



September, 2022

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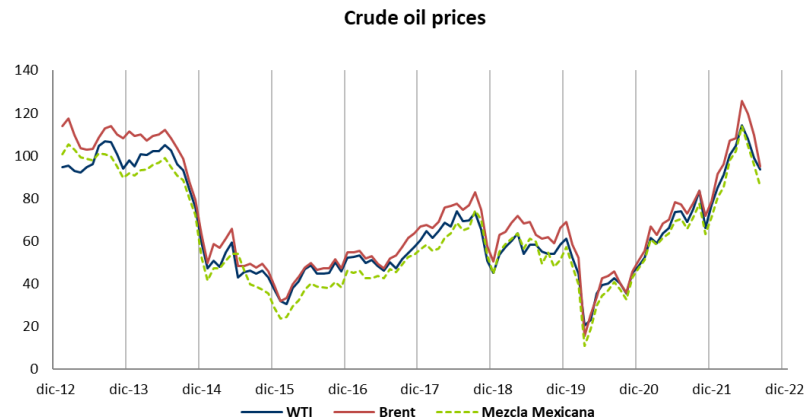
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This month in review

* 26/09/2022 **27/09/2022

Crude oil price MME US/BD	73.66
NG price HH* US/MMBTU	7.07
Mx crude production MMbd – August	1.62
Mx NG production MMpcd – August	4,839
US crude production MMbd - June	11.81
FX Rate*	20.35



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

Oil & Gas - Mexico

Two critical Mexican port projects – *By Luis Miguel Labardini (MyA Partner)*

The lack of investment in Mexican port facilities has almost become commonplace when discussing the challenges of the Mexican economy, and particularly when discussing the lost opportunities in Mexican infrastructure. The Mexican coastline totals an impressive 11,122km, larger than the 7,491km of Brazil and just short of China's 14,000km. However, in the ranking of the world's largest ports, Chinese ports account for seven out of the Top 10. The only non-Chinese ports in the Top 10 are Singapore, Busan in South Korea, and Rotterdam in the Netherlands. It is very true that total volumes in any port depend significantly on the market it attends to but there are cases like Singapore or Rotterdam that have managed to become hubs for entire geographical regions due to their efficiency and ability to store, manage and move cargo.

In Mexico, there are two clear opportunities that have not been properly addressed and their successful execution is critical, not only in terms of logistics and infrastructure, but in terms of the economic development of Mexico as a whole. I will discuss the two distinct projects that are key to overcoming serious bottlenecks in their respective sectors.

- **Puerta del Pacífico**

This project intends to alleviate the existing saturation of the Port of Manzanillo. Manzanillo is the largest container port in Mexico and the port of choice for trade with Asia, including markets in central and northern Mexico, as well as the Southeastern US. The port has experienced exponential growth in the last 30 years, with no significant change in its infrastructure. Cargo vessels must wait up to 10 days offshore to be able to unload and store containers, resulting in huge inefficiencies and very high economic costs. Limited storage areas and crowded roads are the key bottlenecks hampering a smooth operation.

Puerta del Pacífico is a Strategic Bonded Warehouse, with 4.4ha of existing and authorized storage for containers, just 800m from the port. The project could become a full 113ha Inland Custom Zone that would definitely make a difference for Manzanillo and take the port to the next level in terms of economic efficiency and competitiveness.

The Manzanillo-Colima highway covers the 800m between the port and Puerta del Pacífico. The location is on high ground, therefore preventing any risk of flooding during the hurricane and rainy seasons. A recent study by the Mexican University of Transportation shows that this project is the best alternative to virtually expand the current Port of Manzanillo.

The project includes 5,000 m² of warehouse, a cross dock, logistics yard, and a static capacity of 1,300 containers. The expansion of the port would not only successfully solve the bottleneck problem of the existing facility but would also open the door for increased business for Manzanillo as a destination of container cargo in the Pacific Ocean, particularly tending to the US markets that are closer to this port than to the Californian alternatives.

