

Economic Watch

United States

Opportunities from Mexico's Energy Reform

- Mexico's energy reform will offer abundant opportunities for U.S. companies
- Attractiveness will depend on the design and quality of secondary laws
- The reform will enhance economic stability and energy independence in North America
- The Texas-Mexico border region will experience a significant economic transformation

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Economic Analysis

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Mexico passes major Constitutional reform

In December 2013, Mexico's Congress modified Articles 25, 27 and 28 of the Constitution allowing both domestic and foreign private investment in the energy sector. Between 1958 and 2013, PEMEX (Petróleos Mexicanos, the state-owned oil company) was the only organization entitled to conduct activities at every step of the energy value chain. The reform was ratified by the majority of state legislatures as required for Constitutional changes, and signed into law by President Enrique Peña Nieto on December 20th, 2013. This reform marks a major breakthrough in Mexico's economic history only comparable to the signing of the North America Free Trade Agreement (NAFTA) in 1992.

The reform retains the state's ownership of hydrocarbons below the surface while prohibiting the privatization of PEMEX and CFE (Comisión Federal de Electricidad, the state-owned electricity company). Nevertheless, the new legal framework allows for private ownership of hydrocarbons at the wellhead through service, profit-sharing, production-sharing, and license contracts (for more information see [Appendix](#)). The reform could increase Mexico's foreign direct investment inflows by \$20bn to \$30bn per year (1.5% to 2.3% of GDP).

Business opportunities for the private sector

The U.S.-Mexico Transboundary Hydrocarbons Agreement, ratified in 2012, focused on facilitating cooperation in the development of the Gulf of Mexico's projects. This was needed to allow PEMEX to take advantage of the 2008 energy reforms which allowed U.S. leaseholders and PEMEX to jointly explore and develop transboundary reservoirs. However, this failed to meet expectations and without deep-water drilling, Mexico's oil production will continue to diminish. For example, the offshore drilling site of Cantarell, which once was considered the biggest conventional oilfield in the Western Hemisphere, has seen production decline from 2.1 mbpd in 2003 to 0.4 mbpd in 2013.

The 2013 reform promises to create abundant opportunities for private companies with the technology and expertise to revive Mexico's hydrocarbons and electricity industries. Most of the attention has focused on upstream oil and gas, which is expected to receive the earliest inflows of private foreign investment. If the policy framework and legal processes required to carry out the reform are implemented in 2014, these inflows should start to arrive later this year or in 2015.

The reform provides PEMEX with the right to decide how much of its acreage it wants to retain. The Energy Ministry (SENER) will allow PEMEX to keep these assets as long as the company proves it has the financial and technical capacity to develop them. This process started immediately after the ratification of the constitutional changes and will continue through 2014. PEMEX will retain more than 50% of its acreage.

Once secondary laws are completed and PEMEX has concluded its round-zero allocation, PEMEX is expected to look for joint ventures to increase production in mature and underexploited oil fields (both in shallow waters and onshore) where it lacks the capacity to boost recovery rates. This will create numerous opportunities for mid-size and large U.S. and foreign companies. In addition, PEMEX and private companies are expected to bid for assets and acreage in deep and ultra-deep water oil fields in the Gulf of Mexico and shale formations mainly in north and east-central regions under the same rules and tax treatment approximately two years from now.

With the inflow of private capital there is potential for a significant increase in energy production as Mexico has the sixth largest technically recoverable reserve of shale gas and the eight largest technically recoverable reserve of shale oil in the world. However, reserves in deep waters and shale formations are literally unexplored. In fact, the country has less than 5% of total deep water rigs in the Gulf of Mexico, while in 2012 it authorized the drilling of 3 shale oil and gas wells. In the same year, 9,100 wells were authorized in the U.S.

Large U.S. and foreign multinational companies with economies of scale and the technological expertise have the biggest competitive advantages in deep and ultra-deep drilling. For example, Shell recently announced plans for a 9,500ft ultra-deep well in the Gulf. Exxon, BP, Chevron, Hess and Anadarko are also going to be immediate contenders. Other companies that could benefit from increased activity in deep water drilling include Diamond Offshore, National-Oilwell Varco, Cameron, FMC, Trico Marine, SeaDrill, TransOcean, Geoservices, Baker-Hughes, Smith International and Schlumberger.

