

THE ENERGY
REGULATION
AND MARKETS
REVIEW

TENTH EDITION

Editor
David L. Schwartz

THE LAWREVIEWS

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AND MARKETS
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PREFACE

In our tenth year of writing and publishing *The Energy Regulation and Markets Review*, the most pressing global concerns have again revolved around the covid-19 pandemic, which has slowed infrastructure development globally. Accordingly, many of our contributing authors have emphasised concerns associated with the effects of the crisis on energy demand and consumption, and delays in the development of infrastructure. Beyond this crisis, we have seen many other significant geopolitical changes that have added uncertainties to global energy policies. For example, oil prices have hit record lows (hitting negative values in April of 2020), which has slowed exploration and production efforts, and has threatened economic stability for countries that depend upon oil revenues. The United Kingdom is transitioning out of the European Union (a process known as Brexit), creating uncertainties regarding the future of the UK's energy policies and its coordination and cooperation with the European Union, including with respect to commitments to reduce greenhouse gases (GHGs). Following the end of the Trump administration's 'America First' trade policies, the Biden administration is seeking to reassure US allies and historical trading partners and re-commit to the 2015 Paris Agreement. The 2011 Fukushima nuclear incident continues to affect energy policy in many countries. Finally, there are continued efforts to liberalise the energy sector globally.

I CLIMATE CHANGE DEVELOPMENTS

We continue to see significant carbon reduction efforts globally, including increased use of renewable resources, and measures to improve energy efficiency and reduce demand.

In the United States, contrasting with the Trump administration's support for fossil fuels, the Biden administration has committed to being a leader in the fight against climate change. While coal and other aged fossil fuel plants continue to retire at an unprecedented rate (due primarily to the economics of those facilities), the Texas winter storm in February 2021 raised some questions about whether renewable resources alone will be sufficient for long-term reliability. Many states have pushed for the procurement of thousands of megawatts of renewable resources, including from new offshore wind development projects on the east coast and, in May 2021, the US Bureau of Ocean Energy Management granted its first approval for the Vineyard Wind offshore project. The Federal Energy Regulatory Commission has continued to struggle with whether and how to impose regulatory restrictions on the ability of state-subsidised renewable energy projects to clear in the regional capacity markets through a minimum offer price rule to mitigate buyer market power.

Despite Brexit, the United Kingdom's renewable energy targets have already exceeded those of the European Union. France is seeking to double its wind and solar capacity and President Macron has announced a goal to close the remaining coal plants by 2022. Italy had

previously targeted a 28 per cent reliance on renewable energy by 2030 but is now working to reach the 32 per cent target adopted by the European Union. Belgium has continued its significant offshore wind procurement efforts, and is seeking to reduce subsidies in future procurements. While Germany has had difficulty meeting its previous emissions reductions goals, it has now set a target of 2038 for the phase-out of coal power plants, and remains focused on the continued development of renewable generation, energy efficiency and conservation, as well as energy storage technologies. In Portugal, carbon emissions dropped by 7 per cent, perhaps in part due to the covid-19 pandemic. Poland has been struggling to meet the European Union renewable energy targets but has plans to develop offshore wind generation.

Japan has continued its efforts to develop solar and wind resources, including opening new sea areas for offshore wind. But the shutdown of most of its nuclear generation has resulted in a significant reliance upon natural gas, including liquefied natural gas, and reductions in renewable energy prices have caused a slowdown in new solar and wind development. Japan has long utilised a feed-in tariff mechanism to encourage renewable development, and in 2022 will implement a feed-in premium to further encourage renewable investment. China continues to have ambitious renewable energy goals, aiming for an emissions peak by 2030, carbon neutrality by 2060 and a goal of 15 per cent of generation supplied by non-fossil fuel generation. Taiwan is seeking 20GW of solar PV installed capacity by 2025, and is looking to develop 5.5GW of offshore wind capacity.

There remains significant debate in Australia regarding the role of gas and coal in the energy landscape, which has led to a patchwork of national and state policies that points to continued uncertainty regarding Australia's commitment to carbon reduction. Malaysia continues its efforts to encourage greater entry into the renewable energy market and has approved 349 new renewable projects over the last decade.

