Energy Monthly News

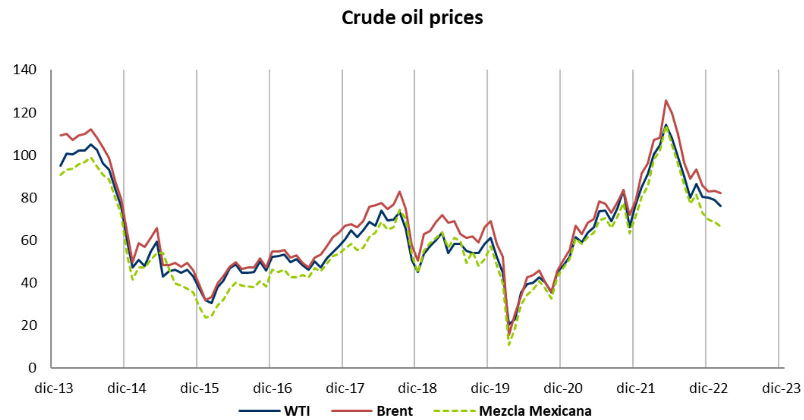
February, 2023

Table of Contents

This month in review

** 27/02/2023 **28/02/2023*

Crude oil price MME US/BD*	66.05
NG price HH* US/MMBTU	2.72
Mx crude production MMbd – *January*	1.64
Mx NG production MMpcd – *January*	4,253
US crude production MMbd - *December*	12.10
FX Rate**	18.40



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

"Understanding the risks and opportunities in Mexico's upstream sector"
Luis Miguel Labardini – MyA Partner

To understand the outlook and associated risks, BNamericas talks with Luis Miguel Labardini, a partner at business development consultancy Marcos & Asociados, about the situation of oil and gas giant Pemex, its private partners and the upstream sector in general.

Labardini worked for the finance ministry in the early 1990s and was then a senior financial advisor to Pemex between 1990 and 1995, securing financing to develop the Ku Maloob Zaap asset, which remains Pemex's biggest oil producer. Since then, he has become a prominent observer of the Mexican oil and gas market, especially when it comes to financial matters.

BNamericas: What is the perspective from which Marcos & Asociados looks at this sector? In what areas does the consultancy work?
Luis Miguel Labardini: We differ from other energy consultants in that we do business development. In other words, companies come that want to do business in Mexico and we assist them and introduce them to the Mexican market.
I like to say that we are risk translators. We help companies understand the contractual and operating environment in Mexico. In some cases, we get them the staff, we help them with the tax part, the legal part. Obviously, we help negotiate the contracts with Pemex, because our specialty is the energy sector. So, we help them get the contracts, complying with all the anti-corruption legislation.

That's part of what we do, business development. And the other part is financing and M&A. In other words, we help companies get credit or do mergers and acquisitions. I'm specialized in the sector of oil service companies. In other words, large or small or medium-sized companies that provide services to Pemex, essentially.

BNamericas: Let's put ourselves in the shoes of a foreign player who is looking at Mexico with interest. You see Marcos & Asociados as translators of risk. What are the biggest risks you see now in entering Mexico and what are also the most attractive aspects?
Luis Miguel Labardini: At the base of this issue, there's a fundamental difference to be made. On one side are the oil companies, what we call operators, the ones who develop fields. Here in Mexico they are very active: Shell, for example, Eni, Chevron, BHP, Chinese and Malaysian companies. Many of these companies entered after the 2013 energy reform and until the start of this administration in 2018.

In 2018, rounds allocating fields for private contracts were completely suspended. It seems to me that this stemmed from a misunderstanding on the part of this administration of the concept of economic rent. It's not well understood that, when a field is assigned to a private operator, sovereignty over the field remains with the State and the operator has to transfer all the economic rent to the State through royalties that have to be paid.

This administration, for ideological reasons, considers that when a field is managed by a private company, the private company appropriates the economic rent. When this is not the case, because we have a good tax regime, it's a fiscal regime that has already been tested in other parts of the world and, surprisingly, the first to invent it was the president who nationalized oil in Mexico, Lázaro Cárdenas, in 1937, one year before the expropriation.

