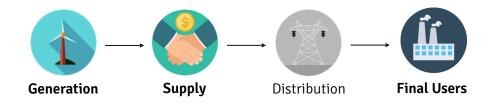


Mexico's Energy Industry Update

Impacts of the LIE Reform

About this Report

The recently published <u>Reform to the Electricity Industry Law (LIE)</u> will impact the entire value chain of the electricity sector and the functioning of the market. With this in mind, the changes included in the reform must be understood to navigate the Mexican power market in the future. Through a series of reports, Zumma Energy Consulting will analyze possible effects to the different participants in the market. This document provides a summary of the impacts upon all market participants.



Content

Introduction	2
Generators	2
Qualified Suppliers	3
Final Users	3
Development of the Electricity Sector	4
Conclusion	6



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Impacts of the LIE Reform June, 2021



Introduction

Throughout this series of reports, we have explored the changes that electricity market participants in Mexico might experience as a result of the reform to the LIE. The dispositions included in the reform would affect the entire value chain from generators to suppliers and final users. This report has the purpose of summarizing the possible impacts to the operation of generators, Qualified Suppliers, and final users and points to keep in mind while making business decisions.

Generators

The main change to the market rules as a result of the reform is a modification to the merit order, which determines the dispatch of energy from power plants. Under the reform, the dispatch order will be determined by the National Energy Control Center (CENACE) considering total unit production costs instead of the marginal costs of energy. This will be carried out while ensuring the dispatch of plants, owned by CFE, partaking in the new "Electricity Coverage Contracts with Physical Delivery Obligations".

If all the CFE Generation's plants are dispatched, there will be little room for private participation to supply the system's demand, even if they are more efficient or cleaner. A substantial reduction in revenues can be expected for private generators that cannot deliver their produced energy to the grid. In addition, the new Electricity Coverage contracts also remove the CFE Basic Service Provider (CFE SSB) obligations to obtain energy through electricity auctions and instead partake in long-term power-purchase contracts with CFE Generation's Legacy Power Plants.

While specifics are yet to be seen, changes to the merit order could also affect the energy spot price. Additionally, under the reform, Clean Energy Certificates (CELs) will be granted regardless of the start of commercial operations date of power plants. This could result in CFE plants oversupplying the market, decreasing their market value and revenues for generators.

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Another highly relevant disposition in the reform requires the granting of permits for all participants in the market to be in line with the Ministry of Energy's (SENER) planning of the National Electric System (SEN) and could reduce the number of permits awarded to generators. The other two dispositions that address Legacy generators in specific could put Self-Supply and Independent Production (PIE) permits at risk, allowing the Federal Energy Commission (CRE) to review and even terminate them.

The reform affects generators drastically, hindering sources of revenue for LIE, Auction, and Legacy generators. Overall, this affects competition in the market and disincentivizes the development of new, and possibly cleaner and more efficient, energy generation projects.

Qualified Suppliers

Qualified Suppliers are indirectly impacted by modifications to both the operations of generation plants and how final users acquire energy, as they operate as a link between the two. This would mainly come as a result of the change in the merit order which could put the supply of energy procured through PPAs under the original order of merit at risk and cause contract operation complications. The effects of this measure will depend on specific clauses of each contract between a generator and Qualified Supplier, nonetheless, the Qualified Supplier's risk for market exposure could increase.

On the other hand, permit setbacks would affect suppliers directly, hindering new Qualified Supply companies wanting to start operations, and indirectly through generators and users. The availability of energy in the market to be acquired through PPAs would decline if the interconnection processes for power plants are obstructed. Besides, if registration processes for Qualified Users are also affected, the number of potential clients for Qualified Suppliers would lessen significantly.

Final Users

Some of the final users that would be affected greatly by the LIE reform are those who participate in the market as Qualified Users. The main risks for this type of user are similar to the ones that Qualified Suppliers could face. In specific, a shortage in new energy to be commercialized through PPAs, fluctuations in spot prices for energy exposed to the market, and slower registration processes.

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However, if the market price for CELs decreases, the negotiated prices for CELs through supply contracts will, most likely, be higher than the new market price. The impact will depend on how supply contracts with a Qualified Supplier are framed. Nevertheless, this generates uncertainty for some of the biggest commercial and industrial companies in Mexico.

The Legacy market, namely Self-Supply Consumer Partners, faces the most uncertainty. If the CRE revokes Self-Supply permits that it considers "fraudulent", consumer partners will have to contract another supplier to meet their energy requirements. While some users may meet the requirements to be Qualified Users, others will have to return to procure energy from CFE SSB at a higher cost compared to their past Self-Supply contract.

