be considered that comprehensive regulation tends to open the way for a greater number of public considerations that are potentially fragile for regulatory coverage. Additionally, it must be taken into account that part of the success in the introduction of competitive markets is achieved through regulatory stability.

Third, the regulatory measures are designed, in theory, to operate on a temporary basis insofar as they “direct” and “emulate” the operation of the market. In this respect, it must be recognized that both the regulator and the competition authority essentially face a problem of information that requires designing bodies on an institutional level that are indispensable complements of economic competition public policy. Under such a scenario, the mechanisms of institutional coordination and the creation of preventive and corrective authorities will be key for operations to establish efficient markets.

Fourth, to promote the efficient operation of markets, it will be necessary to clearly distinguish the different public policies and their goals, considering that in the name of public policies on tax collection or social policies, the positive effects of a competitive market may be diminished.

Fifth, for the efficient operation of markets, transparency of the different administrative processes that converge in the sector and public access to the operational information of the markets are central elements of any regulatory model striving to introduce competition, particularly in sectors such as energy, where high levels of technical complexity, investment, and social impact with respect to the goods and services that are produced come together.

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Endnotes

[1] The constitutional modifications in matters of economic competition gave rise to the issuance of the new Federal Law of Economic Competition, published in the *Official Gazette of the Federation* on May 23, 2014.

[2] One year prior to the aforementioned reform, the OECD had already pointed out that 30 percent of the expenses of Mexican families, and 42 percent of the expenses of the poorest tenth of the population, are used in service markets where, on one hand, scenarios of scarce competition persist and, on the other, consumers spend around 40 percent more than they would spend in competitive markets. The international organization emphasizes that the lack of fierce competition in domestic markets inhibits the effectiveness and competitiveness of the Mexican economy and contributes to expanding income disparities. "OECD Perspectives," 30

[3] This section is based on the studies contained in Cortés (2007: 15-37); Fabra and Fabra Utray (2010); Federico and Vives (2008: 4-13); Vives (2006); UNITED NATIONS-UNCTAD (2010: 2-25), and Knieps (2006).

[4] In the case of Mexico, it is correct to deem the substantial increase in the offering of this energy in the United States and Canada as well as a significant increase in their reserves as playing a decisive role in the national energy policy, a situation that has radically modified relative international prices, making North America the region with the cheapest gas worldwide and inclining the balance in favor of its exports.

[5] The literature tends to agree that in cases where countries have rigorously introduced the standard model of industry restructuring, there have been cases of success. For example, regarding the electrical sector Littlechild (2006: xviii-xix) cites the cases of the United Kingdom, Norway, and Texas as positive, among others. However, the literature also documents problems of incorporating competition with respect to the exercise of market power among the agents participating in the sector. The elements of analysis that are presented in this section are particularly based on the findings reported by the European literature based on the results contained in the *Energy Sector Inquiry* issued in 2007 by the General Directorate of Competition of the European Commission, as well as some resolutions by the British regulator Ofgem in 2009. Additionally, regarding the recorded trends, cases such as the following are quoted: concentrations between EDP and GDP in Portugal (2004); GDF and Suez; E.On and MOL (2006); E.On/ENDESA; and Enel/Acciona/ENDESA (2006). Regarding analysis of the United States, the literature tends to refer to the special powers in this respect held by the FERC that are exercised based on the Energy Policy Act of 2005, as well as Orders 670 and 674, which aimed at severely sanctioning market manipulation (Joskow, 2008: 22-23).

[6] The projects of Ensenada, Altamira, Manzanillo, and Topolobampo are particularly noteworthy.

[7] Alberro, 177-178.

[8] Ministry of Energy, "Forecasts of Natural Gas and LP Gas 2013-2027," 197.

[9] In mid-2011, the production of natural gas in Mexico was 6.719 billion cubic feet per day, which represented 3.5 percent less than the extraction reported by PEMEX for the same month in 2010; please note that, for 2011, the 7 billion cubic feet obtained on average during 2010 could not be exceeded.

[10] This concept refers to the lack of infrastructure for collecting and processing natural gas obtained through the extraction of oil; instead, PEMEX releases the gas into the atmosphere. During the last year, gas worth an equivalent of 300 million dollars was vented. PEMEX has indicated that it needs to invest around 15 billion Mexican pesos to achieve maximum beneficial use of the natural gas that it produces.