He proposed it to foreign companies and the Dutch accepted a production-sharing regime. But unfortunately, I think this administration doesn't see it that way, and that's why it stopped the rounds. So if someone wants to invest in a field today, they have to buy it from someone else who already owns it. And this is what has happened. In other words, there has been a secondary market for fields in Mexico, because that isn't prohibited and it has to be authorized by the national hydrocarbons commission (CNH), and there has been a movement, but it's generally a movement between companies that are already present in Mexico, who are already familiar with the Mexican risk and feel comfortable with that.

Why? Because what is evident is that this administration, this government, this president, isn't going to go against the constitution and therefore isn't going to violate the contracts already signed by the national hydrocarbons commission. That's very important. If someone wants to come, all they have to do is talk to those who already have fields and see who's interested in selling. One major challenge is that, unfortunately, most of these operators have to sell their crude to Pemex, because all the fields are connected to Pemex's transportation systems. Pemex has had payment problems in the last six months. That's a risk that has to be considered. There are some companies, like Eni, that are already managing to sell their production abroad, because they have an FPSO [Floating Production Storage and Offloading unit], a ship dedicated to processing and storing crude, which allows the production to be sold in other places.

BNamericas: In the last two years we have seen Pemex and CFE develop strategic partnerships with private companies to develop specific projects. In 2022, there was an announcement of a new type of oil development agreement by Pemex with New Fortress Energy to develop the deepwater Lakach field. Do you think Pemex could be open to working with other companies on technically and financially challenging projects?

Labardini: I think so. In fact, I believe that a common language has already been found between Pemex and these companies. Because the condition of this administration is that the contracts with private parties must be for services and not for operations. And in the case of Lakach, it's a service contract.

In other words, it is not a contract like the ones that other companies have with the national hydrocarbons commission, but rather a service contract with Pemex. And that's acceptable for the administration of President López Obrador. And really, I think it's a matter of semantics. Because in the end, what the private operator measures is whether it will have the performance it is expecting. And if this is true, the contract can be called a service contract.

I see Lakach as a good example of what can be done. It's an alternative to help Pemex put its assets into operation. Of course, there is an associated risk. We're talking about a strategic partnership where an operator like New Fortress agrees that the contract is for services and not for field operations. And yet each party gets what it is looking for. And several companies have followed this logic. New Fortress itself in Altamira and TC Energy for a new marine gas pipeline, and Sempra and its agreements to develop LNG projects.

These are examples of what can be done with this administration. Because what we cannot allow is for things to remain as they are. A lot of investment and energy infrastructure is needed in Mexico, and particularly in the southeast of Mexico. That's why it's important to develop projects such as the trans-isthmus gas pipeline, which will allow gas to move to Salina Cruz and from there to export it to Asia, taking advantage of price differences.

BNamericas: On the side of the oil service provider companies, how do you see the current situation?
Labardini: In the case of service companies, Mexico is the second most important market in the region after Brazil, although Argentina and Colombia are also important markets, and Guyana is growing. Venezuela, on the other hand, has lost importance, partly because they had a suspension of payments. But Mexico has historically been a very important market for service providers. Unfortunately, in recent years, due to the complicated situation of payments to Pemex suppliers, there have been Mexican companies that have gone bankrupt. And the fact that in the previous administration of Enrique Peña Nieto investment was dramatically reduced has also had an effect.

But it seems to me that you have to understand the risks at this time as a circumstantial situation. Pemex's delay in payments does exist, and it's an important problem that must be taken into account. But once you understand this dynamic, and understand that companies probably need solid working capital to be able to work in Mexico, the opportunities in Mexico remain very good, because in this administration, and very likely in the next, Pemex is going to maintain and increase its investment levels. So there are opportunities for the whole range of services that are in the oil industry, but it's very important to understand the contractual risks.

BNamericas: What do you see as the biggest signs of optimism for the sector?
Labardini: There are lots of interesting prospects. The greatest successes in terms of discovery in recent years have been by private operators and have been in shallow water, but also in deep and ultra-deep water. There have been great discoveries. And private operators are already producing 100,000 barrels a day. Some operators are doing very well. On the other hand, you have Pemex, which in this administration and most likely in the next one will continue to make an effort to increase investment levels in order to take advantage of the potential. It's clear that Pemex needs a deep restructuring from the financial point of view. And yet this administration was actually able to develop two fields, and these two fields are now among the top five fields in Mexico.

They are gas and condensate fields, Quesqui and Ixachi, where Pemex has done a good job despite all the limitations that have existed. Like those fields, there are lots of fields to be developed in Mexico. So I think that if you understand the dynamics and the risks, the Mexican market is very attractive.