The United Arab Emirates aims to reduce its carbon footprint by 70 per cent by relying on 50 per cent renewable energy by 2050, and Abu Dhabi is seeking to reduce electricity consumption by 22 per cent by 2030. In Brazil, hydroelectric resources constitute more than half of its installed generation capacity, and efforts continue to increase wind and solar generation as the cost of renewable generation has decreased.

II INFRASTRUCTURE DEVELOPMENT

The covid-19 pandemic has slowed infrastructure development for many countries, particularly those in which a reliable energy supply remains the primary concern, regardless of fuel source. As less than half of Myanmar is connected to the grid, there are continued efforts to electrify remote parts of the country (55 per cent by 2021 and 100 per cent by 2030). Lebanon has been relying upon floating generation barges to increase electricity supply, but now faces the risk of having some of these barges leave Lebanese shores due to the government's failure to make payments to the barge owners.

III NUCLEAR POWER GENERATION

Nine years after the Fukushima disaster, Japan has stopped operations at all but seven of its 36 nuclear power stations, and 11 nuclear power stations are in the process of being reviewed for restart under Japan's stringent new safety standards. Germany continues efforts to phase out all nuclear generation by 2022, and Belgium's nuclear plants have often been offline

for maintenance for technical issues in the past few years. France had previously sought to eliminate nuclear generation by 2025 but has extended that date. South Korea has continued its efforts to phase out nuclear power (replacing nuclear plants with new renewable facilities over time). South Africa's nuclear ambitions appear to be on hold at least until 2030.

However, the phasing out of nuclear energy is not universal. The United Arab Emirates' new 5,600MW Barakh nuclear power station is almost complete and one of its units is already operational. When all units are online, Barakh will supply 25 per cent of the emirates' electrical needs. Poland still intends to explore the development of nuclear power in the future, with a target date for the first unit in 2033. In the United States, even though the early retirement of certain nuclear plants has been driven by cost and power market considerations (rather than safety concerns), some states have passed legislation to subsidise nuclear energy to allow owners to continue to operate through zero emissions credit programmes, including Illinois, New York, New Jersey and Ohio.

IV LIBERALISATION OF THE ENERGY SECTOR

We have seen significant energy sector regulatory reforms in many countries. The European Union has sought to continue efforts to centralise the regulation of the EU energy sector. France has taken significant steps towards further liberalisation of its energy sector. Japan has fully liberalised its electricity and gas sectors and is encouraging market entry. Australia has opened access to transmission through regulatory reforms to encourage entry into the generation market and is undertaking significant energy market reforms to send more accurate price signals to market participants. Brazil continues its efforts to implement net metering regulations. China has reduced subsidies for renewable energy, price transmission and distribution rates based upon a cost-plus regulatory methodology, and has implemented a market-priced mechanism for pricing coal-based generation. The United Kingdom has implemented a competitive tender process for the development of offshore transmission. In the United States, while states have continued to subsidise nuclear and renewable generation, the Federal Energy Regulatory Commission has permitted certain regional markets to implement minimum offer price rules to combat buyer-side mitigation in an effort to maintain competitive capacity markets.

I would like to thank all the authors for their thoughtful consideration of the myriad interesting, yet challenging, issues that they have identified in their chapters in this tenth edition of *The Energy Regulation and Markets Review*.

David L Schwartz

Latham & Watkins LLP

Washington, DC

May 2021

MEXICO

*Jorge Cervantes and Diana Pineda Esteban*¹

I OVERVIEW

The Mexican energy framework has allowed private participation since the 1990s and early 2000s in power generation (through the self-production scheme), the retail sale of refined products and natural gas distribution. In 2013, a constitutional energy reform (2013 reform) led to a further opening of the power and oil and gas sectors, allowing for private participation in almost all of the different industries with very few exceptions. Prior to this overhaul, Mexico had two state monopolies: the Comision Federal de Electricidad (CFE) in power, and Pemex in oil and gas. In 2014, secondary legislation was issued, and from that point on, the energy industry has been bolstered by the participation of private and foreign investment across the energy value chains. Notwithstanding the foregoing, the existing legal framework has been challenged by the government that took office in 2019 through proposed amendments to existing laws and regulations seeking to limit private participation in the sector and empowering Pemex and CFE. The last such challenge was the proposed constitutional reform presented by the President on 30 September 2021, which we examine below in more detail on the understanding that same will be discussed and voted on in the following months.

i Electricity

Mexico is Latin America's second-largest electricity market. The generation, supply and marketing of electricity operate within the wholesale electric market, where private companies, with local and foreign investment, are allowed to participate. On the other hand, transmission and distribution are considered strategic areas in which the state maintains control through CFE.

