December, 2022

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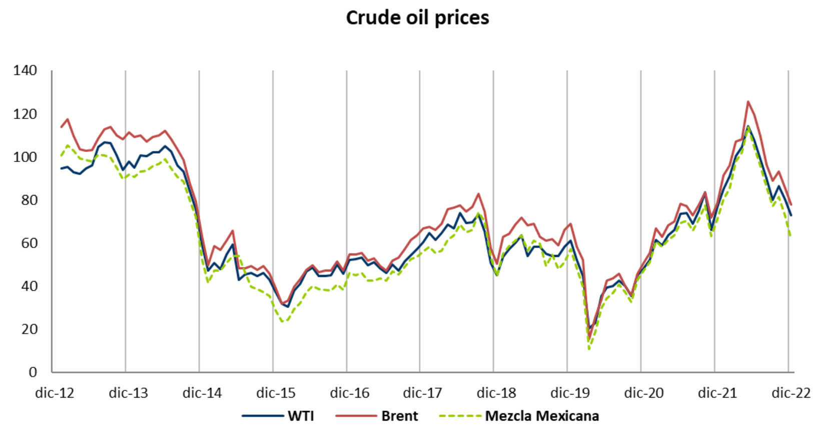
This month in review

** 28/12/2022   **29/12/2022*

Crude oil price MME US/BD*	68.28
NG price HH* US/MMBTU	4.78
Mx crude production MMbd – *November*	1.60
Mx NG production MMpcd – *November*	4,891
US crude production MMbd - *September*	10.91
FX Rate**	19.44



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

Oil & Gas - Mexico

Oil production decreases to pandemic level– *Business Mexico News*

Pemex reported production of 1.60MMb/d in November, the lowest production level since July 2020. 50% of Pemex production comes from the Maloob, Zaap, Quesqui, Ayatsil, Xanab, Balam, Tupilco Profundo and Yaxche fields.

One of Pemex's key production fields, Xanab, has seen notoriously declining production. In September 2021, the field produced 99Mb/d of light crude, while in September 2022 it produced 74Mb/d. Its water production increased by 44%, as the field now produces 25Mb/d. The risk of the increase in production of water rather than oil leads assets to being closed down sooner. Xanab was the third-most important producing field up until July 2022, when it was replaced by Ayatsil. In 2018, Pemex was fined by the CNH due to a breach in the field's development plan, accelerating the production of water and dropping oil production.

In September, Pemex retrieved more water than oil from another of its prioritized fields, Esah, thus reducing its production capacity. While Esah started production with more than 7Mb/d, by August it was producing less than 3Mb/d. Pemex also faces the decline of its main asset, Ku-Maloob-Zaap. Recently, Moody's Investors Service downgraded Pemex's credit rating based on its economic prospects due to a negative debt record and economic outlook. According to Moody's, it is important to plan for the long term since most oil companies have already established plans for the decline of the oil industry. Pemex, due to its high debt and fluctuating economic results, is unlikely to be able to invest enough for exploration and production in the long run, which might force the company to shrink.

CNH approves Hokchi Energy's 2023 work plan – *CNH*

CNH approved Hokchi Energy's work plan and budget for 2023. The budget approved for the Hokchi field near the coast of Tabasco is USD $198.33 million, of which 51.1% will be for development, 45.06% for production and the rest for abandonment. The plan includes the drilling of three wells and the termination of another four, plus three minor repairs. Hokchi expects to retrieve 10.86MMb of crude and 3.91Bcf of gas. Hokchi is the third-largest private contributor to Mexico's oil and gas production and the 14th-most important field at a national level. In September, the IOC announced that it plans to produce more than 32Mb/d in 2023.

Pemex restricts public access to fuel theft data – *Mexico News*

The Transparency Committee of state oil company Pemex announced that it has restricted access to its database of fuel theft incidents, a move that the body said was in the interests of national security. In response to a request for information, the Transparency Committee declared that revealing which pipelines are most targeted by oil thieves "would cause serious damage to the national security of the strategic facilities of this company and the safety of people."

The database contains information on the states, municipalities and towns where clandestine pipeline taps have been detected by Pemex between January 2009 and August 2022. In its ruling, the committee insisted that allowing the public access to this data "would be comparable to guiding criminal groups to detect targets where the placement of a new clandestine tap would be most accessible." "If this information fell into the hands of organized criminals, it would put personnel at risk of being attacked in person or in their vehicles … which can generate further crimes such as robbery and extortion," the committee said. The committee will restrict access to the database for the next five years.