- Terminal Marítima Oil and Gas Alvarado (TMOGA)

Every successful oil and gas venture requires the timely supply of equipment, materials, spares, pipes, water and fuel through the support of supply vessels. In Mexico, oil and gas activity has been concentrated in the Campeche Basin, and since the late '70s, the ports of Ciudad del Carmen and Dos Bocas served as logistics bases, even though historically they were fishing ports. Before the discovery of Cantarell, there were a few shallow water fields between Tampico and Tuxpan, both ports serving as logistics terminals for the PEMEX's fixed platforms at the time, with the readily available infrastructure.

Today, after the Energy Reform of 2013, drilling activity has spread out across the Gulf of Mexico, from the "Cinturón Plegado de Perdido" to "Cordilleras Mexicanas" and "Cuencas Salinas," with USD \$18 billion having already been invested and private operators having already committed an additional USD \$42 billion in investments for the coming years. Current production from private operators stands at 94,100bpd.

Alvarado is geographically at the center of the action and Ciudad del Carmen and Dos Bocas are already saturated. The TMOGA is a project that could not have arrived at a better moment. I have been able to visit supply bases in Singapore and Louisiana and they are well-planned, dedicated, efficient facilities. Designed as a supply base from its inception, the TMOGA is poised to be a success story because its operation will remarkably contribute to the efficiency of offshore oil and gas operations.

The terminal is planned to be located on the Gulf Coast, 5km from the mouth of the Papaloapan River, over a total area of 161ha, with dedicated warehouses and facilities for differentiated materials, equipment and bulk. The project even considers additional uses for the terminal, such as industrial facilities and crude oil storage. The Manzanillo and Alvarado projects are only two examples of the opportunities available for investment in Mexican port infrastructure, with significant and quantifiable benefits for the efficient functioning of the Mexican economy as a whole.

Maersk Drilling secures extension for drillship with Shell – *Maersk Drilling Press Release*

Shell has extended a drillship contract with Maersk Drilling for use in upcoming projects in Mexico. Shell had exercised an option to extend the bunkering of the Maersk Voyager, which is now set to renew for at least another six months from April 2023 onward. The Maersk Voyager, built in 2014, is a high-specification ultra-deepwater drillship. It has been under contract with Shell for use in both Sao Tome and Principe and Suriname since April 2022. Upon completion of its current assignment, the Maersk Voyager will be sent to Mexican waters in the Gulf of Mexico.

The contract renewal, estimated to be worth an initial USD \$77 million without factoring in the cost of integrated services and potential performance bonuses, can be modified at a later date for an additional 18 months of drilling work. Shell has also requested for RigFlow to be implemented in the deepwater drilling campaign in Mexico. RigFlow, a solution delivered by Maersk subsidiary Horizon56, allows for robust operational performance by standardizing and digitizing the core workflows involved in well construction, enabling real-time information exchange between an operator's onshore planning units, offshore drilling teams and the service companies subcontracted to support operations.

Pemex ramping up extraction at Ayatsil – *Bnamericas*

Pemex, has started pumping two production wells in the shallow-water Ayatsil field. The Ayatsil field, known for heavy grade, will add 7,000b/d. "We've got two wells more working, and with these, we have 24 wells running and production pumping 91,000b/d," Octavio Romero said. Ayatsil is among the shallow-water and onshore prospects President AMLO hopes can jump-start Pemex's output.

In shallow waters, Ayatsil is located 120 km from Ciudad del Carmen, and is considered PEP's eighth largest assignment by sea surface area. CNH only recently approved a modified plan for development at the field, specifically to the A-0032-Campo Ayatsil assignment held by PEP.

That modification involved a 68% increase in PEP investment in the field, aimed at increasing hydrocarbons production by 50%. Under PEP's proposed 2023 budget, 19.3bn pesos (USD \$950 million) is earmarked for Ayatsil. The amount is part of the 441 bn pesos the finance ministry allocated to PEP for next year. Under the new plan, PEP aims to expand the number of wells to 40, make 13 major repairs and 2,529 minor ones along with the construction of two pipelines and other infrastructure.

