



# ARGENTINA ENERGY ROUNDTABLE

# 2019

HUGE ENERGY POTENTIAL, BIG CHALLENGES — PART I  
**REPORT**

**35** Years  
1982-2018



INSTITUTE OF  
THE AMERICAS

It's not the resources, it's Argentina.

That pretty much sums up the challenges that companies face to develop Vaca Muerta, one of the world's biggest shale plays and the first to come into large-scale production outside North America. The resources are so vast that the production growth has turned around more than a decade of dwindling oil and natural gas output, and led to bright forecasts. The Energy Secretariat has estimated that the country's oil and gas production could double to 1 million barrels per day (b/d) and 260 million cubic meters (mcm) per day, respectively, by 2023, allowing exports to surge from little to 500,000 bpd and 80 mcm per day by that time — and track upward from there.

But ... this is Argentina, where economic and financial volatility have stunted growth for more than seven decades. Mauricio Macri, the country's pro-market president, had seemed the right man to end the cycle of ups and downs when he was elected in 2015. But today, after more than three years on the job, fewer people believe that he can do it, and this is raising concerns of a backlash to the populism of 2003-15 as the October 27 presidential election draws nearer.

These worries were on the front burner at the Institute of the Americas' Argentina Energy Roundtable on March 27 and 28 in Buenos Aires.

That wasn't surprising. Argentina is embroiled in yet another financial crisis, and this is making it harder for the Macri government to attract investors to Vaca Muerta despite the potential. It must convince companies to bet on the country even after some may have been burned — or spooked — in the recent past by capital, currency, price and trade controls as well as the re-nationalization of YPF, the country's biggest oil and gas producer.

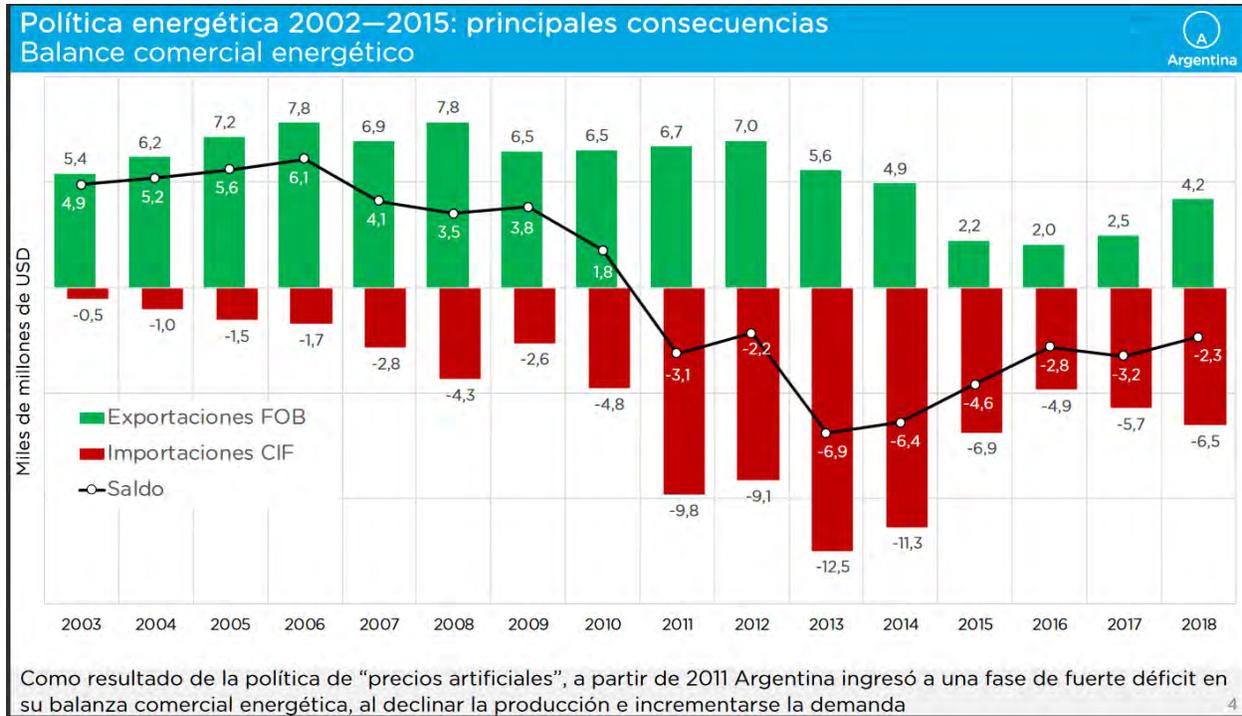
At the event, Gustavo Lopetegui, the third energy secretary under Macri, said progress has been made in pulling the energy sector out of what he called “a great cocktail of ineptitude and corruption” under the populist governments of late Nestor Kirchner and his wife Cristina Fernández de Kirchner, who left the one-time net energy exporter as a net importer.

