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**LEGAL**  
**500**

**COUNTRY  
COMPARATIVE  
GUIDES 2022**

# The Legal 500 Country Comparative Guides

## Mexico

# RENEWABLE ENERGY

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This country-specific Q&A provides an overview of renewable energy laws and regulations applicable in Mexico.

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## MEXICO

# RENEWABLE ENERGY



### 1. Does your jurisdiction have an established renewable energy industry? What are the current production levels?

Yes, Mexico has an established renewable industry. Historically, two main changes in the energy regulation have boosted the development of renewable generation projects in Mexico: (i) the publication of the Law for the Utilization of Renewable Energy and Financing of the Energy Transition (*Ley para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética*) on November 28, 2008; and (ii) the publication of the constitutional reform in the energy sector on December 20, 2013, which liberalized the generation activity and established mechanisms to promote renewable generation within the new wholesale electricity market (*Mercado Eléctrico Mayorista*).

According to the Development Program of the National Electric System 2021-2034 (*Programa de Desarrollo del Sistema Eléctrico Nacional 2021-2034*) issued by the Ministry of Energy (*Secretaría de Energía*), Mexico had an installed renewable generation capacity of 28,714 MW as of April 30, 2021 (including solar, hydropower, wind, geothermal and biomass), which represents 32% of the total generation capacity. During 2020, the production of clean energy was 86,988 GWh, which represents 27.85% of all the energy produced in Mexico on that year.

### 2. Who are the key regulators for renewables industry in your jurisdiction? How do they impact the industry?

The Energy Regulatory Commission (*Comisión Reguladora de Energía*) is the key regulator for the renewables industry. The Energy Regulatory Commission was created in 1993 as an advisory regulatory body (*órgano desconcentrado*) within the Ministry of Energy. However, it became an entity with technical, operational and management autonomy until the constitutional reform in the energy sector of 2013.

The Energy Regulatory Commission has the power to issue and modify the regulation in the electricity sector, and has the authority to grant the generation permits required by law to produce power, including through renewable sources.

The Energy Regulatory Commission has also the authority to: (i) establish transmission, distribution and other regulated tariffs; (ii) enact and modify the most important regulation of the wholesale electricity market: the Basis of the Electricity Market (*Bases del Mercado Eléctrico*); (iii) establish the procedures to enact and modify secondary regulation of the wholesale electricity market, such as guidelines for the operation of the day-ahead and real-time power market, interconnection of power plants and load points to the grids, importation and exportation of energy, among others; (iv) issue the templates of interconnection and connection agreements for power plants and loads; (v) issue technical regulation regarding efficiency, quality, reliability, continuity, safety and sustainability of the electric grid, among others.

In connection with renewable generation, the Energy Regulatory Commission is in charge of granting Clean Energy Certificates (*Certificados de Energías Limpias*) to those generators who produce power without using fossil fuels, and is in charge of operating the system used for trading such certificates (*Sistema de CEL*).

The Energy Regulatory Commission has a Board of Commissioners (*Órgano de Gobierno*), in charge of voting to approve or refuse proposals to issue new regulation, of granting and revoking generation and other existing permits, and with the authority to initiate sanction procedures. Additionally, the Energy Regulatory Commission has an Electricity Unit and a Hydrocarbon Unit in charge of the day-to-day management and surveillance of the permit-holders within the energy sector.

The Energy Regulatory Commission has a major role in the renewable industry. The regulation issued by such commission is key for developers to decide to invest in a renewable generation project. In addition, an efficient

operation of the Energy Regulatory Commission in terms of granting new permits and modifying permits already granted in a timely manner is also key for developers in terms of planning and day-to-day administration and operation of the renewable generation projects.

### **3. How are rights to explore/set up renewable energy projects, such as solar or wind farms, granted? How do these differ based on the source of energy, i.e. solar, hydropower, wind, geothermal and biomass?**

In Mexico, all power plants with an installed capacity of 0.5MW or higher require a generation permit granted by the Energy Regulatory Commission, regardless of the source of the energy. The generation permit allows the permit holder to produce power in the relevant generation facility and to operate the transmission line required to interconnect the power plant to the transmission or distribution grid, as the case may be. Generation permits are granted for a term of up to 30 years. In addition, depending on the source of energy, other governmental authorizations could be required.