Mexico's shale gas will certainly draw attention from drilling companies. The portion of the Eagle Ford Shale formation that extends into Mexico is part of the Burgos Basin, where technically recoverable shale gas is currently projected at 343tcft, two thirds of Mexico's technically recoverable shale gas resources. Sabinas, Tampico, and Veracruz Basins account for most of the remaining reserves. Companies familiar and experienced with the Eagle Ford such as EOG Resources, Chesapeake, and ConocoPhillips, have comparative advantages and could lead Mexico's shale gas transformation.

Oilfield service companies like Schlumberger, Baker-Hughes, Halliburton, and Weatherford International could bring the technology needed for hydraulic fracturing and horizontal drilling. Smaller companies that focus on well-services may benefit as well. Notwithstanding these benefits, Mexico's technically recoverable shale gas resources are far smaller than total resources because of geologic complexities and discontinuities of its onshore shale zone. As a result, some studies provide a more pessimistic outlook on the true potential of shale production.

Mexico will also need infrastructure to move oil and gas from unconventional fields. Pipelines, railroads, and vessels will be needed to move the hydrocarbons from the production centers to their final destinations. Around 80% of all the gas Mexico imports comes from the U.S. and 60% comes directly from pipelines in Texas.

The demand for natural gas will continue to increase by over 5bcfd as Mexico is projected to add 28 gigawatts of new electric capacity by 2027. As production begins to ramp up, exports will play a significant role in Mexico's new energy landscape as energy companies in the U.S. may find an opportunity to sell natural gas overseas through Mexican export terminals. New pipeline projects being built across the Texas-Mexico border could double the amount of U.S. natural gas exports to 7bcfd, five times the maximum amount of natural gas that the Freeport LNG terminal will be allowed to export. In any case, the reform will encourage large investments in midstream infrastructure.

Macroeconomic and geopolitical benefits

Developing Mexico's hydrocarbon riches will add production capacity to the region, strengthening the energy independence, security, and economic stability of North America. The liberalization of Mexico's energy sector will also deepen the economic integration of the region. Although Mexico's energy sector was originally excluded from NAFTA, it is expected to be included in the Trans-Pacific Partnership Agreement, which facilitates trade and investments in the Pacific region. As a result, energy companies can leverage on the experience built by non-energy firms working across borders under the auspices of NAFTA. Simply, Mexico's energy reform strengthens North America's position as one of the top oil and gas producers of the 21st century.

Spillover to Mexican households in the form of lower energy prices and more jobs will greatly benefit both Mexico and the U.S. According to the Mexican government, the reform could create 2.5 million jobs by 2025 while BBVA Research estimates that Mexico's long-term GDP could increase by 1% to 1.5% as a result of the reform. More jobs in Mexico will also translate into higher demand for U.S. goods and services and further reduce incentives to immigrate to the U.S.

From a regional perspective, the benefits could also be significant considering the multiplier effect of energy investments. Some studies suggest that in the U.S., one job created in the unconventional oil and gas industry supports four more indirect and induced jobs. This implies that opportunities for oil and gas companies will also translate in opportunities for other businesses in manufacturing, mining, and services, particularly those that are energy-intensive. This could also boost government revenues. Lower energy prices will reduce the need for electricity subsidies. This will ease pressures on public finances which remain one of Mexico's largest economic weaknesses.

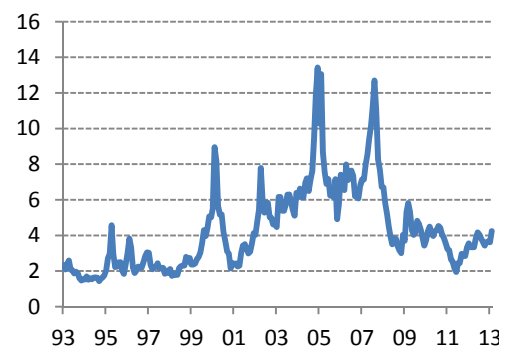
New investments in the Mexican side of the Eagle Ford Shale could bring economic prosperity to that region. The Eagle Ford Shale extends over Texas and the Mexican states of Tamaulipas, Nuevo Leon, and Coahuila. This region has a combined population of 38 million (slightly bigger than Canada) and a GDP of \$1.5 trillion in 2012. Under conservative assumptions, foreign direct investment in the area could add an extra 1% to GDP growth, which may expand at an average rate of 6% per year, implying that the region could generate around \$1.2 trillion in economic activity during the next decade, an amount similar to Spain's economy.

