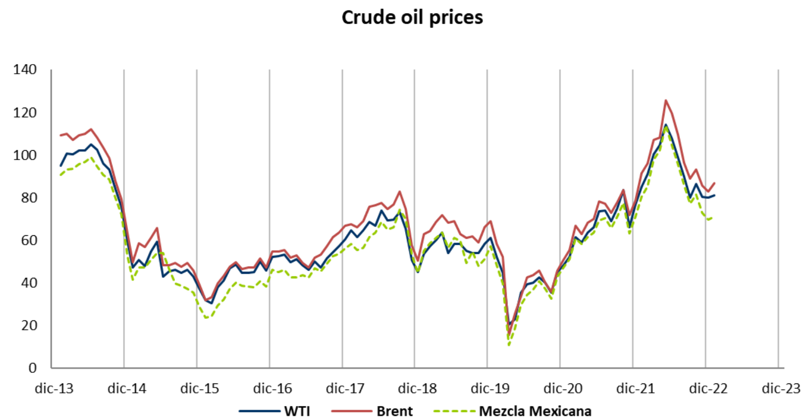
January, 2023

Table of Contents

This month in review

** 27/01/2023 **30/01/2023*

Crude oil price MME US/BD*	71.07
NG price HH* US/MMBTU	2.84
Mx crude production MMbd – *December*	1.61
Mx NG production MMpcd – *December*	4,885
US crude production MMbd - *October*	11.57
FX Rate**	18.77



Source: EIA. El Reforma, Pemex, Banxico, and CNH

Oil & Gas - Mexico

Pemex: The case for an IPO – *Luis Miguel Labardini (MyA Partner)*

The issue of financing Pemex investments has been a permanent concern since its inception on June 7, 1938. All large corporations have a portfolio of opportunities that require additional financial resources. These resources are generally provided by a combination of fresh capital and some healthy debt, in addition to the cash flow plowed back by ongoing operations. Unfortunately, such has not been the case for Pemex. Historically, Pemex has not received fresh capital from the federal government, but the government has mostly exacted not only the available cash, but also resources dearly needed to finance very profitable investments in exploration and production. There have been moments in which Pemex has had to acquire additional debt just to transfer the proceeds to the government.

Throughout most of its existence, Pemex has financed investment with debt and some of the cash available from operations. The outcome of decades of this practice is a company that has had to increase its debt to a level that currently stands at USD $105 billion, and since "there is no such thing as a free lunch," Pemex's equity is negative to the amount of USD $78.7 billion.

It is a fact that the only administration in Mexico's history that has provided fresh capital, thus reducing negative equity, is the López Obrador administration. It must be said, however, that it might be too little, too late. One thing is clear: The Mexican government is not going to let Pemex down. However, the Mexican government does not have all the required resources needed to maintain a lifeline to Pemex indefinitely for Pemex to have all the resources needed to not only service its debt, but to tackle a very hefty portfolio of E&P opportunities.

It must be said that Pemex is a very successful company when it comes to exploration and production. Only in the first half of 2022, Pemex E&P generated a net income of nearly USD $12 billion, and in 3T22, Pemex Corporation produced an impressive EBITDA of USD $8.6 billion. Between January and September 2022, Pemex's net Income was positive, at USD $9.6 billion, the highest in the last 12 years.

Pemex is in the situation of many Mexican companies that have healthy and profitable operations, but have to deal with the heavy burden of gigantic debt. These are two faces of the same coin. The question should be: How to finance an optimum level of investments, while continuing to service a debt that was the product of the bad policies of the past?

Acquiring additional debt does not seem to be a realistic alternative. Fitch rates Pemex below investment grade at BB- with a stable perspective; Moody's reduced even further its rating from Ba3 to B1, improving the perspective from negative to stable. For S&P, Pemex is still investment grade at BBB with a stable perspective, based on the commitment of the federal government to continue its ongoing support. The conclusion is that Pemex's access to capital markets is limited because of its high credit risk and the fact that its financial costs have increased significantly.