The principal secondary legislation that defines the electric sector is composed of the Electricity Industry Law (EIL), laws defining the structure of CFE, the Energy Transition Law (ETL) and the General Law of Climate Change, among other federal regulations, rules, general administrative provisions and guidelines. The scheme set by the prior Law of the Public Service of Electric Energy (LPSEE) continues to apply to the extent that certain power generation producers who were permitted under the self-supply schemes and independent power producers (IPPs) contracted by CFE will continue to operate until the expiration of their projects, 25 or 30 years from their commencement.

¹ Jorge Cervantes and Diana Pineda Esteban are partners at Gonzalez Calvillo. The authors wish to acknowledge the participation of, and thank, Julia González and Laura Reyes, members of Gonzalez Calvillo's energy practice, for their assistance and collaboration in the preparation of this chapter.

The ETL aims to ensure Mexico's full compliance with the Paris Climate Agreement, under which Mexico determines:

- a* an unconditional contribution as a reduction of 22 per cent of greenhouse gas (GHG) emissions and 51 per cent of carbon emissions by 2030, as compared to the baseline business-as-usual (BAU) scenario; and
- b* a conditional contribution as a reduction of up to 36 per cent of GHG emissions and 70 per cent of carbon emissions by 2030, as compared to the BAU scenario.

Furthermore, Mexico ratified the United Nations' Framework Convention on Climate Change, committing to reducing its greenhouse emissions.

In 2020, the trial period for the Mexican emissions trading scheme began. This period will last for three years, following which GHG emissions per industry (i.e., mining, tourism) will be set, and all participants within each industry must meet established limits or buy allowances.

In Mexico, GHG emissions are a consequence of power generation due to the country's dependence on fossil fuels. The amount of clean energy shall be increased if Mexico seeks to comply with its international commitments.

As a result, several regulatory and institutional measures have been enacted by the federal government, including that under which all stationary sources of emissions, generating over 25,000 tonnes of CO₂ annually, are required to measure and verify direct and indirect GHG emissions.

ii Oil and gas

Hydrocarbons in the subsoil belong to the nation and are not private property or subject to any other limitation. The exploitation, use or enjoyment of such resources is allowed under exploration and extraction contracts (E&P contracts), entered into by the state through the National Hydrocarbons Commission (CNH) with private operators, with local or foreign investment, to the extent that such special purpose vehicles (SPVs) are incorporated under the laws of Mexico.

Secondary legislation defines the oil and gas sector, including the Hydrocarbons Law (HL), Hydrocarbons Revenue Law, Law of the Regulatory Coordinated Agencies in Energy Matters (which governs the organisation of CNH and the Energy Regulatory Commission (CRE)) and Law of the National Agency for Industrial Safety and Environmental Protection (ASEA), among other federal regulations, rules, general administrative provisions and guidelines.

Similar to what has been projected by the current administration in the electric sector, the President has favoured a policy that strengthens state-owned Pemex engaging in its different activities, from its appointment as operator in a common reservoir with a private E&P contract operator, to the shutdown of the energy regulator during the pandemic, which has delayed permitting processes for private stakeholders.

iii Potential change of paradigm

In 2018 Mexico underwent a significant change of federal administration, which has translated into important changes in the energy regulators (i.e., CRE, CNH) and the issuance of new laws and regulations that intend to overturn the 2013 reform. Such new paradigm has been challenged by national and foreign investors participating across the energy sector

before the Mexican federal courts, which in many cases have granted injunctions to prevent their enactment. In some cases, such injunctive reliefs have been granted with general effects, which has allowed the industry to continue operating under prior rules.

On 30 September 2021, President Andrés Manuel López Obrador submitted a bill to amend the Mexican Constitution with a main focus on to the electricity and mining sectors, and an additional focus on hydrocarbon matters (the initiative). The initiative is primarily focused on strengthening the state-owned electric utility company, CFE, and ensure that the state will have preference in the generation and dispatch of electricity. The initiative also seeks a constitutional reservation of rights for the state to monopolise the exploitation of lithium.