Regarding geothermal energy, the obtainment of an exploration permit granted by the Ministry of Energy is required, which allows the permit holder to explore areas with geothermal potential within an extension of up to 150 km<sup>2</sup> and for a term of up to three years (extendable for three more years). If geothermal resources are discovered, the exploration permit holder could request a concession for the development of such geothermal resources, which is also granted by the Ministry of Energy for a term of up to 30 years.

In connection with hydropower, a concession granted by the National Water Commission (*Comisión Nacional del Agua*) is required for using water to produce power, except if used in small-scale generation projects in terms of the applicable law. Water concessions are granted for a term of up to 30 years, extendable.

Regarding biomass, permits granted by the Ministry of Energy or the Energy Regulatory Commission could be required for production, storage, transportation, distribution by pipelines, commercialization and retail of biomass. No particular governmental authorizations are required for using solar or wind resources for generation purposes.

### **4. What does the energy split look like in your jurisdiction and how is this changing**

### **as a result of the green energy transition?**

As we mentioned above, since the publication of the Law for the Utilization of Renewable Energy and Financing of the Energy Transition on November 28, 2008 and the constitutional reform in the energy sector published on December 20, 2013, the renewable generation in Mexico has increased significantly. External factors such as the development of more cost-efficient generation technologies and the international commitments to reduce global climate change have boosted such increase.

It is important to mention that green energy transition in Mexico has included the development of large-scale renewable project plants and the promotion of distributed generation projects (*Generación Distribuida*), which consist of the generation of electricity in areas with high concentration of loads. The most common distributed generation projects are the installment of photovoltaic panels in roofs of houses and industrial facilities.

According to the Energy Regulatory Commission, as of December 31, 2021, the total installed capacity of distributed generation projects was 2,031.25 MW, corresponding to 270,506 interconnection agreements in such modality.

### **5. Is the government directly involved with the renewables industry? Is there a government-owned renewables company?**

The government participates in the renewables industry but there is not a government-owned renewables company *per se*. In Mexico, the Federal Electricity Commission (*Comisión Federal de Electricidad*) is the state-owned electric utility that participates all along the chain value of the electricity industry. The Federal Electricity Commission participates in the generation activity in a regime of free competition with private power producers within the wholesale electricity market. In addition, the Federal Electricity Commission is in charge of carrying out transmission and distribution activities in an exclusive manner and is the main basic supplier for final users, with more than 45 million clients.

In connection with renewable generation, according to the Ministry of Energy, as of April 30, 2021, the Federal Electricity Commission had an installed renewable generation capacity of 13,168 MW, including solar (6 MW), hydropower (12,125 MW), wind (86 MW) and geothermal (951 MW). In addition, Federal Electricity Commission has available 613 MW of wind generation capacity under the independent power producer

scheme.

## 6. What are the government's plans and strategies in terms of the renewables industry? Please also provide a brief overview of key legislation in the renewable energy sector?

The key legislation of the renewable energy sector is based on the Mexican Constitution, which contains principles that are key for the promotion of renewable generation projects, such as: (i) the recognition of the human right to a sound environment; (ii) the free competition regime within the power generation activity; and (iii) the provision to include, in the applicable regulation, obligations regarding clean energy and reduction of polluting emissions.

Within the key legislation of the renewable energy sector, it highlights the Electricity Industry Law (published on August 11, 2014), which establish the basis for the power sector in Mexico, including renewable generation. In addition, it highlights the Energy Transition Law (*Ley de Transición Energética* published on December 24, 2015), which has the objective to increase the participation of clean energy generation within the electricity industry, to facilitate the achievement of the goals regarding clean energy, to create incentives to promote power generation through without using fossil fuels such as the Clean Energy Certificates, among others. It also highlights the Law for the Promotion and Development of Bioenergetics (*Ley de Promoción y Desarrollo de los Bioenergéticos*) (published on February 1, 2008) and the Law of the Geothermal Energy (*Ley de Energía Geotérmica*) (published on August 11, 2014).

Nowadays, the government is promoting the approval of a constitutional reform in the energy sector sent by the Federal Executive to the Chamber of Deputies on September 30, 2021. Such initiative proposes the establishment of "electricity" (an activity that would include generation, transmission, distribution and supply of power) as a strategic area, cancelation of permits and contracts, limitation of private participation in the generation activity, disappearance of the Energy Regulatory Commission and changes in the nature of the Federal Electricity Commission, among other changes that could affect the renewable generation sector if approved.