A sensible alternative is to develop specific fields with the participation of private operators. Such is the case of the agreement recently signed between Pemex and New Fortress Energy to continue the development of Lakach, a deepwater, dry gas field. The project was abandoned by Pemex six years ago after making an investment of USD $1.4 billion. New Fortress will invest USD $1.5 billion, including the development of LNG facilities to export the produced natural gas.

Notwithstanding the above, we must recognize that the financial problem is structural, and it requires a definitive long-term solution that will solve the issue once and for all. Pemex is "too big to fail," and is still a very important player in the Mexican economy. It must remain that way for many years to come.

From a financial theory perspective, the answer is very simple: stop increasing debt and inject fresh capital through the participation of Pemex in international capital markets. The subject has a strong ideological load in Mexico for historical reasons. However, this alternative must be thoroughly discussed since it is, perhaps, the only way to provide Pemex with the optimum level of investment that could allow it to find and develop prospective resources and discovered reserves.

There are many countries with national oil companies (NOC) that eventually took the decision to proceed with an IPO to clean the balance sheet and provide the optimum level of fresh capital required for the NOC to reach its maximum potential.

Two relevant examples are Spain and Brazil. The Spanish NOC, Repsol, made its debut in international capital markets in 1989, under the government of President Felipe Gonzalez, a historic figure of the Socialist Workers Party. Petrobras, launched its very successful IPO in September 2010, under President Luiz Inacio Lula da Silva, a founder of the Workers Party. Today, both corporations have healthy finances and are traded at a multiple of their values at the time of their IPOs.

One very recent case that should be highlighted is that of KazMunayGas (KMG), the NOC of Kazakhstan, that began trading its shares on the Astana International Exchange on Dec. 8, 2022. This IPO was presided by Kassim-Jomart Tokayev, President of Kazakhstan, and a former Soviet diplomat and Under-Secretary of the United Nations. Unlike the other two IPOs, the KMG IPO took place only on Kazakhstani exchanges, with applications of 48.5% for Kazakhstan citizens, 47.2% for Kazakhstani legal entities and only 4.3% for foreign individuals and legal entities.

Any debate on the Mexican case should begin by acknowledging that the NOC does not capture the economic rent of hydrocarbons, but is only an "operator," as in the case of IOCs and other private oil companies. In a good fiscal regime, the "Oil Rent" is entirely transferred to the state (In the case of Mexico, El Fondo Mexicano del Petróleo) through the payment of royalties and other taxes, that average around 70 percent of the price of a barrel.

AMLO says plan coming for Pemex's debt, including possible transfer – *Bloomberg*

Mexico is developing a plan to help Pemex pay off some of its $105 billion in debt through measures such as tax reduction or a transfer to the government, sparking a rise in the oil company's bonds. The Finance Ministry could cut taxes or transfer Pemex debt to sovereign debt, said AMLO. "It has been done since the first year, and we are going to continue doing it, and other actions, helping with the transfer of Pemex debts to sovereign debt, to treasury debt," he noted.

The aid would be a boon for Pemex, which has the highest debt of any oil company in the world. Yet the risk is that it could negatively affect already-strained public coffers. Lopez Obrador noted that lawmakers have already approved a debt limit for the government that it cannot go beyond. "For years the Mexican government has been coy about support for Pemex, having them issue bonds to repay maturing debt, as if market discipline would keep the company in check, but it hasn't worked," said Roger Horn, a senior strategist at SMBC Nikko Securities America in New York. "AMLO coming out and saying that some debt could be transferred the government is the most explicit anyone has been."

The government has spent more than $20 billion in capital injections and tax cuts for Pemex since AMLO swept into power in late 2018. Pemex's profit-sharing duty has been slashed several times to reach 40% in 2022, from 65% in 2019. Yet it hasn't been enough to move the needle. The state oil company is facing a liquidity crunch, with payments piling up after nearly two decades of declining oil production. Revenues have also suffered as the firm focuses on refining.

One concern is how the government will help Pemex while maintaining its policy of fiscal austerity. Public coffers are constrained due to massive, over-budget government infrastructure projects such as the Train Maya and the Dos Bocas, or Olmeca, refinery — which has yet to produce gasoline.