Even the CFE SSB's users could see variations in their energy rates as the change to the merit order could increase the dispatch of the CFE's older, more inefficient plants, with higher generation costs. This, combined with the cancellation of the CFE SSB's obligation to obtain energy through electricity auctions, could place upwards pressure on final tariffs.

Overall, the LIE reform could increase energy rates for C&I companies, affecting the profitability and competitiveness of some of the country's largest companies.

Development of the Electricity Sector

Since the entry into force of the 2014 energy reform, generation capacity has increased significantly, especially during 2018 and 2019. As of today, there are over 95,000 MW of authorized capacity in operation, including projects owned by both the CFE and private companies. Of this total capacity, 21,440 MW were developed after 2014 by private companies and can be seen in Figure 1. 45% of these generation projects operate under the LIE Generation modality, 26% and 16% operate under the Self-Supply and PIE modalities, respectively. These three types of generators are specifically affected by the LIE reform.



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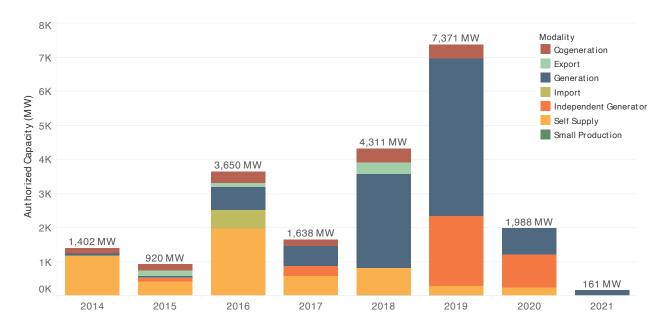


Figure 1: Non-CFE Authorized Capacity in Operation

Source: Zumma Energy Analytics, with data from the CRE

The rest of the Wholesale Electricity Market (MEM) grew alongside generators, with the registration of Qualified Suppliers and Qualified Users. The development of the Qualified User market had to be preceded by Qualified Suppliers that could commercialize energy to these types of users. As such, the number of Qualified Suppliers grew faster at the start of the MEM, peaking during 2017, as seen in Figure 2.

On the other hand, Qualified Users increased their growth rate as the market matured, with more companies migrating to the MEM between 2019 and 2020 (see Figure 2). By April 2021 there were 56 Qualified Supplier registered and 504 Qualified Users participating in the MEM.

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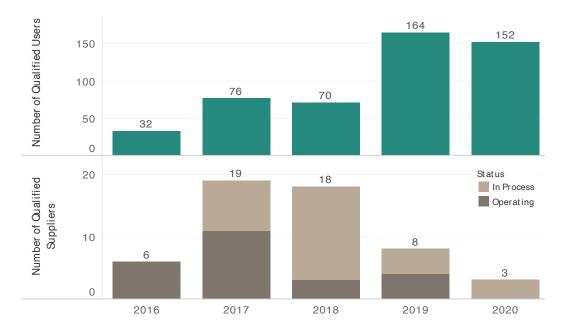


Figure 2: Qualified Users and Suppliers by COD

Source: Zumma Energy Analytics, with data from the CENACE

Conclusion

There are over 350 ongoing lawsuit processes and a constitutional dispute submitted by the Federal Commission for Economic Competition (COFECE) against the LIE reform. As a result of the numerous suspensions granted, the reform was generally suspended. Considering the recent Midterm Election results, the possibility that the provisions included in the reform be included in a constitutional reform are low. Nevertheless, its impacts on all types of users must be examined and taken into consideration to evaluate the functioning of the Electricity Market in the following years.

The change to the dispatch model, changes to CEL guidelines, and limitation of new permits would directly impact market competitiveness and generate uncertainty. Market participants could also experience price volatility and possible shortages in energy products, hampering companies already in operation and discouraging others from participating in the MEM. As seen previously, the electricity market in Mexico is still relatively young and its rapid initial growth was significantly slowed down by the current administration's regulatory modifications.

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Regardless, sustaining the evolution of the market is important for competition and investment security in Mexico, as well as promoting the use of renewable energies and reaching clean energy goals.

It is important to follow up on lawsuits from market participants, Federal court rulings, actions taken in the Supreme Court, and party alliances in the Congress. Likewise, government actions to promote the Reform or enact other regulatory changes will have great significance in the sector. Even if the reform does not come into effect, the tone of the recent regulatory changes could decrease the attraction of investment in the country, both from larger power market participants and Industrial and Commercial companies.

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