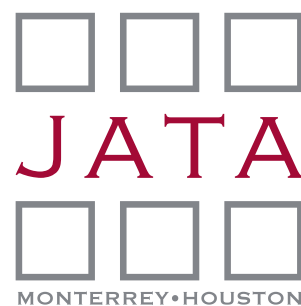




# **PRACTICAL HANDBOOK AND INTRODUCTION TO MEXICO'S ENERGY SECTOR**



# Table of Contents

I. INTRODUCTION	4
a. Background	4
b. Energy Reform of 2013	5
c. Main Terms	8
II. OIL AND GAS	12
a. Upstream	13
b. Midstream and Downstream	21
III. ELECTRICITY	27
a. Generation, Transmission and Distribution	29
b. Wholesale Electricity Market	32
c. Clean Energies	35
IV. OTHER LEGAL CONSIDERATIONS	39
a. Use of Land and Social Impact in Mexico	39
b. Financial Instruments	41
c. Anti-Corruption in Mexico	43
d. Transparency	45
V. CONCLUSIONS AND OPPORTUNITIES	47
VI. Who is JATA?	48

# Figures

Figure 1.1. Areas Auctioned In Round One	15
Figure 1.2. Oil Products National Infrastructure	23
Figure 1.3. Natural Gas National Infrastructure	24
Figure 2.1. New Electricity Sector	28
Figure 2.2. Generation Of Electricity In Mexico, By Source, 2015	36
Figure 2.3. Projected New Capacity In Mexico, By Source, 2016-2030	37

# Snapshots

Snapshot 1.1. Mexican Upstream Sector	20
Snapshot 1.2. Mexican Midstream Sector	25
Snapshot 1.3. Mexican Downstream Sector	26
Snapshot 2.1. Mexican Electricity Sector	31
Snapshot 2.2. Mexican Wholesale Electricity Market	34

## I. INTRODUCTION

### a. Background

Mexico (officially named the "United Mexican States") is situated in North America and is bordered by the United States of America to the north and Belize and Guatemala to the southeast. Mexico is a signatory of NAFTA (North American Free Trade Agreement), TPP (Trans-Pacific Partnership) and several other international treaties and conventions. The country's economy is the 15<sup>th</sup> largest in the world in nominal terms and the 11<sup>th</sup> largest by purchasing power parity, according to the World Bank.

Mexico has implemented strong actions seeking to modernize its legal system, mainly in key areas for economic growth such as those related to commercial transactions, energy, international trade, transparency, anti-corruption, financial sector, labor and employment, and corporations. These structural reforms have triggered a rapid modernization of the country's service and industrial sectors, the main components of Mexico's gross domestic product.

The energy sector, historically managed by the country's Federal government with very restricted participation by the private (whether foreign or national) sector, is a key area to develop in the years to come for Mexico's continued economic growth. The electric, as well as the oil and gas industries were built as state-run monopolies in the decade of the 1930s and for decades contributed to Mexico's economic growth and development. Consequently, the state-owned *Petróleos Mexicanos* or "Pemex" (a national oil company, or "NOC") and *Comisión Federal de Electricidad* or "CFE", were the main energy players in Mexico and had to be dealt with if any participation in the Mexican energy sector was pursued, in those rare areas in which it was permitted.

The relevance of these industries for the Mexican economy and for the integrated development of the region is enormous; these days, the country is the 10<sup>th</sup> largest oil producer in the world with around 2,500 million barrels per day; some years back, Mexico was the 6<sup>th</sup> largest oil producer and Pemex was one of the top five largest oil-producing companies in the world.

Indeed, Mexico's oil and gas exports have fallen dramatically over the past 25 years and particularly within the last decade, mainly due to the inefficient administration of the country's reserves, bad management and high degree of corruption at the top-level of Pemex. Although Mexico still exports a large amount of its production of crude oil, the country recently turned into a net importer of natural gas, gasoline, diesel, LPG and petrochemicals.

On the other hand, the power industry in Mexico has been more dynamic than other economic activities. Between 2005 and 2015, the Mexican power industry grew an annual average of 5.3%, in comparison with the 2.4% average growth of the Mexican GDP. This trend is expected to continue in the coming years while the country increases its installed capacity to meet the increasing demand of fast-growing industrial zones and the demand of Mexico's rural areas that have required additional investment in the past decades. Mexico's installed electricity capacity is of 68,044 MW, of which 71.7% corresponds to conventional power plants and 28.3% to "clean" power plants. Gross generation of 2015 was 309,553 GWh, while the consumption accounted for 288,232 GWh. Undeniably, the electric industry in Mexico has grown considerably in the past decade, but not at the same pace of other developed and developing countries, and certainly not in the submarkets of renewable energies and energy efficiency.

For decades, a coherent reform to Mexico's energy industry was sought and was indeed, much needed; yet, political and social issues appeared each time the sector suffered even the slightest opening or change, leaving the country to run with outdated and inefficient monopolies that reached their peaks long ago.

## **b. Energy Reform of 2013**

After years of debate, on December of 2013, the Mexican Congress approved the energy reform bill (the "Energy Reform"), which completely overhauled Mexico's energy sector, its related activities and the operation of the state-owned entities that until that time monopolized almost all of the Mexican energy industry's activities. Among other significant amendments, the Energy Reform lifted historic bans and restrictions on private investment in certain

activities of the sector, introduced international industry practices and paved the way for the restructuring of Pemex and CFE.

In the first stage of the Energy Reform, amendments to articles 25, 27 and 28 of the Mexican Constitution were performed and twenty-one provisional articles detailed the corresponding implementation process of the paradigm shifts brought by the Energy Reform. Articles 27 and 28 were amended in order to allow: (i) the involvement of private companies and/or individuals in oil and gas activities; and (ii) the participation and investment of private entities in the electricity sector, by limiting the State's role to a public service provider of the activities of transmission and distribution, and to the planning and control of the national electric system.

Months after the Constitutional amendments were published, during August of 2014, a second stage of the Energy Reform was officially introduced with the following series of amendments to the Mexican energy legal framework:

Area	Proposed New Laws	Amended Laws	Repealed Laws
- Hydrocarbons Industry	- Hydrocarbons Law	- Foreign Investment Law - Mining Law - Public-Private Associations Law	- Regulatory Law of Constitutional Article 27 Related to Oil Matters - Regulation on the Mining Law regarding Associated Gas of Coal Deposits
- Electric Industry	- Electric Industry Law		- Electric Power System Public Service Law

Area	Proposed New Laws	Amended Laws	Repealed Laws
- Pemex and CFE	- Pemex Law - CFE Law	- Federal Law of State-Owned Entities - Acquisitions, Leasing and Public Sector Services Law - Public Works and Related Services Law - Public Debt Law - Federal Law on Budget and Treasury Responsibility	- Pemex Law
- Hydrocarbons' Revenues	- Hydrocarbons Revenues Law	- Fiscal Coordination Law - Federal Law of Royalties	- Regulation on the Mining Law regarding Associated Gas of Coal Deposits
- Industrial Security and Environmental Protection of the Sector	- Law of the National Agency of Industrial Security and Environment Protection of the Hydrocarbons Sector		
- Energy Sector's Regulatory Agencies	- Law of the Coordinated Regulatory Agencies of the Energy Sector	- Organizational Law of the Federal Public Administration	- Energy Regulatory Commission Law - National Hydrocarbons Commission Law
- Mexican Oil Fund	- Law of the Mexican Oil Fund for Stabilization and Development		
- Geothermal Energy	- Geothermal Energy Law	- National Waters Law	

In addition to the aforementioned articles of the Mexican Constitution, the Hydrocarbons Law (*Ley de Hidrocarburos* or "LH") and the Electric Industry Law (*Ley de la Industria Eléctrica* or "LIE") outline the key elements of Mexico's new energy regulatory scheme. These laws are further detailed in several regulatory laws (*leyes reglamentarias*) and other guidelines and general administrative regulations (*disposiciones administrativas de carácter general*) as well as NOMs (*Normas Oficiales Mexicanas* or Official Mexican Standards) that are issued constantly by the Mexican energy and regulatory agencies. This new framework keeps evolving and will continue being developed and implemented as the Mexican energy agencies are in persistent talks with the private sector to ensure that the legal dispositions are clear and coherent.

### **c. Main Terms**

In this section, we include a list of the main abbreviations for a better understanding of this paper and other articles related to the Energy Reform:

1. **ASEA** (*Agencia Nacional de Seguridad Industrial y de Protección al Medio Ambiente del Sector Hidrocarburos*), the National Agency for industrial Safety and Environmental Protection of the Hydrocarbons Sector, an agency responsible of regulating and supervising industrial and operational safety and environmental protection in the hydrocarbons sector activities.
2. **CEL** (*Certificado de Energías Limpias*), clean energy certificates, granted in favor of generators of electricity.
3. **CENACE** (*Centro Nacional de Control de Energía*), the National Center of Energy Control, is Mexico's national grid independent operator, guarantees the quality of the electricity supply in Mexico and manages the WEM, executing contracts with the WEM's participants and holding the long-term and medium-term auctions of the spot market.
4. **CENAGAS** (*Centro Nacional de Control del Gas Natural*), the National Center of Natural Gas Control, is Mexico's independent operator of the natural gas pipeline network, guarantees the open access to the pipeline network and provides transport and storage services through its infrastructure.
5. **CERPIS** (*Certificado Bursátiles Fiduciarios de Proyectos de Inversión*) are



financial instruments similar to private equity funds for the financing of sophisticated projects via restricted private offers.

