

## Mexican energy reform Opportunity knocks

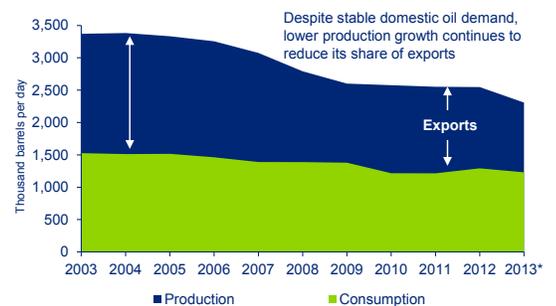


### Background

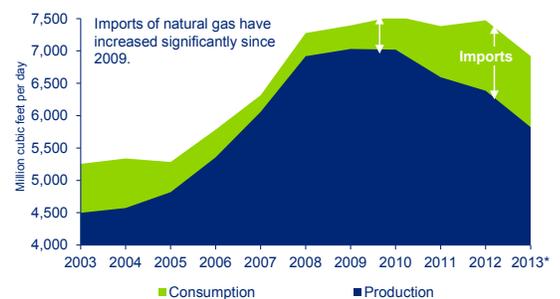
Mexico has large and potentially accessible oil and gas resources, and is also known for one of the largest, yet currently untapped reserves. Petroleos Mexicanos (Pemex), Mexico's state owned energy company, estimates that there are 29 billion barrels of oil equivalent (BBOE) in conventional and deepwater and another 60 BBOE in shale. However, Mexico's oil production has declined 25 percent to 2.5 million barrels per day (bbl/d) from a peak of 3.3 million bbl/d in 2004. Mexican oil exports have dwindled, and the country has also become a significant importer of natural gas and petroleum products. In the recent past, the Mexican government has attempted incremental reforms to its energy market. For example, in 2008, Pemex gained more flexibility in its procurement process and allowed incentives for upstream service contracts based on contractor performance. Even with these modest changes, overall oil production continued to decline.

Mexico opens the oil and gas market (other than gas transmission and nuclear power) to private foreign and local investors for the first time since 1938.

**Total Crude Oil Production and Consumption (2003–2013)**



**Natural Gas Consumption and Production (2003–2013)**



Source: eia.gov

## Reform

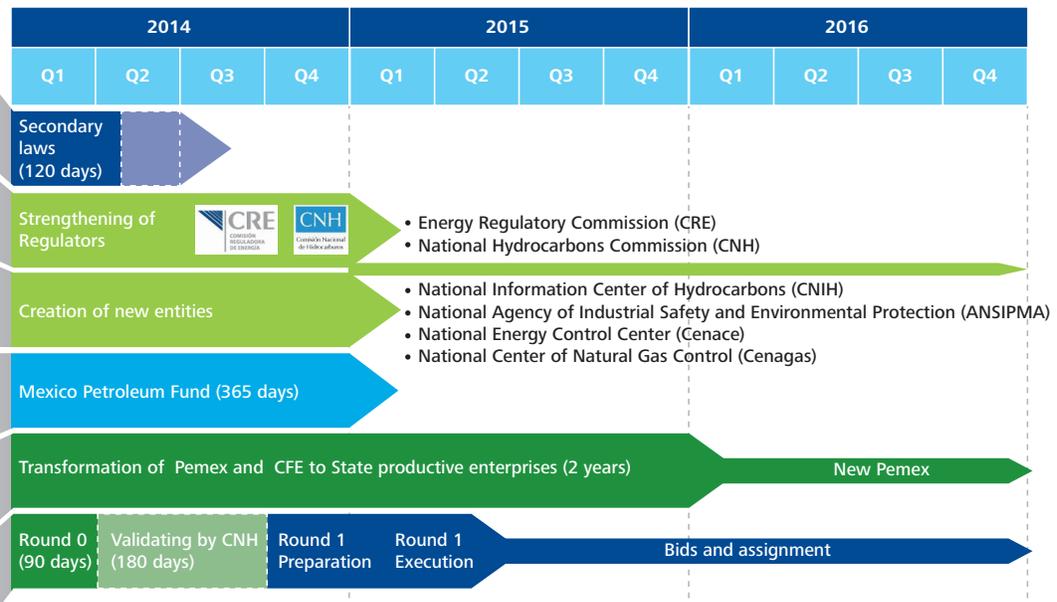
In a major turnaround, on December 20, 2013, Mexico's President Enrique Peña Nieto formally signed one of the most significant economic reform laws of the last several decades. The Mexican government amended its Constitution, effectively opening the oil and gas energy market (other than gas transmission and nuclear power) to private foreign and local investors for the first time since 1938. The ability to tap into this resource may lure as much as \$20 billion per year to Mexico in direct and indirect investments.<sup>1</sup>

