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The Missing Piece: Unlocking Mexico's Energy Potential

Michael Cohen
+1 212 526 3606
michael.d.cohen@barclays.com

Marco Oviedo
+52 55 5241 3331
marco.oviedo@barclays.com

Biliana Pehlivanova
+1 212 526 1170
biliana.pehlivanova@barclays.com

www.barclays.com

- **The Mexican senate recently approved landmark legislation that could reshape Mexico's oil and energy landscape by opening up the industry to further foreign investment.**
- **Mexico's oil sector has promising resource potential, relatively low costs of production compared with regional peers, and proximity to the US Gulf Coast refining system.**
- **Crude production may increase slightly from 2.5 mb/d, but reaching the government's target of 3 mb/d by 2018 and 3.5 mb/d by 2025 is ambitious. Substantial additions to oil and gas supply in the offshore Gulf of Mexico or at tight/shale oil and gas basins will require long lead times, but in the near term, continued enhanced oil recovery offers small incremental gains.**
- **Cheap natural gas feedstock and the removal of subsidies could improve the efficiency of Mexico's economy, accelerating Mexico's economic growth over the medium term.**

On December 10, the Mexican senate approved landmark legislation that could reshape Mexico's oil and energy landscape by opening up the industry to further foreign investment. This serves to connect the last missing piece of the North American energy landscape. Adding Mexico's oil and gas resources to world markets, given the US's tight oil and gas and Canadian oil sands, could have dramatic implications in the medium and long term. The economic and political incentives have aligned to push forward this reform legislation, though further approvals are needed and some marginal changes are still likely. Mexico's oil sector has promising resource potential, relatively low costs of production compared with regional peers, and proximity to the US Gulf Coast refining system. However, unlocking these resources is bound to be a slow process, requiring a more than doubling of investment levels. Substantial additions to oil and gas supply will require long lead times. Crude production may increase slightly from 2.5 mb/d, but reaching the government's target of 3 mb/d by 2018 and 3.5 mb/d by 2025 is ambitious. Moreover, if it is properly implemented, the economy could accelerate over the medium term. The challenge is to provide a legal framework that could reduce the risks of implementation failures and the existence of bottlenecks, such as unnecessary regulation or lack of proper infrastructure or human resources.

Mexican reforms to unlock energy sector's potential

Mexico's senate recently approved an energy bill that would permit foreign companies to drill for resources in a constitutional amendment approved by 95-28. The new law would allow production-sharing contracts and licenses for companies and enable companies to book reserves. Most importantly, it would allow Pemex, the state oil company, to share financial risk and give it more freedom to invest in the most prospective areas of the country, rather than have its capital allocation decisions decreed by the government.

The amended article, Article 27 of the Constitution, states that "in the case of petroleum, and solid, liquid, or gaseous hydrocarbons, no concessions or contracts will be granted." Further details of the reform have yet to be finalized, but we do not expect major changes to the legislation. The Constitutional amendment must still pass the Chamber of Deputies by two-thirds, expected to be voted by mid-December, and a simple majority in local congresses. Secondary/implementing legislation is likely to be proposed by April 2014 at the latest.