Fitch Ratings managing director Shelly Shetty said at an event in Mexico City that Pemex's debt was about 7% to 8% of gross domestic product. Mexico has kept its debt level below 50% of GDP, which has helped support the peso, she said. Bloomberg reported that Pemex could issue as much as $2 billion in bonds to help pay off amortizations that account for about $10 billion this year.

Oil investments reach 27% of the approved amount – *CNH*

As of November 2022, oil companies have invested USD $12.43 billion since the market opened in 2015. Almost 60% of this investment was made by Pemex, ENI, Hokchi Energy and Fieldwood Energy.

CNH has approved investment plans worth USD $46.61 billion for exploration, evaluation and development plans granted in bidding rounds. The total investment has been approved to be done over a period of 10 years, from 2015 to 2025. Out of the total figure, USD $21.87 billion were approved for the period from 2015 to 2022, while the remaining USD $24.74 billion were to be invested from 2023 to 2025. However only 27% of the total amount approved has been invested. This represents only approximately 45% of the approved investment for the period between 2015 and 2022.

Until September 2022, Ek-Balam is the area with the highest amount invested so far with USD $2.19 billion, while Eni's Amoca, Teocalli and Miztón are in second place with an investment of USD $2.14 billion. Finally, Ichalkil and Pokoch are in third place with a total investment of USD $1.57 billion. The Hokchi field reports a total investment of USD $1.53 billion and Woodside's deepwater field Trion has an investment of USD $640.

Pemex fails to reach production and refining targets in 2022 – *Business Mexico News*

Annual oil production registered its lowest level in the past 43 years. In 1979, Mexico registered a 1.461MMb/d production, while 2022's annual production stood at 1.622MMb/d. Similarly, private players reported production of approximately half of their combined original production target, lingering at 102,750b/d. The NOC furthermore did not manage to hit its refining targets.

Pemex is responsible for about 94% of oil production in Mexico but saw a significant year-over-year decline in the barrels it produced. Analysts attribute this to the decline of one of Pemex's main production assets, Ku-Maloob-Zaap.

Fifty-two percent of the Pemex's production comes from the Maloob, Zaap, Quesqui, Ayatsil, Xanab, Balam, Tupilco Profundo and Yaxche fields. Some of Pemex's key production fields that declined the most are Xanab and Esah, which reported higher water retrieval than oil production in 2022. The risk of this happening at times leads assets to close down sooner. Pemex was fined by CNH in 2018 due to a breach in the field's development plan, accelerating the production of water and dropping oil production. Moreover, Mexico's private production did not reach its production target for the fourth year in a row. The IOCs set out to produce 209Mb/d for 2022 but reported a 102.75Mb/d production, 49.2% below the government's goal. The companies that reported the lowest levels of production were Eni and Fieldwood Energy, while Hokchi reached its highest production level. Together, the companies account for 80% of private production.

Furthermore, Pemex reported its production figures including natural gas condensates to investors in order to show production numbers. This is not a common practice in the hydrocarbons sector as stipulated by the Petroleum Resources Management System. Using this metric, Pemex reported a 1.84MM/d, closer to the original 2MMb/d target set by the López Obrador administration.

Amid low oil production, Pemex also failed to hit its refining targets. Although refining increased in 2022, its average of 814,524/d for the first 11 months has remained 32% below the target. What is more, fuel oil production has increased. Similarly, the use of the installed refining capacity is at one of its lowest points since 2012. While the SNR produced fuels at 77.7% capacity in 2012, it was producing at 49.7% of its capacity in November 2022.

Pemex to start Zama's development in 2024 – *CNH*

Pemex reported its 2023-2027 Business Plan to CNH. According to the document, operations at the Zama field will start in 2024. In 2017, Talos Energy was the first private company to find oil in Mexico in 70 years, discovering the Zama field in the Southeast Basin, 60 km off the coast of Tabasco. Zama is considered to be one of the most promising shallow water fields in the world. However, it was later discovered that the reservoir extended into Pemex's Uchukil project. While both companies wanted to become Zama's operator, they failed to reach an agreement, and the energy ministry intervened by appointing Pemex as the sole operator in July 2021.