Under the new reforms, the government continues to have exclusive ownership of the hydrocarbons when underground, but foreign contracts to explore for, develop, and produce hydrocarbons are now permitted. These agreements between the State and private companies can now go well beyond the current service contracts and include more competitive types of agreements including profit sharing, production sharing hydrocarbon licenses, or a combination of these arrangements. Once these hydrocarbons are at the wellhead, they can change ownership, and private companies will now be able to reflect these contracts and their benefits, especially in terms of reporting oil and gas production in their financial

statements. SENER, the Secretariat of Energy, and the National Hydrocarbon Commission (CNH) will control the bidding process, which should provide transparency and drive decisions that are primarily driven by economics. The CRE (Energy Regulatory Commission) will control the downstream process utilizing permits.

The Mexican model is very different than the Brazilian model; for example, Pemex does not have to be involved in all contracts, and the government has the right to contract directly with private companies without involving Pemex. The government is responsible for maximizing income for the government by ensuring the best method of contracting and the best choice of companies. In early 2014, the Mexican Congress will take up tax reform that will help determine how tax revenues for these new alliances will be allocated and collected, and will ultimately drive the level of private investments. Finally, there will be a national content restriction that was not included in the initial legislation; a secondary regulation will specify the required percentages of ownership while complying with all provisions in current trade agreements. The recent and pending reforms are much more substantial, have broader buy-in, and are likely to have much greater impact than previous reforms.

### Energy reform — Time chart estimations

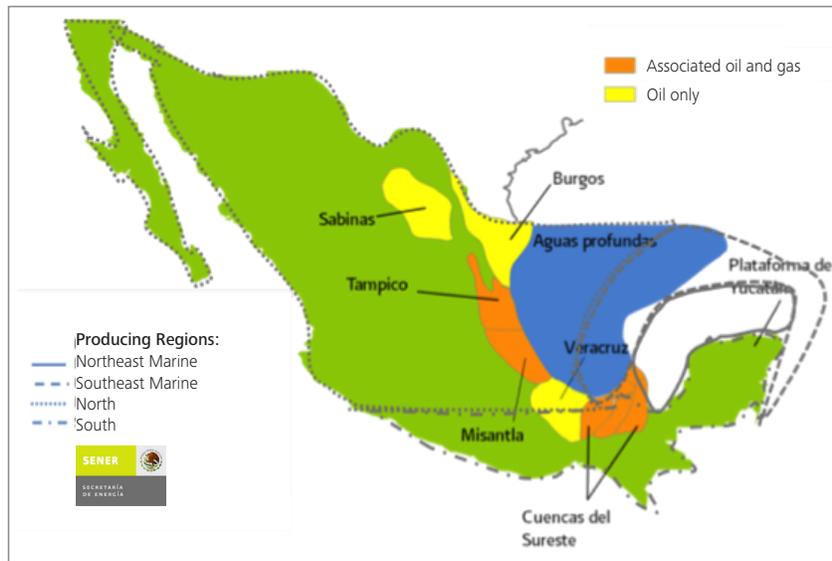


### Broad opportunity across the value chain

The resource plays in Mexico provide opportunities across the entire oil and gas value chain. Specifically, the upstream opportunities are tremendous for deepwater oil and gas, conventional and unconventional plays, including shale. There are significant midstream opportunities to develop the necessary pipeline, liquefaction, and port facilities needed to bring the new products to market. In addition, there are downstream opportunities to refine and market finished products. Some of the specific opportunities across the hydrocarbon supply chain are highlighted.

**Offshore.** Deepwater exploration and production is an area that requires deep technical skills, engineering capabilities, and significant and sustainable capital spend. Pemex has been unable to exploit its vast resources in the Gulf of Mexico because of capital and technical constraints. In the new model, Pemex (and the Mexican government) will be able to partner with companies, such as supermajors, national oil companies, and independents, that have the technical expertise and balance sheets needed to fully exploit the play. Companies that have operations in the deepwater U.S. Gulf of Mexico will be able to leverage their vast reservoir and drilling experience to select the most promising blocks while maximizing operational efficiencies along the exploration and production (E&P) value chain.