6. **CFE** (*Comisión Federal de Electricidad*), Mexico's National Electricity Company, is the state-owned power utility that formerly monopolized a large share of the electricity industry's activities. Now, is an unbundled productive state company that competes in the activities of generation and marketing of electricity and related products, and provides the public services of transmission and distribution of electricity.
7. **CNH** (*Comisión Nacional de Hidrocarburos*), the National Hydrocarbons Commission, is the governing body in the exploration and production of hydrocarbons in Mexico. It gathers and publishes geological information, authorizes exploration activities and conducts the E&P public biddings called "rounds", managing and executing the corresponding contracts with participants.
8. **CONAGUA** (*Comisión Nacional de Agua*), the National Water Commission, is responsible and coordinates the national water resource management, granting permits and collecting fees for water abstraction and discharge.
9. **CONUEE** (*Comisión Nacional para el Uso Eficiente de la Energía*), the National Commission for the Efficient Use of Energy, is responsible for the design and implementation of energy efficiency regulations.
10. **CRE** (*Comisión Reguladora de Energía*), the Energy Regulatory Commission, is the agency responsible of regulating in a transparent, impartial and efficient way several industries, including the gas, refined oil products and electricity industries. For such purposes, is in charge of granting the permits that are required to carry out several midstream and downstream activities, as well as for the generation, import/export and supply of electricity.
11. **E&P** means exploration and production of oil and/or gas, also known as the upstream segment of the oil and gas industry.
12. **FIBRA E** (*Fideicomiso de inversión en energía e infraestructura*), Energy and Infrastructure Investment Trust, a financial vehicle similar to a Master Limited Partnership, that issues publicly traded securities and invests in the stock of "promoted companies" that derive their income from certain energy activities. This vehicle is subject to preferable tax treatment.
13. **FIDE** (*Fideicomiso para el Ahorro de Energía Eléctrica*), the National Electric Energy Savings Trust, is a private trust conceived by CFE to

support energy efficiency and saving measures. Promotes and finances distributed generation projects.

14. **INDAABIN** (*Instituto de Administración y Avalúos de Bienes Nacionales*), the Institute for the Administration and Appraisal of National Property, is in charge of issuing appraisal studies and guidelines for the appraisal of real estate that may be used for energy projects.
15. **LEG** means the *Ley de Energía Geotérmica* or Geothermal Energy Law, which is the main regulatory body for all the exploration and production of geothermal regions.
16. **LH** means the *Ley de Hidrocarburos* or Hydrocarbons Law, which is the main regulatory body for the new Mexican oil and gas industry.
17. **LIE** means the *Ley de la Industria Eléctrica* or Electric Industry Law, which is the main regulatory body for the new Mexican electricity industry.
18. **LIH** means *Ley de Ingresos sobre Hidrocarburos* or Hydrocarbons Revenues Law, contains the types and specifications of the contracts that can be executed for the performance of E&P activities with the government.
19. **LTE** means the *Ley de la Transición Energética* or Energy Transition Law.
20. **NOC** means a national oil company, owned by a national government. Within Mexico's context, it means Pemex.
21. **NOM** means *Norma Oficial Mexicana* which translates into Mexican Official Standards, administrative regulations applicable to specific activities and/or products.
22. **PEMEX** (*Petróleos Mexicanos*), Mexico's state-owned oil and gas company or NOC, that formerly monopolized a large share of the oil and gas industries' activities. Now is an unbundled productive state company that competes in the upstream, midstream and downstream sectors.
23. **PRODESEN** (*Programa de Desarrollo del Sistema Eléctrico Nacional*) is the Development Program of the National Electric System, which contains the 15-year plan for the national electric system, including the expected and required investment for the electricity industry's activities.
24. **PRONASE** (*Programa Nacional para el Aprovechamiento Sustentable de la Energía*) is the National Program for the Sustainable Use of Energy, which contains the 5-year national plan with energy efficiency goals and regulation.

25. **SEDATU** (*Secretaría de Desarrollo Agrario, Territorial y Urbano*), the Ministry of Agrarian, Territorial and Urban Development, issues guidelines and oversees the agreements for the use of land executed between contractors and landowners.
26. **SENER** (*Secretaría de Energía*), the Ministry of Energy, is the most important agency of the energy sector in Mexico. It defines the country's energy policy and also plays an administrative role by being in charge of issuing permits for certain midstream and downstream projects, as well as for certain electricity industry's activities.
27. **SHCP** (*Secretaría de Hacienda y Crédito Público*), the Ministry of Finance and Public Credit, in the energy sector is in charge of setting the fiscal terms applicable to the E&P contracts.
28. **WEM** means the new Mexican Wholesale Electricity Market, a spot market created by the Energy Reform and managed by CENACE.

---

## II. OIL AND GAS

As expected right from the onset, the opening of the oil and gas sector was a highly debated and controversial issue, largely due to the role that Pemex played for decades in the country's economy, which in turn fed a widespread belief -mostly by left-wing sentiment- that Mexico through Pemex could become an oil and gas global superpower without the need of opening such sector to foreign investors. Years have passed, and while the crude prices have moved back and forth, the country's conventional resources have gradually depleted after reaching their peak back in 2004. The uncertainty on the global crude prices, the ineffectiveness of Pemex's workforce and, to a certain extent, the occurrence of political changes in Mexico, have left great parts of the country's unconventional resources in the earliest stages of development, which fueled by the lack of investment by Pemex in cutting-edge and more efficient technologies, have led to the great necessity of a comprehensive and investment-attractive Energy Reform that could help push back Mexico into the global race for market share.

As mentioned above, the LH is the primary regulatory body for most of the oil and gas activities, processes and roles of the Mexican oil and gas agencies. This law provides the basis for the allowed involvement of private companies and/or individuals in the activities of the upstream sector (exploration and production or "E&P"), as well as the required authorizations and permits to perform most of the activities of the new midstream and downstream sectors.

Likewise, the LH amends the Mexican gas industry by instituting a series of new rules applicable to the industry such as the free and non-discriminatory access to the gas and other hydrocarbons. The LH, its regulations and other administrative rules overhaul the former permit system for natural gas and other oil products' activities. Furthermore, the natural gas industry receives a new regulator and operator, Cenagas, officially created with the mandate of operating the Mexican natural gas pipeline network, mainly replacing Pemex in that area, and with the obligation of ensuring effective and fair competition in this new market. For such purposes, Pemex and Cenagas signed a framework agreement and a contract for the transfer of

assets of the National Gas Pipeline System.

The downstream segment was conceivably the least restricted to private participation before the enactment of the Energy Reform; however, Pemex's shadow was inevitably present in the supply chain of most of this segment's activities. The target of the reform in this specific sector was conceived and has been implemented as a gradual unbundling of the activities from Pemex's interpolation, a measure that seeks to entice greater private involvement, competitiveness, additional supply and ultimately, a benefit to the end consumers deriving from the expectation that it will drive down the prices as a result of all of the aforementioned factors.

### a. Upstream

Prior to the Energy Reform, the Mexican upstream sector was *de facto* controlled by Pemex; even though private parties were allowed to participate, to some extent, in the activities of this segment, the majority of Mexican oil companies and some big global oil players with presence in Mexico, such as Schlumberger and BP, were in most of the cases reduced to service providers of Pemex, the NOC that managed the totality of the country's oil reserves. Except for the so-called and very limitedly used "incentivized contracts" which operated very briefly in the pre-reform legal framework, Pemex rarely deviated from its monopoly status and had practically no competition in the area. The Energy Reform effectively ended that monopoly with the aim of spurring competition, innovation and investment in order to increase the country's crude reserves and turn Mexico into a larger and more competitive crude exporter.

The path designed by the Mexican Government for the ongoing implementation of the reform in the upstream sector consists mainly of conducting a series of bidding processes where E&P blocks are offered to domestic and international oil companies, mostly in areas where the estimated reserves are considered by the authorities as highly attractive for potential investors. These bidding processes are called "*Rondas*" which translates to "Rounds" and have been intentionally separated throughout different phases or stages.

### Round Zero

In the first stage, called Round Zero or *Ronda Cero*, SENER assigned directly in favor of Pemex the rights to continue performing E&P activities in all the fields that it was producing up to the promulgation of the Energy Reform and the fields where it had made commercial discoveries or substantial investments prior to the reform. This round was not, in fact, a bidding process and for strategic purposes was merely a process of assignation of fields in favor of Pemex, after the NOC formally required them to SENER.

In summary, Pemex was awarded a 100% of the 2P (proved and probable) reserves it requested to SENER and which correspond to 83% of Mexico's 2P reserves. Likewise, Pemex was awarded a 67% of its bids in terms of prospective resources, which represent 21% of Mexico's total prospective resources. This Round Zero provided Pemex with a significant inventory of E&P fields that the new regulatory framework allows it to continue exploring or producing by itself or, as it is highly expected, to either farm-out or produce jointly with private parties.

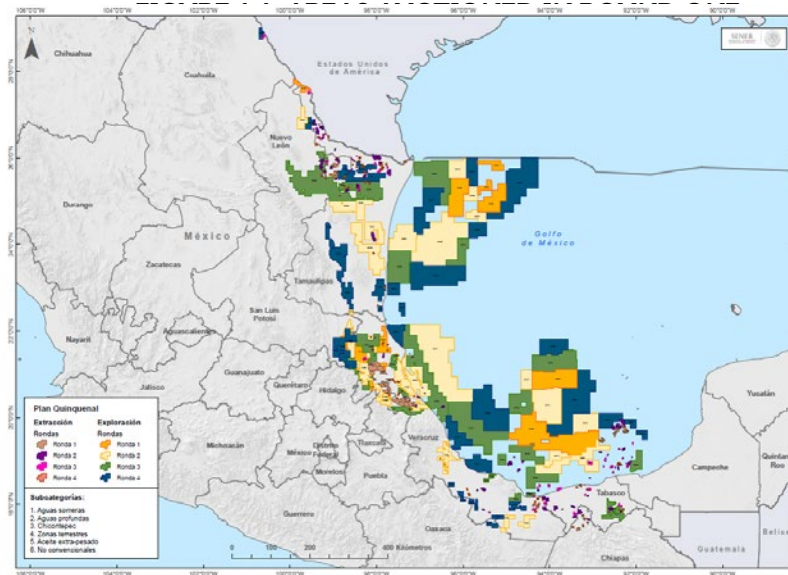
The low global oil price environment of the past couple of years has left Pemex cash-strapped and has accelerated the notion that the NOC requires partners in order to stay competitive in the global market with its current and prospective fields. For such purposes, the LH grants Pemex and its subsidiaries (where and when applicable) the right to request to SENER the migration of its pre-reform contracts and/or Round Zero's entitlements into E&P contracts in which private companies may also participate; similarly, the NOC can enter into contracts, joint ventures or joint operation agreements with private companies for the performance of its E&P activities or for the joint participation in public bids for E&P contracts, thus enabling Pemex to go out and look for other oil players which may be interested in sharing the risk and working interest in different projects.