Many analysts interpreted SENER's polemic decision as harmful to Mexico's legal certainty, deeming the topic a consistent and urgent issue. The development of the Zama field stalled due to the disagreement. Nevertheless, this past October, following intervention by President AMLO, progress appeared to have been made concerning Zama. Talos subsequently announced that the Joint Development Plan of the Zama Field will be presented to CNH by March 2023, including the terms for the development of both companies.

Pemex included the development of the Zama field as one of the top five priority projects for its 2023-2037 investments. Pemex is currently working with its partners, Premier Oil, owned by Harbour Energy, and Sierra Oil, owned by Wintershall Dea, on the field's development plan, which is set to be presented to CNH in 1Q23.

The 38 projects contemplated for Pemex's 2023-2037 Business Plan consider an estimated investment of MX$1.1 trillion (USD 58.613 billion). Furthermore, Pemex's 2023-2027 Business Plan includes efforts to implement a sustainable approach to its projects. As the government has announced increasing commitments to reduce environmental impacts, includes a Sustainability Plan 2023-2050 to address environmental, social and government (ESG) issues. The company aims to carry out this sustainable plan in 2H23.

Mexico's Pemex destroyed resources worth USD $342 million from two top fields – *Reuters*

Pemex illegally burnt off hydrocarbon resources worth more than USD $342 million in the three years up to August 2022 at two of its most important new fields. Three internal documents from the National Hydrocarbons Commission, revealed how Pemex destroyed gas and condensate resources worth USD $275 million from the Ixachi field in Veracruz and USD $67 million from the Quesqui field in Tabasco. The resources come as a natural byproduct of oil production. The report said Pemex has been burning off (flaring) much of the gas and condensate produced rather than capture it and make use of it.

Back in February 2022, Reuters exposed Pemex's practice of gas flaring, a common industry method. However, it was not until Reuters obtained a copy of the CNH report that the precise amount and value of the destroyed hydrocarbons was known. According to Reuters, Mexico is the world's eight-biggest gas flarer.

The practice is cheaper than the investment in equipment to capture the gas and process it and the cost of transporting it. However, flaring is not only a waste of monetizable resources, it's also widely regarded as detrimental to the environment. Pemex's flaring practice has dramatically increased under Mexican President AMLO. It has led to the company facing repeated CNH fines for violating its own promises regarding the development of infrastructure and equipment at the Ixachi and Quesqui fields. In August, Pemex was fined over USD $2 million for violations of its development plan for Ixachi.

Pemex to invest $15 billion pesos in fertilizing plant – *CNH*

Pemex will invest $15 billion (USD $750 million) to revamp Mexico's fertilizer production plants to support small farmers. President AMLO's administration seeks for Mexico to become self-sufficient in fertilizer production. "By 2024, Pemex will produce 84% of the fertilizers and by the end of the current administration, we will be at 100% coverage for the small farmer's program," said Octavio Romero.

From 2019 to 2021, Pemex produced 61% of the total fertilizers that the government provides to small farmers, according to the company. Pemex will use the MX$15 billion investment to revamp the two urea plants and the four ammonia plants in Mexico, in addition to a comprehensive refurbishment of the fertilizer plant in Lazaro Cardenas and the phosphate rock mine in Baja California.

Power/Renewable Energy – Mexico

Valia Energía acquires EVM's asset port – *Business Mexico News*

Valia Energía, a subsidiary of the London-based company Actis, announced the acquisition of EVM's assets, which feature a portfolio of almost 1GW of installed capacity. EVM owns two thermoelectric power plants located near Mexico City that boast 950MW of generation capacity. The first plant, EVM I, uses natural gas to generate electricity from three aeroderivative turbines, configured in a simple cycle and counts with 100MW of low-emission generation capacity. Additionally, as requested by the National Energy Control Center (CENACE), it has an immediate response capacity to back up the national grid when needed.

The second plant, EVM II, is also powered by natural gas and has 850MW of generation capacity. At the base of its efficiency are General Electric's HA.02 turbines, considered to be cutting-edge technology in the energy sector. This plant has an air-cooling system and low water consumption, equivalent to 4% of a plant of a similar size cooled by water.