With respect to the electricity sector, the initiative would revoke the 2013 reform and materially affect the underlying legal framework within which the energy sector operates today. Pursuant to the initiative, CFE would be responsible for the execution of energy transition in all matters related to electricity and all the necessary activities for such purposes. Due to the importance of energy transition, no concessions will be granted for the exploitation of lithium and other strategic and necessary minerals. Existing concessions would be honoured.

For the initiative to be approved and enforced, it will require the favourable vote of two-thirds (qualified majority) of the lawmakers of each of the houses of Congress. The initiative will need an affirmative vote from opposition parties to reach the required qualified majority in Congress. If approved as such by Congress, the initiative must thereafter be ratified by an absolute majority (one-half plus one) of the local legislatures of Mexico's states and Mexico City. Finally, the initiative must be published in the Official Gazette of the Federation.

- Some of the principal provisions of the initiative include the following concepts:
- a* CFE will be responsible for generating 54 per cent of all electricity (compared to the 38 per cent that CFE says it currently generates today), while the private sector would be allowed to generate up to the remaining 46 per cent. Electricity generated by the private sector would be purchased exclusively by CFE based on economic dispatch and contractual arrangements to be determined by CFE.
 - b* The decommissioning of the Mexican energy regulators (CRE and CNH), with their responsibilities being assumed by the Ministry of Energy (SENER). The National Centre for Energy Control (CENACE) would be absorbed by CFE.
 - c* The exclusive right of the state over the strategic electricity sector, which consists of generating, conducting, transforming, distributing and supplying electric power.
 - d* The cancellation of all existing power generation permits and private contracts for the sale of electricity, effective as of the day of enactment.
 - e* The transformation of CFE into a very powerful state agency responsible for energy transition in charge of the electricity strategic sector and the national electric system, including the planning and control thereof, and the public service of transmission and distribution of electric power and generation of at least 54 per cent of Mexico's electricity needs.
 - f* All CFE subsidiaries and affiliates (with very few exceptions) would disappear, and all their relevant functions would be assumed by the renewed CFE.
 - g* With respect to the public service of supply of electric power, such service will be rendered only by CFE; however, CFE would be allowed to purchase electricity from private generators, considering CFE's preferential dispatch status.

- b* The cancellation of all private generation arrangements, both with respect to those deriving from the former LPSEE (e.g., independent power producers, self-supply) and those created by the current EIL (e.g., auctions, electricity coverage contracts). Existing power plants under such cancelled arrangements will be allowed to generate electricity and compete to offer electricity to be purchased exclusively by CFE, according to the contractual structures to be set forth by CFE.
- i* Tariffs for transmission and distribution, as well as tariffs for electricity end-users, will be determined by CFE.
- j* The cancellation of clean energy certificates (CELS).

If the initiative is approved as presented, it will fundamentally alter the Mexican energy sector in ways that are difficult to fully predict. Should the initiative be approved as drafted, it is expected that the affected parties will seek protection in international treaties that safeguard foreign direct investment in relation to unequitable treatment, national treatment, ratchet clauses and other generally acceptable provisions usually considered by such investment-protection agreements.

II REGULATION

i The regulators

The key federal authorities are as follows:

- a* SENER, which is in charge of the national energy policy.
- b* The Ministry of Finance and Public Credit (SHCP), which verifies and regulates oil revenues of the state and determines the economic conditions of E&P contracts.
- c* CNH, which is in charge of bidding and the awarding of E&P contracts, as well as the regulation of hydrocarbon E&P activities.
- d* CRE, which is responsible for issuing technical and economic regulations, granting and managing permits, verifying compliance, imposing sanctions on midstream and downstream activities, and the entire power sector chain.
- e* CENACE, the independent grid operator, which controls the system and the power market.
- f* The Ministry of Environment and Natural Resources (SEMARNAT), which is in charge of regulating and supervising environmental protection in the electric sector.
- g* The ASEA, which is responsible for regulating and supervising industrial and operational safety, and environmental protection in the hydrocarbons sector.
- h* The Federal Economic Competition Commission (COFECE), which upholds competition and free market access in the energy sector through the oversight of energy participants, providing opinions for vertical integrations and investigations into probable violations of the Federal Economic Competition Law, and challenging the issuance of amendments to key legislation that try to overturn open and competitive markets.