[11] It is within this context that the government in power conceived of the gas pipeline project "Los Ramones," one of the largest projects in the gas industry. It will have a strategic function by bringing together demand and consumption between the south of Texas and the northern part of Mexico. In December 2014, the project completed its first stage with 114 kilometers of pipeline connecting Agua Dulce, Texas and Los Ramones, Mexico.

[12] According to the explanatory preamble both of the constitutional reform as well as of the Hydrocarbons Act, the Mexican state established its goals of increasing the current production of natural gas from 5.7 billion cubic feet per day to 8 billion in 2018 and to 10.4 billion in 2025, and of achieving rates of replacement of proven reserves of oil and gas of more than 100 percent. This means that the increase in production would be accompanied by the discovery of the same or larger volumes of reserves.

[13] Mexico tends to define itself as an oil country, although it also a gas country (among the 20 largest producers worldwide). Mexico has one of the lowest costs of production of discovery and development, and the rate of replacement of hydrocarbons is close to 90 percent.

[14] Pursuant to the terms of Articles 25, 27, and 28 of the Constitution, activities of exploration and extraction of hydrocarbons represent strategic areas over which the state exercises economic stewardship, maintains ownership of the subsoil on an inalienable and imprescriptible basis, excludes the granting of concessions, and can operate through productive state-owned companies (PEMEX). See Articles 1 and 5 of the Hydrocarbons Act, published August 11, 2014, in the *Official Gazette of the Federation*.

[15] In the case of the natural gas industry, the participation of third parties through other productive state-owned companies is also permitted. See Article 6 of the Hydrocarbons Act.

[16] See Article 27, Paragraph Six; Transitional Article Four, Transitional Article Six, last paragraph, and Transitional Article Nine of the decree of constitutional reform, published on December 20, 2013, in the *Official Gazette of the Federation;* and Articles 13, 15, 23, and 24 of the Hydrocarbons Act.

[17] See Articles 5, 48, 49, and 80 of the Hydrocarbons Act, published on August 11, 2014, in the *Official Gazette of the Federation*, and Article 11 of the Regulation of Title Three of the Hydrocarbons Act, published on October 31, 2014, in the *Official Gazette of the Federation*.

[18] See Article 83 of the Hydrocarbons Act and Article 50 of the Regulation of Title Three of the Hydrocarbons Act.

[19] See Article 7 of the Regulation of Title Three of the Hydrocarbons Act.

[20] See Article 8 of the Regulation of Title Three of the Hydrocarbons Act.

[21] See Article 56 of the Hydrocarbons Act.

[22] See Article 71 of the Hydrocarbons Act.

[23] See Article 84, Section X of the Hydrocarbons Act.

[24] See Article 28 and Transitional Article Eight of the Hydrocarbons Act.

[25] See Article 60 of the Hydrocarbons Act.

[26] See Article 56 of the Hydrocarbons Act.

[27] See Articles 60, 70 through 75, and Transitional Article Fifteen of the Hydrocarbons Act.

[28] See Article 84, Section X, of the Hydrocarbons Act.

[29] See Articles 81 Section II and Article 82 of the Hydrocarbons Act.

[30] See Article 83 of the Hydrocarbons Act.

[31] See Article 13 of the Hydrocarbons Act.

[32] See Transitional Article Ten of the decree of constitutional reform, published on December 20, 2013, in the *Official Gazette of the Federation*.

[33] See Article 28, Paragraph Eight; Transitional Article Ten; and Transitional Article Twelve of the decree of constitutional reform.

[34] See Article 60 of the Hydrocarbons Act.

[35] See Transitional Article Sixteen of the decree of constitutional reform and Article 69 and Transitional Article Twelve of the Hydrocarbons Act.

[36] Please note that in 2000 (sic) the industry legislation was reformed, although this was particularly focused on promoting renewable energies without modifying the industry scheme of opening described in this section, and therefore no reference is made to this regulatory change.

[37] It is estimated that over the next 10 years, the consumption of electric energy will grow by an average of 3.8 to 4 percent per year. See Viscini and Shortell, "A Brighter Future."

[38] Emissions of greenhouse effect gases are estimated to be 38 percent per capita higher than the average in Latin America and the Caribbean. See Viscidi and Shortell, "A Brighter Future."

