Argentina: Poised for Energy Growth

Since taking office, President Mauricio Macri has taken clear aim at the role of the country's energy sector, particularly as his government continues on a path to regain investment and remove the country's international stigma.

President Macri's focus on the role of energy as a motor for economic development and to boost investment is not just empty rhetoric. Argentina has the potential to reclaim its energy self-sufficiency as well as again serve as a key exporter in South America, if not globally. The country boasts not only some of the world's largest unconventional oil and natural gas resources, but vast renewable energy sources.

The question, however, is whether the government can create the economic, institutional and legal stability so that it can become economically viable for companies to develop the riches over the long term no matter a political shift in the future.

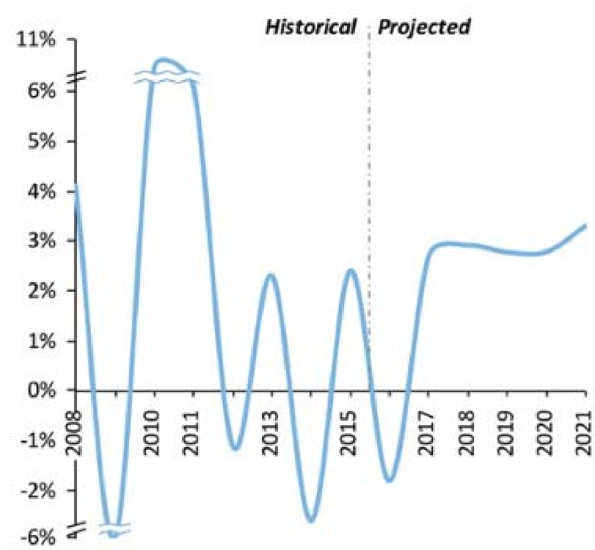
There is new hope this can happen with President Mauricio Macri. His conservative administration has taken steps to rebuild investor confidence since coming to power in December 2015. It has ended a 15-year sovereign debt default and scrapped the capital, currency and price controls of his 2003-15 populist predecessors that had sparked a flight of investor dollars and a plunge in energy production that brought shortages and a surge in imports.

A big confidence boost for the oil sector came in January with a landmark agreement for developing Vaca Muerta, the country's biggest shale play.

The government-led deal between companies and unions is designed to bring down well drilling and completion costs by capping tax pressure in Neuquén, home to most of Vaca Muerta, improving labor productivity and extending gas-pricing incentives through 2021. The national and provincial governments also agreed to work together on building and expanding airports, pipelines, railways and roads to handle the increasing movement of fracking equipment and inputs into the 7.4-million-acre formation and taking the oil, gas and NGLs production out.

ARGENTINE GDP GROWTH IS EXPECTED TO REBOUND STRONGLY IN THE NEXT FEW YEARS

YoY GDP Growth (constant 2004 prices)



Source: INDEC and IMF Projections

"We need to show companies and convince them that we have competitive advantages," Neuquén Governor Omar Gutiérrez said at the Institute of the America's "Energy & the Economy in Argentina" roundtable on March 30 in Buenos Aires. "If the conditions are not in place, then the resources will remain under the ground."

The resources are getting developed. Output from Vaca Muerta and a few tight plays is starting to offset the declines in conventional production that cost the country its energy independence of the late 1990s and early 2000s. National gas output recovered 8.2% to an average of 123 million cubic meters per day (mcm) in 2016 from a 10-year low of 113.7 mcm per day in 2014, according to Energy Ministry data. Oil production appears to have bottomed out at about 500,000 barrels per day (b/d) after declining from a peak of 847,000 b/d in 1998, the data show.

Vaca Muerta is on track for more production growth. As part of the landmark deal, BP-controlled Pan American Energy (PAE), Chevron, Dow Chemical, Shell, Total and YPF vowed to invest a combined $5 billion this year and more than double that in subsequent years to develop the play.

Tecpetrol, a local company, has emerged with the biggest bet since the agreement: $2.3 billion to ramp up gas production from one block to 10 mcm per day by 2019-20. State-run YPF has lined up production pilots with Shell and Schlumberger since the agreement, and is scouting partners for up to eight more pilots this year. PAE, Total, Wintershall and YPF have teamed up on pilot projects on two blocks as well.

The most productive block in the play so far is Loma Campana, a joint venture of Chevron and YPF. They've invested about $2.5 billion in the block since 2013, ramping up production to 62,300 b/d of oil equivalent in the last quarter of 2016.

Gutiérrez said the gas pricing incentives – the price will be kept above market averages at $7.50/MMBtu, descending gradually to $6/MMBtu in 2021 – could prove a magnate for more investment. As there is a deadline to cash in on prices now above the market average of around $5/MMBtu, "those who invest the fastest make the most," the governor said.

REVIVING THE ECONOMY

For the Macri government, the push to rebuild energy supplies is vital for the country's development. "Our only chance to reduce poverty and have economic development and growing industries is if we develop the pillar of the economy, which is energy," said Daniel Redondo, national secretary of strategic energy planning.

Daniel Montamat, executive director of Montamat & Asociados, an energy-consulting firm in Buenos Aires, estimates that the energy industry needs $20 billion a year in investments to rebuild supplies after a decade of shortages – and to keep pace with demand.

Will this come? As long as companies see that the government making progress in improving economic, institutional and legal stability and doing long-term planning, then companies will do their part, he said.