Pemex's partners will be chosen through bidding processes carried out by the CNH in terms of the technical guidelines and economic conditions set forth by the SHCP for such specific purposes. These different prospects, including the farm-outs and the migration of Pemex's contracts into new E&P contracts have garnered singular attention by major oil players as the portfolio

for such activities is indeed attractive with onshore mature fields, shallow-water producing fields and deep-water fields all in the play. Pemex has already requested the migration of several incentivized contracts and the farm-out of at least 14 producing fields to new E&P contracts, including the farm-out of the *Trion* field, a deep-water field that is believed to contain approximately 485 million barrels of reserves, a process that will take place during Round 1.4 in December of 2016.

### Round One

Following the allocation of fields in favor of Pemex through Round Zero, the new round of bids: Round One or Ronda Uno, was officially initiated on July of 2015 with Mexico's first-ever international oil bid. Up to the first half of 2016, the CNH has held the first three tenders of Round One with mixed results, awarding five out of the seventeen production-sharing agreements for E&P at shallow-water fields auctioned in Phases I and II, and all the twenty five available license agreements for production of mature conventional onshore fields auctioned in Phase III.



Source: SENER, *Plan Quinquenal de Licitaciones para la Exploración y Extracción de Hidrocarburos 2015-2019*

The CNH and SENER drove through a bumpy road during the first phases, learning fast of their initial mistakes in Phase I or "Round 1.1" where a

major disappointment was the only fitting description after failing to award more than 15% of the auctioned shallow-water exploration fields. Much of the success of the subsequent bidding rounds (Rounds 1.2 and 1.3) was attributed to the series of revisions performed by Mexican authorities to the bidding documents and the auctioned agreements, mainly as a direct response to the industry's demands and concerns with Round 1.1. The last two phases went from a moderate to a remarkable success by awarding 60% of the auctioned shallow-water production blocks and 100% of the auctioned onshore fields, respectively, leaving a great expectation for the fourth phase or Round 1.4, where deep-water production fields, including *Trion*, will be auctioned.

After fulfilling the appropriate requirements, any private party can freely participate in these bidding processes, whether acting individually or via consortiums with other companies. The cost of participating in these rounds has varied from phase to phase, as well as the requirements to be met and the documents finally executed with the relevant authorities. The terms and conditions set forth in the bidding guidelines (*bases de licitación*) and in the model agreements have varied from phase to phase; for instance, amendments have been performed throughout the various phases to the following provisions: (i) security guarantees; (ii) cost of access to the data room; (iii) minimum values for economic proposal; (iv) rules applicable to the participation through consortiums; (v) types of contracts (production-sharing contracts and license contracts have already been used and executed); (vi) performance and corporate guarantees; (vii) appraisal plans; (viii) civil liabilities and well control insurances; and (ix) arbitration and administrative rescission. Due to the foregoing, participants should expect changes in the terms and conditions outlined by the Mexican authorities from phase to phase, as well as in the relevant tax provisions applicable to these activities.

### Round Two

With the purpose of continuing the success of Phase III of Round One, during the second semester of 2016, SENER and CNH approved the initial terms for the first two tenders of Round Two, which together will comprise the auction of twenty-seven blocks covering a total surface area of 13,974 km<sup>2</sup> and about 2,230Bboe of prospective resources.



In Phase I of Round Two (or Round 2.1), scheduled to open in March of 2017, production-sharing contracts for E&P activities in fifteen shallow-water fields covering a total surface area of 8,908 km<sup>2</sup> will be auctioned. These blocks are located in the Mexican states of Veracruz, Tabasco and Campeche (mostly in the basins of the southeastern Gulf of Mexico) and are significantly larger than the blocks auctioned during Rounds 1.1 and 1.2.

Meanwhile, in Phase II of Round Two (or Round 2.2), scheduled to open in April of 2017, the CNH will seek to award twelve E&P license contracts for the same number of onshore fields, nine of which are located in the Burgos basin (the Mexican extension of the Maverick Basin in Texas, which contains the Eagle Ford and Pearsall shale plays) in the northern states of Nuevo León and Tamaulipas, while the remaining three fields are located in the Sureste basin in the Southern states of Chiapas and Tabasco. Fields in the Burgos basin are expected to contain both dry and wet natural gas, while the Sureste fields are expected to contain mostly crude oil.

### **Essentials**

The performance of upstream activities under the new Mexican regulatory scheme requires the execution of an agreement with the CNH in the aforementioned terms, except for the activities of well drilling and surface surveying, which only require an authorization by the same CNH before their performance. In addition to the specific terms and conditions agreed with the CNH, participants must abide to a series of general rules applicable to certain types of projects. For example, the LH requires that E&P contracts with cross-border oilfields must have a mandatory participation of Pemex or another productive state company in at least 20% percent of the project's investment. Furthermore, in an effort to encourage Mexico's oil private sector development, E&P contracts will need to have the participation of a minimum "national content" which will increase gradually, starting with 25% on 2015, and which will reach a maximum requirement of at least 35% in 2025. Deep-water activities are excluded from these thresholds, and in such case SENER will issue the applicable thresholds, as applicable.

The contractual framework used for upstream activities is described in general terms within the LIH and includes: (i) services agreements, which are

paid to the contractors in cash; (ii) profit-sharing agreements, which are paid with a profit percentage; (iii) production-sharing agreements, which are paid with a percentage of the output production, and which have been already implemented in Rounds 1.1 and 1.2, and will be used again for Round 2.1; and (iv) license agreements, which are paid with the transmission of the extracted hydrocarbons' ownership and which were executed during Round 1.3 and will be used again for Rounds 1.4 and 2.2. The above-described contractual framework applies to the agreements that a winner of the rounds must execute with the CNH for the performance of E&P activities.

Any winner of the rounds entering into a profit-sharing agreement, a production-sharing agreement or a license agreement will have to pay to the Mexican State: (i) a contractual quote; (ii) royalties; (iii) a fee, determined by a percentage of the operative profit; and (iv) a signing bonus for licenses, which will be determined in the corresponding auction. In any of the cases, the LH allows for the booking of reserves for financing purposes, under the single condition of asserting that the ownership of the oil and hydrocarbons in the subsoil belongs to the Mexican State.

In addition to the aforementioned types of agreements, a second block of activities in the upstream sector will see different kinds of negotiations among private parties or among private parties and Pemex. It is here where the farm-out agreements, the joint venture agreements and joint operation agreements that Pemex is expected to begin implementing during 2016, will be executed. Likewise and in some other cases, private bidding processes for the performance of various services will be held by the winners of the rounds, where surely some of the terms and conditions will be similar to those agreed between the CNH and the E&P contractor. The minimum national content requirement set forth by the law is also a big factor that may lead the E&P contractors to hold these private bidding processes, seeking to comply with this requirement and birthing larger competition in the upstream value chain.

In any event, any wishful participant of a public or private bidding has to proceed with extreme caution and seek special counsel for a better understanding of the documents delivered by the energy agencies, including but not limited to the bidding guidelines, the model agreements to be

auctioned and special attention has to be given to the compliance with formalities that are inherent to the Mexican bureaucracy and sometimes not familiar to foreign companies.

The CNH is probably the most important agency when participating in the new Mexican upstream sector, not only because any agreement directly derived from Round One will be executed between the winning contractor and the CNH, but also because the rest of the sector's related activities are managed by the CNH, including the approval of exploration and production plans, the hydrocarbon measurement mechanisms and production of associated gas, among others. The Energy Reform empowered the CNH as the governing body in the E&P activities, providing the agency with a separate legal personality, technical and administrative autonomy, and fiscal self-sufficiency.

**SNAPSHOT 1.1. MEXICAN UPSTREAM SECTOR**

<b>Permitted activities</b>	(i) Exploration and Production (E&P) (ii) Well drilling and surface surveying (iii) Services
<b>Participation of private parties in the permitted activities</b>	For E&P activities, through agreements (PSAs, licenses and services agreements) to be executed with the relevant authorities (in the so-called bidding "Rounds") and/or contactors (in subsequent private bids or independently). For well drilling and surface surveying, through authorizations granted by the relevant authorities.
<b>Relevant authorities</b>	CNH, SHCP, SEDATU, ASEA and SENER.
<b>Key regulations and documents</b>	(i) LH and its regulations (ii) LIH (iii) Administrative regulations issued by the relevant authorities (iv) Bidding guidelines (v) Model contract to be executed
<b>Key elements</b>	(i) Use of national content in activities (ii) Regulations on use of land in Mexico (iii) Compliance with Mexican legal formal requirements in order to participate in permitted activities (iv) Different kinds of guarantees to be employed in process (v) Tax provisions (vi) Regulations on social and environmental impact

## **b. Midstream and Downstream**

Since the beginning of the Energy Reform back in 2013, the upstream sector has kept the spotlight, with Mexican authorities as well as domestic and foreign experts debating about the great array of possible investments that could pour into Mexico's economy should the reform be successfully implemented. The hype on the opening of the upstream sector came as a natural consequence of the magnitude of the upstream projects and was surely fueled by the fact that the industry was often viewed exclusively as a "Pemex thing" and Pemex was largely associated with its E&P activities.

Indeed, prior to the enactment of the Energy Reform, both midstream and downstream activities were, to some degree, open to the participation of private entities in their respective supply chains; although permitted involvement in these segments was larger than in the upstream sector, competition in these activities was scarce and practically under the shadow of Pemex in most scenarios, binding without option the participating companies or individuals to the NOC and its operation. For example, gas and other oil products distributors were largely tied to the supply of the molecule by Pemex, much like the operation of gas stations across the country, which was additionally limited to the use of Pemex's brand.