These plants will be added to Valia Energía's existing assets, which include five power plants with a total capacity of 2.2GW and an adjacent natural gas pipeline, located in the northeast of the country. The company will therefore now own a total of 3.1GW of installed low-carbon energy capacity.

CFE alliances driving Mexico NG gas infrastructure growth as imports cool off – *NGI*

The past year marked a renewed sense of collaboration between CFE and private sector energy firms, resulting in the sanctioning of new natural gas infrastructure projects and agreements to advance stalled ones. Meanwhile, Mexico's pipeline natural gas imports from the United States were down year/year during summer, which is typically Mexico's high-demand season for gas.

U.S. pipeline flows to Mexico averaged 6.05 Bcf/d in July 2022, down from 6.37 Bcf/d in July 2021, according to the U.S. EIA. This trend is due in part to an apparent structural recovery in Mexican dry gas output that, has led to stronger gas-to-gas competition against Mexico's pipeline imports of U.S. Pemex has managed to stabilize a years-long decline in natural gas production, largely through increased output at its newly incorporated gas-rich fields such as Quesqui and Ixachi.

Waha in particular has become a more relevant pricing location for Mexico, as U.S. gas exports via West Texas have grown rapidly in proportion to South Texas – historically the primary exit point. This is due to new infrastructure in western Mexico such as Fermaca's Waha-to-Guadalajara system. Flows from West Texas to Mexico likely would be even higher if Mexico had underground storage capacity. CFE is Mexico's largest power generator, and its main importer and marketer of natural gas from the United States.

Domestic production by Pemex has fallen well short of CFE's needs over the past decade, resulting in a building spree of cross-border pipelines to import U.S. gas, with CFE as the anchor shipper. CFE had about 3.2 GW of natural gas-fired power plants under construction with another 3.3 GW in development as of November.

TC Energy Corp. and San Diego, CA-based Sempra have been among the main players in the pipeline buildout, and each firm has signaled plans to continue building out their respective natural gas networks in Mexico. TC is forecasting Mexico's natural gas demand to grow by 35% from current levels to reach 12 Bcf/d by 2030, and for Mexico's gas imports from the United States to reach 9 Bcf/d from about 6 Bcf/d currently. In August, TC and CFE reached a final investment decision on the Southeast Gateway offshore natural gas pipeline. The 1.3 Bcf/d conduit would originate onshore in Tuxpan, Veracruz, then proceed offshore before making landfall again at Coatzacoalcos, Veracruz, and Dos Bocas, Tabasco. The companies are aiming for the project to enter service in 2025. Southeast Gateway would function as an extension of TC and Sempra's existing 2.6 Bcf/d Sur de Texas-Tuxpan pipeline, for which CFE is the sole capacity holder.

Southeast Gateway would serve industrial demand in southern Veracruz state "and potentially some LNG export markets. Over the nearer term, TC is aiming for the south section of the 886 MMcf/d Villa de Reyes pipeline in central Mexico to enter commercial service this year. This would complete the 261-mile pipeline, which is meant to serve power generation facilities in Central Mexico. The timeline for completion of the adjacent Tuxpan-Tula pipeline remains less clear, although progress is being made, according to TC management.

Sempra, for its part, announced a memorandum of understanding in early 2022 with CFE to develop two new liquefied natural gas projects, and to resume operation of the Guaymas-El Oro pipeline in northwestern Mexico, which has been out of operation since 2017.

New Fortress Energy Inc., meanwhile, is developing an offshore LNG export hub with CFE and an offshore natural gas production-to-LNG project with Pemex.

Oil & Gas - LATAM

Oilfield services firms say Latin America oil, NG activity on the Rise – *NGI*

Oil and natural gas operators are ramping up activity in Latin America, according to the three biggest names in oilfield services. The management teams of SLB, Baker Hughes and Halliburton each reported upticks in revenue and activity in the region for the fourth quarter of 2022 and the year as a whole. For 2023, SLB is targeting year/year international revenue growth in the high teens, "excluding Russia, which is set to decline this year," Le Peuch said. "We expect the highest growth rates to be realized in the Middle East and in offshore markets, particularly in Latin America and in Africa."