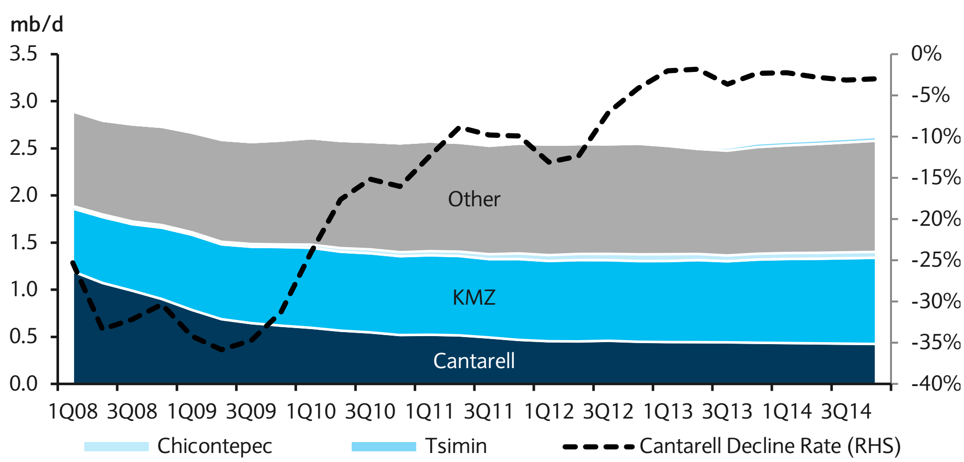
The context

Mexico's oil sector has been closed to foreign company participation since 1938, when foreign oil companies were expropriated by the state and the 100% state-owned Pemex was created. Pemex is one of the most important contributors to the country's GDP, contributing about 8.6% of the country's GDP and 33% of public sector budgetary revenue (*IMF Article IV*).

Proven reserves of about 11bn barrels are only a fraction of company-estimated resource potential, meaning that further work is needed to turn these resources to commercially viable reserves. PEMEX estimates that the proven, probable, and possible reserves (3P) are 44.5bn barrels of oil equivalent, while prospective resources total 114.8bn barrels. Of the latter, 60.2bn barrels are from deepwater fields and shale oil and gas. Accordingly, while PEMEX currently invests $24bn per year, the company estimates that to reap the total amount of prospective resources, it would require approximately USD62bn of annual investment, 2.6 times the current level. Moreover, most of these projects imply a higher level of cost and risk. Accordingly, if the reform succeeds, we think investment in this sector could improve to 2.5-3.5% of GDP starting in 2016, from 1.7-2.0% of GDP in an inertial scenario. If most of the new investment should come from foreign counterparts, FDI could double to $40bn on average.

FIGURE 1

Mexican oil production will struggle to exceed 2.6 mb/d in 2014



Source: CNH/SENER, Barclays Research

The US shale revolution, declining oil revenues, and the right political alignment make structural reform of the oil sector a real prospect. Despite promising geology and a relatively competitive cost structure, Mexico has missed out on the development interest that has transformed the US oil industry over the past decade. With production in decline, oil revenues, which represent about 8.6% of GDP have also suffered, hurting overall GDP levels. Mexico benefits from low cost production on average, about $11/boe (Figure 3), because around a third of its oil production comes from the shallow water, where costs are lower. But as natural decline set in at the Cantarell field, oil revenues have declined at the same time that primary spending has increased. The IMF noted in a November report that although high oil prices contributed to strong economic growth from 2000-12, only a trivial amount was added to the oil stabilization fund.

Similarly, Mexico has failed to benefit from the US shale revolution in the natural gas sector and relies entirely on conventional gas production. Nearly 70% of Mexico's natural gas output is produced in association with crude oil. Economics are in the driver's seat: for 2012, PEMEX reports finding and development costs of $13.77 per boe and production costs of $6.84 per boe, compared with an average price of the Mexican crude oil basket at $101.90 per boe. In contrast, natural gas prices are regulated and benchmarked to the US ones, which averaged $2.75 per MMBtu in 2012, equivalent to $16.50 per boe. Capital spending is heavily focused on maintaining oil output, and non-associated natural gas production is left dwindling: from a peak of 6.5 Bcf/d in January 2010, Mexico's natural gas output has dropped to 5.6 Bcf/d in July 2013, due entirely to non-associated gas.

The reform

Negotiations in Congress pushed a better-than-expected energy reform. The original proposal had the risk of not attracting the relevant operators by considering only profit-sharing contracts. However, the National Action Party pushed a bill that considered the possibility of production-sharing contracts and licenses that could allow transferring the final production to private companies as a means of payment. More importantly, booking reserves will be allowed, a crucial change that should increase investment.