Chart 1
North America Shale Plays



Source: Energy Information Administration

Chart 2
Natural Gas Price, Henry Hub, LA (\$/mmbtu)



Source: BBVA Research with EIA data

Faster economic growth in the border will narrow the socio-economic disparities between Texas' border cities and big metro areas like Houston, Dallas, or Austin. If these border towns effectively seize the opportunity, the U.S.-Mexican border could see one of the most dramatic transformations in its history. The upside for Mexican border towns could be even greater if economic prosperity allows them to eradicate the bad reputation created by drug-trafficking and other illegal activities.

Secondary laws crucial for success

There is a significant level of uncertainty on the terms of the new contracts with the government. Details of these contracts will be known later this year, when Mexico's Congress is expected to finish the secondary laws. Ideally, these contracts should be attractive enough for U.S. companies to reallocate capital to the other side of the border. But chances are that this may not be the case if the laws are written without market-oriented criteria. In addition, it is still unclear what is going to be the tax regime that private companies would face once investing in Mexico. A competitive tax structure will be crucial to foster foreign investment in the country.

Another source of uncertainty has to do with the effectiveness of the regulatory entities. Regulators must be strong, independent, transparent and accountable to guarantee a leveled playing field. Although the reform makes sure that the Hydrocarbons National Commission and Energy Regulatory Commission have enough money and independence to do their job, it is unclear how long it will take for these institutions to enhance their capabilities. Attracting talent could prove a real challenge for these regulators given the shortage of human capital in the energy industry and the salary differentials between the public and private sectors.

But assuming that secondary laws are optimal and regulatory entities are efficient, there are still other sources of uncertainty that could delay the expected benefits of the reform. Despite its relevance, the reform is already late to the shale revolution. A production boom in the U.S. has driven natural gas prices to very low levels, making several drilling projects in the U.S., mainly those heavily concentrated in natural gas, barely profitable while reducing returns on investments relative to the cost of capital. Would Mexico's drilling projects in shale gas be as attractive to U.S. investors given the supply boom in the U.S. and the consequent decline in prices? If the increase in future

energy demand falls below expectations, developing Mexican reserves would increase the supply of natural gas, putting further downward pressures on prices and profitability.

In the oil segment, despite the advancements in seismic-imaging and deep-water drilling technology, some oil fields will not be profitable if prices experience a sharp decline. In fact, increased production in the Gulf and in other countries with vast reserves could result in unwanted oversupply, while growing reliance on non-fossil fuel and new technologies in the auto sector could significantly reduce the demand for hydrocarbons. In both instances, the incentives to invest billions of dollars in deep-water fields will decline.

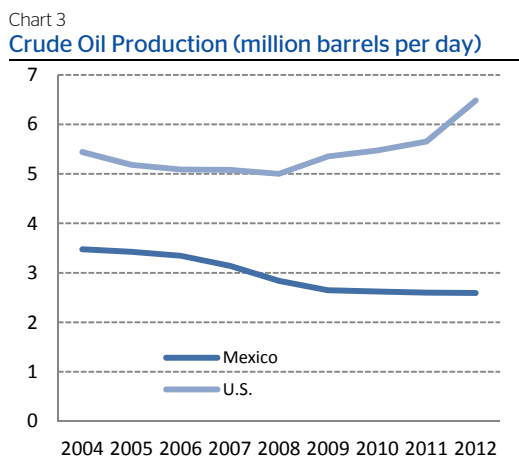
Forming reasonable expectations is crucial for private companies interested in Mexico's energy industry. Mexico's complex business environment highlights the need to continue improving the institutional framework, which in turn could enhance the potential of the energy reform. Therefore, prudence should be favored over excessive enthusiasm. Even with the reform, the role of the Mexican state in the energy policy will remain significant. In addition, despite substantial improvements in transparency and accountability, the energy sector could still be vulnerable to political cycles.