Pemex international sales unit to disappear – *El Economista*

President AMLO announced that Pemex's international sales division, PMI will be eliminated with the country's planned pivot away from exporting crude towards refining. The subsidiary has already seen significant restructuring starting in late 2020, including management changes, as well as an overhaul of its revenue collection and reporting schemes. AMLO reiterated his stance that PMI has been used to conduct deals designed to benefit certain individuals.

In addition to having sales operations in more than 20 countries, PMI is tasked with establishing alliances with players in the O&G industry and operating strategic projects abroad, including the Deer Park refinery in Texas. PMI took full control of the facility early this year after buying out the 50% stake held by Royal Dutch Shell. While Deer Park plays a key role in Pemex's efforts to bolster refining capacity, along with refurbishing its six domestic refineries and bringing the massive Olmeca plant online, AMLO's latest comments suggest Deer Park's ownership will be reorganized under PTI, the Pemex subsidiary in charge of all domestic refining.

AMLO added that upstream production had recovered sufficiently to supply the six existing refineries and said the move away from exports is a necessary transition to achieve the energy sovereignty that his government seeks.

CNH president resigns to his position – *El Economista*

CNH President, Rogelio Hernández Cázares, has stepped down from the position just two years into a seven-year term. In response, President AMLO has proposed a shortlist of three candidates to be presented before the Senate, including Agustín Díaz Lastra, a Pemex Board Member and economist by profession who has held various public roles in his home state of Tabasco, Romeo Antonio Rojas, an engineer who has worked on extra heavy crude projects and currently serves as Pemex's Deputy Head of Strategic Projects and José Sánchez Pérez, Chief Administrator of the Tehuantepec Isthmus corridor project with a background in economics. The Senate has 30 days to elect a member of this list by qualified majority; if none is approved, there is another term similar to the discussion of new candidates and if they are rejected, the president will automatically appoint one of his proposed people.

Credit rating agency cites Mexico's 'lost opportunity' to improve Pemex financial health – *NGI*

Mexico may have missed a chance to shore up the finances of its heavily indebted state oil company Pemex, according to Fitch Rating. "Elevated oil prices in 2022 were a lost opportunity to materially improve" Pemex's standalone credit profile or SCP, said Fitch analysts Saverio Minervini and Carlos Morales in a research note.

They explained that Mexico's government had previously pledged a \$7.5 billion capital injection for Pemex in 2022. "This pledged support, in combination with reducing taxes to 40% from 54%, would have allowed the company to either reinvest" in capital expenditures or repay some of its massive debt load, the Fitch team said. "The government pivoted in April, however, and withdrew the remaining support, leaving Pemex to repay or refinance the remaining \$5.5 billion of debt maturities due in 2022." Since 2019, Fitch has rated Pemex debt as "junk" or "speculative grade," reflecting "limited visibility surrounding Pemex's long-term financial health and the unpredictable ad hoc support it receives from the government," according to Minervini and Morales. Fellow credit ratings agency Moody's Investors Service downgraded Pemex debt earlier this year, citing its high debt maturities scheduled for 2022-2024 and expectations for continued negative free cash flow.

An upgrade by Fitch could only be achieved "through some combination of massive debt repayment and/or a significant reduction in the government's take from the company via taxes, royalties and other measures." As a result of Pemex's high tax and royalty burdens, its breakeven costs to operate, service debt and replenish reserves are an estimated \$44.20/boe.

This breakeven cost is higher than most peer NOCs in Latin America. For example, Ecopetrol and Petrobras have comparable breakeven rates of \$38/boe and \$30, respectively. Both are considered investment grade. Argentina's YPF, though, has a higher breakeven cost of \$54/boe. Fitch does not expect Mexico's government to allow Pemex to default on its debt commitments. Pemex remains an outsized source of income for Mexico's government, with oil-related income averaging 1.7% of GDP or 10% of federal revenue in the five years up to and including 2021, the Fitch team said.