Oil & Gas - Mexico

ExxonMobil affiliate signs binding offtake deals with Mexico LNG project – *NGI*

Mexico Pacific Limited and ExxonMobil LNG Asia Pacific have signed two long-term offtake agreements for MPL's Saguaro Energía liquefied natural gas export terminal proposed for Puerto Libertad in Mexico's Sonora State. Under the 20-year sales and purchase agreements (SPA), the ExxonMobil subsidiary would purchase a combined 2.0 million metric tons/year (mmty) of LNG on a free-on-board basis from Saguaro Energía's first two trains.

The three-train, 14.1 mmty Saguaro Energía project, which has yet to reach a final investment decision (FID), is designed to supply gas from the Permian Basin to consumers in the Asia-Pacific region. The terminal's location on Mexico's Pacific Coast would allow LNG marketers to bypass the Panama Canal, cutting costs and shipping times from the U.S. Gulf Coast. "We have reached a critical point on contract volumes required for FID on our first two trains and will now shift focus to close contracting on the significant commercial momentum in place for a subsequent Train 3 FID," said MPL CEO Ivan Van der Walt.

In addition, a unit of Shell plc signed an SPA in July for the offtake of 2.6 mmty from the MPL facility. The agreement would see Shell purchase LNG for a 20-year term on an FOB basis. Saguaro Energía is one of several LNG projects planned for Mexico's Pacific Coast. The most advanced is Sempra's Energía Costa Azul project in Baja California. The company is aiming to begin LNG production from the roughly 3 mmty first phase by the end of 2024.

Mexico's Pemex reports narrower fourth quarter loss – *Reuters, Pemex*

Pemex reported a narrower fourth quarter net loss of 172.4 billion pesos, compared to the 194.4billion peso net loss recorded during the same period a year earlier. Pemex, posted revenues of $519.3 billion pesos in the October-to-December period last year.

Pemex reported net earnings of $23bn pesos (USD $1.19bn) in 2022, compared to a net loss of $295bn the previous year. The return to the black was mainly due to strong oil prices, with the annual average price of USD $89.35/b for the Mexican mix being 39% higher than in 2021. It was the first positive annual result in a decade. Executives also highlighted work to lower the company's debt burden. Total debt fell to around USD $107 billion, from USD $109 billion at end-2021. The company's tax bill during the fourth quarter stood at about $81.7 billion pesos, down about 15% due to a government-ordered tax cut.

Oil and condensate production was 1.78 million b/d in 4Q2022, up from 1.75 million b/d in 4Q2021. For 2022, liquids production was up 1.6% to 1.76 million b/d. The so-called new fields in the southeast developed since 2019 are keeping production afloat. From 37 new fields, 22 offshore and 15 onshore, 507,000 b/d were being produced as of December 31, 2022. Fifteen new wells are slated for the first quarter from the new fields.

Natural gas output in the fourth quarter was 3.91 Bcf/d, compared to 3.72 Bcf/d in the year-earlier period. In 2022, gas production averaged 3.87 Bcf/d, compared to 3.69 Bcf/d in 2021. The improved result was mainly due to new fields in the southeast, such as gas-rich Quesqui. Executives also highlighted improved drilling times.

In addition, Romero highlighted last year's purchase of the Deer Park refinery in Texas, saying it had been an "excellent business for Pemex in many aspects. "At the end of 2022, 279,000b/d had been processed, of which 83% were converted into high-value products such as gasoline, diesel, and jet fuel. Regarding the 2022 results, the refinery reported a net profit of USD $956mn".

Pemex to invest in gas processing centers – *Pemex*

Pemex is planning to enhance the gas industry through the increased capacity of humid gas processing plants. The state company is already carrying out construction works at processing centers in Tabasco and Chiapas. Romero reported that two strategic projects will be executed at Pemex's gas processing center in Macuspana, Tabasco to increase the processing capacity of humid gas. The first project would grow production from 700MMcf to 900MMcf. The second project entails the construction of a plant to eliminate nitrogen from natural gas streams coming from the Cantarell and Ku-Maloob-Zaap deposits.