Bottom Line

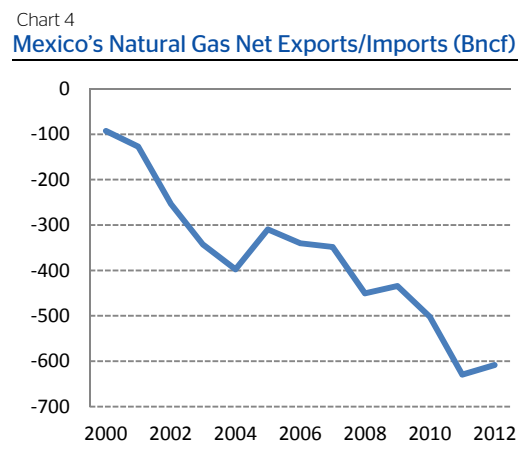
Mexico's energy reform will offer abundant opportunities to U.S. and foreign companies across energy and non-energy industries. Mexico is expected to regain its position as one of the top producers of hydrocarbons in the world. This has positive implications for the U.S. as it strengthens macroeconomic stability and energy security in North America. The multiplier effect of energy investments will give a boost to the Texas-Mexico border area, generating \$1.2 trillion dollars in economic activity over the next 10 years. Last but not least, the success of the reform will depend on the quality of the implementation process.

Appendix: A brief description of the reform

The reform’s objective is to attract private investments to share the risks of much needed projects to increase the productivity of the energy sector (oil, gas, and electricity), while maximizing revenues for the state, increasing the efficiency of PEMEX and CFE, and ultimately boosting potential GDP.



Source: BBVA Research with EIA data



Source: BBVA Research with EIA data

The reform does not privatize Mexico’s oil and gas reserves. In fact, it retains the state’s ownership of hydrocarbons below the surface while banning the privatization of PEMEX and CFE. However, the reform allows for contracts that grant possession over hydrocarbons at the wellhead. These contracts can take the form of service, profit-sharing, production sharing, and licenses. Private investments are also permitted in mid- and downstream projects. Under the new laws, the energy sector will be oversight by the following entities:

Table 1: Mexico’s energy regulatory agencies

Agency	Function
Secretaría de Energía (SENER)	Oversee energy policy, establish bid processes, grant permits for refining and processing, and determine classification of contracts
Comisión Nacional de Hidrocarburos (CNH)	Provide technical advice, collect geological information, organize auctions, sign contracts, and supervise projects
Comisión Reguladora de Energía (CRE)	Authorize natural gas and liquids transportation, ensure access to pipelines, approve storage of liquids and gas
Secretaría de Hacienda y Crédito Público (SHCP)	Implement the fiscal terms to contracts and specifics of revenues from oil contracts
Agencia Nacional de Seguridad Industrial y de Protección al Medio Ambiente (ANSIPMA)	Ensure safe practices, protection of the environment with regards to infrastructure, decommission brownfields, regulate waste clean up

Source: www.presidencia.gob.mx

PEMEX will be restructured to become a “state-owned productive enterprise” with an explicit mandate to maximize income and create economic value. The reform grants the state-owned company managerial and budgetary autonomy, and a more competitive tax regime to compete effectively in the global market. The new legislation also gives PEMEX the right to decide which projects to retain entirely and which to share with private investors. The company will also lose control over the natural gas pipeline and storage infrastructure, which will be transferred to the newly created National Center for Natural Gas Control. The reform lifts the restriction of the participation of private investors in the generation, transmission and distribution of electricity, although the state keeps property of the grid, which will also pass to the National Center for Electric Power Control.

Following the Norwegian experience, the reform also mandates the creation of the Mexican Petroleum Fund for Stabilization and Development that will manage revenues from oil contracts. Finally, it enhances transparency and accountability with stronger regulatory entities and anti-corruption measures. In the following months, the Mexican Congress will write down the secondary laws that include the nitty-gritty details of the reform, including the characteristics of the different types of contracts that are now possible under the new legal framework. This is crucial to determine the attractiveness of Mexico’s energy sector to private investors.