ii Regulated activities

Energy activities require licences (permits) granted by the federal government, including the following:

Electricity activities

LPSEE regime

Per a statutory amendment of 1992, private participation in power generation was allowed to the extent that such generation was ‘not for public service’. Therefore, private generators were allowed under the LPSEE, provided that they sold their entire generation to CFE through long-term power purchase agreements (PPAs) or used such electricity for self-consumption:

- a IPPS: in terms of the LPSEE, the production of electricity by a power plant – privately financed, built, owned and operated – with an installed capacity higher than 30MW exclusively for its sale to CFE or for export were allowed. Those kinds of agreements were tendered and allocated by CFE to such private generators, who would then have to secure a permit for power generation, among other governmental authorisations, including regarding environmental matters.
- b Self-supply: under this scheme, power generators were allowed to produce electricity for their own use and that of their partners.
- c Cogeneration: to power produced by steam or other secondary thermal energy, or both; when the thermal energy not used in the processes are used for the direct or indirect production of electricity; or when fuels are used in the direct or indirect process of producing power, to the extent that the beneficiary of such cogeneration were associated to the cogeneration itself (i.e., Pemex).

Power generation

A permit granted by CRE is required to generate energy above 0.5MW. Generators can sell the power, as well as its associated products, on the wholesale market. (Power plants that generate less than 0.5MW do not require a generation permit. However, if they want to sell power on the wholesale electricity market, they shall contract a supplier to do so.)

Qualified supplier

A permit is needed to acquire power on the wholesale electricity market in order to sell it to large (i.e., more than 1MW) qualified users. Qualified suppliers are users’ representatives before CENACE.

Basic supplier

A permit is needed to acquire power to sell to users not participating in the wholesale electricity market. To date, CFE is the only basic supplier operating in this regard; however, this activity is open to private companies.

All power plants and load centres shall benefit from open and non-discriminatory access to transmission and distribution networks, which are run by CFE. A contract must be executed with CFE to get such interconnection.

Oil and gas activities

- a* Crude oil treatment, gas processing and refining: these involve physical and chemical processes of crude oil or natural gas (NG) to prepare them for further transformation, or to prepare for their transformation into petroleum products, refined products and petrochemicals capable of being marketed or used as an input for industrial transformation.
- b* Storage, transportation and distribution: logistic activities involving NG, refined products or petrochemicals for their retail sale or final consumption. Only distribution comprises ownership of the molecule.
- c* Retail sales: sales performed directly to the consumer of NG or petroleum products, among other fuels, in facilities with a specific or multimodal purpose.
- d* Marketing: the activity of offering users or end-users the sale of hydrocarbons, refined products or petrochemicals; management or contracting transportation, storage or distribution services; or the provision of intermediation services. Marketing permits do not entail the ownership of the infrastructure or the provision of services.

In addition to gaining permits, all energy facilities must submit a social impact assessment to SENER and an environmental impact assessment either to SEMARNAT or ASEA. State and municipal permits will also be required prior to the commencement of construction.

Two additional considerations in project development are:

- a* securing rights of way and their registration before the Public Registry of Property, so that property titles of relevant lands include the right of way granted for different projects; and
- b* that open access pipelines and storage facilities should favour the development of an open season tender-type process to allocate capacity. This process is highly regulated in terms of process, timeline and results, and sometimes it is mandatory per CRE regulations.

iii Ownership and market access restrictions

Derived from the 2013 reform, generation, supply and marketing of electricity are activities that operate within the wholesale electricity market and in which private companies are allowed to participate under competition and free market access conditions. Transmission and distribution are still considered strategic areas in which the state maintains its monopoly through CFE. However, such services shall be provided to anyone who complies with CENACE's regulations.

All oil and gas activities are open to free competition and non-discriminatory rules, which translates into open access to infrastructure facilities to the extent it is technically and economically feasible.

Furthermore, restrictions to foreign participation were removed with the 2013 reform, except for:

- a* supply of fuels and lubricants to aircrafts (known as 'into-plane' services); and
- b* participation in cabotage activities, which could affect the participation of foreign entities in projects involving the offshore transportation of oil and gas and their derivatives.