Moreover, Jorge Basaldúa Ramos, Head of Pemex Industrial Transformation, explained that the project of nitrogen recovery from gas seeks to increase Pemex City's plant capacity, which currently stands at 630MMcf. The new project contemplates 900MMcf as well as higher-quality gas.

Basaldúa mentioned Pemex can only remove 19% of nitrogen from natural gas. The number will grow to 79% following the project. This nitrogen can then be injected into nearby oilfields to enhance production in mature fields. Both projects will enable to expand the recovery of suspended solids used in petrochemical plants in the southeast.

Romero detailed that at the Cactus Processing Center, the biggest in the country, two new plants will begin operating to process between 500MMcf and 700MMcf of humid gas. He said that MX$550 million (USD $29.5 million) will be invested to repair the plant in the facility. The processing centers have the objective of treating natural gas by eliminating pollutants and separating its components. According to Pemex's Business Plan 2023-2027, one of the goals for the next years is to reduce sulfur dioxide emissions through the refurbishment and rehabilitation of sulfur recovery plants in gas processing centers and refineries.

Pemex in talks with JP Morgan, Goldman Sachs regarding financing – *Bloomberg*

Pemex is in talks with JP Morgan and Goldman Sachs to refinance about USD $1 billion of its debt, although the final amount could be higher. Pemex seeks to find some liquidity by refinancing its debt with JP Morgan, backed up by its gasoline sales, and with Goldman, guaranteed via its crude oil production. Similarly, Pemex has reportedly been negotiating with HSBC and Goldman to get financing linked to its emission reduction plan.

As previously reported by MBN, the oil company explored different options to refinance its debt. Despite its plight to fulfill its financial obligations, the government has backed up the NOC's decisions by stating that if necessary, it will receive federal aid. Although no mechanism has been set in place, Pemex contributed only MX$137 million (USD $7.4 million) to the Treasury for Hydrocarbon Exploration Rights in January 2023 and did not provide any funds to the Shared Profit Rights and Hydrocarbon Extraction Rights categories. What it did contribute represented 0.38% of what Pemex contributed in December.

Pemex places $2 bln bond to refinance debt – *Reuters*

Pemex had completed a $2 billion bond raising to be used largely to refinance some of its debt. After the market imposed a sky-high rate on bonds Pemex issued in January, Mexico's state oil company is preparing to pay its debts on its own this year and will turn to the government - rather than the market - for help if oil prices plunge.

The strategy comes after a lengthy back and forth between Pemex and the finance ministry over who will pay the company's mountain of debt, which at $105 billion makes Pemex the world's most indebted oil company. President AMLO had committed in 2021 to help Pemex with its debt payments to free up company funds for investment in exploration and production with the aim of ultimately boosting output - a core goal of the government. But as crude oil prices soared following Russia's invasion of Ukraine, the finance ministry argued Pemex should tap unusually high profits - $9.6 billion for the first nine months of 2022 - to meet debt payments on its own.

Prices then dropped, however, changing the panorama. Pemex CEO Romero warned in December that there had been talks with the treasury about fresh support. That support was not forthcoming in January, forcing Pemex to tap the market. But the market, concerned by the apparent pull of government support, whacked a 10.375% premium on the $2 billion of issued 10-year bonds. In comparison, sovereign bonds of a similar maturity were issued at 5.3%. The high cost of borrowing forced a recalibration in Pemex and renewed determination to avoid the market.

"For now, the plan is to use Pemex's own cash and not carry out any more debt refinancing operations in the markets, provided oil prices remain high," said one of the sources who requested anonymity to speak about a non-public matter. Pemex has said it must pay back some $8 billion of financial debt this year and $8.7 billion next. President AMLO has always said that if necessary more support will be given: "If oil prices drop a lot, well below budgeted, then perhaps direct injections would have to be sought to pay off the debt." Pemex was banking on high crude oil prices to maintain the investments for this year as well as meet its financial obligations - without issuing more bonds. The government estimates that the company's oil export mix would be worth $68.70 per barrel this year, down from an average of $89.35 per barrel in 2022. That support was not forthcoming in January, forcing Pemex to tap the market.

Woodside Energy, government of Tamaulipas sign agreement – *Business Mexico News*

Woodside Energy signed a collaboration agreement with the government of Tamaulipas in Matamoros. During the conference, the attendees highlighted the importance of the landmark Trion deepwater project. The agreement formalizes developments at the Matamoros port on the back of the Trion project development. Américo Villarreal, the Governor of Tamaulipas, José Silva, Head, the Tamaulipas Energy Commission, Timothy Callahan, Woodside's legal representative and Director General Mexico, BHP Billiton, and Stephan Drouaud, Project Director Trion, Woodside Energy, attended the meeting.