Repsol FPSO project in Mexico – *Upstream*

Repsol began a new project called FPSO (Floating Production, Storage, and Offloading) in Mexico. This will be a leased float used to make discoveries in the deep waters of Block 29. This is a process that Repsol has launched with which they intend to ensure a new floating production, storage, and unloading vessel. They will safely anchor their planned offshore oil development in Mexico's Block 29. In that place is the discovery of deep waters named Polok. Similarly, there is a minor find called Chinwol.

The depths of such a place range from 460 to 600 meters. It will later be joined in an adjacent area called Block X. Various sources within the FPSO market comment on how selected floating contractors are hired from the market. This is in order to compete for an initial design and engineering contract with benefits for the Forest 29 FPSO. This is an excellent opportunity for Repsol, as some FPSO contractors such as Bumi Armada, BW Offshore, MISC, and Yinson Holdings are already considering this option.

Eni contracts Valaris semi-submersible to drill Gulf of Mexico field – *Bnamericas*

Eni México plans to drill the Yatzil exploration well using a semi-submersible platform owned by Valaris later this year in shallow waters of the Cuencas del Sureste area in the Gulf of Mexico. Valaris said in a statement that it had signed a three-well contract with the Mexican subsidiary of Italian energy giant Eni using its DPS-5 semi-submersible.

Drilling is expected to start in the fourth quarter of 2022 and last around 240 days. Valaris said rental of the semi-submersible entails a daily operating fee of USD \$313,500 and a mobilization fee of USD \$1.2 million. The contractual area, which covers 591km², is approximately 55km from Coatzacoalcos, Veracruz state, in the north of the Cuencas del Sureste region. The DPS-5 unit relies on a proprietary ENSCO 8500 Series DP-2 design, according to Valaris, with ultra-deepwater (7,500+ foot) capabilities.

Currently, the platform is under contract until October with Murphy Oil in the northern part of the Gulf of Mexico and will be moved south later this year. Having finished a two-year reassessment, Eni and 30% consortium partner Capricorn Energy are ready to drill again at the Area 7 block, where they hope to confirm resources of 250Mboe. The well would help both companies determine whether a standalone or hub development strategy is more appropriate to exploit the area's potential.

Satellites show huge methane plumes above KMZ – *Oil and Gas Magazine*

Satellite footage depicts yet another major methane leak from Mexico's top-producing oil field cluster, Ku-Maloob-Zaap. The three satellite images, taken across six days between Aug. 5 and Aug. 29, 2022 display huge methane plumes mapped from space with high resolution. Itziar Irakulis-Loitxate, Scientist, the Polytechnic University of Valencia, estimated that some 44,064 tons of methane were released into the atmosphere during the time in question, equivalent to 3.7 million tons of CO₂.

In June 2022, a peer-reviewed research paper by the same Spanish academic institution, detailed satellite evidence of a previous leak from an offshore platform in the Zaap field in December 2021, which emitted 4Mt of methane across what was described as a “17-day ultra-emission event,”. The study forms part of a wider European Space Agency-funded project to detect and quantify human-made emissions from space.

Methane is the main component of natural gas and is considered a much greater contributor to the greenhouse effect since it is twenty-five times more potent than carbon dioxide at trapping heat in the earth’s atmosphere. Natural gas flaring, the process by which natural gas associated with oil extraction is routinely burned-off as a waste product, is not technically illegal. However, venting, or the releasing of natural gas directly into the atmosphere, is a direct violation of Mexico’s hydrocarbon law if not done for safety reasons. Irakulis-Loitxate noted that unlike in December, when Pemex was “venting gas constantly for 17 days” when the flare was not lit, this time Pemex had been “venting and flaring gas intermittently during the whole month.” From an environmental standpoint, venting is more polluting than flaring, since flaring results in the oxidation of the methane released through combustion to produce carbon dioxide and water. This latest breach of environmental protocol has renewed calls for the Mexican government to do more to address methane emissions.

Carlos Cortez to be named latest Pemex CFO – *Reuters*

Pemex has named a new interim chief financial officer to the post less than a year after his predecessor took the job. Carlos Cortez, who will continue to serve in his current post as deputy director of budgets and accounting, has replaced Antonio Lopez, who took the reins in December 2021.