Other oil and gas activities shall be provided in compliance with the competition laws and on a free-market access basis.

iv Transfers of control and assignment

Modifications within companies' capital structures that result in changes of control usually require an amendment of the permit (electricity, oil and gas) before CRE, to the extent that the permit holder's structure is included in the permit titles. In the case of upstream producers, certain differences apply depending on the structure of the consortium or SPV, whether the change of control translates into a change of control over the operations or management of the E&P operator, and the credentials and qualifications used by the awarded companies during the tender process. In general terms, the government shall be duly notified of any such changes, which may sometimes require an *ex ante* authorisation from CNH.

The HL states that the assignment of hydrocarbons, refined products and petrochemicals permits needs prior authorisation from SENER or CRE. Furthermore, for an assignment to be authorised, the permit assignor shall be complying with all its obligations, and the permit assignee shall meet all requirements necessary to secure a permit and undertake all obligations under such permit.

Some specific authorisations require assignments to be notified to the relevant regulatory authority. This includes environmental authorisations, and registry and social impact assessment resolutions.

III TRANSMISSION/TRANSPORTATION & DISTRIBUTION SERVICES

i Vertical integration and unbundling.

Derived from the 2013 reform, CFE was transformed into a state productive enterprise with budgetary autonomy and a board of directors. To limit and control CFE's participation in the electric market, its assets have been divided into several companies.

The EIL establishes that generation, transmission, distribution, marketing and supply of primary products shall be performed under a strict regime of legal separation. Furthermore, if SENER deems this separation insufficient, it shall determine a corporate divestiture of certain assets and rights. Furthermore, CRE has the power to issue general provisions regarding accounting, operational or functional separation within the electrical industry, which have not yet been issued and are not expected under the current regime, given its intention to strengthen and re-centralise the electric industry into one institution (CFE).

Generators and marketers that belong to the same economic group may carry out transactions between themselves.

In oil and gas matters, the HL provides cross-ownership restrictions with respect to marketers and open-access transportation or storage permit holders. CRE may allow such crossed-ownership prior to a favourable opinion from COFECE, to the extent such participation does not affect competition, market efficiency or effective open access. In practice, not all crossed-ownership applications have been approved.

ii Transmission/transportation and distribution access

The 2013 reform allows private companies to compete under equal conditions on the wholesale electric market. The reform also provides for open access to the national grid and general distribution lines. CENACE is the authority in charge of ensuring that such open access is granted.

On March 2021, the EIL was amended. Hundreds of injunctions (*amparo* claims) were filed by companies and non-governmental organisations (i.e., Greenpeace). Derived from such proceedings, stay measurement injunctions were granted to prevent the

implementation of such amendments until they are analysed in relation to their conformity with the Federal Constitution. Therefore, such amendments have not been enforced to date. If such amendments are enforced, technical feasibility would be required for open and non-discriminatory access to the national grid and general distribution lines.

With regards to oil and gas, pipeline transportation and storage facilities are usually subject to open access principles, under which they should:

- a* favour the efficient use of infrastructure;
- b* allow new customers when there is available capacity;
- c* allow interconnections to their systems;
- d* allow the assignment or transfer of capacity between users or in the secondary market; and
- e* allow the performance of open season tender-type processes to allocate capacity or size on the grounds of where they need to expand the projected infrastructure.

iii Rates

The CRE:

- a* regulates the price, terms and conditions of electricity sales by private generators to CFE that use renewable sources; the acquisition of electricity for public service use by CFE; and pipeline transportation rates and some storage rates;
- b* approves NG rates for distribution as well as terms and conditions of service. It also regulates prices and rates charged to final users by NG distributors and rates as well as commercial terms and conditions of service; and
- c* approves guidelines and methodologies for the calculation of fees paid by the state and municipal governments and other beneficiaries of the electric public service.

CRE will periodically review and reset regulated rates periodically in compliance with the applicable regulations.

iv Contracts for sale of energy

The legal framework provides for several types of contracts:

- a* LPSEE regime: as described above, certain power generation was permitted under the prior regime, whose contracts and licences continue to be enforceable under the current regime. Therefore, IPPs shall continue selling their electricity to CFE under PPAs, as well as delivery regimes between self-supply producers and cogeneration-schemed projects and their corresponding beneficiaries, under the terms described above.
- b* Electricity coverage contracts: agreements between market participants for the purchase and sale of electricity or associated products (i.e., CELs).
- c* Electricity coverage contracts with a physical delivery commitment: agreements between a basic supplier and a generator for the purchase and sale of electric power or associated products at a future and determined time or date, with a commitment to deliver the physical energy, ancillary services or power, and for which the generator shall submit to CENACE the generation programmes of its power plants through a fixed programme offered in the wholesale electric market, in accordance with the market rules. This type of contract has not yet been enforced due to the injunctions granted against EIL amendments.