To turn things around, the focus is on Vaca Muerta. Oil production from the play, in the southwestern provinces of Mendoza and Neuquen, shot up 67% to 78,000 b/d in February on the year, leading a 3.5% increase in the country's overall oil production to nearly 500,000 b/d, according to the latest data from the secretariat. Over the same period, shale gas output shot up 169% to 31 mcm per day, pushing overall gas output up 7.9% to 134.7 mcm per day from 124.8 mcm per day a year earlier.

The growth is coming from but 4% of the play's acreage, meaning the potential is huge for increasing production, Lopetegui said.

“We can start to dream of incredible things,” he said.

Indeed, Vaca Muerta is closing the country's gas deficit that had surpassed 25% under the Kirchners. The energy trade deficit narrowed to \$2.3 billion in 2018 from a record \$7 billion in 2013, and a surplus is expected as oil and gas exports increase from Vaca Muerta.



The problem is that increasing exports poses new challenges. Oil is not so hard to export. There is infrastructure to ramp up light crude exports from Vaca Muerta to 200,000 bpd with little investment, and then grow from there, according to Lopetegui.

### A new global gas supplier

But with gas, the challenge is more complicated – and the need to act is more urgent. The pipeline capacity out of Vaca Muerta is expected to max out this June to August winter, meaning that companies probably will have to shut wells.

To change this, Lopetegui said the gas market must be expanded. The first steps have been to substitute gas imports and to revive exports to Brazil, Chile and Uruguay, which bought a combined 20 mcm per day in the late 1990s and early 2000s. Exports have returned to 2 mcm per day this year and are growing.

Domestically, gas can replace diesel and fuel oil for power generation, and can be used more in cars – Argentina is one of the world’s biggest consumers of vehicular gas – and expanded to buses and trucks. But given that the country already relies on gas for 50% of its energy needs, there’s only so much room for growth at home.

“To sustain the development of Vaca Muerta, we have to think of a project for exporting LNG on a large scale,” said Mauricio Roitman, chairman of Enargas, the country’s gas regulator. “Otherwise we can’t have a large-scale development of Vaca Muerta.”

YPF, the country’s state-backed energy company, is moving in this direction. In the second half of this year, it plans to start shipping up to 2.5 mcm per day from a floating liquefaction terminal in Bahia Blanca, Buenos Aires province. That will help it to sell excess gas in the warmer months of May to September, YPF chairman Miguel Gutiérrez said.