## 7. Are there any government incentive schemes promoting renewable energy? For

## example, are there any special tax deductions or incentives offered?

Yes. The most important incentives to promote renewable generation are the Clean Energy Certificates. The Energy Regulatory Commission grants one Clean Energy Certificate for each MW/h produced without using fossil fuels, for a period of up to 20 years. Clean generators can trade such Clean Energy Certificates in the market, in order to obtain additional incomes.

In addition, there are other incentives to promote renewable energy, such as: (i) exemptions to pay fees for the obtainment and modification of generation permits; (ii) the possibility to register in preferential schemes for the importation of generation equipment (*Programa de Promoción Sectorial or PROSEC*); and (iii) preferential dispatch within the wholesale electricity market, due to low production costs.

## 8. How have private companies outside of the renewable energy sector responded to the renewables industry? Have you seen more companies set net-zero and/or science-based targets?

Yes. Private companies outside of the renewable energy sector are setting net-zero and/or science-based targets in Mexico, mainly those who require major volumes of power, such as the most important companies in the retail, food, construction, mining, telecommunications and other sectors.

Private companies commonly participate in the renewable energy sector as offtakers of the power produced in a renewable power plant, through the execution of power purchase agreements and electricity hedging agreements. Such participation facilitates for developers of renewable projects the obtainment of the financing required for the construction, operation and maintenance of the power plant, as well as contribute to reduce the carbon footprint of the power consumer.

In addition, said project companies benefit from the low prices of renewable energy, which are commonly cheaper than conventional sources of power, since renewable energy is not exposed to the volatility of fuel prices such as oil or natural gas.

## 9. What are the key contracts you typically expect to see in a new-build renewable energy contract?

The key contracts related to a new-build renewable

project are the following:

- i. **Financing Agreements.** In Mexico, it is common the development of renewable energy projects through *project finance*. In these schemes, part of the proceeds required for the design, construction, commissioning and operation of the renewable project plant are obtained from commercial and development banks. Such proceeds are paid with the incomes for the sale of energy, capacity (*Potencia*) and Clean Energy Certificates produced by the power plant, either in the spot market or through electricity hedging agreements. In *project finance* schemes, the loan agreement and the security documents (trust and pledge agreements) are key for the development of the project.
- ii. **Offtaker Agreements.** As we mentioned above, certain renewable generation projects are developed for the satisfaction of the consumption needs of certain company. If that is the case, then an electricity hedging agreement (or a power purchase agreement if related to a legacy project) has to be executed in order to set forth the terms and conditions for the generation and delivery of energy by the generator, in exchange of a consideration payable by the offtaker.
- iii. **EPC Agreements.** Certain developers of renewable energy projects decide to hire recognized experts for the development of a new-build renewable project. The EPC agreements (*Engineering, procurement and construction*) set forth the terms and conditions for the design and construction of the power plant by the contractor, in exchange of a consideration payable by the owner.
- iv. **Interconnection Agreements.** An interconnection agreement between generator and the owner of the transmission and distribution grid (i.e. *Comisión Federal de Electricidad*) must be executed in order to allow the physical interconnection of the power plant to the electric grid. Prior to the execution of the interconnection agreement, certain interconnection studies must be performed by the National Center of the Energy Control (*Centro Nacional de Control de Energía*) in order to assess the interconnection infrastructure that generator must develop in order to interconnect the power plant to the grid in compliance with the regulation, including technical regulation about efficiency, quality, reliability, continuity,

safety and sustainability of the electric grid.

- v. **Market Participant Agreements.** Power plants interconnected to the electric grid, require the representation of a *generator* in the wholesale electricity market. For that purpose, the developer of the renewable power plant could: either (a) become a market participant in the modality of generator, executing the relevant market participant agreement with the National Center of the Energy Control; or (b) hire a market participant in the modality of generator for the representation of the power plant, executing the relevant representation agreement.
- vi. **Land Agreements (RoW).** Lastly, it is important to consider the agreements for the obtainment of the land required to install the power plant, build the substation and the rights of way required for the construction of the transmission line. Those agreements are not regulated, except for those related to geothermal and hydropower projects.

## 10. Are there any restrictions on the export of renewable energy, local content obligations or domestic supply obligations?