- d* Legacy interconnection contracts: interconnection contracts for the purchase and sale of power for small producers that were executed under the framework in force prior to the entry into force of the EIL.
- e* Basic supply legacy contracts: electric coverage contracts that are optional for basic suppliers, and that cover the power supply and associated products of legacy power plants authorised in terms of the prior framework.
- f* Legacies, with a commitment to physical delivery: these contracts have not yet been enforced due to the injunctions granted under the EIL amendments.

v Market development

In December 2020, Mexico had a total generation capacity of 83,121MW, and by April 2021, such generation amounted to 89,479MW. From this total generation, 35.5 per cent is reported to come from clean energy sources.²

Mexico's population is expected to continue growing, thereby having a direct impact on the country's demand for energy. For Mexico to fulfil its pledges in regard to GHG emissions, clean energy generation must be increased.

The current Mexican administration aims to strengthen both CFE and PEMEX's positions in the energy sector. Therefore, this sector has experienced legal and regulatory changes that have had a direct impact on the market's development. However, other federal authorities have counterweighted such measures and modifications.

In May 2021, COFECE announced the initiation of an investigation into possible relative monopolistic practices in the generation, wholesale commercialisation and supply of electric energy and associated products markets, in addition to services and activities related to these markets in the national territory. The market participant accused of monopolistic practices has not yet been revealed; however, many market participants believe its CFE.

Furthermore, Mexico's judicial powers have also served as a counterweight for such changes, and have granted protection to companies and NGOs regarding competition and free access as well as regarding environmental aspects.

V RENEWABLE ENERGY AND CONSERVATION

i Development of renewable energy

Federal, state and municipal policies and regulations that support and promote clean energy are being implemented and pursued across Mexico. The ETL and the General Law of Climate Change are aligned in seeking to ensure that Mexico reduces 22 per cent of its GHG emissions and 51 per cent of carbon emissions by 2030.

Mexico's GHG emissions are a consequence of power generation related to its dependence on fossil fuels. Nearly 80 per cent of the electricity generated in Mexico comes from fossil fuels or carbon. Mexico is transitioning towards clean and renewable energies in the generation of electric power. The general trend in thermal generation is a reduction in petroleum-based fuels and an increase in NG.

² See Mexico's National Electrical System Development Programme: https://www.gob.mx/cms/uploads/attachment/file/610961/Cap6_-_PIIRCE_WEB.pdf.

It is expected that NG will become the predominant fuel, concentrate to 60.3 per cent of total consumption for power generation by 2031. By 2030, it is estimated that generation will reach 505 terawatt hours.

In this regard, CFE's generation infrastructure expansion programme includes five new combined cycle projects, which are planned to be installed in the states of San Luis Potosí, Sonora, Baja California Sur, Campeche and Guanajuato.

The principal legal instrument for the promotion of investment in renewable energy sources is the CEL. Mexico has set a minimum level of electricity consumption from clean energy sources for all large consumers in Mexico.³ CELs are issued by the CRE to certify the production of a certain amount of electrical energy from clean energy. In this regard, market participants are allowed to buy or sell CELs in the electricity wholesale market to comply with their obligations. Mexico included CELs into its voluntary nondisclosure agreement submitted as part of its acceptance and joining of the Paris Agreement.