[39] Federal Electricity Commission, "Operational Indicators," accessed February 24, 2015, http://www.cfe.gob.mx/ConoceCFE/1_AcercadeCFE/Estadisticas/Paginas/Indicadores-operativos.aspx.

[40] Ministry of Energy, "Forecast of the Electrical Sector 2013-2027," accessed February 23, 2015, https://www.gob.mx/cms/uploads/attachment/file/62949/Prospectiva_del_Sector_El_ctrico_2013-2027.pdf.

[41] See Viscini and Shortell, "A Brighter Future."

[42] Federal Electricity Commission, "Operational Indicators."

[43] Ministry of Energy, "Forecast of the Electrical Sector 2013-2027," 33.

[44] The generation effectively obtained from plants owned by the CFE and the private sector in 2009 amounted to 245,589 GWh. Of this quantity, 74 percent was intended for energy sales (public service); 4 percent was supplied to industrial, commercial, and service companies and local governments by private permit holders; 4.4 percent was used in the same generating plants; and 17.3 percent was system losses. Discounting the last two items, it is estimated that approximately 5.1 percent of the energy consumed in the country was

produced by companies holding self-supply, cogeneration, and self-use permits and the remainder by the CFE and PIES, 55.3 percent and 39.6 percent, respectively. Estimated numbers based on information from the "Forecast of the Electrical Sector 2010-2025."

[45] Ministry of Energy, "Forecast of the Electrical Sector 2013-2027," 85 and 93.

[46] Pursuant to the terms of Articles 25, 27, and 28 of the Constitution, the planning and control of the constitutional electrical system represent strategic areas with respect to which the state exercises economic stewardship, protecting the security and sovereignty of the nation; the granting of concessions is excluded; and the state can operate through productive state-owned companies (CFE). See Articles 13 through 16 of the Electrical Industry Act, published in the *Official Gazette of the Federation* on August 11, 2014.

[47] See Articles 25, 27, and 28 and Transitional Article Eleven of the Constitution. Pursuant to the terms of Articles 25, 27, and 28, the activities of exploration and extraction of hydrocarbons represent strategic areas with respect to which the state exercises economic stewardship, maintains ownership of the subsoil on an inalienable and imprescriptible basis, and excludes the granting of concessions. Also see Article 4 of the Electrical Industry Act.

[48] See Article 30 of the Electrical Industry Act.

[49] See Articles 26 through 44 of the Electrical Industry Act.

[50] See Articles 17 through 25 for the case of generation and for the case of marketing, Articles 45 through 58 of the Electrical Industry Act.

[51] See Article 4, first paragraph; and Articles 17, 22, 130, and 131 of the Electrical Industry Act.

[52] See Articles 94 through 106 of the Electrical Industry Act.

[53] See Articles 59 through 64 of the Electrical Industry Act.

[54] See Articles 157 through 161 of the Electrical Industry Act.

[55] See Article 4, Section One of the Electrical Industry Act.

[56] See Article 33 of the Electrical Industry Act.

[57] See Article 8 and 9 of the Electrical Industry Act.

[58] See Article 3, Section LIII and Articles 137 through 147 of the Electrical Industry Act.

[59] See Article 1, second paragraph; Article 4; Article 11, Section XIX; and Articles 27, 28, 41, 113 through 116, 121 through 129, and 132 of the Electrical Industry Act.

[60] See Article 105 of the Electrical Industry Act.

[61] See Article 25, Paragraphs Six and Eight, of the Constitution and Transitional Articles Seventeen and Eighteen. See also Article 1, Paragraph Two, of the Electrical Industry Act.

[62] See Articles 121 through 129 of the Electrical Industry Act.

[63] See Articles 113 through 116 of the Electrical Industry Act.

[64] See Transitional Article Three of the Electrical Industry Act.

[65] See Transitional Article Ten of the decree of constitutional reform and Article 11 of the Electrical Industry Act.

[66] See Article 28, Paragraph Eight; Transitional Article Ten; and Transitional Article Twelve of the decree of constitutional reform. Also see Article 12 of the Electrical Industry Act.

[67] See Transitional Article Sixteen of the decree of constitutional reform. Also see Articles 15, 16, 33, 107 through 112, and Transitional Article Five of the Electrical Industry Act.

[68] See Articles 81, 82, 83, and Transitional Article Thirteen of the Hydrocarbons Act.