### Mexico: Oil and gas basins and producing regions



**Shale.** The shale oil and gas formations currently fueling the growth in U.S. production do not stop at the U.S.-Mexico border. Despite vast shale reserves, there were only three shale wells approved for production in 2012 in all of Mexico when there are potentially 60 bbl of reserves in Mexico<sup>2</sup>; the Eagle Ford in 2012 had over 3,300 wells drilled. Pemex does not have the technical and operating expertise to develop all of this resource — or indeed the financial resources — and thus it remains largely untapped. U.S. companies hold a significant advantage in their technical experience in extracting hydrocarbons from shale and other tight reservoirs. In fact, smaller independents have shown that a nimble, more manufacturing-centric operating model provides a competitive advantage. The shale plays in Mexico should be similar to those in the Eagle Ford where US companies have developed expertise and may also provide an opportunity for smaller Mexican oil companies.

**Existing fields.** The many innovations in oil and gas exploration and drilling in the last decade have allowed for new techniques to further exploit existing conventional oil and gas assets. Deploying new technologies may help these older fields become more productive. Successful partners for these plays will either have superior recovery technologies or the right operating margins to be profitable with brownfield economics.

**Midstream.** Rapid expansion of the oil and gas market can lead to infrastructure challenges. Just as we have seen in the U.S. with the shale boom, Mexico will need substantial infrastructure to produce the new resources. As of November 2012, the Mexican gas pipelines had reached their capacity limit (President's energy reform proposal). Increasing demand and the very limited transport capacity provide a major opportunity for midstream companies to actively engage in developing the logistics and distribution requirements across the full supply chain. This will create many opportunities for midstream companies to collaborate with the government and/or private companies to build out this infrastructure.

**Downstream and petrochemical.** In the current structure, the Mexican government has burdened Pemex with funding the current retail price subsidies and as such, Pemex does not have the funds to invest in expanding or properly maintaining refining capacity to meet the increased demand. The reform would unburden Pemex from funding the retail subsidy directly, and Pemex would then be able to reinvest in their downstream infrastructure. As a side benefit, making the retail subsidy system transparent and directly funded by the government could motivate Mexican and international companies to invest in refining. Additionally, as shale production comes on line, Mexican refineries which are well suited for shale oil will be able to process shale more efficiently.

The combination of the shifting of subsidies and the new source of supply should help Mexican refineries become profitable again. The reform will also transform the petrochemical industry in Mexico. Less expensive input costs from new fields, new partners with technical expertise and capital, and new transportation infrastructures should open Mexico's petrochemicals business to both domestic and export opportunities. In fact, Mexico could become the dominant petrochemical player in Latin America.

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## There is an estimated 29 BBL of untapped deep water reserves in Gulf of Mexico

Development of shale gas would have a larger economic impact for the Mexican economy. Mexico's gas production has been declining since 2009, and Mexico is importing about 40 percent of its natural gas demand, some 2,960 billion cubic feet from the U.S. and 175 billion cubic feet from liquefied natural gas (LNG) cargos that have approached \$20 per million British Thermal Unit (MMBTU).<sup>3</sup> Demand growth of 3 percent per year is not being met by domestic supply, and U.S. export pricing to Mexico (2012 Export vs. Henry's Hub) is running at a 15 percent premium from domestic U.S. pricing.<sup>4</sup> Pemex and other Mexican companies, who understand local regulatory and operating realities, should have first mover advantage and should be able to partner with U.S. shale players to quickly develop shale gas plays and significantly reduce energy costs across the country.

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## There is an estimated 60 BBOE of untapped shale reserves in Mexico



**Downstream retail.** There is a real opportunity for retailers to enter the Mexican retail market and they will be able to brand their sites since Pemex will no longer be the only brand of retail gasoline in Mexico. According to *Forbes* magazine, there are 10,000 service stations, and no Mexican group owns more than 400 stations. The market is fragmented and consolidations in the market are likely. A focused retailer, with ready capital, could enter the market, become aggressive in mergers and acquisitions, and quickly position itself as a leader.

### Implications for companies

#### Pemex — Not privatized but modernized

With these reforms, Pemex must become a profitable corporation and will have to stand on its own. The reforms establish some other important changes to how Pemex operates, giving them autonomy, which will allow for greater reinvestment of profits that are critical to fund increased production and infrastructure. Pemex's contribution to government revenues is expected to decrease as it transitions to being taxed like a private company, though the level of impact is not clear.