In 2020, the trial period for the Mexican emissions trading scheme began. This period is set to last for three years and thereafter: GHG emissions per industry (i.e., mining, energy, tourism, construction) will be set, and all participants within such industries will have to either meet such limits or trade allowances.

ii Energy efficiency and conservation

CONUEE, Mexico's commission created specifically for energy efficiency, has several programmes to promote energy efficiency:

- a* The executive branch programme aims to increase energy efficiency in offices, vehicles and industrial facilities within the federal executive branch through the implementation of best international practices and technological innovation, as well as the operation, control and follow-up of tools that contribute to the efficient use of public resources and sustainability.
- b* A state and municipalities programme supports the development of projects and institutional capacities of states and municipalities for the identification, quantification and implementation of programmes and actions in the field of the sustainable use of energy.
- c* PEMEX's programme has been operating for 20 years and aims to provide a continuous improvement programme for PEMEX facilities.
- d* In compliance with the ETL, a programme to inform the benefits of energy efficiency to micro, small and medium-sized companies.
- e* A programme to promote saving habits and energy efficiency within the population's houses.

iii Technological developments

Knowledge shared between companies and higher education institutions represents a way to boost innovation. The articulation between the productive sector and higher education institutions generates conditions for the national workforce to comply with the best international standards and be competitive at a global level, while ensuring local supply and higher incomes.

³ 35 per cent by 2024, 40 per cent by 2035 and 50 per cent by 2050.

The strength of this link has been recognised in Mexico for several decades and has permeated different sectors: in the energy sector, the trend points towards the same path. The explanatory memorandum of the 2013 reform mentions that the formation of new generations with quality education and technological development will be promoted by increasing investment in the hydrocarbons sector.

Both the EIL and HL include in their objectives the promotion of the national industry, and the development of suppliers and the country's production chains. Technology transfer is a concept included in the HL that is specified in exploration and extraction contracts. Due to the potential of these contracts, CNH includes a specific clause in the 110 contracts:⁴ as part of their work plans, companies must include training and technology transfer programmes, which will be approved by CNH. This measure aims to foster the development of exploration and extraction technology.

VI THE YEAR IN REVIEW

On 9 March 2021, amendments to the EIL were published in the National Official Diary (DOF) with an aim to modify the market rules, reorganise regulatory agencies and increase the state's participation in the electricity wholesale market. Its effects were suspended for all market participants due to suspensions with general effect granted by federal judges in relation to *amparos* filed against the entering into force of amendments. The filing of such *amparos* means that the amended EIL cannot be enforced at all until these injunctions are resolved. Furthermore, COFECE and Colima state have presented constitutional challenges at the Mexican Federal Senate and unconstitutionality actions before the Mexican Supreme Court against such amendments.

On 4 May 2021, amendments to the HL were published in the DOF with an aim to (among other aspects) strengthen the ability of the government to suspend and revoke permits granted under the HL for repeated violations or breaches of applicable provisions governing such permits, and in situations of imminent danger to national security or to the Mexican economy. Certain provisions that would allow federal agencies to revoke permits and translate minimum inventory obligations into causes of early termination, as well as the suspension of permits due to national interests, are not being enforced due to multiple injunctive stay measures with general effects granted by district judges in regard to multiple *amparo* injunctions.

On 1 June, the SHCP amended the Foreign Trade Rules to prevent private participants from securing an authorisation to act as import or export points for goods such as hydrocarbons, refined products, petrochemicals and other chemical substances. These amendments have not yet been suspended by the federal courts, although they have been challenged by several private operators of terminals, buoys, pipelines and similar kinds of infrastructure that could ordinarily seek such governmental authorisation to avoid foreign trade exclusively at a customs office or a fiscalised precinct, which has a different kind of operation and regulatory burden.

Furthermore, 2021 will be remembered for the President's initiative to reform the Federal Constitution to roll back the framework established by the 2013 reform. As reported

4 The 110 contracts awarded to oil majors through auctions under the previous government.

by the *Wall Street Journal*, there is an estimated US\$45 billion in private capital that could become affected by this new amendment, especially with the cancellation of all permits and long-term PPAs with the CFE.

VII CONCLUSIONS AND OUTLOOK

In Mexico, 2021 has been a significant year for energy legislation and, due to the impact of covid-19 in all economic activities, such legislation has had a keen impact on energy and infrastructure. In this regard, the continuation of proposed legal and regulatory changes by the current administration continues to negatively impact the energy sector.

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Jorge Cervantes specialises in M&A, project finance, private equity, energy and infrastructure.

Mr Cervantes has broad experience and knowledge advising international and national clients on a wide range of complex national and cross-border projects in Mexico, representing sponsors, developers, investors, financial institutions, banks and lenders in all kinds of acquisitions, dispositions, joint ventures, projects and financings.

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