Mexico NG production jumps by 400 MMcf/d in November – *NGI*

Mexico's natural gas production continued to surprise in November, rising to 4.431 Bcf/d from 3.872 Bcf/d in the same month last year. Production was also up considerably compared to the 4.04 Bcf/d in October, according to the latest data from CNH.

Production averaged 4.079 Bcf/d through the first eleven months of this year, a year that has been marked by steadily increasing production. As a result, pipeline imports from the United States haven't experienced the growth seen in previous years.

Mexico imported 83% of its total natural gas needs in August, usually its highest demand period. This figure was down from 91% in August of 2021. November's natural gas production figure is the highest since the start of the government of Andrés Manuel López Obrador in 2018. The current consistent uptick in production is the first real growth spurt since the precipitous fall that began in 2009, when natural gas production peaked at 6.534 Bcf/d. Still, Mexico's own forecasts don't show production returning to those lofty heights. Analysts are also predicting a slowdown in oil production growth in Mexico for next year. Given the high percentage of associated gas in Mexico, this would have a knock-on effect on natural gas.

Associated gas production was 2.636 Bcf/d in November. Non-associated gas added the remaining 1.795 Bcf/d. Pemex, accounted for 95% of natural gas production in November, or 4.191 Bcf/d. Private sector operators added 241 Bcf/d.

Pemex to import all of Deer Park's production by 2024 – *Business Mexico News*

According to Alberto Velázquez, Director of Commerce, Pemex, currently sends 25% of the Deer Park refinery's products to Mexico. Pemex bought Shell's Deer Park refinery and has worked to get its Olmeca refinery in Dos Bocas operational. So far, Dos Bocas' initial cost has doubled, and has no set date to start operations. Rocío Nahle, Mexico's Minister of Energy, said that security processes were being carried out before it could go into operation and are currently in the integration phase. The refinery is expected to start commercial operations at 50% capacity by 3Q23.

According to Velázquez, Pemex expects to be able to send 100% of Deer Park's production to Mexico by 1H24. While Mexico reduced its exports over the past couple of months and its refined production increased, fuel imports also increased. Nevertheless, Moody's qualified Mexico's refining-oriented strategy as flawed; Pemex's refining subsidiary lost USD $7.37/b during 3Q22.

ENI pushes Mexico's private oil production to record levels – *Oil and Gas Magazine*

The new milestone achieved by IOCs in Mexico was driven primarily by the performance of Eni and Hokchi's shallow-water portfolios. The production of oil from Eni fields surpassed Hokchi, Ichalkil and Pokoch with a new production record of 26,175 barrels per day. The previous record was recorded in September this year, when 25,166 barrels were produced per day. Private firms produced 103 million barrels per day in November, representing an increase of 40.32% over the same period of 2021 and a drop of 1.52% before October, when they added 104.6 million barrels per day.

Mexico's Pemex in talks with government for new debt support – *Reuters*

Pemex is in talks with the government about getting fresh support to pay debt falling due in early 2023, Chief Executive Octavio Romero said.

The government had already taken on Pemex debt amortizations in 2021 to help the company invest. However, it stopped after the first quarter of 2022 amid high crude oil prices. "We're in talks with the finance ministry, especially for the first quarter of next year, where we have strong amortizations. Even though the oil price has been very good in previous months, there came a point where we didn't see it coming" .

The talks underscore Pemex's dependence on government support even as a period of higher oil prices has helped swell profits at international oil majors. Pemex CFO said amortizations in the first quarter are about USD $4 billion while the company's total payments are USD $7.5 billion for 2023 and USD $8.9 billion for 2024. In the past, Pemex, with financial debt of USD $105 billion in the third quarter, has received other government support like capital injections and reductions in its tax burden.

Cortez said the prospect of new reductions was "complicated" and that the tax burden had likely bottomed out at a rate of 40%. Pemex reported a net loss of 52 billion pesos (USD $2.64 billion) in the third quarter due to a rise in the cost of sales and foreign exchange losses, though revenues increased 56.5% year-on-year.

Pemex seeking generation platform to power shallow water operations – *Bnamericas*

Pemex is putting out to tender a contract for the construction, operation and maintenance of a gas-fired generation platform in Campeche Bay.

The project is to be located in the company's Ayatsil heavy crude field, where Pemex brought two new production platforms online in September, and also feed activities at the neighboring Kayab field. Construction includes the buildout of a 32km underwater pipeline, a lodging structure and a helicopter landing pad. The platform is meant to power operations at the PP-Kayab-A and PP-Kayab-B platforms, as well as PP-Ayatsil-E. It will also power the PI-Ayatsil-F water injection platform. According to the tender documents, offers will be received until January 9 and the awarding will take place on January 18.