According to Drouaud, the company will continue the investment assessment in preparation for a final investment decision (FID) in 2023 and it also plans to submit the first Mexican ultra-deepwater Field Development Plan to CNH in 2023. At the moment, Woodside is reviewing the submissions on its tender to develop the floating platform at the field. It will define the entrusted company for the project during the 1H23.

Pemex discovered Trion in 2012. In 2017, BHP Petroleum and Pemex signed an agreement for the development of the deepwater project. Following its merger with BHP Petroleum, Woodside Energy continued the agreement with Pemex. Having completed the FEED phase in August, Woodside issued a call for bids to provide floating production units, floating storage and offloading units and other field support works. Estimated to have reserves of more than 1 billion boe, Trion is seen as one of the most interesting deepwater prospects in Mexico. In October 2022, Pemex CEO Octavio Romero Oropeza signed a collaborative agreement with Woodside Energy, incorporating the NOC's Mexican into the IOC's activities in Houston. The main goal of this strategy is for the personnel to "acquire knowledge in exploration and production strategies," said Pemex, particularly regarding deepwater operations.

Power/Renewable Energy – Mexico

Sempra, CFE and Carso sign MOU to build natural gas pipeline – *Business Mexico News*

Sempra, CFE and Grupo Carso signed a memorandum of understanding (MOU) to build a natural gas pipeline in Sonora and Baja California, interconnecting Carso's Samalayuca-Sásabe and Sempra's and Sásabe-Guaymas pipelines. The proposed pipeline would be about 450km and aims to deliver natural gas to CFE power plants as well as to industries and private offtakers. The agreement is preliminary and non-binding, subject to feasibility studies, permits, financing and board approvals.

Mexico also aims to promote itself as a key hub for exporting LNG to Asia and Europe, where prices are currently higher. A strongly interconnected pipeline network would allow the state utility and private players to capitalize on this potential. Different companies are interested in LNG re-exporting, including Sempra, Mexico Pacific Limited, particularly on Mexico's West Coast to Asian buyers with plenty of demand. CFE furthermore reported it is addressing natural gas supply challenges and investigating unfavorable offtake contracts. According to the report, 75% of the natural gas supply is linked to unfavorable contracts signed previously. The CFE noted that it now uses 40% of the contracted natural gas transportation capacity, a significant increase compared to the 26% used during the previous administration.

AMLO opens Puerto Peñasco's 1st phase solar-storage plant – *Renewables Now*

AMLO, inaugurated the first phase of the Puerto Peñasco solar-plus-storage power plant in the Mexican state of Sonora, a project that will eventually grow to 1,000 MW of solar capacity with 192 MW of batteries. It is a project developed by Mexico's state-owned utility CFE, which will build the plant in three phases. The first one has 120 MW of solar power and 12 MW of batteries as backup. The second phase, which is already under construction, will add another 300 MW of solar and 60 MW of batteries. The electricity from the solar farm will reach the Baja California peninsula, which is isolated from the rest of the national grid, thanks to new transmission lines.

CFE did not say when the third and final phase is expected to commence. Once the project is finalized, the 2,000-hectare Puerto Peñasco solar farm will be capable of powering some 1.6 million people, according to the utility. At present, its first phase is one of three solar PV farms in Mexico that is equipped with energy storage.

CEMEX, Sandia Labs, Synhelion to produce cement with solar energy – *CEMEX Press Release*

CEMEX, Sandia National Laboratories and Synhelion have launched the Solar MEAD project, which seeks to introduce new concentrated solar power technology to rapidly produce cement. The companies' goal is to achieve carbon neutrality in the industry by 2050 by replacing the consumption of fossil fuels with concentrated solar power.

CEMEX, Sandia Labs and Synhelion announced that the US Department of Energy granted them a USD $3.2 million grant, to support their efforts to scale solar technology to produce cement. The Solar MEAD project, which stands for Solar-Thermal Mixed-Media Enhancement and Decarbonization of Clinker Formation, seeks to decarbonize cement production by using concentrated solar thermal power (CST) in the production of clinker.