No, there are no restrictions on the export of renewable energy, local content obligations or domestic supply obligations. Regarding exportation of renewable energy, market participants are allowed to export power through the international interconnections with the electrical systems of United States, Guatemala and Belize; *provided that* such market participants and the import/export operation itself must comply with the wholesale electricity market rules and the regulation regarding customs and foreign trade.

## 11. Does the regulatory regime include any specific decommissioning obligations? How do these obligations differ across solar, hydropower, wind, geothermal and biomass?

From the energy-regulatory point of view, there are not any specific decommissioning obligations. However, it is common to establish decommissioning obligations on land agreements executed with third parties that do not imply the acquisition of property by the developer, such as lease agreements and easement agreements. In addition, it is possible that environmental authorizations include decommissioning obligations for the developer of the renewable generation project.



## 12. Could you provide a brief overview of the major projects that are currently happening in your jurisdiction?

Nowadays, the major renewable projects that are currently developed in Mexico resulted from the Mid-Term and Long-Term Auctions (*Subastas de Mediano y Largo Plazo*) conducted by the National Center of Energy Control on 2015, 2016 and 2017.

According to the Federal Electricity Commission, in the 2015 Long-Term Auction, 18 agreements were awarded that imply the construction of 17 renewable power plants, the generation of 5.4TWh of power and 5.4 millions of Clean Energy Certificates. In the 2016 Long-Term Auction 18 agreements were awarded that imply the construction of 43 power plants, the generation of 8.9TWh of power, 9.2 millions of Clean Energy Certificates and the provision of 1,187 MW of capacity. Lastly, in the 2017 Long-Term Auction based on a clearing-house scheme, were awarded agreements related to 16 power plants for the generation of 5.0TWh of power, 5.4 millions of Clean Energy Certificates and the provision of 539.8 MW of capacity.

## 13. Who are the key players that are driving the green renewable energy transition in your jurisdiction?

Key private and public players drive the energy transition in Mexico. The Ministry of Energy publishes the applicable clean energy requisites for each year, being 10.9% for 2021 and 13.9% for 2022. The law provides the existence of public entities related to energy transition, such as the Counsel for Energy Transition (*Consejo Consultivo para la Transición Energética*), the National Commission for the Efficient Use of Energy (*Comisión Nacional para el Uso Eficiente de la Energía*) and the Energy Regulatory Commission as the regulator of the energy sector.

However, due to Federal Electricity Commission budgetary constraints, Mexican and foreign private companies have done most of the investment required for the energy transition.

## 14. Please can you give a summary of the key renewable projects in the pipeline in your jurisdiction?

Hydropower, geothermal, wind farms, solar and biomass power plants are in the pipeline of renewable projects in Mexico. Nuclear and cogeneration facilities are considered clean energy, although those are not

renewable generation.

According to the Development Program of the National Electric System 2021-2034, the installed capacity of hydropower generation was 12,007 MW as of April, 2021. The biggest power plant is Presa Chicoasén (Federal Electricity Commission), with an installed capacity of 2,400 MW.

Geothermal power has an installed capacity of 1,801 MW. The most important geothermal power plants are Cerro Prieto, Los Azufres and Los Humeros (Federal Electricity Commission). Solar and wind farms have an installed capacity of 7,389 MW and 9,456 MW, respectively. Two important solar and wind farms are Villanueva (ENEL) with an installed solar capacity of 754 MW, and Reynosa (Zuma Energía) with an installed wind capacity of 424 MW.

## 15. What are the key issues facing the renewables industry in your jurisdiction across solar, hydropower, wind, geothermal and biomass?

The most important matter that the renewables industry is uncertainty due to all changes in the legal and regulatory framework within the power sector. As we mentioned above, the government is promoting the approval of a constitutional reform in the energy sector sent by the Federal Executive to the Chamber of Deputies on September 30, 2021, which proposes the establishment of "electricity" (an activity that would include generation, transmission, distribution and supply of power) as strategic area, cancelation of permits and contracts, limitation of private participation in the generation activity, disappearance of the Energy Regulatory Commission and changes in the nature of the Federal Electricity Commission, among other changes that could affect the renewable generation sector if approved.