Power/Renewable Energy – Mexico

Mexico's suspended solar and wind projects – *Bnamericas*

At least 10 solar projects and three wind farms with investments above USD $50 million were suspended in Mexico due to various permitting and policy hurdles. This bring the total of projects suspended to nine wind farms (20% of total projects that are not in operation) and 25 solar projects (17%), suggesting about a fifth of the country's renewables projects are facing cancellation. Many of the projects labeled as active are also facing hurdles, but have postponed their expected start of operations and hope for a policy change after the end of the current administration in 2024.

Among the projects that confirmed their suspension in 2022 are the USD $58.2 million Alsacia I solar park in the state of Chihuahua, the USD $350 million San Isidro solar park in Coahuila, the USD $104 million La Esperanza solar park in Mexico state, and the USD $90 million Puebla solar park in the state with the same name. The 182MW Durangueño hybrid park, which would feature wind and solar power working in tandem, was denied a generation permit by energy regulator CRE and was therefore suspended. This year has also seen some projects move forward despite the hurdles. Among these are the USD $350mn La Pimienta solar park, which started operations in August, and the USD $200 million Nueva XCala solar project, which finished construction in the same month and is awaiting a start of operations date.

Here is a list of projects suspended in 2022.

- Alsacia I: stalled since September 2021, officially suspended since November 2022
- San Isidro: officially suspended since November
- La Esperanza: confirmed suspension in September, stalled since 2020
- Puebla Solar: gave up on an environmental assessment process in July
- Durangueño wind farm and solar park: denied a generation permit in June
- Loma Roja: denied an environmental permit in June
- San Pedro: suspension confirmed (denied a permit modification) in June
- Palmillas: suspended due to energy policy issues in May
- Aguascalientes II: suspended due to energy policy issues in April
- Viento del Noreste: suspended in January due to legal uncertainty

Mexico to acquire debt for Sonora plan – *Business Mexico News*

President AMLO said that Mexico is willing to acquire debt to develop solar plants for the Sonora plan. Debt would come through credits granted by the US with low interest rates contracted by the Ministry of Finance rather than CFE itself.

President López Obrador stated that the plants will be fully operated by CFE and their construction will only require Mexican and US companies, although Canada could join this agreement. According to the president, it was important that these credits were granted under Mexico's conditions, since it did not plan to go into debt but the Sonora Plan was the exception. "The US decided that they are going to help with loans at low rates. It is about producing clean energy, which is very important to us. We accept that these loans can be acquired or contracted because they are for the future development of the country with two conditions on our part".

The Sonora plan contemplates the construction of the biggest solar plant in Latin America at Puerto Peñasco. Among the plan's main objectives are lithium extraction in Sonora and gas liquefaction for exports, as well as developing the solar plant in Puerto Guaymas and Puerto Peñasco. These efforts are expected to be replicated in different states until they can generate 40% of the energy in Mexico.

CFE seeks private partner to build Gulf coast LNG hub – *CFE Press Release*

CFEnergía, the gas trading arm of CFE, is looking for expressions of interest regarding the construction of a natural gas liquefaction facility at Coatzalcoalcos port, Veracruz state. CFE said it was looking to utilize the available capacity CFE has contracted in pipelines across Mexico and the US. Interested parties must "develop, build, operate and maintain" a 4.5Mt/y LNG facility aimed at selling its output in the international market for 20 years. The new project will be located on land.

The gas trading firm will provide the project's pipeline gas supply, the land, and help the selected firm obtain the necessary permits and connect the project to the natural gas grid. The private party will pay CFEnergía a fee derived from the project's profits, in addition to any gas transport fees and the cost of the gas. Interested companies are also required to certify at least 75% of their ownership structure is based in Mexico. Companies that have pending lawsuits or international arbitration cases against CFE may be disqualified. The project would be the second on Mexico's Atlantic coast, with the first being an offshore LNG export hub developed by New Fortress Energy in partnership with CFE in Altamira, Tamaulipas state. Five other LNG projects are in different stages of development on the country's Pacific coast.

Zuma Energía acquires Potrero solar park – *Energía a Debate*

Zuma Energía acquired the Jalisco-based Potrero Solar Park, which has a capacity of 296MW, increasing Zuma's Mexican renewable energy portfolio. China Power International Holding (CPIH), a subsidiary of State Power Investment Corporation (SPIC), led the negotiations and signed the final contract.

Back in November 2020, SPIC acquired Zuma Energía through CPIH. "SPIC's investment in Zuma shows our commitment and sustained support for the generation of clean and renewable energy, as well as our confidence in the Mexican economy. Zuma complements and synergizes our existing investments in the region and will contribute to operational and investment development in the countries of the region," said Qian Zhimin, President, SPIC, CPIHL.