Latin America revenue for SLB totaled $1.62 billion for the fourth quarter, up from $1.2 billion in 4Q2021 and $1.51 billion in 3Q2022. The 7% sequential increase was "due to higher well construction revenue from increased drilling activity and improved pricing, mainly in Mexico and Brazil," management said. Increased production systems sales and higher asset performance solutions (APS) project activity in Ecuador also contributed.

Revenue from the well construction segment rose 5% sequentially to $3.2 billion "due to strong activity from new projects and solid pricing improvements internationally, particularly in the Middle East and in Latin America," Le Peuch said.

The CEO said SLB sees deepwater activity accelerating across multiple regions, including Latin America, Africa, the Eastern Mediterranean and "to some extent also East Asia."

SLB's 34% year/year increase in revenue from Latin America was "due to higher drilling activity and increased pricing across the area," the company said. "Higher APS project activity in Ecuador, increased stimulation and drilling activity in Argentina, and higher production systems sales and drilling in Brazil also contributed to the year-on-year revenue growth." On a sequential basis, SLB said Latin America drilling activity "increased mainly in Brazil and Mexico." SLB's full-year revenue from Latin America totaled $5.66 billion in 2022, up 27% from 2021.

Baker Hughes CEO Lorenzo Simonelli offered a similar assessment. "In Latin America and West Africa, offshore activity is driving growth in several countries and creating opportunities across our diverse portfolio". Baker Hughes' oilfield services and equipment segment "secured several contracts with a major Latin American national oil company for shallow water exploration and land development," management said.

Baker Hughes' industrial and energy technology segment secured several offshore topside contracts for five different projects in Latin America and Sub-Saharan Africa. Baker Hughes reported Latin America revenue of $601 million in 4Q2022, up from $454 million in 4Q2021 and $549 million in 3Q2022.

Latin America's drilling rig count stood at 173 as of December 2022, up from 158 in December 2021, according to Baker Hughes figures. Argentina's rig count rose to 60 from 51, while Colombia's grew to 35 from 29. Mexico's rig count was flat year/year at 47, with Brazil's tally increasing to 12 from eight.

Halliburton Co., for its part, reported Latin America revenue of $945 million in 4Q2022, up 12% sequentially, "due to higher activity across multiple product service lines in Mexico, higher completion tool sales in the region, increased pressure pumping services in Argentina and improved well construction services in Colombia. On a year/year basis, Halliburton's quarterly revenue from the region was up 41.3%.

Petrobras completes USD $1.6b sale of Albacora Leste field to Petro Rio – *Rigzone*

Petrobras has finalized the sale of its total interest in the Albacora Leste production field, located in the Campos Basin, to Petro Rio. The transaction was concluded with the cash payment of USD $1.635 billion to Petrobras, with the adjustments already provided for in the contract.

The amount received today is in addition to the USD $292.7 million paid to Petrobras when the sale contract was signed on April 28, 2022. In addition to this amount, Petrobras is expected to receive up to $250 million in contingent payments, depending on future Brent prices. With the conclusion of the sale, PetroRio becomes the operator of the Albacora Leste field with a 90 percent stake, in partnership with Repsol Sinopec Brasil which holds the remaining 10%.

Fitch Rates Ecopetrol's Senior Notes (BB+) – *Fitch Ratings*

Fitch Ratings has assigned a 'BB+' rating to Ecopetrol S.A.'s new issuance of up to USD 2.0 billion senior unsecured notes due 2033.

Issue Summary

- Term: 10 years
- Face Amount: $2 billion
- Price: 99.187
- Coupon Rate: 8.875%

The proceeds of the notes will be used to prepay USD 472 million of the outstanding principal amount of the loan entered in 2021 to finance the acquisition of Interconexion Electrica, and for general corporate purposes, including financing the company's investment plan for 2023.

Ecopetrol´s ratings reflect the close linkage with the Republic of Colombia (BB+/Stable), which owns 88.5% of the company. Ecopetrol's ratings also reflect the company's strategic importance for the country, as well as its ability to maintain a solid financial profile.