



EVALUATING PEMEX'S DRILLING EXPANSION TO COMBAT DECLINING OIL RESERVES



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EXECUTIVE SUMMARY

With the world's 16th largest source of proven oil reserves, Mexico is an important supplier to the global oil market. Through high taxes on its sales, PEMEX supplies over 40% of the revenue to the Mexican government. This considerable dependency on oil for revenue creates an incentive for political involvement in PEMEX's operations. PEMEX underinvested in exploration since oil was easy to extract, which led to a decline in oil reserves beginning in the mid-1980s. In 2000, PEMEX made a concerted effort to expand drilling in hopes of reversing this trend at the order of Mexican President Vicente Fox. From 2000-2008, the drilling expansion was the largest attempt to increase exploration and production in the company's history. Despite these efforts, oil production has been declining since 2004 and the U.S. Energy Information Administration estimates that Mexico could become a net importer of oil by 2020.

MEXICO NATIONALIZED THE HYDROCARBON SECTOR IN A MOVE THAT THE MEXICAN PEOPLE CELEBRATE ANNUALLY AS THE EXPROPIACION PETROLERA (OIL EXPROPRIATION)

No publications incorporate historical data and the present trends using quantitative methods to determine the effectiveness of PEMEX's concerted effort to reverse declining oil reserves since the year 2000. This report assesses PEMEX's drilling expansion to combat declining oil reserves to determine the likelihood of an economic crisis in Mexico within the next decade.

ANALYSIS OVERVIEW

The comprehensive analysis contained in this report includes:

1. An evaluation of PEMEX's competitiveness compared to other national oil companies and international oil companies
2. An analysis of the likelihood that Mexico has reached peak oil production
3. Updating a well-respected analysis done on the oil industry in Mexico
4. A sustainability evaluation consisting of statistical correlations, econometric models, and a cost-benefit assessment
5. Comparisons of actual oil production and reserve levels versus expected levels had the drilling expansion not occurred

The analysis shows the drilling expansion has been partially successful through 2008 but concerns exist over the sustainability of PEMEX's current policy including a steep decline in oil production since 2004, which appears to indicate Mexico has surpassed peak oil production. In addition, a 300% increase in operating costs since 2000 highlight the need to control costs as PEMEX extracts oil from more remote and expensive areas. Using correlations and econometric models, the analysis confirms a diminishing rate of return for each new well drilled and an increasing marginal cost per barrel of oil extracted. Reforms in operations and international partnerships can alleviate these problems to improve PEMEX's access to capital and ability to increase oil reserves in the long term.

This report considered several policy criteria that provided a framework for the analysis and recommendations. These criteria included political feasibility, the circumstances leading to Mexico's energy reform in 2008, economic and technological limitations, energy forecasts for Mexico, the historical perspective of other petro-states, and recent changes in U.S. energy policy.

RECOMMENDATIONS

1. Mexico and PEMEX should undertake a public campaign to highlight international partnerships with the governments and national oil companies of Norway and Brazil in order to change political will in Mexico
2. PEMEX's drilling expansion has been partially successful and should continue depending on operating costs and access to capital