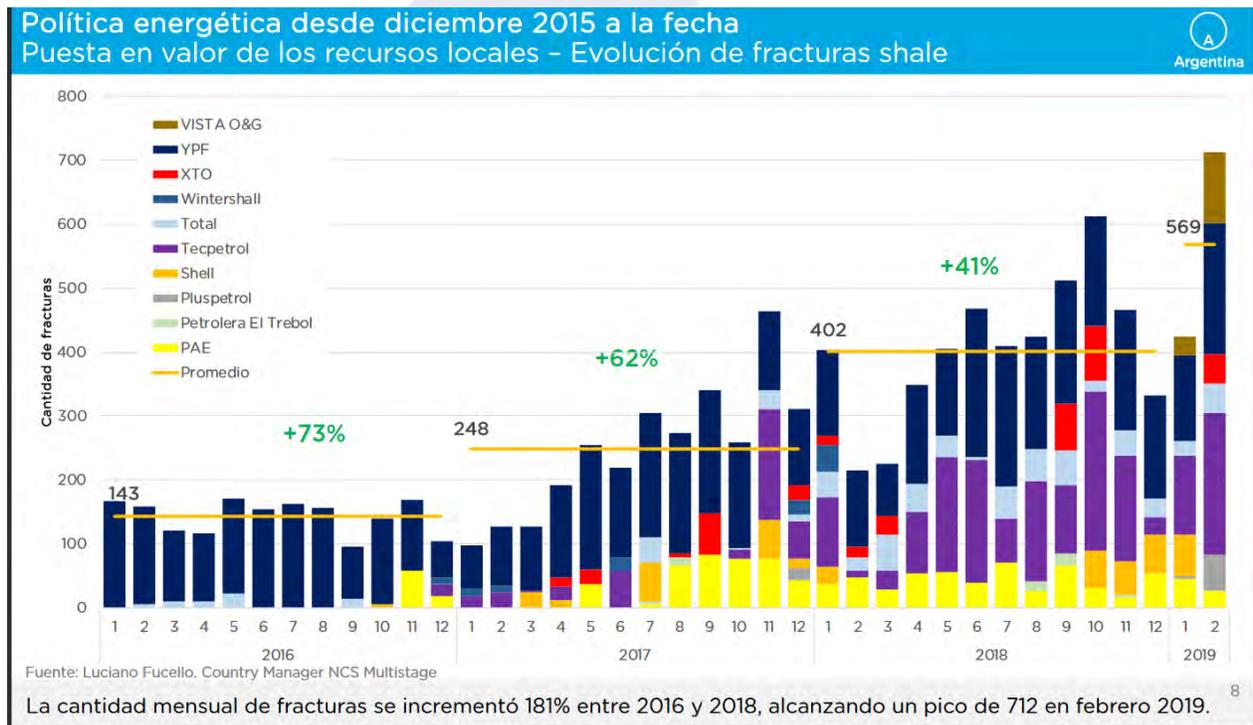
The next step, he said, is an onshore liquefaction terminal, probably built modularly so the capacity can be expanded as gas production rises and so it can be easier to finance.

No matter the design, “we have to do it ... and we have to start now,” Gutiérrez said, adding that if it takes 40 months to build a terminal in the U.S., it will probably take longer in Argentina.

Another option that may be faster and cheaper is to work with Chile on converting their regasification terminal in Quintero to liquefy gas for export, said Hugo Eurnekian, chairman of Compañía General de Combustibles (CGC), a leading gas producer in the south.

As well as export terminals, gas pipeline capacity must be expanded to get more supplies out of Vaca Muerta, and the government is fielding proposals from companies. One option is to build a new backbone line with as much as 40 mcm per day of capacity, an increase of more than 28% of the current capacity of more than 140 mcm per day.

## Regulatory stability?



To attract the billions of dollars to make the energy exports possible, economic and regulatory stability is fundamental, and this is where executives say Macri is coming up short. The administration has brought back the taxes on exports of its predecessors, stalled hikes in gas prices, and reinterpreted a subsidies program for promoting unconventional gas production, leaving some producers with less in incentives money than expected and others without access to them at all, a discouragement for moving forward on projects.

In the government’s defense, Lopetegui said the pricing incentives – the state pays producers an additional \$3/MMBtu or so above the market price – are no longer necessary because production has risen so much that any new projects would not be able to get their output to market because of

the restrictions in pipeline capacity. He added that everything has been done to the letter of the resolution.

However, without the incentives it has become more profitable to produce oil than gas in Vaca Muerta. To be sure, Shell, Mexico's Vista Oil & Gas and a partnership of YPF and Malaysia's Petronas each recently launched \$2 billion projects to ramp up shale oil production to around 70,000 b/d from each over the next five years. This will add a combined 210,000 b/d of production, or 40% of current output.



It's a good start. Of the countries with large shale resources, only Canada and the U.S. have put their shale resources into full-scale production – and now Argentina. Lopetegui said the country's 100-plus-year history of oil production has helped. Talent and services are available, and a healthy share of international companies are already on the ground.