The best fiscal reform is the energy reform

If the reform is successful, oil revenues will be boosted. Pemex's new fiscal regime standardizes fiscal treatment with the rest of the industry by introducing a base royalty, dividing profits between the government and the company and taxing Pemex profits with a corporate income tax. In net terms, Pemex will likely have more resources to invest as the dividend obtained by the government is gradually reduced by 2026. The government will be obtaining the oil rent from new contracts and the proceeds will be invested in an oil fund, managed by the central bank. Stronger oil revenues should also imply that public debt requirements could be lower in the medium term, for Pemex and the federal government. In that sense, we expect an upgrade in Mexico ratings in the near term, as the implementation of the reform should materialize in higher growth and successful contract signing.

If the Constitutional change is approved by the Lower House in the coming days, secondary laws need to be enacted during H1 14, and an implementation process should occur throughout H2 14 and part of 2015. The first contracts could materialize by then and the first flows of investment could be seen by 2016. Nevertheless, the challenge is to provide a legal framework that could reduce the risks of implementation failures and the existence of bottlenecks, such as unnecessary regulation or lack of proper infrastructure or human resources. In any case, approval of the Constitutional change would be a first step in the right direction.

The legislation includes the following proposals:

- Allows oil and gas E&P contracts between private parties and the federal government.
- Pemex receives first preference on particular fields for the performance of E&P operations, the first right to explore fields where it has made commercial discoveries, and the first right to continue to produce at fields where it is currently producing.
- Foreign companies can book reserves for accounting purposes.
- Bidding and awarding of contracts for oil and gas activities will be the purview of the National Hydrocarbons commission.
- Introduction of new rules on transparency for E&P contracting and publicly accessible bidding guidelines.
- Banco de Mexico will handle the Mexican Oil Fund as trustee. The fund will oversee the payments derived from oil and gas contracts.

The potential

Mexico offers a prospective opportunity for companies to invest, with finding and developing costs about half of the average of its Central and Latin American peers. For countries that seek a stake in South and Central America, Mexico's oil resource base offers a good comparative opportunity that is lower cost than Colombia's heavy oil resources and Brazil's deepwater resources. But tax obligations have almost eliminated Pemex's net income, making it very difficult for the company to replace reserves fully over the past three years. In 2012, Pemex paid roughly 65% of revenues and 80% of EBITDA in taxes, according to a recent Barclays research *note*. While some of its peers in the region have replaced reserves two to six times over, in 2012 Pemex achieved 96% replacement. Recent exploration spending stands to help the company change direction. Pemex's surge in development spending comes after the large offshore discoveries made in 2012, ramping up capital spending to about $14.6bn over the past decade. Our colleagues in Equity Research *note* that offshore activity is likely to get a boost from the reform.

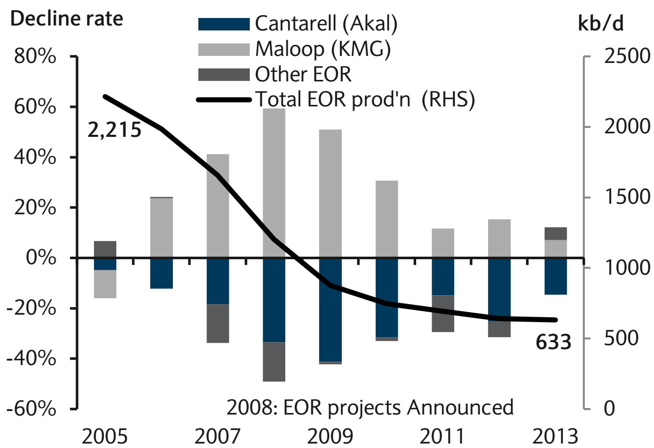
On the natural gas side, the EIA puts Mexico's technically recoverable shale gas resources at 545 Tcf and ranks the country sixth in the world behind China, Argentina, Algeria, the US, and Canada. While Pemex is advancing its understanding of Mexico's shale gas potential, it is devoting only a small portion of its budget to these resources. So far, the company has identified 175 exploratory opportunities in five geological basins. It has drilled four wells, which have verified the continuation of wet and dry gas zones in the Eagle Ford shale in Mexico's basins. While opening the natural gas sector to private investments should attract exploration activity, the benefit is likely to be overwhelmingly in favor of oil targets, rather than natural gas, since similar to the US, economics strongly favor oil production.