The new regulatory framework completely opens the oil and gas activities to private parties, with an ongoing unbundling of such activities from Pemex. Nonetheless, one important aspect is that this participation is subject, without exception, to the issuance of a permit by the relevant Mexican authority, which in most of the cases will be the CRE, and in some particular cases will be SENER. Any qualified person can file an application and pursuant its compliance of certain requirements based on the activity intended to be performed as licensee, be granted the relevant permit by the agencies. Permits granted prior to the effectiveness of the LH retained their full force and effect in their respective terms, but in any case, parties involved in the activities that under the Energy Reform require a permit and that at the moment of its enactment did not have one should have obtained it no later than 2015.

Whereas the upstream activities are mostly associated to contracts with

the CNH or Pemex and public bids, the midstream and downstream regulatory scheme is mostly based on permits granted by SENER and CRE. Permits for the activities of oil processing and refining, natural gas processing, import/export of hydrocarbons and oil products such as gasoline, diesel, kerosene, fuel oil, LPG, among others, are granted by SENER. Permits for the storage, transportation, distribution, compression, liquefaction, decompression, regasification, commercialization and retailing of hydrocarbons, oil products and petrochemicals, as well as the management for integrated systems, are granted by the CRE.

Although not an authority in charge of granting permits, CENAGAS is also a relevant energy agency, being in charge of managing and operating the National Integrated Transportation and Storage System of Natural Gas and guaranteeing the continuity and security in the provision of services to support the Mexican territory. The expansion of the National Pipeline Network is also managed by CENAGAS; therefore, its role as an independent system operator is crucial for the midstream sector.

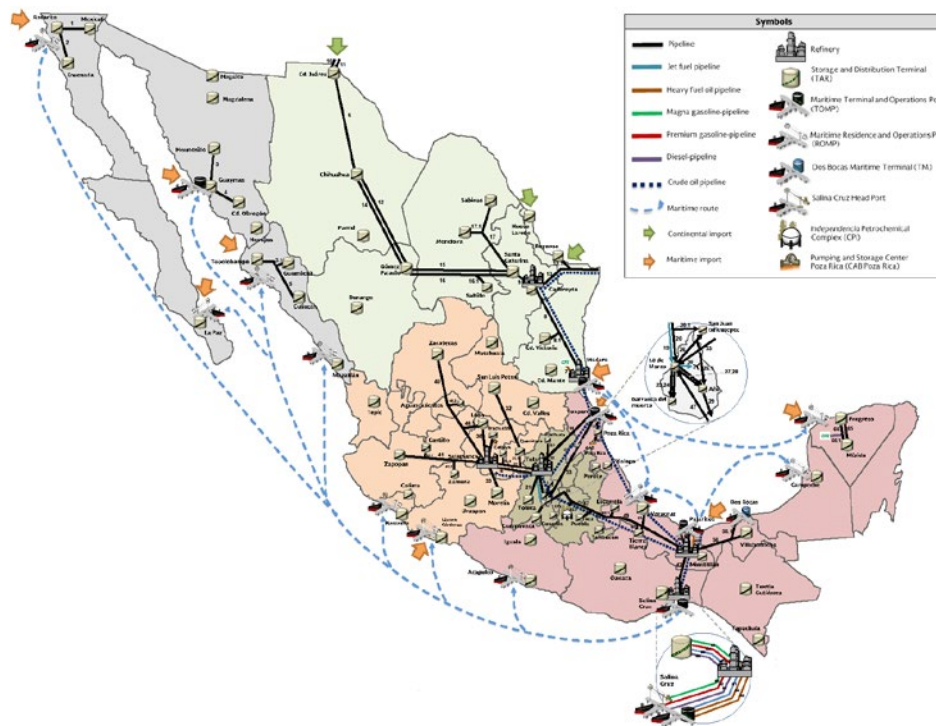
Due to the complexity inherent to the various correlated markets, the authorities initially designed an implementation period for the opening of the activities, including the liberalization of prices, which has suffered various amendments through the way. For example, the activities surrounding refined products such as gasoline and diesel fit the description of a complex market; as explained above, retail sale of such fuels was formerly tied to the supply of the molecule by Pemex and the execution of franchise agreements with the NOC for the operation of service stations; meanwhile import and export of the products was prohibited to anyone but Pemex. Now, retail sale of gasoline and diesel is completely open to competition, no longer tied to the exclusive supply by Pemex and their import and/or export is now allowed, ahead of the original schedule set for 2017. It is expected that the liberalization of retail prices of gasoline and diesel, scheduled for 2018, may also come before time, as the relevant agencies have already requested Mexican Congress to approve such an early liberalization.

The process of obtaining a permit for the performance of midstream and downstream activities will vary depending on the specific procedure set

by the agency in charge of granting it. A typical procedure comprises the following steps: (i) ensuring that the requirements for the granting of the permit are met or can be met in the near future; (ii) paying the corresponding fees and/or taxes for the issuance of the permit; (iii) filing the appropriate application form with all the company's information and the specifications of the project; (iv) filing the application and all the relevant exhibits through the Electronic Filing Office; and (v) attending any requirement that the authority may present. After obtaining the permit, the agencies will typically require information from time to time.

The country's infrastructure for both the midstream and downstream sectors is rather undeveloped, presenting a great array of opportunities for private investment in these areas. Both the oil products infrastructure (Figure 1.2) and the natural gas infrastructure (Figure 1.3) are small when compared to the one existing in developed countries.

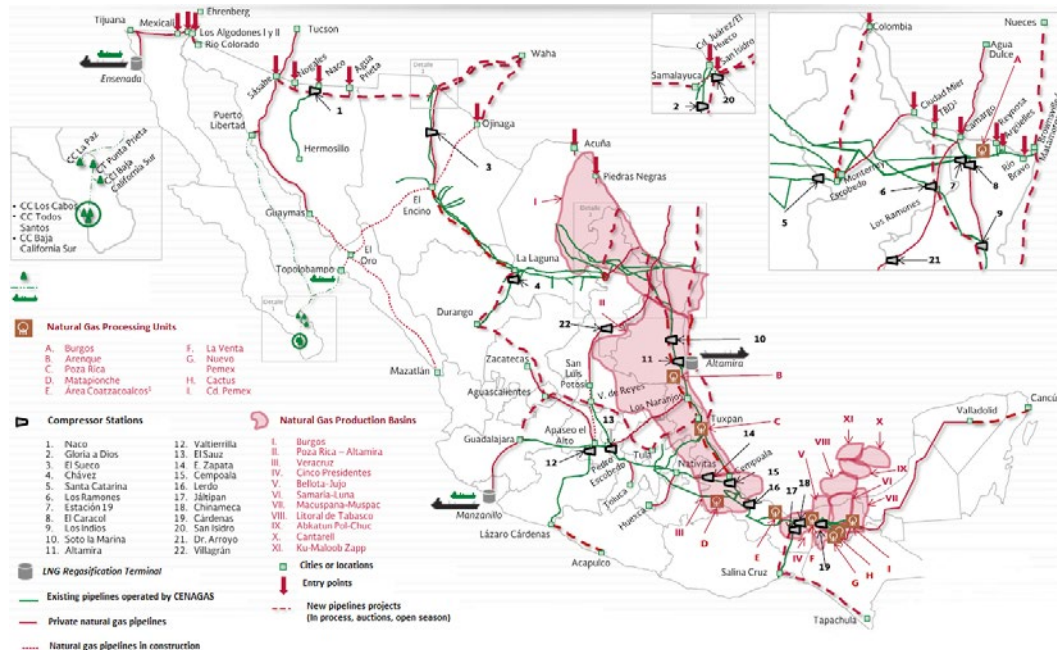
**FIGURE 1.2. OIL PRODUCTS NATIONAL INFRASTRUCTURE**



Source: SENER with information of Pemex and CRE, 2015, *Oil Products National Infrastructure*.

Furthermore, the close link between Mexico and the United States of America, both geographically and economically, plus the ever-increasing specialization of the latter in the development of economies of scale in the energy industry, present Mexico with the opportunity of appealing to a large group of specialized investors in the sector, who may look for higher and more diversified projects south of the border.

FIGURE 1.3. NATURAL GAS NATIONAL INFRASTRUCTURE



Source: SENER with information of Pemex and CRE and others, 2016, *Infraestructura Nacional de Gas Natural (2016)*.



**SNAPSHOT 1.2. MEXICAN MIDSTREAM SECTOR**

<b>Permitted activities</b>	<ul style="list-style-type: none"> <li>(i) Oil and natural gas processing</li> <li>(ii) Import and export of hydrocarbons and oil products</li> <li>(iii) Storage of hydrocarbons, oil products and petrochemicals</li> <li>(iv) Transportation of hydrocarbons, oil products and petrochemicals</li> <li>(v) Management of integrated systems</li> </ul>
<b>Participation of private parties in the permitted activities</b>	<p>Through permits granted by:</p> <p>SENER: For oil processing and natural gas processing, import/export of hydrocarbons and oil products</p> <p>CRE: For the storage and transportation of hydrocarbons, oil products and petrochemicals, as well as for the management for integrated systems</p>
<b>Relevant authorities</b>	CRE, SENER, CENAGAS, SHCP, SEDATU and ASEA.
<b>Key regulations and documents</b>	<ul style="list-style-type: none"> <li>(i) LH and its regulations</li> <li>(ii) Administrative regulations issued by the relevant authorities</li> <li>(iii) Permit application instructions</li> </ul>
<b>Key elements</b>	<ul style="list-style-type: none"> <li>(i) Open access rules</li> <li>(ii) Regulations on use of land in Mexico</li> <li>(iii) Regulations on social and environmental impact</li> <li>(iv) Social Impact Assessment study</li> <li>(v) Tax provisions</li> <li>(vi) Filing of reports to relevant authorities</li> </ul>

**SNAPSHOT 1.3. MEXICAN DOWNSTREAM SECTOR**

<b>Permitted activities</b>	(i) Crude refining (ii) Distribution, compression, liquefaction, decompression, regasification, commercialization and retailing of hydrocarbons, oil products and petrochemicals
<b>Participation of private parties in the permitted activities</b>	Through permits granted by: SENER: For crude refining CRE: For the distribution, compression, liquefaction, decompression, regasification, commercialization and retailing of hydrocarbons, oil products and petrochemicals
<b>Relevant authorities</b>	CRE, SENER, SHCP, SEDATU and ASEA.
<b>Key regulations and documents</b>	(i) LH and its regulations (ii) Administrative regulations issued by the relevant authorities (iii) Permit application instructions
<b>Key elements</b>	(i) Regulations on use of land in Mexico (ii) Regulations on social and environmental impact (iii) Social Impact Assessment study (iv) Tax provisions (v) Filing of reports to relevant authorities (vi) Gradual implementation period

### III. ELECTRICITY

The electricity sector in Mexico received a much needed overhaul through the Energy Reform, which brought drastic changes to the rules and the status quo of the industry and its participants. The main regulatory body of this new Mexican electric industry is the LIE, which abrogated the Electric Power System Public Service Law of 1975, and regulates the Mexican electricity industry's activities, the rights and obligations of the participants in this industry and the corresponding role of the relevant regulatory agencies.