Pemex's Chief Executive, Emilio Lozoya, is supportive of the new regulations and says that the competition will make it a stronger company. In order to make good on this assertion and truly become stronger, Pemex will need to change its operating model, leverage improved technologies, and increase transparency in the bidding process. Under the new regulations, Pemex will streamline and have two subsidiaries — Exploration & Production (E&P) and Industrial Transformation which will include the legacy refining, petrochemical, and natural gas subsidiaries. Though not in the regulations, Pemex has announced that it will undergo a complete restructuring. At the end of the two-year transition, Pemex will become a state-owned, stand-alone enterprise with a new procurement regime, compensation regime, budgeting process, and new board structure with independent board members and no Union officials. This simplification of Pemex's business model and the restructuring will drive strategic focus.

In addition to these macro changes, Pemex also needs to be prepared to establish business units that can operate efficiently and effectively based on the type of resource play. As an example, some large integrated oil companies (IOCs) struggle to operate profitably in U.S. shale plays. Given that Pemex will not necessarily exploit its shale reserves with a partner, it should consider operating this part of their business separately and establishing the nimble mindset required to be successful. Alternately, the capital and risk required for deepwater is vastly different from the enhancement techniques that will need to be employed in its existing basins. Ultimately, this is not only about establishing the business units according to the asset type, but also about transforming its culture to operate according to new norms driven by operational needs and strategy. In fact, Pemex may choose to focus on one or two business segments where they have technical expertise and experience and not be a part of every play across every segment of the supply chain. Pemex will also be able to enter joint ventures with other oil companies, specifically with partners compensated for their production and able to book the value of these contracts.

#### Other Mexican companies

There are more than 50,000 Mexican companies in the oil and gas sector that generate over one million jobs.<sup>4</sup> And, although these companies generally lack the scale and expertise for E&P, they may be able to participate in distribution, storage, logistics, services, and petrochemicals. In fact, they may "take a page" from the U.S. and see the Mexican shale play as an opportunity to become a Mexican independent. They understand the political and regulatory landscape and have established relationships with government and community leaders. As foreign investors develop their plans for partnerships and alliances, they should consider these existing companies as potential partners. There is an expectation that there will be a preference for bids that include Mexican companies and/or create jobs for Mexicans. Foreign investors should take heed in developing their business models and should consider engaging Mexican partners where it makes sense.

Additionally, the petrochemical, industrial, and manufacturing sectors should also see increases in demand as a result of the deregulation. These companies will be able to benefit from cheaper feed stock and even cheaper transportation costs over time.

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## Pemex will have first mover advantage in the marketplace

### Integrated oil companies

The large integrated oil companies (IOCs) or supermajors have the potential to increase their production flows in a relatively stable country that does not have intense geopolitical risks and still has the vast reserves required for large scale investments. Large IOCs can do this through investments in deepwater, conventional, or shale. IOCs can leverage their balance sheets and technical capabilities for deepwater or enhanced drilling techniques for conventional plays. IOCs are attractive to the Mexican government because they bring stability, brand recognition, and deep pockets. Alternately, Mexico may offer some IOCs that have been less successful in shale, an opportunity to acquire improved acreage, erasing the head start that many independent oil companies currently have in shale.

### Independents

In the U.S., the independents are driving the shale oil and gas revolution. Independent oil companies have the skills and focus required for efficient horizontal drilling and fracking. They are well suited to establish profitable partnerships and joint ventures with other Mexican oil companies. They will bring their technical know-how, as well as “quick turn” manufacturing style drilling that allows shale gas production and lowers the price of gas as it has in the U.S. Mexican firms will bring expertise in Mexican labor markets and regulatory affairs. If Pemex is not aggressive in its pursuit of shale, there will be a proliferation of new joint ventures between smaller Mexican firms and U.S. independents.