This deal is the beginning of more SPIC investments in Mexico and LATAM as part of its growth strategy. SPIC emphasized its commitment to work closely with local governments and communities. The company also emphasized its goal to help Mexico reduce its carbon emissions, develop technology for energy efficiency and further develop DG as well as energy storage.

Potrero Solar, one of Mexico's largest solar projects developed by Fotowatio Renewable Ventures (FRV), operates on an area of around 700ha and is located in Lagos de Moreno. The power plant uses bifacial modules that capture sunlight from both sides of the panels. Potrero did not originate from one of Mexico's Energy Auctions and was instead the country's first full-merchant project. Portrero has signed power purchase agreements and partly operates on the spot market. The Mexican energy sector has seen its development obstructed by adverse policy but companies showed commitment and resilience to further develop clean energy. According to Sergio Rodríguez, Service Manager in Latin America, Ginlong Solar, solar photovoltaic energy is still one of the best clean energy options in Mexico. Despite problematic regulatory developments, the sector will continue to grow. "While other types of electricity generation have increased their costs, solar continues to be one of the best options, even more so in countries like Mexico where solar radiation is constant throughout the year," Rodríguez said.

Oil & Gas - LATAM

Petrobras starts tender process for Atapu and Sepia FPSOs – *Rigzone*

Petrobras has started the contracting process for two FPSO units for the Atapu and Sépia fields. Petrobras said that the proposals were expected to be received in July 2023 with production from the FPSOs set to start in 2028.

After the second bidding round for the excess volumes of the transfer of rights, Petrobras now holds a 65.7% stake in the shared deposit of Atapu while Shell, TotalEnergies, Petrogal, and Pré-Sal Petróleo hold 16.7%, 15%, 1.7%, 0.9% of the shared deposit of Atapu, respectively. As for the shared deposit of Sépia, Petrobras is again the operator with a 55.3% stake while TotalEnergies, Petronas, QatarEnergy, and Petrogal hold 16.9, 12.7, 12.7, and 2.4 percent, respectively. In both deposits, Pré-Sal Petróleo acts as manager of the sharing contract.

According to Petrobras, the P-84 (Atapu) and P-85 (Sepia) FPSOs will each have a daily production capacity of 225,000 bopd and will be able to process 10 million cubic meters of gas per day. The FPSO design, which will be standardized between the two units, will represent a step in technological evolution targeting a reduction of greenhouse gas emissions, with emphasis on the introduction of an all-electric concept in projects of this size. It consists of an engineering concept for more efficient energy generation.

Ecopetrol to invest at least USD 1.2bn in energy transition in 2023 – *Renewables Now*

Ecopetrol said it would spend between COP 5.9 trillion (USD 1.23bn/EUR 1.16bn) and COP 6.8 trillion in energy transition initiatives, such as renewables and hydrogen, as part of the investment plan for 2023.

The dedicated amount will represent around 23% of the total spending, calculated at between COP 25.3 trillion and COP 29.8 trillion. Ecopetrol said it would use the energy transition funds for investments in renewables self-consumption, hydrogen, energy efficiency, carbon capture and ISA, the Colombian power transmission company and road infrastructure builder majority-owned by the oil producer. In the next three years, investments totaling close to COP 4.1 trillion will enable Ecopetrol to incorporate 900 MW of renewable energy, produce over 50,000 ton of low-carbon hydrogen, reduce CO_2 emissions by almost 400,000 tons and make progress with studies into carbon capture, use and storage, the company said.

Additionally, ISA is to invest close to COP 5.4 trillion to build 9,657 km of power transmission lines by 2025, of which 6,227 km would transport non-conventional renewable energy. Ecopetrol said that close 66% of its investments next year would go towards projects in Colombia. The remainder will be invested in the company's businesses and interests in the US, Brazil, Peru and Chile.

Petrobras begins production at Itapu offshore oil field – *Nasdaq*

Petrobras announced that it commenced oil production from the P-71 FPSO installed in the Itapu field in the Santos Basin pre-salt area, roughly 200 km off the coast of Rio de Janeiro.

The P-71 FPSO, where output has started ahead of the anticipated date in 2023, can process up to 150,000 barrels of oil and 6 million m³ of gas per day. The P-71 measures 316 meters in length and can store 1.6 million barrels and has the capacity to accommodate 166 people. The P-71 will be positioned in a water depth of 2,010 meters and will be the only FPSO to produce in the Itapu field, fully operated by PBR. The company expects the unit to reach its maximum production capacity in 2023.

The unit is Petrobras' last in the series of six replicate platforms that the firm operates. These units feature high production capacity, advanced operating technologies and emission reduction, with the same replicated engineering design.