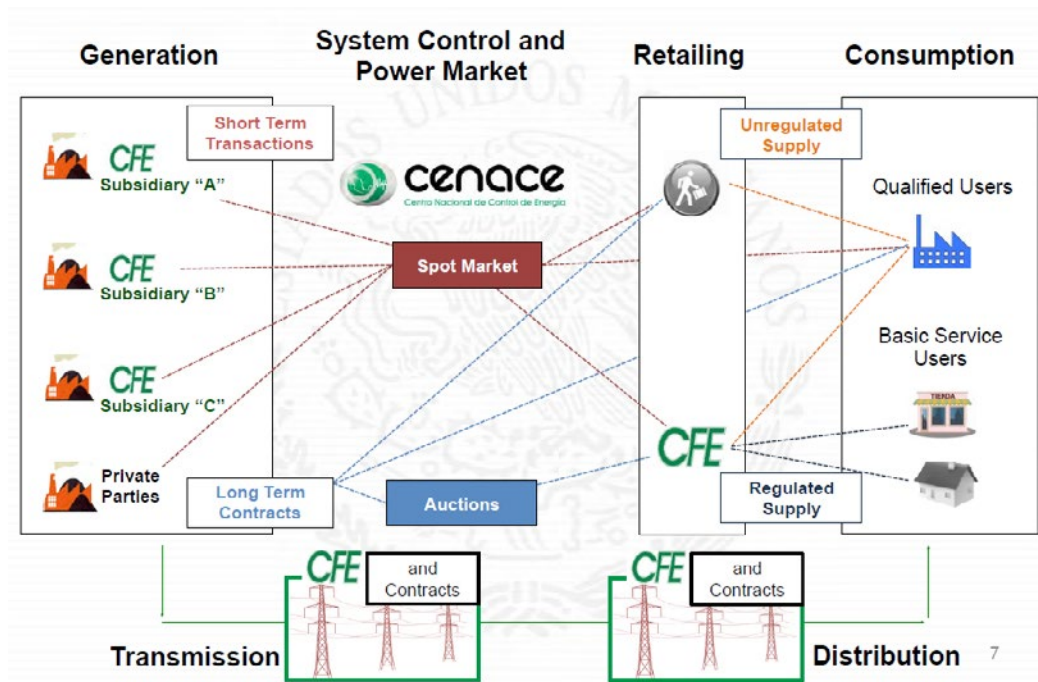
The Mexican State's role in the electricity sector is significantly reduced and now limited to that of an independent operator of the national grid through CENACE, and as a public service provider of the activities of electricity transmission and distribution, currently through CFE and its newly created subsidiaries. CFE, the Mexican electric utility, much like Pemex, was transformed into a "productive state company" and was stripped of almost all of its monopolies in the sector, partially in favor of the CENACE. Furthermore, CFE is currently undergoing a deep corporate restructure and is now fully competing against private power generators and suppliers.

In essence, the Energy Reform affected the Mexican electricity sector in a larger and more complex scale when compared to the changes introduced to the oil and gas sector. All of the activities in the electricity sector suffered significant changes, namely power generation, commercialization, transmission and distribution. Undeniably, the most radical variation is the introduction of a wholesale electricity market or "WEM", where open competition and free enterprise are incentivized and pursued, a huge revolution considering that prior to the reform the only big player was CFE, a vertically integrated state-run monopoly.

CENACE receives new tasks and turns into Mexico's independent operator of the national electric system, which was, in turn, divided into nine regions or nodes with eight regional system dispatch and control centers that depend fully of CENACE. As with CENAGAS in the natural gas market, any participant of Mexico's new electricity market will have to deal with CENACE. The new restructured Mexican electric industry is now completely managed

by CENACE and presents private parties with various schemes through which they can participate in the different activities of the electricity industry.

FIGURE 2.1. NEW ELECTRICITY SECTOR



Source: SENER, *The Role of SENER Establishing a New Mexican Electricity Market*.

As explained above, private parties are now allowed to participate in the activities of the electricity sector, but the process that must be followed to carry out such activities will depend on the specific activity to be performed. As detailed below, a set of activities require a permit granted by the CRE or SENER; meanwhile, in order to participate in the WEM, private parties need to register with CENACE; likewise, the execution of contracts with CENACE and CFE may also be required to carry out certain activities.

Finally, the operation of the geothermal energy sub-sector is detailed by the LEG and subsequent regulations, creating a framework that allows private involvement in the activities of surveying, exploring and producing geothermal regions. The exploration of geothermal regions is subject to a three-year permit to be granted by SENER; meanwhile, the production

of geothermal regions is allowed under the form of concessions that are auctioned by SENER, and which may last up to thirty years. Private partnerships and/or the execution of services contracts with the relevant agencies, in this case CFE, is also allowed under the new scheme.

### **a. Generation, Transmission and Distribution**

Prior to the Energy Reform, the private sector's involvement in power generation was substantially restricted, as only a handful of projects were allowed to produce electricity. With a series of reforms performed to the industry's regulation in the year 1992, private parties were allowed to participate in the generation of electricity under the schemes of self-supply, cogeneration, small production, import/export and later, through the scheme of Independent Power Producer or IPP's who had to sell their complete output to CFE. This involvement, although prompted investment in the last two decades, was limited and offered no real alternatives from the basic consumer standpoint.

The Energy Reform effectively lifted the restriction placed against the private sector regarding the generation of electricity for its direct sale to final consumers by removing the condition or label of such activity as a public service (provided only by the State), and as a consequence, private entities are now completely allowed to participate and compete in the generation of electricity in a free market environment, and not only limited to the aforementioned schemes. This new scheme turns CFE into one of multiple competitors in this activity, although a big player with an established infrastructure.

Consistently with the new regulatory structure introduced by the Energy Reform, the activities that can be performed by private parties in the electricity sector require the attaining of a permit issued by the relevant authority. Regarding electricity generation, the requirement of a permit will depend upon the capacity of the existing or projected power plant; those with a capacity equal or greater than 0.5 MW require a permit issued by the CRE to allow their construction, operation and ownership. An exception to the aforesaid rule and one that promotes self-supply of electricity, popular among

generation through renewables, is the "distributed generation" introduced by the LIE and defined in that law as the generation of electricity that meets the following conditions: (i) is done by an exempt generator; and (ii) is done in an electricity generation plant that is interconnected to a distribution circuit containing a high concentration of load centers. This type of generation will feature open and non-discriminatory access to markets and general distribution networks, turning it into a competitive option.

The performance of the activities of transmission and distribution of electricity continues to be outside of the reach of private parties, as the Mexican State preserved its exclusive role as a public service provider of electricity's transmission and distribution, activities that shall be performed by the CFE and subsidiaries (as productive state companies), in coordination with CENACE. Nevertheless, the LIE provides the possibility that the State, directly or through the CFE and/or subsidiaries, may enter into contracts or partnerships with private parties for the financing, installation, maintenance, managing, operation and expansion of the infrastructure needed for the transmission and distribution of electricity. Private parties wishing to perform in any of the aforementioned allowed activities must participate in the auctions that will be organized by CENACE starting in late 2016 for such purposes. The expansion of the national grid is one of the main objectives of the Energy Reform as many parts of the Mexican territory continue to be isolated from it, presenting challenges for large scale projects that perhaps for resource reasons need to be located in places that are not connected to transmission lines, increasing the costs of these projects and reducing their competitiveness. This isolation is not limited to rural or less developed areas though, at this moment, the Mexican states of Baja California and Baja California Sur are also disconnected from the national grid, operating independently.

In an effort to secure the open and non-discriminatory access to the transmission and distribution lines, as well as an efficient operation of the National Electric System, the LIE provides that all of the electric industry's activities, including the generation, transmission, distribution and marketing of electricity must be considered as separate activities by the industry's participants, thus prohibiting vertically integrated monopolies from dominating the market.