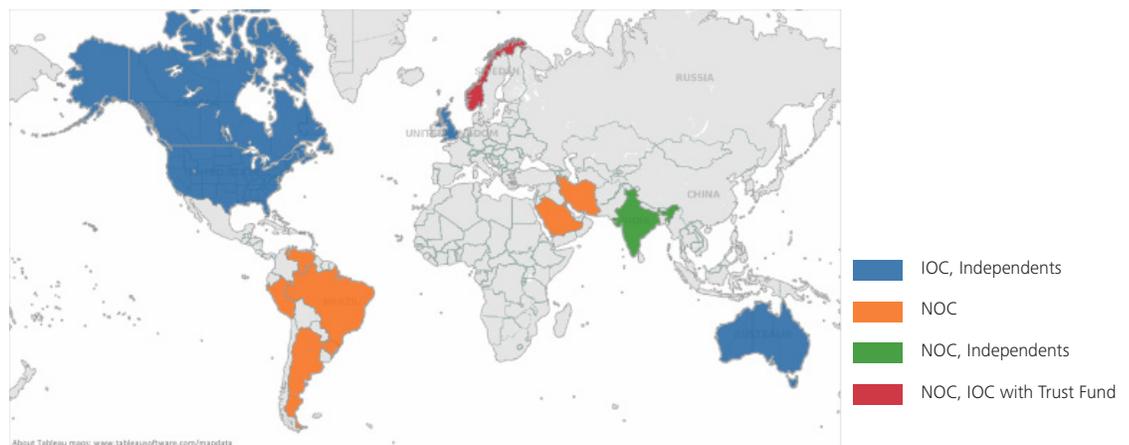
### Services companies

Unlike the large oil companies, many oil services companies currently have extensive operations in Mexico even prior to the legislative changes. Halliburton and Schlumberger each earned \$1 billion in revenues in Mexico in 2012.<sup>5</sup> Service companies that have been in Mexico for a while have a wealth of seismic and geological information that could make an important difference in an environment where data will be uncertain. Mexican service companies, like Petrofac, have already successfully won four contracts that give them first mover advantage. The deregulation of the Mexican market stands to accelerate growth of the services companies. Going forward, the services companies will be able to seek partners for more than their current cash service contracts allow. More lucrative contracts and more E&P activity ensure that services companies will benefit greatly from the Mexican market. Given the intensity of the work ahead, innovative service delivery and cost sharing models will need to be explored. A likely scenario would see services companies partnering with local companies to form new Mexican independents, a marriage of technical expertise and local content.

## More than 50,000 Mexican companies are tied to the oil and gas industry

### National oil companies

There are many possibilities for national oil companies (NOCs) to take advantage of in the Mexican energy market. Brazil, having undergone its own deregulation in the last couple of decades, has transformed itself into a preeminent deepwater producer; Pemex has a similar opportunity. In contrast to the IOCs, they (and other NOCs) could offer substantial technical capabilities, especially in deepwater. NOCs take a longer-term view and may settle for lower margins for long-term production that may be attractive to the government. However, most NOCs have concentrated on large plays and are not as experienced in shale. Politically, Mexican citizens may have sovereignty issues with other countries owning and operating in Mexico and any NOC will have to demonstrate a Mexico-first operating model to be successful.



### Potential impact on global oil and gas markets

Mexican oil production is expected to increase by 40 percent or greater, up to 3.5 million bbl/d by 2025 with the reforms in place.<sup>6</sup> The additional 2.5 million bbl/d is the equivalent of adding another Columbia to the global supply. This would catapult Mexico to the fifth largest global producer from its current standing as the tenth largest. Gas production could double by 2025 to 10.4 billion cubic feet from the current 5.7 billion cubic feet.<sup>1</sup>

The potential growth in North American production will further alter the global energy landscape. Mexico's increased production in combination with the production increases in the U.S. and Canada will mean that North America's production is greater than all OPEC nations. Additionally, Mexico's competitive position will be strong with less challenging geopolitical issues than Nigeria or Venezuela, and better known and friendlier geology than the Arctic.

### Conclusion — Full steam ahead

Pemex has the ability to pick areas to explore and produce during Round Zero. Private domestic and international companies can collaborate with it during that process. Pemex Chief Executive, Emilio Lozoya, was quoted in the *Wall Street Journal* as saying, "As of the first or second quarter of next year, we'll be ready to listen to investment proposals," adding that the first barrel of oil coming from a partnership with a private firm could be out of the ground as soon as late 2014 or early 2015.<sup>7</sup> The areas with the greatest potential are technologically challenging and will require Pemex, who has not invested sufficiently in new technology in the past, to partner with more innovative companies.<sup>8</sup> Currently, many elements of the reform are uncertain and there are numerous regulations that need to be drafted which will take time. Nonetheless, there are numerous regulations that need to be drafted and it will take time. For instance, there are nearly 30 secondary regulations that need to be drafted from scratch. The secondary regulations are supposed to be ready by April 19, 2014 (120 days since promulgation).

Companies will need to strike a balance between being bold and prudent. Whether you are Pemex, a supermajor, an independent, an NOC or oil field service company, there are opportunities for all. You just need to understand what your competitive advantage is, find the play (and partner), plan and organize, and then execute. The new Mexico should be a rewarding and interesting place to do business!



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