Still, to make Vaca Muerta a success, "we all have to do our part," he said, including the government, which must reduce inflation, restore the economy to growth, increase the availability of local credit, lower capital costs and make sure conditions are predictable for investment. Companies must cut costs, increase investment and look for new markets, such as by selling gas for petrochemicals, and the unions must seek to increase their workers' productivity. The provinces must use the tax revenue from the oil sector to build infrastructure to support the production growth.

More companies are needed as well, from frackers to pipeline builders and services suppliers, he added.

## The new energy powerhouse

More companies could come from the U.S., encouraged not only by the potential in Vaca Muerta but by a shift in U.S. energy policy.

Elizabeth Urbanas, deputy assistant secretary for Asia and the Americas at the Office of International Affairs in the U.S. Department of Energy, said the U.S. government has come to view the Western Hemisphere as “the new energy powerhouse globally,” adding that within the region Argentina can play a big part.

“Vaca Muerta is gigantic. It is as large potentially as the Permian or bigger,” she said in reference to the biggest U.S. play. “We want to see this country become a regular, reliable exporter of not only oil but also of natural gas.”

To make this happen, a lot must be done. Less than 1,000 wells have been drilled in Vaca Muerta, compared with more than 15,000 in production the Permian Basin.

## Economic Challenges

The greater challenge is above ground. The government must pull the country out of a financial crisis that began more than a year ago. The peso has crashed by more than 100% against the dollar since, doubling the inflation rate to 55% and interest rates to nearly 70%, the world’s highest.

The economic setbacks mean that companies must work even harder to cut costs and boost productivity. YPF has made progress, slashing its shale oil development costs to \$11.4/boe in 2018 from \$16/boe in 2016, and halving its operating costs to \$6/boe over the same period. This has brought its breakeven cost below \$40/b from more than \$60/b in 2016, making the play healthily profitable as international reference prices run above \$70/b.

To cut costs further, YPF is using sandboxes, or containers that hold all of the proppant needed for a frack job to reduce stoppages if deliveries by truck are delayed. It’s also increasing productivity by pushing up the number of frack stages per well with longer laterals, up to 3,200 meters today from 1,500 meters in 2016, Gutiérrez said.

A further help can come from increasing the scale of development, but more companies are needed to do that, he said.

## Will they come?

A big challenge is to entice companies to come to a country where it is much harder to operate compared with the U.S.

That may explain why there are only 40 or so players in Vaca Muerta, and even fewer in some other plays. In the southernmost Austral Basin, for example, there is a shale play similar in size to Vaca Muerta and there are ample opportunities in conventional reserves, said CGC’s Eurnekian.

His company has more than doubled its gas production over the past two years, and is shooting 3D seismic to find more opportunities in a part of the basin where there are only three operators, when in the U.S. the same acreage would have “hundreds of companies,” he said.

It's unlikely that many will come while the financial crisis spooks investors about a possible return to populism in the looming election. Will it come back? "It's still too early to tell," said Juan Cruz Díaz, managing director of Cefeidas Group, an international advisory.

Even so, Sergio Berensztein, a political analyst, said former President Fernández de Kirchner's popularity has been recovering this year on the back of Macri's failings and the lack of another option.

That poses the question of whether a third force can make a run for it. The frontrunners for this spot are Roberto Lavagna, the economy minister under Néstor Kirchner, Sergio Massa, a former chief of cabinet for Fernández de Kirchner, and Salta Governor Juan Manuel Urtubey. The three of them are part of the same political movement as the Kirchners, but are more centrist.

Berensztein said that if Fernández de Kirchner runs in the election, it may be harder for her to beat Macri than a moderate, who could rally voters looking for somebody who can revive the economy.

Still, righting the economy won't be easy for whoever wins, nor will reducing the lofty public spending and keeping on top of large debt payments, said Manuel Solanet, director of public policies at the Fundación Libertad y Progreso, a think-tank.

The Macri government is faltering at this, seemingly to be stuck "in a labyrinth without an exit," he said. The next administration may not find it much easier to revive Argentina.

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The Institute recognizes and greatly appreciates **Charles Newbery's** contributions in preparing this report.

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