**SNAPSHOT 2.1. MEXICAN ELECTRICITY SECTOR**

<p><b>Permitted activities</b></p>	<ul style="list-style-type: none"> <li>(i) Generation of electricity</li> <li>(ii) Supply of electricity</li> <li>(iii) Marketing of electricity</li> <li>(iv) Financing, installation, maintenance, managing, operation and expansion of the infrastructure needed for the transmission and distribution of electricity</li> <li>(v) Import and export of electricity (under certain conditions)</li> <li>(vi) Participation in the WEM (under certain conditions)</li> <li>(vii) Exploration and Production of geothermal regions</li> </ul>
<p><b>Participation of private parties in the permitted activities</b></p>	<p>Under specific conditions, the activities of generation, supply and import/export of electricity require a permit granted by CRE.</p> <p>Marketers of electricity (and any other participant of the WEM) need to execute a model contract with CENACE as WEM participants.</p> <p>Service providers wishing to perform any kind of work associated with the National Power Grid need to participate in the corresponding public bids and execute model contracts with the relevant authorities.</p> <p>The exploration of geothermal regions is subject to a permit granted by SENER, whereas the production of geothermal regions requires the granting of a concession by SENER.</p>
<p><b>Relevant authorities</b></p>	<p>CRE, SENER, CENACE, ASEA, SEDATU and SCHP.</p>
<p><b>Key regulations and documents</b></p>	<ul style="list-style-type: none"> <li>(i) LIE, LEG and their corresponding regulations</li> <li>(ii) Administrative regulations issued by the relevant authorities</li> <li>(iii) Permit application instructions</li> <li>(iv) Bidding guidelines (when applicable)</li> <li>(v) Model contracts (i.e. WEM participants, Connection and/or Interconnection Agreements, etc.)</li> </ul>
<p><b>Key elements</b></p>	<ul style="list-style-type: none"> <li>(i) Regulations on use of land in Mexico</li> <li>(ii) Regulations on social and environmental impact</li> <li>(iii) Social Impact Assessment study</li> <li>(iv) Tax provisions</li> <li>(v) Filing of reports to relevant authorities</li> <li>(vi) Open and non-discriminatory access to National Grid</li> <li>(vii) Unbundling of activities</li> </ul>

## b. Wholesale Electricity Market

As one of the fundamental pillars of the new Mexican electric industry, the LIE decreed the creation of a wholesale electricity market (WEM); months later, the operation of this spot market was detailed in the Guidelines for the Wholesale Electricity Market (*Bases del Mercado Eléctrico*), which continue to be in a constant development process by the authorities. The WEM draws many comparisons to other mature markets of this nature such as PJM, CAISO and NYISO, and in terms of the LIE, is operated independently by CENACE, also the operator of the national grid and responsible of guaranteeing an open access to the national grid to all the market participants.

In the WEM, the power generators, marketers and qualified consumers that participate in the market can enter into purchase and sale transactions of electricity, ancillary services (including regulation reserves, spinning reserves, non-spinning reserves and supplementary reserves), capacity, financial transmission rights and clean energies certificates.

In summary, competing generators offer their output within the WEM to different categories of marketers, which in turn sell it directly to the public, or to qualified consumers through power purchase agreements. The generators must abide to the rules and dispatch orders provided by CENACE, which in turn dispatches the power plants based on a merit order of ascending operating costs; under this scheme, the lowest operating cost power plant will be dispatched first to satisfy the real-time demand of electricity, ensuring indirectly the use of lower operating cost technologies, such as renewables.

From the consumer standpoint and with the purpose of creating a dynamic WEM for "specialized" consumers, the LIE classifies the consumers based on their aggregate consumption. The first type of consumers, "qualified users", can freely participate in the WEM after registering with the CRE. In order to be considered as a qualified user, the end user has to have an aggregate consumption equal to or greater than 1 MW. Below such threshold, the end user is considered a "basic user" and it is limited to receiving its electric supply directly from the providers of basic services, such as the CFE, at regulated tariffs. These basic service suppliers may acquire the electricity



they require to provide their supply service at the WEM by participating as purchasers in auctions. Qualified users with a consumption of or greater than 5 MW can opt to directly participate in the market and purchase products directly at the WEM from any generator or marketer, otherwise, they can opt to be represented by a qualified supplier.

All of the market participants must register with CENACE in order to participate in the WEM and additionally, generators and suppliers (basic, qualified and last resource) must obtain a permit by the CRE before filing for registration at the WEM. Generators must register their power plants with a status according to its capacity (steady or intermittent) and its dispatchability.

The WEM is comprised of the following sub-markets that will operate independently: (i) Day-Ahead Market; (ii) Real-Time Market; (iii) Hour-Ahead Market; (iv) Long-Term Auctions of clean energy, capacity and CELs; (v) Medium-Term Auctions; (vi) Financial Transmission Rights Market; (vii) Capacity Market; and (viii) Clean Energy Certificates Market.

The hour-ahead market will be implemented by mid-2017, while the clean energy certificates market will be fully operational in 2018. The rest of the sub-markets are already operating and/or being tested during 2016. The day-ahead market and the real-time market are operating under the supervision of CENACE, which has conducted successfully the first long-term auction of clean energy and CELs.

When requested by an electricity basic service supplier, and at least once a year, CENACE will conduct these clean energy auctions for the purchase and sale of electricity, capacity and CELs. The process implemented by this agency is transparent and very similar to the one conducted by the CNH in the oil and gas "rounds". The process can take up to 5 months going from the date that the call for bids is published to the date when the auction actually takes place, leaving that time for the bidders to analyze and submit their economic proposals for the execution of a power purchase agreement with the off-taker. The model power purchase agreement to be executed and the bidding documents are made available for all the pre-qualified bidders and the terms set in their respective economic proposals will determine the final decision taken by CENACE.

**SNAPSHOT 2.2. MEXICAN WHOLESALE ELECTRICITY MARKET**

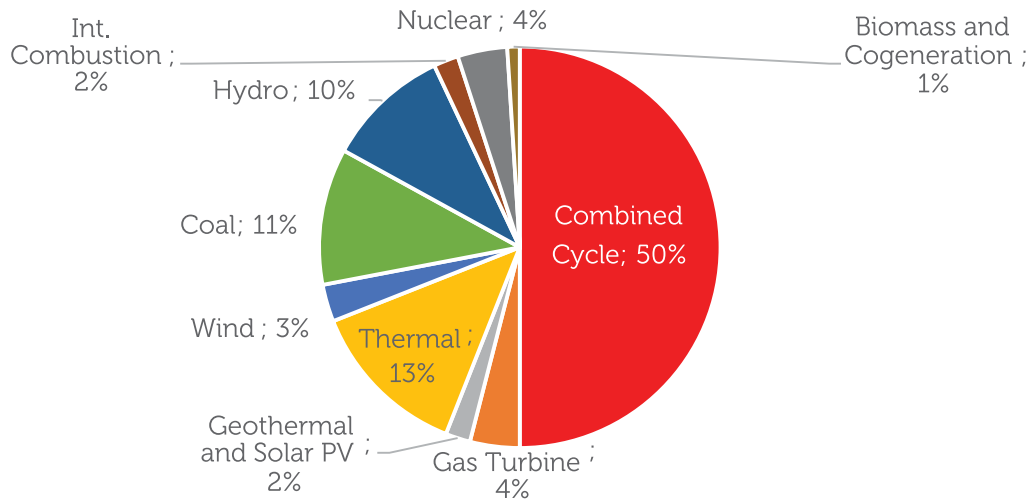
<p><b>Participants</b></p>	<ul style="list-style-type: none"> <li>(i) CENACE (as operator)</li> <li>(ii) Generators and Intermediation Generators</li> <li>(iii) Marketers (non-suppliers)</li> <li>(iv) Suppliers (Basic, Qualified and Last Resource)</li> <li>(v) Qualified market participant users</li> </ul>
<p><b>Activities of the WEM</b></p>	<p>Purchase and sale transactions of:</p> <ul style="list-style-type: none"> <li>(i) Electricity</li> <li>(ii) Ancillary Services (regulation reserves, spinning reserves, non-spinning reserves and supplementary reserves)</li> <li>(iii) Capacity</li> <li>(iv) Financial Transmission Rights</li> <li>(v) CELs</li> </ul>
<p><b>Sub-markets</b></p>	<ul style="list-style-type: none"> <li>(i) Day-Ahead</li> <li>(ii) Real-Time</li> <li>(iii) Hour-Ahead</li> <li>(iv) Long-Term Auctions of clean energy, capacity and CELs</li> <li>(v) Medium-Term Auctions</li> <li>(vi) Financial Transmission Rights</li> <li>(vii) Capacity</li> <li>(viii) Clean Energy Certificates</li> </ul>

### c. Clean Energies

The Energy Reform set a mandate to SENER and all the relevant agencies of executing the mechanisms for the diversification of energy sources and ensuring the promotion of the use of clean energies across the country. The first and most important mechanism implemented by the Mexican authorities with the Energy Reform are the clean energy certificates (CEs or *certificados de energías limpias*) that will be granted to the generators of electricity and that subsequently may be marketed in the WEM. Similarly, since the year 2005, the SHCP offers a tax incentive applicable to clean energy projects and that consists of a 100% deduction of the income tax for investments in machinery and equipment used for the generation of electricity through renewable sources or efficient cogeneration.

With the intention of increasing the use of these type of resources, Mexico set a goal through the LTE of generating 25% of its electricity from clean sources by the year of 2018. Although the country's installed capacity from clean sources is sufficient to meet this goal, their nature and intermittence proves challenging when planning their installation and operation. During the year 2015, Mexico generated 20.3% of its electricity from clean sources (see Figure 2.2 below), mostly from CFE-run hydroelectric plants. Several efforts have been made in the last decade with laws such as the Renewables Law (abrogated by the LTE) and the Climate Change Law, but the results were not palpable and considering that the industry was largely closed to private investment, large clean projects were rare until a couple of years ago.

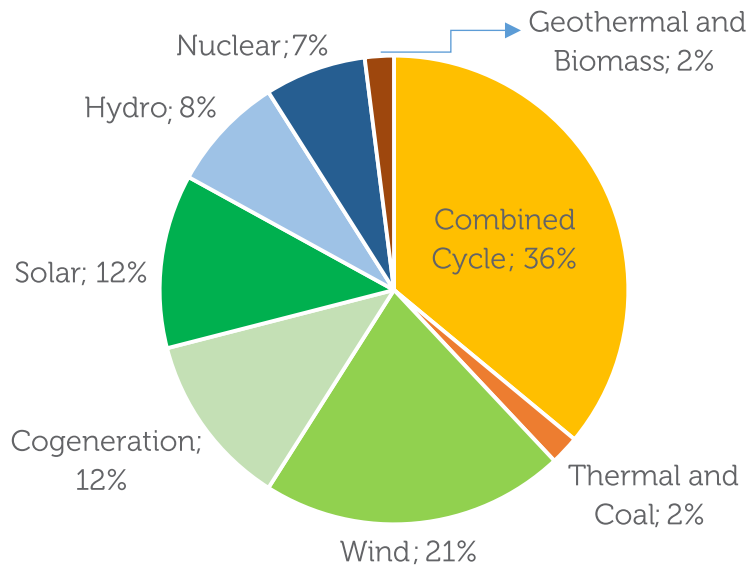
**FIGURE 2.2. GENERATION OF ELECTRICITY IN MEXICO, BY SOURCE, 2015.**



Source: SENER, PRODESEN 2016.

