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For Energy Leaders



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Economic crisis threatens to stall Vaca Muerta

Economic turmoil and infrastructural congestion are raising doubts over Argentina's shale growth

Argentina's hope of fast-tracking production from its vast Vaca Muerta shale play, the world's second largest by output, could be delayed as the country adapts to recession.

Last year, Argentina was forced to seek a \$57bn bailout package from the IMF — the largest-ever sum issued by the fund — after the peso lost over 60pc of its value and inflation surged. In response, the government decided to further scale-back its production subsidy programme, a move that calls

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its ambitious growth targets into question.

Argentina's hydrocarbon sector has largely depended on subsidies. Between 2017-18, production subsidies increased by 30pc to \$2.7bn. At the same time, Argentina set itself bold production targets. The country aims to double its oil output by 2023, mostly from unconventional resources in the Vaca Muerta shale play, and ultimately hit 1.5mn bl/d by 2030.

Despite these forecasts, national oil production only grew 2pc in 2018, while YPF, the recently renationalised state oil and gas company, saw its oil production fall for the third consecutive year, even before the latest cutbacks.

Similarly, natural gas output is forecast to rise from 4.7tn ft³/d in 2018 to 8.4tn ft³/d in 2023 (a 13pc p.a. increase), and 14.1tn ft³/d by 2030.

Waiting game

The government is banking on foreign direct investment to help kickstart the shale revolution and bring much needed dollarised export revenues. Argentina has until now largely footed the bill with little to show. Of 31 projects launched over the past six years, only five have reached development, with the remaining 26 all in the pilot stage. Within Neuquén Province, which contains the bulk of Vaca Muerta, the government has so far financed 65pc of all unconventional production, according to a report by the Institute for Energy Economics and Financial Analysis (IEEFA).

Targeting LNG exports, Argentina is turning to floating liquefaction

The most productive project so far is the YPF-Chevron joint venture in Loma Campana, in which the consortium committed to invest \$1.24bn. But since 2013, Chevron has put in only \$77mn, and repeatedly highlighted the importance of subsidies to its future operations.

Even those firms which have committed substantial capital appear to have concerns. ExxonMobil has spent around 96pc of its promised \$349mn; but did not mention Vaca Muerta as a priority project in its recent earnings calls. Pan American Energy, a subsidiary of BP, aimed to invest more than \$1.7bn and has been the largest foreign beneficiary of Argentinian subsidies. The firm received almost \$1.2bn from 2016-17 and is the lead operator in Bandurrio Centro. Ratings agency Moody's say the company will be among those most affected by the subsidy change.

YPF is also bearing a significant impact. The company is a lead operator in 13 of the projects in development and has joint ventures with most of the remaining operators. Within Vaca Muerta, YPF has invested roughly \$31bn in capex since 2013 and ploughed in around 60pc of all corporate money entering the shale play.

But the company is hardly in the best position to lead the vanguard. Since 2014, YPF's share price has fallen 54pc and the company received subsidies of \$1.7bn between 2016-17 to safeguard its finances. The health of the firm is deeply embedded in the fiscal strength of Argentina.

Keep cutting

Natural gas subsidies are the latest to face cuts. In 2017, the government launched Resolution 46 to help stimulate domestic natural gas production. At the time, the Kirchner administration had been paying LNG importers around \$7.50/mn Btu as domestic production continued to collapse. To reduce export dependence and currency haemorrhaging, the incoming Macri regime instead awarded a \$7.50/mn Btu price subsidy to domestic natural gas producers to begin development of the country's huge unconventional gas reserves.

While the initiative triggered development, it also left the government with a headache. Tecpetrol, a subsidiary of the Italian-Argentinian conglomerate Techint Group, was the highest profile company to agree a concession contract to propel gas exploration in the Fortín de Piedra block. The firm committed to spending \$757mn in capex between 2016 and 2018 and estimated output of around 8.5mn m³/d.

In January, the government decided to cap subsidies to the original production figures and also to lower the level of subsidies paid over time — \$7/mn Btu in 2019, \$6.50/mn Btu in 2020 and \$6/mn Btu in 2021. This year Tecpetrol estimated production of around 17.5mn m³/d, over double its initial forecast, and around 10pc of national output, which would mean a significant impact if subsidies were cut off above 8.5mn m³/d.

1.5mn bl/d – 2030 oil output target

Since the government clarified its position, Tecpetrol has threatened legal action and been forced to lay off workers and, in the interim, close three of its four rigs. Moody's estimates that the change in policy could cause Tecpetrol to decrease its cashflow by around \$150mn in 2018 and \$250-300mn a year in 2019-20.

"Tecpetrol took for granted that the Resolution was not going to change," says Carlos Alfaro, managing partner at Alfaro Abogados, an Argentinian law firm. "The ministry argument is that the amount cannot be subject to the discretion of the company, especially when the information provided to the state when requesting approval was inaccurate."

Whether the subsidy change will impact further foreign investment will also depend on the upcoming election later in the year. "I think that foreign investors will wait and see who wins in October," says Patricia Vasquez, a natural resource governance specialist and research associate at the Graduate Institute of Geneva. "If Macri wins, they will want to sit down again with the government to review their investment deals and try to renegotiate. The big question here, and what this whole dispute lets out, is whether Vaca Muerta is feasible without subsidy."

Infrastructure logjam

Another issue is the backlog of infrastructure problems. The last gas pipeline (Neuba II) to be built was in 1988, connecting the Loma de La Lata field to Gutiérrez. In the winter, demand still often outstrips production capacity and forces the government to import LNG cargoes.

The government has opened up bidding for an \$800mn pipeline, which will connect Neuquén to the port of Bahía Blanca, and at a later date Buenos Aires, to boost gas transport capacity. The winning bid is expected to be announced by August and transport an additional 40mn m³/d of gas.

Targeting LNG exports, Argentina is turning to floating liquefaction while the government considers the cost and risks of a shore-based facility. The Tango FLNG arrived at Bahia Blanca in February on a 10-year contract, with 0.5mn t/yr capacity. However, during peak winter demand, Tango FLNG feedstock could be redirected — via the only remaining import terminal at Escobar, which has better pipeline links to major population centres — to help meet domestic requirements, rather than being exported.

If the government can secure investment for an onshore facility, which would rely on a significant production increase from Vaca Muerta, an onshore facility would have at least 10 times the capacity of Tango.

Argentina also launched its Offshore Round 1 to help attract foreign investment. The government made available 38 blocks in the Malvinas West (18 deep-water blocks), Austral (six shallow blocks) and Argentina North (seven deep-water and seven ultra-deep-water blocks) basins. The bid round secured the sale of 18 blocks, most notably three to ExxonMobil, seven to Norway's Equinor and two deepwater blocks in Argentina North to Shell.

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