"Once the process gets on track, we are going to be surprised by the investment that will come," he said.

Montamat compared the potential revival to 1958, when the government at that time rolled out incentives to return the country to self-sufficiency in four years after running a 70% deficit in liquid fuels. "Everybody doubted it would work until the investment process started," he said. "We can do it again."

CUTTING COSTS

A challenge for making Vaca Muerta economically viable for production is to bring down drilling and completion costs. YPF has halved its costs to $8 million per well from $16 million when it started in 2013. Most other companies are still above $10 million.

Ricardo Aguirre, commercial and business planning manager of Chevron Argentina, prefers to use the cost of development per barrel of oil equivalent given the differences in depths, lateral lengths and frac counts on each well. He estimates the costs at Loma Campana have dropped to $18/boe from $30/boe.

The target should be to reach the $7/boe to $10/boe per well in Permian, a benchmark U.S. play, he said.

How? One way is to drill longer horizontal laterals, extending from 1,500 to 2,500 or even 3,000 meters, Aguirre said. Increasing infrastructure capacity will also help reduce costs by bringing frac sand to the fields for less. Lower taxes and social security contributions could shave another $3/boe off the costs, he added.

EXPORT POTENTIAL

With the recovery in gas production since 2014, the Macri government is forecasting a return to exporting surplus supplies after running a 30% gas deficit in 2016.

José Luis Sureda, the country's then-secretary of hydrocarbon resources (he resigned in April), said at first the excess gas can be exported during the December to February summer to Chile over existing pipelines that handled deliveries of up to 20 mcm per day as recently as 2004. The exports could resume as soon as 2018 or 2019, and be expanded to Brazil and Uruguay, which previously bought supplies over pipelines still in place.

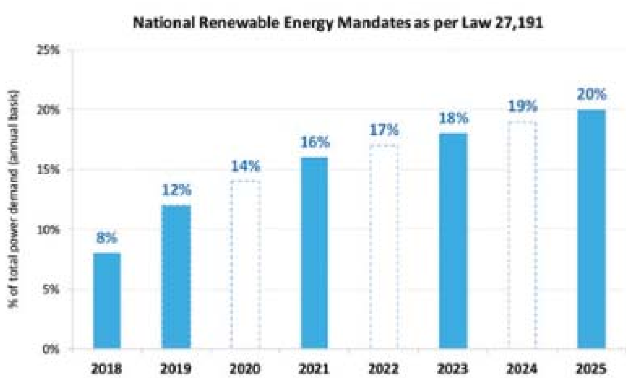
In winter, however, gas imports from Bolivia and off the global LNG market will continue to flow in "for many more years" to cover peak heating demand, Sureda said. Argentina relies on gas to meet half of its energy needs.

This combination of a summer surplus and winter scarcity in gas supplies poses a challenge for developing Vaca Muerta, Sureda said. Without any capacity to store surplus gas production in the summer, Sureda fears that companies may have to halt costly shale wells during in months of slack demand unless year-round export channels can be opened up.

"Argentina cannot think just of Chile. It must think about exporting beyond that," such as via LNG liquefaction plants in Argentina or Chile, he said. "If there is no export strategy, Argentina will never reach self-supply."

RENEWABLE ENERGY

Argentina has another Vaca Muerta in its renewable energy



potential, much of which remains undeveloped. While Brazil, Chile, Uruguay and other countries in the region reeled in huge investments to harness their renewable energy capacity over the past decade, Argentina did very little under the 2003-15 populist regimes.

This could be a blessing in disguise for Argentina.

"We don't have to try new technology" but instead use what has been "proven to work," said Sebastián Kind, the national undersecretary of renewable energies. "We can learn from the miscalculations and errors" made in other markets.

To attract investors, the Macri administration is increasing power prices and offering opportunities to build solar and wind parks.

Investors appear to be keen. In two tenders so far, Argentina snared commitments for building 2.4 GW of renewable generation capacity. More tenders are planned with the aim of reaching a target of getting 20% of power consumption from renewable sources by 2025, or about 10 GW.

Martín Genesio, country manager of AES Argentina, a leading player in the generation sector expects the 20% goal could be surpassed "amply" by 2025 "if things continue to be done well," including by adding transmission capacity where wind and solar parks are being built.

A challenge is to get enough financing for projects a country with a history of economic and political instability and the threat of policy shifts when elections come round every two years, for president and then lawmakers.

"Banks are still a little reticent," said Ana Paula Ares, a founding partner of Energyar, a renewable energy advisory firm in Argentina.

Add in concerns about the low prices for renewable output coming out of the first tenders, at less than $50/MW, and there is a worry that some projects may not get off the ground.

"You can't enter into a 10- to 15-year contract if it doesn't make economical sense," said Guido Cerini, head of natural resources and infrastructure for Latin America at Credit Suisse, a Zurich-based financial services company. Even so, there is a market for more capacity. Argentina's power demand is expected to increase 3% to 4% per year to 175-180 GW in 2025 from a current 130-135 GW, according to Kind.

The key to satisfying this demand is diversification, said Kind.

"We need to use all of our resources. It is not just Vaca Muerta or wind or solar, or the rivers. It is also nuclear," he said. "Argentina is a mix. It is not just the cheapest source of energy."

The Institute of the Americas recognizes and greatly appreciates the contributions by Charles Newbery in preparing this report.

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