Improved economic growth

We believe that the potential effect of the reform on economic growth could be quite sizable. As we wrote in *The summer of Mexico: the power of political coordination* May 2, 2013, the reform solves the risk-ownership barriers set by the Constitution, and investment in the whole sector could increase at least 50% in a sustainable manner. Moreover, higher availability of natural gas at lower prices should have a positive effect on industrial tariffs, which are on average 45% higher in Mexico than in the US. If the reform is successful, cheaper and available natural gas and lower industrial electricity tariffs could increase the competitiveness of the manufacturing sector, increasing potential growth. Economic growth could therefore be improved 1.5%, on average, starting in 2018. Accordingly, the Mexican economy could be growing at rates close to 5% in a sustainable manner.

FIGURE 2

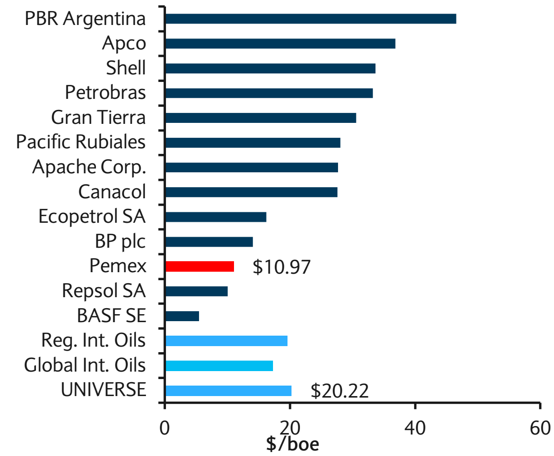
EOR projects have stemmed Mexico's oil production decline



Source: CNH/SENER, Barclays Research

FIGURE 3

Pemex's finding and development costs are almost half of its peers



Note: Three-year average of 2010-12 averaged F&D costs. Source: IHS Herold Performance Metrics for S. and Cent. America, Barclays Research

Recent production trends

Enhanced Oil Recovery (EOR) projects already underway and several small new fields will continue to play an important role in keeping Mexico's oil production elevated in the medium term. Mexico awarded service contracts to firms such as Schlumberger and Baker Hughes over the past decade to enhance oil production from existing fields. In addition to the nitrogen injection program underway at the Akal part of the Cantarell field, which has stemmed natural production declines more than 30%, Pemex undertook additional EOR work at nine other fields, including part of the KMZ field. Keeping this production above 600 kb/d, along with ramping production from several small new fields, would help maintain output (Figure 3). In the offshore southeast part of the country, production is up almost 50 kb/d from a year ago, due to new production from the Chuhuk and Tsimin fields. About 50 kb/d more production is expected from these fields over the next two years, which would mask the disappointing performance at Chicontepec.

Liberalizing downstream activities: Eliminating bottlenecks

In addition, opening the downstream activities to the private sector (refining, petrochemicals, and distribution) should diminish the presence of bottlenecks in the economy, given that only one firm has been responsible for such operations in the past 80 years. The government plans to phase out gasoline by end-2014, and the domestic gasoline price will rise with domestic inflation starting in 2015. To avoid the re-emergence of a subsidy, the government also plans to raise domestic prices further in line with the international market. This would give Pemex more money to invest elsewhere, reducing losses. And it should help improve end-user expenditures, resulting in higher and more sustainable rates of economic growth.

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