The global panorama has switched to a cleaner and greener way of generating electricity, all the while the costs of such technologies have plunged dramatically in the past years, which in turn creates an immense opportunity for growth in the area, both internationally and in Mexico. The country is riding the "green" wave with the issuance of public policy aimed to promote the use of these energies, providing particularly the solar, wind and geothermal energies with a bright future in the electricity generation in Mexico. The catalogue of "clean energies" in Mexico under the Energy Reform includes the following: all renewables (including solar PV, wind, among others), efficient cogeneration, biogas, hydrogen (subject to efficiency criteria), hydro, nuclear, biomass, municipal waste (subject to environmental criteria), carbon capture and storage (CCS) and other low emission technologies (those with less than 100kg/MWh).

**FIGURE 2.3. PROJECTED NEW CAPACITY IN MEXICO, BY SOURCE, 2016-2030.**



Source: SENER, PRODESEN 2016.

Some lobbyists argued that the goal was too ambitious and that clean energy generators would not be able to cope with the demand of CELs for 2018; however, the first step was taken when in March of 2016, the first long-term energy auction held by CENACE successfully awarded around 85% of the CELs demanded by its sole off-taker: the CFE as basic service supplier, while setting a record at that time for the lowest price of solar and wind energy in the world.

The newfound competitiveness of clean energies has not been obviated by Mexican authorities and a path is building for the development of local industries on the area, as well as new regulations on energy efficiency. The CONUEE is actively working on the design and implementation of energy efficiency measures, issuing NOMs and administrative regulations on the subject matter. Likewise, this agency along with other authorities, such as the FIDE, have created investment options for the transition by Mexican small and medium sized enterprises into a greener economy.

In a similar manner, Mexico's potential for geothermal energy is addressed with the LEG which establishes the requirements for the issuance of licenses and permits in favor of private parties for the survey, exploration and production of geothermal resources. Since the enactment of the Energy Reform, SENER has granted six licenses for the production of geothermal energy and 18 permits for the exploration of these resources, significantly increasing the country's installed capacity for such resource.

## IV. OTHER LEGAL CONSIDERATIONS

### a. Use of Land and Social Impact in Mexico

The land or real estate across the Mexican territory is highly peculiar when talking about its ownership, which has led the authorities to set out in the legal framework various mechanisms to ensure the protection of individual and social rights. In the context of the Energy Reform and due to the nature of the activities to be performed once all the oil and gas activities and investments associated with the electric industry begin to pour across the territory, the legislators have pursued special processes and instruments to protect the communities (especially indigenous communities) and investors alike.

We have to start with the fact that the majority of Mexico's territory is classified as an *ejido*, which can be defined as a collective group of people that live and work on a determined piece of real estate and function as a community. The real estate where the *ejido* is located is not classified as private property and therefore cannot be easily sold, it has to be converted first into private property and then can be sold to third parties. This peculiarity generates special negotiations, sometimes with a group of people that is not used to participating in those kind of operations, which in turn has historically produced horror stories for both sides: in some cases the investors have taken advantage of the communities' ignorance, leading to social uproar and repudiation, while in other cases, the communities have completely halted large projects.

The LIE and the LH provide that the consideration and the terms and conditions for the use, enjoyment or allocation of land, assets or rights which are necessary to perform the energy industry's activities may be agreed between the owners (including the holders of property or communal rights) and the assignees or contractors. All of these negotiations and rules are subject to the rights that the Mexican Constitution, laws and international treaties signed by Mexico recognize for indigenous communities. It is therefore important to keep in mind that Mexico is a signatory of the ILO Convention 169 (Convention Concerning Indigenous and Tribal Peoples in

Independent Countries) which has been the reference regarding the rights of indigenous and native communities in order to determine the appropriate applicable legal treatment when communal rights are involved.

Aside from the processes set in the ILO Convention 169, the new regulatory framework also provides that the consideration to be paid to the owners of land should be enough to cover, if applicable: (i) the payment for the affectation to property or rights other than land, as well as damages; (ii) income derived from occupation, easement or land use; and (iii) a percentage of the revenue accruing to the assignee or contractor (for oil and gas production projects), which in case of non-associated natural gas, it shall not be less than 0.5% nor more than 3%, and for all other cases, it may not be less than 0.5%, nor more than 2%, after deducting the applicable payments owed to the State. Different forms of compensation, in addition to payment in cash, may be agreed. The agreements reached by the parties shall be submitted before a District Judge or competent Land Court to be validated.

Additionally, and consistent with the qualification of the activities of the energy sector as strategic and of public interest, the regulatory framework introduces a new Mexican law figure of "Hydrocarbons Easement" (*servidumbre legal de hidrocarburos*) which will be created for the performance of activities and/or the right of way, among other rights, in connection with an E&P contract. The purpose of this figure is to allow companies involved in the oil and gas sector to share the possession and use of land with its owners during the E&P process, considering, however, that in case that the parties don't reach an agreement, the Hydrocarbons Easement may be promoted before a Civil District Judge or competent Unitary Agrarian Tribunal or otherwise initiate before the Ministry of Agrarian, Territorial and Urban Development a mediation process by which the parties may agree on the methods of acquisitions, use, enjoyment or allocation of land, assets or rights and the corresponding consideration to be applied.

Likewise, and consistent with the classification of the power industry's activities as strategic and of public interest, the LIE allows the occupation of land, rights or other assets that may be needed for the performance of the industry's activities through the creation of "Legal Easement" (*Servidumbre*



*Legal*) for projects in the new Mexican electric industry, which will operate very much like the abovementioned Hydrocarbons Easement.

Another key aspect in this area is the mandatory "Social Impact Assessment" that must be carried out before the performance of any project of both the oil and gas and the electricity sectors, pursuant the LH and the LIE. Upstream projects cannot be authorized if they lack a social impact assessment report and midstream and downstream permit applications before SENER and CRE must be filed together with a social impact assessment of the project. In a similar manner and promoting sustainability, the LIE establishes that any project or permit granted by SENER or CRE for electricity generation, transmission or distribution must be filed along with this social impact assessment report.

These reports must assess the most probable social impacts from the project and/or the activity to be performed and shall outline the social impact plans and the measures that the permit-holder or contractor plans to enforce to mitigate any potential adverse effect. All of the probable impacts shall be described and identified for their duration: short, medium, long or permanent and the severity of the adverse effects. The report should also contain a baseline study with statistical information including demography, migration, households, educative and health services, labor and social security issues, local public finances and cultural heritage.

These studies are important and a deficient social impact assessment could lead to the loss of the permit or the authorization to perform certain activity; therefore, the assistance of special counsel for the performance of such studies is instrumental for the success of a project under the new Mexican energy sector.

## **b. Financial Instruments**

In another key aspect of the Energy Reform, the authorities set the goal of designing financial instruments and vehicles that could become attractive to investors and tap into national and international financial markets. The first proposed vehicle, the Fibra E, short for *Fideicomisos de inversión en energía e*

*infraestructura*, was officially introduced in September of 2015 and has been tailored a couple of times ever since. The second vehicle, the CerPis, short for *Certificados bursátiles fiduciarios de proyectos de inversión*, were introduced to the legal framework in December of 2015. An additional reform to the administrative regulations on pension and mutual funds permitted these entities to actively invest in these new financial instruments, a measure that will surely propel their use and success in the short term.

The Fibra E is a financial vehicle that draws comparisons to the Master Limited Partnerships or MLPs structures used in other countries with large success, and also shares similarities with the typical Fibra or *Fideicomiso de Bienes Raíces*, a Mexican version of the Real Estate Investment Trusts or REITs, which were introduced to the Mexican capital markets within the last years and which were originally very successful, outperforming the Mexican Stock Market in their first years.

Overall, the Fibra E has the following main requirements:

- It must be incorporated by a sponsor as a *Fideicomiso* or Mexican trust under the rules applicable to the trusts, it shall have a manager and a technical committee, and will issue trust bonds to the public that will be registered with the National Securities Registry and listed in the Mexican Stock Exchange ;
- It must invest only in certain entities, which will be called "Promoted Companies", that in turn, engage in, operate and generate at least 90% of their revenues from one or the combination of various of the following activities:
  - » The majority of midstream and downstream activities;
  - » Generation, transmission and distribution of electricity;
  - » Investment projects involving contracts between the public and the private sector (such as concessions, licenses, service contracts, among others), for various infrastructure projects;
- At least 70% of its annual average net worth must be invested in shares of the Promoted Companies and which must comply with the activities test;
- It must distribute to its title-holders at least once a year and no later than March 15 of the following year, at least 95% of its tax result;

The Fibra E is subject to certain tax benefits that makes this vehicle attractive to investors, principally the fact that it is a "pass through" vehicle for tax purposes, meaning that the Fibra E itself is not subject to taxation, and instead the entity's investors are taxed only once, unlike corporations that are taxed at the corporate level and again at the shareholder level.

Regulations on CerPis are less detailed than the ones of the Fibra E, but the CerPis have been well received and praised also as a very attractive vehicle for foreign and national institutional and "qualified" investors. The CerPis are usually compared to private equity funds and may participate in the financing of large, sophisticated and high-yield infrastructure and energy projects via restricted private offers of trust bonds. This instrument is directed to institutional investors as the manager of the CerPi will be the one making most of the decisions and minority rights are very limited when compared to other financial instruments available in the Mexican capital markets.

