Mexico’s Shale Potential
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Shale plays in Mexico are considered one of the most important in the world. It ranks #6 in gas and #8 in oil (Table 1) with estimated technically recoverable resources of 545 Trillion Cubic Feet (Tcf) of natural gas and 13.1 billion barrels of oil and condensate, according to the Energy Information Administration (EIA).

These unconventional resources are located along Chihuahua, Sabinas, Burro-Picachos, Burgos, Tampico-Misantla and Veracruz geological provinces. Since 2010, there have been exploration activities mainly in Burgos, Tampico-Misantla and Sabinas Basins, but limited activity for the rest of the areas.

The development of gas shale plays, in particular, represent a compelling value proposition for the country to meet the increasing demand while reducing the dependency on natural gas imports and counteracting the decline in production, but on the other hand it must make economic sense.

As a result, the National Hydrocarbons Commission (CNH) has announced the first unconventional bid round (Round 3.3) to be held on September 5th, 2018. The auction is one of the eagerly awaited calls, and encompasses 9 onshore blocks for exploration and production in the Burgos Basin – known for its gas and condensate production (Northeast of the country – Figure 1).
The excitement on unconventional in Mexico comes mainly from the fact that the Upper Cretaceous Eagle Ford Formation, which is probably the most active shale play in the world, underlies much of South Texas and extends into Mexican territory, where in some areas adopts a new name: the Agua Nueva formation. Additionally, the well-known Haynesville formation in the US continues into Mexico where the analogous formation is called Jurassic Pimienta / La Casita.

Based on current limited data, the Eagle Ford/Agua Nueva formation on Mexican territory shows similarities to its commercially producing Texan equivalent and it is estimated to house two-thirds of the unconventional resources. However, the geological structures on the Mexican side are considerably more complex: the shale zone is narrower, has lesser continuity and is structurally more disruptive.

On the other hand, the Jurassic Pimienta / La Casita, is considered the most attractive unconventional target in Mexico as it does not have the challenges from the Eagle Ford / Agua Nueva. However, it comes with its own peculiarities: the formation lies deeper than Agua Nueva - below the 3000 meters mark that translates into more technical and operational challenges. Additionally, Pimienta / La Casita only houses one-third of the estimated technically recoverable resources.

Burgos Basin holds the largest undeveloped shale resources in Mexico which offers a clear opportunity for investment. It is still a green-field where the activities developed so far has not been enough to properly characterize the plays. Participants to Round 3.3. will have to use their technical knowledge and expertise in unconventional to assess the blocks with the limited data available in the room that consist of 20 wells and scarce 2D-3D seismic information (Figure 2).

The current technical requirements for participation does not state that the operator must have experience in unconventional plays. As a result, these operators must arm themselves with people with experience, join other in consortium, hire OFS companies or be vulnerable to the big challenges that these plays will bring.

Round 3.3 is only the beginning for the Mexican Era of Unconventionals as it represents only 4% of the total technically recoverable resources published in the 5-year plan.

Operators must decide whether or not to set their footprint earlier in one of the largest shale reservoirs in the world and using it as an advantage for future rounds, while leveraging their expertise to make positive returns out of their investment.

Sources:
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