In addition, there is uncertainty in the performance of the Energy Regulatory Commission, which has faced budgetary constraints, reduction of employee workforce and substitution of certain Commissioners. The foregoing has caused changes in the criteria used for decision-making. It is common that the Energy Regulatory Commission grants permits or issues other administrative acts exceeding the response terms established in the applicable regulation.

## 16. How has the consequences of the Covid-19 pandemic particularly impacted

## the renewables industry?

The Covid-19 pandemic caused two main affectations to the renewables industry. First, the interruption of supply chains, which delayed the construction and commissioning of power plants under development. Due to such delays, developers required the amendment of the construction timelines established in generation permits, interconnection agreements and other governmental authorizations. In addition, the pandemic triggered force majeure clauses of EPC agreements, power purchase agreements, electricity hedging-agreements and other major agreements of the projects.

Secondly, due to the Covid-19 pandemic, the Energy Regulatory Commission, the Ministry of Energy, the Ministry of Environment and other governmental offices suspended the terms of all procedures carried out before said offices. Therefore, most of the procedures to obtain or modify governmental authorizations before such governmental dependencies are delayed.

## 17. How do you think the impact of foreign investment and changes in regulation will affect investment in the renewables industry?

The foreign investment has positive impacts in the renewables industry. According to the Ministry of Economy, the direct foreign investment raised from \$544 million USD in 2014 to \$5,019 million USD on 2018. However, since 2018 the direct foreign investment has decreased to \$500 million USD in 2021. Considering that Federal Electricity Commission has budgetary constraints, the foreign investment is key to develop all generation projects required to satisfy the increase of demand in the coming years and to achieve the goals of renewable generation committed by the Mexican state.

By the contrary, changes in the regulation and certain acts and decisions of the Federal Executive have affected the renewables industry. Nowadays, the Mid-Term and Long-Term Auctions are suspended. The Ministry of Energy, the Energy Regulatory Commission and the National Center of Energy Control have issued new regulations and amended the existing regulations in order to promote the participation of the Federal Electricity Commission within the wholesale electricity market. Most of such new regulations, the amendment of the existing regulations and acts and omissions of the federal government have been challenged before federal courts. Judges have granted several injunctions that prevent the application of the new or amended regulations to the claimants.

## 18. How has your jurisdiction performed against its commitments as part of the Paris Agreement?

Mexico is committed to reduce unconditionally 25% of its greenhouse gas emissions for the year 2030. According to the Mexican intended nationally determined contribution, the actions performed by Mexican State that support the foregoing goal are: (i) the publication of the General Climate Change Law in 2012; (ii) the National Strategy on Climate Change in 2013; (iii) the carbon tax in 2014; (iv) the National Emissions and Emissions Reductions Registry in 2014; (v) the constitutional energy reform of 2013; and (vi) an ongoing process for new set of standards and regulations.

However, as we mentioned above, the constitutional energy reform of 2013 and its regulation issued on 2014 is threatened by the initiative of constitutional reform in the energy sector sent by the Federal Executive to the Chamber of Deputies on September 30, 2021, that would could the renewable generation sector if approved.

## 19. How has the government used COP26 as an opportunity to drive the green energy transition?

Mexico has benefited of the mechanisms established to promote green energy transition within the context of COP26. As we have mentioned, one of the actions performed by Mexico is the constitutional energy reform of 2013, which has promoted the development of renewable generation projects and the modernization of the generation pipeline. However, there is uncertainty about the actions that Mexican government will carry out to continue the green energy transition in the context of constant changes in the regulation of the energy sector.

## 20. How is the government stepping up its commitment as a part of the COP26 agreement?

As of this date, Mexico is applying the actions referred to in the "intended nationally determined contribution" submitted for purposes of the COP26 agreement, to reduce unconditionally 25% of its greenhouse gas emissions for the year 2030. However, there is uncertainty, since the mechanisms to continue stepping up its commitments under the initiative of constitutional reform in the energy sector sent by President López Obrador to the Mexican Congress on September 30, 2021, are unclear.

The initiative of constitutional reform previously mentioned proposes that the “industries required for the energy transition” would be deemed a “priority” for the development of the country. However, the Federal Electricity Commission would be responsible for the execution of the energy transition in the field of

electricity and the participation of private investment in energy transition would be limited. Therefore, the question arises of whether Mexico is taking the appropriate decisions to comply with its commitments as part of the COP26, in terms of domestic regulation regarding energy transition.

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