### c. Anti-Corruption in Mexico

As a result of the joint and persistent efforts made by the Mexican public and private groups with the purpose of implementing a comprehensive and effective anti-corruption reform that could battle the overspread corrupt practices across most of the economic areas of the country, and following the mandate set forth by the Constitutional Reform of May of 2015 that introduced the National Anti-corruption System (*Sistema Nacional Anticorrupción*), the Mexican Government passed on July of 2016 a bill with the initial amendments to the Mexican regulatory framework that further detail the new federal anti-graft measures to be applied in the country and the operation of the National Anti-corruption System.

The new anti-corruption framework is still being developed but the first stages have been cleared with the enactment of the three main pillars of the reform, which outline the operation of the new system, the distinct categories of administrative violations for corrupt practices and the special courts that will handle the cases under the new structure. These pillars are: (i) the General Law of the National Anti-corruption System; (ii) the General Law of Administrative Liabilities; and (iii) the Organizational Law of the Federal Administrative Court.

The General Law of the National Anti-corruption System is the guideline for the coordination within the National Anti-corruption System of all the federal authorities involved in the fight against corruption in Mexico, and which include the following: (i) the Specialized Anti-graft Office; (ii) the Federal Administrative Court; (iii) the Federal Superior Audit Office; (iv) the Mexican Federal Institute for Transparency, Access to Public Information and Data Privacy Protection; (v) the Committee of Public Participation; (vi) the Federal Judicial Council; and (vii) the Federal Comptroller Ministry. This law creates and empowers the Committee of Public Participation, the National Auditing System and the National Digital Platform, which shall hold seven different digital systems with relevant information related to public procurement and public servants.

The approval of the General Law of Administrative Liabilities was vastly coveted by different social groups across the country and subject to a hot debate in the Mexican Congress. This law provides the control mechanisms for the fight against corruption inside and outside of the Mexican Government, defines several obligations and liabilities for public servants and certain private parties that may incur in the conducts deemed as corrupt by the law and the corresponding procedures for the application of penalties to any perpetrator.

This law includes the following catalogue of serious administrative violations by public servants: any form of bribery, embezzlement and profiteering, misuse of official information, collusion, abuse of official capacity, improper influence, official action with a conflict of interest, undue contracting, concealment and contempt. Any private party associated with the perpetration of the aforementioned violations will be sanctioned accordingly, and for that matter, the law provides that companies shall be sanctioned for any improper conduct carried out by individuals acting on its behalf. The penalties to be imposed to private parties for any violation under this law may consist of any of the following: economic penalties, temporal ineligibility to participate in public procurement procedures, suspension of activities (ranging from three months to three years), dissolution of the company, and compensation to the corresponding tax office.

The new Mexican anti-corruption reform is definitely a big step taken by the Mexican Government in the fight against corrupt practices in the country, but surely just the first one in a series of reforms that are much needed and which may include, in the near future, amendments to the Public-Private Partnerships Law, the Public Works Law and the Federal Law to Prevent and Identify Transactions with Illegally Obtained Funds, among others.

The involvement on any activity of the new Mexican energy market is undeniably tied and subject to the supervision of each and every authority mentioned in this chapter; therefore, it is very important to understand the new framework and be careful with the approach taken with the Mexican energy agencies in order to keep away any suspicion of corrupt practices.

#### **d. Transparency**

One of the main flags of the Energy Reform is the pursuit of complete transparency in all the activities of the sector in a clear effort of attracting foreign investment and, as with the case of anti-corruption, dispersing the bad image that Mexico used to have in these matters. This transparency flows into all the stages of the bidding processes, power auctions and the processes related to the granting of permits and authorizations within the sector. The energy regulatory framework obliges all the relevant agencies to comply with the publication of the relevant information that they gather and use for their operation, including documents and statistics.

SENER, being the main energy agency in the country and responsible of granting permits in various areas, constantly updates the information of the number of permits it grants, disclosing the names of the permit-holders and statistics regarding their application. SENER's website displays a compilation of the most relevant news and events related to the Mexican energy sector, the plans for every aspect of the oil and gas, as well as for the power industry, bulletins of clean energies and energy efficiency, a comprehensive list of the people working on the various energy agencies, among other relevant information.

The CNH has also fully embraced the transparency mandate, displaying on its website all the relevant documents and information of the so-called oil and gas rounds; the agency publishes all the amendments to the bidding documents and to the model contracts, sometimes even with translations into English language. Furthermore, CNH provides statistic reports and updated information on E&P projects and a public registry of its technical and legal opinions, as well as surveys and hearings before their commissioners. Likewise, CNH has provided a live broadcast of every phase of Round One in both Spanish and English languages, showing every step of these events, from the opening of the sealed envelopes with each bid, to the awarding of the fields to the winners. The CNH also live streams the bi-monthly ordinary sessions of its governing body.

The CRE provides in its website all the information associated with the permitted activities that it oversees and regulates. Not only a good source for continuously updated statistic reports, the CRE even displays the application documents filed by every interested party and the permit documents, in case of granted. A number of microsites that stem from the CRE's main website offer guides and relevant information on the activities regulated by CRE, along with the operation of an Electronic Filing Office (Oficialía de Partes Electrónica) where most of the application processes begin. The CRE also live streams the ordinary sessions of its governing body.

CENACE, as the independent operator of Mexico's national electric system and of the WEM, publishes real-time information on electricity generation and demand across the national electric system, as well as all the relevant information for the WEM's participants or any interested party.

The power auctions organized by CENACE are live broadcasted, with all the information needed to participate in them being published months in advance.

---

## V. CONCLUSIONS AND OPPORTUNITIES

Mexico is at the crossroads of the transformation of its own energy sector while the international energy industry is rapidly evolving and reaching a point of no return, a moment that Mexico is poised to take advantage of. The country is undeniably in a privileged position because of its natural resources and its capable workforce, therefore, the investment is expected to continue pouring into Mexico's new thriving energy sector.

The overhaul to both the oil & gas and the electricity sectors has been substantial and the implementation process has far exceeded the expectations of the industry's experts, yet still many actions are pending to be undertaken by the regulatory agencies in order to improve and increase the participation of the private sector and turn the country into a major energy global player.

The opportunities in this new Mexican energy industry evolve with the course of every day: the investment vehicles specially designed for the energy market will be launched shortly, the oil and gas infrastructure, as well as the electric infrastructure remain outdated and the demand for energy products increases as Mexican businesses grow and become more industrialized.

This handbook intends to provide only a brief overlook of the most important topics of the new Mexican energy sector which need to be addressed when doing business, or planning to start an energy project in Mexico. There are a number of other issues and regulations applicable in the industry, and our team of expert attorneys would be glad to work with you and provide you personalized attention and legal advice for your business needs.

Fall of 2016.

## **VI. WHO IS JATA?**

With offices in Monterrey and Houston, JATA is the best-positioned corporate law firm in Mexico devoted to advise foreign companies in their legal needs. Our firm is integrated by attorneys licensed to practice in Mexico who also have a valuable bi-cultural background. Our clients are foreign investors & companies doing business in Mexico, and Mexican companies with cross-border operations. Our practice areas include Corporate and Contracts, Financing, Mergers & Acquisitions, Business Start-up and International Trade, Real Estate, Labor Law, Intellectual Property, and Civil and Commercial Litigation.

Some of the most prestigious global law firms also trust our legal team for their clients' transactions in Mexico.

We have been internationally recognized for our work and the top quality of our services:

- Business of Distinction in the UK, 2016, by Acquisition International.
- Most Trusted Law Firm of the Year in Mexico – 2016, by Global Law Experts.
- Ones to Watch in Oil and Gas – Legal Advisory, 2016, by Wealth & Finance 2016.
- International Business Law Firm of the Year - Mexico, 2016, by ACQ5 Law Awards 2016.
- Best Cross-Border Law Firm 2016 - Mexico, by 2016 Business Excellence Awards.
- International Business Law Firm of the Year - Mexico, by Lawyers Worldwide Awards Super Lawyers 2016.
- Financing Law Firm of the Year - Mexico, 2016, by Global Awards.
- Mexico Cross-Border Law Firm of the Year, by M&A Today – Global Awards.
- JATA - Most Trusted Corporate Law Firm Mexico, by Lawyers World.



# OFFICES



## MONTERREY

Designated in multiple occasions as one of the top Latin American destinations for business, Monterrey is also considered the financial and business capital of Mexico. Our main office is located in Monterrey, and since 1997 we are assisting our clients in their business needs throughout Mexico.

Our Monterrey office is located at:

**J.A. Treviño Abogados S.A. de C.V.**

**Ave. Gomez Morín 955.**

**Suite 500.**

**San Pedro Garza García, N.L. 66279.**

**Tel +52 (81) 8335-4200.**

**Email: [jata.mty@jatabogados.com](mailto:jata.mty@jatabogados.com)**



## HOUSTON

Houston is a major business and financial center in the U.S. It houses multiple global business headquarters, and is a natural base for companies doing business in Mexico and worldwide. Our office focuses in assisting our clients in their Mexican legal needs, in day-to-day coordination with our Monterrey office. Attorneys in our Houston office are authorized to practice law in Mexico only.

Our Houston office is located at:

**JAT Abogados, L.L.C.**

**1700 Post Oak Blvd.**

**2 BLVD Place, Suite 600.**

**Houston, Texas 77056.**

**Tel +1 (713) 963-3677.**

**Email: [jata.houston@jatabogados.com](mailto:jata.houston@jatabogados.com)**

# CONTACT INFORMATION

## MONTERREY



**J.A. TREVIÑO** ABOGADOS

AVE. GÓMEZ MORÍN 955 + DESPACHO 500  
SAN PEDRO GARZA GARCÍA, N.L. 66279 MÉXICO  
TEL +52 (81) 8335 4200 / FAX +52 (81) 8335 4204

## HOUSTON



**JAT** ABOGADOS, LLC.

1700 POST OAK BLVD. 2 BLVD PLACE + SUITE 600  
HOUSTON, TEXAS 77056  
TEL +1 713-963-3677

WWW.JATABOGADOS.COM

INFO@JATABOGADOS.COM

**J.A. TREVIÑO** ABOGADOS

