After Petrobras: reimagining Brazil's gas market

If Brazil's long-awaited gas sector reforms are accomplished, they could create a vibrant market with new offshore, midstream and LNG players. What's more, successful liberalization could be significant for both Brazil's economy and the regional energy system, write J Robinson and Ryan Ouwerkerk

Last summer, historic market reforms in Brazil began opening the country's natural gas trade to competition, but recent challenges have raised doubts about the pace and certainty of liberalization.

Brazil's "New Gas Market" was inaugurated with decisive regulatory changes aimed at ending state-controlled oil company Petrobras' monopoly in onshore markets – a move widely expected to increase private investment and lower the county's historically high gas prices.

Over the past 12 months, Petrobras has announced sweeping divestments in the sector as part of a deal with antitrust regulators, including the sale of two key midstream gas transportation companies – Transportadora Asociada de Gas or TAG and Nova Transportadora do Sudeste or NTS.

Most important in principle, was the official opening of Brazil's midstream market to competition from third-party shippers and distributors. With Petrobras effectively remaining Brazil's only supplier of gas, though, the official change has had limited market impact – leaving monopoly conditions largely intact.

In August, Brazil's National Petroleum Agency, or ANP, announced a sweeping plan to change that de facto reality with the launch of an open season on the country's largest gas import system.

The majority of capacity on the 1.1 Bcf/d Bolivia-Brazil Gas Pipeline, or Gasbol – capable of delivering up to a quarter of the country's domestic supply – would be made available to private shippers. With the potential to import vast quantities of competitively priced gas from Bolivia, the Gasbol open season promised to be Brazil's single-most transformative near-term reform to the gas market.

Just two months later, though, the process was abruptly halted when regulator concerns emerged over irregularities to Petrobras' involvement in the bidding process. In a subsequent ruling, ANP reauthorized the open season under new a regulatory framework, excluding the state-owned company.

Across the north and northeast, large territories and even entire states remain without access to natural gas from pipelines – infrastructure that may never be built in a country as vast as Brazil

In another twist of fate, though, the expedited open season – launched in March – fell victim to the coronavirus pandemic. Citing difficulties faced by potential shippers to participate in the bidding, ANP indefinitely postponed the process, delaying for a second time a foundational change that's likely to become the cornerstone of Brazil's gas market reform.

While no revised schedule for restarting the open season has yet been announced, other sectors of Brazil's gas market have celebrated key milestones this year.

Most notable is Brazil's private LNG import industry. A handful of smaller and mostly symbolic developments have also been announced in the onshore upstream sector.

Meanwhile, reforms and investments needed to end Petrobras' monopoly in the offshore market – a potential game changer for competition – have received some attention from Brazil's federal government this year, but largely remain a distant prospect for now.

LNG gathers momentum

Earlier this year, private LNG developers commissioned Brazil's only operational third-party import terminal, taking the country's first-ever competitively sourced gas supply.

Brazil's gas and LNG infrastucture

Sources: Brazil's Energy Research Office (EPE); FGV; S&P Global Analytics

Golar Power received the inaugural cargo in February at its Port of Sergipe (Barra dos Coqueiros) in northeast Brazil. While the company's 1,500 MW combined-cycle power plant co-located there will consume most of the initial regasified cargo volumes, the company has announced big plans for the terminal's future.

In partnership with Petrobras Distribuidora, Golar Power plans to expand the reach of its LNG supply to new vehicular, industrial and power generation markets in Brazil – particularly in regions like the Northeast that are currently underserved by gas pipelines.

Until recently, Brazil's LNG import market has been controlled exclusively by Petrobras, which has funneled imported supply through its own FSRU terminals at Guanabara Bay, Bahia and Pecém.

Although government regulation had not expressly prohibited third-party imports, monopoly control of Brazil's onshore transportation market by Petrobras had previously restricted other importers' and distributors' access to the country's natural gas pipeline network.

Across the north and northeast, though, large territories and even entire states remain without access to natural gas from pipelines – infrastructure that may never be built in a country as vast as Brazil.

Golar Power's plan to tap those latent markets has only become more ambitious too. In March, the company said it would move forward with a second import terminal – a joint venture, gas-to-power project located in the neighboring northeastern state of Pernambuco.

Along with another 1,500 MW combined cycle gas plant, Golar Power's Port of Suape terminal envisions truck-mounted ISO-container fuel deliveries to cities within a 600-mile radius of the port, with transshipment to small-scale LNG carriers allowing for deliveries to other nearby coastal cities.

Over the near term, though, another of Brazil's aspiring LNG import projects could have a more immediate market impact, potentially bringing excess imported supply to the country's most extensive regional pipeline grid connecting states across the south and southeast.