[69] See Articles 6 and 8 of the Electrical Industry Act.

[70] See Article 42, Section III and Article 80, Section III of the Hydrocarbons Act and Articles 9 and 105 of the Electrical Industry Act.

[71] See Article 43, Section IV of the Hydrocarbons Act.

[72] See Article 81, Sections VI and IX of the Hydrocarbons Act.

[73] See Article 56, Sections II, III, and IX of the Hydrocarbons Act and Article 105 of the Electrical Industry Act.

[74] See Article 9, Sections I through III and Articles 10 and 105 of the Electrical Industry Act.

[75] See Article 11, Section V of the Electrical Industry Act.

[76] See Articles 139 and 140 of the Electrical Industry Act.

[77] See Article 46 and Transitional Article Twenty-Four of the Hydrocarbons Act. Also see "The Opinion of the Federal Competition Commission dated October 2, 2014 regarding the Draft of the Regulation of the Hydrocarbons Act," 6. For the case of electricity, see Article 11, Section XXIII; Article 30, Section IV; and Article 90 of the Electrical Industry Act. Also see "The Opinion of the Federal Competition Commission dated October 16, 2014 regarding the Draft of the Project of Regulation of the Electrical Industry Act," 8.

[78] See Article 122 of the Hydrocarbons Act and, for electricity, Article 11, Section XIX and Articles 113 through 116 of the Electrical Industry Act.

[79] See Article 4, Section III and Articles 117 through 120 of the Electrical Industry Act.

[80] See Articles 113 through 116 of the Electrical Industry Act.

[81] See Articles 13, 23, and 24 of the Hydrocarbons Act.

[82] See Article 27 of the Hydrocarbons Act.

[83] See Article 40 of the Regulation of Title Three of the Hydrocarbons Act. Also see "The Opinion of the Federal Competition Commission dated October 2, 2014 regarding the draft of the Regulation," 3.

[84] See Transitional Article Eight of the Hydrocarbons Act.

[85] See Article 30, Section III, of the Electrical Industry Act.

[86] See Article 134 of the Constitution and Articles 157 and 158 of the Electrical Industry Act. Related to this, also see "The Opinion of the Federal Competition Commission regarding the draft of the Regulation of the Electrical Industry Act, issued on October 16, 2014," 3-4.

[87] See Article 39 of the Regulation of Title Three of the Hydrocarbons Act.

[88] See "The Opinion of the Federal Competition Commission dated October 2, 2014 regarding the draft the Regulation of the Third Title of the Hydrocarbons Act,' 2-3.

[89] See Article 96 of the Electrical Industry Act. Also see "The Opinion of the Federal Competition Commission dated October 16, 2014 regarding the draft of the Regulation of the Electrical Industry Act," 8.

[90] See Article 80 of the Hydrocarbons Act and Articles 13 and 14 of its Regulation.

[91] See Articles 81, 82, 83, and Transitional Article Thirteen of the Hydrocarbons Act.

[92] See Transitional Article Four of the Electrical Industry Act.

[93] Also see "The Opinion of the Federal Competition Commission dated October 16, 2014 regarding the draft of the Regulation of the Electrical Industry Act," 10.
[94] See Article 8 and 11 of the Regulation of Title Three of the Hydrocarbons Act.

[95] See Article 10 of the Regulation of Title Three of the Hydrocarbons Act.

[96] See Article 12 of the Regulation of Title Three of the Hydrocarbons Act.

[97] See Article 71 of the Regulation of Title Three of the Hydrocarbons Act.

[98] See Articles 32 and 33 of the Hydrocarbons Act and Article 60 of the Regulation of the Hydrocarbons Act, published on October 31, 2014 in the *Official Gazette of the Federation*.

[99] See Article 3, Sections I and XX of the Electrical Industry Act.

[100] See Article 33 of the Electrical Industry Act.

[101] See Article 3, Section I and Article 53 of the Electrical Industry Act.

[102] See Article 10 and Article 12, Section XLIV of the Electrical Industry Act.

[103] See Article 3, Section XI, of the Electrical Industry Act.

[104] See Article 27 of the Electrical Industry Act.

[105] See Article 130 of the Electrical Industry Act.

[106] See Article 3, Section LIII and Articles 137 through 147 of the Electrical Industry Act.