Lopez will return to his previous role as deputy director of risk management. Outgoing Financial Director Antonio Lopez is now expected to return to his previous role as Subdirector of Risk Management, having only taken up the position as CFO in December 2021, when the then incumbent Alberto Velázquez was announced as the head of a new Pemex subsidiary focused on the marketing of petroleum products, gas and petrochemicals in the domestic market.

Power/Renewable Energy – Mexico

CENACE disconnects Iberdrola’s “Enertek” cogeneration power plant – *El Economista*

CENACE disconnected Iberdrola’s cogeneration power plant located at Altamira, Tamaulipas, just a day after it’s cogeneration agreement expired. Enertek’s Cogeneration plant has a total capacity of 144 Megawatts and operated under a type of agreement that was entered by the Spanish company before the 2013 Mexican Energy Amendments. This outcome comes after the Energy Regulatory Commission (CRE) denied the Company’s request to operate under the Wholesale Electric Market scheme as well as an electric energy generation permit.

The CENACE disregarded a Mexican District Court injunctive relief granted in favor of Enertek that provided that the Cogeneration Plant should not be disconnected; This precedent violates the legal certainty of the judicial resolution granted by the court and exposes the risk and uncertainty of entering into new agreements with current Wholesale Electric Market stakeholders under the actual administration policies on the Energy sector.

CFE pushes ahead with hydro modernization through direct contracting – CFE

CFE has awarded two small hydroelectric units directly despite earlier plans to hold a public tender. The USD \$18 million contract for the Encanto and Minas projects in Veracruz state was awarded to Sistemas de Energía Internacional (Seisa). The projects will be completed within 700 days of the contract signing, meaning they should be operational around mid-2024.

They are part of the second phase of the firm's plan to modernize its hydroelectric generation park, together with the USD \$6mn overhaul of Portezuelos 1 and 2 in Puebla state. The hydroelectric portfolio includes the overhaul of 13 units and the construction of three new ones. Last year, CFE awarded nine of its largest units to Genermex, Seisa and Andritz for USD \$890 million. Pending are the construction of a new generator at the Amata dam in Sinaloa state, the overhaul of Portezuelo 1 and 2, and the construction of two new generators in Sinaloa state, Santa María and Picacho.

CFE announces \$75 million geothermal investment program – CFE, Energy21

CFE has been granted MXN 1.5 billion (USD 75.2 million) for investments into geothermal activities in Mexico. In 2023, CFE will push investment projects for renewable energy, with geothermal as key technology as it to receive around MXN 1.5 billion (Mexican peso, around USD 75.2 million). Solar and wind energy will only receive around MXN 16.7 million.

For the development of geothermal energy, the CFE has planned at least 9 investment projects, while in solar and wind energy it only has 3 plans, according to the Federal Expenditure Budget Project 2023. The company also plans to carry out other "Pre-investment studies for the development of 7 geothermal areas located in the Mexican Republic", which has been earmarked MXN 170.4 million (USD \$8.5 million). It consists of carrying out 22 pre-investment studies that allow maintaining ownership of the exploration permits for 7 geothermal areas assigned by SENER to the CFE. The power company also plans to invest MXN 23 million pesos for the purchase of 225.4 hectares of land with geothermal potential in Puebla and Michoacán.

In the Humeros II power plant, the CFE proposes to invest MXN 13.9 million pesos to develop, design and build a geothermal power plant with a guaranteed net capacity of 50 MW. In turn, the Azufres III plant (Phase I), will have MXN 33.9 million pesos to install 50 net MW to increase the installed capacity of the geothermal field. The company's plan also includes pre-investment studies in the Cerritos Colorados geothermal field, Jalisco, for MXN 9.3 million pesos.