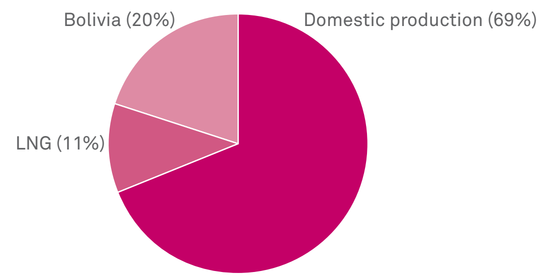
In April, joint-venture developers Prumo Logistica, BP and Siemens closed a deal securing the purchase of an H-class gas turbine to be used in the construction of its 1,300 MW combined cycle power plant at the Port of Açu in Brazilian state of Rio de Janeiro.

On completion of the project's planned first and second phases, the terminal could regasify up to 21 million cu m/d or 740 MMcf/d – potentially making a substantial quantity of surplus gas available for distribution to private shippers and end-users across Brazil's southeast.

Offshore: diversifying transport routes

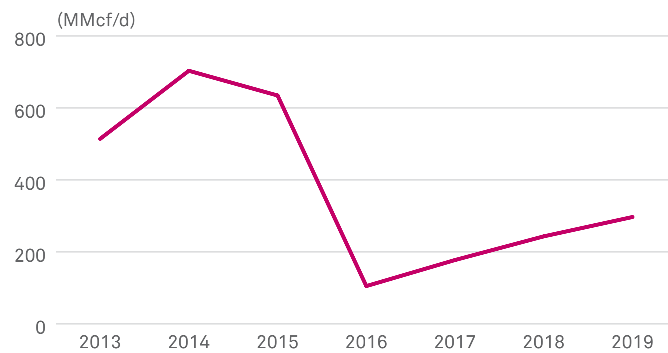
The startup of production in Brazil's vast offshore presalt hydocarbon fields over the last decade has fueled dramatic growth in the country's gas production.

Brazilian gas supply sources, 2019



Source: ANP

Brazilian LNG imports, 2013-2019



Source: ANP

Through February 2020, before the coronavirus crisis hit and caused output to drop suddenly, gas output in Brazil averaged nearly 134 million cu m/d – more than double the volume produced just nine years ago.

According to the country's Ministry of Mines and Energy, over 80% of domestic output is now sourced from Brazil's offshore, making for a potentially vast resource to supply a competitively priced market.

Under the Brazil New Gas Market reform, though, existing offshore-to-onshore pipeline infrastructure remains largely under the control of Petrobras – severely limiting third-party producers' access to shippers, distributors and end-users in Brazil's emerging onshore markets.

The offshore Campos and Santos basins, Brazil's largest subsalt fields, are currently served by two major offshore pipeline routes that can export about 26 million cu m/d known as Route 1 and Route 2.

For third-party producers in Brazil's offshore, like Shell, Repsol and Statoil, most of the gas produced there must be either reinjected into existing wells – a process known as enhanced oil recovery – or sold on to Petrobras for transport to the onshore market.

While a planned Route 3 is already under construction, with startup slated for 2021, the pipeline's additional 18 million cu m/d capacity will also remain under the ownership of Petrobras.

In March, Petrobras said that it would combine its stakes in the existing two offshore routes and nearly complete third route, into a single company

Existing offshore-to-onshore pipeline infrastructure remains largely under the control of Petrobras

for potential listing on Brazil's B3 stock exchange. Assuming the new entity would allow for controlling ownership by other investors, the new arrangement could inject greater competition into the offshore transportation market, giving offshore producers access to third-party buyers.

If the process stalls, or leaves Petrobras' de facto monopoly intact, though, offshore producers do

have some alternatives – most of which require large investments and long time-horizons.

One option would be the potential construction of privately funded pipelines. In 2014, Cosan – a large Brazilian agriculture and energy company – began the initial planning and permitting process for its proposed Route 4 pipeline. Along with Brazil's energy research planning agency, EPE, other producers have been studying the prospects for Route 5 and Route 6 pipelines.

Another option for third-party producers in Brazil's offshore is the construction of floating LNG liquefaction facilities – a technology already in use at Shell's Prelude facility located nearly 300 miles offshore of Western Australia. Petrobras itself is reportedly studying this option already.

The first year of Brazil's New Gas Market has been stop-start. A solid framework has been established for the growth of competition, but key reforms have stalled, while others remain hopeful prospects. In the near term, it appears Brazil's private LNG developers will keep the momentum for competition alive as private shippers, distributors and end-users await the relaunch of ANP's Gasbol open season.

In the months ahead, the stakes for Brazil's gas market reform could not be higher. A successful outcome could lower fuel prices for power generators and industry, bring a wave of new foreign investment to the country and provide a decisive boost to its struggling post-COVID-19 economy.

Even for neighboring countries – including Argentina, Bolivia and Chile – a fully liberalized gas market in Brazil could pave the way for similar reforms in the southern cone nations, potentially creating an integrated regional market connected by pipeline and an extensive network of LNG import and export terminals. ■