The objective of the project is to develop processes that cut down on carbon dioxide emissions, reducing process temperatures and increasing the efficiency of solar-powered clinker formation. The three companies will analyze ways to maximize heat transfer to the cement raw materials as well. The adoption of the technology will allow an absolute replacement of fossil fuels, lowering costs and creating more efficient carbon capture methods. Sandia, an R&D laboratory of the US Department of Energy's National Nuclear Security Administration, will provide its National Solar Thermal Testing Facility for the project. The laboratory will provide expertise and assistance in the transition of the technology for cement production.

The heat generated by Synhelion's technology is sufficient to produce clinker without burning fossil fuels. "Solar-powered cement is an exciting technology with tremendous potential to reduce the carbon footprint of cement production," says Fernando González Olivieri, CEMEX, CEO.

Oil & Gas - LATAM

Petrobras signs with Alcatel and Maersk consortium for permanent seismic monitoring system – *News Now*

Petrobras has signed a contract with the consortium formed by Alcatel Submarine Networks and Maersk for the construction and installation of the permanent seismic monitoring system in the Mero field in the Santos Basin. The PSMS project will incorporate 4D seismic monitoring technology, the use of which will enable seismic records to be obtained on different dates to track reservoir behavior over time. The acquired data will make it possible to better understand the distribution of fluids in the reservoir and enable greater efficiency in the production of oil from the Mero field.

The contract covers the construction and installation of 400 km of optical fibers. The optical fibers will be connected to the FPSO Sepetiba, which will allow remote and instant access to the data generated by the monitoring system. Installation of the system will start in 2024.

Argentina "awakens" Vaca Muerta shale to increase oil and natural gas production – *Bloomberg*

Workers in the geological formation known as Vaca Muerta are building a 573 km pipeline that will carry natural gas from remote northern Patagonia to Argentina's cities and industry centers in the east. The project, along with the planned expansion of an oil conduit in the same area, will help relieve bottlenecks that have stifled oil and gas production the nation desperately needs to bolster its economy.

The progress in Vaca Muerta comes as the U.S. shale boom slows, the war in Ukraine roils the global gas market and the world's centers of oil-production growth shift to South America, including Guyana and Brazil. It's also happening despite government restrictions on crude prices and money flows. The conduit's developer, state-owned Energia Argentina SA, plans to have it ready by June 20. The government, betting that the pipeline will be finished on schedule, has ordered just 30 LNG cargoes for the coming months, 11 fewer than last year. Any delay that forces extra imports would eat into precious government funds, which would be an embarrassing misstep after officials used LNG savings for a sovereign bond buyback.

Argentina's natural gas production reached 140 million cubic meters (4.9Bcf) a day last winter and the new pipeline would provide an extra 21 million of transport capacity, allowing shale drillers to ramp up operations. Eventually, the logic goes, the country would export to neighboring Brazil by land and to the rest of the world by sea in the form of LNG cargoes.

Vista Energy's production soar outside of Mexico – *Business Mexico News*

Vista Energy announced that its 1P oil and gas reserves rose 39% year-over-year to 251.6MMboe as of December 31, 2022. The company added 87.8MMboe to its P1 reserves, achieving a reserve replacement rate of 495%. However, Vista's Mexican asset only produced 1% of the output.

In Tabasco, the company's 1P reserves in block CS-01 decreased from 4.5MMboe at the end of 2021 to 4MMboe due to the production of 0.2MMboe in 2022 and a negative revision of 0.3MMboe. These reserves were calculated at a constant price of USD $80.2/b for crude oil and USD $4.7MMBtu for natural gas, following US SEC regulations. The estimate of future undiscounted and discounted net cash flows attributable to Vista's interests in Mexico's 2P reserves are USD $101.4 million and USD $49.6 million as of December 31, 2022, respectively.

Vista Energy reported that the average production for 4Q22 was 54,718boe/d, representing a 33% year-over-year increase. Crude oil production in 4Q 2022 stood at 45,745boe/d, up 41% from the previous year. The total production for 2022 was 48,560boe/d, showing a 25% year-over-year increase, while crude oil production was 40,078bbl/d, indicating a 32% growth compared to 2021. Mexico's private oil production did not meet its targets for the fourth year in a row as companies struggle to meet ambitious goals set by the government. The players reported a 102.750Mb/d production in 2022, less than half of 209Mb/d, the original target.