Oil & Gas - LATAM

TotalEnergies to move ahead with Fenix field development – TotalEnergies Press Release

TotalEnergies has approved the final investment decision for the Fenix gas development, located 60 km off the coast of Tierra del Fuego in southern Argentina. Through its Total Austral affiliate, TotalEnergies operates the project with a 37.5% interest, in partnership with WintershallDea (37.5%) and Pan American Sur (25%).

The Fenix field will be developed through three horizontal wells, drilled from a new unmanned platform in 70 meters water depth. The gas will be transported through a 35km pipeline to the TotalEnergies-operated Véga Pleyade platform and treated onshore at the Rio Cullen and Cañadon Alfa plants, also operated by the Company. At production start-up, expected early 2025, Fenix will produce 10 million cubic meters per day of natural gas 70,000 boe/d. This development represents an investment of approximately USD \$706 million.

On April 18, 2022, the national authorities granted the CMA-1 concession, including Fenix, an extension for 10 years until April 30, 2041. As a new gas project in Tierra del Fuego, the national authorities also granted Fenix the benefits provided for under Law 19640's special tax regime.

TotalEnergies Americas exploration and production senior vice-president David Mendelson said: "With first gas less than two and a half years from FID, the Fenix project will contribute to maintaining our production levels in Tierra del Fuego and securing supply to the Argentinean gas market. "With a carbon intensity of 9kgCO₂/boe, the project will benefit from the company's technologies in lowering the carbon intensity, such as the installation of wind farms and heat recovery systems."

Ecopetrol asks to suspend fracking contracts for 90 days – Reuters

Ecopetrol has asked the oil regulator to suspend contracts for two fracking pilot projects (suspend the Kale and Platero contracts) for 90 days. The two projects - being developed in Santander province by Ecopetrol and U.S. oil major Exxon Mobil Corp have faced stiff resistance from environmental groups and could be halted outright if a law backed by the administration of new leftist President Gustavo Petro passes congress. Petro promised on the campaign trail to bar fracking in favor of a transition to renewable energy. His government has backed the new bill proposed by an anti-fracking coalition - its fourth attempt to ban the practice - and activists are optimistic about the law's chances for success.

Petrobras launches refinery modernization tender – Bnamericas

Petrobras launched a tender to hire revamp works for the first refining train (Trem 1) of its Abreu e Lima (Rnest) refinery, in Pernambuco. Petrobras is seeking the preparation of the executive project with consistency analysis, construction and assembly, commissioning, operation assistance and supply of goods for the expansion and modernization of the unit. According to local sources, bids for these plants are expected to be presented only after Brazil's presidential elections in October. After failing to sell Rnest in a first attempt, Petrobras included the construction of the plant's second refining train in its 2022-26 business plan as a strategic move to attract potential buyers. However, the company is reconsidering this investment.

Completion of train 2 still depends on evaluation to be done next year. The tender documents are available on the state-run firm's procurement website.

Petrobras seeks bidders for two exploration assets offshore Brazil – Offshore Technology

Petrobras has started the binding phase for the sale of its stake in two exploratory oil concessions in deep waters in the Potiguar basin. The exploratory concessions BM-POT-17 and the POT-M-762_R15 concession), are located in the Equatorial Margin, off the coast of the northern state of Rio Grande do Norte, Brazil. Petrobras currently owns 100% of the concessions and will offload 40% of the oil and natural gas exploration, development, and production rights in the two concessions.

The firm acquired the blocks in 2006 in the seventh bidding round of the Agência Nacional de Petróleo, Gás Natural e Biocombustíveis (ANP). The Brazilian company intends to continue to serve as operator of the partnership, following the completion of a possible sale.

Petrobras is planning to undertake drilling of two exploratory wells in the Potiguar basin assets in the next two years. It is conducting the discovery assessment plan for the Pitu well in the POT-M-853 and POT-M-855 blocks, with plans to drill an exploratory well, dubbed Pitu Oeste well, in 2023. The company is planning to undertake drilling work at the Anhangá well, in the POT-M-762 block, between 2023 and 2024. Last month, Petrobras announced that it begun the sale process for its 40% stake in two exploration oil concessions off the coast of Rio Grande do Norte.

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